KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub
C650/C550/C451

This service manual is designed for machine with firmware card ver. J8 and onward.

2008.06
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 8.0

FIELD SERVICE TOTAL CONTENTS

bizhub C650/C550/C451 Main body

Standard controller

i-Option LK-101/102/103

DF-611/610

LU-301

ZU-603

FS-517/518/608

PI-503

PK-512/513

FS-519/PK-510/OT-602

MT-502

SD-505

JS-504

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SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the safety and important warning items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.
Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.
The user of this service manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this service manual is intended.
Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
Keep this service manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions "⚠ DANGER", "⚠ WARNING", and "⚠ CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble, and property damage**

Symbols used for safety and important warning items are defined as follows:

△ :Precaution when servicing the product.	⚠ General precaution	⚠ Electric hazard	⚠ High temperature
⃠ :Prohibition when servicing the product.	⃠ General prohibition	⃠ Do not touch with wet hand	⃠ Do not disassemble
● :Direction when servicing the product.	● General instruction	● Unplug	● Ground/Earth

SAFETY WARNINGS

[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

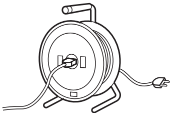
KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

Prohibited Actions

⚠ DANGER

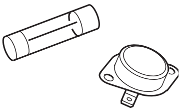
- Using any cables or power cord not specified by KMBT.

🚫



- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.

🚫



- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.

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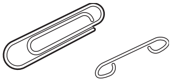

- Disabling relay functions (such as wedging paper between relay contacts)

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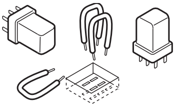

- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.

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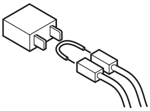
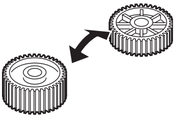


- Making any modification to the product unless instructed by KMBT

🚫

- Using parts not specified by KMBT

🚫



[2] POWER PLUG SELECTION

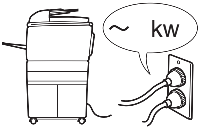
In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- Use power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.



- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.
- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - Black or Brown:L (line)
  - White or Light Blue:N (neutral)
  - Green/Yellow:PE (earth)

  Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

[3] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

KONICA MINOLTA brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

Connection to Power Supply

⚠ WARNING

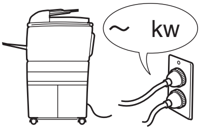
- Check that mains voltage is as specified.

  Connection to wrong voltage supply may result in fire or electric shock.

- Connect power plug directly into wall outlet having same configuration as the plug.

  Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

  If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.



- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.

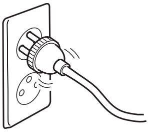
  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

  If excessive current flows in the wall outlet, fire may result.

- Make sure the power cord is plugged in the wall outlet securely.

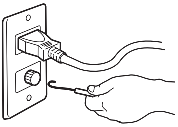
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



- Check whether the product is grounded properly.

  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.

  Connect power plug to grounded wall outlet.

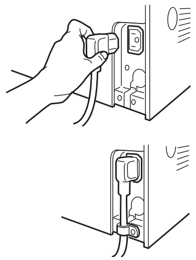


Power Plug and Cord

⚠WARNING

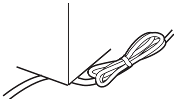
- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When securing measure is provided, secure the cord with the fixture properly.

  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.



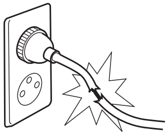
- Check whether the power cord is not stepped on or pinched by a table and so on.

  Overheating may occur there, leading to a risk of fire.



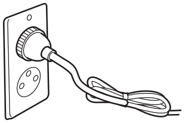
- Check whether the power cord is damaged. Check whether the sheath is damaged.

  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in fire or electric shock.



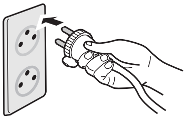
- Do not bundle or tie the power cord.

  Overheating may occur there, leading to a risk of fire.



- Check whether dust is collected around the power plug and wall outlet.

  Using the power plug and wall outlet without removing dust may result in fire.

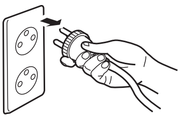


- Do not insert the power plug into the wall outlet with a wet hand.

  The risk of electric shock exists.

- When unplugging the power cord, grasp the plug, not the cable.

  The cable may be broken, leading to a risk of fire and electric shock.

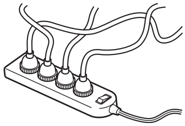


Wiring

⚠ WARNING

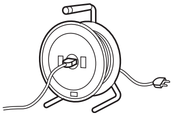
- Never use multi-plug adapters to plug multiple power cords in the same outlet.

  If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.

  Do not use an extension cable reel with the cable taken up. Fire may result.



2. Installation Requirements

Prohibited Installation Places

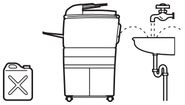
⚠ WARNING

- Do not place the product near flammable materials or volatile materials that may catch fire.

  A risk of fire exists.

- Do not place the product in a place exposed to water such as rain.

  A risk of fire and electric shock exists.

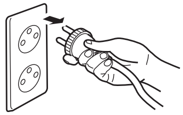


When not Using the Product for a long time

⚠ WARNING

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.

  Dust collected around the power plug and outlet may cause fire.



Ventilation

CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.

  If a bad smell of ozone is present in the following cases, ventilate the room.

  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time

Stability

CAUTION

- Be sure to lock the caster stoppers.

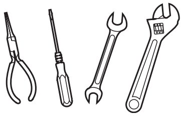
  In the case of an earthquake and so on, the product may slide, leading to a injury.

Inspection before Servicing

CAUTION

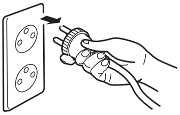
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.



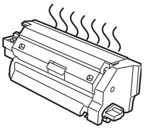
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.



- The area around the fixing unit is hot.

  You may get burnt.

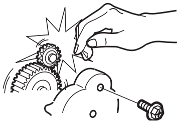


Work Performed with the Product Powered On

⚠ WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

Safety Checkpoints

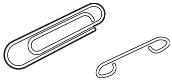
⚠ WARNING

- Check the exterior and frame for edges, burrs, and other damage.

  The user or CE may be injured.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.

  They can short internal circuits and cause electric shock or fire.



- Check wiring for squeezing and any other damage.

  Current can leak, leading to a risk of electric shock or fire.

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.

  Current can leak, leading to a risk of product trouble or fire.

- Check high-voltage cables and sheaths for any damage.

  Current can leak, leading to a risk of electric shock or fire.

Safety Checkpoints

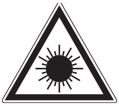
⚠ WARNING

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.

  Current can leak, leading to a risk of trouble or fire.

- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

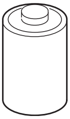


- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

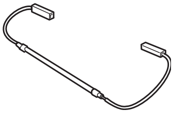
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

  Improper replacement can cause explosion.



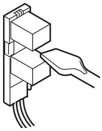
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

  A risk of fire exists.



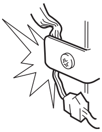
- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

  Current can leak, leading to a risk of electric shock or fire.

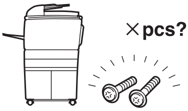


Safety Checkpoints

⚠WARNING

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, electric shock, and fire exists.



Handling of Consumables

⚠WARNING

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

- Never throw the used cartridge and toner into fire.

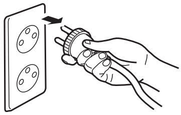
  You may be burned due to dust explosion.

Handling of Service Materials

⚠CAUTION

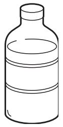
- Unplug the power cord from the wall outlet.

  Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

  A risk of fire exists.



Handling of Service Materials

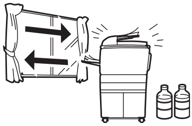
⚠ CAUTION

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

  A risk of fire exists.

- When using any solvent, ventilate the room well.

  Breathing large quantities of organic solvents can lead to discomfort.



[4] Used Batteries Precautions

ALL Areas

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

France

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

Finland, Sweden

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

[5] Laser Safety

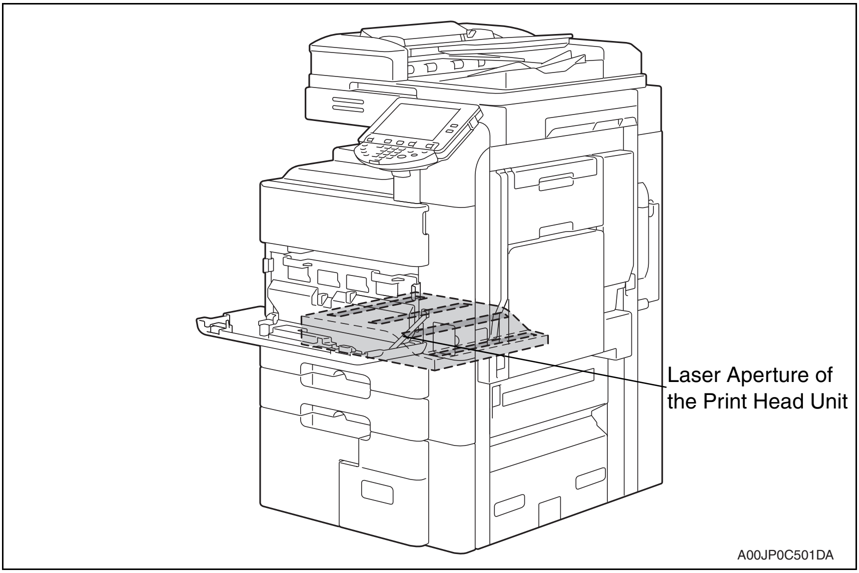
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

5.1 Internal Laser Radiation

semiconductor laser		
Maximum power of the laser diode		30 mW
Maximum average radiation power (*)	bizhub C650	15.2 μW
	bizhub C550/C451	12.9 μW
Wavelength		775-800 nm

*at laser aperture of the Print Head Unit

- This product employs a Class 3B laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.
- The print head unit is NOT A FIELD SERVICEABLE ITEM. Therefore, the print head unit should not be opened under any circumstances.



U.S.A., Canada
(CDRH Regulation)

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.

- The label shown on page S-16 indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

CAUTION

- **Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.**

semiconductor laser	
Maximum power of the laser diode	30 mW
Wavelength	775-800 nm

All Areas

CAUTION

- **Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.**

semiconductor laser	
Maximum power of the laser diode	30 mW
Wavelength	775-800 nm

Denmark

ADVARSEL

- **Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825-1 sikkerheds kravene.**

halvlederlaser	
Laserdiodens højeste styrke	30 mW
bølgelængden	775-800 nm

Finland, Sweden

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

VAROITUS!

- **Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.**

puolijohdelaser	
Laserdiodin suurin teho	30 mW
aallonpituus	775-800 nm

VARNING!

- **Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.**

halvledarlaser	
Den maximala effekten för laserdioden	30 mW
våglängden	775-800 nm

VARO!

- **Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättomälle lasersäteilylle. Älä katso säteeseen.**

VARNING!

- **Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.**

Norway

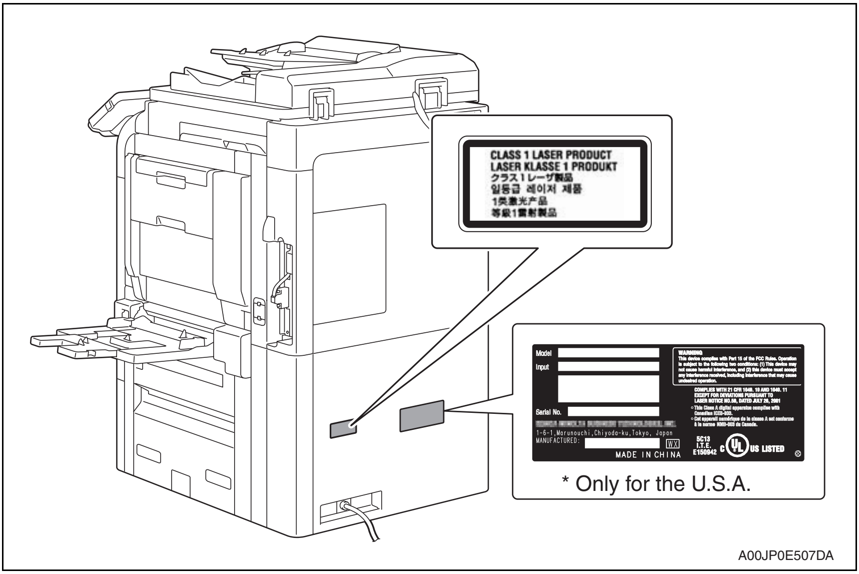
ADVERSEL

- **Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes för unsynlig laserstrålning, som overskrider grensen for laser klass 1.**

halvleder laser	
Maksimal effekt till laserdiode	30 mW
bølgelengde	775-800 nm

5.2 Laser Safety Label

- A laser safety label is attached to the inside of the machine as shown below.



CLASS 1 LASER PRODUCT
LASER KLASSE 1 PRODUKT
クラス1レーザ製品
일등급 레이저 제품
1类激光产品
等級1雷射製品

Model
Input
Serial No.
[redacted]
1-6-1,Marunouchi,Chiyoda-ku,Tokyo, Japan
MANUFACTURED:
WX
MADE IN CHINA

WARNING
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

COMPLIES WITH 21 CFR 1040. 10 AND 1040. 11
EXCEPT FOR DEVIATIONS PURSUANT TO
LASER NOTICE NO.50, DATED JULY 26, 2001

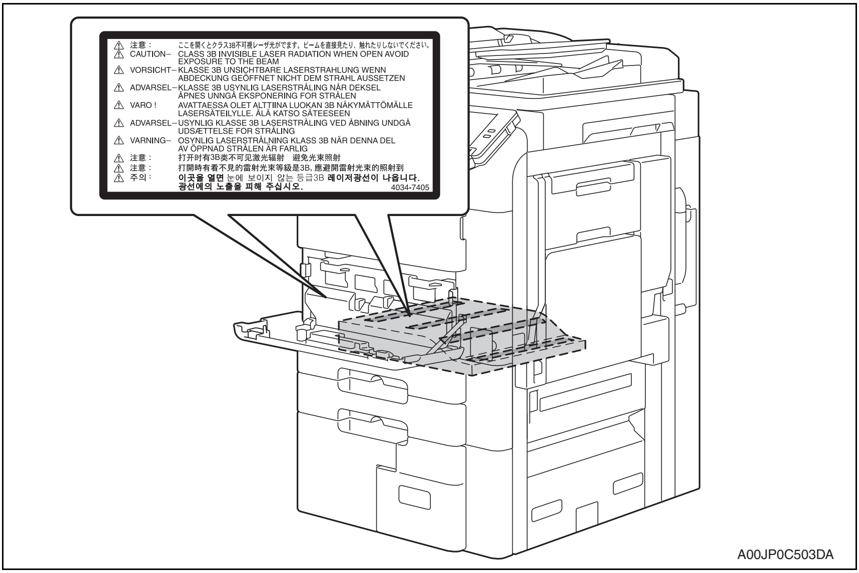
○ This Class A digital apparatus complies with Canadian ICES-003.
○ Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

* Only for the U.S.A.

A00JP0E507DA

5.3 Laser Caution Label

- A laser caution label is attached to the outside of the machine as shown below.



⚠ 注意： ここを開くとクラス3B不可視レーザ光がでます。ビームを直接見たり、触れたりしないでください。
⚠ CAUTION– CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO THE BEAM
⚠ VORSICHT– KLASSE 3B UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN
⚠ ADVARSEL– KLASSE 3B USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN
⚠ VARO ! AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN
⚠ ADVARSEL– USYNLIG KLASSE 3B LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING
⚠ VARNING– OSYNLIG LASERSTRÅLNING KLASS 3B NÄR DENNA DEL AV ÖPPNAD STRÅLEN ÄR FARLIG
⚠ 注意： 打开时有3B类不可见激光辐射　避免光束照射
⚠ 注意： 打開時有看不見的雷射光束等級是3B, 應避開雷射光束的照射到
⚠ 주의： 이곳을 열면 눈에 보이지 않는 등급3B 레이저광선이 나옵니다. 광선에의 노출을 피해 주십시오.
4034-7405

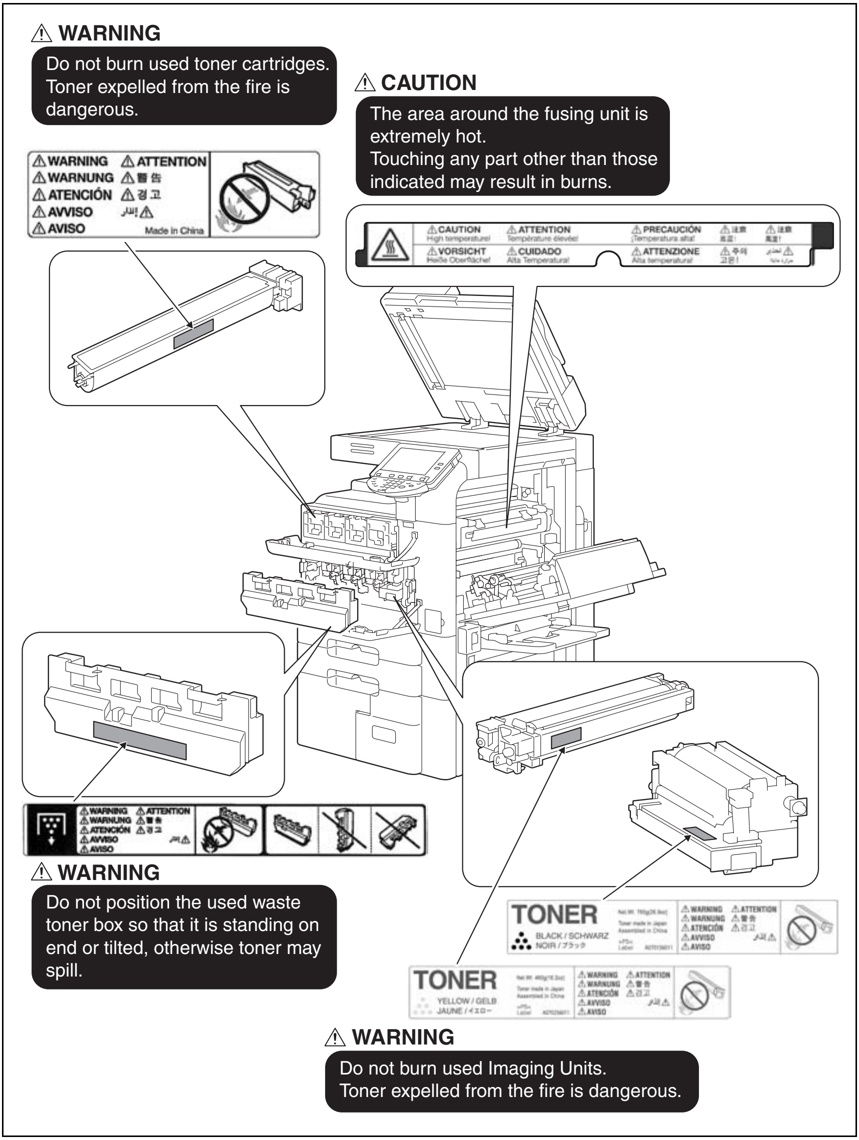
A00JP0C503DA

5.4 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC drum, be sure first to turn the printer OFF.
- If the job requires that the printer be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user’s premises.
- The Print head is not to be disassembled or adjusted in the field. Replace the unit or Assembly including the control board. Therefore, remove the laser diode, and do not perform control board trimmer adjustment.

WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.



⚠ **WARNING**

Do not burn used toner cartridges.
Toner expelled from the fire is dangerous.

⚠ **CAUTION**

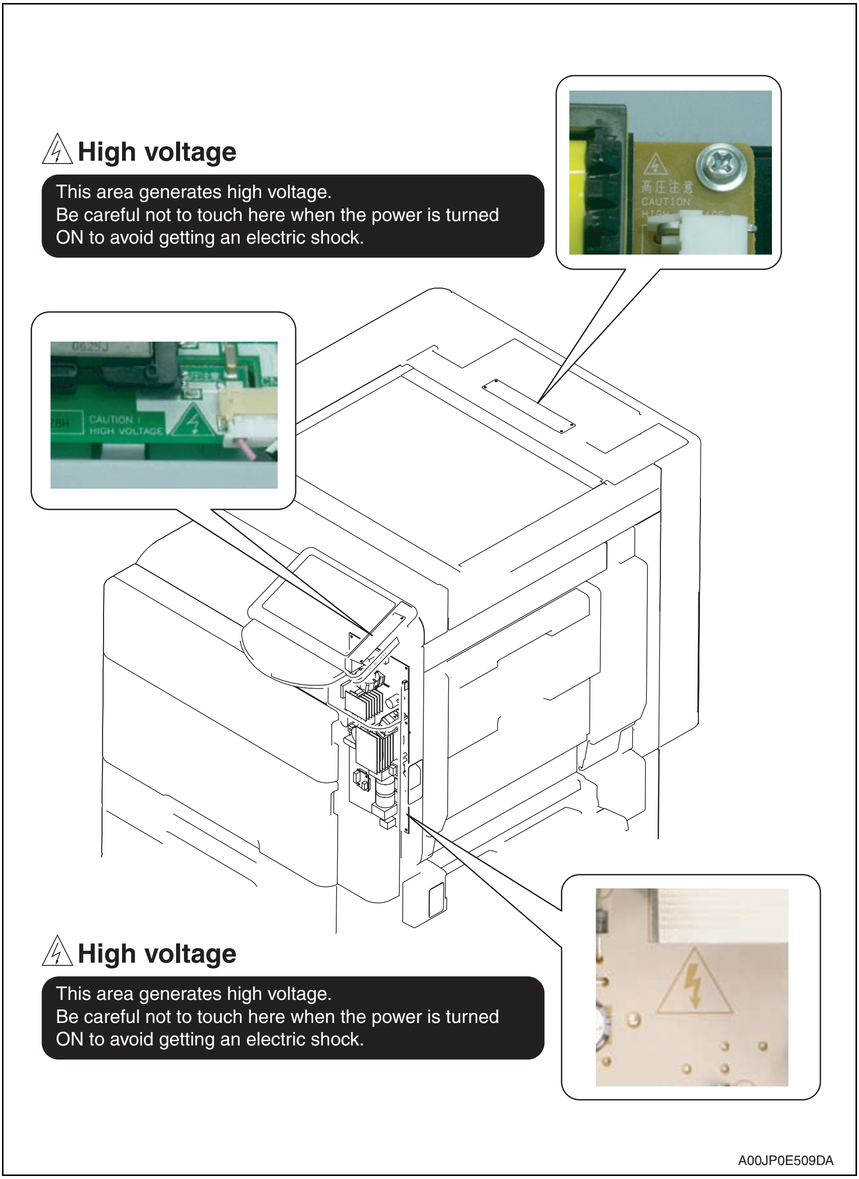
The area around the fusing unit is extremely hot.
Touching any part other than those indicated may result in burns.

⚠ **WARNING**

Do not position the used waste toner box so that it is standing on end or tilted, otherwise toner may spill.

⚠ **WARNING**

Do not burn used Imaging Units.
Toner expelled from the fire is dangerous.



High voltage

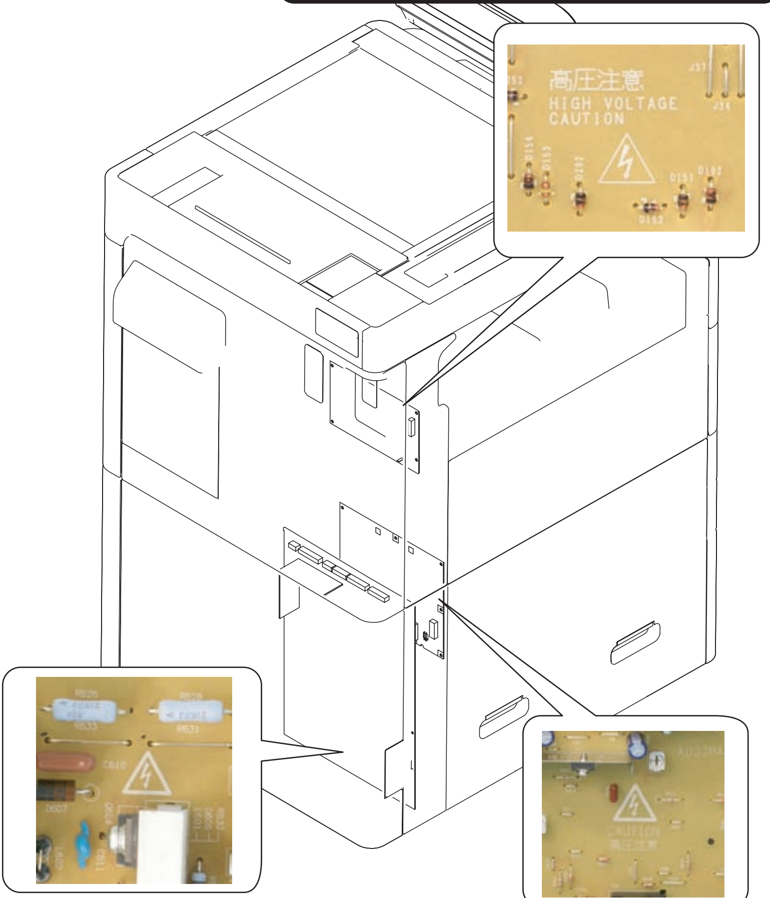
This area generates high voltage.
Be careful not to touch here when the power is turned ON to avoid getting an electric shock.

High voltage

This area generates high voltage.
Be careful not to touch here when the power is turned ON to avoid getting an electric shock.

High voltage

This area generates high voltage.
Be careful not to touch here when the power is turned ON to avoid getting an electric shock.



High voltage

This area generates high voltage.
Be careful not to touch here when the power is turned ON to avoid getting an electric shock.

CAUTION:

- **You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our service office.**

MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and KMBT must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by KMBT.
4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

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Composition of the service manual

This service manual consists of Theory of Operation section and Field Service section to explain the main machine and its corresponding options.

Theory of Operation section gives, as information for the CE to get a full understanding of the product, a rough outline of the object and role of each function, the relationship between the electrical system and the mechanical system, and the timing of operation of each part.

Field Service section gives, as information required by the CE at the site (or at the customer's premise), a rough outline of the service schedule and its details, maintenance steps, the object and role of each adjustment, error codes and supplementary information.

The basic configuration of each section is as follows. However some options may not be applied to the following configuration.

<Theory of Operation section>

OUTLINE:	Explanation of system configuration, product specifications, unit configuration, and paper path
COMPOSITION/OPERATION:	Explanation of configuration of each unit, operating system, and control system

<Field Service section>

OUTLINE:	Explanation of system configuration, and product specifications
MAINTENANCE:	Explanation of service schedule, maintenance steps, service tools, removal/reinstallation methods of major parts, and firmware version up method etc.
ADJUSTMENT/SETTING:	Explanation of utility mode, service mode, and mechanical adjustment etc.
TROUBLESHOOTING:	Explanation of lists of jam codes and error codes, and their countermeasures etc.
APPENDIX:	Parts layout drawings, connector layout drawings, timing chart, overall layout drawing are attached.

Notation of the service manual

A. Product name

In this manual, each of the products is described as follows:

(1) bizhub C650/C550/C451: Main body
(2) Microsoft Windows 98: Windows 98
Microsoft Windows Me: Windows Me
Microsoft Windows NT 4.0: Windows NT 4.0 or Windows NT
Microsoft Windows 2000: Windows 2000
Microsoft Windows XP: Windows XP
Microsoft Windows Vista: Windows Vista
When the description is made in combination of the OS's mentioned above:
Windows 98/Me
Windows NT 4.0/2000
Windows NT/2000/XP/Vista
Windows 98/Me/ NT/2000/XP/Vista

B. Brand name

The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

C. Feeding direction

- When the long side of the paper is parallel with the feeding direction, it is called short edge feeding. The feeding direction which is perpendicular to the short edge feeding is called the long edge feeding.
- Short edge feeding will be identified with [S (abbreviation for Short edge feeding)] on the paper size. No specific notation is added for the long edge feeding.
  When the size has only the short edge feeding with no long edge feeding, [S] will not be added to the paper size.

<Sample notation>

Paper size	Feeding direction	Notation
A4	Long edge feeding	A4
	Short edge feeding	A4S
A3	Short edge feeding	A3

KONICA MINOLTA

SERVICE MANUAL FIELD SERVICE

bizhub
C650/C550/C451
Main body

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 8.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:
- To indicate clearly a specific section revised within text, △1 is shown at the left margin of the corresponding revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a specific page that contains a revision or revisions, the page number appearing at the left or right bottom of the specific page is marked with ▲1 .
  The number inside ▲1 represents the number of times the revision has been made.

NOTE
Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.
- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2009/10	8.05	▲	Description addition of trouble shooting.
2009/10	8.04	▲	Error corrections (FS-519/PK-515/OT-602)
2009/04	8.03	▲	Description addition of the Internet ISW does not work when i-Option is installed
2008/10	8.02	▲	Description addition of bozhib C451 system configuration.
2008/08	8.01	▲	Description addition of trouble shooting.
2008/06	8.0	△7	Description addition of function enhanced version 4 firmware (Card Ver. J8)
2008/05	7.0	△6	Description addition of optional finisher FS-518/ Error corrections
2008/03	6.0	△5	Description addition of optional Z-folding unit ZU-603
2008/01	5.0	△4	Description addition of function enhanced version 3 firmware (Card Ver. 88)/Error corrections
2007/08	4.0	△3	Description addition of function enhanced version 2 firmware/Error corrections
2007/05	3.0	△2	Description addition of bizhub C650/ Error corrections
2007/04	2.0	△1	Description addition of bizhub C451/ Error corrections
2007/02	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

bizhub C650/C550/C451 Main body

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Appendix

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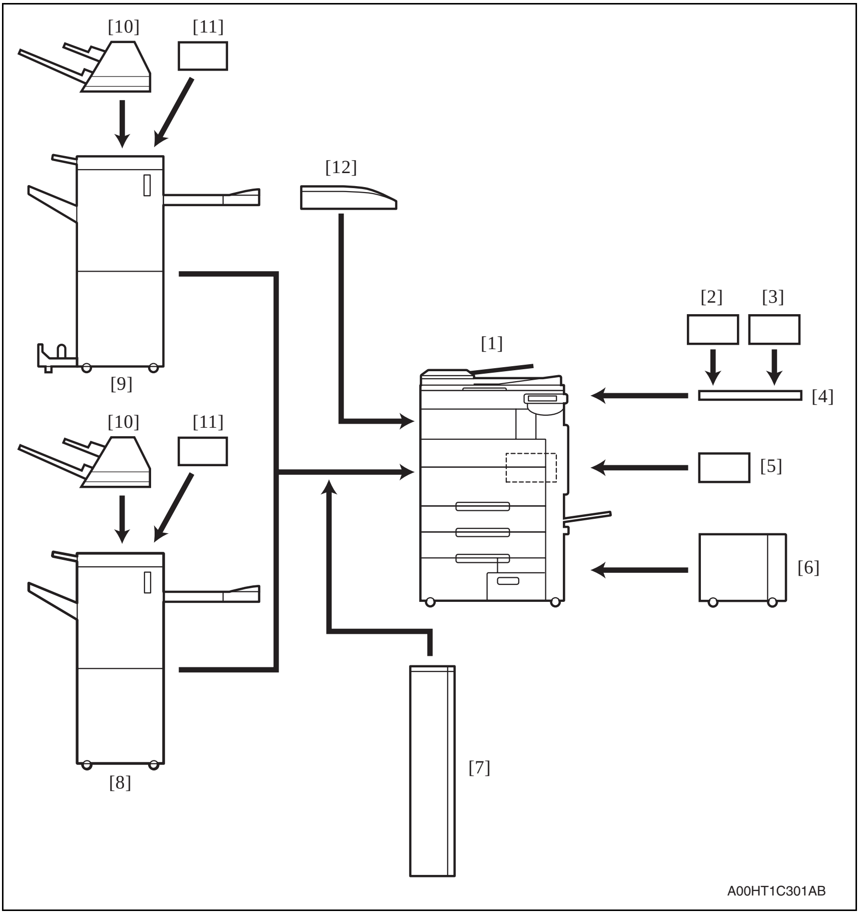
Outline

1. System configuration

1.1 C650

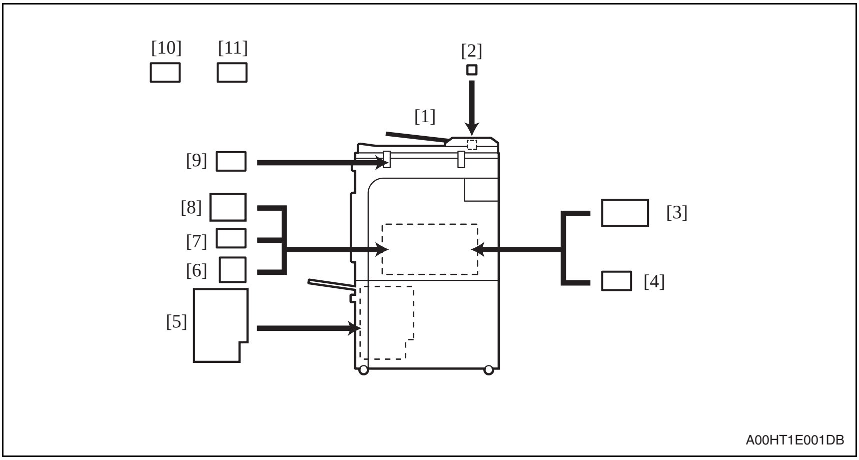
1/2 System front view



[1]	Main body		[6]	Large capacity unit	LU-301
[2]	Authentication unit: Biometric type	AU-101	[7]	Z folding unit	ZU-603
			[8]	Finisher	FS-517/518
[3]	Authentication unit: IC card type	AU-201	[9]	Finisher	FS-608
			[10]	Post inserter	PI-503
[4]	Working table	WT-502	[11]	Punch kit	PK-512/513
[5]	Local interface kit	EK-602/603	[12]	Output tray	OT-503

2/2 System rear view

4

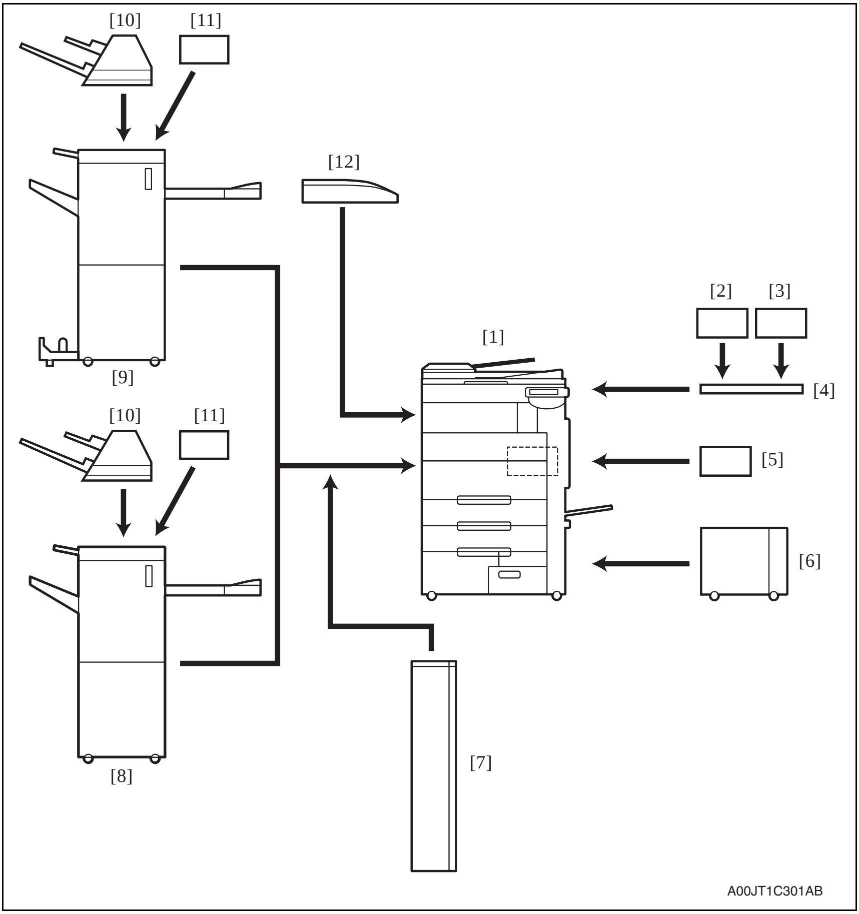


[1]	Main body		[7]	Scan accelerator kit * Standard	SA-501
[2]	Stamp unit	SP-501	[8]	Fax multi line	ML-501
[3]	Fax kit	FK-502	[9]	Key counter kit	KIT-1
[4]	Security kit	SC-503	[10]	i-Option	LK-101*/102*/103
4 [5]	Image controller	IC-409	[11]	Upgrade kit	UK-201
4 [6]	Video interface kit * Standard	VI-504			

*: Except for the North America area.

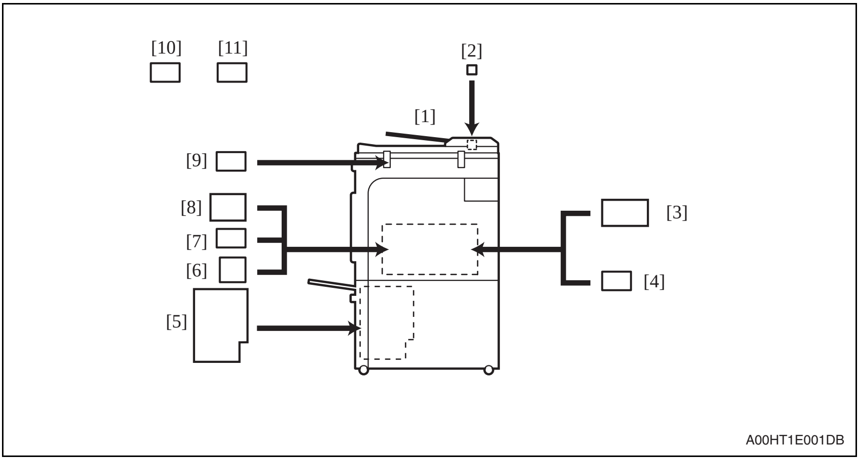
1.2 C550

1/2 System front view



[1]	Main body		[6]	Large capacity unit	LU-301
[2]	Authentication unit: Biometric type	AU-101	[7]	Z folding unit	ZU-603
			[8]	Finisher	FS-517/518
[3]	Authentication unit: IC card type	AU-201	[9]	Finisher	FS-608
			[10]	Post inserter	PI-503
[4]	Working table	WT-502	[11]	Punch kit	PK-512/513
[5]	Local interface kit	EK-602/603	[12]	Output tray	OT-503

2/2 System rear view

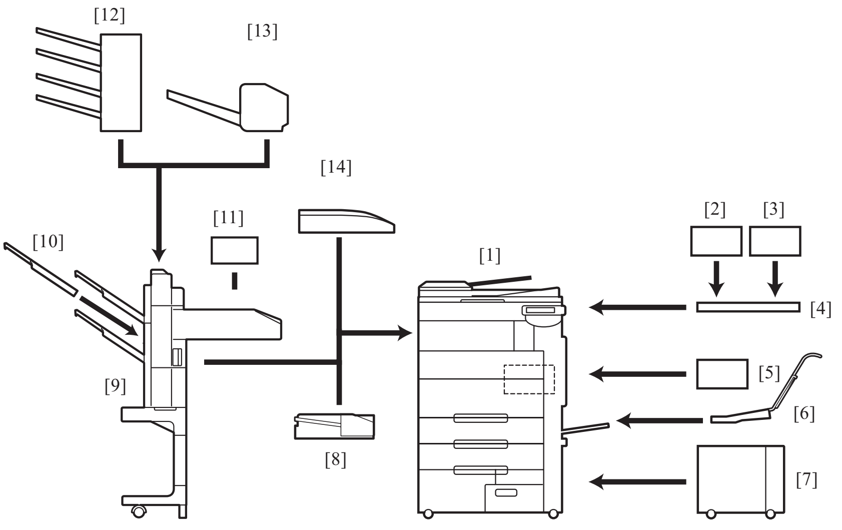


[1]	Main body		[7]	Scan accelerator kit	SA-501
[2]	Stamp unit	SP-501	[8]	Fax multi line	ML-501
[3]	Fax kit	FK-502	[9]	Key counter kit	KIT-1
[4]	Security kit	SC-503	[10]	i-Option	LK-101*/102*/103
[5]	Image controller	IC-409	[11]	Upgrade kit	UK-201
[6]	Video interface kit	VI-504			

*: Except for the North America area.

1.3 C451

1/2 System front view



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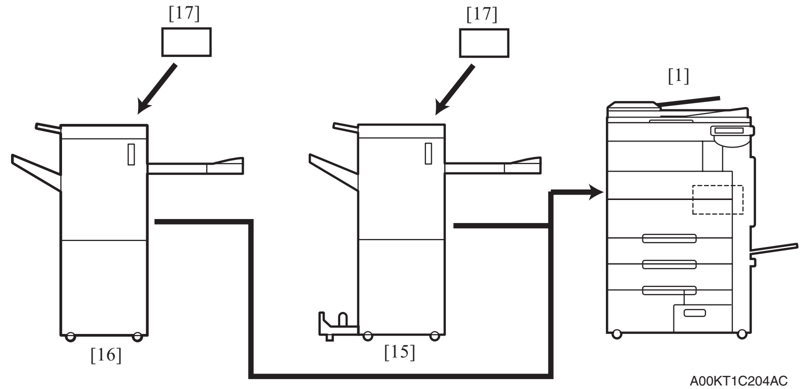
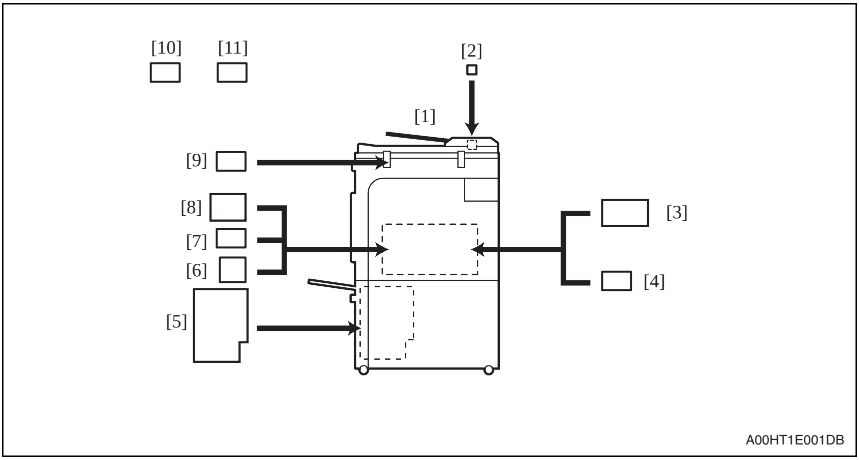


A00KT1C204AC

[1]	Main body		[10]	Output tray (for FS-519)	OT-602
[2]	Authentication unit: Biometric type	AU-101	[11]	Punch kit	PK-510
[3]	Authentication unit: IC card type	AU-201	[12]	Mailbin kit	MT-502
[4]	Working table	WT-502	[13]	Saddle sticher	SD-505
[5]	Local interface kit	EK-602/603	[14]	Output tray (for main body)	OT-503
[6]	Mount kit	MK-715	[15]	Finisher	FS-608
[7]	Large capacity unit	LU-301	[16]	Finisher	FS-517
[8]	Job separator	JS-504	~~[17]~~	~~Post inserter~~	~~PI-503~~
[9]	Finisher	FS-519	[17]	Punch kit	PK-512/513

2/2 System rear view

4



	[1]	Main body		[7]	Scan accelerator kit	SA-501
	[2]	Stamp unit	SP-501	[8]	Fax multi line	ML-501
	[3]	Fax kit	FK-502	[9]	Key counter kit	KIT-1
4	[4]	Security kit	SC-503	[10]	i-Option	LK-101*/102*/103
4	[5]	Image controller	IC-409	[11]	Upgrade kit	UK-201
	[6]	Video interface kit	VI-504			

*: Except for the North America area.

2. Product specifications

A. Type

Type	Combination scanner and printer console type
Copying system	Electrostatic dry-powdered image transfer to plain paper
Printing process	Laser electrostatic printing system
PC drum type	OPC drum: KM-12 (OPC with high mold releasability)
Scanning density	600 dpi
Exposure lamp	White rare-gas fluorescent lamp 30 W
Platen	Stationary (mirror scan)
Original scanning	Mirror scanning CCD optical system * Sheet through system when DF-610 or DF-611 is used
Registration	Rear left edge
Paper feeding separation system	Manual bypass : Roller separation system with pick-up mechanism Tray 1 : Roller separation system with pick-up mechanism Tray 2 : Roller separation system with pick-up mechanism Tray 3 : Roller separation system with pick-up mechanism Tray 4 : Roller separation system with pick-up mechanism
Exposure system	1 polygon 2 beam x 4 LD exposure and polygon mirror scan system
Exposure density	Equivalent to 1800 dpi in main scanning direction × 600 dpi in sub scanning direction
Developing system	Dry 2 components developing method, HMT developing system
Charging system	DC comb electrode scorotron system with electrode cleaning function
Neutralizing system	Red LED system
Image transfer system	Belt image transfer system (1st)/roller image transfer system (2nd)
Paper separating system	Combination of curvature, separating claws, and bias system
Fusing system	Belt IH fusing system
Heating system	Heating: IH heating, Soaking: Halogen lamp

B. Functions

Types of original		Sheets, books, and three-dimensional objects
Max. original size		A3 or 11 x 17
Max. original weight		Max. 2 kg
Multiple copies		1 to 9999
Warm-up time (at ambient temperature of 23° C/73.4° F and rated source voltage)	When the sub power switch is turned ON at any timing while the main power switch remains ON for a predetermined period of time or more	
	C650/C550/C451	30 sec. or less (Monochrome print, Color print)
	C550: Taiwan only	60 sec. or less (Monochrome print, Color print)
	C451: Taiwan only	30 sec. or less (Monochrome print)
		60 sec. or less (Color print)
	When the main power switch is turned ON during the sub power switch being ON	
	C650/C550/C451	85 sec. or less (Monochrome print, Color print)
	C550: Taiwan only	115 sec. or less (Monochrome print, Color print)
	C451: Taiwan only	85 sec. or less (Monochrome print)
		115 sec. or less (Color print)
Image loss		Leading edge: 4.2 mm (3/16 inch), Trailing edge: 3 mm (1/8 inch), Rear edge: 3 mm (1/8 inch), Front edge: 3 mm (1/8 inch)
First copy time	(Tray1/2 A4 or 8 $^1/_2$ x 11, full size)	
	C650	3.8 sec. or less (Monochrome print) 6.0 sec. or less (Color print)
	C550	4.3 sec. or less (Monochrome print) 6.5 sec. or less (Color print)
	C451	4.8 sec. or less (Monochrome print) 6.5 sec. or less (Color print)
Processing speed	Plain paper monochrome	C650: 310.00 mm/s
		C550: 264.00 mm/s
		C451: 216.00 mm/s
	Plain paper/full color	C650: 240.00 mm/s
		C550/C451: 216.00 mm/s
	Thick 1, Thick 1+	C650: 155.00 mm/s
		C550/C451: 132.00 mm/s
	Thick 2, Thick 3, Thick 4, OHP, Post card, Envelope, Label sheet	C650: 120.00 mm/s
		C550/C451: 108.00 mm/s
Copying speed for multi-copy cycle (A4 or 8 $^1/_2$ x 11, plain paper)	Monochrome	C650: 1-sided: 65 copies/min *1, 2-sided: 65 copies/min
		C550: 1-sided: 55 copies/min, 2-sided: 55 copies/min
		C451: 1-sided: 45 copies/min, 2-sided: 45 copies/min
	Full color	C650: 1-sided: 50 copies/min, 2-sided: 50 copies/min
		C550/C451: 1-sided: 45 copies/min, 2-sided: 45 copies/min

Fixed zoom ratios	Full size	x1.000	
	Reduction	Metric area	x0.500, x0.707, x0.816, x0.866
		Inch area	x0.500, x0.647, x0.733, x0.785
	Enlargement	Metric area	x1.154, x1.224, x1.414, x2.000
		Inch area	x1.214, x1.294, x1.545, x2.000
	Zoom ratios memory	Metric area	3 memories
Variable zoom ratios	x0.250 to x4.000	Inch area	in 0.001 increments
Paper size	Tray 1/Tray 2	Metric area	A3 Wide, A3 to A5S, A6S, post card
		Inch area	11 x 17 to 8 $^{1}/_{2}$ x 11, 8 x 13 *1, 16K, 8K, 12 $^{1}/_{4}$ x 18
	Tray 3/Tray 4	A4, B5, A5, 8 $^{1}/_{2}$ x 11, 5 $^{1}/_{2}$ x 8 $^{1}/_{2}$, 16K, postcard S	
	Manual bypass tray	Metric area	A3 wide, A3 to B6S, A6S, postcard
		Inch area	11 x 17 to 5 $^{1}/_{2}$ x 8 $^{1}/_{2}$, 8 x 13 *1, 16K, 8K, 12 $^{1}/_{4}$ x 18
Copy exit tray capacity (When OT-503 is mounted)	Plain paper	250 sheets	
	Thick paper	10 sheets	
	OHP transparencies	1 sheet	

*1: 1-sided from tray 3 or tray 4.
1-sided from tray 1: 63 copies/min; 1-sided from tray 2: 64 copies/min

C. Paper

Type		Paper source (maximum tray capacity)				
		Tray 1	Tray 2	Tray 3	Tray 4	Multiple bypass
Paper type	Plain paper (64 to 90 g/m^2 / 17 to 24 lb)	❍ (500 sheets)	❍ (500 sheets)	❍ (1500 sheets)	❍ (1000 sheets)	❍ (150 sheets)
	Translucent paper	–	–	–	–	–
	OHP transparencies	–	–	–	–	❍ (20 sheets) *3
	Thick paper 1 *1 (91 to 120 g/m^2 / 24.25 to 32 lb)	❍ (400 sheets)	❍ (400 sheets)	❍ (1150 sheets)	❍ (750 sheets)	❍ (100 sheets)
	Thick paper 1+ *1 (121 to 157 g/m^2 / 32 to 41.75 lb)	❍ (280 sheets)	❍ (280 sheets)	❍ (800 sheets)	❍ (500 sheets)	❍ (80 sheets)
	Thick paper 2 *1 (158 to 209 g/m^2 / 42 to 55.5 lb)	❍ (250 sheets)	❍ (250 sheets)	❍ (700 sheets)	❍ (450 sheets)	❍ (70 sheets)
	Thick paper 3 *1,2 (210 to 256 g/m^2 / 55.75 to 68 lb)	❍ (200 sheets)	❍ (200 sheets)	❍ (600 sheets)	❍ (400 sheets)	❍ (60 sheets)
	Thick paper 4 *1,2 (257 to 300 g/m^2 / 68.25 to 80 lb)	–	–	–	–	❍ (50 sheets)
	Postcards	–	–	❍ (200 sheets)	❍ (200 sheets)	❍ (50 sheets)
	Envelopes	–	–	–	–	❍ (10 sheets)
	Labels	–	–	–	–	❍ (50 sheets)
	Long Size Paper *4	–	–	–	–	❍ (1 sheet)
Copy paper dimen-sions	Width	139.7 to 311.1 mm 5 $^{1}/_{2}$ to 12 $^{1}/_{2}$ inch		A4, B5, A5, 8 $^{1}/_{2}$ x 11, 5 $^{1}/_{2}$ x 8 $^{1}/_{2}$, 16K, postcard S		90 to 311.1 mm 3 $^{1}/_{2}$ to 12 $^{1}/_{4}$ inch
	Length	182.0 to 457.2 mm 7 $^{1}/_{4}$ to 18 inch				139.7 to 457.2 mm 5 $^{1}/_{2}$ to 18 inch
Long Size Paper *4	Width	–	–	–	–	210 to 297 mm 8 $^{1}/_{4}$ to 11 $^{3}/_{4}$ inch
	Length	–	–	–	–	457.2 to 1200 mm 18 to 47 $^{1}/_{4}$ inch

*1: Excluding damp paper, curled paper, and recycled paper.

*2: Image is not guaranteed when thick paper 3/4 is used.
*3: Monochrome print only.
*4: Paper to be reliably fed through only for C451 (127 to 210 g/m^2 (33.75 to 55.75 lb))

Automatic duplex unit : Only the plain paper weighing 64 to 90 g/m^2 (17 to 24 lb) or thick paper weighing 91 to 256 g/m^2 (24.25 to 68 lb) are reliably fed.

D. Maintenance

- C650

No. of pages printed per month (average)	Color print	7,700 prints
	Monochrome print	30,800 prints
Standard copy mode	Color print	5 pages/job
	Monochrome print	7 pages/job
Standard original density	Color print	C, M, Y, K 5%
	Monochrome print	K 5%

- C550

No. of pages printed per month (average)	Color print	5,000 prints
	Monochrome print	20,000 prints
Standard copy mode	Color print	5 pages/job
	Monochrome print	6 pages/job
Standard original density	Color print	C, M, Y, K 5%
	Monochrome print	K 5%

- C451

No. of pages printed per month (average)	Color print	3,000 prints
	Monochrome print	11,400 prints
Standard copy mode	Color print	5 pages/job
	Monochrome print	5 pages/job
Standard original density	Color print	C, M, Y, K 5%
	Monochrome print	K 5%

E. Machine specifications

- C650

Power requirements	Voltage:	AC 100 V, 120 V, 127 V, 220-240 V	
	Current:	100 V	15 A + 7A
		110 V	15 A + 7A
		120 V	16 A
		127 V	16 A
		230 V	10 A
	Frequency:	50 to 60 Hz ± 3 Hz	
Max power consumption		100 V	2,000 W or less
		110 V	2,000 W or less
		120 V	2,000 W or less
		127 V	2,000 W or less
		230 V	2,000 W or less
Dimensions		650 *1 (W) x 777 (H) x 1,155 mm (H) 25.5 *1 (W) x 30.5 (D) x 45.5 inch (H)	
Space requirements		2,360 (W) x 1,483 mm (D) *2 93.0 (W) x 58.25 inch (D) *2	
Weight	Machine	Approx. 190.0 kg / 419.0 lb (without IU and TC)	
	IU and TC	Approx. 14.5 kg / 32.0 lb	

*1: Width when the manual bypass tray is closed

*2: Space requirements are the values when the finisher is slid to the maximum, the paper feed tray is slid to the maximum, and the upper right door is open.

- C550/C451

Power requirements	Voltage:	AC 100 V, 120 V, 127 V, 220-240 V	
	Current:	100 V	15 A
		110 V	15 A
		120 V	16 A
		127 V	16 A
		230 V	10 A
	Frequency:	50 to 60 Hz ± 3 Hz	
Max power consumption		100 V	1,500 W or less
		110 V	1,650 W or less
		120 V	1,920 W or less
		127 V	2,000 W or less
		230 V	2,000 W or less
Dimensions		650 *1 (W) x 777 (H) x 1,155 mm (H) 25.5 *1 (W) x 30.5 (D) x 45.5 inch (H)	
Space requirements		2,360 (W) x 1,483 mm (D) *2 93.0 (W) x 58.25 inch (D) *2	
Weight	Machine	Approx. 190.0 kg / 419.0 lb (without IU and TC)	
	IU and TC	Approx. 14.5 kg / 32.0 lb	

*1: Width when the manual bypass tray is closed

*2: Space requirements are the values when the finisher is slid to the maximum, the paper feed tray is slid to the maximum, and the upper right door is open.

F. Operating environment

Temperature	10 to 30° C / 50 to 86° F (with a fluctuation of 10° C / 18° F or less per hour)
Humidity	15 to 85% (Relative humidity with a fluctuation of 10%/h)
Levelness	Difference between front and back, right and left should be 1 degree or under.

G. Print functions

Type	Built-in printer controller	
RAM	1,024 MB (shared with the main body)	
HDD	60 GB (shared with the main body)	
Interface	Standard	Ethernet (1000Base-T/100Base-TX/10Base-T) USB2.0/1.1
	Option	USB 2.0
Frame type	Ethernet 802.2, Ethernet 802.3, Ethernet II, Ethernet SNAP	
Supported protocols	TCP/IP, IPX/SPX, NETBEUI, Apple Talk (EtherTalk)	
Print speed (A4 or 8 $^{1}/_{2}$ x 11, plain paper)	Monochrome print	C650: 1-sided: 65 ppm, 2-sided: 65 ppm C550: 1-sided: 55 ppm, 2-sided: 55 ppm C451: 1-sided: 45 ppm, 2-sided: 45 ppm
	Color print	C650: 1-sided: 50 ppm, 2-sided: 50 ppm C550/C451: 1-sided: 45 ppm, 2-sided: 45 ppm
Printer language	PCL5e/c Emulation, PCL6 (XL Ver. 3) Emulation PostScript 3 Emulation (3016) XPS	
Print resolution	Equivalent to 1800 dpi in main scanning direction × 600 dpi in sub scanning direction	
Printer fonts	PCL Latin 80 Fonts Postscript 3 Emulation Latin 137 Fonts	
Supported computer	IBM PC/AT compatible machine, Macintosh (PowerPC/Intel processor)	
Supported operating systems	Server	Windows NT4.0 (SP6)/2000 (SP3)/2003 (incl. 64 bit)
	Client	Windows Vista (incl. 32/64 bit) Windows 2000 (SP3)/XP (incl. 64 bit) Windows NT4.0 (SP6) Mac OS 9.2 or later/Mac OS X 10.2, 10.3, 10.4 Linux

H. Scan functions

Driver	KONICA MINOLTA scanner driver	
Compatible operating systems	Windows 2000, Windows XP/XP (incl. 64 bit)	
Scan speed (A4 or 8 1/2 x 11, Resolution 300 dpi)	C650: DF-610	Monochrome: 75 pages/min Full color: 70 pages/min
	C550/C451: DF-611	Monochrome: 70 pages/min Full color: 70 pages/min
Scannable range	Same as the copier (Max. A3)	
Functions	Scan to E-mail, Scan to FTP, Scan to SMB, Scan to BOX	
Resolution	200/300/400/600 dpi	

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

3. Periodical check

3.1 Maintenance items

NOTE

- **Cleaning/replacement cycle for each maintenance item of main body/options can be evaluated with each life counter value of [Service mode] → [Counter] → [Life].**

3.1.1 Main body

A. Parts to be replaced by users (CRU)

No	Class	Parts to be replaced	Cycle	Clean	Replace	Descriptions
1	Processing sections	Imaging unit Y/M/C	100,000		●	*1
2		Electrostatic charger wire Y/M/C	When TC (Y,M,C) is replaced	●		
3		PH window Y/M/C/K	When TC is replaced	●		
4		Toner cartridge Y/M/C	27,000		●	*1
5		Toner cartridge K	45,000		●	*1
6	Image transfer section	Waste toner box	(57,000)		●	*1,2

*1: The parts can be replaced either by user or service engineer.
For details of setting, see [Unit Change] on "Adjustment/Setting."
See P.496

*2: A waste toner full condition is detected with detecting the actual waste toner emissions.

B. Maintenance call (per 100,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Timing roller	—		●			
4		Paper dust remover	—		●			
5	Image transfer section	Around waste toner port	—		●			
6	Duplex section	Duplex transport roller	—		●			

C. Periodical parts replacement/cleaning 1 (per 150,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Processing section	Color toner filter	1			●		

D. Periodical parts replacement/cleaning 2 (per 300,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Manual bypass tray Tray 1 Tray 2	Pick-up roller	1			●		*1
		Feed roller	1			●		
		Separation roller assy	1			●		
4	Tray 3 Tray 4	Pick-up roller	1			●		*1
		Feed roller	1			●		
		Separation roller	1			●		
5	Fusing section	Fusing unit	1			●		
6	Processing section	Imaging unit /K	1			●		
7		Ozone filter	1			●		

*1: Replace those three parts at the same time.

E. Periodical parts replacement/cleaning 3 (per 450,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Transfer roller unit	1			●		
4	Image transfer section	Transfer belt unit	1			●		

3.1.2 DF-610/DF-611

A. Maintenance call (per 50,000-original feed)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Paper feed section	Pick-up roller	—		●			
4		Feed roller	—		●			
5		Separation roller	—		●			
6	Conveyance section	Roller and rolls	—		●			
7	Scanning section	Scanning guide	—		●			
8	Paper feed section	Reflective sensor section	—		●			

B. Periodical parts replacement/cleaning 1 (per 200,000-original feed)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Paper feed section	Pick-up roller	2			●		*1
4		Feed roller	1			●		
5		Separation roller	1			●		

*1: Replace those three parts at the same time.

3.1.3 LU-301

A. Periodical parts replacement/cleaning 1 (per 300,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Paper feed section	Pick-up roller	1			●		*1
4		Feed roller	1			●		
5		Separation roller	1			●		

*1: Replace those three parts at the same time.

5 3.1.4 ZU-603

A. Periodical parts replacement/cleaning 1 (per 300,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Punch section	Punch edge	—		●			
4	Conveyance section	Entrance guide plate	—		●			
5		Conveyance guide plate	—		●			
6		Registration roller	—		●			
7		Conveyance roller	—		●			
8		Exit roller	—		●			
9		Exit guide plate	—		●			
10	Z-folding section	Folding roller (1st and 2nd)	—		●			
11		Folding guide plate	—		●			
12	Punch scraps conveyance section	Punch waste box	—		●			Dispose of scraps

3.1.5 FS-517/518/608

A. Maintenance call (per 100,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri- cation	Descrip- tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Conveyance roller	—		●			
4		Swing belt /Up	—		●			FS-517/ 518 only
5	Folding section	Folding roller	—		●			FS-608 only
6	Horizontal conveyance section	Horizontal transport roller	—		●			
7	Drive section	Main drive unit	—	●			(●)	
8		Main tray section	—	●			(●)	
9		Shift drive unit	—	●			(●)	
10		Paper exit drive section	—	●			(●)	
11		Staple section	—	●			(●)	
12	Paper exit section	Paper exit roller	10			●		
13	Conveyance section	Intermediate conveyance roller	4			●		

B. Periodical parts replacement/cleaning 1 (per 200,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri- cation	Descrip- tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Paper assist roller	1			●		
4	Staple section	Stapler unit (FS-608 only)	2			●		

C. Periodical parts replacement/cleaning 2 (per 300,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri- cation	Descrip- tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Staple section	Stapler unit/ Fr (FS-517 only)	1			●		
4		Stapler unit/ Rr (FS-517 only)	1			●		
5	Conveyance section	Cleaning plate assy	1			●		

D. Periodical parts replacement/cleaning 3 (per 500,000-print) *FS-518 only

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Staple section	Stapler unit/ Fr (FS-518 only)	1			●		
4		Stapler unit/ Rr (FS-518 only)	1			●		

3.1.6 PK-512/513

A. Maintenance call (per 100,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Punch unit main body	Punch edge	—		●			
4	Punch scraps collection section	Punch scraps box	—		●			
5		Punch scraps full sensor	—		●			
6	Exterior section	Exterior parts	—		●			

3.1.7 PI-503

A. Maintenance call (per 100,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Paper feed section	Feed roller/Up	1			●		
4		Feed roller/Lw	1			●		
5		Separation roller/Up	1			●		
6		Separation roller/Lw	1			●		

B. Periodical parts replacement/cleaning 1 (per 200,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Paper feed section	Pick-up roller/Up	1			●		
4		Pick-up roller/Lw	1			●		

C. Periodical parts replacement/cleaning 2 (per 600,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Paper feed section	Torque limiter/Up	1			●		
4		Torque limiter/Lw	1			●		

3.1.8 FS-519

A. Periodical parts replacement/cleaning 1 (per 300,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Paper feed roller, roll	—		●			
4		Paddle	—		●			

B. Periodical parts replacement/cleaning 2 (per 800,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Paddle	1			●		
4		Cleaning pad	1			●		
5		Worm gear	—		●		●	
6		Cover film	1			●		

3 3.1.9 JS-504

A. Periodical parts replacement/cleaning 1 (per 300,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Exit section	Paper feed roller, roll	—		●			

3.2 CMS corresponding parts

3.2.1 CMS corresponding parts

- “CMS” stands for “customer maintenance support,” and this is applicable when the user wants to change parts by himself.

3.2.2 CMS corresponding parts list

No	Section	Corresponding parts	Cycle	Clean	Replace	Ref. page
1	Processing section	Imaging unit K	300,000		●	P.49
2		Color toner filter	150,000		●	P.53
3		Ozone filter	300,000		●	P.52
4	Image transfer section	Transfer belt unit	450,000		●	P.55
5	Transport section	Transfer roller unit	450,000		●	P.59
6	Fusing section	Fusing unit	300,000		●	P.60

3.2.3 Replacing CMS corresponding parts as a set

- There are six types of parts correspond to CMS, but parts should be replaced as a set of two parts listed below (3 patterns) for conducting CMS.

Pattern 1: Imaging unit K + Color toner filter
Pattern 2: Fusing unit + Ozone filter
Pattern 3: Transfer belt unit + Transfer roller unit

* Below are the reasons for replacing CMS corresponding parts as a set.

- CMS corresponding parts are prepared as a kit according to the patterns listed above.
- Life counter cannot be reset by the user even if the color toner filter, the ozone filter, or the transfer roller unit is changed by itself.

3.3 Maintenance parts

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- Replace with reference to the numeric values displayed on the Life counter.
- Maintenance conditions are based on the case of A4 or 8 $^1/_2$ x 11, standard mode and low power mode OFF.

		Color	B/W
* Standard mode	bizhub C650	5 pages per job	7 pages per job
	bizhub C550	5 pages per job	6 pages per job
	bizhub C451	5 pages per job	5 pages per job

3.3.1 Replacement parts

A. Main body

No.	Classification	Parts name	Qt.	Actual durable cycle *1	Parts No.	Descriptions	Ref. page
1	Tray 1	Feed roller	1	300,000	A00J 5636 ##	*2	P.32
2		Separation roller assy	1	300,000	A00J A566 ##		P.34
3		Pick-up roller	1	300,000	A00J 5636 ##		P.32
4	Tray 2	Feed roller	1	300,000	A00J 5636 ##	*2	P.35
5		Separation roller assy	1	300,000	A00J A566 ##		P.38
6		Pick-up roller	1	300,000	A00J 5636 ##		P.35
7	Tray 3	Feed roller	1	300,000	A00J 5636 ##	*2	P.39
8		Separation roller	1	300,000	A00J 5636 ##		P.40
9		Pick-up roller	1	300,000	A00J 5636 ##		P.39
10	Tray 4	Feed roller	1	300,000	A00J 5636 ##	*2	P.42
11		Separation roller	1	300,000	A00J 5636 ##		P.43
12		Pick-up roller	1	300,000	A00J 5636 ##		P.42
13	Manual bypass tray	Feed roller	1	300,000	A00J 5636 ##	*2	P.45
14		Separation roller assy	1	300,000	A00J A666 ##		P.47
15		Pick-up roller	1	300,000	A00J 5636 ##		P.45
16	Conveyance section	Transfer roller unit	1	450,000	A00J R715 ##		P.59
17	Fusing section	Fusing unit	1	300,000	A00J R721 ##	*3, *5	P.60
					A00J R722 ##	*4, *5	
18	Processing section	Imaging unit Y/M/C	1	100,000	—		P.49
19		Imaging unit K	1	300,000	—		
20		Ozone filter	1	300,000	A00J R731 ##		P.52
21		Toner cartridge Y/M/C	1	27,000	—		P.53
22		Toner cartridge K	1	45,000	—		
23		Color toner filter	1	150,000	A00J R700 ##		P.53
24	Image transfer section	Transfer belt unit	1	450,000	A00J R714 ##		P.55
25		Waste toner box	1	(57,000)	A0AT WY0	*6	P.48

*1: Actual durable cycle is the life counter value.

*2: Replace those three parts at the same time.
*3: 110 V to 120 V areas only.
*4: 220-240 V areas only.
*5: This part number include the ozone filter.
*6: A waste toner full condition is detected with detecting the actual waste toner emissions.

B. DF-611/610

No.	Classification	Parts name	Qt.	Actual durable cycle *1	Parts No.	Descrip tions	Ref. Page
1	DF-610 DF-611	Pick-up roller	2	200,000	9J07 3301 ##	*2	*3
2		Feed roller	1	200,000	4030 3005 ##		
3		Separation roller	1	200,000	9J07 3409 ##		

*1: Actual durable cycle is the life counter value.
*2: Replace those three parts at the same time.
*3: See DF-611 service manual.

C. Option

No.	Classification	Parts name	Qt.	Actual durable cycle *1	Parts No.	Descrip tions	Ref. Page
1	LU-301	Pick-up roller	1	300,000	A00J 5636 ##	*2	*3
2		Feed roller	1	300,000	A00J 5636 ##		
3		Separation roller	1	300,000	A00J 5636 ##		
4	FS-517 FS-518 FS-608	Paper exit roller	10	100,000	122H 4825		
5		Intermediate conveyance roller	4	100,000	13QE 4531		
6		Paper assist roller	1	200,000	20AK 4210		
7		Stapler unit (FS-608 only)	2	200,000	15JM-5011		
△6 8		Stapler unit/ Fr (FS-517/518 only)	1	300,000	A07RA7350	FS-517	
				500,000	A07PA790	FS-518	
9		Stapler unit/ Rr (FS-517/518 only)	1	300,000	A07RA7360	FS-517	
				500,000	A07PA791	FS-518	
10		Cleaning plate assy	1	300,000	A07RA741	FS-517 FS-518	
					A07RA731	FS-608	
11	PI-503	Feed roller/Up	1	100,000	13QN-446		
12		Feed roller/Lw	1	100,000	13QN-446		
13		Separation roller/Up	1	100,000	13QN-443		
14		Separation roller/Lw	1	100,000	13QN-443		
15		Pick-up roller/Up	1	200,000	50BA-574		
16		Pick-up roller/Lw	1	200,000	50BA-574		
17		Torque limiter/Up	1	600,000	13QN4073		
18		Torque limiter/Lw	1	600,000	13QN4073		

No.	Classification	Parts name	Qt.	Actual durable cycle *1	Parts No.	Descrip tions	Ref. Page
19	FS-519	Paddle	1 1	800,000	9J08 1605 ## A01G 7203 ##		*3
20		Cleaning pad	1	800,000	A01G 7205 ##		
21		Cover film	1	800,000	A01G 8947 ##		

*1: Actual durable cycle is the life counter value.
*2: Replace those three parts at the same time.
*3: See each option service manual.

3.3.2 Cleaning parts

No.	Classification	Parts name	Actual cleaning cycle *1	Descrip-tions	Ref.Page
1	Processing section	Electrostatic charger wire	When toner cartridge C/M/Y is replaced		P.28
2		PH window	When toner cartridge is replaced		P.28
3	Conveyance section	Timing roller	Upon each call (100,000)		P.29
4		Paper dust remover	Upon each call (100,000)		P.30
5	Image transfer section	Area around the waste toner collecting port	Upon each call (100,000)		P.31
6	Duplex section	Duplex transport roller	Upon each call (100,000)		P.31
7	DF-610 DF-611	Pick-up roller	50,000		*1
8		Feed roller	50,000		
9		Separation roller	50,000		
10		Rollers and rolls	50,000		
11		Scanning guide	50,000		
12		Reflective sensor section	50,000		
13	ZU-603	Punch edge	300,000		—
14		Entrance guide plate	300,000		—
15		Conveyance guide plate	300,000		—
16		Registration roller	300,000		—
17		Conveyance roller	300,000		—
18		Exit roller	300,000		—
19		Exit guide plate	300,000		—
20		Folding roller (1st and 2nd)	300,000		—
21		Folding guide plate	300,000		—
22		Punch waste box	300,000		—
23	FS-517 FS-518 FS-608	Conveyance roller	Upon each call (100,000)		—
24		Swing belt /Up	Upon each call (100,000)	FS-517/518 only	—
25		Folding roller	Upon each call (100,000)	FS-608 only	—
26		Horizontal transport roller	Upon each call (100,000)		—

No.	Classification	Parts name	Actual cleaning cycle *1	Descrip-tions	Ref.Page
27	PK-512 PK-513	Punch edge	Upon each call (100,000)		—
28		Punch scraps box	Upon each call (100,000)		—
29		Punch scraps full sensor	Upon each call (100,000)		—
30		Exterior parts	Upon each call (100,000)		—
31	FS-519	Paper feed roller, roll	300,000		*2
32		Paddle	300,000		
33		Worm gear	800,000		
34	JS-504	Paper feed roller, roll	300,000		*3

*1: See DF-611/610 service manual.
*2: See FS-519 service manual.
*3: See JS-504 service manual.

3.4 Concept of parts life

3.4.1 Life value of consumables and parts

- The life counter value of each materials and parts is available from [Service Mode] → [Counter] → [Life].
- Life specification value means an actual life terminated when prints are made under the conditions as defined in the next section, “Conditions for life specifications values.”
  The actual life may vary greatly depending on how the machine has been used and other factors.
  See P.27

	Description	Life value (Specification value)	Max. life value
Waste toner box	The waste toner full sensor detects the amount of toner accumulated in the waste toner box and sends a signal that determines the end of the waste toner box life.	–	57,000 *1,2
Fusing unit	When the number of printed pages *6 reaches the set life value shown on the right, the end of unit life is detected.	300,000	350,000 *3
Transfer roller unit	When the number of printed pages *6 reaches the set life value shown on the right, the end of unit life is detected.	450,000	550,000
Transfer belt unit	Comparing the number of printed pages *6 with the number of printed pages calculated based on how long the transfer belt has run, the machine detects the end of unit life when either of them reaches the set value shown on the right. (However, to detect whether the unit reaches the max. life value, the machine uses only the number of printed pages calculated based on how long the transfer belt has run.)	450,000	550,000 *3
Ozone filter	When the number of printed pages *6 reaches the set life value shown on the right, the end of unit life is detected.	300,000	305,000
Color toner filter	When the number of color printed pages *6 reaches the set life value shown on the right, the end of unit life is detected.	150,000	152,000
Imaging unit C/M/Y	Comparing the PC drum rotation time with the PC drum rotation time calculated based on the number of printed pages, the machine detects the end of unit life when either of them reaches the set value shown in the table below. * The PC drum rotation is calculated based on the distance the PC drum has run.	See the imaging unit life values in the table below.	
Imaging unit /K			

<Imaging unit life value *4>

	Life value (Specification value)		Max. life value	
	Normal *5	Suspend *5	Normal *5	Suspend *5
Y,M,C	3,610 M	5,415 M	3,776 M	5,581 M
K	8,931 M		9,227 M	

*1: A waste toner full condition is detected with detecting the actual waste toner emissions.

*2: Once the toner-full is detected, it has to be replaced with the new waste toner box in order to reset.

*3: The initiation of any new print cycle is inhibited when the max. life value is reached.

*4: The mark “M” is indicated the value of the number of distance through which the PC drum has run translated to a corresponding value of the number of hours and the value.

*5: “Normal” and “Suspend” are the settings provided in [Service Mode] → [System 1] → [IU Life Setting].

*6: The count condition of printed pages is different according to the paper length of the sub scanning direction.

Paper length of sub scanning direction	Count value
Less than 216 mm	1 count
216 mm to 432 mm	2 counts
432 mm to 648 mm	3 counts (bizhub C451 only)
648 mm to 864 mm	4 counts (bizhub C451 only)
over 864 mm	5 counts (bizhub C451 only)

3.4.2 Conditions for life specifications values

- The life specification values represent the number of copies made or figures equivalent to it when given conditions (see the table given below) are met. They can be more or less depending on the machine operating conditions of each individual user.

Item		Description
Job type	bizhub C650	Monochrome : Making 7 copies per job Color : Making 5 copies per job
	bizhub C550	Monochrome : Making 6 copies per job Color : Making 5 copies per job
	bizhub C451	Monochrome : Making 5 copies per job Color : Making 5 copies per job
Paper size		A4 / 8 $^{1}/_{2}$ x 11
Color ratio (for bizhub C550)		Black to Color = 4:1
CV/M	bizhub C650	Black: 30,800 / Color: 7,700
	bizhub C550	Black: 20,000 / Color: 5,000
	bizhub C451	Black: 11,400 / Color: 3,000
Original density		B/W = 5 % for each color, 5 % for monochrome
No. of operating days per month		20 days (main power switch turned ON and OFF 20 times per month)

3.4.3 Control causing inhibited printing for one part when an inhibited-printing event occurs in another part

- In order to reduce the maintenance call times: when printing prohibiting is reached for any of the following parts, make printing prohibited also for other parts whose life value is reached, and replace those parts at the same time.

Target parts: Fusing unit, image transfer belt unit, imaging unit /C, imaging unit /M, imaging unit /Y, imaging unit /K

3.5 Maintenance procedure (periodical check parts)

NOTE

1 - **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

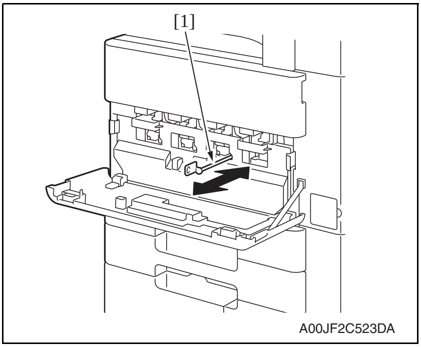
3.5.1 Cleaning of the electrostatic charger wire Y/M/C

A. Periodically cleaning parts/cycle

- Electrostatic charger wire Y/M/C: when toner cartridge Y/M/C is replaced

B. Procedure

1. Open the lower front door.



2. Slowly pull out the charger-cleaning tool [1] as far as possible. Next, slowly push in the charger-cleaning tool as far as possible. Repeat the above operations three times.

NOTE

- **Move the charger-cleaning tool slowly all the way to the end of either way.**

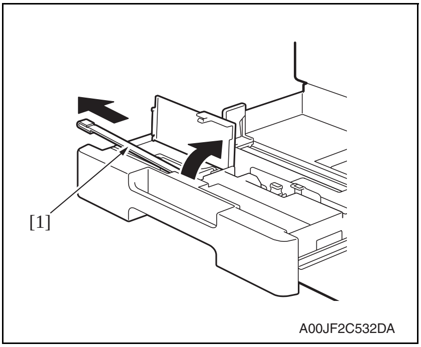
3.5.2 Cleaning of the PH window Y/M/C/K

A. Periodically cleaning parts/cycle

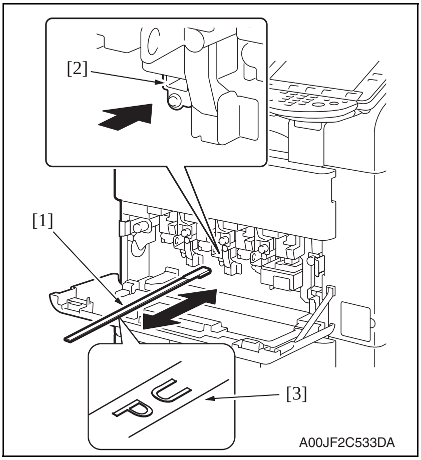
- PH window Y/M/C/K: when toner cartridge is replaced

B. Procedure

1. Open the lower front door.



2. Pull out tray 1 and remove the cleaning tool [1] from tray 1.



3. Insert the cleaning tool [1] into the print head cleaning opening [2], pull it out, and then repeat this back-and-forth movement two or three times.

NOTE

- **When using the cleaning tool, put the side with "UP" stamping [3] face up.**
- **Clean the PH window of each CMYK color.**
- **When cleaning the PH window of K color, release the IU lock lever.**

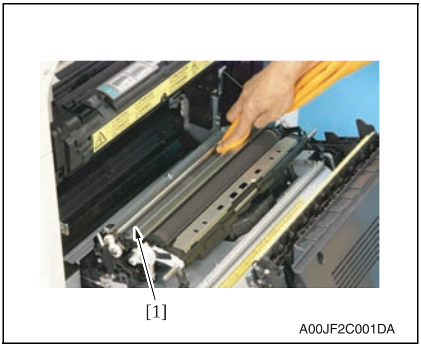
3.5.3 Cleaning of the timing roller

A. Periodically cleaning parts/cycle

- Timing roller: Every 100,000 prints (upon each call)

B. Procedure

1. Open the upper right door.



2. Using a soft cloth dampened with alcohol, wipe the timing roller [1] clean of dirt.

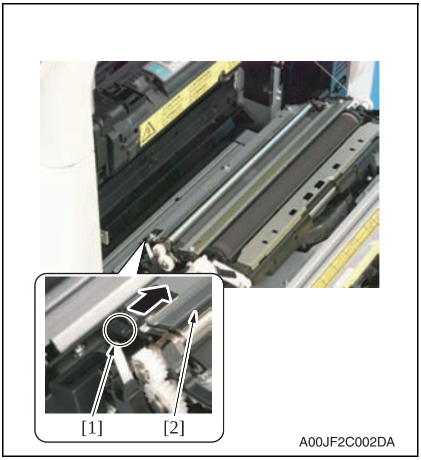
3.5.4 Cleaning of the paper dust remover

A. Periodically cleaning parts/cycle

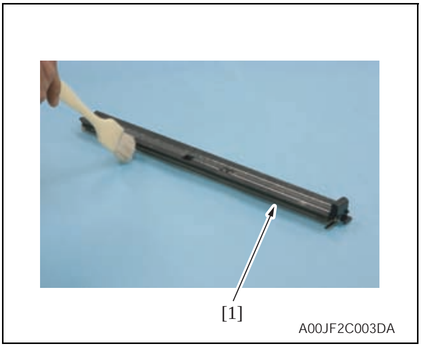
- Paper dust remover: Every 100,000 prints (upon each call)

B. Procedure

1. Open the upper right door.



2. Pushing the hook [1], remove the paper dust remover [2].



3. Using a brush, whisk dust off the paper dust remover [1].

3.5.5 Cleaning of the area around the waste toner collecting port

A. Periodically cleaning parts/cycle

- Area around the waste toner collecting port: Every 100,000 prints (upon each call)

B. Procedure

1. Open the lower front door.
2. Remove the waste toner box.
   See P.48

A00JF2C004DA

3. Wipe the areas around the waste toner collecting port clean of spilled toner and dirt using a soft cloth dampened with water or alcohol.

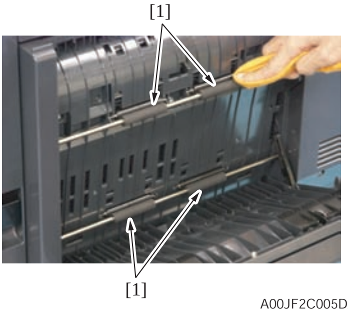
3.5.6 Cleaning of the duplex transport rollers

A. Periodically cleaning parts/cycle

- Duplex transport rollers: Every 100,000 prints (upon each call)

B. Procedure

1. Open the duplex door.



A00JF2C005DA

2. Using a soft cloth dampened with alcohol, wipe the transport rollers [1] clean of dirt.

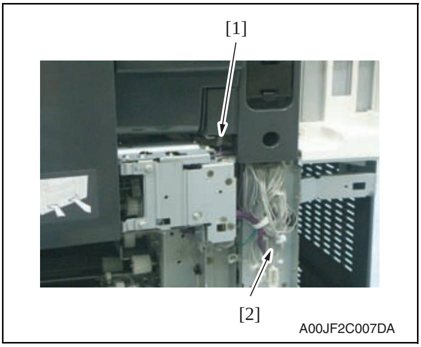
3.5.7 Replacing the tray 1 feed roller/tray 1 pick-up roller

A. Periodically replaced parts/cycle

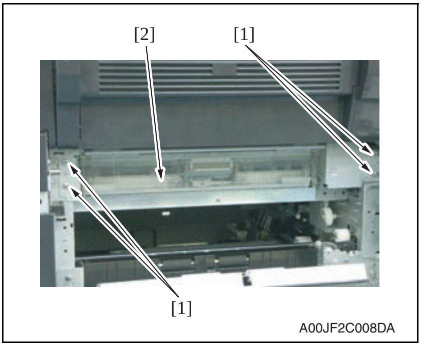
- Tray 1 feed roller: Every 300,000 prints
- Tray 1 pick-up roller: Every 300,000 prints

B. Procedure

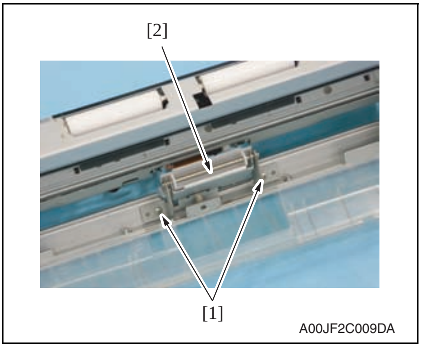
1. Slide out the tray 1.
2. Remove the tray 2 paper feed unit.
   See the replacement procedures 1 to 8 in "Tray 2 feed roller/tray 2 pick-up roller."
   See P.35



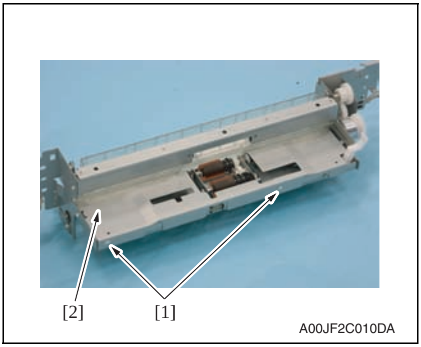
3. Remove the harness from the wire saddles [1], and disconnect the connector [2].



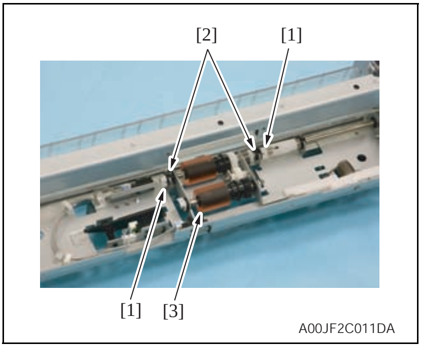
4. Remove four screws [1], take out the tray1 paper feed unit [2] with the upper right door open.



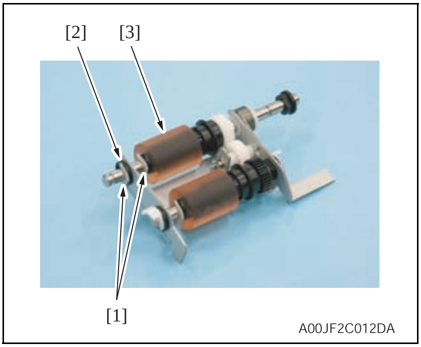
5. Remove two screws [1], and remove the tray 1 separation roller installation plate assy [2].



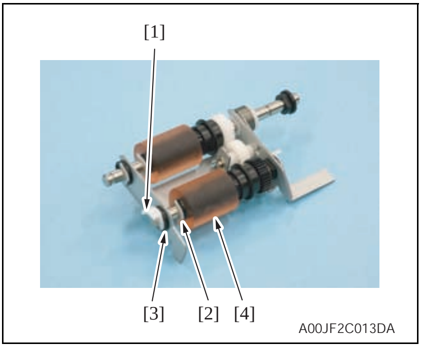
6. Remove two screws [1], and remove the tray 1 feed roller cover [2].



7. Remove two C-clips [1] and two bearings [2], and remove the feed roller/pick-up roller assy [3].



8. Remove two C-rings [1] and bearing [2], and remove the tray 1 feed roller [3].



9. Remove the C-clip [1], C-ring [2] and bearing [3], and remove the tray 1 pick-up roller [4].
10. To reinstall, reverse the order of removal.
11. Remove the tray 1 separation roller assy.
    See P.34
12. Select [Service Mode] → [Counter] → [Life] and clear the count of [1st.].
    See P.504

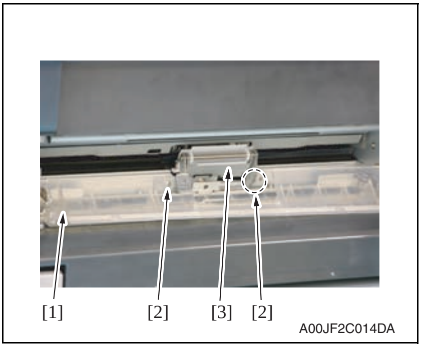
3.5.8 Replacing the tray 1 separation roller assy

A. Periodically replaced parts/cycle

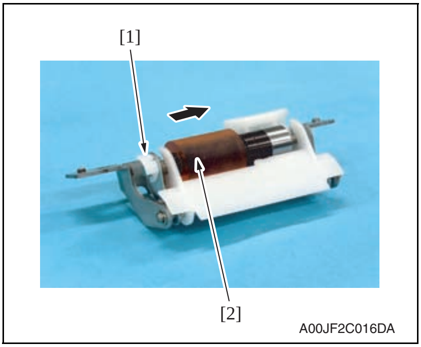
- Tray 1 separation roller assy: Every 300,000 prints

B. Procedure

1. Slide out the tray 1.
2. Remove the manual bypass tray rear cover.
   See P.116
3. Open the manual bypass tray door.



4. Opening the jam clearing cover [1], remove two screws [2] and take out the tray1 separation roller assy [3].



5. Remove the C-clip [1],and remove the tray 1 separation roller assy [2].

6. To reinstall, reverse the order of removal.

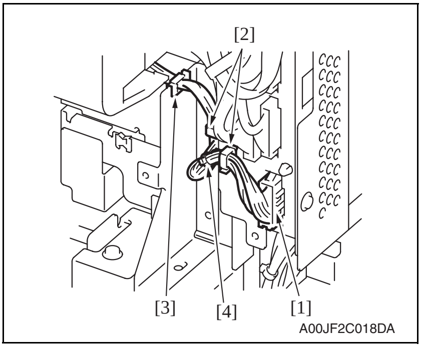
3.5.9 Replacing the tray 2 feed roller/tray 2 pick-up roller

A. Periodically replaced parts/cycle

- Tray 2 feed roller: Every 300,000 prints
- Tray 2 pick-up roller: Every 300,000 prints

B. Procedure

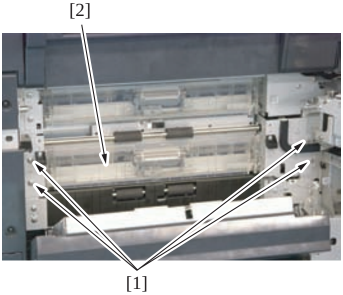
1. Slide out the tray 2.
2. Open the lower right-side door.
3. Remove the manual bypass tray rear cover.
   See P.116
4. Open the manual bypass tray door.
5. Remove the rear right cover /4.
   See P.115



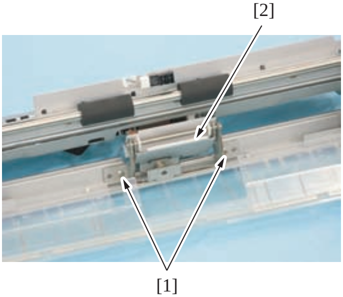
6. Disconnect the connector [1], and remove the harness from the two wire saddles [2] and the edge cover [3].

NOTE

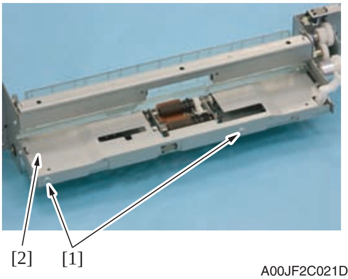
- **When reinstalling the harness, route it so that the harness ties [4] are positioned as shown in the illustration on the left.**



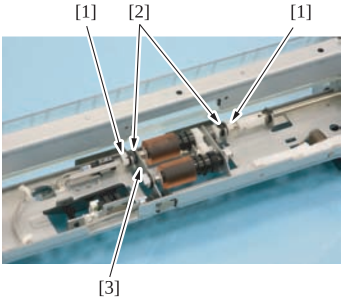
7. Remove four screws [1], and remove the tray 2 paper feed unit [2].



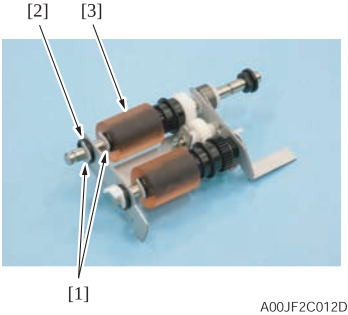
8. Remove two screws [1], and remove the tray 2 separation roller installation plate assy [2].



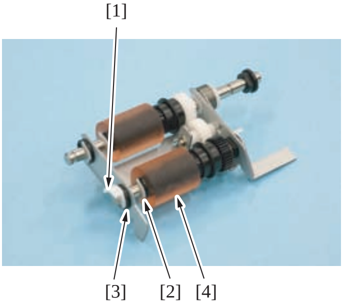
9. Remove two screws [1], and remove the tray 2 feed roller cover [2].



10. Remove two C-clips [1] and two bearings [2], and remove the feed roller/pick-up roller assy [3].



11. Remove two C-rings [1] and bearing [2], and remove the tray 2 feed roller [3].



12. Remove C-clip [1], C-ring [2] and bearing [3], and remove the tray 2 pick-up roller [4].

13. To reinstall, reverse the order of removal.
14. Remove the tray 2 separation roller assy.
    See P.38
15. Select [Service Mode] → [Counter] → [Life] and clear the count of [2nd.].
    See P.504

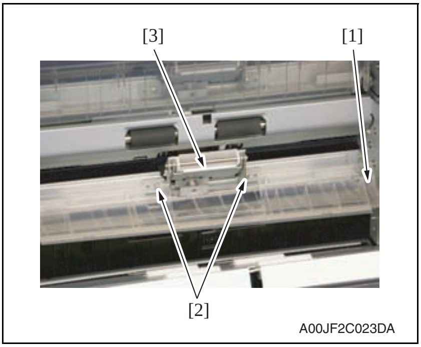
3.5.10 Replacing the tray 2 separation roller assy

A. Periodically replaced parts/cycle

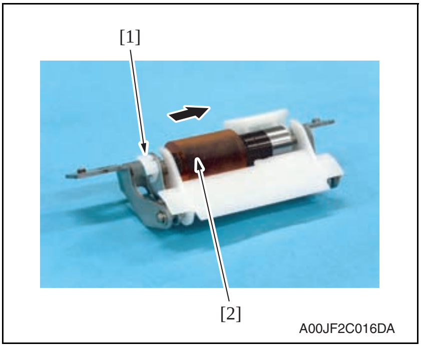
- Tray 2 separation roller assy: Every 300,000 prints

B. Procedure

1. Slide out the tray 2.
2. Open the lower right door.
3. Open the manual bypass tray door.



4. Opening the jam clearing cover [1], remove two screws [2] and take out the tray 2 separation roller assy [3].



5. Remove the C-clip [1], and remove the tray 2 separation roller assy [2].
6. To reinstall, reverse the order of removal.

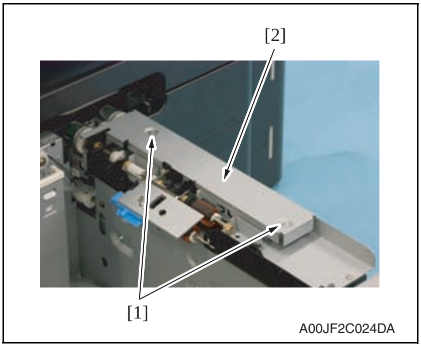
3.5.11 Replacing the tray 3 feed roller/tray 3 pick-up roller

A. Periodically replaced parts/cycle

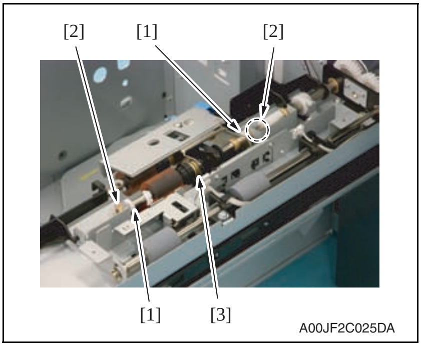
- Tray 3 feed roller: Every 300,000 prints
- Tray 3 pick-up roller: Every 300,000 prints

B. Procedure

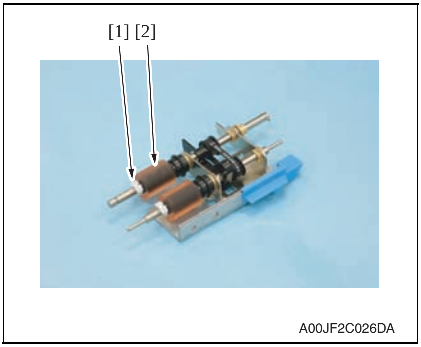
1. Slide out the tray 3.



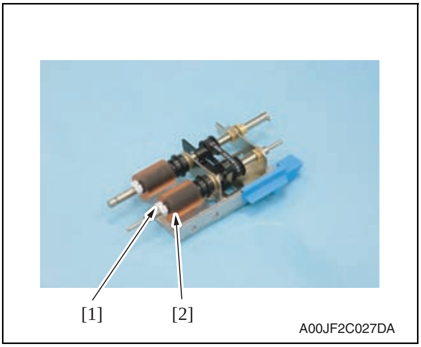
2. Remove two screws [1], and remove the tray 3 paper feed cover [2].



3. Remove two C-clips [1] and two bearings [2], and remove the feed roller/pick-up roller assy [3].



4. Remove the C-clip [1], and remove the tray 3 feed roller [2].



5. Remove the C-clip [1], and remove the tray 3 pick-up roller [2].
6. To reinstall, reverse the order of removal.
7. Remove the tray 3 separation roller.
   See P.40
8. Select [Service Mode] → [Counter] → [Life] and clear the count of [3rd.].
   See P.504

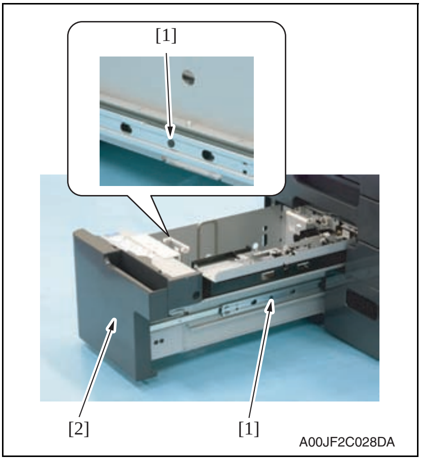
3.5.12 Replacing the tray 3 separation roller

A. Periodically replaced parts/cycle

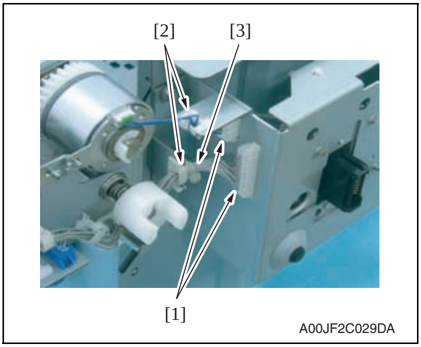
- Tray 3 separation roller: Every 300,000 prints

B. Procedure

1. Remove the feed roller/pick-up roller assy.
   See the replacement procedures 1 to 4 in "Tray 3 feed roller/tray 3 pick-up roller."
   See P.39



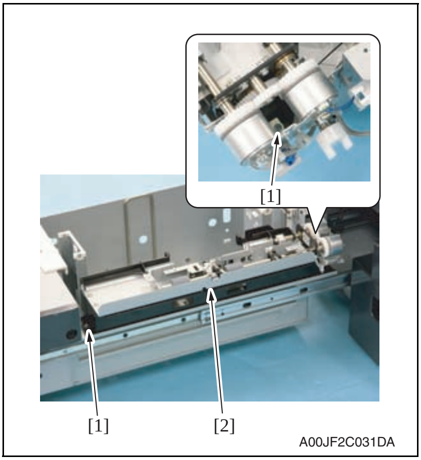
2. Remove two screws [1] and pull out the tray 3 [2] to the end.



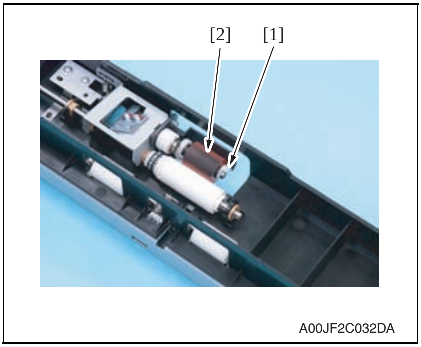
3. Disconnect two connectors [1], and remove the harness from two edge covers [2].

NOTE

- **When reinstalling the harness, route the harness so that the harness tie [3] is positioned as shown in the illustration on the left.**



4. Remove two screws [1], and remove the tray 3 paper feed unit [2].



5. Remove the C-clip [1], and remove the tray 3 separation roller [2].

6. To reinstall, reverse the order of removal.

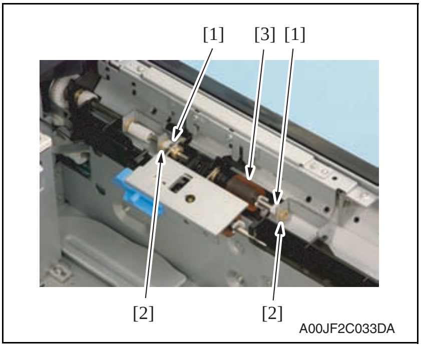
3.5.13 Replacing the tray 4 feed roller/tray 4 pick-up roller

A. Periodically replaced parts/cycle

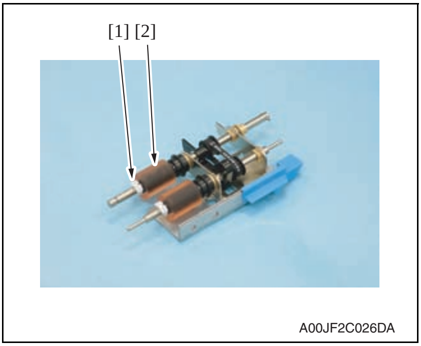
- Tray 4 feed roller: Every 300,000 prints
- Tray 4 pick-up roller: Every 300,000 prints

B. Procedure

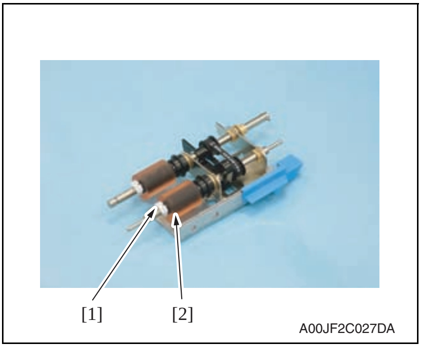
1. Slide out the tray 4.



2. Remove two C-clips [1] and two bearings [2], and remove the feed roller/pick-up roller assy [3].



3. Remove the C-clip [1], and remove the tray 4 feed roller [2].



4. Remove the C-clip [1], and remove the tray 4 pick-up roller [2].

5. To reinstall, reverse the order of removal.

6. Remove the tray 4 separation roller.
   See P.43
7. Select [Service Mode] → [Counter] → [Life] and clear the count of [4th.].
   See P.504

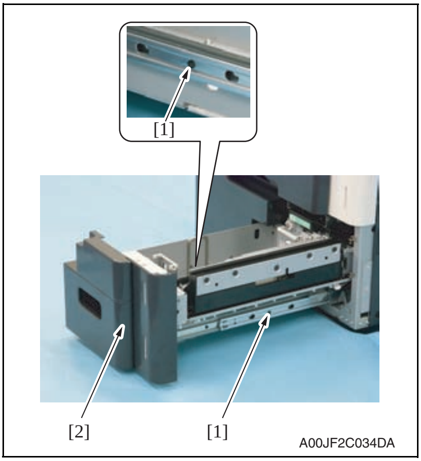
3.5.14 Replacing the tray 4 separation roller

A. Periodically replaced parts/cycle

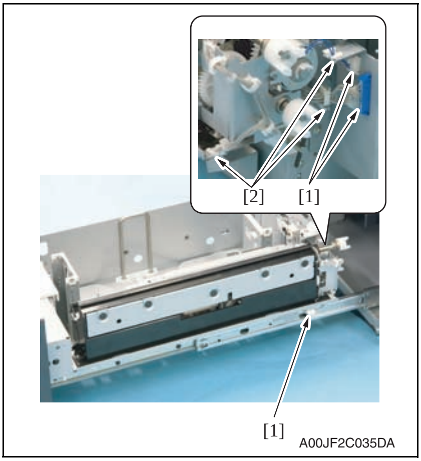
- Tray 4 separation roller: Every 300,000 prints

B. Procedure

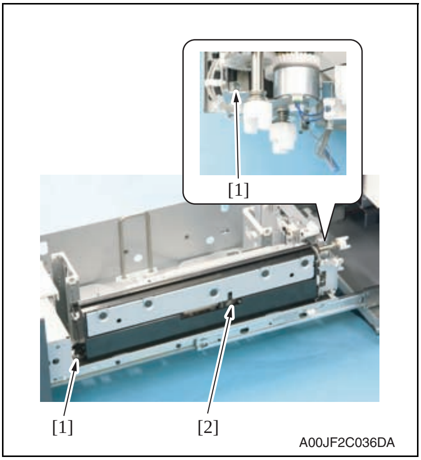
1. Remove the feed roller/pick-up roller assy.
   See the replacement procedures 1 to 4 in "Tray 4 feed roller/tray 4 pick-up roller."
   See P.42



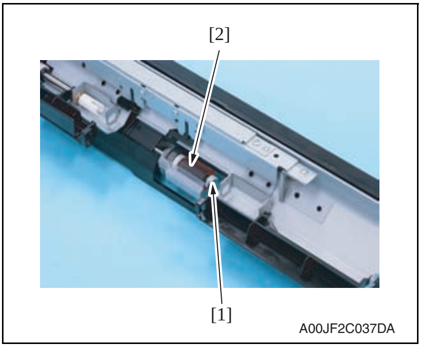
2. Remove the two screws [1] and pull out the tray 4 [2] to the end.



3. Disconnect three connectors [1], and remove the harness from three edge covers [2].



4. Remove two screws [1], and remove the tray 4 paper feed unit [2].



5. Remove the C-clip [1], and remove the tray 4 separation roller [2].

6. To reinstall, reverse the order of removal.

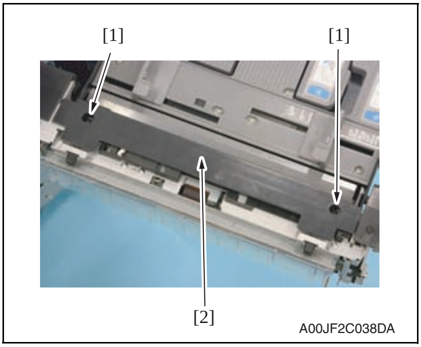
3.5.15 Replacing the manual bypass tray feed roller/manual bypass tray pick-up roller

A. Periodically replaced parts/cycle

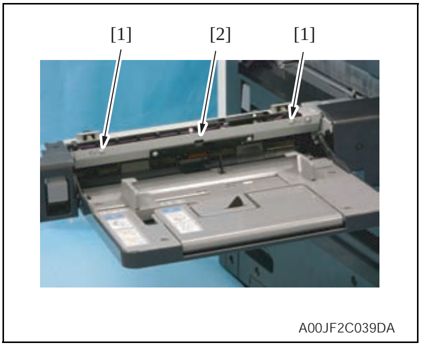
- Manual bypass tray feed roller: Every 300,000 prints
- Manual bypass tray pick-up roller: Every 300,000 prints

B. Procedure

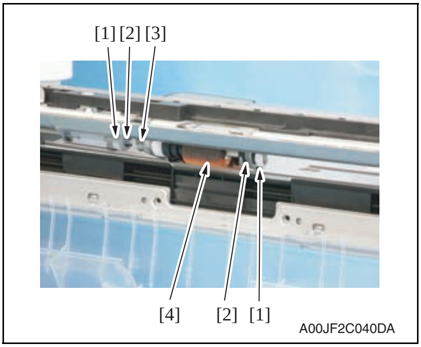
1. Remove the manual bypass tray separation roller assy.
   See the replacement procedures 1 to 2 in “Manual bypass tray separation role assy.”
   See P.47



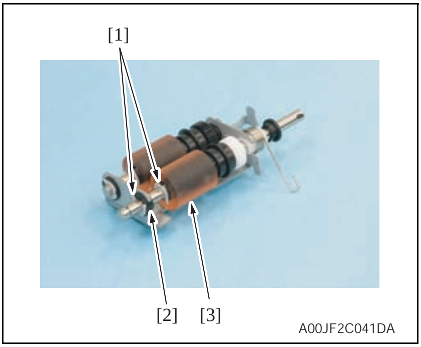
2. Remove two screws [1], and remove the manual bypass tray upper cover [2].



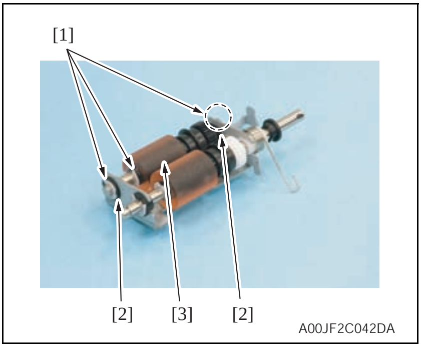
3. Remove two screws [1], and remove the manual bypass tray feed roller cover [2].



4. Remove two C-clips [1] and two bearings [2].
5. Remove the spring [3], and remove the feed roller/pick-up roller assy [4].



6. Remove two C-rings [1] and bearing [2], and remove the manual bypass tray feed roller [3].



7. Remove three C-rings [1] and two bearings [2], and remove the manual bypass tray pick-up roller [3].
8. To reinstall, reverse the order of removal.
9. Remove the manual bypass tray separation roller assy.
   See P.47
10. Select [Service Mode] → [Counter] → [Life] and clear the count of [Manual Tray].
   See P.504

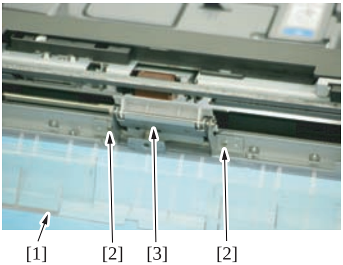
3.5.16 Replacing the manual bypass tray separation roller assy

A. Periodically replaced parts/cycle

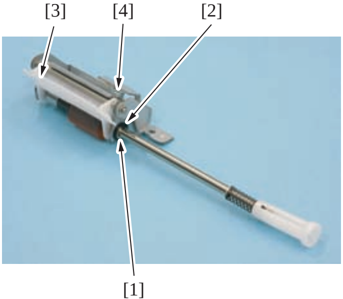
- Manual bypass tray separation roller assy: Every 300,000 prints

B. Procedure

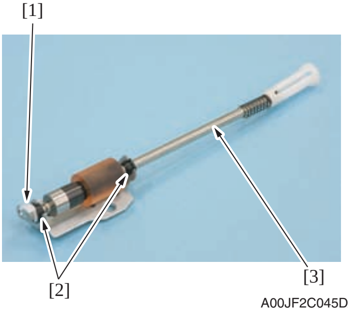
1. Open the manual bypass tray door.



2. Opening the jam clearing cover [1], remove the two screws [2] and take out the manual bypass tray separation roller assy [3].



3. Remove the E-ring [1], and remove the shaft [2], guide plate [3], and spring [4].



4. Remove the C-clip [1] and two bearings [2], and remove the manual bypass tray separation roller assy [3].

5. To reinstall, reverse the order of removal.

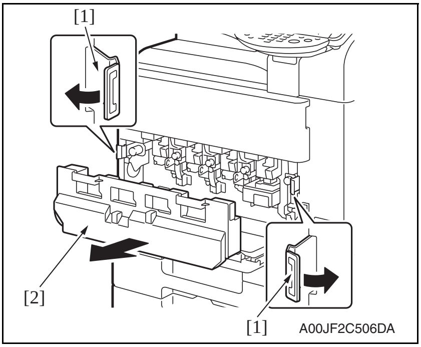
3.5.17 Replacing the waste toner box

A. Periodically replaced parts/cycle

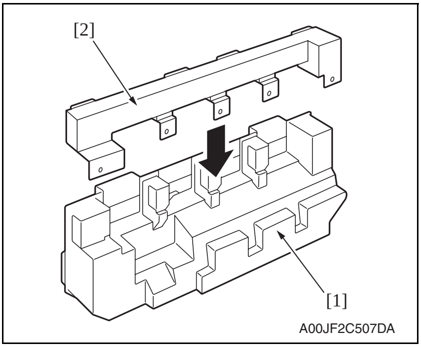
- Waste toner box: Every 57,000 prints

B. Removal procedure

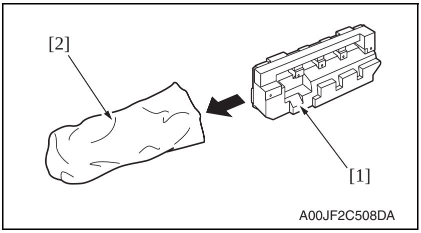
1. Open the lower front door.



2. Release the securing levers [1] for the waste toner box, and then remove the waste toner box [2].



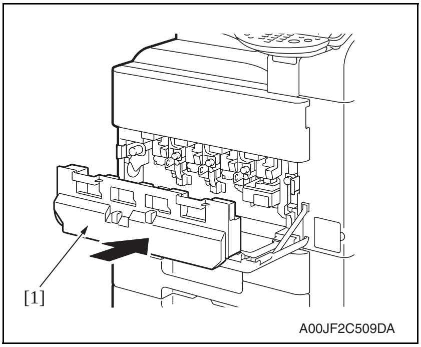
3. Mount the enclosed cap [2] included in the new waste toner box to the waste toner box [1] that has been removed at the step 2.



4. Place the waste toner box [1] with the cap attached into the plastic bag [2].

5. Clean the surface around the waste toner collecting port.
   See P.31

C. Reinstall procedure



1. Install the new waste toner box [1], and close the lower front door.

3.5.18 Replacing the imaging unit

A. Periodically replaced parts/cycle

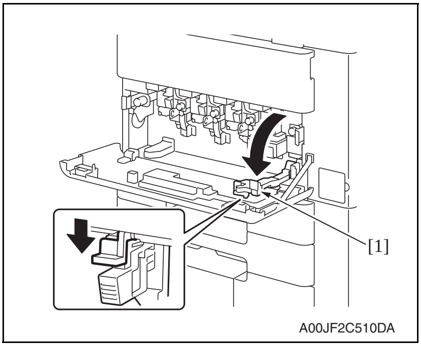
- Imaging unit Y/M/C: Every 100,000 prints
- Imaging unit K: Every 300,000 prints

NOTE

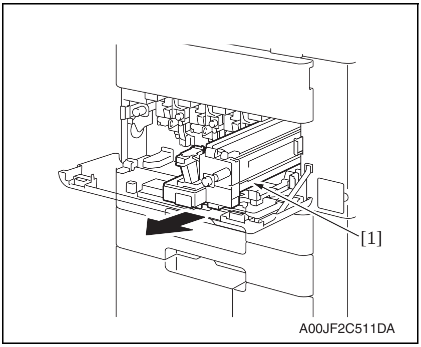
- **Although the procedure shown below is for the replacement of the imaging unit K, use the same procedure to replace other imaging units Y/M/C.**

B. Removal procedure

1. Open the lower front door.
2. Remove the waste toner box.
   See P.48

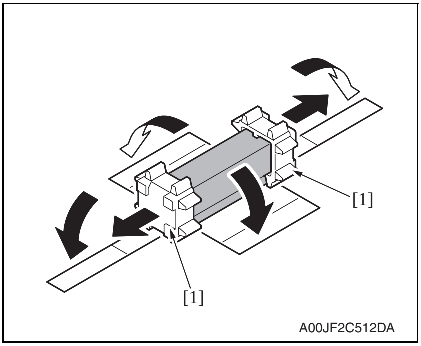


3. Release the securing lever [1] for the imaging unit.

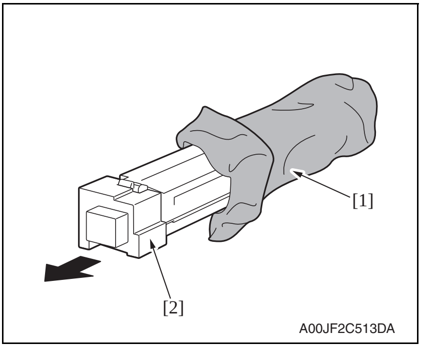


4. Remove the imaging unit [1].

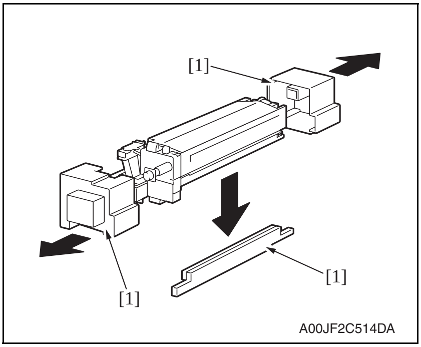
C. Reinstall procedure



1. Remove the imaging unit from its packaging.
2. Peel off the tape, and then remove the packing material [1].

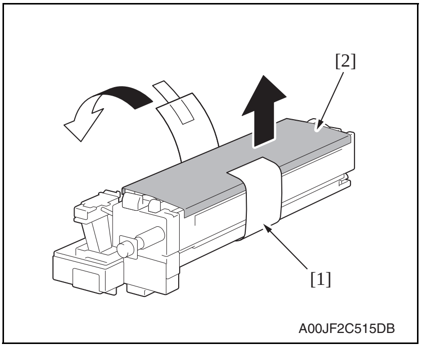


3. Remove the imaging unit [2] from the black protective bag [1].

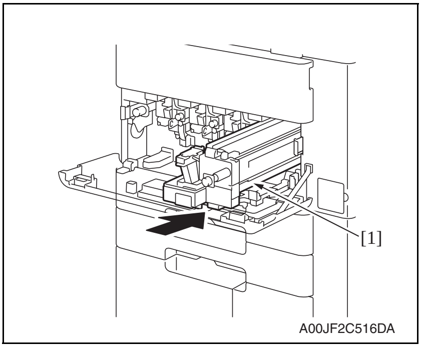


4. Remove the packing material [1] and securing material [1].

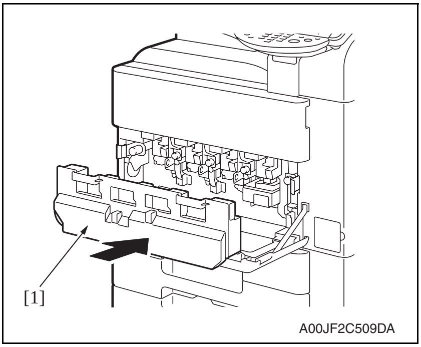
2



5. Peel off the tape [1], and remove the protective sheet [2] for the PC drum.



6. Insert the new imaging unit [1] into the machine, and close the securing lever for the imaging unit.



7. Install the waste toner box [1], and close the lower front door.

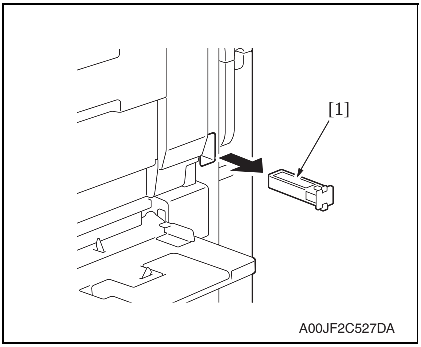
8. To replace the imaging unit K, replace the color toner filter included the box.
   See P.53

3.5.19 Replacing the ozone filter

A. Periodically replaced parts/cycle

- Ozone filter: Every 300,000 prints

B. Procedure



1. Remove the ozone filter [1], and then install the new ozone filter.

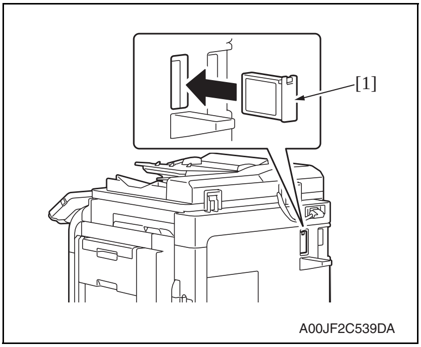
2. Select [Service Mode] → [Counter] → [Life] and clear the count of [Ozone Filter].
   See P.504

3.5.20 Replacing the color toner filter

A. Periodically replaced parts/cycle

- Color toner filter: Every 150,000 prints

B. Procedure



1. Remove the color toner filter [1], and then install the new color toner filter.
2. Select [Service Mode] → [Counter] → [Life] and clear the count of [Color Toner Filter]. See P.504

3.5.21 Replacing the toner cartridge

A. Periodically replaced parts/cycle

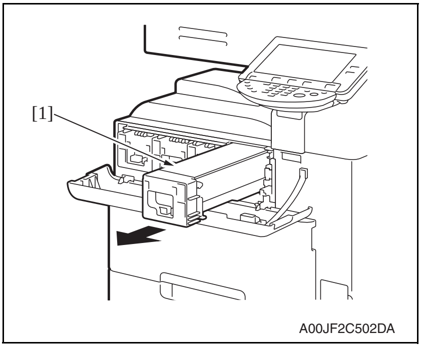
- Toner cartridge Y/M/C: Every 27,000 prints
- Toner cartridge K: Every 45,000 prints

NOTE

- **Although the procedure shown below is for the replacement of the toner cartridge K, use the same procedure to replace other toner cartridges Y/M/C.**

B. Removal procedure

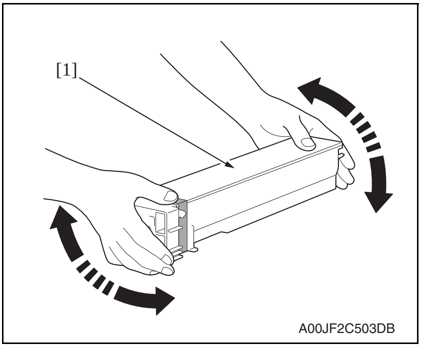
1. Open the upper front door.



2. Pull out the empty toner cartridge [1].

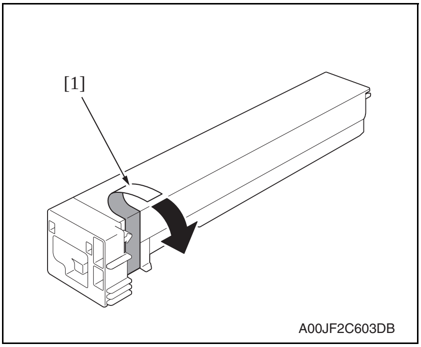
C. Reinstall procedure

2

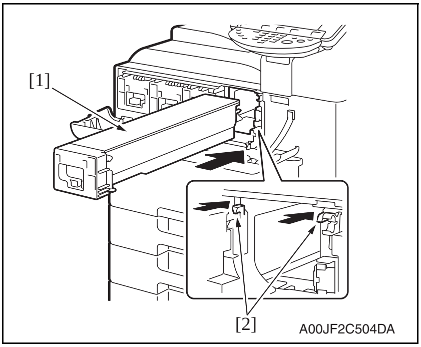


1. Remove the new toner cartridge [1] from its packaging, and then shake the cartridge up and down 5 to 10 times.

2



2. Remove the protective tape [1].



3. Align the toner cartridge [1] with the slots [2] in the cartridge compartment, and then insert the cartridge. Close the upper front door.

4. Clean the electrostatic charger wire.
   See P.28

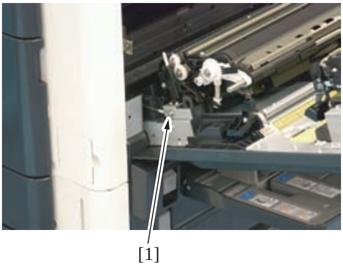
3.5.22 Replacing the transfer belt unit

A. Periodically replaced parts/cycle

- Transfer belt unit: Every 450,000 prints

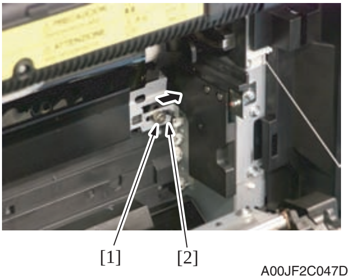
B. Procedure

1. Open the upper right door.



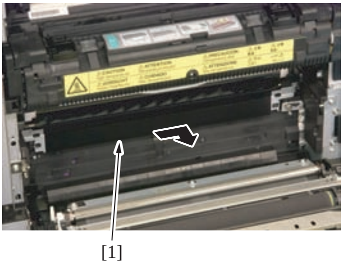
A00JF2C046DA

2. Remove the screw [1] and the upper right door stopper.



A00JF2C047DA

3. Loosen the shoulder screw [1] and slide the image transfer entrance guide stopper [2] towards the back of the main body.

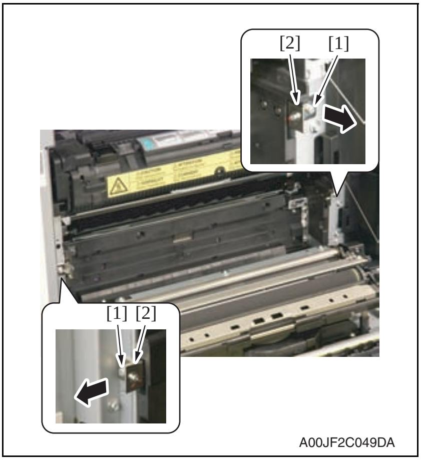


A00JF2C048DA

4. Slide the image transfer entrance guide [1] towards the back of the main body and remove it.

NOTE

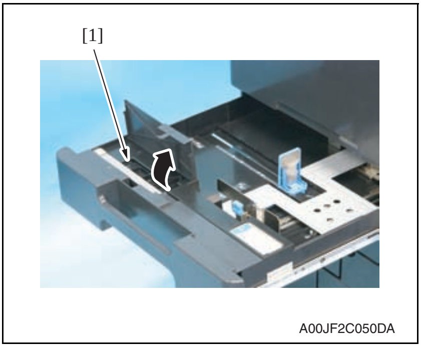
- **Slide the image transfer entrance guide [1] towards the back of the main body and remove it.**



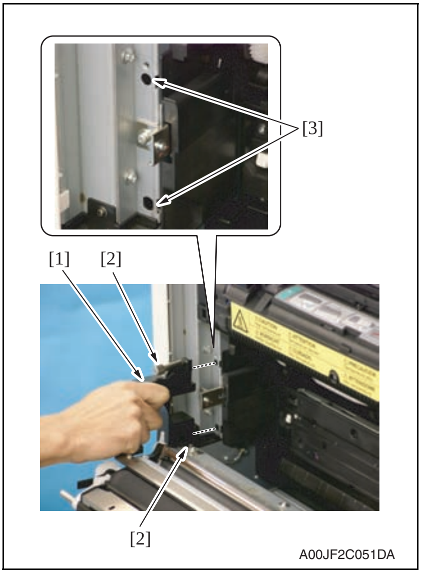
5. Remove two screws [1] and pull the two transfer belt locks [2] towards the right of the main body to unlock the transfer belt.

NOTE

- **Remove two screws [1] and pull the two transfer belt locks [2] towards the right of the main body to unlock the transfer belt.**



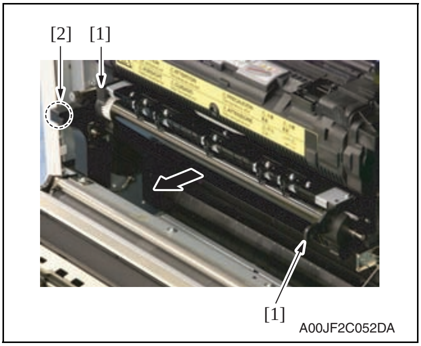
6. Remove the rail [1] that aids in mounting the transfer belt unit from the tray 1.



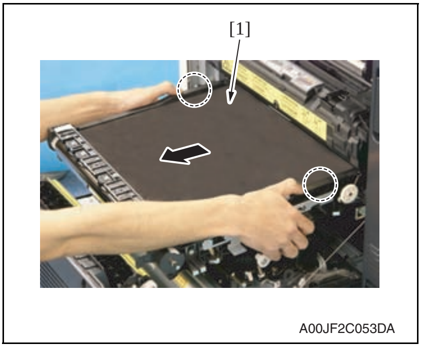
7. Install the rail [1] on the main body and secure it with two shoulder screws [2].

NOTE

- **Make sure that the protrusion (at two places) on the rail is inserted into the dowel holes [3] (at two places) on the main body.**



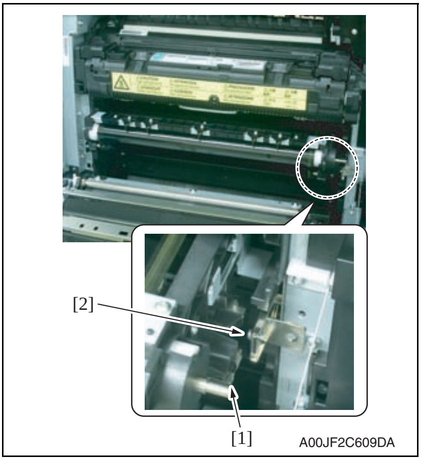
8. Grip the parts [1] of the transfer belt unit and slide it out until it touches the stopper [2] of the rail.



9. Change the way of holding the transfer belt unit [1] as shown in the picture and remove it.

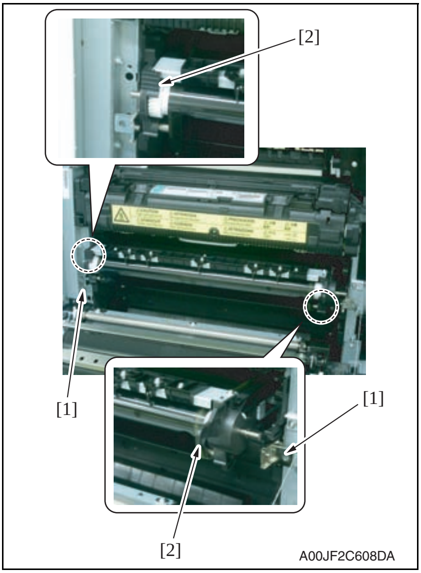
NOTE

- **Do not touch the surface of the transfer belt unit.**
- **Cover the transfer belt unit with something such shade cloth to protect its surface from dust or foreign matter.**



NOTE

- **When removing/reinstalling the transfer belt unit, be sure not to allow the contact [1] to hit the screw [2] of the transfer belt unit lock.**



10. To reinstall, reverse the order of removal.

NOTE

- **Insert the transfer belt unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**
- **Before reinstalling the transfer belt unit, make sure that the two transfer belt unit locks [1] are completely unlocked. Insert the transfer belt unit by pressing the area [2] (two places) shown in the illustration on the left until the transfer belt unit is fitted into its place.**

11. Select [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and carry out gradation adjust.
    See P.461

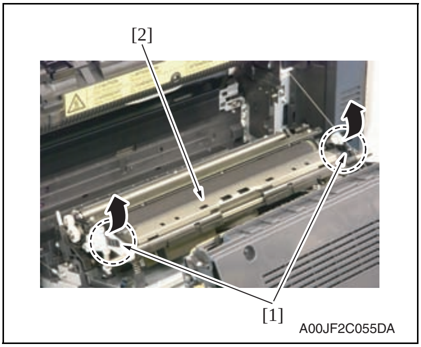
3.5.23 Replacing the transfer roller unit

A. Periodically replaced parts/cycle

- Transfer roller unit: Every 450,000 prints

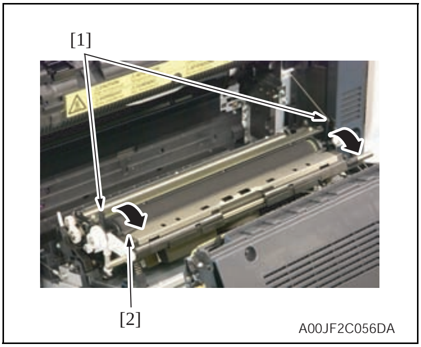
B. Removal procedure

1. Open the upper right door.



2. Unlock the lock levers [1] of the transfer roller unit (at two places).
3. Holding onto the lock levers [1] (at two places), remove the transfer roller unit [2].

C. Reinstall procedure



1. Holding onto the lock levers [1] (at two places), mount the new transfer roller unit [2].
2. Lock the lock levers [1] (at two places).

NOTE

- **Make sure that the levers are locked in position both at front and rear.**

3. Select [Service Mode] → [Counter] → [Life] and clear the count of [Transfer Roller Unit].
   See P.504

3.5.24 Replacing the fusing unit

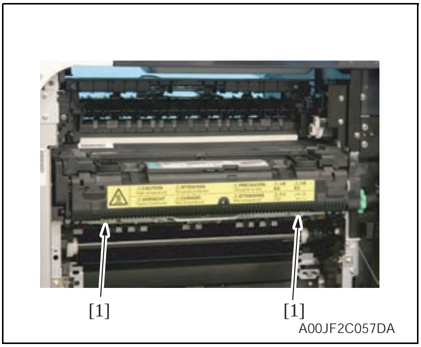
⚠ CAUTION
• The temperature gets high in the vicinity of the fusing unit. You may get burned when you come into contact with the area. Before replacement operations, make sure that more than 20 minutes have elapsed since the main and sub power switches were turned off.

A. Periodically replaced parts/cycle

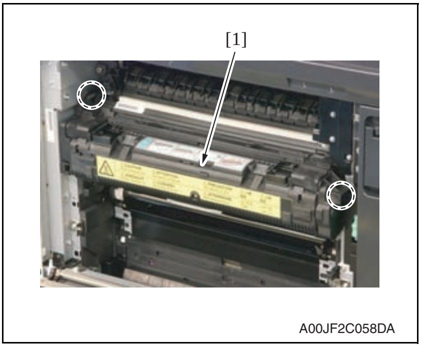
- Fusing unit: Every 300,000 prints

B. Procedure

1. Open the upper right door.



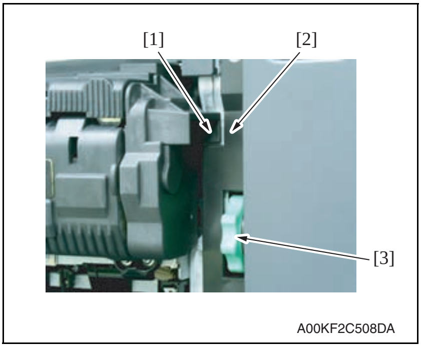
2. Loosen two screws [1] of the fusing unit.



3. Hold the position as shown in the left and remove the fusing unit [1].

NOTE

- **When removing the fusing unit, grip it with both hands to avoid letting the fusing unit fall down.**



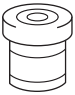
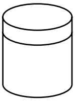
4. To reinstall, reverse the order of removal.

NOTE

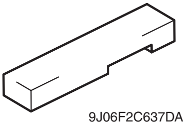
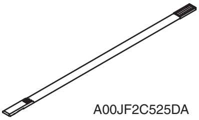
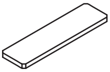
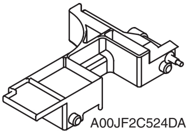
- **When reinstalling the fusing unit, be sure to press the fusing unit into the machine until the surfaces of the A [1] and B [2] are level with each other.**
  To remove unevenness between the surfaces of the A and B, turn the misfeed-clearing dial [3] while pushing the fusing unit into the machine.
- **After ensuring that the surfaces are level, secure the fusing unit by tightening the two mounting screws on the back side first, and then the front side.**

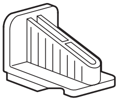
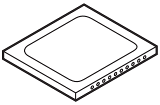
4. Service tool

4.1 Service material list

Name	Shape	Material No.	Remarks
Isopropyl alcohol	A00KF2C506DA	—	
Molykote EM-50L grease	 A00KF2C507DA	4478 7801 ##	Used with FS-519
SANKOL ECG-25 grease	 A00JF2C613DA	A00J PP00 ##	Heat-resistant conductive grease

4.2 CE tool list

Tool name	Shape	Quantity	Parts No.	Remarks
Original glass moving unit height adjustment jig	 9J06F2C637DA	1	9J06 PJG0 ##	
PH window cleaning jig	 A00JF2C525DA	1	A00J R729 ##	This part number include the cleaning pad.
PH window cleaning jig pad	 A00JF2C526DA	1	A00J 1098 ##	
Transfer belt unit extension rail	 A00JF2C524DA	1	A00J R728 ##	

Tool name	Shape	Quantity	Parts No.	Remarks
Slit glass cleaning jig	 A00JF2C527DA	1	A01H 1005 ##	
Color chart	4036fs2577c0	1	9J06 PJP1 ##	A3
			9J06 PJP2 ##	11 x 17
Compact flash	 4037F2C601DA	1	V865400001 (blank)	*1

*1: Inquire of KMBT about the part number of compact flash in which the firmware data is written.

4.3 Copy materials

4.3.1 Imaging unit single parts (IU)

Parts name	Replacing period
IU black	300,000 prints
IU yellow	100,000 prints
IU magenta	100,000 prints
IU cyan	100,000 prints

See P.26

4.3.2 Toner cartridge single parts (T/C)

Parts name	Replacing period *1
T/C black	45,000 prints
T/C yellow	27,000 prints
T/C magenta	27,000 prints
T/C cyan	27,000 prints

*1: Life value that can be achieved with a probability of 90% even with product-to-product variations and fluctuating operating environmental conditions taken into consideration, when the T/C is used under the conditions of B/W ratio 5% for each color

4.3.3 Waste toner box

Parts name	Replacing period *1
Waste toner box	57,000 prints *1

*1: A waste toner full condition is detected with detecting the actual waste toner emissions. See P.26

4.3.4 Maintenance kit

There is no setting for the maintenance kit.

5. Firmware upgrade

5.1 Outline

- There are two ways to update the firmware: One is by directly connecting with the main body using the compact flash, and the other is by downloading over a network using the Internet ISW.

5.2 Notes about firmware rewrite

5.2.1 Types of firmware

- Two types of firmware are released for bizhub C650/C550/C451. They are a maintenance release version and an enhanced version.
  Maintenance release version : Addresses remaining problems
  Function enhanced version : Adds new features and includes the contents of the maintenance release version available at the same time
- The function enhanced version firmware is available in four types: “Function Enhancement 1”, “Function Enhancement 2”, “Function Enhancement 3” and “Function Enhancement 4.”

- Before rewriting a firmware, check the current firmware version of the machine and confirm the type of the current firmware using CSES.
  Select an appropriate firmware and rewrite the current firmware.

5.2.2 Rewrite to/from a function enhanced version of firmware

- The processing that ensures compatibility is required when upgrading the firmware from the early mass-production one to the function enhanced version or downgrading the firmware from the function enhanced version to the early mass-production firmware.
- Four types of processing to ensure compatibility
  Conversion Up/Conversion Down : Converts and updates management information data to make them compatible with the rewritten firmware. (Necessary processing)
  XPS Enable Format/XPS Disable Format : Performs a logical format of HDD to let the HDD support the printing of XPS files or returns HDD to its original format. (Necessary only for XPS file printing)
  Up Version/Down Version : Expands mode information in order to respond to Scan To WebDAV and Scan To USB (only for Function Enhancement 2/3).
  HDD Version Up (LK) : To maintain the compatibility of management information data and documents stored in HDD after the firmware upgrade. (only for Function Enhancement 3).

NOTE

- **Firmware can be rewritten only through the menu operation on the control panel and cannot be rewritten with the CS Remote Care system.**
- **When XPS Enable Format/XPS Disable Format is performed, HDD is logical formatted. Therefore, font data, macro data, and others that have been installed by users will disappear.**

3
- Take the following steps to perform processing that ensures compatibility.

A. Upgrade to the function enhancement 1 from the early mass-production firmware (only for bizhub C550/C451)

(1) Conversion Up

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-CC00 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Up].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up.
6. When Conversion Up is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

(2) XPS Enable Format

- After completing Conversion Up, take the following steps if XPS Enable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Enable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Enable Format.
4. When XPS Enable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

B. Upgrade to the function enhancement 2 from the early mass-production firmware

(1) Up Version

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [Up Ver.].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate UP Version.
6. When Up Version is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

(2) Conversion Up (bizhub C550/C451 only)

1. Trouble code C-CC00 is displayed.
2. Call the Service Mode to the screen.
3. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Up].
4. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up.
5. When Conversion Up is completed, the result is displayed on the screen.
6. Turn OFF and ON the main power switch and sub power switch.

(3) XPS Enable Format (bizhub C550/C451 only)

- After completing Conversion Up, take the following steps if XPS Enable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Enable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Enable Format.

4. When XPS Enable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

C. Upgrade to the function enhancement 2 from the function enhancement 1

(1) Up Version

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [Up Ver.].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate UP Version.
6. When Up Version is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

D. Downgrade from the function enhancement 1 to the early mass-production firmware (only for bizhub C550/C451)

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Conversion Down

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Down].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Down.
4. When Conversion Down is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

(2) XPS Disable Format

- After completing Conversion Down, take the following steps if XPS Disable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Disable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Disable Format.
4. When XPS Disable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.

E. Downgrade from the function enhancement 2 to the early mass-production firmware

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Conversion Down (bizhub C550/C451 only)

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Down].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Down.
4. When Conversion Down is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

(2) XPS Disable Format (bizhub C550/C451 only)

- After completing Conversion Down, take the following steps if XPS Disable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Disable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Disable Format.
4. When XPS Disable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

(3) Down Version

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [Down Version].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Down Version.
4. When Down Version is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.
7. Trouble code C-E002 is displayed.
8. Call the Service Mode to the screen.
9. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] → [Logical Format].
10. Check to see that the Start key is lit in blue. Touch the Start key to initiate Logical Format.
11. Turn OFF and ON the main power switch and sub power switch.

F. Downgrade from the function enhancement 2 to the function enhancement 1

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Down Version

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [Down Version].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Down Version.
4. When Done Version is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.
7. Trouble code C-E002 is displayed.
8. Call the Service Mode to the screen.
9. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] → [Logical Format].
10. Check to see that the Start key is lit in blue. Touch the Start key to initiate Logical Format.
11. Turn OFF and ON the main power switch and sub power switch.

G. Upgrade to the function enhancement 3 from the early mass-production firmware

(1) HDD Version Up (LK)

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Version Up (LK)].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate version up.
6. When version up is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

(2) Conversion Up (bizhub C550/C451 only)

1. Trouble code C-CC00 is displayed.
2. Call the Service Mode to the screen.
3. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Up].
4. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up.
5. When Conversion Up is completed, the result is displayed on the screen.
6. Turn OFF and ON the main power switch and sub power switch.

(3) XPS Enable Format (bizhub C550/C451 only)

- After completing Conversion Up, take the following steps if XPS Enable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Enable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Enable Format.
4. When XPS Enable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

H. Upgrade to the function enhancement 3 from the function enhancement 1 or 2

(1) HDD Version Up (LK)

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Version Up (LK)].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate version up.
6. When version up is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

I. Downgrade from the function enhancement 4 to the function enhancement 3

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Down Ver.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [Down Ver.].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Down Ver.
4. When Done Ver. is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.
7. Trouble code C-E002 is displayed.
8. Call the Service Mode to the screen.
9. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] → [Logical Format].
10. Check to see that the Start key is lit in blue. Touch the Start key to initiate Logical Format.
11. Turn OFF and ON the main power switch and sub power switch.

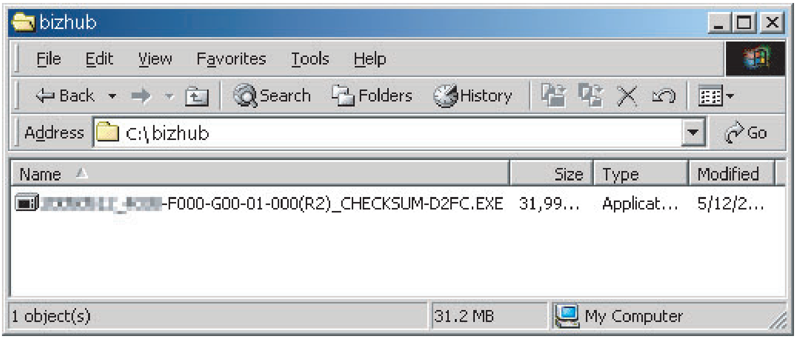
5.3 Preparations for firmware rewriting by Windows Command Prompt

5.3.1 Service environment

- OS: Windows 2000/XP
- Drive which enables writing/reading of compact flash
- Compact flash (service tool)

5.3.2 Writing into the compact flash

1. Put the data of firmware in the optional directory. (C:\bizhub in the below figure)


bizhub
File Edit View Favorites Tools Help
Back Search Folders History
Go
My Computer

Address C:\bizhub

Name	Size	Type	Modified
[redacted]-F000-G00-01-000(R2)_CHECKSUM-D2FC.EXE	31,99...	Applicat...	5/12/2...

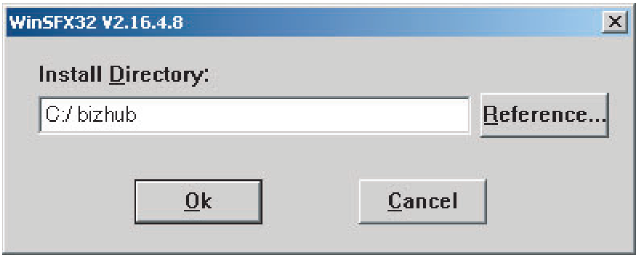
1 object(s) 31.2 MB

4038F2E562DB

NOTE

- **The file name of firmware data consists of the "Release Date_Version_CHECKSUM-****.exe."**

2. Double-click the firmware data, and specify the directory to be uncompressed, and then uncompress it.



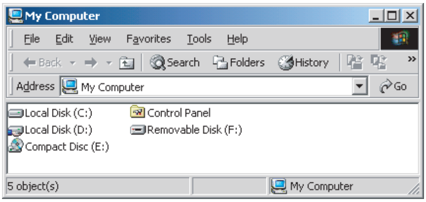
Install Directory: C:/ bizhub

4038F2E563DB

NOTE

- **When old firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**
- **When the firmware data is decompressed, "card_work" folder is created in the selected directory and the data is decompressed in this folder.**

3. Mount the compact flash on the PC, and check the drive name, which was recognized in the Windows. (F-drive in the following figure)



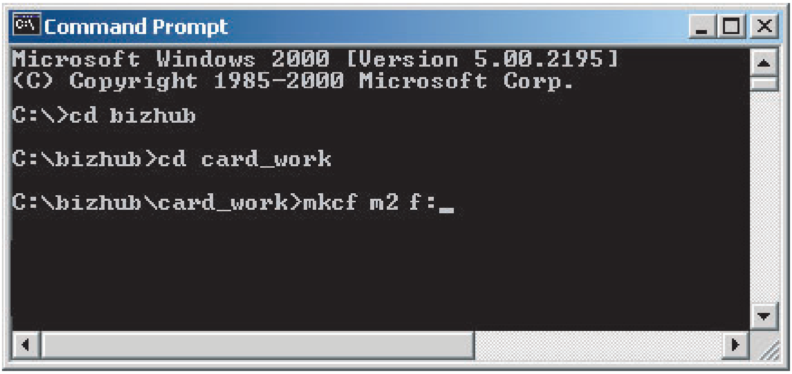
4036fs2623e0

4. Click [Start] → [Program] → [Accessories] → [Command Prompt] to open the command prompt.
5. Use the command prompt to move into the uncompressed directory.
6. Specify the drive of compact flash, which was recognized through the procedure 3, and execute the “mkcf.bat.” (Input the C: \bizhub\card_work>mkcf ## f (drive number): in the below figure, and push the “Enter”.)

NOTE

- **For ## within the above mkcf command, type two characters that correspond to the machine model on which firmware upgrading is made.**
  Take a look at the following list to find right characters for a correct command.

Model and command list	
bizhub C650	m1
bizhub C550	m2
bizhub C451	m3

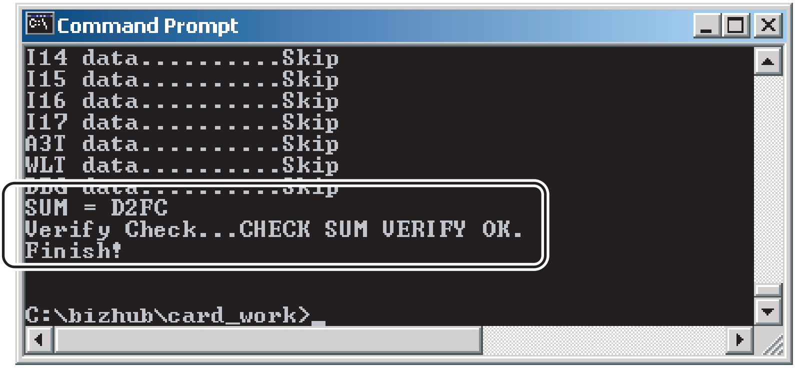


```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\>cd bizhub

C:\bizhub>cd card_work

C:\bizhub\card_work>mkcf m2 f:_
```

A00JF2E568DA

7. Once the “mkcf.bat” is executed, data writing into the compact flash is started.

8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.



```
I14 data..........Skip
I15 data..........Skip
I16 data..........Skip
I17 data..........Skip
A3T data..........Skip
WLT data..........Skip
DBG data..........Skip
SUM = D2FC
Verify Check...CHECK SUM VERIFY OK.
Finish!

C:\bizhub\card_work>_
```

4038F2E565DB

9. Remove the compact flash from PC.

NOTE

- **When removing the compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

5.4 Preparations for firmware rewriting by Firmware Imaging Toolkit 2006

- This software is designed as the tool to write firmware data of MFP/printer released by KMBT into the compact flash card.

5.4.1 Correspond model

- Correspond models of the software is as follows.

4

Color machine	• bizhub C650/C550/C451/C450/C353/C352/C351/C350/C300/C253/C250/C203 • bizhub C450P/C353P/C352P/C250P
B/W machine	• bizhub 350/250/200 • Di3510/3510f/3010/3010f/2510/2510f

5.4.2 Function outline

- The following functions are available with this software.

Function type	Function name	Description
Basic functions	Write Firmware to a card	• Write firmware data into the compact flash card. See P.80
	Compare Firmware with a card	• Compare the firmware data written into the compact flash card with the one saved in PC. See P.80
Advanced functions	Create a Firmware Image from a card	• Create the firmware image form using the firmware data written into the compact flash card. See P.81
	Format a card	• Format the compact flash card by the FAT or vxWorks form. **NOTE** • **vxWorks form is not applicable** See P.81
	Display information about a card	• Acquisition the information of firmware data written into the compact flash card. See P.81

5.4.3 System environment

- The following system environments are required or recommended to use the software.

Computer	• IBM PC/AT compatible machine
CPU	• Pentium III / 500 MHz or higher is recommended.
Correspond OS	• Windows 2000, Windows XP or Windows Server 2003
Required memory	• More than 128 MB (Windows 2000), 256MB (Windows XP/2003) is recommended.
Others	• Drive that is able to Read/Write compact flash.

5.4.4 Installation of software

- Follow the procedures shown below to install the software.

NOTE

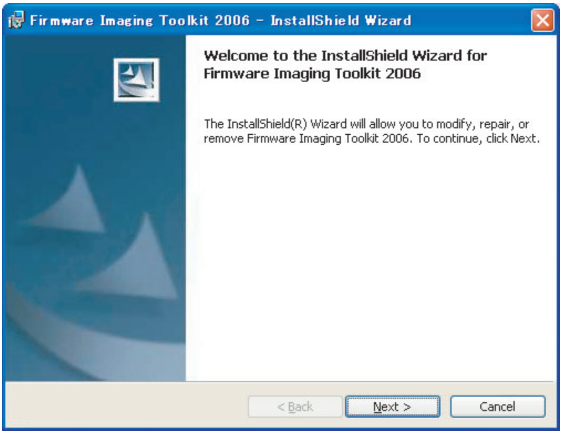
- **Install the software to the PC with the administration authentication.**
- **When any anti-virus program is activated, quite the program before the installation.**

1. Double click [setup.exe] to start the installation of the software.

setup.exe

9J06F2C673DA

2. Click [Next >].



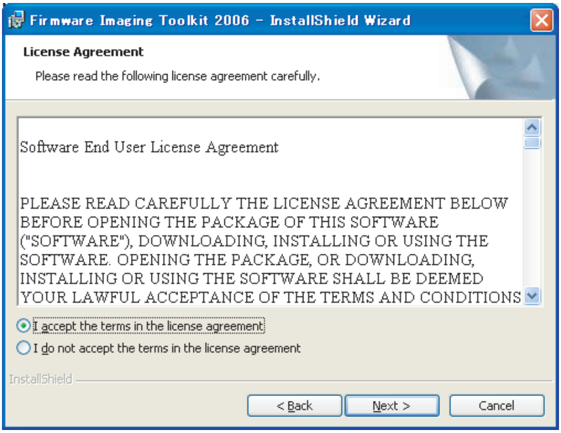
Firmware Imaging Toolkit 2006 - InstallShield Wizard

Welcome to the InstallShield Wizard for Firmware Imaging Toolkit 2006

The InstallShield(R) Wizard will allow you to modify, repair, or remove Firmware Imaging Toolkit 2006. To continue, click Next.

9J06F2E700DA

3. After checking the contents of license agreement, select [I accept the terms in the license agreement] and click [Next >].



Firmware Imaging Toolkit 2006 - InstallShield Wizard

License Agreement

Please read the following license agreement carefully.

Software End User License Agreement

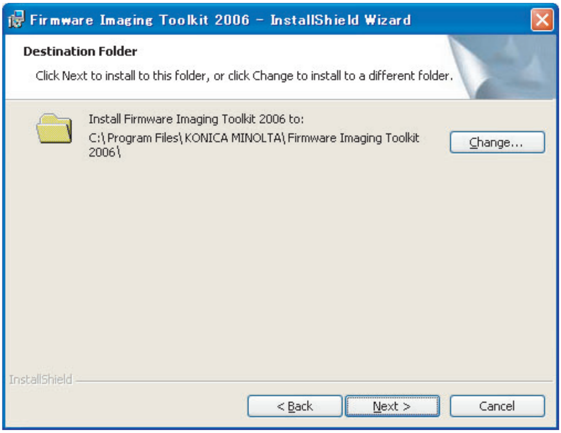
PLEASE READ CAREFULLY THE LICENSE AGREEMENT BELOW BEFORE OPENING THE PACKAGE OF THIS SOFTWARE ("SOFTWARE"), DOWNLOADING, INSTALLING OR USING THE SOFTWARE. OPENING THE PACKAGE, OR DOWNLOADING, INSTALLING OR USING THE SOFTWARE SHALL BE DEEMED YOUR LAWFUL ACCEPTANCE OF THE TERMS AND CONDITIONS

● I accept the terms in the license agreement

○ I do not accept the terms in the license agreement

9J06F2E701DA

4. Select the installed destination folder of Firmware Imaging Toolkit 2006, and click [Next>].



Firmware Imaging Toolkit 2006 - InstallShield Wizard

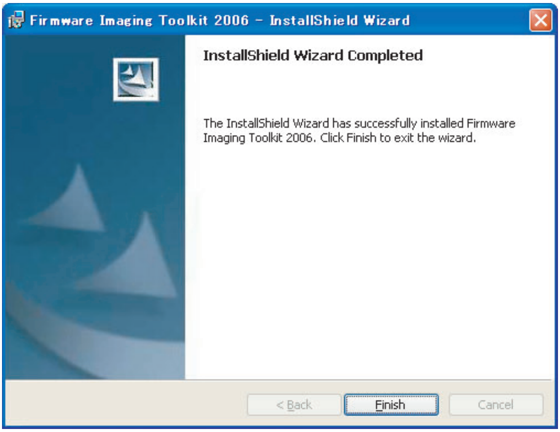
Destination Folder

Click Next to install to this folder, or click Change to install to a different folder.

Install Firmware Imaging Toolkit 2006 to:
C:\Program Files\KONICA MINOLTA\Firmware Imaging Toolkit 2006\

9J06F2E702DA

5. Click [Install] to start installation.
6. Click [Finish] to complete the installation.



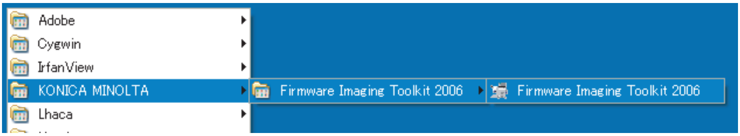
Firmware Imaging Toolkit 2006 - InstallShield Wizard

InstallShield Wizard Completed

The InstallShield Wizard has successfully installed Firmware Imaging Toolkit 2006. Click Finish to exit the wizard.

9J06F2E703DA

7. Shortcut file will be created inside Windows Start menu ([Program] → [KONICA MINOLTA] → [Firmware Imaging Toolkit 2006]).

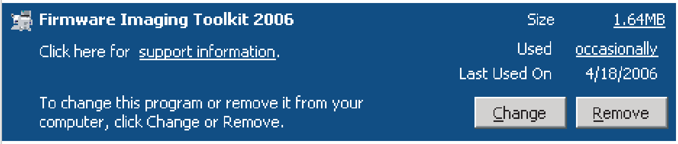


9J06F2E708DA

5.4.5 Update of software

- To update the software version, delete (uninstall) the currently installed program and install the new version.
- Follow the procedures shown below to delete (uninstall) the program.

1. Quite the program if the software is activated.
2. Select [Firmware Imaging Toolkit 2006] of [Add/Remove Programs] in Windows Control Panel menu to delete the program.



Firmware Imaging Toolkit 2006

Click here for support information.

Size 1.64MB

Used occasionally

Last Used On 4/18/2006

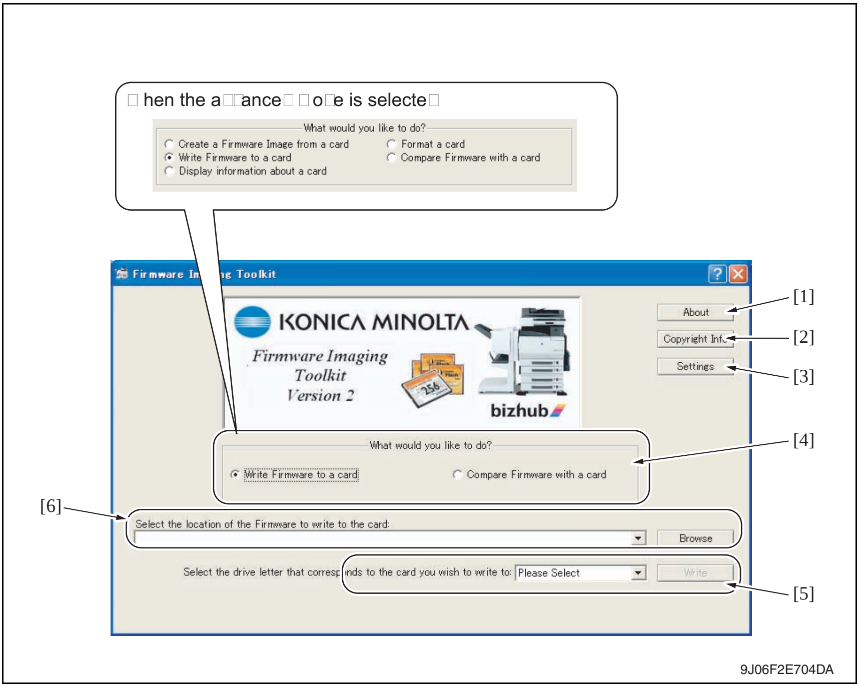
To change this program or remove it from your computer, click Change or Remove.

9J06F2E709DA

5.4.6 Screen

A. Main window

- The main window will be displayed after activating the software.
- Main window consists of 2 patterns: Basic mode, Advanced mode



When the advanced mode is selected

What would you like to do?
- ○ Create a Firmware Image from a card
- ● Write Firmware to a card
- ○ Display information about a card
- ○ Format a card
- ○ Compare Firmware with a card

What would you like to do?
- ● Write Firmware to a card
- ○ Compare Firmware with a card

Select the location of the Firmware to write to the card:

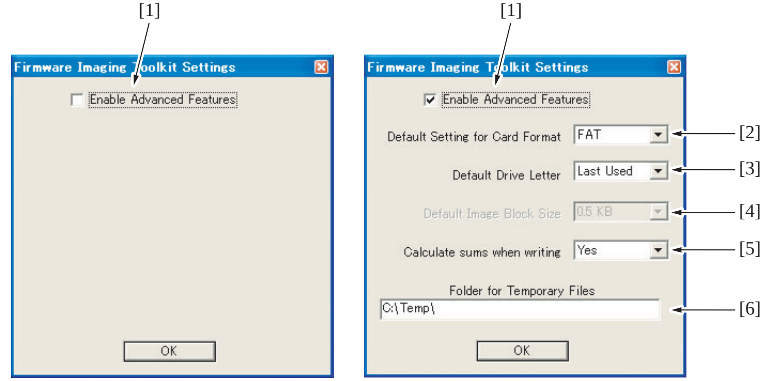
Select the drive letter that corresponds to the card you wish to write to: Please Select

9J06F2E704DA

[1]	About	• To display the outline of the tool.
[2]	Copyright Info	• To display the license agreement and version information of the tool.
[3]	Settings	• To display the dialog to enable the advanced functions. • Select the check box of [Enabled Advanced Features] to enable advanced functions at main window. See P.79
[4]	What would you like to do?	• To select the function to be used. • Displayed screen is different between Basic mode and Advanced mode. See P.80
[5]	Select the location of the Firmware to write to the card:	• To select the compact flash drive to which the data to write.
[6]	Select the drive letter that corresponds to the card you wish to write to:	• To select the location where the firmware is stored in PC.

B. Settings dialog

- It will be displayed by clicking [Settings] at main window.
- Other settings will be enabled by selecting the check box of [Enabled Advanced Features].



Firmware Imaging Toolkit Settings

☐ Enable Advanced Features

Firmware Imaging Toolkit Settings

☑ Enable Advanced Features

Default Setting for Card Format FAT

Default Drive Letter Last Used

Default Image Block Size 0.5 KB

Calculate sums when writing Yes

Folder for Temporary Files C:\Temp\

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[1]	Enable Advanced Features	• Enable the setting of advanced functions at the dialog by selecting the check box. Also advanced functions can be selected at the main window.
[2]	Default Setting for Card Format	• Select the default card format during software starting. FAT : The format to be used by all models that the software supports. vxWorks : Not available yet.
[3]	Default Drive Letter	• Select how to set default of compact flash drive during software starting. LastUsed : The drive used at previous time is selected. None : [Please Select] is displayed on the screen every starting and the drive should be selected every time.
[4]	Default Image Block Size	• Not available yet.
[5]	Calculate sums when writing	• Set whether to calculate check sums during data writing. • If [YES] is selected, data consistency can be ensured by data verification of check sums during data writing. However, it takes more time for data writing compared to the case without sums calculation. (Basically this mode shall be selected.) • If [No] is selected, check sums calculation is skipped during data writing. Although it take less time for data writing compared to the case with sums calculation, it fails to ensure the reliability of the written data.
[6]	Folder for Temporary Files	• Set the folder for saving temporary files during the tool is activating. The temporary file is automatically deleted after the operation completes normally.

5.4.7 Details of each function

A. Basic functions

(1) Write Firmware to a card

- To write FW data into the compact flash. The FW data of the models shown below can be written.
- After writing FW data, checksum value information of the FW data (writing result dialog) is displayed.

<Corresponding models and firmware file type>

File type Models	Indexed firmware type	Compressed firmware type	Uncompressed firmware type	Di3510/350/250/200 firmware type
C650	Mosel1_cf.tar.gz	*.img.gz	*.img	—
C550	Mosel2_cf.tar.gz			—
C451	Mosel3_cf.tar.gz			—
C353/C353P	Thames1_cf.tar.gz			—
C253	Thames2_cf.tar.gz			—
C203	Thames25_cf.tar.gz			—
C450/C450P/C351	rhein1_cf.tar.gz			—
C352/C352P/C300	rhein2_cf.tar.gz			—
C350	tss2_cf.tar.gz			—
C250/C250P	rhein3_cf.tar.gz			—
Di3510/3510f/3010/3010f/2510/2510f	—	—	—	ma001
350/250/200	—	—	—	ma001a

NOTE

- **The above-mentioned [Indexed firmware type] and [Di3510/350/250/200 firmware type] shall be comprised of multiple files and one of the files shall be named as above.**
- **[Compressed firmware type] means the compressed formed image file that is created using the tool's function of the [Create a Firmware Image from a card].**
- **[Uncompressed firmware type] means the image file that is uncompressed the compressed firmware file.**
- **To write the image file data (*.img.gz or *.img) into the compact flash, use the compact flash with the same capacity as the one used for the original image file. Although the compact flash with larger capacity than the original one can be used, it is not covered under warranty.**
- **C350 firmware requires the compact flash over 64 MB.**
- **Firmware of C650/C550/C451/C450/C450P/C353/C353P/C351/C352/C352P/C300/C253/C250/C250P/C203 requires the compact flash over 128 MB.**

(2) Compare Firmware with a card

- Compare the firmware data written into the compact flash and the one (file) saved in PC.
- After the comparison, display the check sum information (comparison result dialog) of the firmware data of the compact flush and the file.
- The firmware data (file) format saved in PC shall consistent with the one written into the compact flash.

B. Advanced functions

(1) Create a Firmware Image from a card

- Create the image file from the firmware data written into the compact flash.
  Create the image file by dumping directly the data in the card. This function allows us to save the various type of firmware data in the compact flash as the image file and hold as copy data.
- The created FW image file is automatically compressed and created as the Compressed firmware file (*.img.gz).
  The image file is written into the compact flash in the uncompressed form, however, the uncompressed data would occupy too much capacity, which makes file control difficult. Therefore this tool doesn't create uncompressed firmware file (*.img).

(2) Format a card

- Make format of the compact flash in FAT or vxWork form.
- To write the firmware data into the compact flash, the card should be formatted in FAT form to clear (initialize) the description of the compact flash.

NOTE

- **In current version, only FAT format is available but not vxWork format.**
- **After the firmware data is written into the compact flash, it becomes the own file style that is different from the FAT, and the compact flash that the firmware data is written cannot be browsed on the Windows OS.**

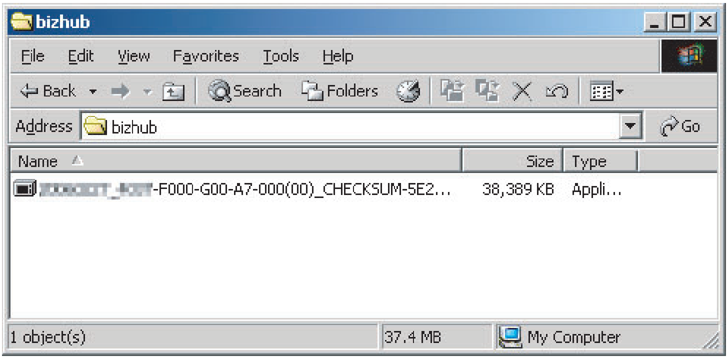
(3) Display information about a card

- Display the information of the firmware data written into the compact flash.
  The information to be displayed is according to the type of written FW data.
- For the series of Di3510/200/250/350 series, MSC version is displayed.
- 4 For the series of C650/C550/C451/C450/C450P/C353/C353P/C351/C352/C352P/C300/C253/C250/C250P/C203, check sums of each firmware data is displayed.

5.4.8 How to write firmware data

A. In the case of C650/C550/C451/C450/C450P/C353/C353P/C351/C352/C352P/C300/C253/C250/C250P/C203 series

1. Put the firmware data in the optional directory. (C:\bizhub in the below figure)



[redacted]-F000-G00-A7-000(00)_CHECKSUM-5E2... 38,389 KB Appli...

1 object(s) 37.4 MB My Computer

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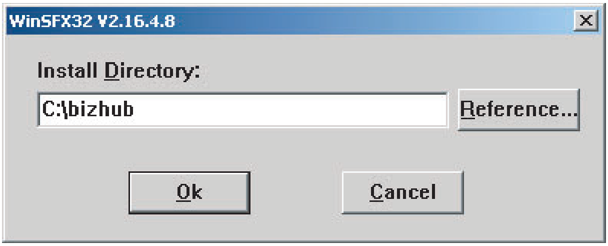
NOTE

- **The file name of firmware data consists of the “Release Date_Version_CHECKSUM-****.exe.”**

2. Double-click the firmware data, and specify the directory to be uncompressed, and then uncompress it.



Install Directory: C:\bizhub

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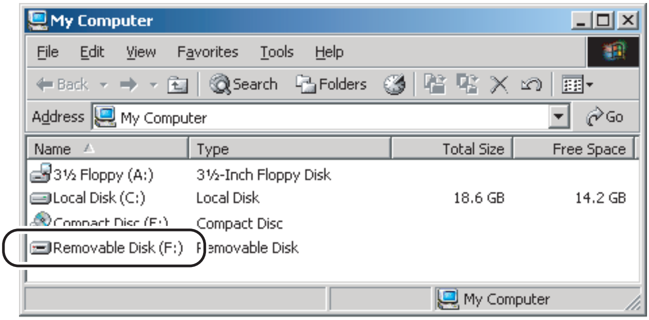
NOTE

- **When old firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

3. Mount the compact flash on the PC, and check the drive name, which was recognized in the Windows. (F-drive in the following figure)



Name	Type	Total Size	Free Space
3½ Floppy (A:)	3½-Inch Floppy Disk		
Local Disk (C:)	Local Disk	18.6 GB	14.2 GB
Compact Disc (E:)	Compact Disc		
Removable Disk (F:)	Removable Disk		

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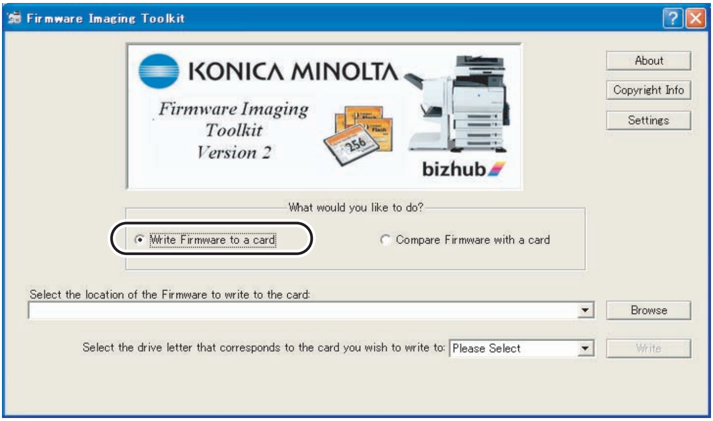
4. Start Firmware Imaging Toolkit 2006.

NOTE

- **When using the external compact flash drive such as USB be sure to connect them before starting this tool.**

5. Select the check box of [Write Firmware to a card].



What would you like to do?

● Write Firmware to a card ○ Compare Firmware with a card

Select the location of the Firmware to write to the card:

Select the drive letter that corresponds to the card you wish to write to: Please Select

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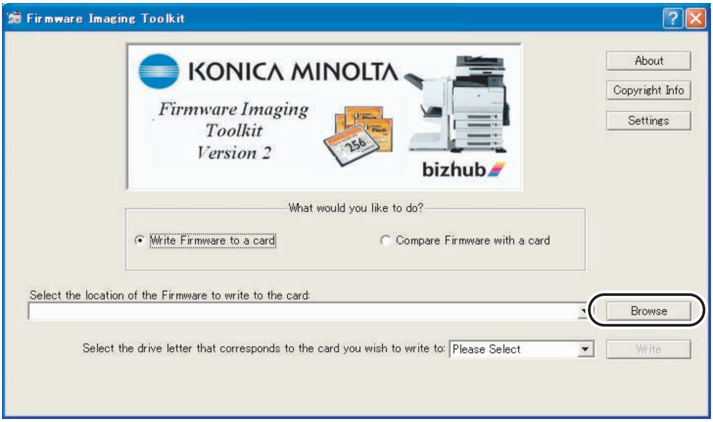
6. Click [Browse].


Firmware Imaging Toolkit
KONICA MINOLTA
Firmware Imaging Toolkit Version 2
bizhub
About
Copyright Info
Settings
What would you like to do?
● Write Firmware to a card
○ Compare Firmware with a card
Select the location of the Firmware to write to the card:
Browse
Select the drive letter that corresponds to the card you wish to write to:
Please Select
Write

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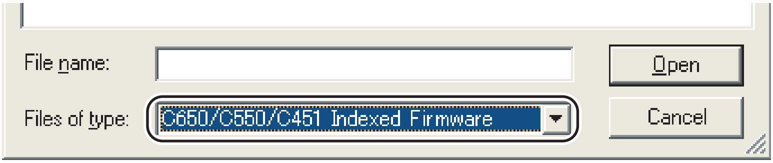
7. Select the file type [C650/C550/C451 Indexed Firmware].



Files of type: C650/C550/C451 Indexed Firmware

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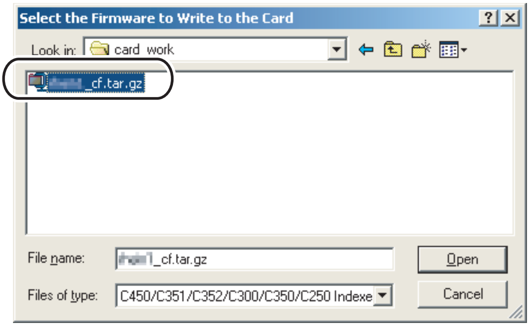
8. Move to the folder decompressed at step 2, confirm that only "###_cf.tar.gz" (### is for model name) is displayed, and select.

NOTE

- **If the file extension is set to be not displayed in Windows, the file name ".gz" will not be displayed.**

9. Click [Open].



Look in: card work

[redacted]_cf.tar.gz

File name: [redacted]_cf.tar.gz

Files of type: C450/C351/C352/C300/C350/C250 Indexe

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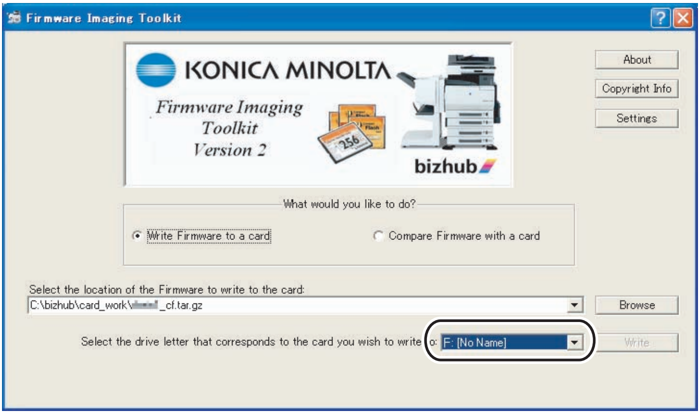
10. Select the drive that the compact flash is inserted, which is confirmed at step 3.

NOTE

- **The drives other than the compact flash that is recognized as “Removable Disk” can be selected for the writing destination. If these drives are selected mistakenly to make the writing, it may give fatal damage on Windows system or delete the saved data. Therefore pay close attention when selecting the drive.**



What would you like to do?

● Write Firmware to a card ○ Compare Firmware with a card

Select the location of the Firmware to write to the card:
C:\bizhub\card_work\[redacted]_cf.tar.gz

Select the drive letter that corresponds to the card you wish to write to: F: [No Name]

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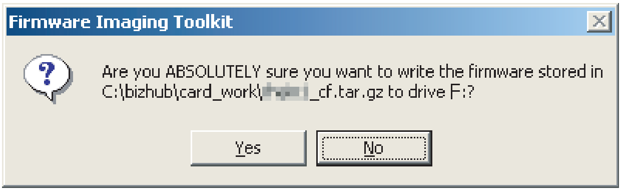
11. [Write] button is changed form gray into active status.
When clicking [Write] button, the following dialog is displayed.

12. In the dialog, re-confirm the firmware data and the written destination drive, and click [YES].
(If [NO] is clicked, the screen goes back of the main window.)



Are you ABSOLUTELY sure you want to write the firmware stored in C:\bizhub\card_work\[redacted]_cf.tar.gz to drive F:?

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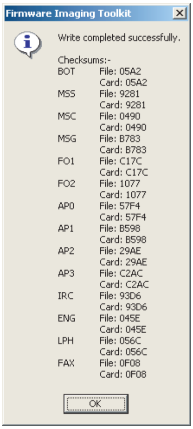
13. Click [Yes], and data writing starts.

NOTE

- **Writing a card is a resource intensive operation for your computer - do not attempt to multitask (use the computer for anything else) during the writing procedure.**

14. When the writing is completed, the following screen appears.
In this screen, check sums will be compared between the firmware data and one written into the compact flash.



```
Write completed successfully.

Checksums:-
BOT     File: 05A2
        Card: 05A2
MSS     File: 9281
        Card: 9281
MSC     File: 0490
        Card: 0490
MSG     File: B783
        Card: B783
FO1     File: C17C
        Card: C17C
FO2     File: 1077
        Card: 1077
AP0     File: 57F4
        Card: 57F4
AP1     File: B598
        Card: B598
AP2     File: 29AE
        Card: 29AE
AP3     File: C2AC
        Card: C2AC
IRC     File: 93D6
        Card: 93D6
ENG     File: 045E
        Card: 045E
LPH     File: 056C
        Card: 056C
FAX     File: 0F08
        Card: 0F08
```

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NOTE

- **The contents displayed on the screen may different according to the model type. The above is the screen displayed for firmware data writing of bizhub C450.**

15. Confirm each check sums are identical and quit Firmware Imaging Toolkit 2006.
16. Take out the compact flash from the PC.

NOTE

- **When removing the compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

5.5 Firmware rewriting by compact flash

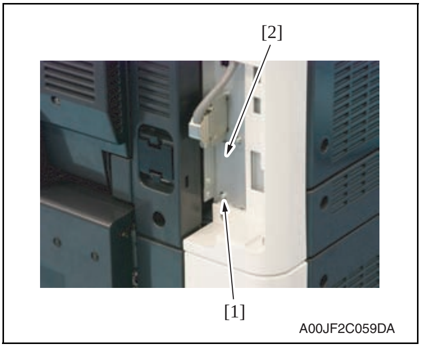
- The firmware is updated using the compact flash.

5.5.1 Updating method

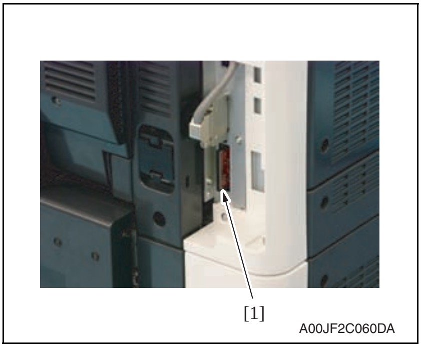
NOTE

- **NEVER remove or insert the compact flash card with the machine power turned ON.**

1. Turn OFF the main power switch.
2. Remove the interface cover.
   See P.115



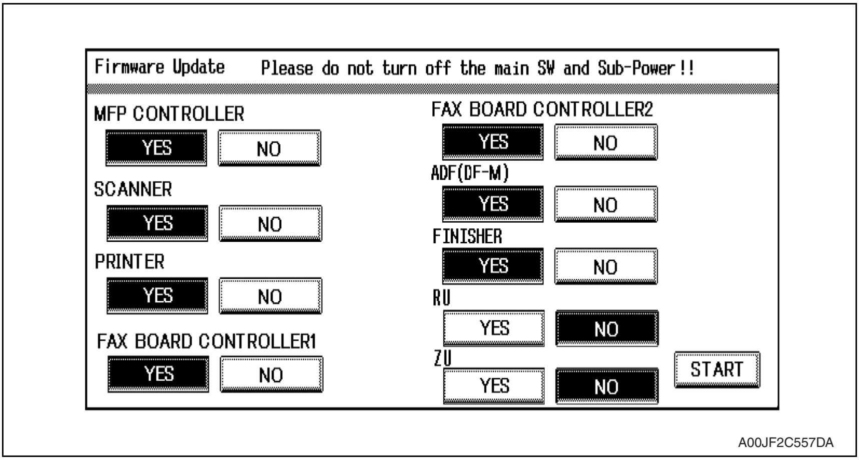
3. Remove the screw [1] and the metal blanking plate [2].



4. Insert the compact flash card [1] into the slot.

5. Turn ON the main power switch and the sub power switch.
6. Control panel shows F/W items to be updated.

7. Select the particular type of F/W to be updated. (Select [YES].)



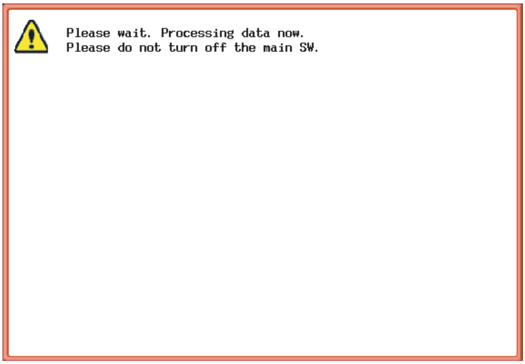
F/W to be updated	Appropriate board
MFP CONTROLLER	MFP board (MFPB)
SCANNER	Image processing board (IPB)
PRINTER	Printer control board (PRCB)
FAX BOARD CONTROLLER1	Fax board (Main) *1
FAX BOARD CONTROLLER2	Fax board (Sub) *2
ADF (DF-M)	DF control board (DFCB)
FINISHER	FNS control board (FSCB) *3 FS control board (FSCB) *4
RU	Transfer control board (TRCB) *3
ZU	ZU control board (ZUCB) *5

*1: The optional fax kit is necessary for the above procedure.
*2: The optional fax multi line ML-501 is necessary for the above procedure.
6 *3: The optional finisher FS-517/518/608 is necessary for the above procedure.
*4: The optional finisher FS-519 is necessary for the above procedure.
*5: The optional Z-folding unit ZU-603 is necessary for the above procedure.

8. Press the [START]. (At this time, the Start key starts blinking red.)
9. Check that the control panel shows the message indicating that the data has been rewritten correctly ([Downloading Completed]). Check also the check sum value ([Check Sum ####]) shown on the control panel. (The Start key lights blue.)
10. Turn OFF the main power switch.
11. Remove the compact flash card from the slot.
12. Turn ON the main power switch, and close the front door.

NOTE

- **When turning the main power switch ON for the first time after the firmware is updated, data may sometimes be internally updated.**
  In that case, the following message will be displayed. Never turn the main power switch OFF until either the serial number input screen or the trouble code screen is displayed.



Please wait. Processing data now.
Please do not turn off the main SW.

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13. Call the Service Mode to the screen.
14. Select [Firmware Version].
15. Make sure if the version of firmware is updated.

5.5.2 Action when data transfer fails

- If “NG” appears on the control panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the compact flash for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

MFP CONTROLLER	MFP board (MFPB)
SCANNER	Image processing board (IPB)
PRINTER	Printer control board (PRCB)
FAX BOARD CONTROLLER1	Fax board (Main) *1
FAX BOARD CONTROLLER2	Fax board (Sub) *2
ADF (DF-M)	DF control board (DFCB)
FINISHER	FNS control board (FSCB) *3 FS control board (FSCB) *4
RU	Transfer control board (TRCB) *3
ZU	ZU control board (ZUCB) *5

*1: The optional fax kit is necessary for the above procedure.
*2: The optional fax multi line ML-501 is necessary for the above procedure.
6 *3: The optional finisher FS-517/518/608 is necessary for the above procedure.
*4: The optional finisher FS-519 is necessary for the above procedure.
*5: The optional Z-folding unit ZU-603 is necessary for the above procedure.

5.6 Updating the firmware with the Internet ISW

5.6.1 Outline

- [Internet ISW] is the system which gives the instruction for updating the firmware with the control panel of the main body, so the main body will automatically receive the firmware from the program server over a network for updating. With the Internet ISW, the firmware can be updated when the CE is at the user's without firmware data.

5.6.2 Service environment

The following conditions are necessary for using the Internet ISW function.

- The main body is connected to such a network environment that the firmware can be downloaded on the internet using the ftp or http protocol.

The "Internet ISW" will not operate under the following conditions.

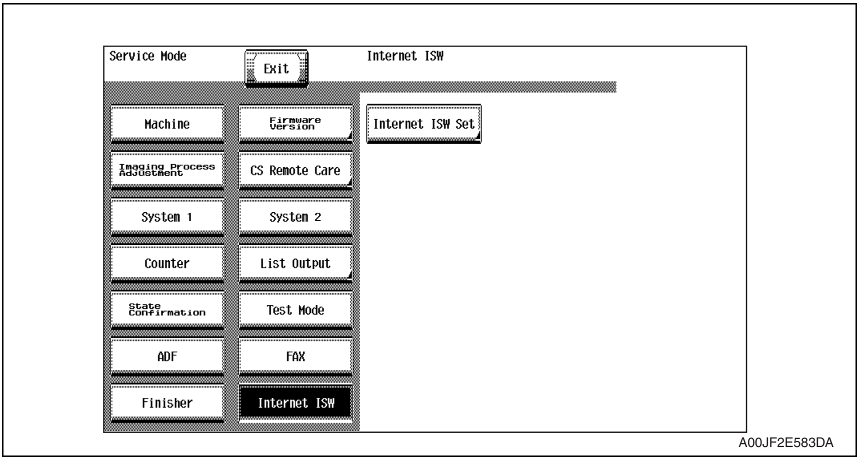
- Main power switch is set to OFF.
- Sub power switch is set to OFF.
- When the following setting is set to "ON":
  [Administrator Setting] → [Security Setting] → [Enhanced Security Mode]
- The main body has the job currently performing.
- When the i-Option (LK-101/102/103) is installed.

5.6.3 Preparations for firmware rewriting

- For using the Internet ISW, the network parameter, program server address as well as firewall address need to be set to the main body.
- For details of each setting item, refer to Adjustment/Setting "Internet ISW".
  See P.542

A. Internet ISW Set

1. Call the Service Mode to the screen.
2. Touch [Internet ISW Set] which is available from [Internet ISW].



3. Touch [ON], and touch [END].

NOTE

- **Settings such as server setting, etc. will be available by selecting "ON" on this setting.**
- **When the following setting is set to "ON", "ON" cannot be selected on this setting. [Administrator Setting] → [Security Setting] → [Enhanced Security Mode]**

B. Protocol setting

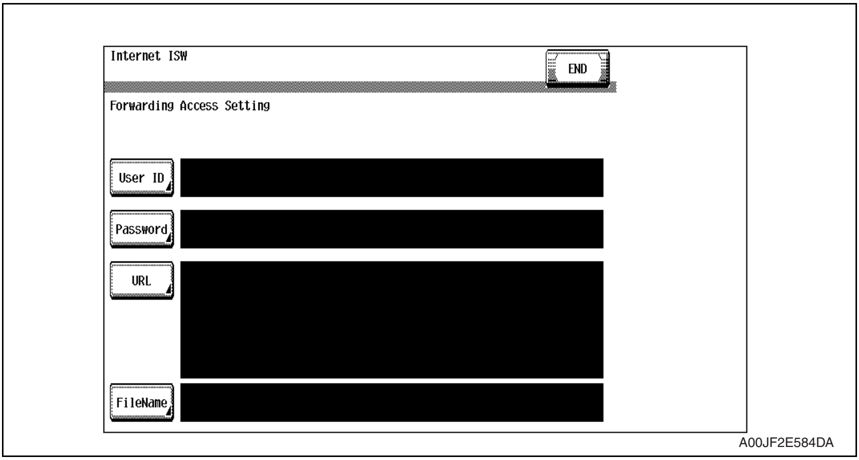
- **It performs the setting concerning the protocol (ftp or http) for connecting to the Internet ISW.**
- **When connecting to the program server using a proxy server, perform the setting for a proxy server.**

Step	Connecting by http	Connecting by ftp
0	Select [Internet ISW] which is available from [Service Mode].	
1	Data Input Setting • Touch [HTTP Setting], and select [ON].	Data Input Setting • Touch [FTP Setting], and select [ON].
2	Connect Proxy • For connecting via proxy server, select [ON].	
3	Proxy Server • For connecting via proxy server, set the proxy server address and the port number. *1.* Select the [Server Address], and set the proxy server address by IP addressing scheme or FQDN scheme. *2.* Select [Port Number], and set the port number for the proxy server from 1 through 65535.	
4	Proxy Authentication • Set the login name and the password which may be necessary for authentication when accessing to the proxy server. *1.* When Authentication is necessary for accessing to the proxy server, select [Authentication], and select [ON]. *2.* Select [Log-in Name], and enter the login name on the on-screen keyboard. *3.* Select [Password], and enter the password on the on-screen keyboard.	Connection Setting • Perform the setting for accessing FTP server. *1.* Select [Port Number], and set the port number for FTP server from 1 through 65535. *2.* Select [Connection Time Out], and set the time for the connection time out from 1 through 60. *3.* When connecting in PASV mode, select [PASV Mode], and select [ON]. *PASV Mode: This mode is for transferring the file with FTP under the condition where communication is restricted such as inside the firewall. Since with PASV mode, the client with restriction sets the port number, data transmission port can be secured to enable the file transmission.
5	Connection Time-Out • Select [Connection Time-Out], and set the time for the connection time out between 30 and 300 seconds.	—

C. Forwarding access setting

- To make the access setting for the program server which stores the firmware data.

1. Select [Internet ISW] which is available from [Service Mode].
2. Touch [Forwarding Access Setting].



3. Select [User ID], and enter the user ID which is necessary for connecting to the program server on the on-screen keyboard, and touch [END].
4. Select [Password], and enter the password which is necessary for connecting to the program server on the on-screen keyboard, and touch [END].
5. Select [URL], and enter the directory which stores the program server address and the firmware on the on-screen keyboard by URL method, and touch [END].

NOTE

- **Enter the URL which matches to the protocol to be used.**
  When connecting to http http://(host name or IP address)/directory name
  or https://(host name or IP address)/directory name
  When connecting to ftp ftp://(host name or IP address)/directory name

6. Select [File Name], and enter the file name of the firmware data to be downloaded on the on-screen keyboard, and touch [END].
7. Touch [END] to finish setting.

5.6.4 Firmware rewriting

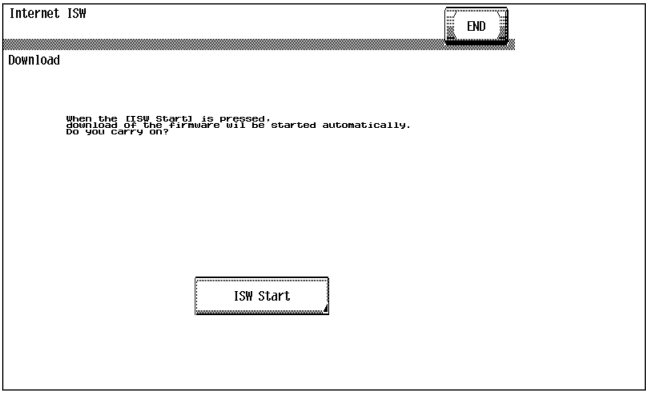
NOTE

- **When performing the Internet ISW, ask the administrator for permission beforehand.**
- **DO NOT turn OFF the main/sub power switch while downloading.**

A. Conducting rewriting on the control panel.

1. Perform the following setting.
[Service Mode] → [Internet ISW] → [Download]

2. Touch [ISW Start].



When the [ISW Start] is pressed,
download of the firmware wil be started automatically.
Do you carry on?

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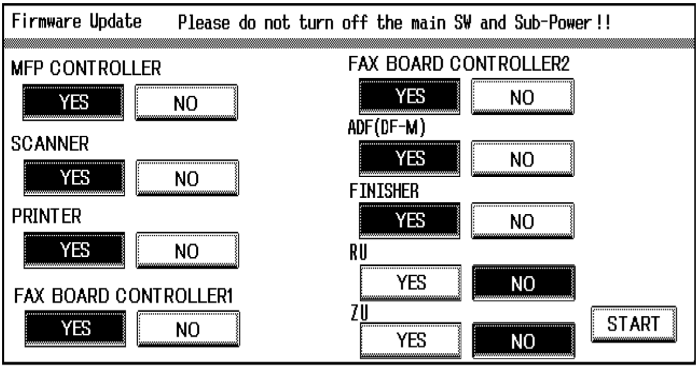
3. The main body will automatically start running, and it starts accessing the server.

4. Select the F/W to be updated, and start downloading.



Firmware Update Please do not turn off the main SW and Sub-Power !!

MFP CONTROLLER: [✓ YES] NO
SCANNER: [✓ YES] NO
PRINTER: [✓ YES] NO
FAX BOARD CONTROLLER1: [✓ YES] NO
FAX BOARD CONTROLLER2: [✓ YES] NO
ADF(DF-M): [✓ YES] NO
FINISHER: [✓ YES] NO
RU: YES [✓ NO]
ZU: YES [✓ NO]

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B. During firmware updating

1. The message to indicate the status will be displayed on the screen while connecting or transferring data.

C. Completed or failed

(1) Firmware updated normally

1. When the Firmware is normally updated, restart the main body in auto or manual mode to display the outcome, and touch [OK] to return to the main screen.

(2) Failing to update the firmware due to the network trouble

1. When updating failed to complete due to the trouble on connecting to the network, an error code and the message will be displayed.
2. Restart the main body in auto or manual mode, and touch [OK]. It can be used with the firmware version before conducting updating.
3. Check the settings for the network by error codes, and try updating again.

NOTE

- **For error codes, refer to "Error code list for the Internet ISW".**
  See P.96

(3) Failing to update the firmware after downloading has started

1. Once firmware updating has started, the ROM in the main body will be deleted.
   When it failed right after updating has started, restart the main body, and shift to the standby screen to retry downloading.
2. When updating on the control panel, touch [settings] on the standby screen, and check the Network settings again.
   Touch [Download], and restart the Internet ISW.

NOTE

- **Return to the standby screen without fail after turning the main power switch OFF/ON if the firmware is not updated.**
- **Firmware can be updated with the Compact flash with the main power switch OFF.**

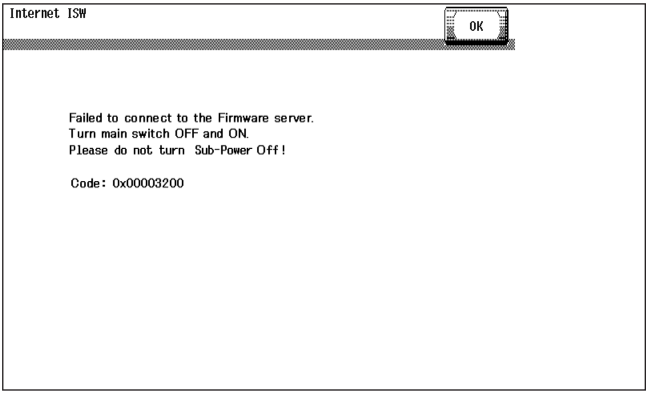
D. Confirming the firmware version

1. Call the Service Mode to the screen.
2. Select the [Firmware Version].
3. Check if the firmware version is updated.

5.6.5 Error code list for the Internet ISW

- When a trouble occurred while conducting the Internet ISW and it was not normally connected, the message on the status and the error code will be displayed on the control panel.
  When updating with CS Remote Care, the error code will be sent to the CS Remote Care center.

<Sample display>



Failed to connect to the Firmware server.
Turn main switch OFF and ON.
Please do not turn Sub-Power Off!

Code: 0x00003200

A00JF2C556DA

Error code Control panel	Description	Countermeasure
0x00000001	Illegal error on the control	• Check if the following setting is set to "Valid". [Service Mode] → [Internet ISW] → [Internet ISW setting] • Check the status of the following setting. [Service Mode] → [Internet ISW] → [Transfer access setting] • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x00000010	Parameter error	• Check if the following setting is set to "Valid". [Service Mode] → [Internet ISW] → [Internet ISW setting] • If the above process does not solve the problem, inform the corresponding error code to KONICA MINOLTA.

Error code Control panel	Description	Countermeasure
0x00111000	Error concerning the network • Connection has been completed.	• Check the User's network environment. (LAN cable's connection) • Check the status of the following setting. [Service Mode] → [Internet ISW] → [Transfer access setting] • Check to see if the FTP server operates normally.
0x00111001	Error concerning the network • It cannot be connected to the server.	• Check the network environment of the User. • Check to see if the FTP server operates normally.
0x00111100	Error concerning the network • Communication timeout.	
0x00111101	Error concerning the network • Disconnection occurred	• Check the network environment of the User. • Check to see if the FTP server operates normally.
0x00111110	Error concerning the network • The network is not connected.	
0x00110010	Error concerning the network • Others	
0x00001###	FTP error • Reply code when it failed to be connected	• Check to see if FTP server normally operates. • Check the IP address, user's name, etc.
0x00002###	FTP error • Error reply code for the user command or pass command	• Check to see if FTP server operates normally.
0x00003###	FTP error • Error reply code for CWD command	
0x00004###	FTP error • Error reply code for the TYPE command.	• Check to see if FTP server operates normally.
0x00005###	FTP error • Error reply code for the PORT command.	
0x00006###	FTP error • Error reply code for the PASV command.	• Check to see if FTP server operates normally. • Set the PASV mode to "Invalid", and try it again.
0x00007###	FTP error • Error reply code for the RETR command.	• Check to see if FTP server operates normally. • Wait for about 30 minutes and try it again.
0x1000 0100	• It cannot be accepted because of the job currently being executed. • ISW being executed by other method.	• Wait for the current job to be completed and try it again.
0x10000101	• It cannot be accepted because the sub power switch is OFF.	• Turn sub power switch ON and try it again.
0x10000102	• The Internet ISW is already being executed.	• Wait for the current Internet ISW to be completed.

Error code	Description	Countermeasure
Control panel		
0x10000103	• It failed to prohibit the job. (It failed to lock the operation.) → It failed to lock the job because the operation is already locked with PSWC, etc.	• Check if the following setting is set to "Valid". [Service Mode] → [Internet ISW] → [Internet ISW setting] • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x10000104	• There is no space for F/W data to be downloaded.	
0x10000106	• Check sum error	
0x10000107	File access error • The file downloaded has an error. • The header of the file which has been read has an error. • The size of the file to be downloaded is too large. • When it is identified to be the different type of F/W.	• Check to see if the downloaded F/W is of the correct type.
0x10000108	• The area F/W is stored is destroyed, and another ISW is necessary.	• Wait until ISW is automatically executed on MFP side.
0x20000000	The temporary error when running the subset • When starting the Internet ISW in a normal program, the rebooting will start and the Internet ISW will be executed with the subset program. During the process by the subset program, it has to be in the "Failed" status unless the Internet ISW is successfully conducted. This code is used temporarily to make it in error status.	

6. Other

6.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

6.2 Disassembly/assembly/cleaning list (other parts)

6.2.1 Disassembly/assembly parts list

No.	Section	Part name	Ref. page
1	Exterior parts	Upper front door	P.105
2		Lower front door	P.106
3		Upper front cover /1	P.108
4		Upper front cover /2	P.108
5		Right front cover	P.109
6		Lower front cover	P.110
7		Upper left cover	P.111
8		Lower left cover	P.111
9		Rear left cover	P.112
10		Paper exit rear cover	P.112
11		Upper rear cover /1	P.116
12		Upper rear cover /2	P.116
13		Lower rear cover	P.116
14		Front right cover	P.117
15		Interface cover	P.115
16		Rear right cover /1	P.115
17		Rear right cover /2	P.115
18		Rear right cover /3	P.115
19		Rear right cover /4	P.115
20		Manual bypass tray rear cover	P.116
21		IR front cover	P.114
22		IR right cover	P.113
23		IR left cover	P.113
24		IR rear cover	P.113
25		IR upper rear cover	P.113
26		IR upper left cover	P.113
27		IR upper rear cover /1	P.113
28		IR upper rear cover /2	P.113
29		original glass	P.114
30		Control panel assy	P.117
31		Exit tray (option: OT-503)	P.119
1 32		Finisher rail (bizhub C451 only)	P.120

No.	Section	Part name	Ref. page
33	Units	Tray 1/2	P.121
34		Tray 3/4	P.122
35		LCD module	P.122
36		PH unit	P.123
37		Duplex unit	P.126
38		Manual bypass tray unit	P.127
39		CCD unit	P.129
40		Original glass moving unit	P.131
41		Glass step seat	P.133
42		Scanner assy	P.135
43		Hard disk	P.137
44		IH coil (FH1)	P.138
45		Intermediate transport roller assy	P.142
46		Main drive unit	P.144
47		LCC drive unit	P.146
48		IR assy	P.152
49	Boards	Scanner relay board (REYB/SCAN)	P.154
50		Original glass position control board (OGPC)	P.155
51		Inverter board (INVB)	P.155
52		Image processing board (IPB)	P.156
53		PH relay board (REYB/PH)	P.158
54		Paper feed/transport drive board (PFTDB)	P.159
55		DC power supply (DCPU)	P.160
56		Relay drive board (REDB)	P.163
57		Printer control board (PRCB)	P.164
58		Slide Interface board (REYB/SL)	P.166
59		Fan motor relay board (REYB/FAN)	P.167
60		PCI board (PCIB)	P.168
61		MFP board (MFPB)	P.169
62		JMP board (JMPB)	P.169
63		NVRAM board (NRB)	P.169
64		High voltage unit/2 (HV2)	P.173
65		Service EEPROM board (SV ERB)	P.175
66		High voltage unit/1 (HV1)	P.177
67		IH power supply (IHPU)	P.183
68		Operation panel inverter board (OPINVB)	P.186
69		Operation panel control board (OPCB)	P.187
70		Operation panel I/O board (OPIOB)	P.188
71		Paper size detect board/1 (PSDTB/1)	P.188
72		Paper size detect board/2 (PSDTB/2)	P.189
73		JPEG board (JPEGB) *bizhub C650 only	P.190
74		SIF board (SIFB)/EIF board (EIFB) *bizhub C650 only	P.191

No.	Section	Part name	Ref. page
75	Motors	ADU transport motor/1 (M31)	P.193
76		ADU transport motor/2 (M32)	P.194
77		Bypass tray up down motor (M28)	P.195
78		Bypass paper feed motor (M27)	P.195
79		Scanner motor (M201)	P.199
80		Original glass moving motor (M202)	P.202
81		Waste toner agitating motor (M20)	P.204
82		Transport motor (M25)	P.205
83		Vertical transport motor (M26)	P.206
84		Transfer belt motor (M1)	P.207
85		Color PC drum motor (M16)	P.207
86		Color developing motor (M17)	P.208
87		2nd image transfer pressure retraction motor (M3)	P.208
88		Registration motor (M2)	P.209
89		Fusing pressure retraction motor (M29)	P.211
90		Fusing motor (M30)	P.212
91		Switchback Motor (M33)	P.214
92		Exit motor (M4)	P.215
93		K PC drum motor (M18)	P.216
94		K developing motor (M19)	P.217
95		Tray 1 lift-up motor (M6)	P.217
96		Tray 2 lift-up motor (M8)	P.218
97		Tray 3 lift-up motor (M23)	P.219
98		Tray4 lift-up motor (M24)	P.219
99		Tray1 vertical transport motor (M5)	P.220
100		Tray2 vertical transport motor (M7)	P.221
101		Take-up motor (M22)	P.222
102		Charge cleaning motor/K (M15)	P.223
103		Cleaner motor (M38)	P.225
104		1st image transfer pressure retraction motor (M21)	P.230
105		Toner cartridge motor C/K (M14)	P.230
106		Toner cartridge motor Y/M (M13)	P.231
107		Toner supply motor/Y (M9)	P.232
108		Toner supply motor/M (M10)	P.232
109		Toner supply motor/C (M11)	P.232
110		Toner supply motor/K (M12)	P.232

No.	Section	Part name	Ref. page
111	Clutches	Tray 1 paper feed clutch (CL1)	P.236
112		Tray 2 paper feed clutch (CL2)	P.237
113		Horizontal transport clutch 1 (CL3)	P.238
114		Horizontal transport clutch 2 (CL4)	P.238
115		Tray 3 paper feed clutch (CL5)	P.239
116		Tray 3 transport clutch (CL6)	P.239
117		Tray 4 paper feed clutch (CL7)	P.240
118	Others	IDC registration sensor/F (IDCS/F), IDC registration sensor/R (IDCS/R)	P.241
119		Scanner drive cable	P.243
120		Tray 3/4 lift wire	P.254
121		Fuse (F1) * For North America only	P.260

6.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Processing section	Transfer belt unit	P.261
2	Tray 1	Tray 1 feed roller	P.261
3		Tray 1 pick-up roller	P.261
4		Tray 1 separation roller	P.262
5		Tray 1 transport roller	P.262
6	Tray 2	Tray 2 feed roller	P.263
7		Tray 2 pick-up roller	P.263
8		Tray 2 separation roller	P.263
9		Tray 2 transport roller	P.264
10	Tray 3	Tray 3 feed roller	P.264
11		Tray 3 pick-up roller	P.264
12		Tray 3 separation roller	P.265
13		Tray 3 transport roller	P.265
14	Tray 4	Tray 4 feed roller	P.266
15		Tray 4 pick-up roller	P.266
16		Tray 4 separation roller	P.267
17		Tray 4 transport roller	P.267
18	Manual bypass tray	Manual bypass tray feed roller	P.267
19		Manual bypass tray pick-up roller	P.268
20		Manual bypass tray separation roller	P.268
21	Transport section	Intermediate transport roller	P.268
22	IR	Original glass	P.269
23		Scanner rails	P.269
24		Mirrors (1st/2nd/3rd)	P.270
25		Lens	P.270
26		CCD sensor	P.271

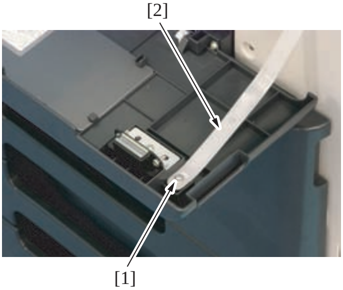
4 6.2.3 Need lubrication parts list

No.	Section	Part name	Ref. page
1	Fusing section	Fusing unit	P.274

6.3 Disassembly/assembly procedure

6.3.1 Upper front door

1. Open the upper front door.



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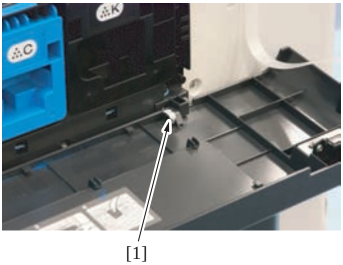
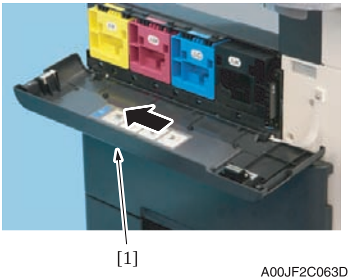
2. Remove the screw [1], and remove the stopper [2].



A00JF2C062DA

3. Remove the C-clip [1].

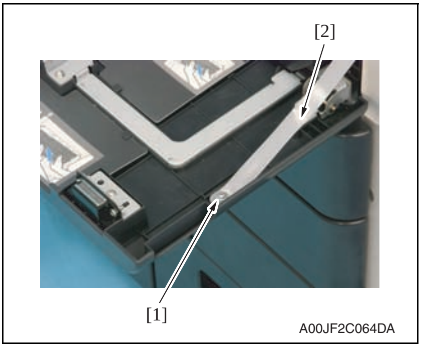


A00JF2C063DA

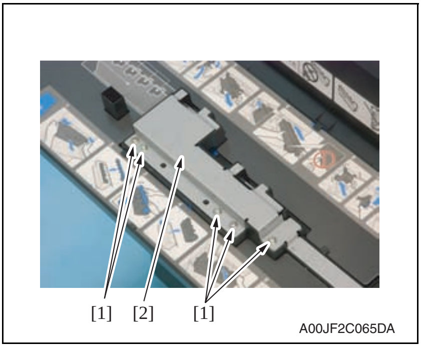
4. Slide the upper front door [1] to the left to remove it.

6.3.2 Lower front door

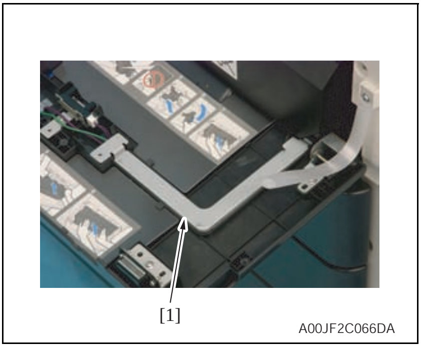
1. Open the lower front door.



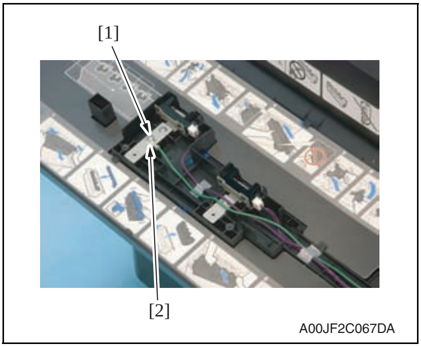
2. Remove the screw [1], and remove the stopper [2].



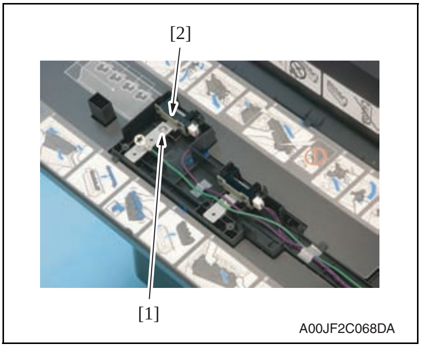
3. Remove five screws [1], and remove the sensor cover [2].



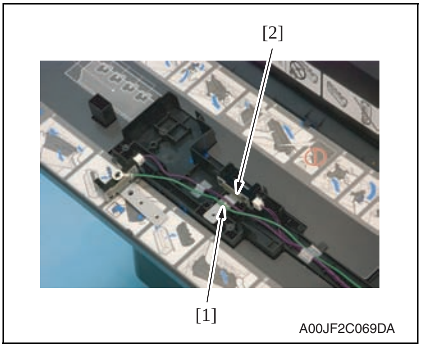
4. Remove the harness cover [1].



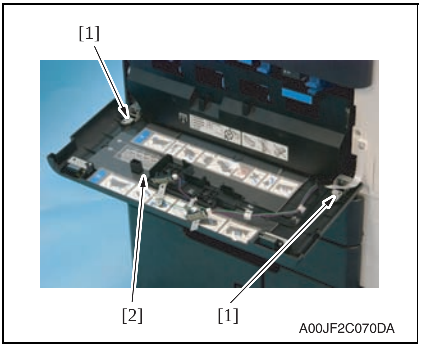
5. Remove the screw [1], and remove the ground terminal [2].



6. Remove the screw [1], and remove the waste toner agitating motor lock sensor assy [2].



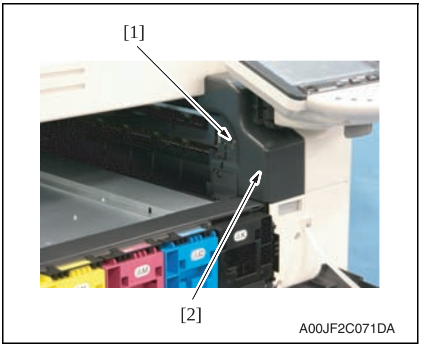
7. Remove the screw [1], and remove the waste toner full sensor assy [2].



8. Remove the tape that fastens the harness.
9. Remove the screw [1] one for each of hinge at the lower front door, and take out the lower front door [2].

6.3.3 Upper front cover /1

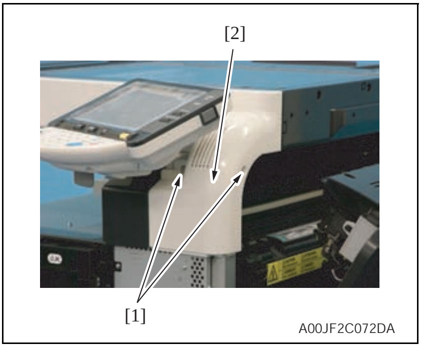
1. Open the upper front door.



2. Remove the screw [1], and remove the upper front cover /1 [2].

6.3.4 Upper front cover /2

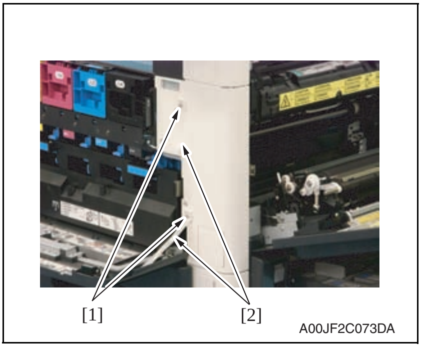
1. Remove the right front cover.
   See P.109



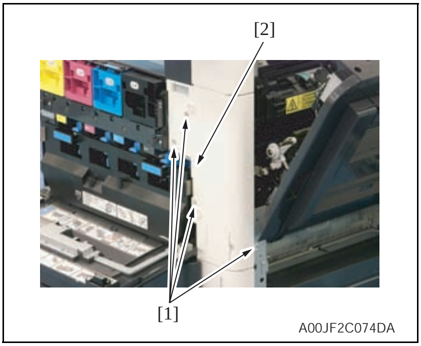
2. Remove two screws that have round leading ends [1], and remove the upper front cover /2 [2].

6.3.5 Right front cover

1. Remove the upper front door.
   See P.105
2. Open the upper right door.
3. Remove the front right cover.
   See P.117
4. Open the lower front door.
5. Remove two screws [1], and remove the stoppers [2] of the upper front door and the lower front door.

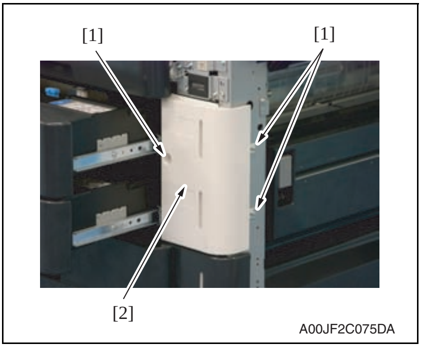


6. Remove four screws [1], and remove the right front cover [2].



6.3.6 Lower front cover

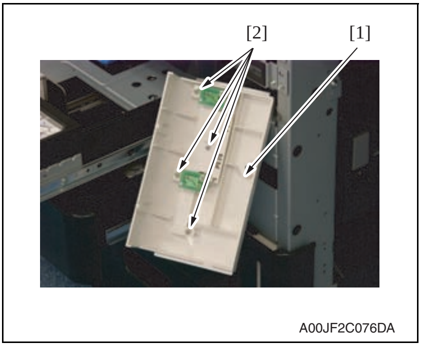
1. Slide out the tray 1/2.
2. Remove the front right cover.
   See P.117



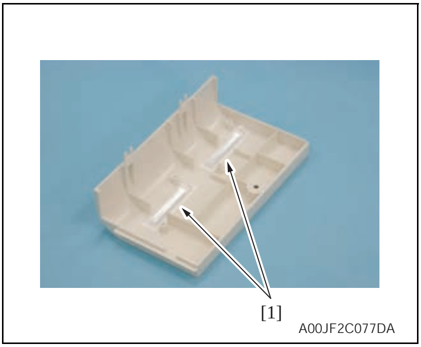
3. Remove three screws [1], and remove the lower front cover [2].

NOTE

- **Do not remove it in rush as it is connected to the harness.**



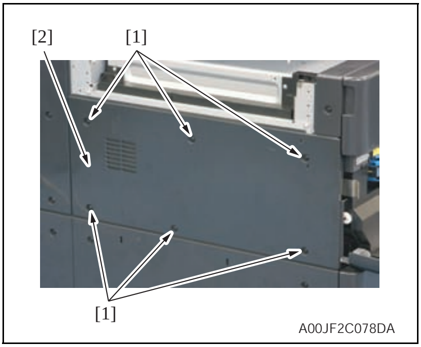
4. Turn back the lower front cover [1] and remove four screws [2].



5. Remove two empty display lenses [1].

6.3.7 Upper left cover

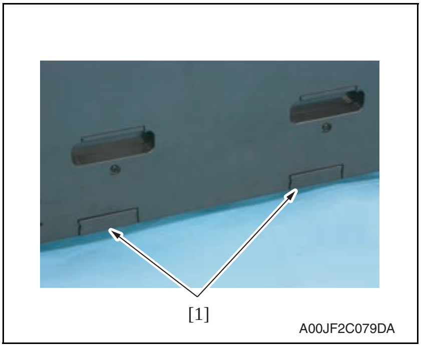
1. Open the lower front door.



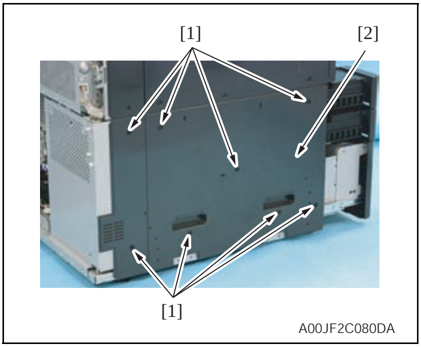
2. Remove six screws [1], and remove the upper left cover [2].

6.3.8 Lower left cover

1. Slide out the tray 1/2/3.
2. Remove the lower rear cover.
   See P.116



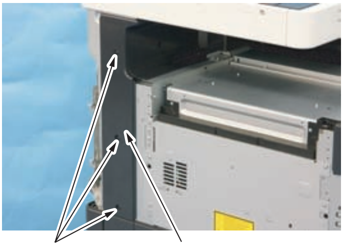
3. Remove two covers [1].



4. Remove eight screws [1], and remove the lower left cover [2].

6.3.9 Rear left cover

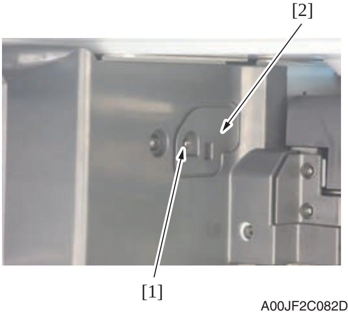
1. Remove the upper left cover.
   See P.111
2. Remove the upper rear cover /2.
   See P.116



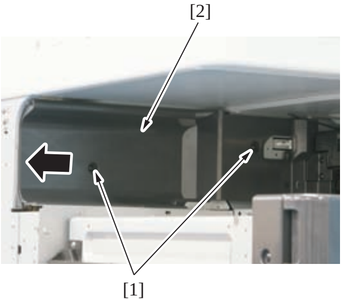
3. Remove three screws [1], and remove the rear left cover [2].

6.3.10 Paper exit rear cover

1. Remove the rear left cover.
   See P.112

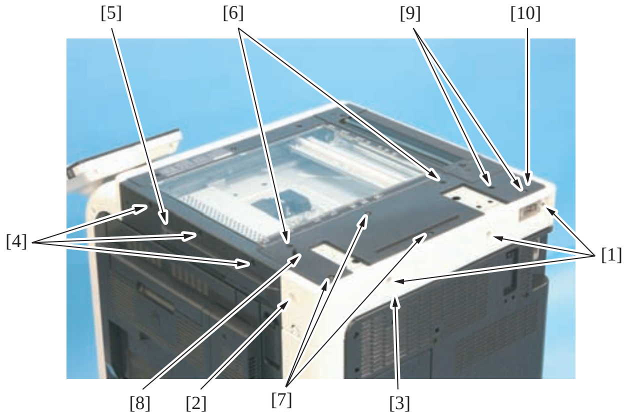


2. Remove the screw [1], and remove the cover [2].



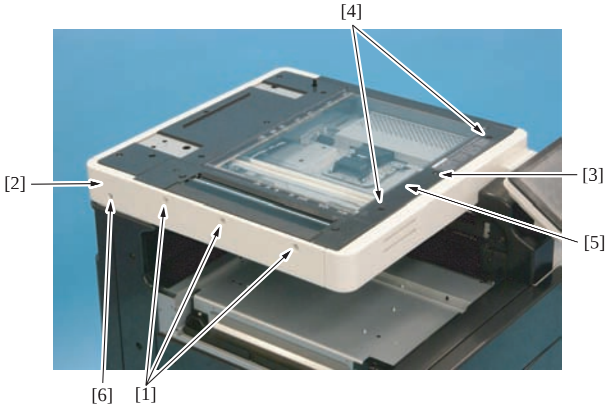
3. Remove two screws [1], and slide the paper exit rear cover [2] to remove it.

6.3.11 IR rear cover, IR right cover, IR upper rear cover /1, IR upper rear cover /2



1. Remove three screws [1] and the shoulder screw [2], and take out the IR rear cover [3].
2. Remove three screws [4] and take out the IR right cover [5].
3. Remove two shoulder screws [6] and three screws [7], and take out the IR upper rear cover/1 [8].
4. Remove two screws [9] and take out the IR upper rear cover/2 [10].

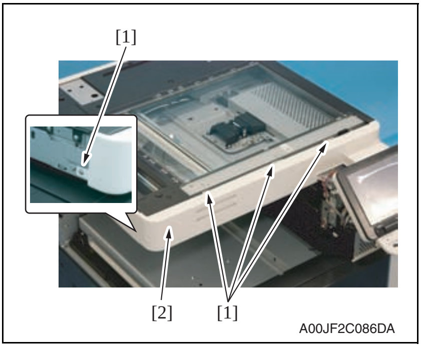
6.3.12 IR left cover, IR upper front cover



1. Remove three screws [1] and the shoulder screw [6], and remove the IR left cover [2].
2. Remove the screw [3] and two shoulder screws [4], and take out the IR upper front cover [5].

6.3.13 IR front cover

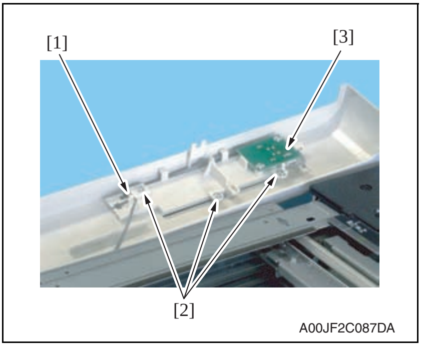
1. Remove the IR upper front cover.
   See P.113
2. Remove the upper front cover /1.
   See P.108
3. Remove the IR left cover.
   See P.113



4. Remove four screws [1], and remove the IR front cover [2].

NOTE

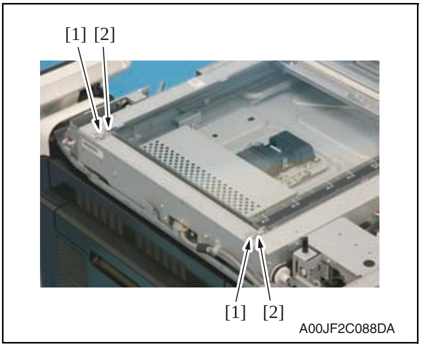
- **Do not remove it in rush as it is connected to the harness.**



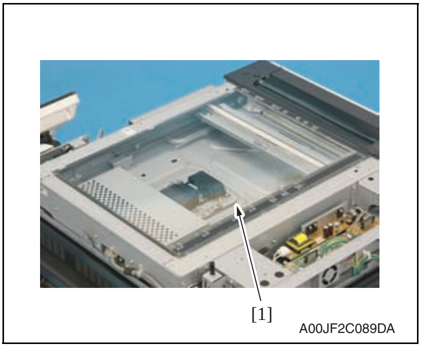
5. Remove the harness from the wire saddle [1].
6. Remove three screws [2], and remove the machine condition monitor board assy [3].
7. Remove two empty display lenses.

6.3.14 Original glass

1. Remove the IR right cover.
   See P.113

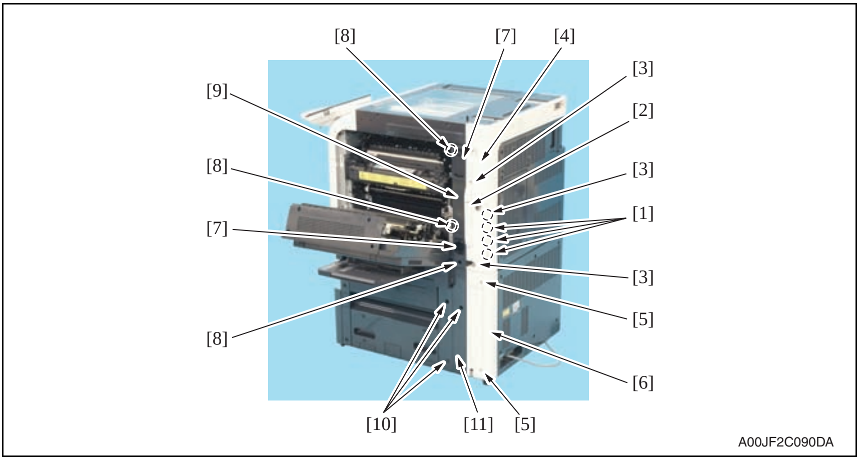


2. Remove each screw [1], and remove the original glass fixing bracket (near side/inmost side) [2].



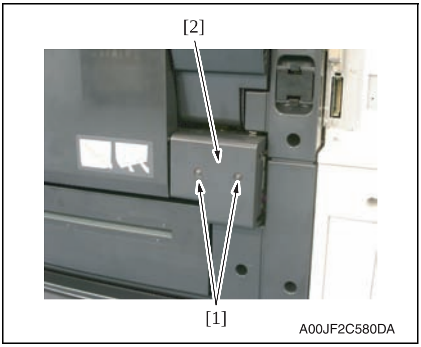
3. Remove the original glass [1].

6.3.15 Interface cover, rear right cover /1, rear right cover /2, rear right cover /3, rear right cover /4



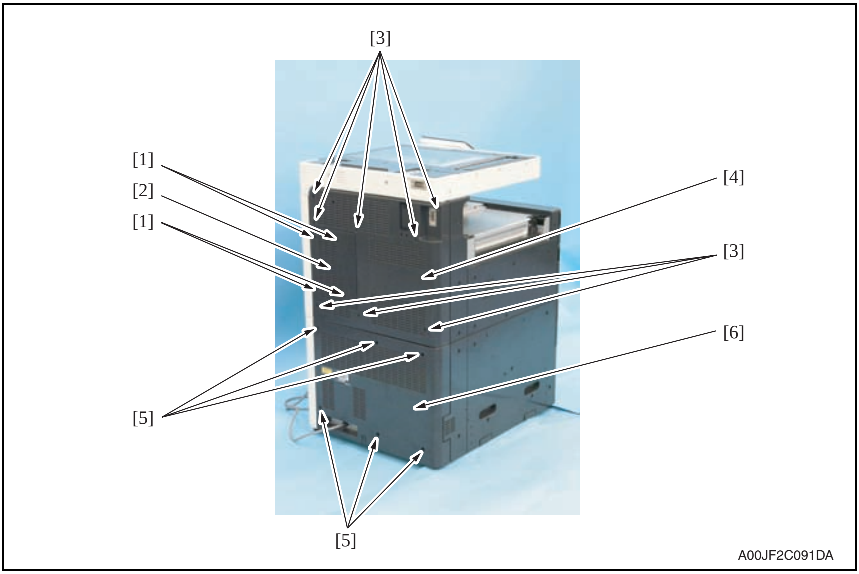
1. Unhook the three tabs [1] and take out the interface cover [2].
2. Remove three screws [3], and remove the rear right cover /1 [4].
3. Remove two screws [5], and remove the rear right cover /2 [6].
4. Remove two filters [7].
5. Open the upper right door.
6. Remove three screws [8], and remove the rear right cover /3 [9].
7. Remove three screws [10], and remove the rear right cover /4 [11].

6.3.16 Manual bypass tray rear cover



1. Remove two screws [1], and remove the Manual bypass tray rear cover [2].

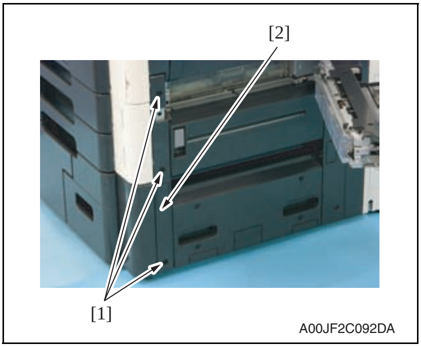
6.3.17 Upper rear cover /1, upper rear cover /2, lower rear cover



1. Remove four screws [1], and remove the upper rear cover /1 [2].
2. Remove the rear right cover.
   See P.115
3. Remove the color toner filter.
   See P.53
4. Remove eight screws [3], and remove the upper rear cover /2 [4].
5. Remove six screws [5], and remove the lower rear cover [6].

6.3.18 Front right cover

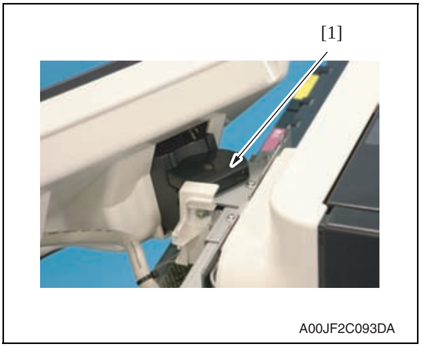
1. Open the manual bypass tray door.



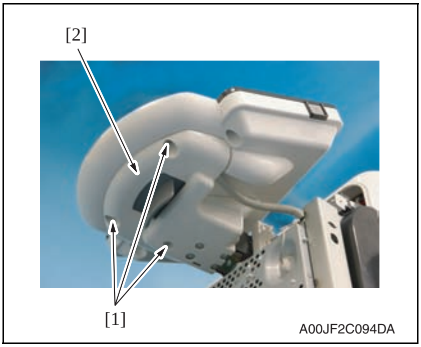
2. Remove three screws [1], and remove the front right cover [2].

6.3.19 Control panel assy

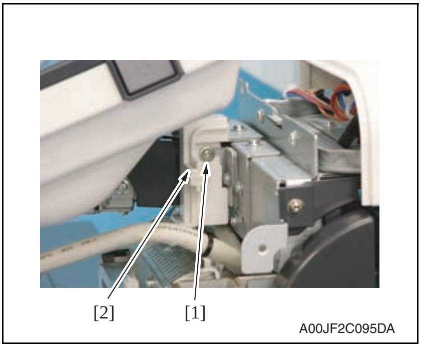
1. Remove the upper front cover /1.
   See P.108
2. Remove the upper front cover /2.
   See P.108



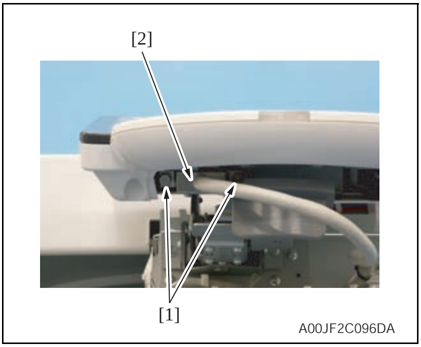
3. Remove the cover [1].



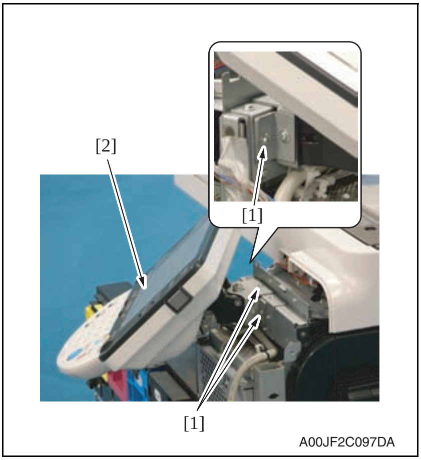
4. Remove three screws [1] and take out the control panel support cover [2].



5. Remove the screw [1], and remove the cover [2].

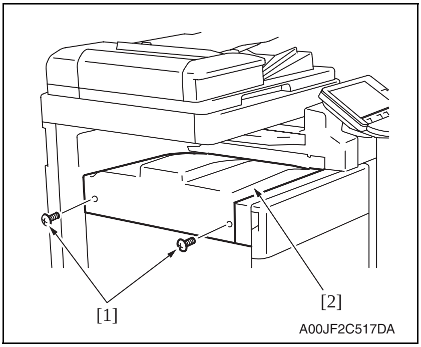


6. Loosen two screws [1], and disconnect the connector [2].

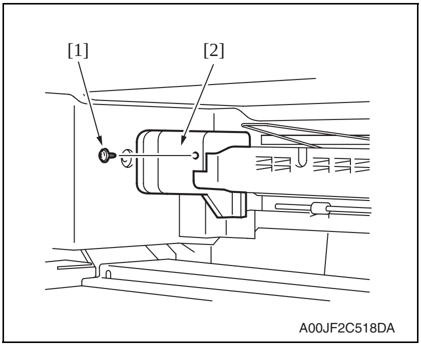


7. Remove three screws [1], and remove the control panel assy [2].

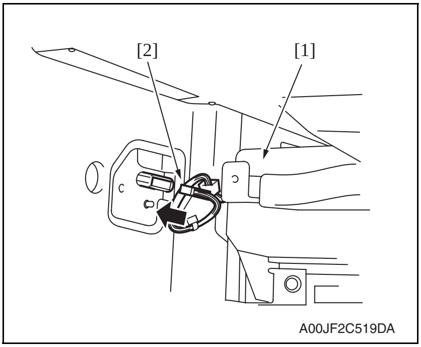
6.3.20 Exit tray (option: OT-503)



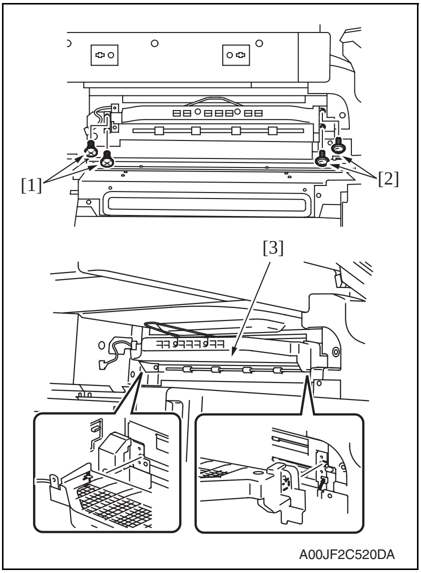
1. Remove two screws [1], and remove the exit tray [2].



2. Remove the screw [1], and remove the connector cover [2].

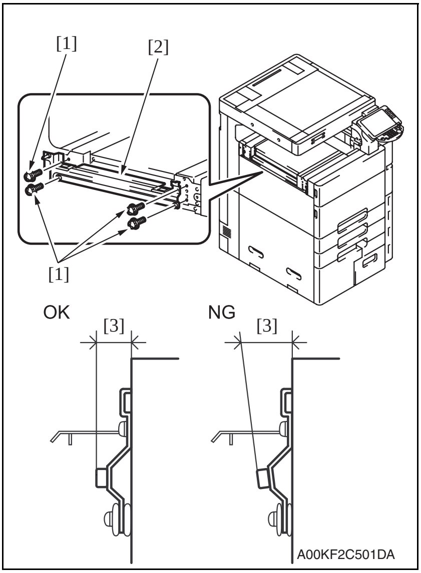


3. Disconnect the connector [2] of the fan unit [1].



4. Remove two shoulder screws [1] and two screws [2], and remove the fan unit [3].

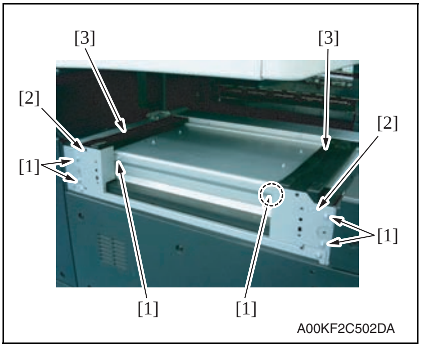
1 6.3.21 Finisher rail (bizhub C451 only)



1. If the optional finisher FS-519 is mounted, remove it.
   See P.28 of the FS-519/PK-510/OT-602 service manual.

NOTE

- **After removing the finisher FS-514, remove four screws [1] and mounting plate [2].**
- **When reinstalling the mounting plate, do not secure two lower screws too tight, and make sure that the plate and the main unit will be parallel and the clearance [3] between those two will be even.**



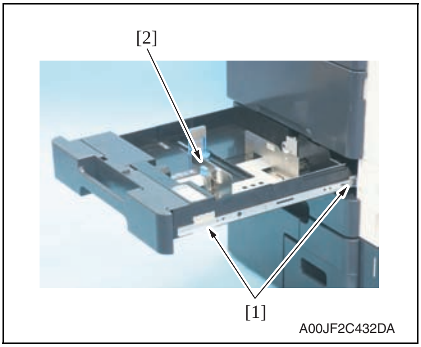
2. Remove three screws [1] to take off each one of the two finisher rail mounting plates [2].
3. Remove two finisher rails [3].

6.3.22 Tray 1/2

NOTE

- **Tray 1 and 2 has the same mechanism. The procedure is mainly for the tray 1.**

1. Slide out the tray.



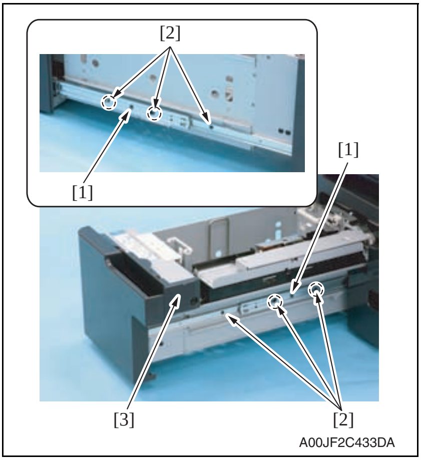
2. Remove two screws [1], and remove the tray [2].

6.3.23 Tray 3/4

NOTE

- **Tray 3 and 4 has the same mechanism. The procedure is mainly for the tray 3.**

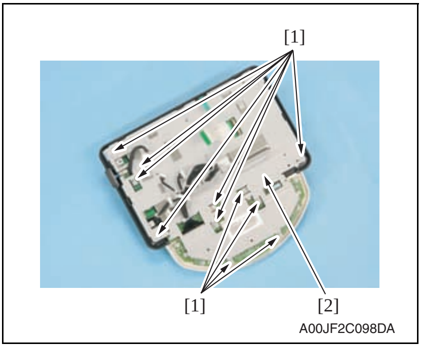
1. Slide out the tray.



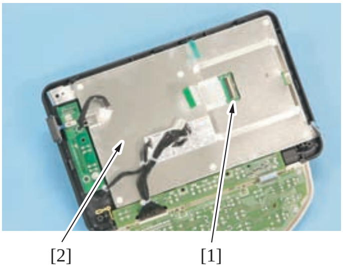
2. Remove two screws [1] and six screws [2], and remove the tray [3].

6.3.24 LCD module

1. Remove the control panel assy.
   See P.117
2. Remove the operation panel control board.
   See P.187
3. Remove the operation panel I/O board.
   See P.188



4. Remove eleven screws [1] and take out the LCD module protective cover [2].

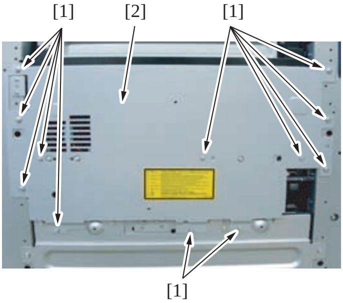


5. Disconnect the flat cable [1], and remove the LCD module [2].

6.3.25 PH unit

⚠ CAUTION	
⚠	• **Do not replace the printer head unit while the power is ON. Laser beam generated during the above mentioned activity may cause blindness.**
⊘	• **Do not disassemble or adjust the printer head unit. Laser beam generated during the above mentioned activity may cause blindness.**

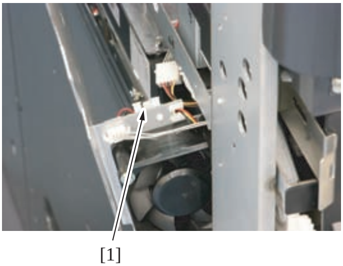
1. Remove the upper left cover.
   See P.111
2. Remove the lower left cover.
   See P.111



3. Remove twelve screws [1], and remove the PH unit protective shield [2].

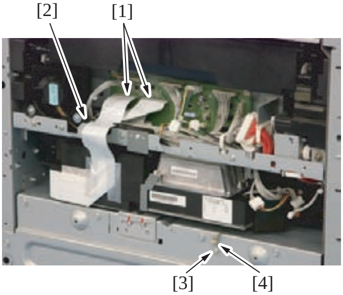
NOTE

- **Do not remove it in rush as it is connected to the connector.**



A00JF2C161DA

4. Disconnect the connector [1].

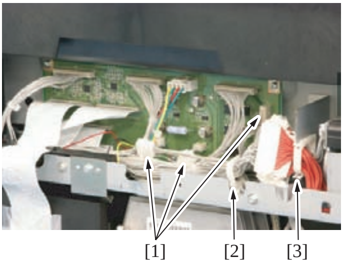


A00JF2C100DA

5. Unplug two flat cables [1] and removed if from the cable guide [2]. Remove the screw [3] to remove the ground terminal [4].

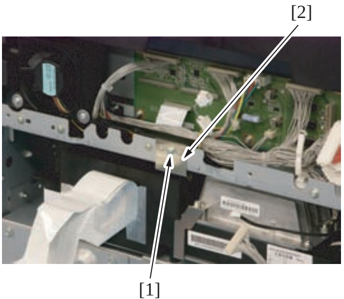
NOTE

- **Handle the flat cables carefully. Remove them from the cable guide with care while making it parallel to the guide.**



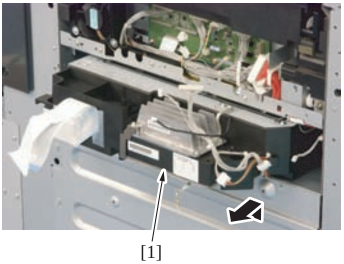
A00JF2C101DA

6. Disconnect three connectors [1], and remove the harness from the wire saddle [2] and the edge cover [3].



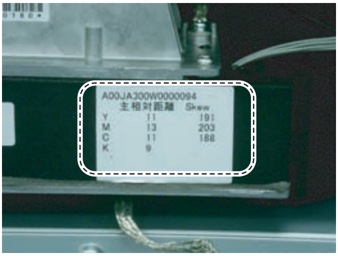
A00JF2C102DA

7. Remove the screw [1] and take out the plate spring [2].



A00JF2C103DA

8. Hold up the PH unit [1] slightly and pull it toward to remove.



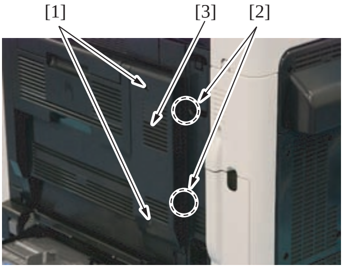
A00JF2C569DA

9. Select [Skew adjustment] after selecting [Service Mode] → [Machine] → [Skew adjustment], and input the adjustment value that is put on the side of the replaced PH unit. See P.458

10. Execute [Skew adjustment] and [Skew adjustment reset] after selecting [Service Mode] → [Machine] → [Skew adjustment].

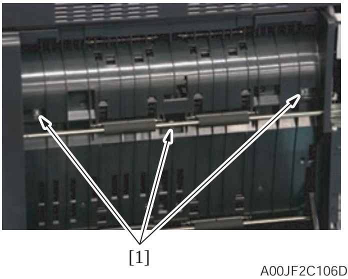
11. To reinstall, reverse the order of removal.

6.3.26 Duplex unit



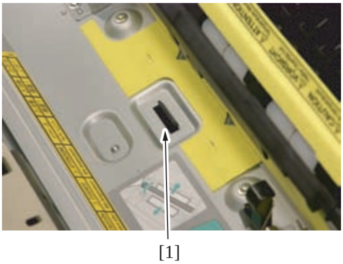
A00JF2C105DA

1. Remove two screws [1] and two tabs [2] to take out the duplex unit cover [3].



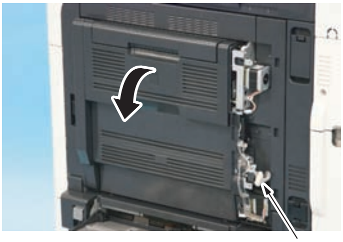
A00JF2C106DA

2. Open the duplex unit door.
3. Remove three screws [1].



A00JF2C107DA

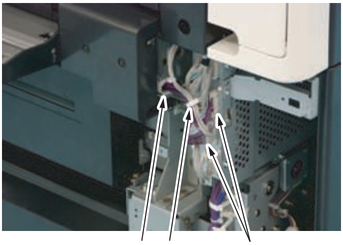
4. Open the upper right door, and remove the tab [1].



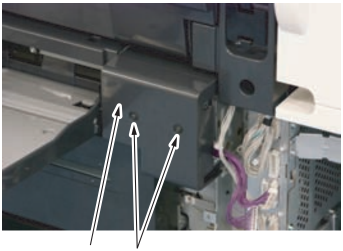
5. Disconnect the connector [1], and remove the duplex unit.

6.3.27 Manual bypass tray unit

1. Remove the rear right cover /4.
See P.115

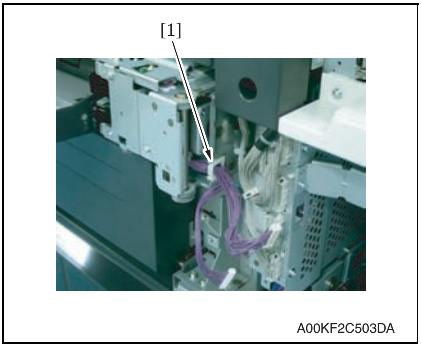


2. Disconnect two connectors [1], and remove the harness from the wire saddle [2] and the edge cover [3].



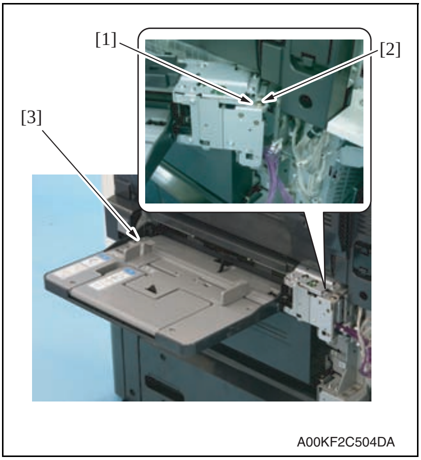
3. Remove two screws [1], and remove the manual bypass tray rear cover [2].

1



4. Remove the harness from the edge cover [1].

1

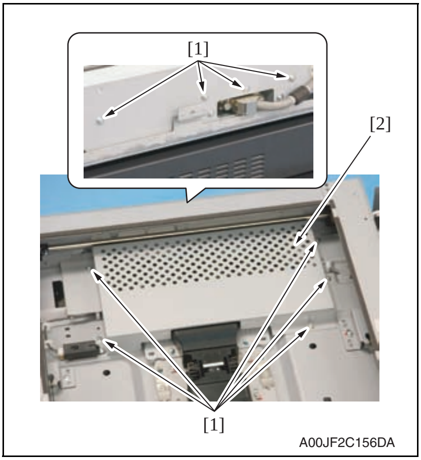


5. Open the manual bypass tray.
6. Remove the E-ring [1].
7. Remove the hinge shaft [2] from below and remove the manual bypass tray [3].

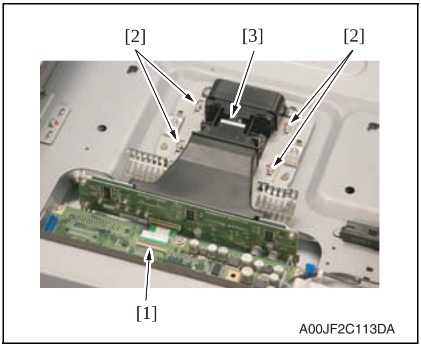
6.3.28 CCD unit

A. Removal procedure

1. Remove the original glass.
   See P.114

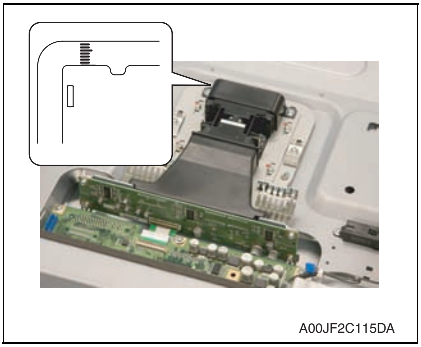


2. Remove nine screws [1], and remove the image processing board protective shield [2].



3. Remove the flat cable [1].
4. Remove four screws [2], and take out the CCD unit [3].

B. Reinstall procedure



1. Set the CCD unit to the mounting position at the center of the scale, and fix it with four screws.
2. Reinstall the original glass.

3. Turn ON the main power switch and sub power switch.
4. Carry out the [Cross Direction Adjustment]. If the specifications are not met, loosen the CCD unit mounting screws and move the CCD unit in the sub scan direction as necessary.
   See P.454

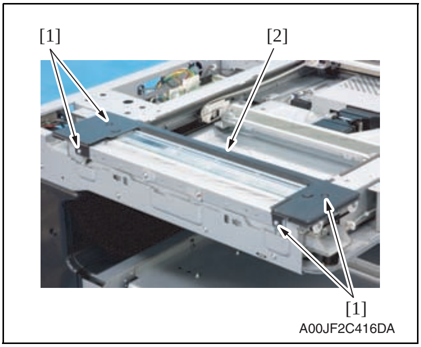
NOTE

- **Hold the CCD unit by hand when moving it. NEVER use a screwdriver or similar tool to tap to move it, as a varied distance between the CCD sensor and lens results.**
- **When CCD unit is replaced, [Scan Calibration] and [Line Mag Setting] under [System 2] available in Service Mode should be OFF.**

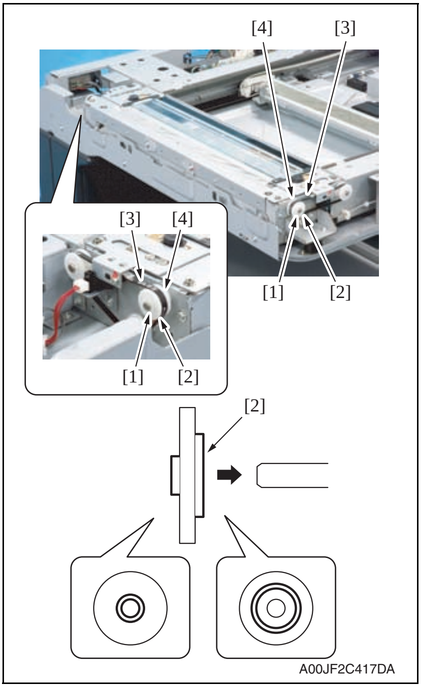
6.3.29 Original glass moving unit

A. Removal procedure

1. Remove the IR left cover.
   See P.113
2. Remove the IR front cover.
   See P.114
3. Remove the original glass.
   See P.114
4. Remove the original glass moving motor.
   See P.202
5. Remove the glass step sheet.
   See P.133



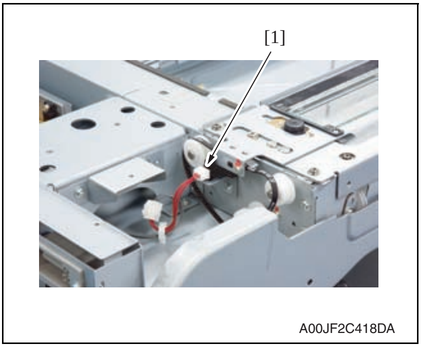
6. Remove four screws [1], and remove the original glass moving unit cover [2].



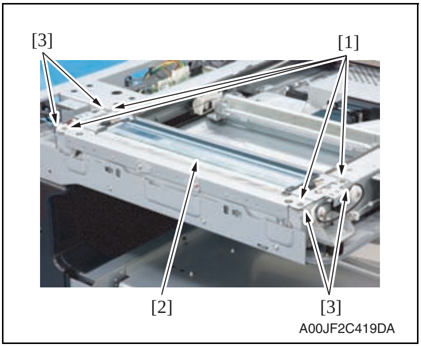
7. Remove the C-ring [1] and the collar [2] one each, and remove the belts [3] of both sides of the original glass mounting unit out of the gear [4].

NOTE

- **Be sure the direction of the collar [2] to be as shown in the left illustration when mounting it.**



8. Disconnect the connector [1].



9. Remove four screws [1], and remove the original glass moving unit [2].

NOTE

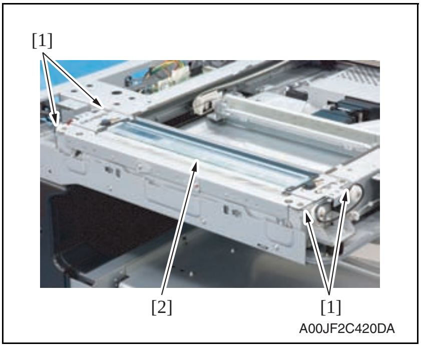
- **Use care not to lose the spacer [3] mounted on each screw.**
- **Write down the type and numbers of the spacer [3].**
  The same numbers of the spacer of the same type with what is written should be mounted when replacing the original glass moving unit.

B. Reinstall procedure

NOTE

- **When replacing the original glass moving unit, clean the glass surface of the original glass moving unit.**
  Clean the inside of the glass well since it cannot be easily cleaned once it is mounted.

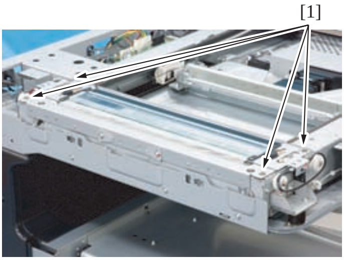
1. When mounting the new original glass moving unit, take out the original glass moving unit cover.



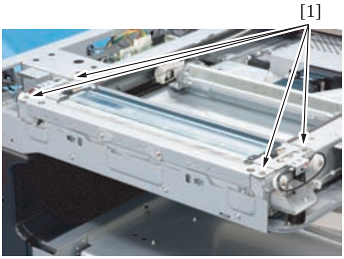
2. Set the spacers [1] and mount the original glass moving unit [2] to the machine.

NOTE

- **Make sure to set the spacers [1] which are exact same type and number as before removing the original glass moving unit.**



3. Tighten four screws [1] loosely and adjust the height of the original glass moving unit.
   See P.564

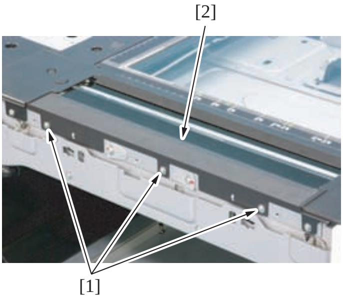


4. Tighten four screws [1] fully.
5. Follow the removing procedures in the opposite steps.
6. Perform the following setting.
   [Service Mode] → [ADF] → [Read Pos Adj]
   See P.32 of the DF-611/610 service manual.

6.3.30 Glass step sheet

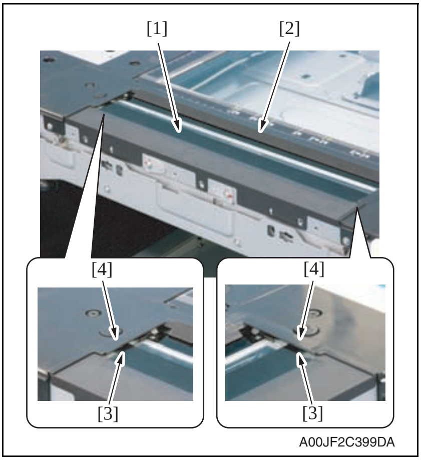
A. Removal procedure

1. Remove the IR left cover.
   See P.113



2. Remove three screws [1], and remove the glass step sheet [2].

B. Reinstall procedure

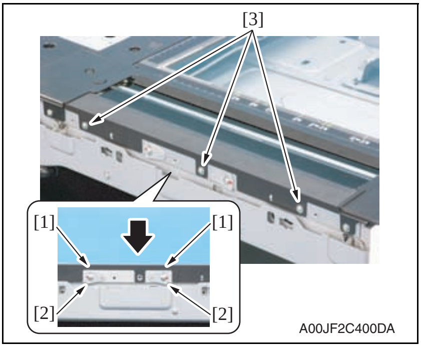


1. Mount the glass step sheet [1] to the original glass moving unit [2].

NOTE

- **Set the sheet [3] under the cover of the original glass moving unit [4].**
- **Use care not to bend the edge of the glass step sheet.**

6



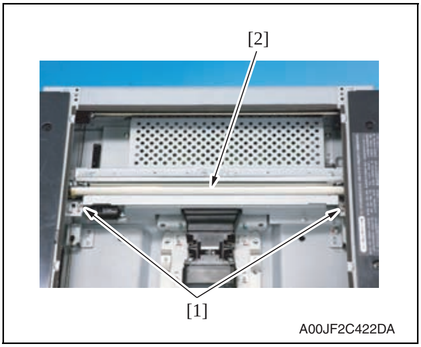
2. Set the points [1] of the glass step sheet to the edge of the scale plate on the original glass moving unit [2], and mount it with three screws [3].

3. Perform the following setting.
[Service Mode] → [ADF] → [Read Pos Adj]
See P.32 of the DF-611/610 service manual.

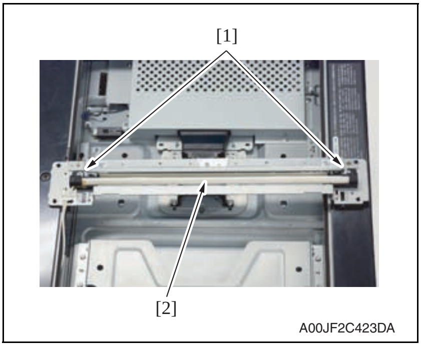
6.3.31 Scanner assy

A. Removal procedure

1. Remove the original glass.
   See P.114

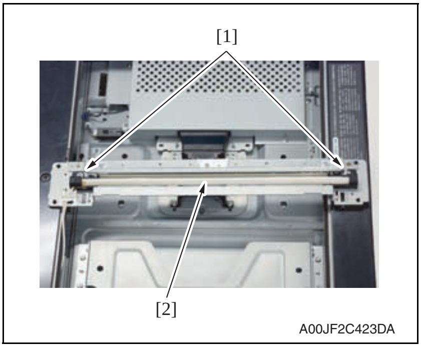


2. Remove two screws [1], and remove the scanner assy [2].

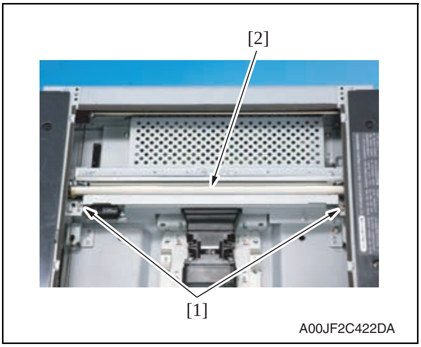


3. Remove two screws [1], and remove the exposure lamp [2] from the scanner assy.

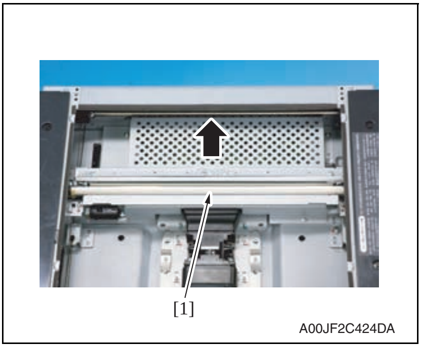
B. Reinstall procedure



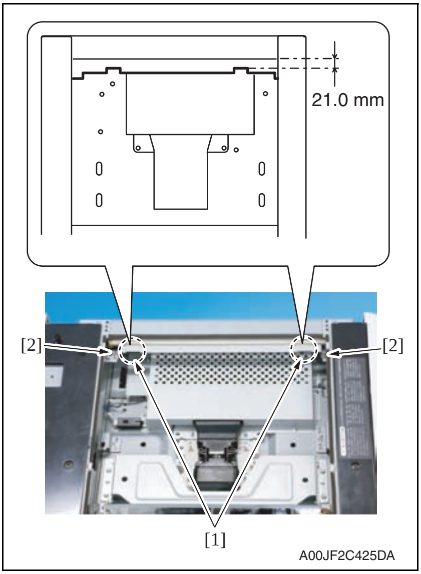
1. Fix the exposure lamp [2] to the scanner assy with the two screws [1].



2. Tighten the scanner assy [2] with the two screws [1] temporarily.



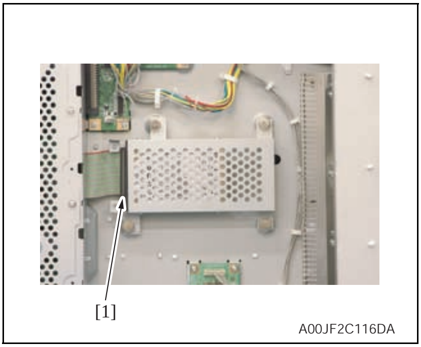
3. Move the scanner assy [1] and the mirror unit to the end of the right.



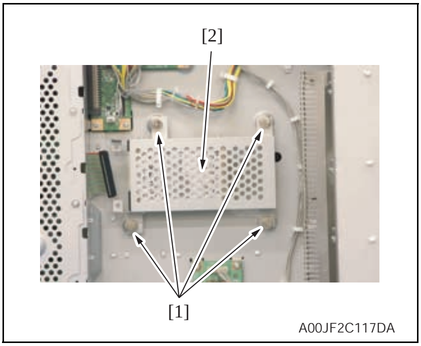
4. Slide the mirror unit until it hits the end of the IR right frame.
5. Provide the length of 21.0 mm between the end of the left indentation [1] on the scanner assy upper surface and the end of the IR right frame upper surface. When the length is ensured, tighten the two screws [2].
6. Perform the following setting. [Service Mode] → [ADF] → [Read Pos Adj]
   See P.32 of the DF-611/610 service manual.

6.3.32 Hard disk

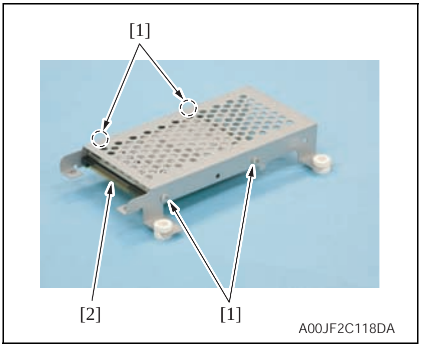
1. Open the printer control board assy and put it to the hook of the machine frame.
   See the steps 1 to 3 of slide interface board removing procedure.
   See P.166



2. Disconnect the connector [1].



3. Remove four screws [1], and remove the hard disk drive assy [2].



4. Remove four screws [1], and remove the hard disk drive [2].

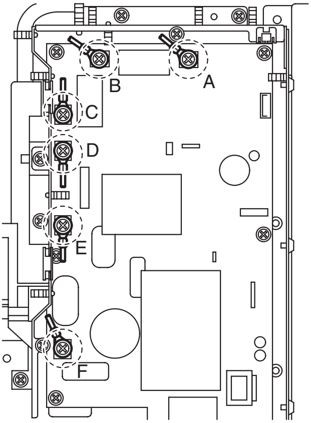
NOTE

- **When the hard disk is replaced, select [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] in Service Mode for logical format.**

6.3.33 IH coil (FH1)

Warning

- **Tighten the screws of the lead wire terminal of the IH power supply fully to the direction specified.**
  The terminal leakage may cause fire.



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A: The harness with the longest orange color (blue color for bizhub C650) is installed with the M4 screw.

B: The harness with orange color (blue color for bizhub C650) is installed with the M4 screw.

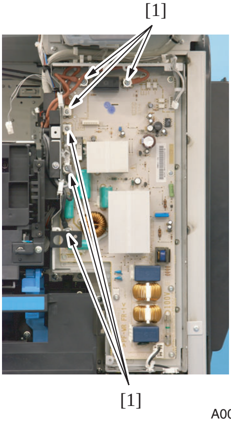
C: The harness with orange color (blue color for bizhub C650) is installed with the M3 screw.

D: The harness with gray color is installed with the M3 screw.

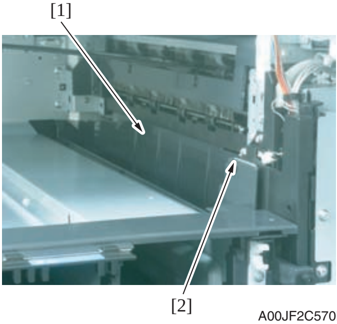
△4 E: The harness with black (100 V areas) / gray (200 V areas) color is installed with the M4 screw. (Either harness can be connected with terminal E and F.)

△4 F: The harness with black (100 V areas) / gray (200 V areas) color is installed with the M4 screw. (Either harness can be connected with terminal E and F.)

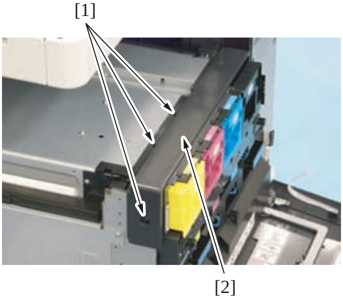
1. Remove the fusing unit.
   See P.60
2. Remove the IH power supply protective shield.
   See the steps 1 to 12 of IH power supply removing procedure.
   See P.183



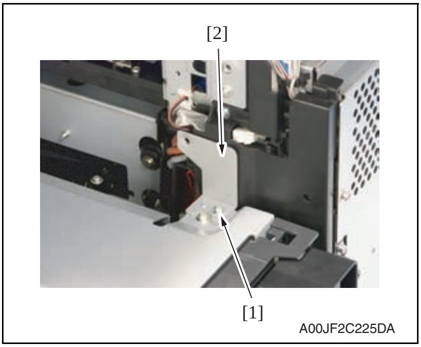
3. Remove six screws [1] and remove the terminals of each harness.



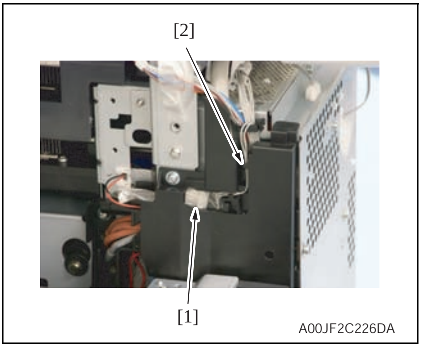
4. Remove the screw [1], and remove the exit tray right cover [2].



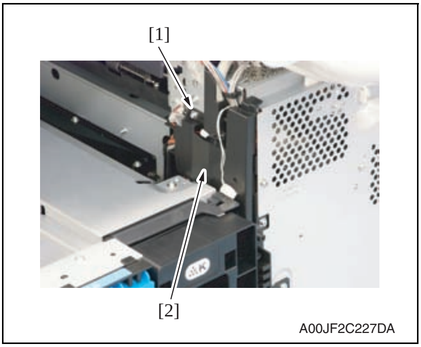
5. Remove three screws [1], and remove the exit tray front cover [2].



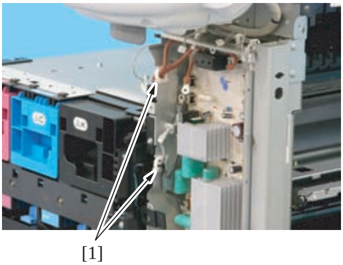
6. Remove the screw [1], and remove the metal plate [2].



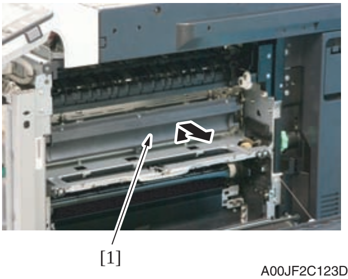
7. Disconnect the connector [1], and remove the harness from the harness guide [2].



8. Remove the screw [1], and remove the harness guide [2].

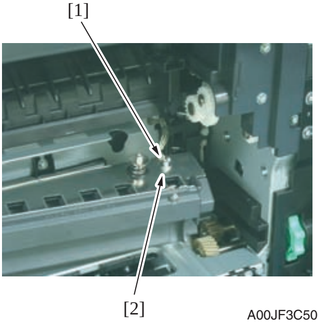


9. Remove the harness from two edge covers [1].

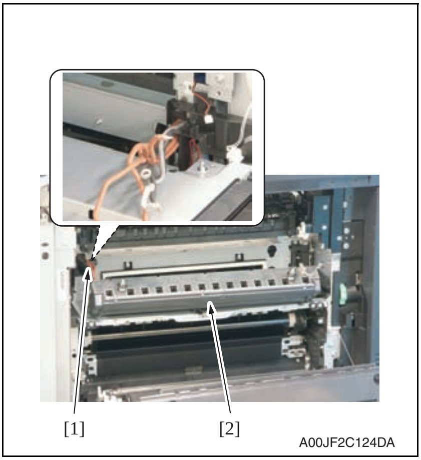


10. Remove the fixture of the IH coil [1] as shown in the left illustration.

1



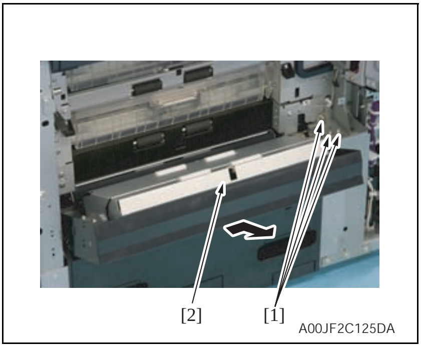
11. Remove the screw [1], and remove the ground terminal [2].



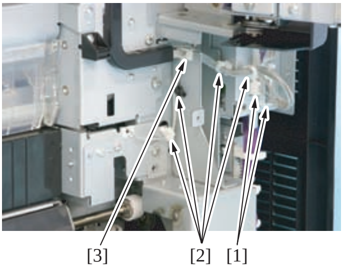
12. Removing the harness [1], remove the IH coil [2].

6.3.34 Intermediate transport roller assy

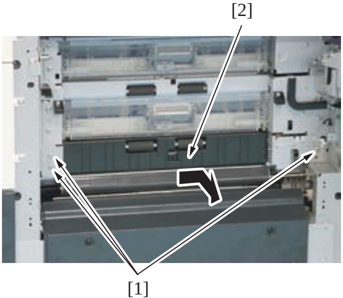
1. Open the manual bypass tray door.
2. Remove the rear right cover /2 and rear right cover /4.
   See P.115
3. Remove the front right cover.
   See P.117
4. Open the lower right door.



5. Remove three screws [1], and slide the lower right door [2] to the direction as shown in the illustration to remove it.



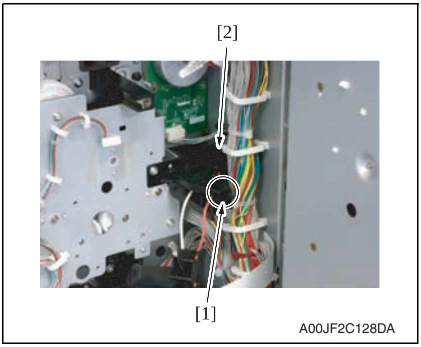
6. Disconnect two connectors [1], and remove the harness from four wire saddles [2] and the edge cover [3].



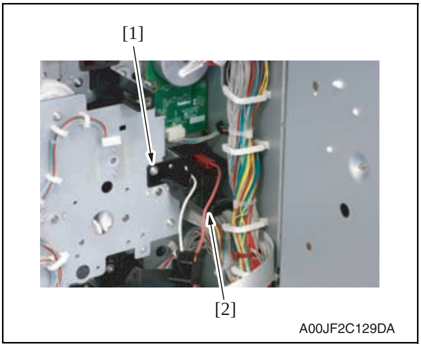
7. Remove three screws [1], and slide the intermediate transport roller assy [2] to the direction as shown in the illustration to remove it.

6.3.35 Main drive unit

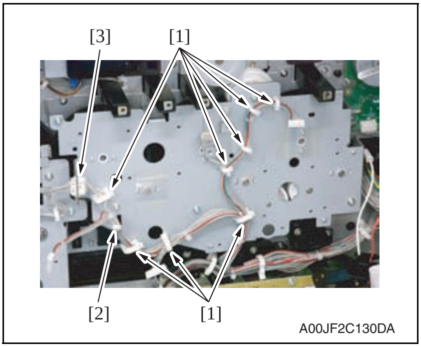
1. Remove the fusing unit.
   See P.60
2. Remove the transfer belt motor.
   See P.55
3. Remove the color PC drum motor.
   See P.207
4. Remove the color developing motor.
   See P.208
5. Remove the K PC drum motor.
   See P.216
6. Remove the K developing motor.
   See P.217
7. Remove the service EEPROM board.
   See P.175
8. Remove the high voltage unit/2 assy.
   See the steps 1 to 17 of cleaner motor removing procedure.
   See P.225
9. Remove two harness guides on the high voltage unit/1.
   See the steps 12 to 15 of high voltage unit/1 removing procedure.
   See P.177



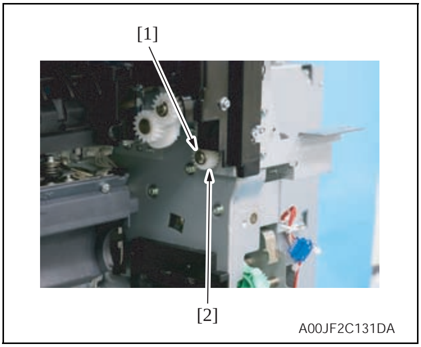
10. Unhook the tab [1], and remove the harness guide cover [2].



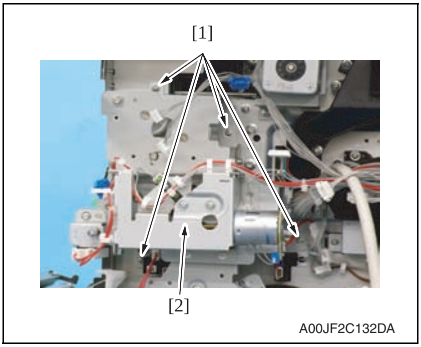
11. Remove the screw [1], and remove the harness guide [2].



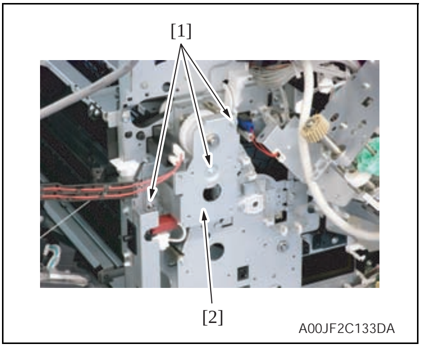
12. Remove the harness from eight wire saddles [1] and the edge cover [2], and disconnect the connector [3].



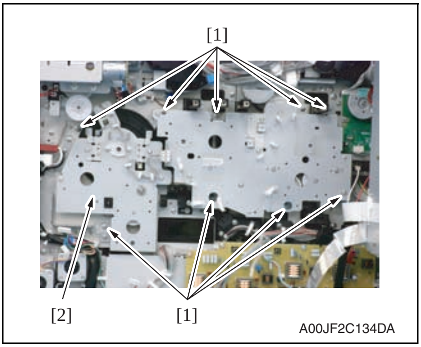
13. Remove the E-ring [1], and remove the gear [2].



14. Remove four screws [1], and remove the fusing pressure retraction unit [2].



15. Remove three screws [1], and remove the metal plate [2].



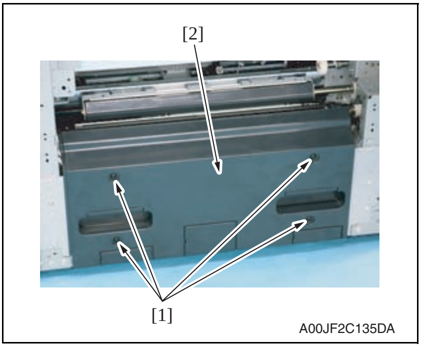
16. Remove nine screws [1], and remove the main drive unit [2].

NOTE

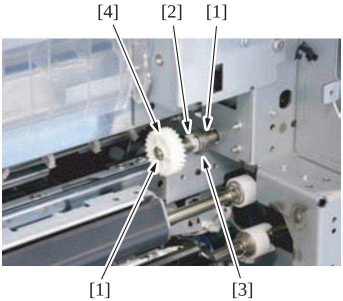
- **When the color PC drum motor is removed to take out the main drive unit, make sure to adjust the positioning of the PC drive gear when mounting the color PC drum motor.**
  See P.575

6.3.36 LCC drive unit

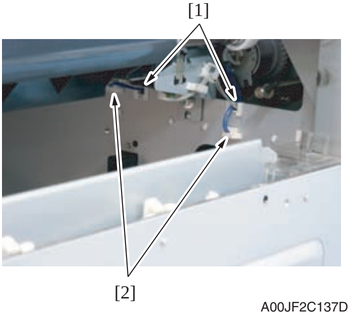
1. Remove the paper feed/transport drive board assy.
   See the steps 1 to 9 of high voltage unit/1 removing procedure.
   See P.177
2. Remove the intermediate transport roller assy.
   See P.142



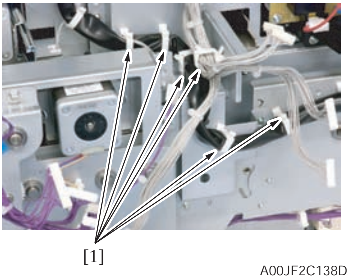
3. Remove four screws [1], and remove the lower right cover [2].



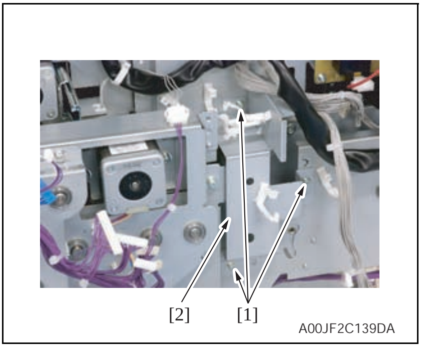
4. Remove two E-rings [1], the C-clip [2], the bearing [3] and the gear [4].



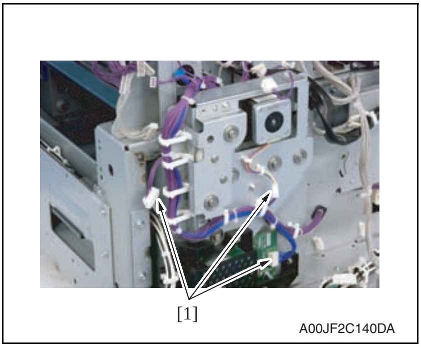
5. Disconnect two connectors [2], and remove the harness from two edge covers [1].



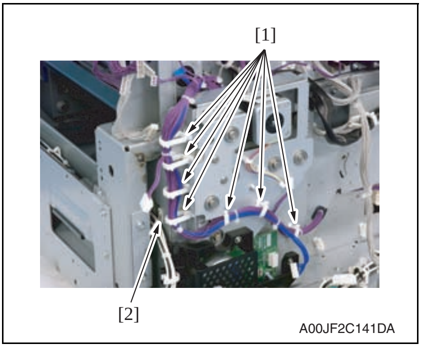
6. Remove the harness from six wire saddles [1].



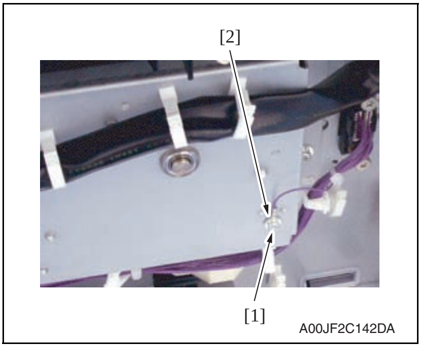
7. Remove three screws [1], and remove the metal plate [2].



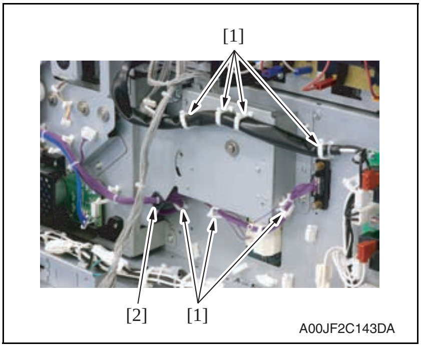
8. Disconnect three connectors [1].



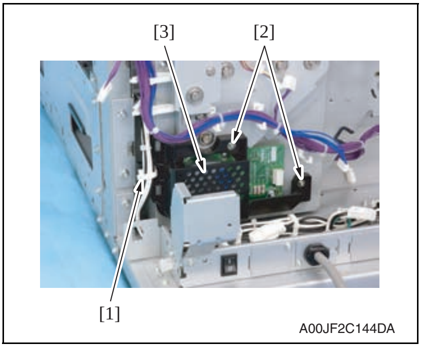
9. Remove the harness from seven wire saddles [1] and edge cover [2].



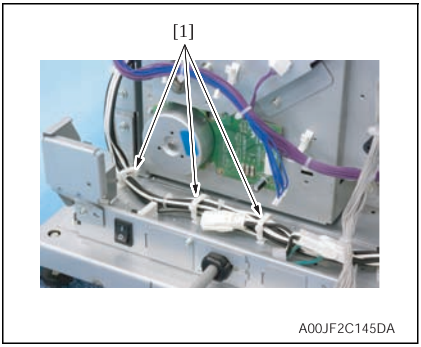
10. Remove the screw [1], and remove the ground terminal [2].



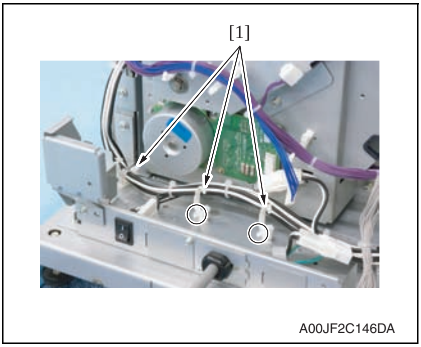
11. Remove the harness from seven wire saddles [1] and edge cover [2].



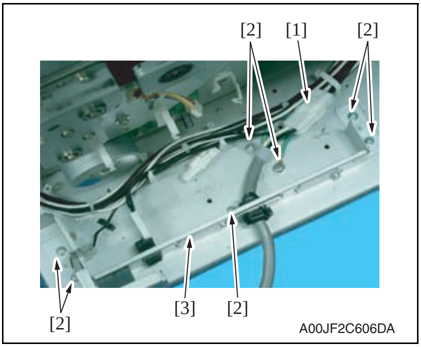
12. Remove the harness from the wire saddle [1].
13. Remove two screws [2], and remove the cover [3].



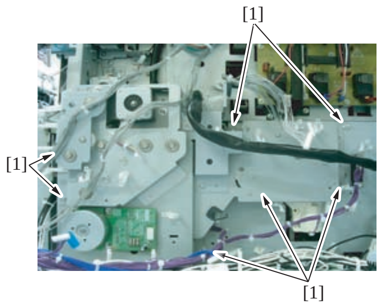
14. Remove the harness from three wire saddles [1].



15. Remove three wire saddles [1].



16. Disconnect the connector [1].
17. Remove seven screws [2], and remove the power supply code unit [3].



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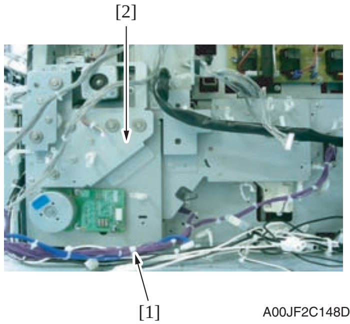
18. Remove seven screws [1] of the LCC drive unit.



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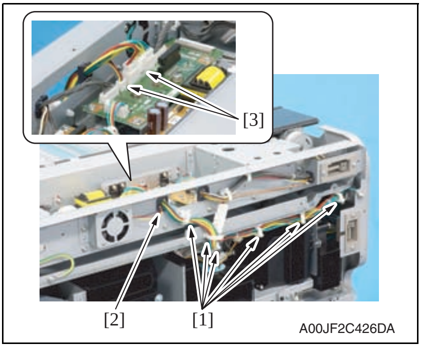
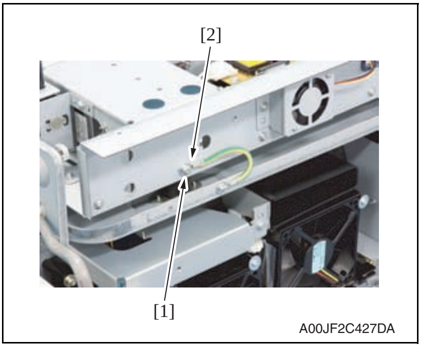
19. Remove the LCC drive unit [2] clearing the harness [1].

6.3.37 IR assy

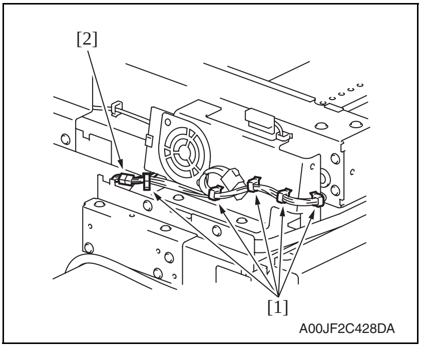
1. Remove the IR left cover.
   See P.113
2. Remove the IR front cover.
   See P.114
3. Remove the IR right cover.
   See P.113
4. Remove the IR rear cover.
   See P.113
5. Remove the IR upper rear cover /1 and the IR upper rear cover /2.
   See P.113
6. Remove the upper rear cover /1 and the upper rear cover /2.
   See P.116
7. Remove the control panel assy.
   See P.117



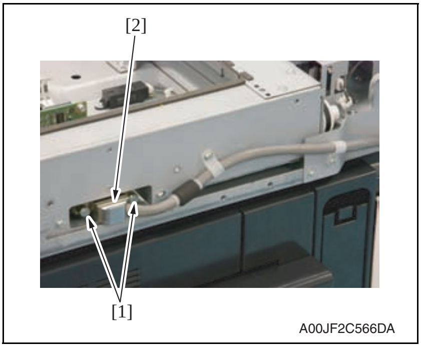
8. Disconnect two connectors [3], and remove the harness from six wire saddles [1] and the edge cover [2].



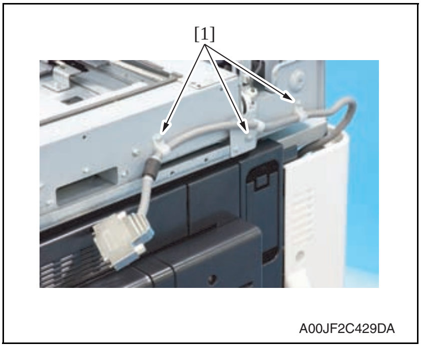
9. Remove the screw [1], and remove the ground terminal [2].



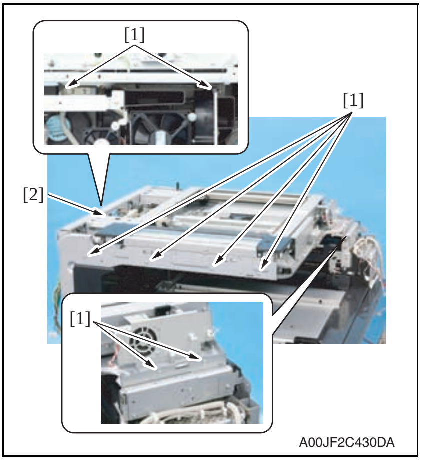
10. Disconnect the connector [2], and remove the harness from five wire saddles [1].



11. Loosen the two screws [1] and remove the connector [2].



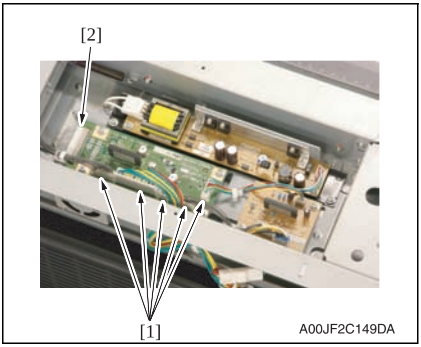
12. Remove three screws [1] that fix the IR cable.



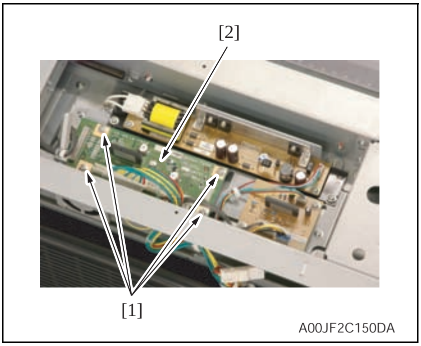
13. Remove eight screws [1], and remove IR assy [2].

6.3.38 Scanner relay board (REYB/SCAN)

1. Remove the IR upper rear cover.
   See P.113



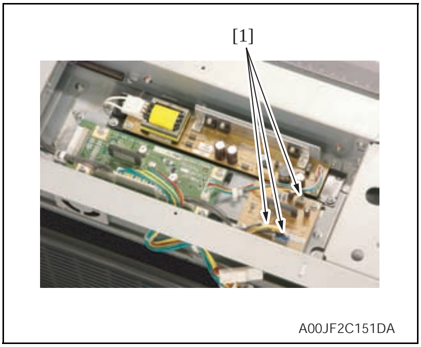
2. Disconnect five connectors [1] and the flat cable [2].



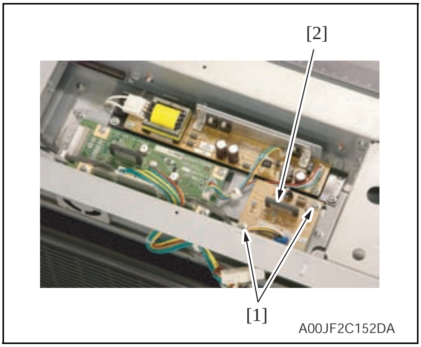
3. Remove four screws [1], and remove the scanner relay board [2].

6.3.39 Original glass position control board (OGPCB)

1. Remove the IR upper rear cover.
   See P.113



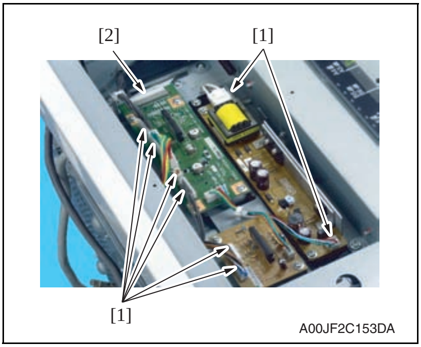
2. Disconnect three connectors [1].



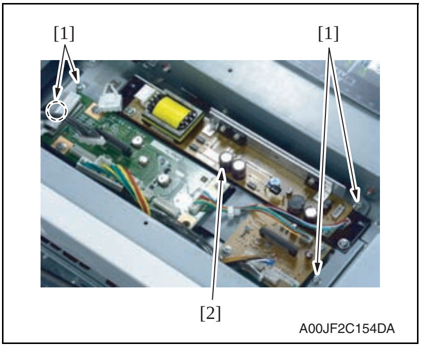
3. Remove two screws [1], and remove the original glass position control board [2].

6.3.40 Inverter board (INVB)

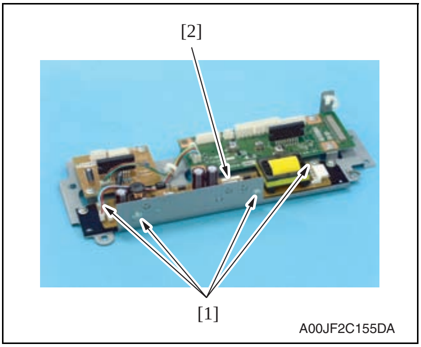
1. Remove the IR upper rear cover.
   See P.113



2. Disconnect eight connectors [1] and the flat cable [2].



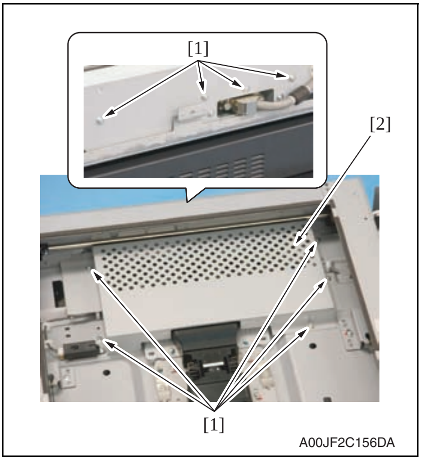
3. Remove four screws [1] to take out the Inverter board assy [2].



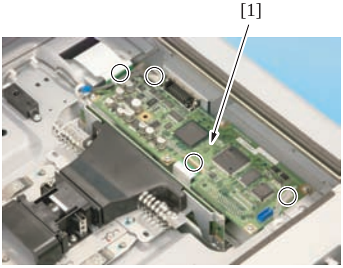
4. Remove four screws [1], and remove the inverter board [2].

6.3.41 Image processing board (IPB)

1. Remove the original glass.
See P.114



2. Remove nine screws [1], and remove the image processing board protective shield [2].



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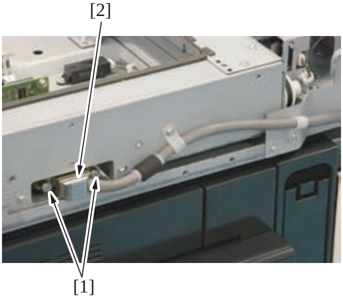
3. Remove all the connectors and flat cables on the image processing board [1].



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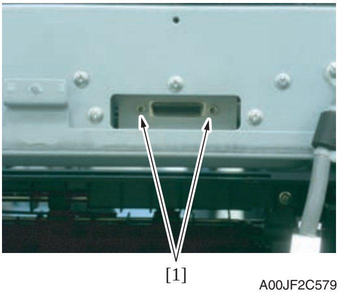
4. Loosen two screws [1], unplug the IR cable connector [2].



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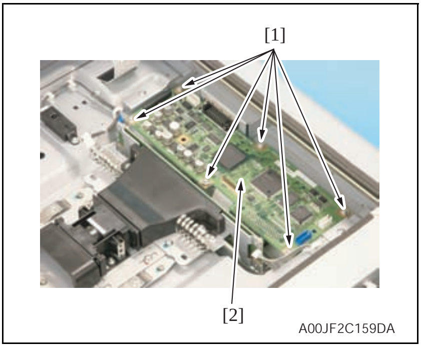
5. Remove the two bolts [1].



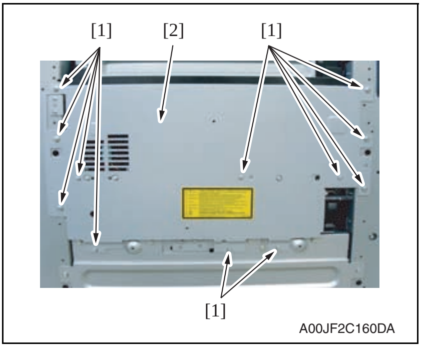
6. Remove six screws [1], and remove the image processing board [2].

NOTE

- **When the image processing board is replaced, make sure to update the firmware.**

6.3.42 PH relay board (REYB/PH)

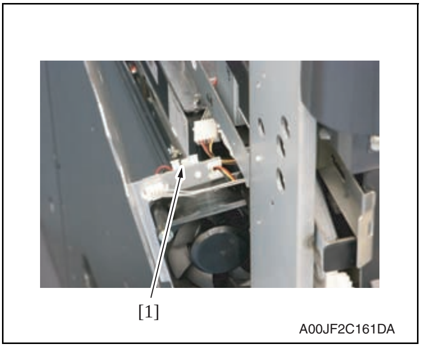
1. Remove the upper left cover.
   See P.111
2. Remove the lower left cover.
   See P.111



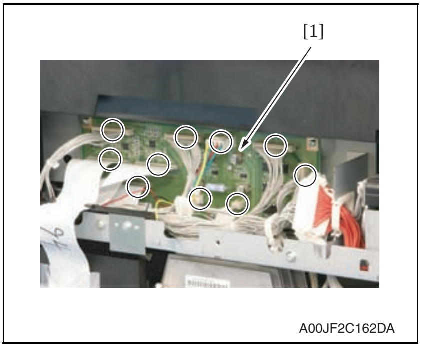
3. Remove twelve screws [1], and remove the PH unit protective shield [2].

NOTE

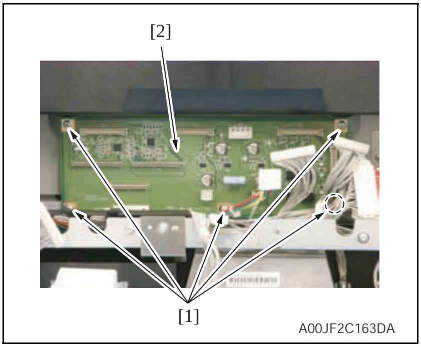
- **Do not remove it in rush as it is connected to the connector.**



4. Disconnect the connector [1].



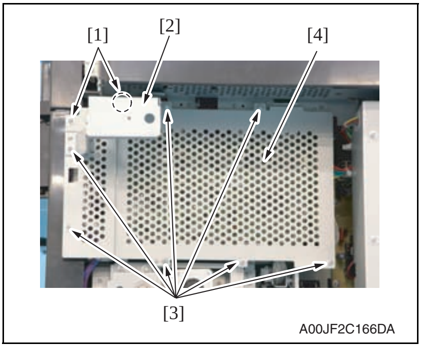
5. Remove all the connectors and flat cables on the PH relay board [1].



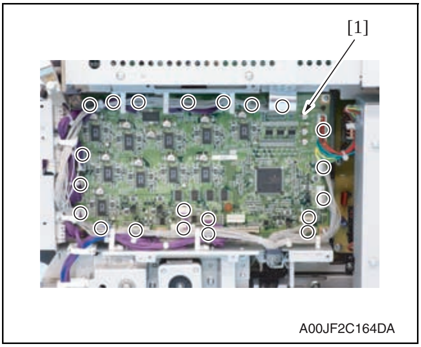
6. Remove five screws [1], and remove the PH relay board [2].

6.3.43 Paper feed/transport drive board (PFTDB)

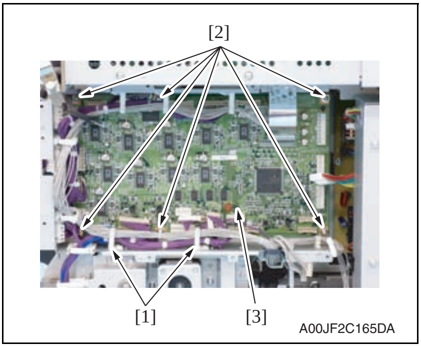
1. Remove the lower rear cover.
   See P.116
2. Remove the rear right cover /2.
   See P.115



3. Remove two screws [1], and remove the metal plate [2].
4. Remove seven screws [3], and remove the paper feed/transport drive board protective shield [4].



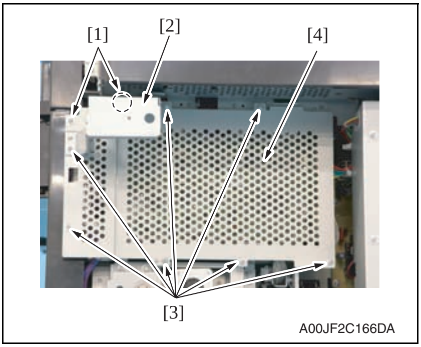
5. Remove all the connectors and flat cables on the paper feed/transport drive board [1].



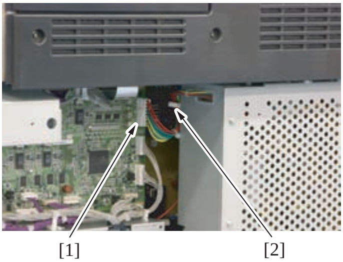
6. Remove two wire saddles [1].
7. Remove six screws [2], and remove the paper feed/transport drive board [3].

6.3.44 DC power supply (DCPU)

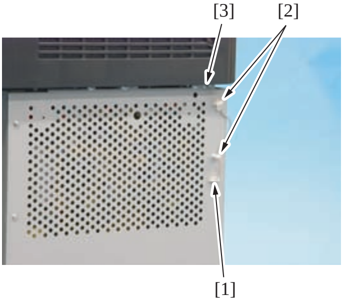
1. Remove the lower rear cover.
   See P.116
2. Remove the rear right cover /2.
   See P.115
3. Remove the lower left cover.
   See P.111



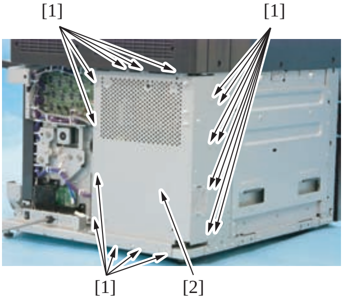
4. Remove two screws [1], and remove the metal plate [2].
5. Remove seven screws [3], and remove the paper feed/transport drive board protective shield [4].



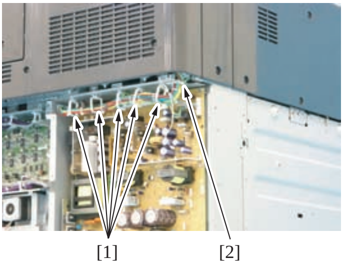
6. Disconnect the connector [1], and remove the harness from the wire saddle [2].



7. Disconnect the connector [1], and remove the harness from two wire saddles [2] and the edge cover [3].



8. Remove eighteen screws [1], and remove the DC power supply protective shield [2].



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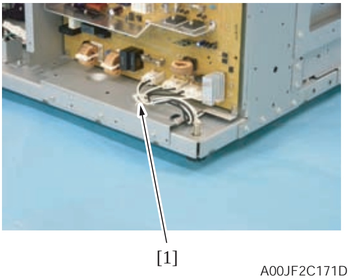
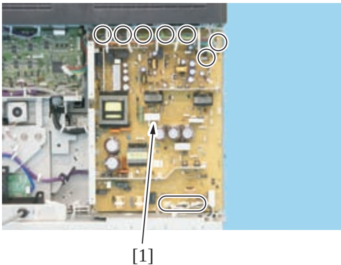
9. Remove the harness from five wire saddles [1] and the edge cover [2].



A00JF2C171DA

10. Remove the harness from the wire saddle [1].



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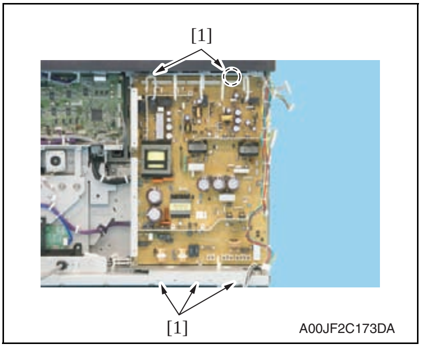
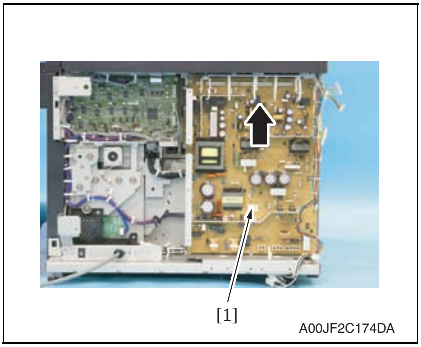
11. Remove all the connectors on the DC power supply [1].



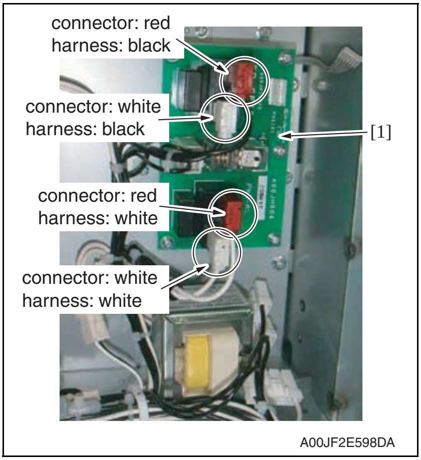
12. Remove five screws [1].



13. Clearing the harness, hold up the DC power supply [1] to remove it.

6.3.45 Relay drive board (REDB)

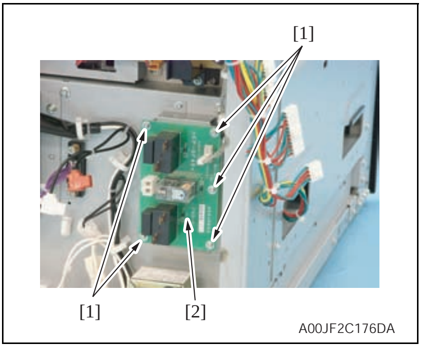
1. Remove the DC power supply.
See P.160



2. Remove all the connectors from the relay drive board [1].

NOTE

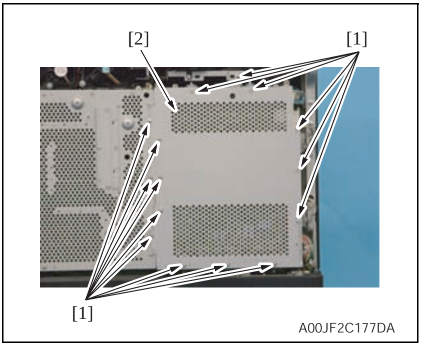
- **For reinstallation, position the connectors so that the harness hangs down from the connectors.**



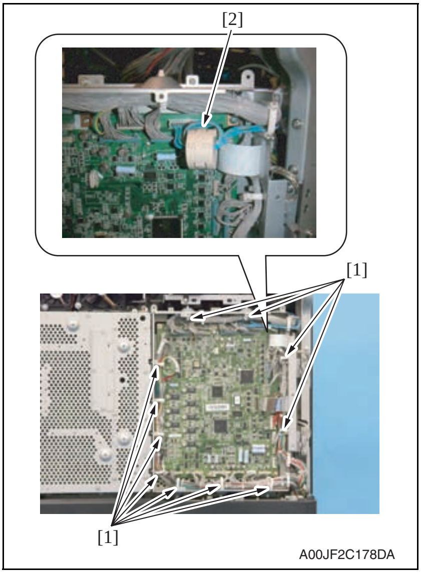
3. Remove five screws [1], and remove the relay drive board [2].

6.3.46 Printer control board (PRCB)

1. Remove the upper rear cover /2.
   See P.116



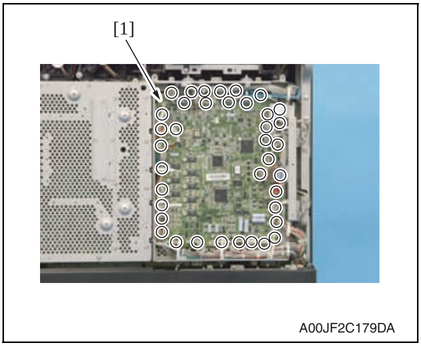
2. Remove fifteen screws [1], and remove the printer control board protective shield [2].



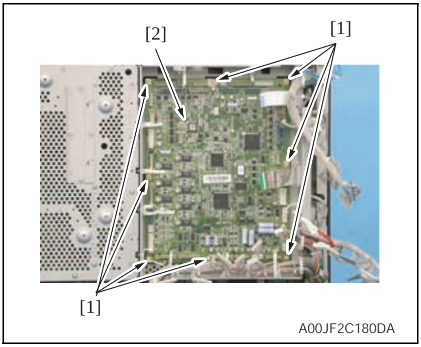
3. Remove the harness from eleven wire saddles [1].

NOTE

- **When reinstall the harness, set the ferrite core [2] and route the harness as shown in the illustration on the left.**



4. Remove all the connectors on the printer control board [1].



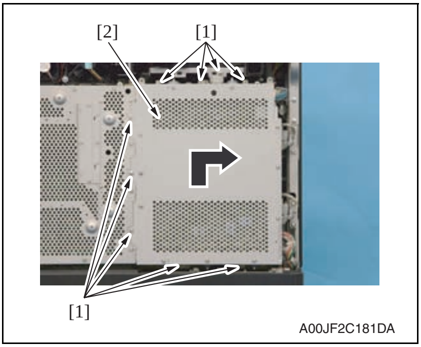
5. Remove eight screws [1], and remove the printer control board [2].

NOTE

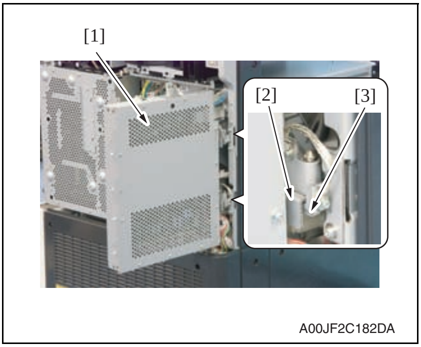
- **When the printer control board is to be replaced, rewriting the firmware to the latest one.**

6.3.47 Slide interface board (REYB/SL)

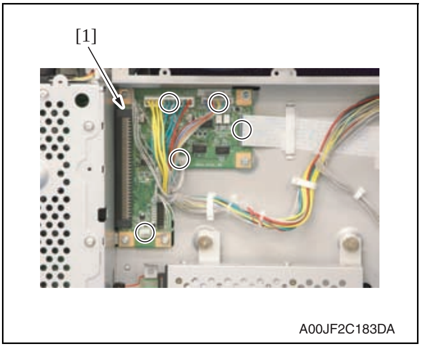
1. Remove the upper rear cover /2.
   See P.116



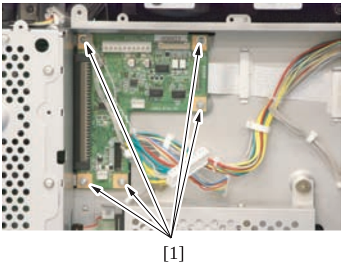
2. Remove nine screws [1], and hold up the printer control board assy [2] to remove it.



3. Open the printer control board assy [1] to the direction as shown in the illustration put the two tabs [2] to the hook of the machine frame [3].



4. Remove all the connectors and flat cables on the slide interface board [1].



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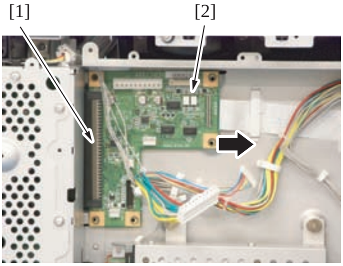
5. Remove five screws [1].

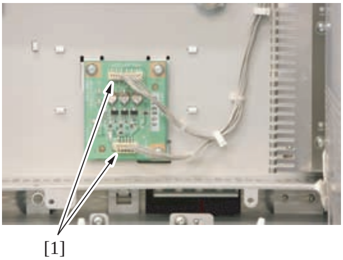


A00JF2C185DA

6. Disconnect the connector [1], and remove the slide interface board [2].

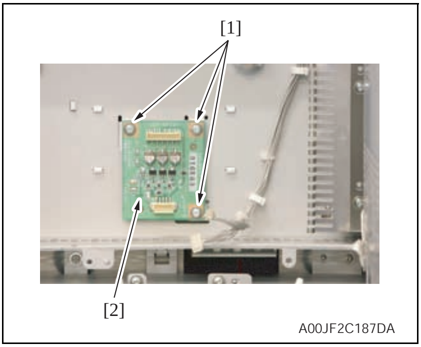
6.3.48 Fan motor relay board (REYB/FAN)

1. Open the printer control board assy and put it to the hook of the machine frame.
   See the steps 1 to 3 of slide interface board removing procedure.
   See P.166



A00JF2C186DA

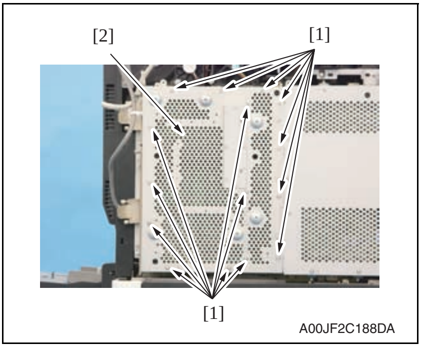
2. Disconnect two connectors [1].



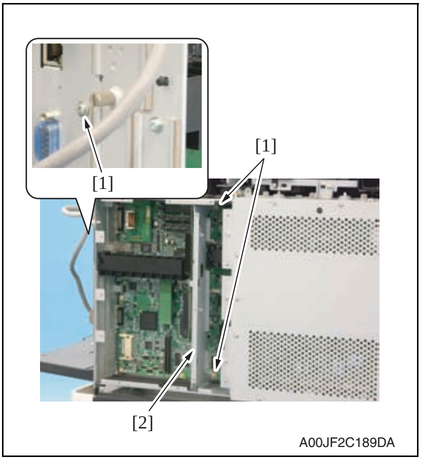
3. Remove three screws [1], and remove the fan motor relay board [2].

6.3.49 PCI board (PCIB)

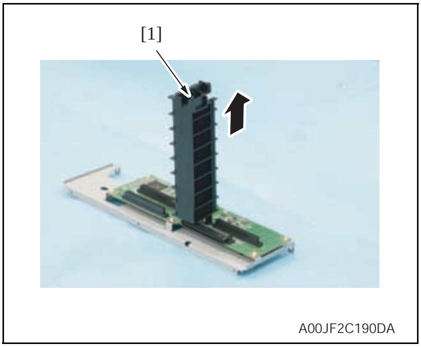
1. Remove the upper rear cover /2.
   See P.116
2. Remove the rear right cover /1.
   See P.115



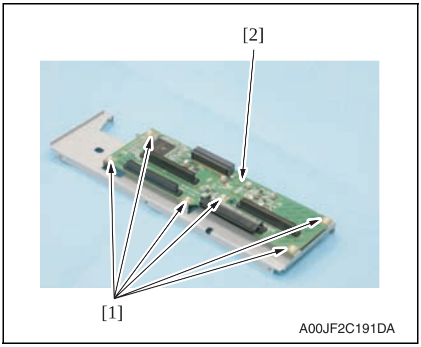
3. Remove fifteen screws [1], and remove the MFP board protective shield [2].



4. Remove three screws [1], and remove the PCI board assy [2].



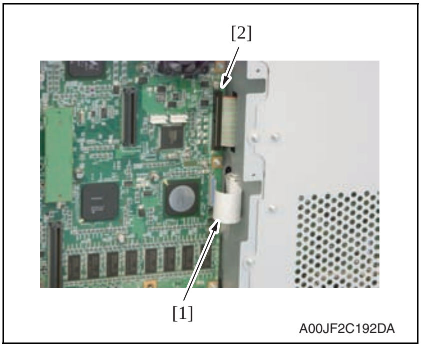
5. Remove the support parts [1].



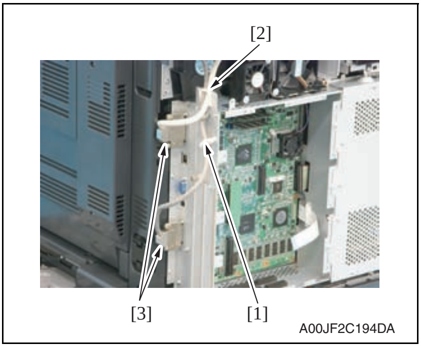
6. Remove six screws [1], and remove the PCI board [2].

6.3.50 MFP board (MFPB)

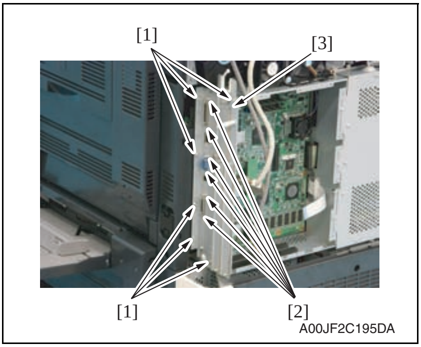
1. Remove the PCI board assy.
See the steps 1 to 4 of PCI board removing procedure.
See P.168



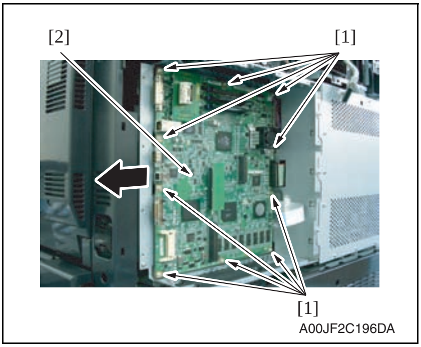
2. Disconnect the flat cable [1] and the connector [2].



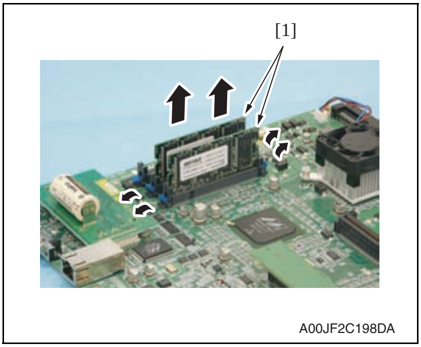
3. Disconnect two connectors [3], and remove the harness from the wire saddle [1] and the edge cover [2].



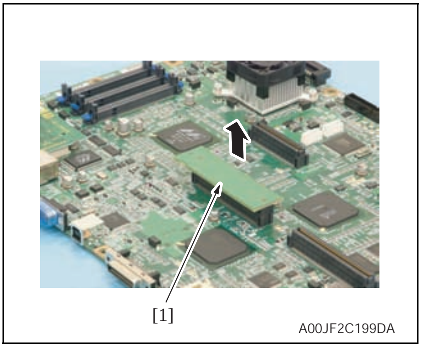
4. Remove six screws [1] and six bolts [2], and remove the port bracket [3].



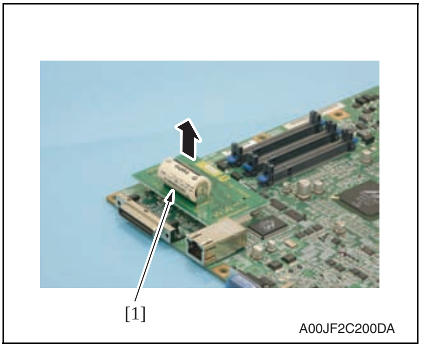
5. Remove ten screws [1] of the MFP board.
6. Slide the MFP board [2] toward the direction shown by the arrow and remove the connector.
7. Pull the MFP board [2] to the front and remove it.



8. Remove two memories [1] on the MFP board.



9. Remove the JMP board [1] on the MFP board.



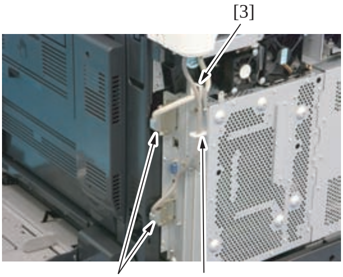
10. Remove the NVRAM board [1] on the MFP board.

NOTE

- **When the MFP board is to be replaced, rewriting the firmware to the latest one.**

6.3.51 How to open PWB box

1. Remove the upper rear cover /2.
   See P.116
2. Remove the rear right cover /1.
   See P.115



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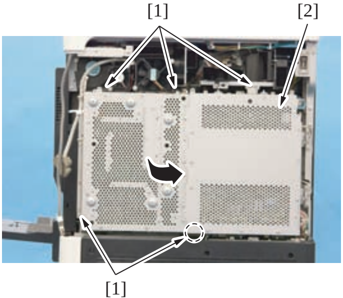
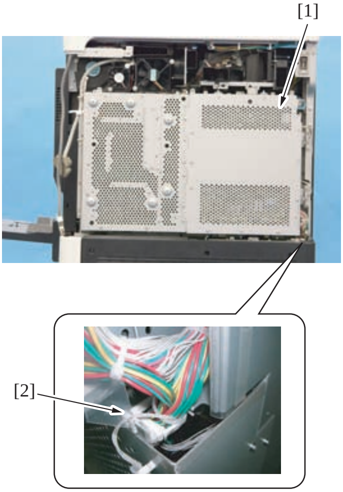
3. Disconnect two connectors [1], and remove the harness from the wire saddle [2] and the edge cover [3].



A00JF2C205DA

4. Remove five screws [1] and open the PWB box [2].



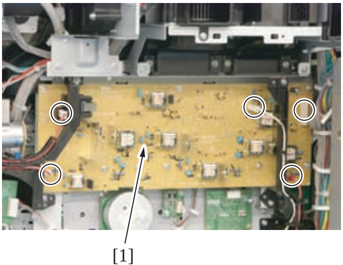
A00JF2C599DA

NOTE

- **When closing the PWB box [1], make sure that the edge cover [2] is closed as shown in the illustration on the left.**

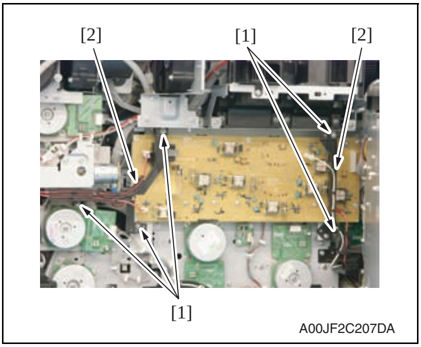
6.3.52 High voltage unit/2 (HV2)

1. Open the PWB box.
   See P.172

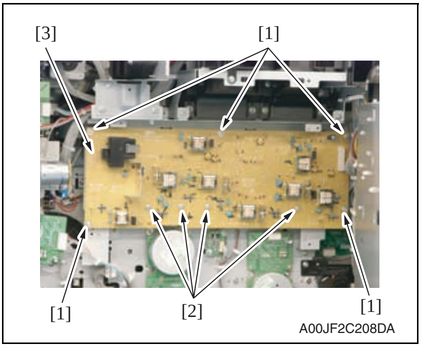


A00JF2C206DA

2. Remove all the connectors on the high voltage unit/2 [1].



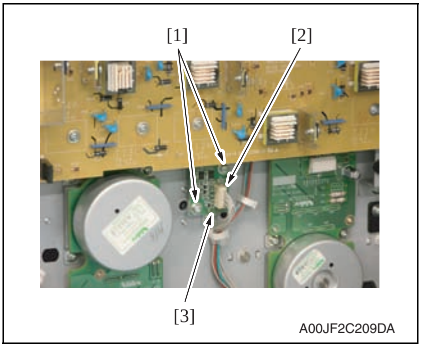
3. Remove five screws [1], and remove two harness guides [2].



4. Remove five screws [1] and four tapping screws [2], and remove the high voltage unit/2 [3].

6.3.53 Service EEPROM board (SV ERB)

1. Open the PWB box.
   See P.172



2. Remove two screws [1] and the connector [2], and take out the service EEPROM board [3].

NOTE

After replacing the service EEPROM board, all parts shown below are required to be replaced with new ones.

- **Imaging unit Y/M/C/K**
- **Toner cartridge Y/M/C/K**
- **Waste toner box**
- **Image transfer belt**
- **Fusing unit**
- **Ozone filter**

NOTE

- **When service EEPROM is replaced, data of all adjustment settings stored in EEPROM disappear and the adjustment settings are returned to the default ones. After replacing the service EEPROM board, take the following steps to make readjustments.**

3. Open the upper front door and turn OFF and ON the main power switch and sub power switch.
4. Enter the Service Mode. Make individual adjustments shown in the following table in the order listed, using the machine maintenance list and the adjustment lists that were output at the time of main body installation and maintenance.

Order	Items that require readjustment in the Service mode			Ref. page
1	Machine	Skew adjustment	Skew adjustment	P.458
2		LD adjustment	LD delay adjust.	P.458
3		Color Registration Adjustment	Cyan	P.457
			Magenta	
			Yellow	
4	Imaging Process Adjustment	TCR Level Setting		P.464
5		Background Voltage Margin		P.464
6		D Max Density		P.463
7		Dev. Bias Choice		P.468
8	System 1	Change Warm Up Time (bizhub C451 only)		P.494

NOTE

- **After replacing the service EEPROM board, be sure to make the above listed adjustments before the first warm-up is made.**

5. Turn OFF the main power switch and sub power switch.

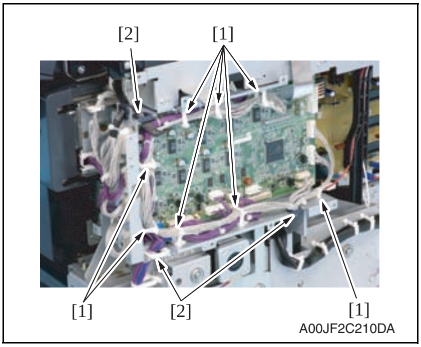
6. Close the upper front door and turn ON the main power switch and sub power switch. Check to see that warm-up and image stabilization operations are completed normally.

7. Enter the Service mode again. Make individual adjustments shown in the following table in the order listed, using the machine management list and the adjustment lists that were output at the time of main body installation and maintenance.

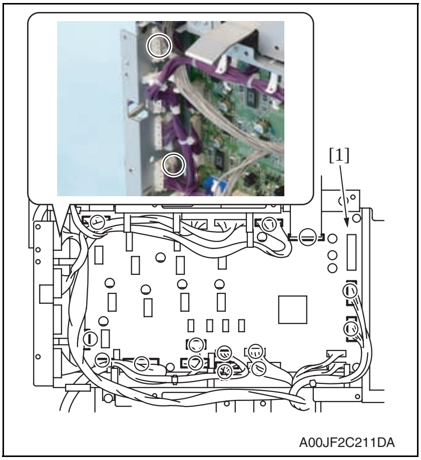
Order	Items that require readjustment in the Service mode			Ref. page
1	Machine	LD adjustment	LD lightness balance adjust.	P.458
2		Manual Bypass Tray Adjustment		P.460
3	Finisher	FS-FN adjustment		P.540
4	Machine	Printer Resist Loop		P.456
5	Imaging Process Adjustment	Thick Paper Density Adjustment		P.466
6		Monochrome Density Adjustment		P.467
7	Machine	Fusing Temperature		P.444
8	Imaging Process Adjustment	Transfer Belt	Auto Cleaning	P.462
9	Machine	Thick Paper Mode		P.460
10	Imaging Process Adjustment	Transfer Belt	Cleaning Bias	P.462
11	System 1	Charging CH cleaning	Cleaning	P.491
12	Finisher	CB-FN adjustment		P.540
13	Machine	Printer Area	Paper Feed Direction Adj.	P.451
14	In this step, pull out the tray 3 and 4 and slide them in again.			
15	Machine	Fusing Transport Speed		P.445
16		Color alignment Adjustment		P.443
17		Printer Area	Centering	P.448
			Centering (Duplex 2nd Side)	P.450
			Leading Edge Adjustment	P.447
			Leading Edge Adj. (Duplex Side 2)	P.449
18	Imaging Process Adjustment	Transfer Output Fine Adjustment	Secondary transfer adj.	P.465
19			Primary transfer adj.	P.465
20		Paper separation adjustment		P.467

6.3.54 High voltage unit/1 (HV1)

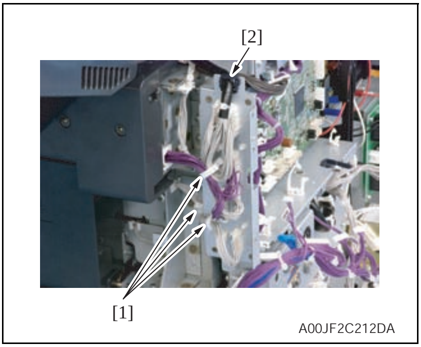
1. Remove the upper rear cove /1, upper rear cover /2 and lower rear cover.
   See P.116
2. Remove the rear right cove /1, rear right cove /2, rear right cove /3 and rear right cove / 4.
   See P.115
3. Remove the DC power supply.
   See P.160
4. Open the PWB box.
   See P.172



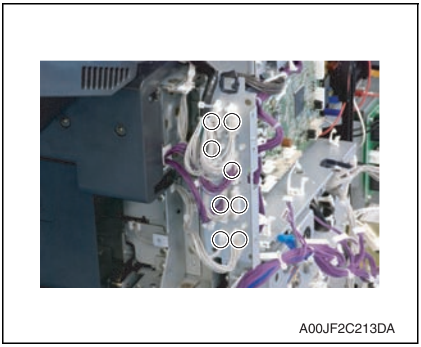
5. Remove the harness from eight wire saddles [1] and three edge covers [2].



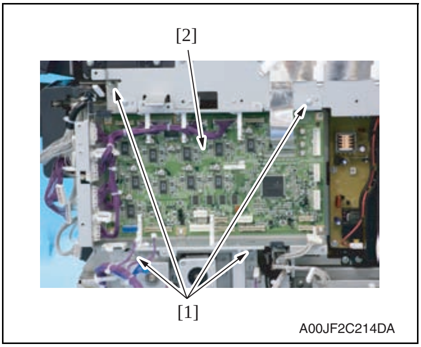
6. Remove all connectors and the flat cable on the paper feed/transport drive board [1].



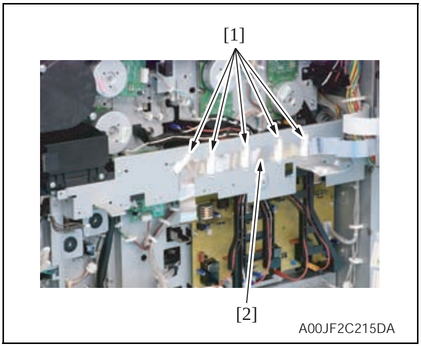
7. Remove the harness from three wire saddles [1] and the edge cover [2].



8. Disconnect eight connectors.

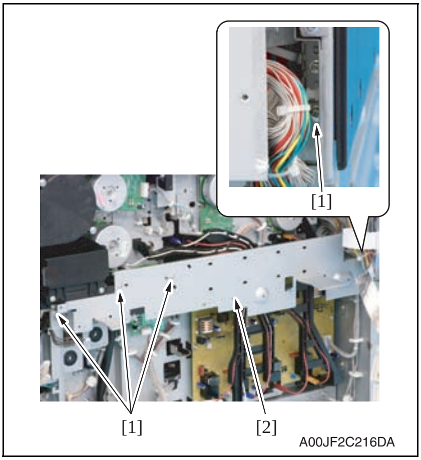


9. Remove four screws [1], and remove the paper feed/transport drive board assy [2].



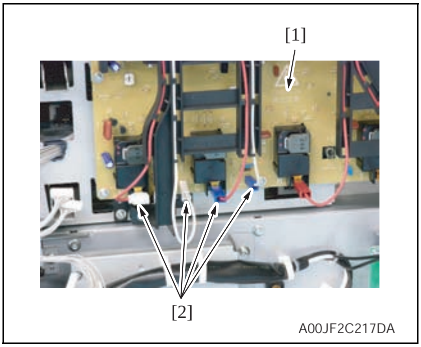
A00JF2C215DA

10. Remove five cable holders [1] and clear the flat cables [2].



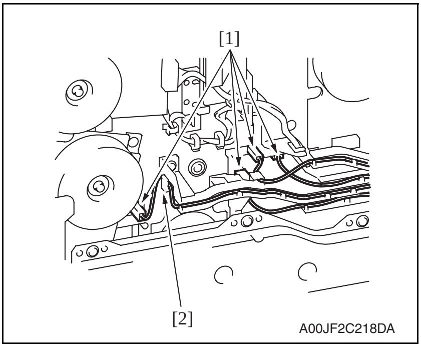
A00JF2C216DA

11. Remove four screws [1] and take out the reinforcing plate [2].



A00JF2C217DA

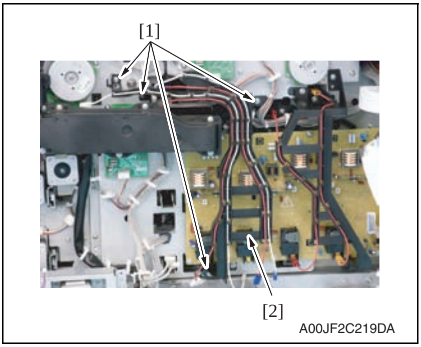
12. Disconnect four connectors [2] on the high voltage unit/1 [1].



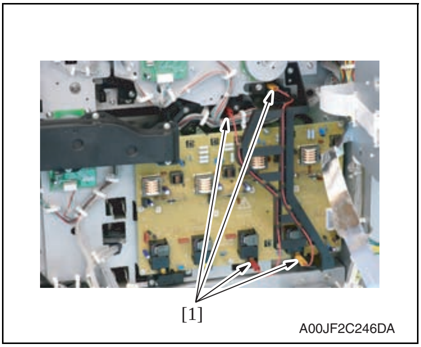
13. Disconnect four connectors [1].

NOTE

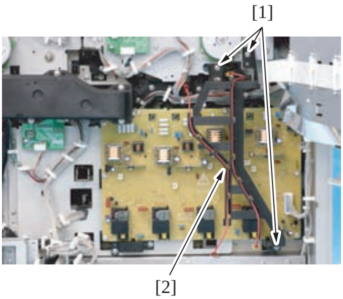
- **When reinstalling the connectors, hang the harness [2] on the hook. Be sure to take the slack out of the harness.**



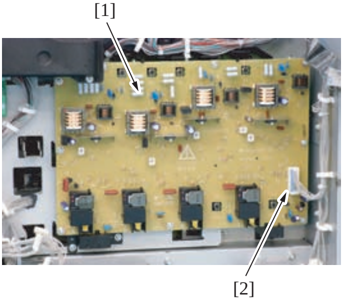
14. Remove four screws [1], and remove the harness guide [2].



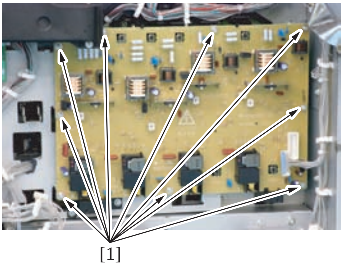
15. Disconnect four connectors [1].



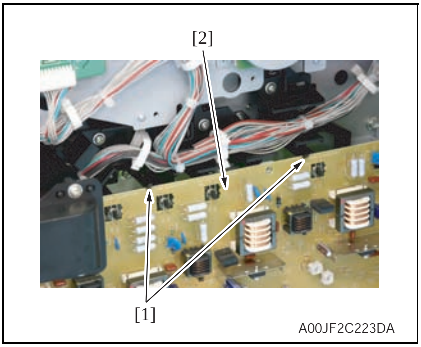
16. Remove three screws [1], and remove the harness guide [2].



17. Disconnect the connector [2] on the high voltage unit/1 [1].



18. Remove nine screws [1].

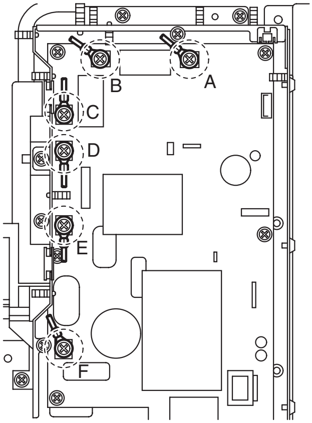


19. Unhook two tabs [1] and remove the high voltage unit/1 [2].

6.3.55 IH power supply (IHPU)

Warning

- **Tighten the screws of the lead wire terminal of the IH power supply fully to the direction specified.
  The terminal leakage may cause fire.**



A00JF2C460DA

A: The harness with the longest orange color (blue color for bizhub C650) is installed with the M4 screw.

B: The harness with orange color (blue color for bizhub C650) is installed with the M4 screw.

C: The harness with orange color (blue color for bizhub C650) is installed with the M3 screw.

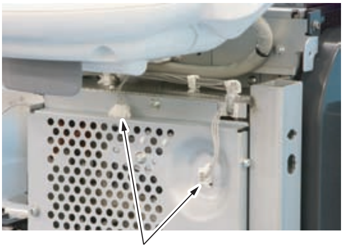
D: The harness with gray color is installed with the M3 screw.

4 E: The harness with black (100 V areas) / gray (200 V areas) color is installed with the M4 screw. (Either harness can be connected with terminal E and F.)

4 F: The harness with black (100 V areas) / gray (200 V areas) color is installed with the M4 screw. (Either harness can be connected with terminal E and F.)

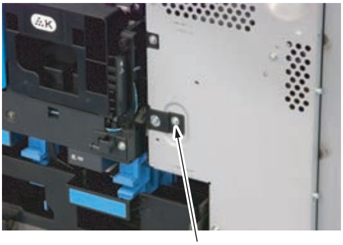
1. Remove the upper front cover /1.
   See P.108
2. Remove the upper front cover /2.
   See P.108

3. Remove the right front cover.
   See P.109
4. Remove the paper exit rear cover.
   See P.112



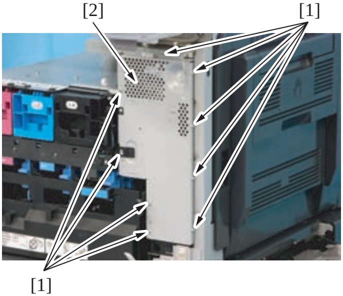
A00JF2C228DA

5. Disconnect two connectors [1].



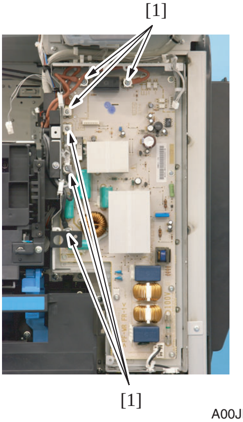
A00JF2C229DA

6. Remove the screw [1].



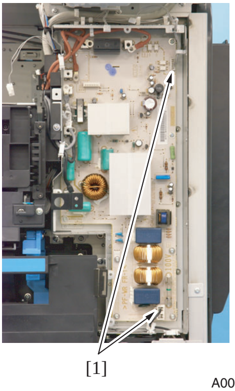
A00JF2C230DA

7. Remove nine screws [1], and remove the IH power supply protective shield [2].



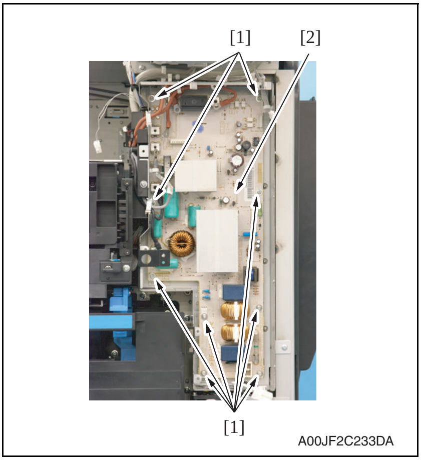
A00JF2C231DA

8. Remove six screws [1] and remove the terminals of each harness.



A00JF2C232DA

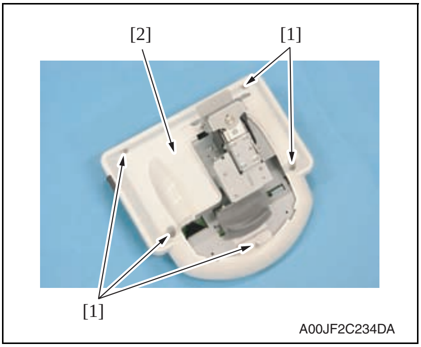
9. Disconnect two connectors [1].



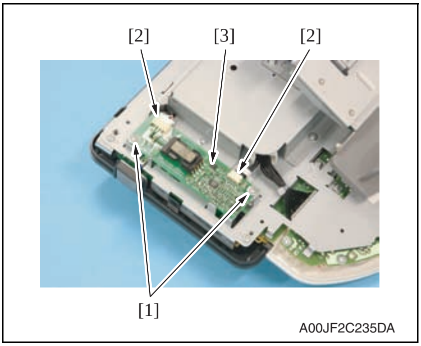
10. Remove nine screws [1], and remove the IH power supply [2].

6.3.56 Operation panel inverter board (OPINVB)

1. Remove the control panel assy.
See P.117



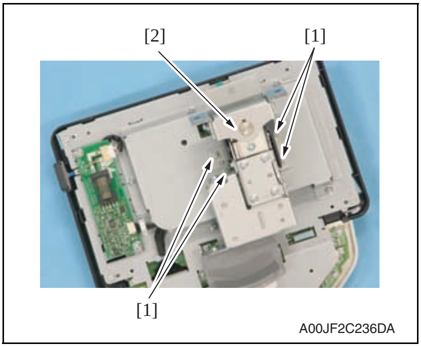
2. Remove five screws [1], and remove the control panel lower cover [2].



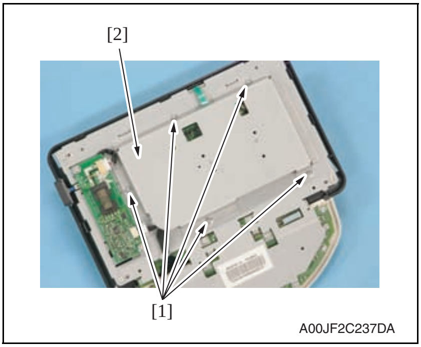
3. Remove two screws [1] and two connectors [2], and take out the operation panel inverter board [3].

6.3.57 Operation panel control board (OPCB)

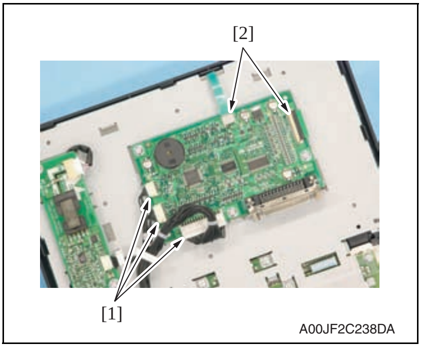
1. Remove the control panel assy.
   See P.117
2. Remove the control panel lower cover.
   See the step 2 of operation panel control board removing procedure.
   See P.187



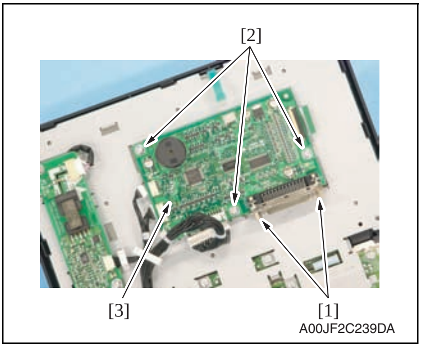
3. Remove four screws [1] and take out the control panel support assy [2].



4. Remove five screws [1], and remove the operation panel control board cover [2].



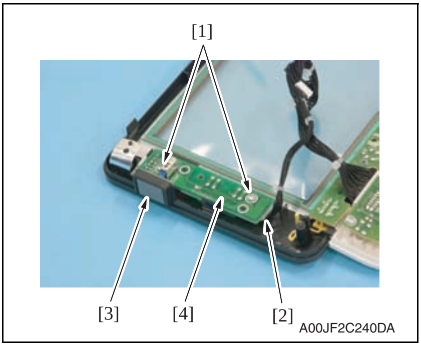
5. Disconnect three connectors [1] and two flat cables [2].



6. Remove two bolts [1] and three screws [2], and take out the operation panel control board [3].

6.3.58 Operation panel I/O board (OPIOB)

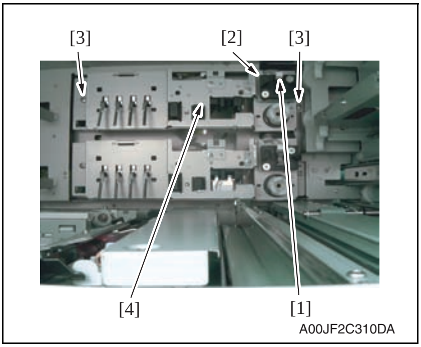
1. Remove the LCD module.
   See P.122



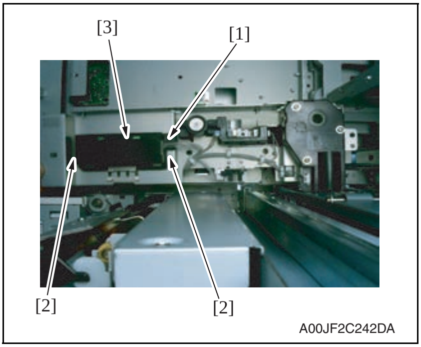
2. Remove two screws [1] and the connector [2], and take out the operation panel I/O board [4] as holding the sub power switch [3].

6.3.59 Paper size detect board/1 (PSDTB/1)

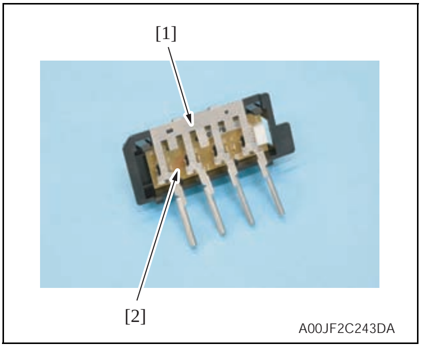
1. Remove the tray1/2.
   See P.121



2. Disconnect the connector [1] and remove the harness from the edge cover [2].
3. Remove two screws [3], take out the tray1 lift-up motor assy [4] and turn it around.



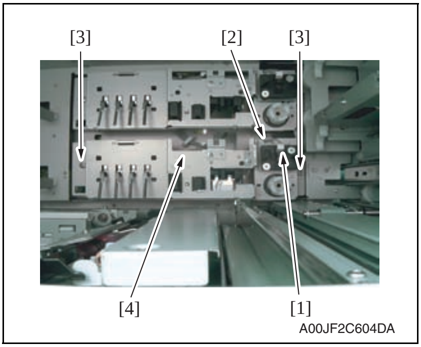
4. Disconnect the connector [1].
5. Unhook two tabs [2] and remove the paper size detect board/1 assy [3].



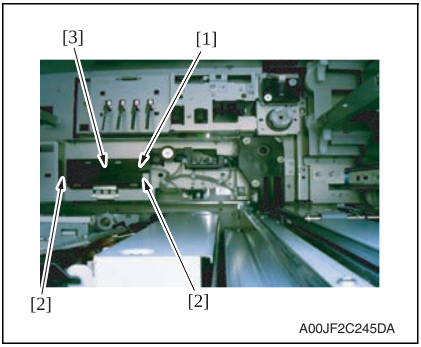
6. Remove the lever [1], and remove the paper size detect board/1 [2].

6.3.60 Paper size detect board/2 (PSDTB/2)

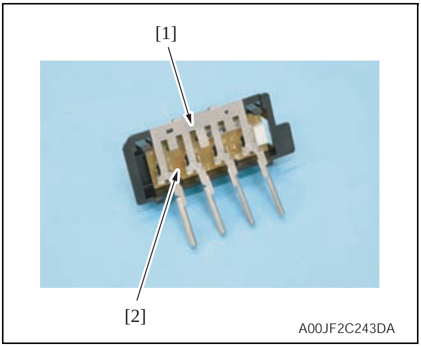
1. Remove the tray1/2.
   See P.121



2. Disconnect the connector [1] and remove the harness from the edge cover [2].
3. Remove two screws [3], take out the tray2 lift-up motor assy [4] and turn it around.



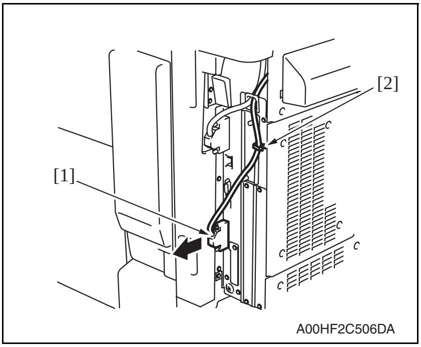
4. Disconnect the connector [1].
5. Unhook the tabs [2] and remove the paper size detect board/2 assy [3].



6. Remove the lever [1], and remove the paper size detect board/2 [2].

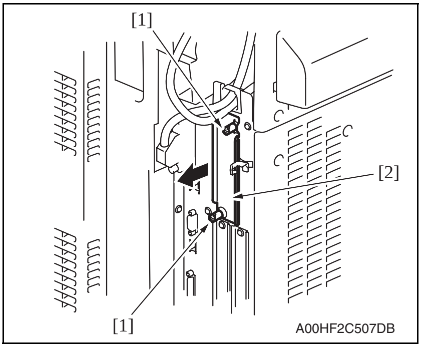
2 6.3.61 JPEG board (JPEGB) *bizhub C650 only

1. Remove the interface cover.
   See P.115
2. Remove the rear right cover/1.
   See P.115

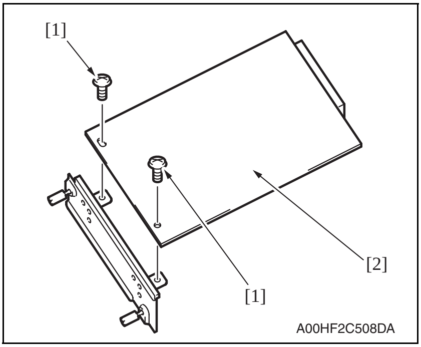


3. Disconnect the IR connector [1], and remove the IR cable from the wire saddle [2].

6



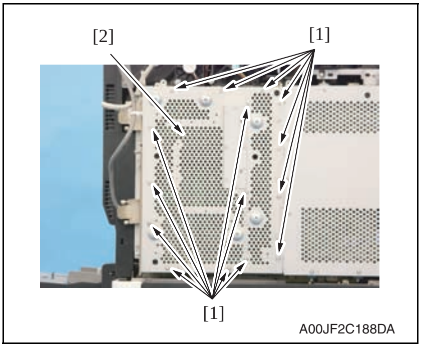
4. Loosen two shoulder screws [1], and remove the JPEG board assy [2].



5. Remove two screws [1], and remove the JPEG board [2].

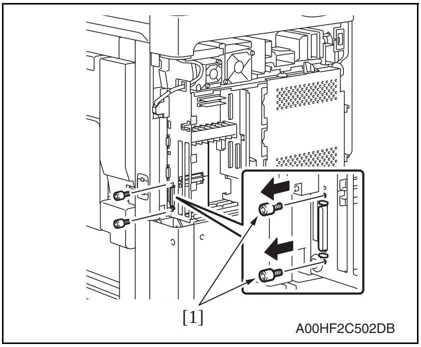
6.3.62 SIF board (SIFB)/EIF board (EIFB) *bizhub C650 only

1. Remove the rear right cover/2.
   See P.115
2. Remove the rear right cover /1.
   See P.115



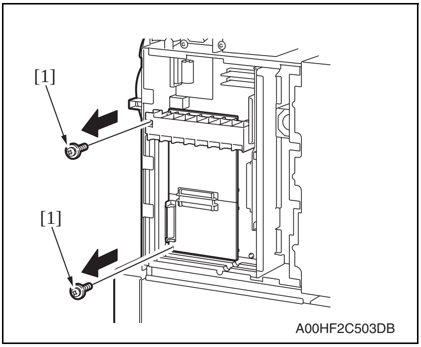
3. Remove fifteen screws [1], and remove the MFP board protective shield [2].

6

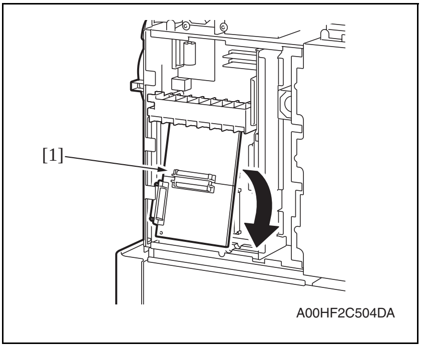


4. Remove two shoulder screws [1].

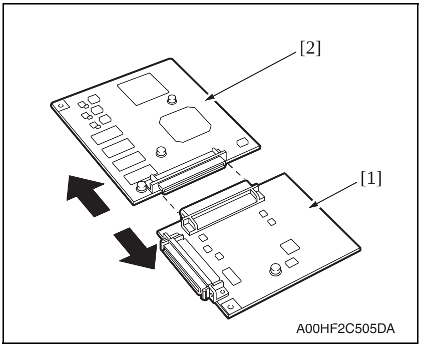
6



5. Remove two screws [1].



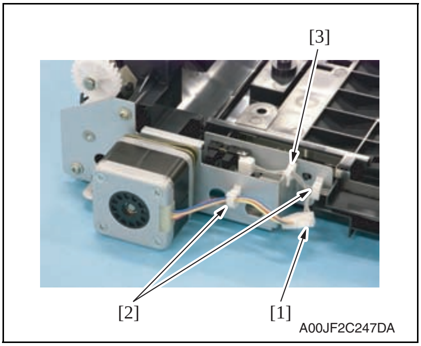
6. Remove the board assy [1].



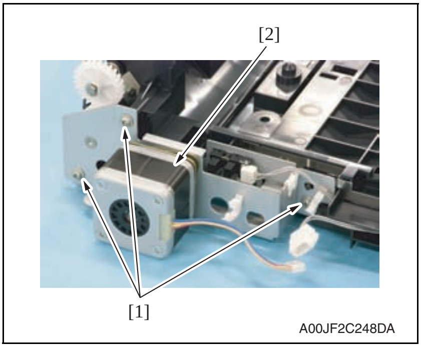
7. Remove the SIF board [1] and the EIF board [2].

6.3.63 ADU transport motor/1 (M31)

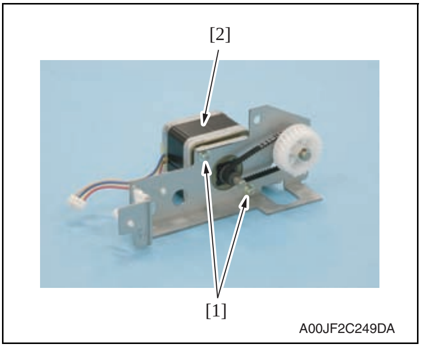
1. Remove the duplex unit.
   See P.126



2. Disconnect the connector [1], and remove the harness from two wire saddles [2] and the edge cover [3].



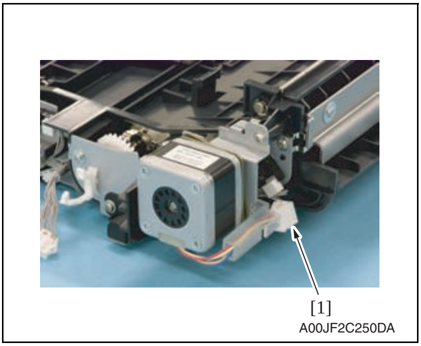
3. Remove three screws [1], and remove the ADU transport motor/1 assy [2].



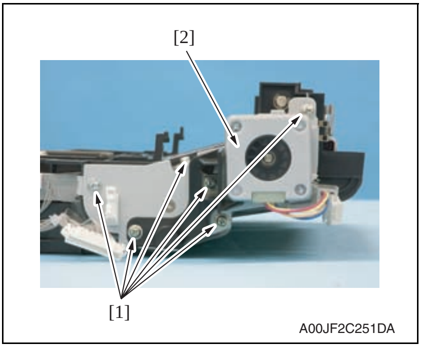
4. Remove two screws [1], and remove the ADU transport motor/1 [2].

6.3.64 ADU transport motor/2 (M32)

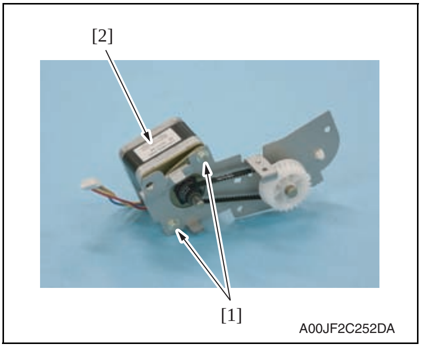
1. Remove the duplex unit.
   See P.126



2. Disconnect the connector [1].



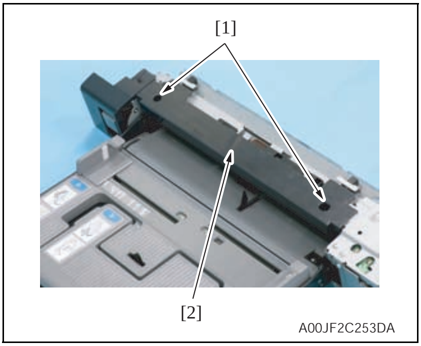
3. Remove six screws [1], and remove the ADU transport motor/2 assy [2].



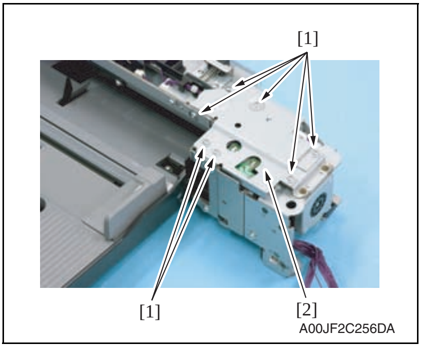
4. Remove two screws [1], and remove the ADU transport motor/2 [2].

6.3.65 Bypass tray up down motor (M28) / bypass paper feed motor (M27)

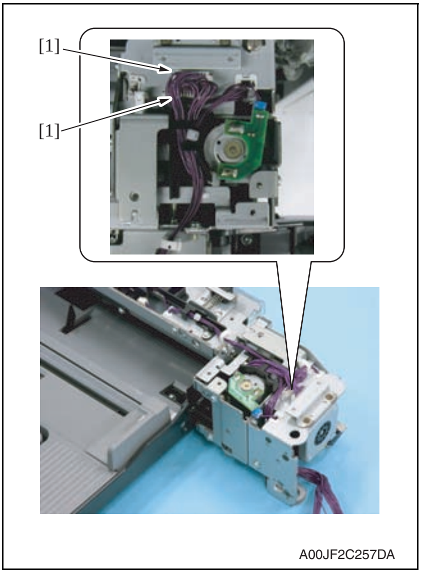
1. Remove the manual bypass tray unit.
   See P.127



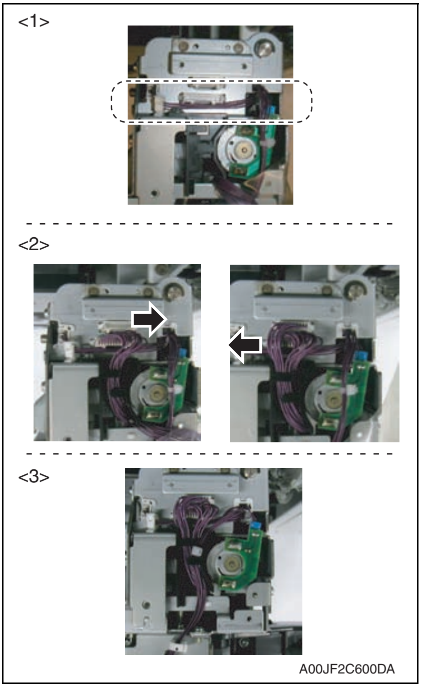
2. Remove two screws [1], and remove the manual bypass tray upper cover [2].



3. Remove seven screws [1], and remove the metal plate [2].



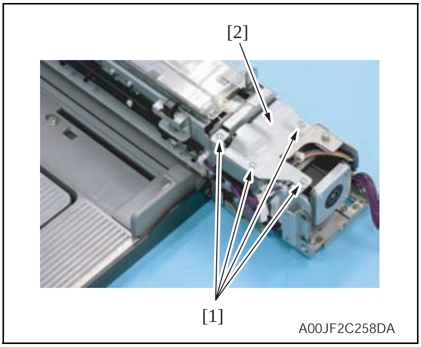
4. Disconnect two connectors [1].



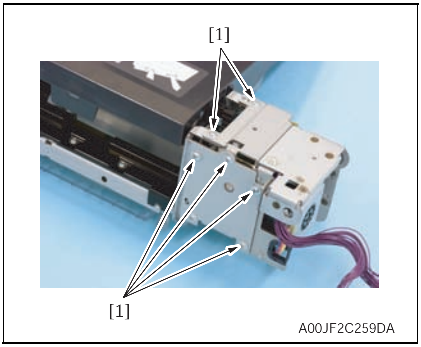
NOTE

- **When reinstalling the harness and connectors which were removed in step 4, route the harnesses following the procedure shown in the illustrations on the left.**

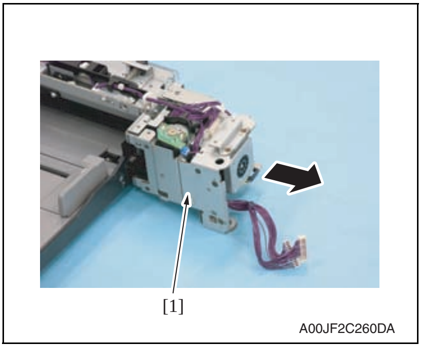
<1> Fit the harness into the place as shown in the illustration on the left.
<2> Insert the two connectors and route the harness as shown in the illustration on the left.
<3> Secure the harness to the harness guide.



5. Remove four screws [1], and remove the metal plate [2].



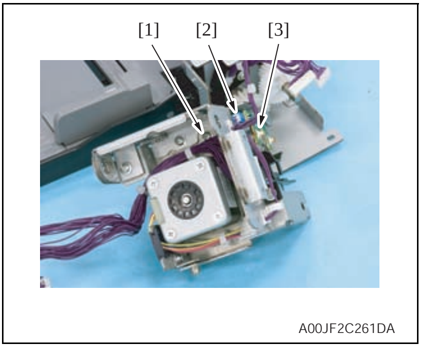
6. Remove six screws [1].



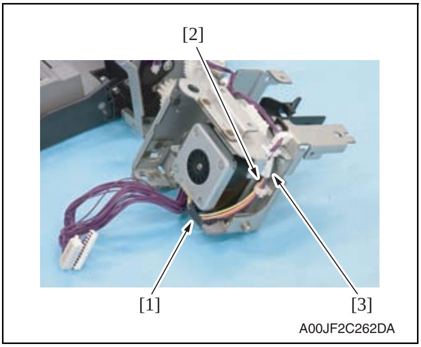
7. Pull the manual bypass tray drive assy [1] to the direction shown as the illustration to remove it.

NOTE

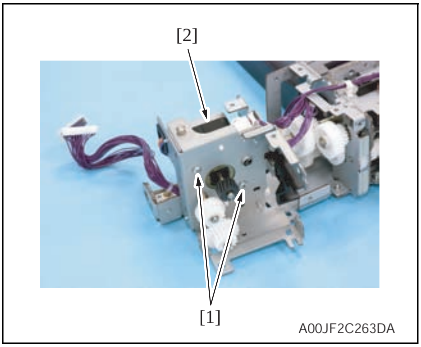
- **Do no pull forcedly as the harness is connected.**



8. Remove the screw [1] and the connector [2], and take out the bypass tray up down motor [3].



9. Remove the harness from the wire saddle [1] and the edge cover [2].
10. Disconnect the connector [3].

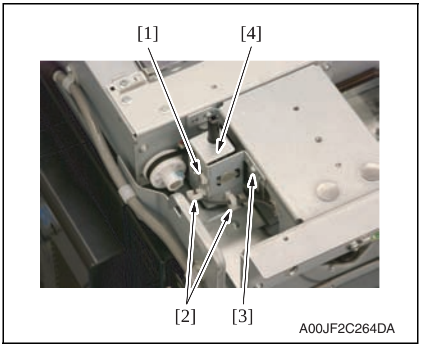


11. Remove two screws [1], and remove the bypass paper feed motor [2].

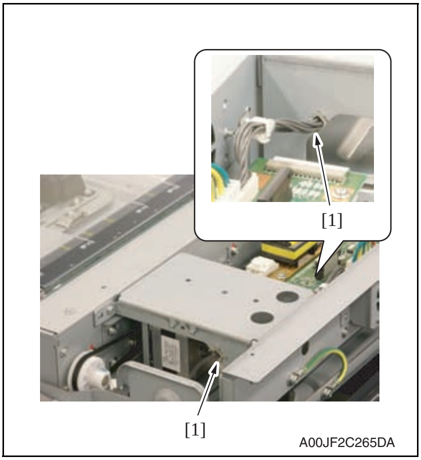
6.3.66 Scanner motor (M201)

A. Removal procedure

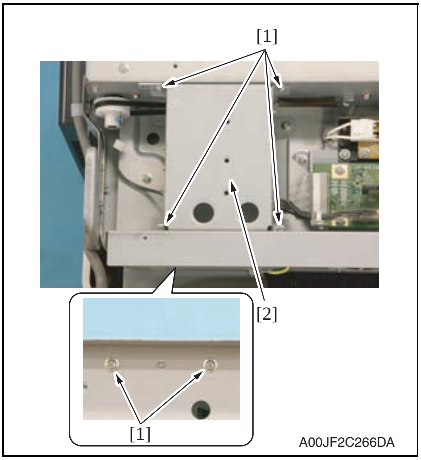
1. Remove the IR rear cover.
   See P.113
2. Remove the IR upper rear cover /1.
   See P.113



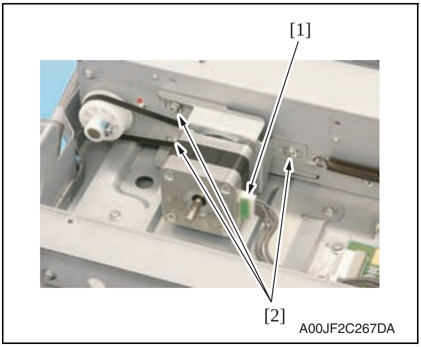
3. Remove the connector [1] and take out the harnesses from two wire saddles [2].
4. Then remove the screw [3] to take out the 20 degree sensor assy [4].



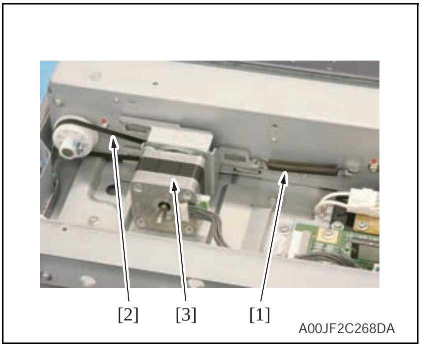
5. Remove the harness from two edge covers [1].



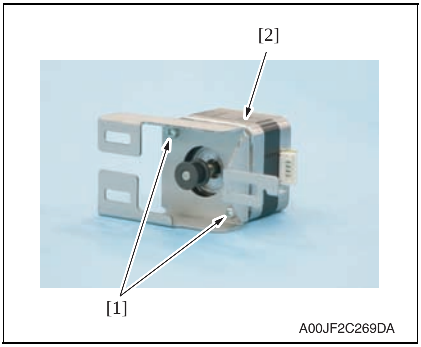
6. Remove six screws and take out the ADF table [2].



7. Disconnect the connector [1] and remove three screws [2].

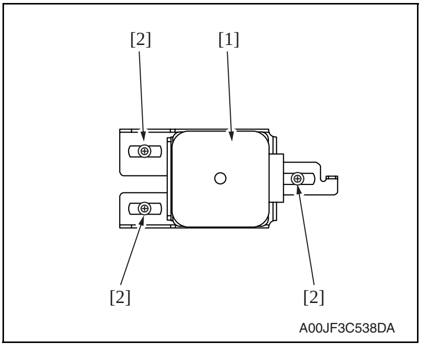


8. Remove the spring [1] and the belt [2], and take out the scanner motor assy [3].

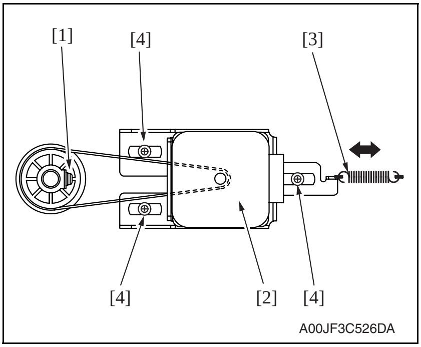


9. Remove two screws [1], and remove the scanner motor [2].

B. Reinstall procedure



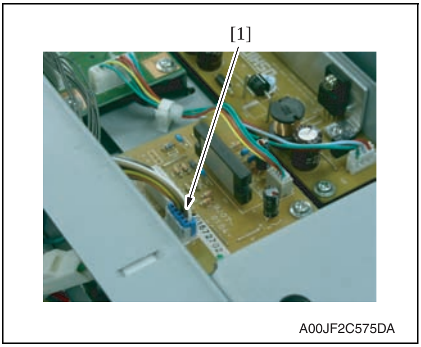
1. Temporarily secure the scanner motor assy [1] with three screws [2].



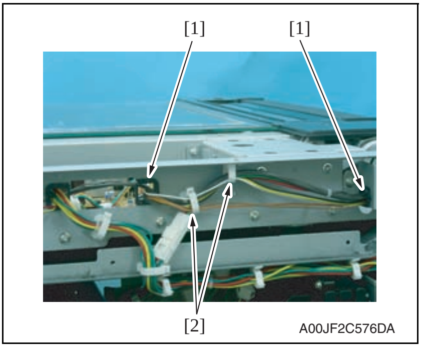
2. With the scanner drive gear set screw [1] located on the right-hand side as shown on the left, slide the scanner motor assy [2] to the left and check that it is returned to the original position by the tension of the spring [3].
   Perform this step three times.
3. Turn the pulley and make sure that the belt does not ride up on the pulley teeth.
4. Tighten the three screws [4] to fix the scanner motor assy into position.

6.3.67 Original glass moving motor (M202)

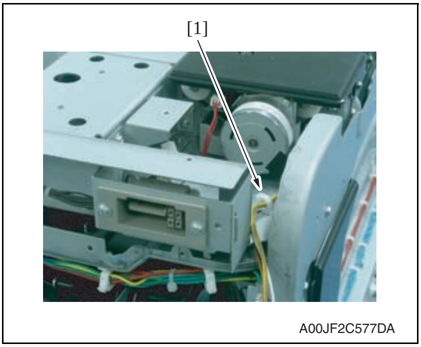
1. Remove the IR rear cover.
   See P.113
2. Remove the IR upper rear cover /1 and IR upper rear cover /2.
   See P.113



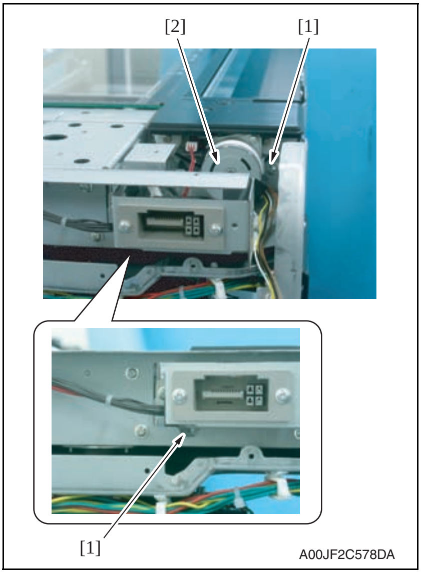
3. Disconnect the connector [1].



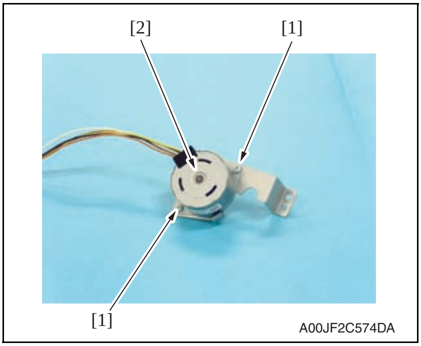
4. Remove the harness from two edge covers [1] and two wire saddles [2].



5. Remove the harness from the wire saddle [1].



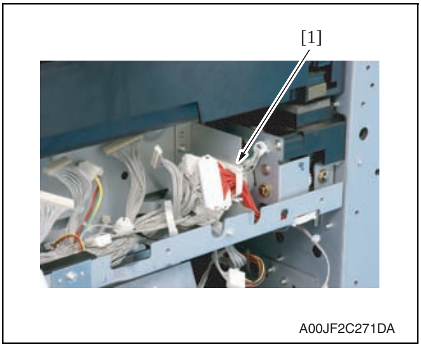
6. Remove two screws [1], and remove the original glass moving motor assy [2].



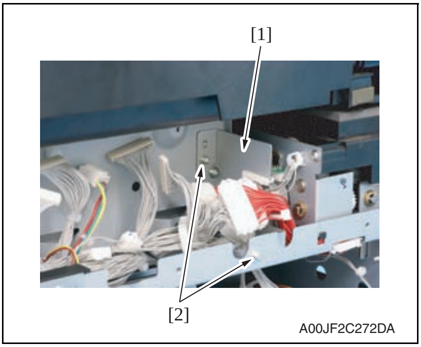
7. Remove two screws [1], and remove the original glass moving motor [2].

6.3.68 Waste toner agitating motor (M20)

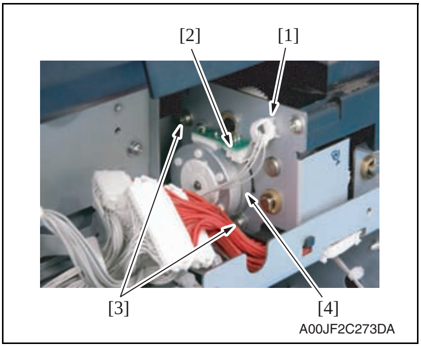
1. Remove the PH relay board.
   See P.158



2. Remove the harness from the edge cover [1].



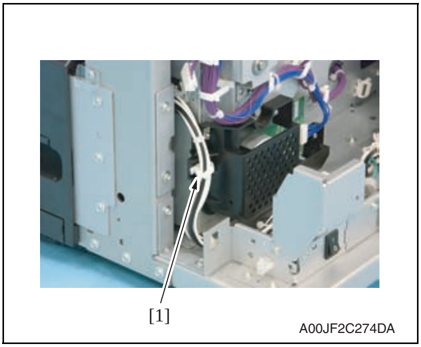
3. Remove two screws [2] of the bracket [1].



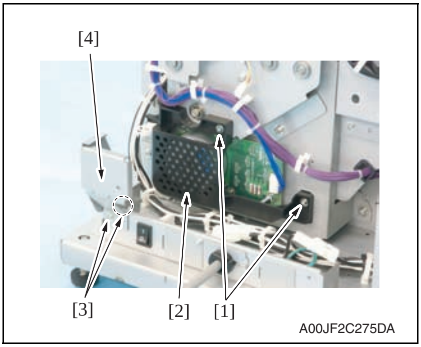
4. Remove the wire saddle [1], connector [2] and two screws [3], and take out the waste toner agitating motor [4].

6.3.69 Transport motor (M25)

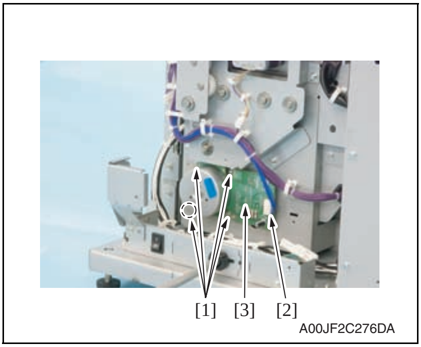
1. Remove the lower rear cover.
   See P.116
2. Remove the rear right cover /2 and rear right cover /4.
   See P.115
3. Remove the harness from the wire saddle [1].



4. Remove two screws [1], and remove the transport motor cover [2].
5. Remove two screws [3], and remove the metal plate [4].

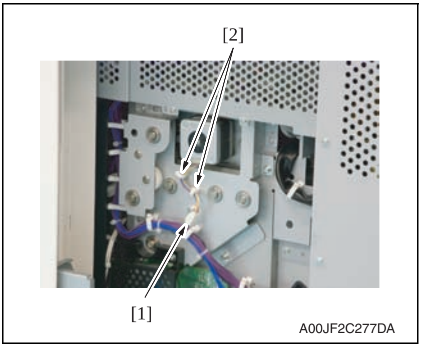


6. Remove four screws [1] and the connector [2], and remove the transport motor [3].

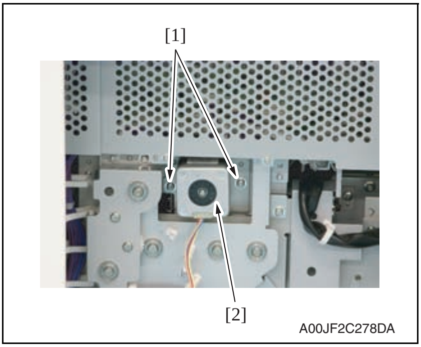


6.3.70 Vertical transport motor (M26)

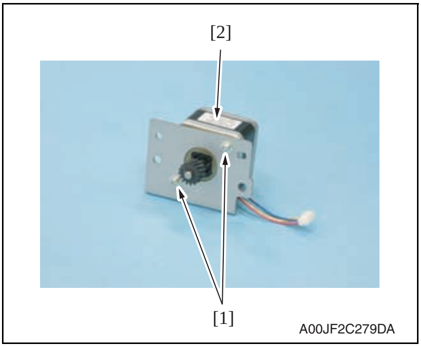
1. Remove the lower rear cover.
   See P.116



2. Disconnect the connector [1], and remove the harness from two wire saddles [2].



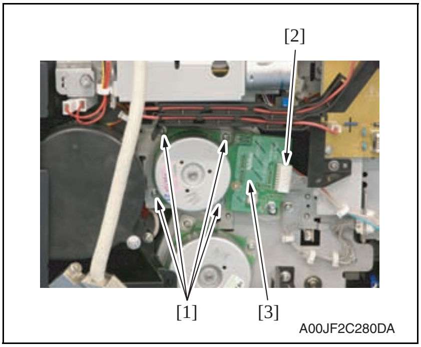
3. Remove two screws [1], and remove the vertical transport motor assy [2].



4. Remove two screws [1], and remove the vertical transport motor [2].

6.3.71 Transfer belt motor (M1)

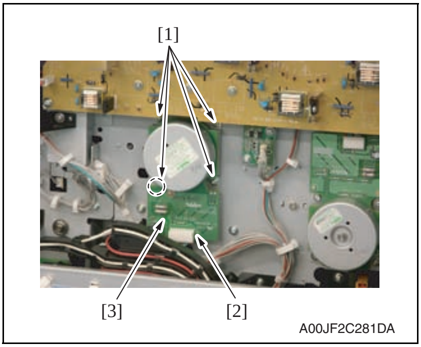
1. Open the PWB box.
   See P.172



2. Remove four screws [1] and the connector [2], and take out the transfer belt motor [3].

6.3.72 Color PC drum motor (M16)

1. Open the PWB box.
   See P.172



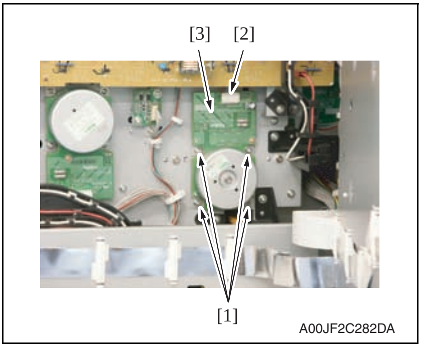
2. Remove four screws [1] and the connector [2], and take out the color PC drum motor [3].

NOTE

- **Adjust the positioning of the PC drive gear when mounting the color PC drum motor.**
  See P.575

6.3.73 Color developing motor (M17)

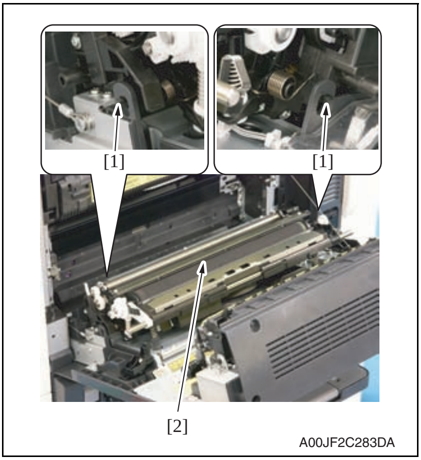
1. Open the PWB box.
   See P.172



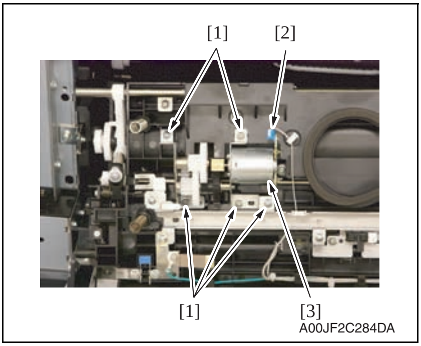
2. Remove four screws [1] and the connector [2], and take out the color developing motor [3].

6.3.74 2nd image transfer pressure retraction motor (M3)

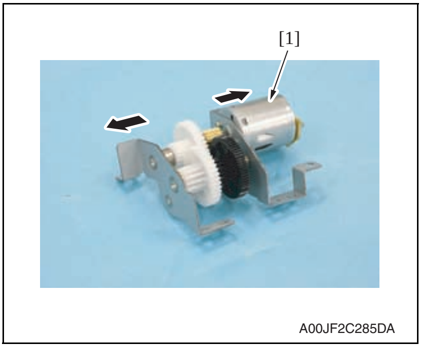
1. Open the upper right door.



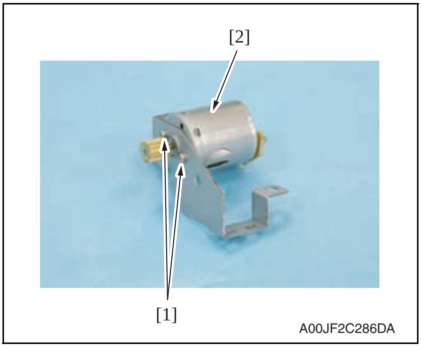
2. Unhook two tabs [1] and remove the intermediate transport unit [2].



3. Remove five screws [1] and the connector [2], and take out the 2nd image transfer pressure retraction drive assy [3].



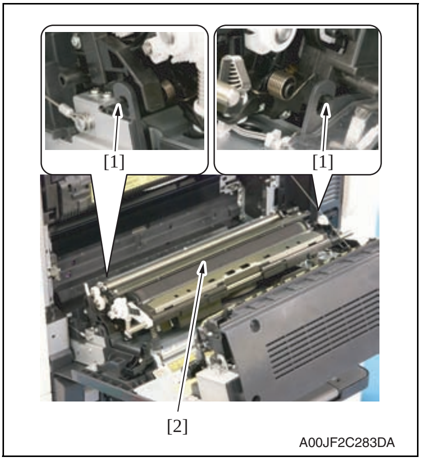
4. Remove the 2nd image transfer pressure retraction motor assy [1].



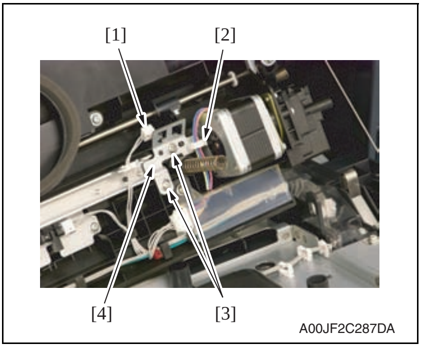
5. Remove two screws [1], and remove the 2nd image transfer pressure retraction motor [2].

6.3.75 Registration motor (M2)

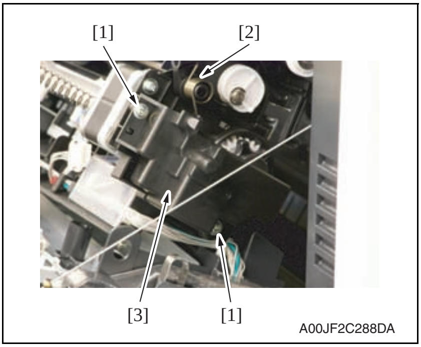
1. Open the upper right door.



2. Unhook two tabs [1] and remove the intermediate transport unit [2].



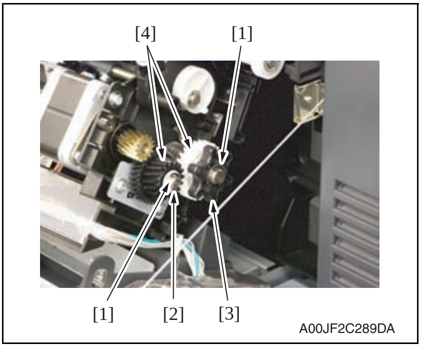
3. Disconnect the connector [1], remove the harness from the wire saddle [2].
4. Remove two screws [3] and take out the pressure welding alienation sensor assy [4].



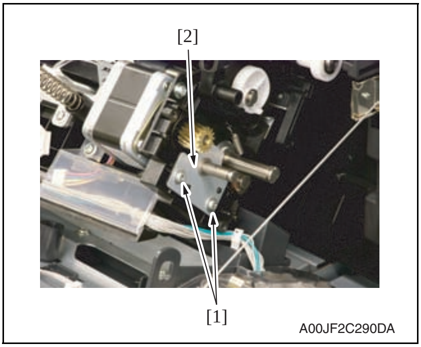
5. Remove two screws [1] and the spring [2], and remove the gear cover [3].

NOTE

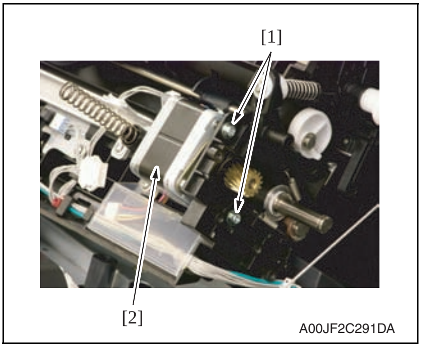
- **Make sure not to lose the spring.**



6. Remove two E-rings [1], the collar [2] and the rotating knob [3], and remove two gears [4].



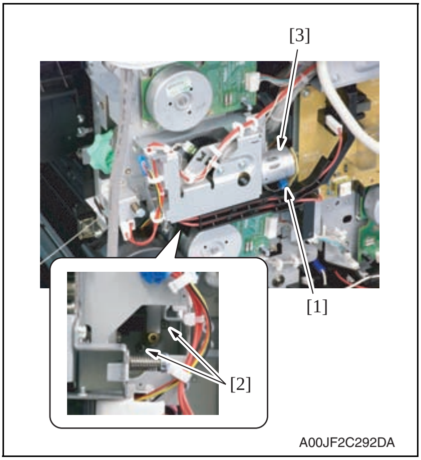
7. Remove two screws [1], and take out the shaft metal plate [2].



8. Remove two screws [1], and remove the registration motor [2].

6.3.76 Fusing pressure retraction motor (M29)

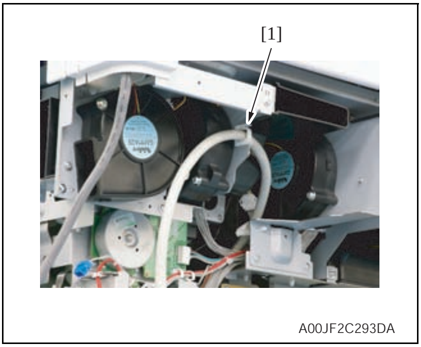
1. Open the PWB box.
   See P.172



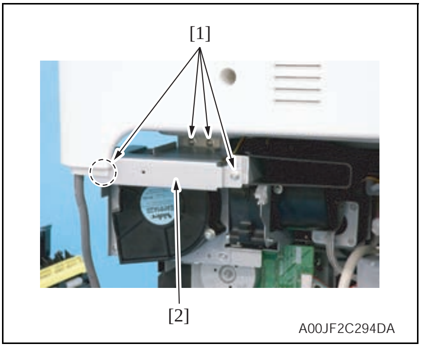
2. Disconnect the connector [1].
3. Remove two screws [2], and remove the fusing pressure retraction motor [3].

6.3.77 Fusing motor (M30)

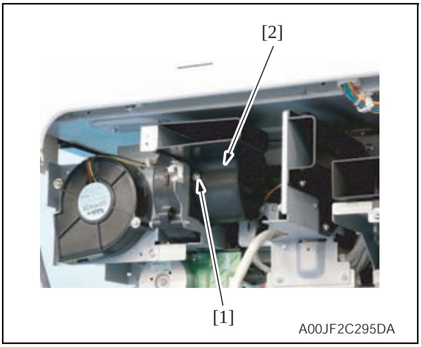
1. Open the PWB box.
   See P.172



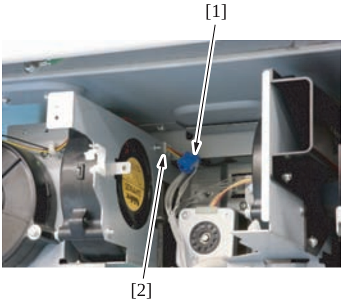
2. Remove the harness from the edge cover [1].



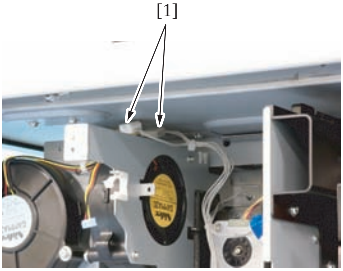
3. Remove four screws [1], and remove the metal plate [2].



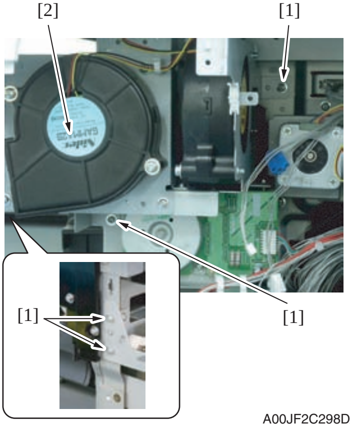
4. Remove the screw [1], and remove the duct [2].



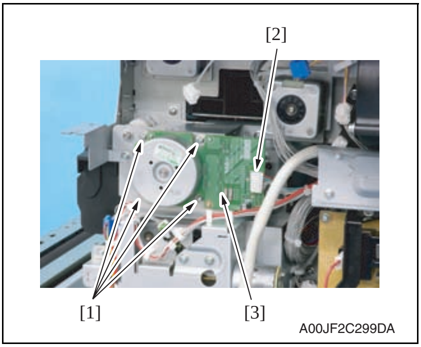
5. Disconnect the connector [1], and remove the harness from the edge cover [2].



6. Disconnect two connectors [1].



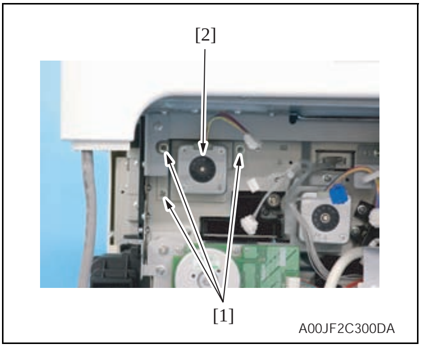
7. Remove four screws [1], and remove the fan motor assy /1 [2].



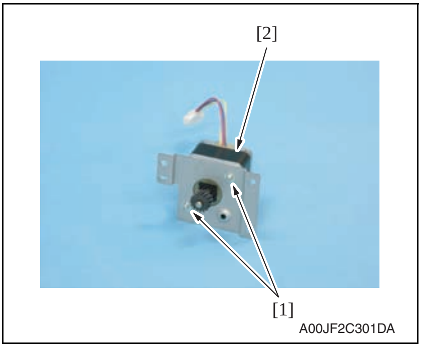
8. Remove four screws [1] and the connector [2], and remove the fusing motor [3].

6.3.78 Switchback motor (M33)

1. Remove the fan motor assy /1.
   See the steps 1 to 7 of fusing motor removing procedure.
   See P.212



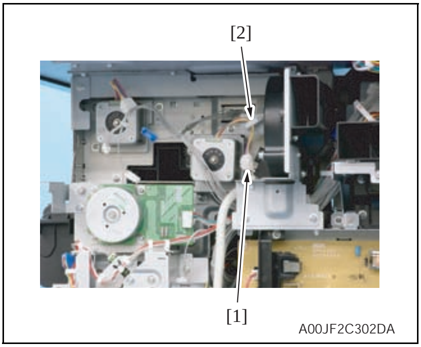
2. Remove three screws [1], and remove the switchback motor assy [2].



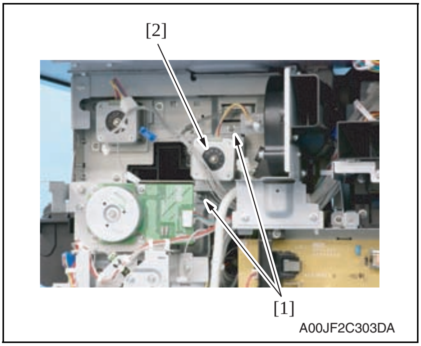
3. Remove two screws [1], and remove the switchback motor [2].

6.3.79 Exit motor (M4)

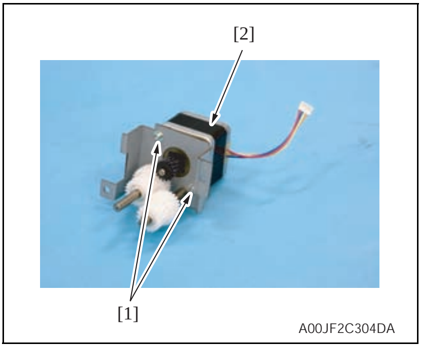
1. Remove the fan motor assy /1.
   See the steps 1 to 7 of fusing motor removing procedure.
   See P.212



2. Disconnect the connector [1], and remove the harness from the wire saddle [2].



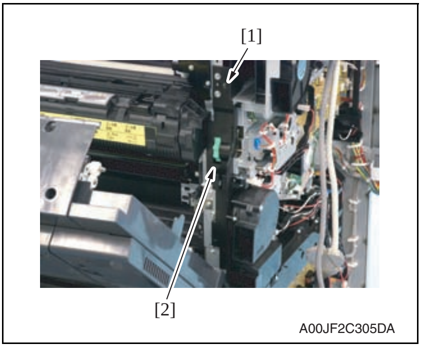
3. Remove two screws [1], and remove the exit motor assy [2].



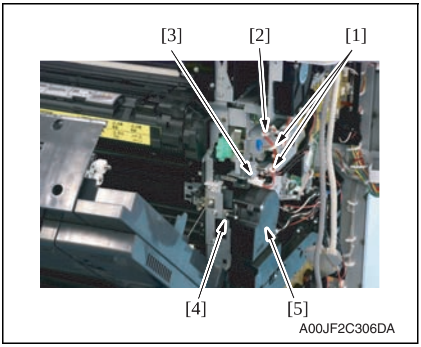
4. Remove two screws [1], and remove the exit motor [2].

6.3.80 K PC drum motor (M18)

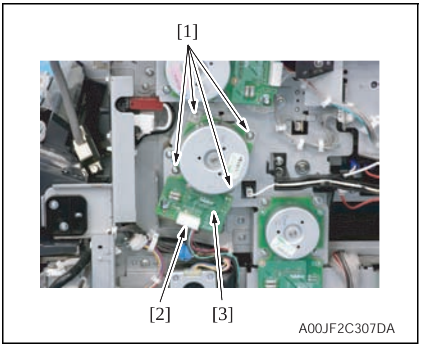
1. Take out the reinforcing plate.
   See the steps 1 to 11 of high voltage unit/1 removing procedure.
   See P.177
2. Open the upper right door.



3. Remove the screw [1], and remove the rear right cover /5 [2].



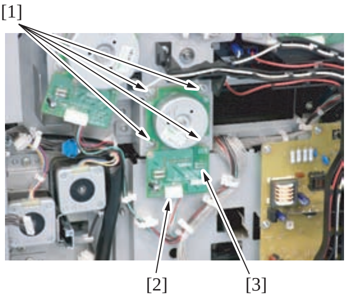
4. Disconnect the connector [3], and remove the harness from two wire saddles [1] and the edge cover [2].
5. Remove the screw [4], and remove the fan motor assy /2 [5].



6. Remove four screws [1] and the connector [2], and remove the K PC drum motor [3].

6.3.81 K developing motor (M19)

1. Remove the fan motor assy /2.
   See the steps 1 to 5 of K PC drum motor removing procedure.
   See P.216

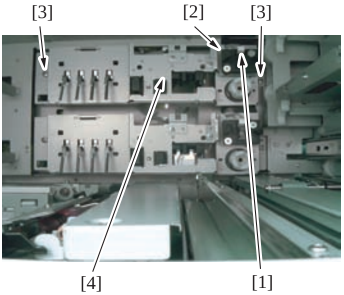


A00JF2C308DA

2. Remove four screws [1] and the connector [2], and remove the K developing motor [3].

6.3.82 Tray1 lift-up motor (M6)

1. Remove the tray1/2.
   See P.121



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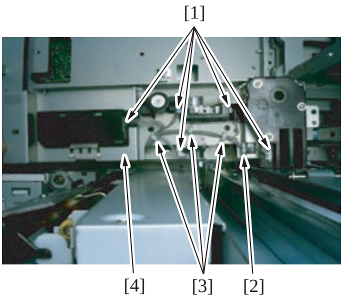
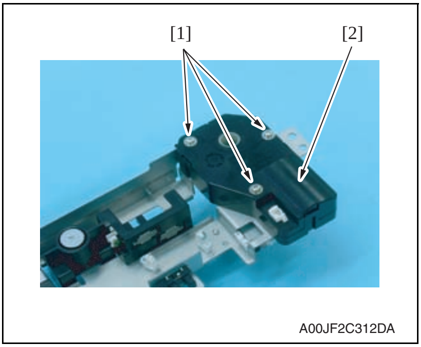
2. Disconnect the connector [1] and remove the harness from the edge cover [2].
3. Remove two screws [3], take out the tray1 lift-up motor assy [4] and turn it around.



A00JF2C311DA

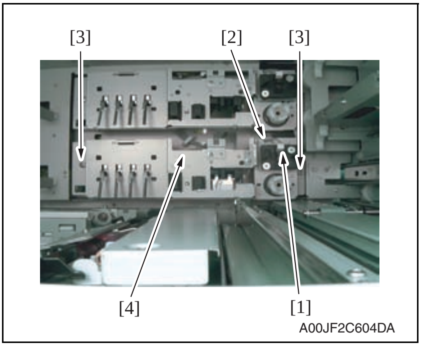
4. Disconnect five connectors [1].
5. Remove the harness from the edge cover [2] and three wire saddles [3], and remove the tray1 lift-up motor assy [4].



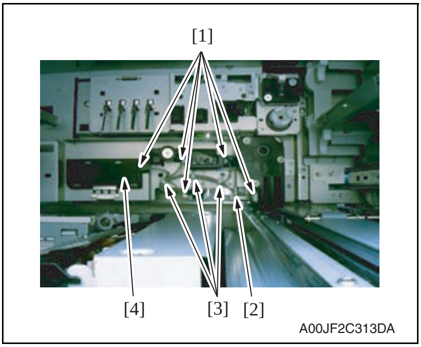
6. Remove three screws [1], and remove the tray1 lift-up motor [2].

6.3.83 Tray2 lift-up motor (M8)

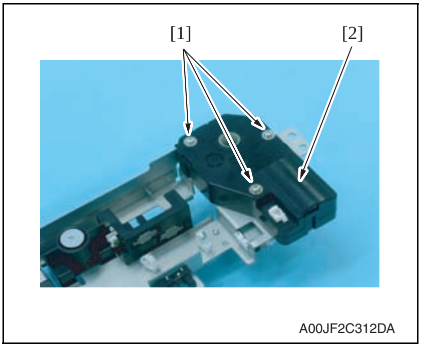
1. Remove the tray1/2.
   See P.121



2. Disconnect the connector [1] and remove the harness from the edge cover [2].
3. Remove two screws [3], take out the tray2 lift-up motor assy [4] and turn it around.



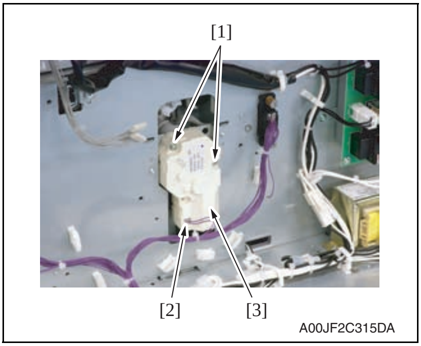
4. Disconnect five connectors [1].
5. Remove the harness from the edge cover [2] and three wire saddles [3], and remove the tray2 lift-up motor assy [4].



6. Remove three screws [1], and remove the tray 2 lift-up motor [2].

6.3.84 Tray3 lift-up motor (M23)

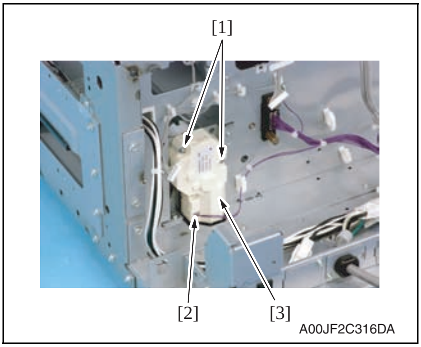
1. Remove the LCC drive unit.
   See P.146



2. Remove two screws [1] and the connector [2], and remove the tray 3 lift-up motor [3].

6.3.85 Tray4 lift-up motor (M24)

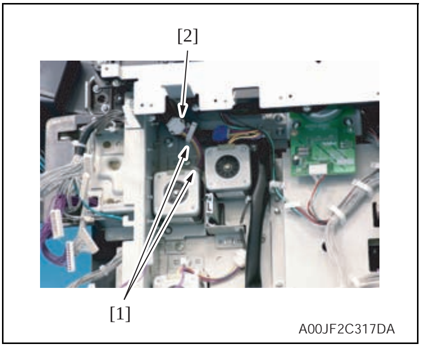
1. Remove the LCC drive unit.
   See P.146



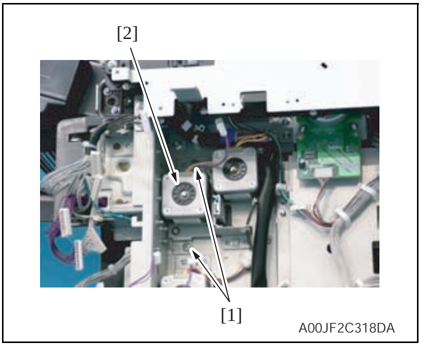
2. Remove two screws [1] and the connector [2], and take out the tray 4 lift-up motor [3].

6.3.86 Tray1 vertical transport motor (M5)

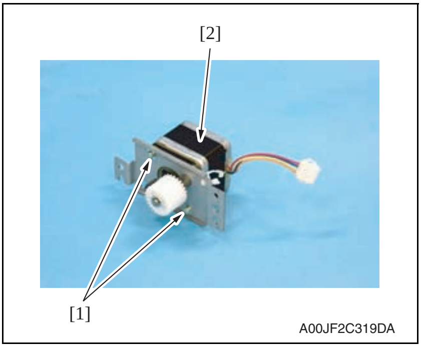
1. Remove the paper feed/transport drive board assy.
   See the steps 1 to 9 of high voltage unit/1 removing procedure.
   See P.177



2. Disconnect the connector [2], and remove the harness from two wire saddles [1].



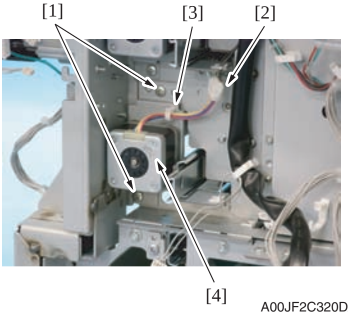
3. Remove two screws [1], and remove the tray1 vertical transport motor assy [2].



4. Remove two screws [1], and remove the tray1 vertical transport motor [2].

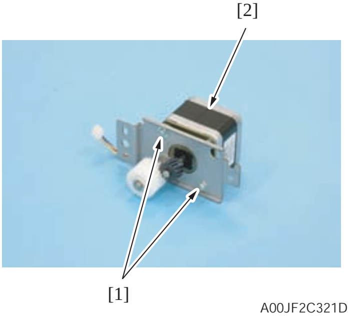
6.3.87 Tray2 vertical transport motor (M7)

1. Remove the paper feed/transport drive board assy.
   See the steps 1 to 9 of high voltage unit/1 removing procedure.
   See P.177
2. Remove the LCC drive unit.
   See P.146



A00JF2C320DA

3. Remove two screws [1] and the connector [2].
4. Remove the harness from the wire saddle [3], and remove the tray 2 vertical transport motor assy [4].



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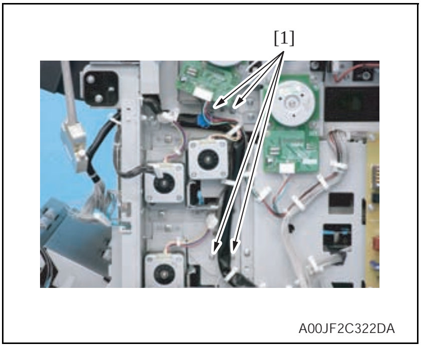
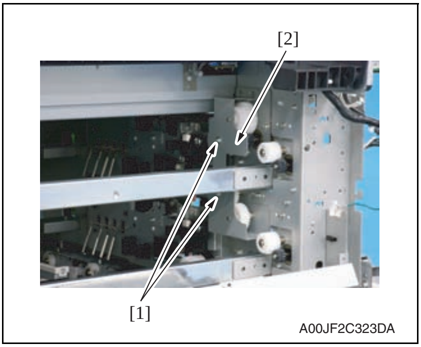
5. Remove two screws [1], and remove the tray2 vertical transport motor [2].

6.3.88 Take-up motor (M22)

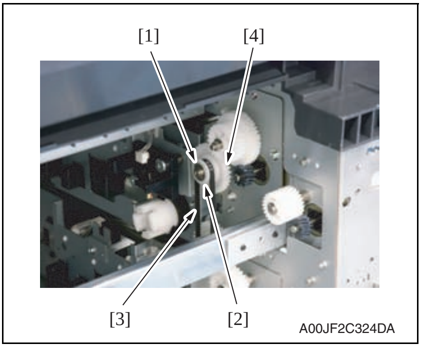
1. Slide out tray 1/2.
2. Remove the reinforcing plate.
   See the steps 1 to 11 of high voltage unit/1 removing procedure.
   See P.177
3. Remove the tray 1 paper feed unit.
   See the steps 1 to 6 of tray 1 feed roller replacement procedure.
   See P.32
4. Remove the tray 2 paper feed unit.
   See the steps 1 to 6 of tray 2 feed roller replacement procedure.
   See P.35



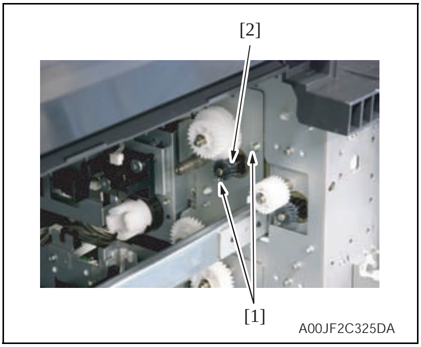
5. Remove four screws [1].



6. Remove two screws [1], and remove the metal plate [2].



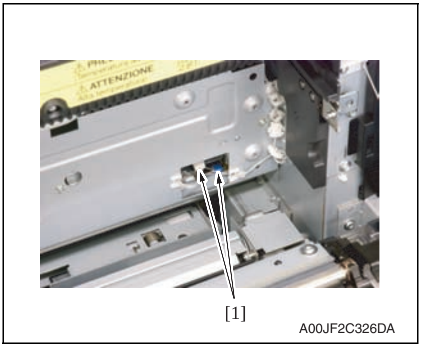
7. Remove the E-ring [1], the collar [2], the belt [3] and the gear [4].



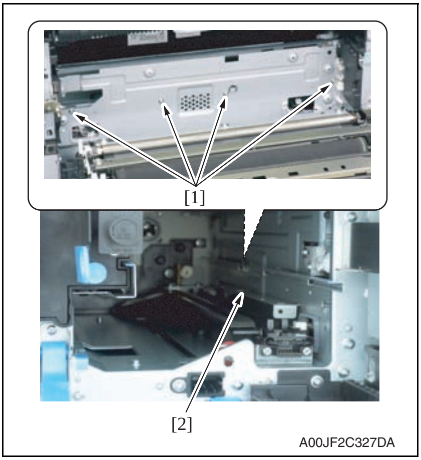
8. Remove two screws [1], and remove the take-up motor [2].

6.3.89 Charge cleaning motor/K (M15)

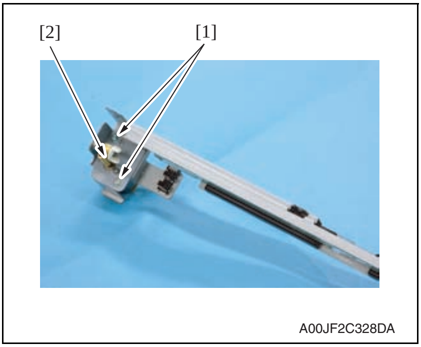
1. Remove the imaging unit K.
   See P.49
2. Remove the sensor unit.
   See the steps 1 to 5 of IDC registration sensor/F and IDC registration sensor/R removing procedure.
   See P.241



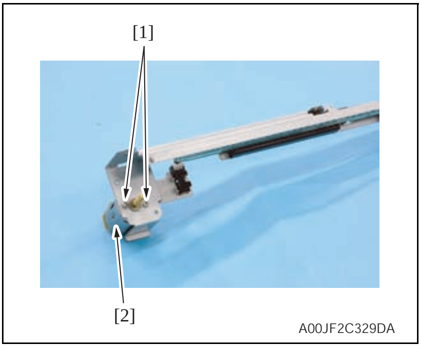
3. Disconnect two connectors [1].



4. Remove four screws [1], and remove the charge cleaning motor/K assy [2].



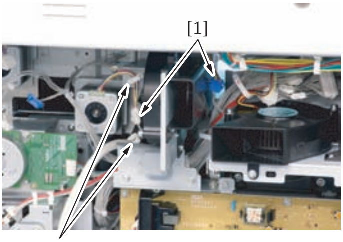
5. Remove two screws [1], and remove the gear assy [2].



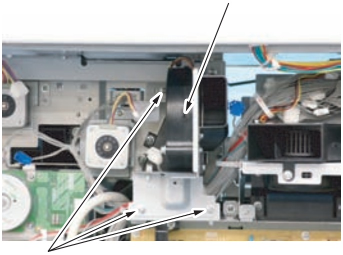
6. Remove two screws [1], and remove the charge cleaning motor/K [2].

6.3.90 Cleaner motor (M38)

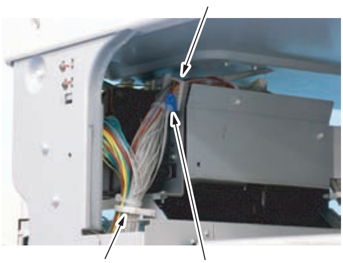
1. Remove the fan motor assy /1.
   See the steps 1 to 7 of fusing motor removing procedure.
   See P.212
2. Take out the paper exit rear cover.
   See P.112



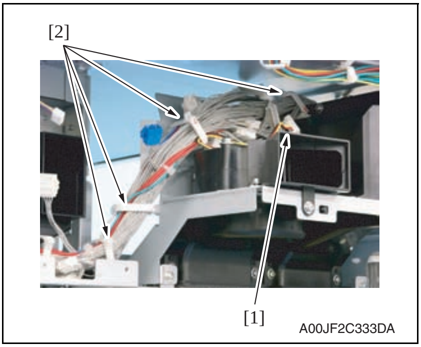
3. Disconnect two connectors [1], and remove the harness from two wire saddles [2].



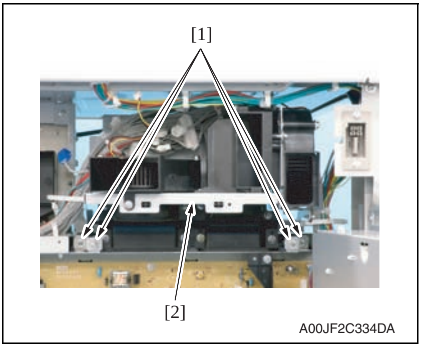
4. Remove three screws [1], and remove the fan motor assy /3 [2].



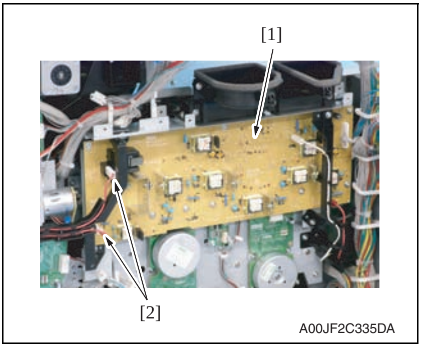
5. Disconnect the connector [1].
6. Remove the harness from the wire saddle [2] and the edge covers [3].



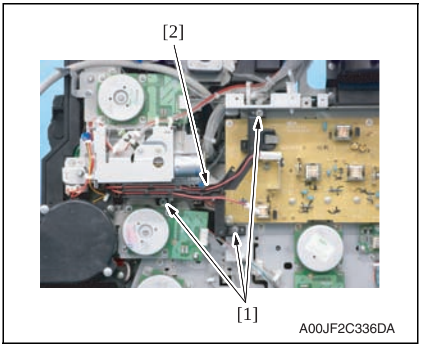
7. Disconnect the connector [1].
8. Remove the harness from four wire saddles [2].



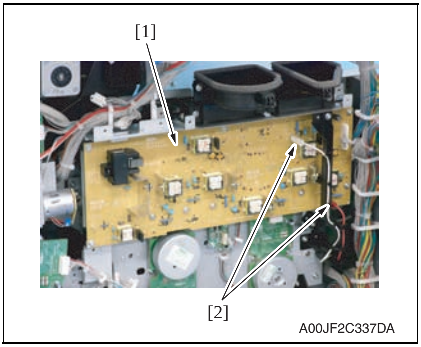
9. Remove four screws [1], and take out the fan motor assy/4 [2] as clearing the harness.



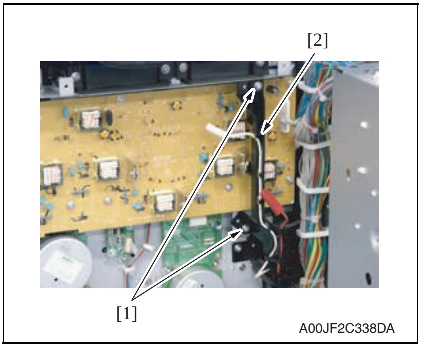
10. Remove two connectors [2] on the high voltage unit/2 [1].



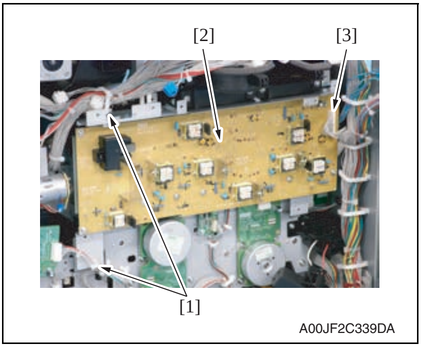
11. Remove three screws [1], and remove the harness guide [2].



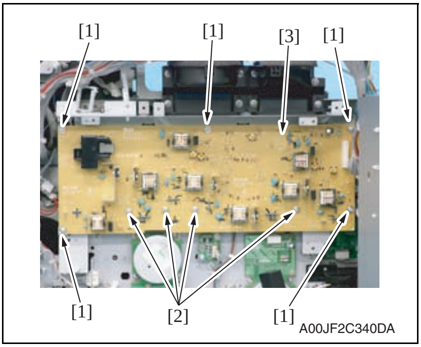
12. Remove two connectors [2] on the high voltage unit/2 [1].



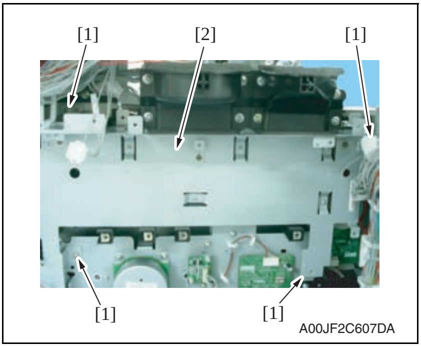
13. Remove two screws [1], and remove the harness guide [2].



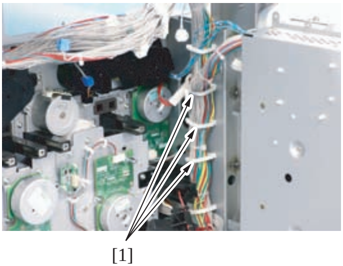
14. Remove the harness from two wire saddles [1], and take out the connector [3] on the high voltage unit/2 [2].



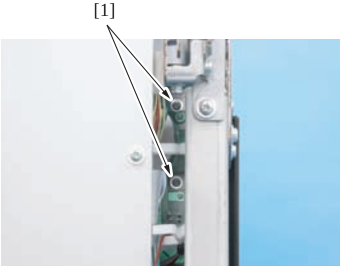
15. Remove five screws [1] and four tapping screws [2], and remove the high voltage unit/2 [3].



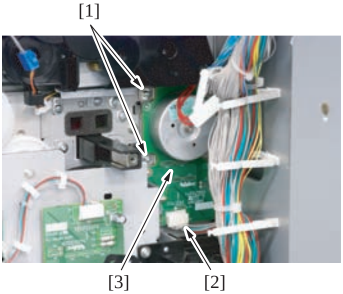
16. Remove four screws [1], and remove the metal plate [2].



17. Remove the harness from three wire saddles [1].



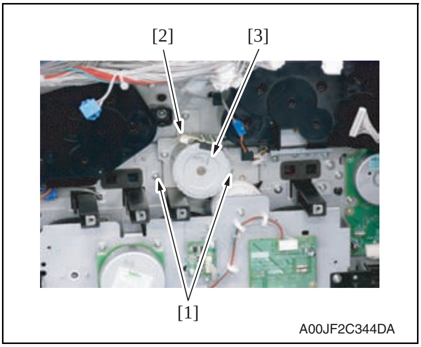
18. Close the PWB box once and remove two screws [1] of the cleaner motor.



19. Open the PWB box again, remove two screws [1] and the connector [2], and take out the cleaner motor [3].

6.3.91 1st image transfer pressure retraction motor (M21)

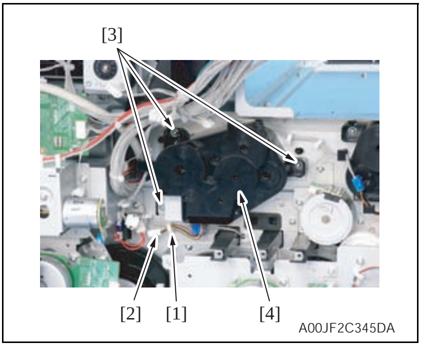
1. Remove the high voltage unit/2 assy.
   See the steps 1 to 17 of cleaner motor removing procedure.
   See P.225



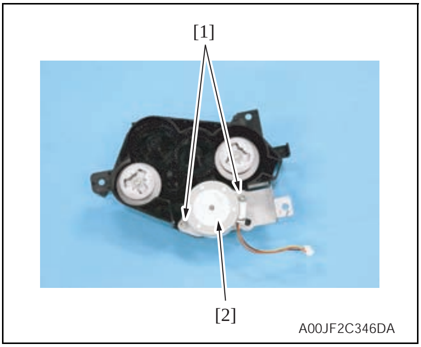
2. Remove two screws [1] and the connector [2], and take out the 1st image transfer pressure retraction motor [3].

6.3.92 Toner cartridge motor C/K (M14).

1. Remove the high voltage unit/2 assy.
   See the steps 1to 17 of cleaner motor removing procedure.
   See P.225



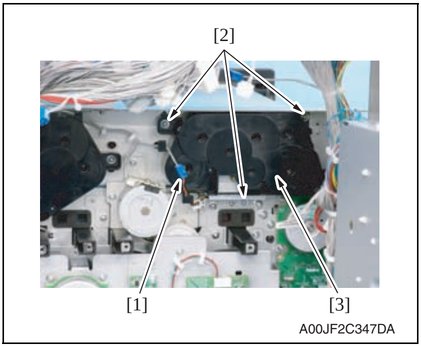
2. Clear the harness.
3. Disconnect the connector [2], and remove the harness from the wire saddle [1].
4. Remove three screws [3], and remove the toner cartridge motor C/K Assy [4].



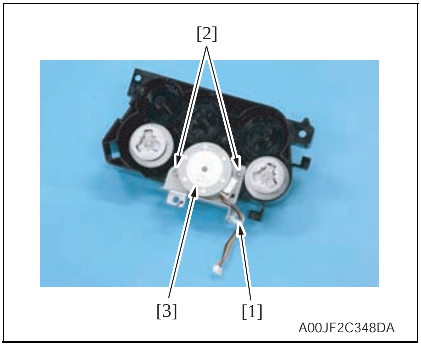
5. Remove two screws [1], and remove the toner cartridge motor C/K [2].

6.3.93 Toner cartridge motor Y/M (M13)

1. Remove the high voltage unit/2 Assy.
   See the steps 1 to 17 of cleaner motor removing procedure.
   See P.225



2. Disconnect the connector [1], and remove three screws [2], then remove the toner cartridge motor Y/M Assy[3].



3. Remove the harness from the wire saddle [1].
4. Remove two screws [2], and remove the toner cartridge motor Y/M [3].

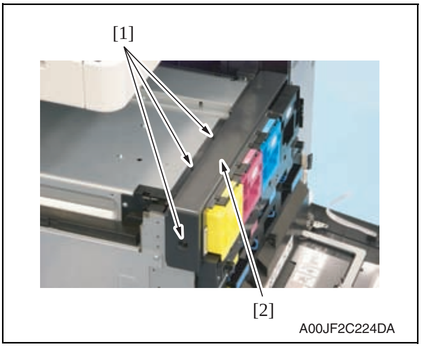
6.3.94 Toner supply motor/Y (M9), toner supply motor/M (M10), toner supply motor/C (M11), toner supply motor/K (M12)

1. Remove the upper front door.
   See P.105
2. Remove the upper left cover.
   See P.111
3. Remove the toner cartridges (C,M,Y,K).
   See P.53
4. Open the lower front door and take out the all imaging units.
   See P.49

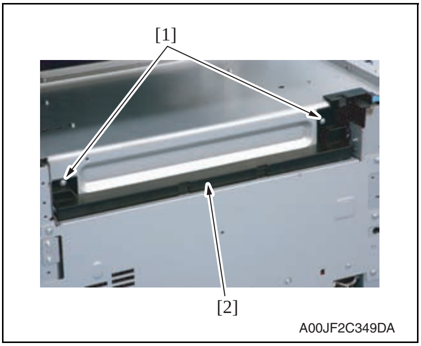
NOTE

- **After the imaging unit has been removed from the main body wrap it in the light shielding cloth and store it in a dark place. DO NOT leave the imaging unit exposed to light for a extended of time as it will become damaged.**

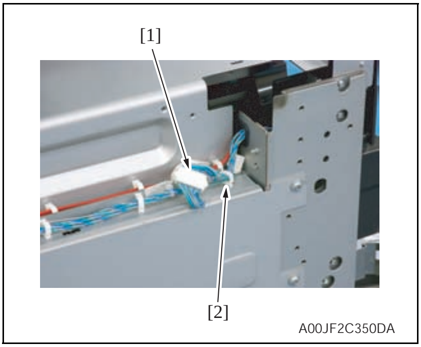
5. Remove the front right cover.
   See P.117



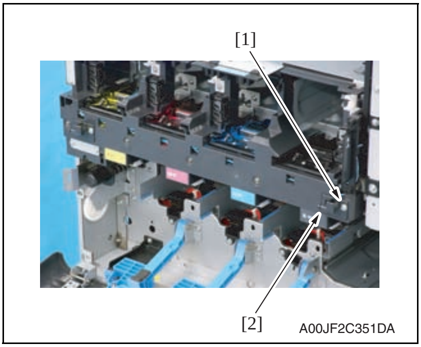
6. Remove three screws [1], and remove the exit tray front cover [2].



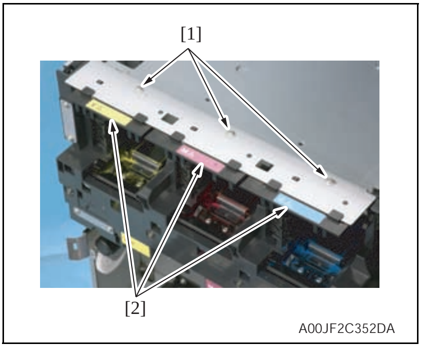
7. Remove two screws [1], and remove the connector cover [2].



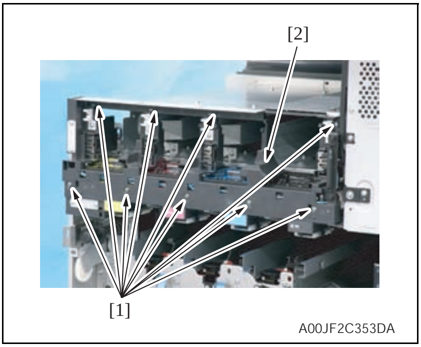
8. Disconnect the connector [1], and remove the harness [2].



9. Remove the screw [1] and take out the hinge convex part [2].



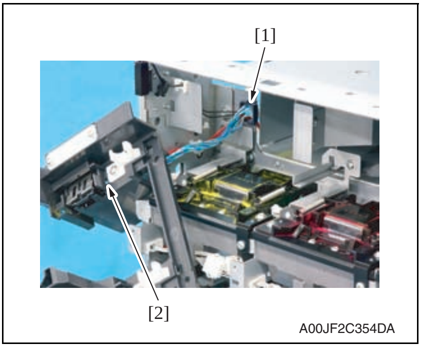
10. Remove three screws [1], and take out the toner cartridge inserting port cover Y/M/C [2].



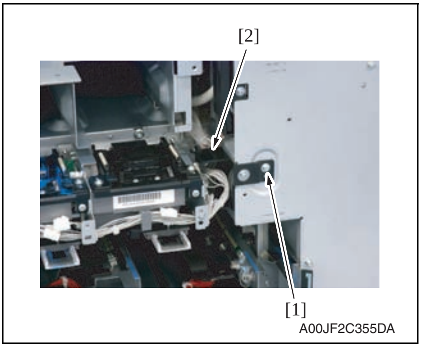
11. Remove nine screws [1], and pull the front cover [2] forward slowly.

NOTE

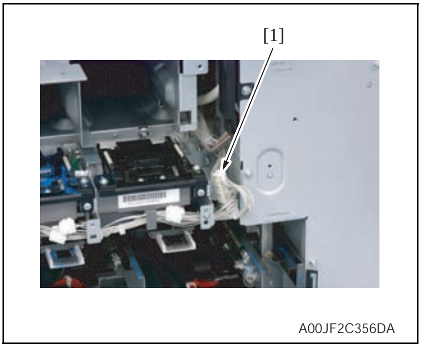
- **Use care not to mistake in the kind of the screws.**



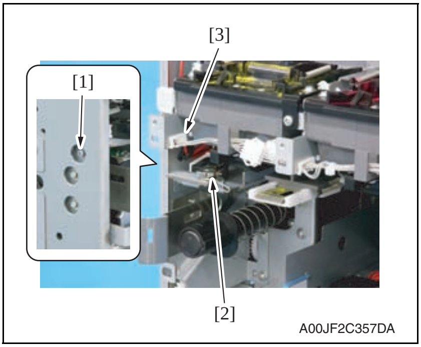
12. Remove the harness from the edge cover [1], and remove the front cover [2].



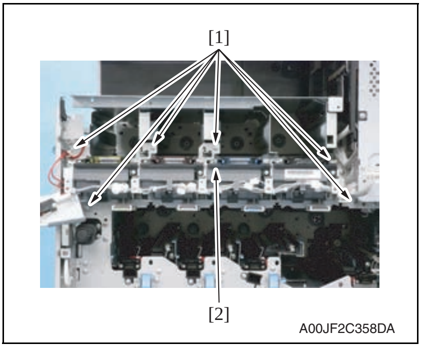
13. Remove the screw [1], and remove the connector cover [2].



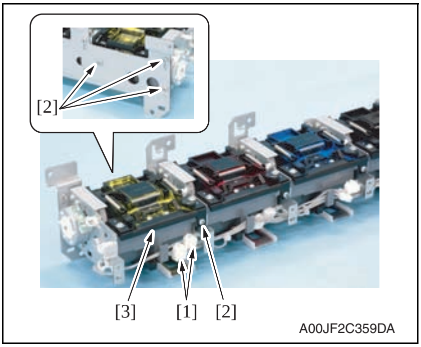
14. Disconnect the connector [1].



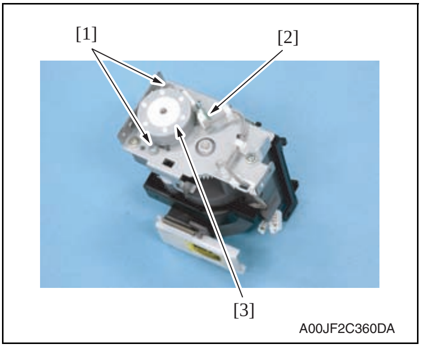
15. Remove the screw [1], and remove the front door switch assy[2], then remove the harness from the wire saddle [3].



16. Remove six screws [1], and remove the toner hopper units assy [2].



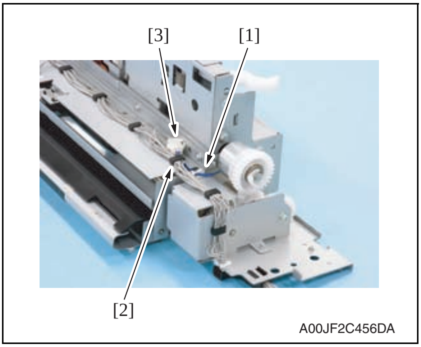
17. Disconnect two connectors [1], and remove four screws [2], then remove the toner hopper unit /Y [3].



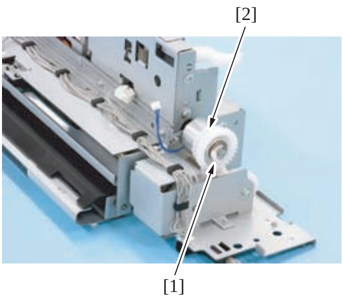
18. Remove two screws [1] and disconnect the connector [2], and remove the toner supply motor /Y [3].
19. Repeat the steps 17 to 18 and take out the toner supply motor/Y, M, C in order.

6.3.95 Tray 1 paper feed clutch (CL1)

1. Remove the tray 1 paper feed unit.
   See the steps 1 to 6 of tray 1 paper feed roller replacement procedure.
   See P.32



2. Remove the harness from the edge cover [1], the harness holder [2], and unplug the connector [3].



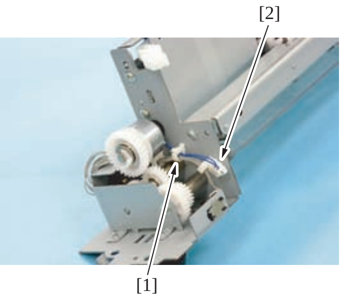
3. Remove the C-clip [1], and remove the tray 1 paper feed clutch [2].

NOTE

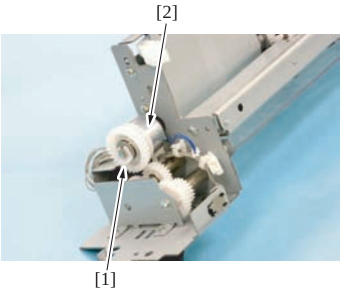
- **When mounting the tray 1 paper feed clutch, set the convex part of the stopper into the concave part of the tray 1 paper feed clutch.**

6.3.96 Tray 2 paper feed clutch 2 (CL2)

1. Remove the tray 2 paper feed unit.
   See the steps 1 to 6 of tray2 paper feed roller replacement procedure.
   See P.35



2. Remove the harness from the wire saddle [1], and disconnect the connector [2].



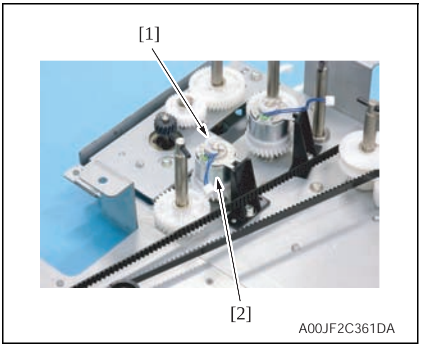
3. Remove the C-clip [1], and remove the tray 2 paper feed clutch [2].

NOTE

- **When mounting the tray 2 paper feed clutch, set the convex part of the stopper into the concave part of the tray 2 paper feed clutch.**

6.3.97 Horizontal transport clutch 1 (CL3)

1. Remove the LCC drive unit.
   See P.146



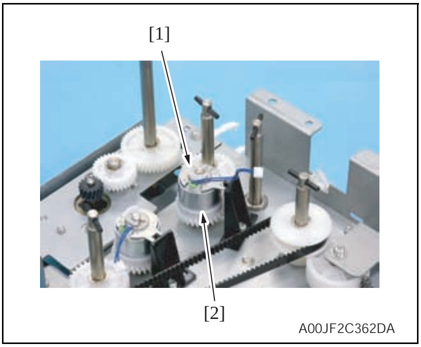
2. Remove the C-clip [1], and remove the horizontal transport clutch 1 [2].

NOTE

- **When mounting the horizontal transport clutch 1, set the convex part of the stopper into the concave part of the horizontal transport clutch 1.**

6.3.98 Horizontal transport clutch 2 (CL4)

1. Remove the LCC drive unit.
   See P.146



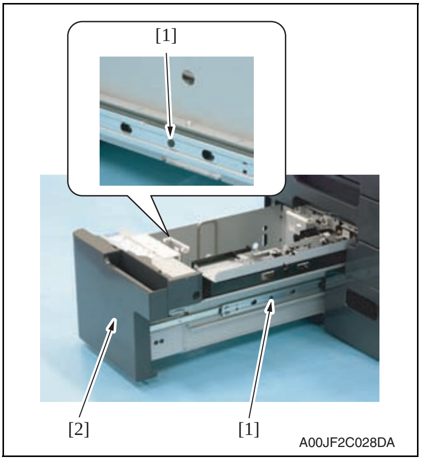
2. Remove the C-clip [1], and remove the horizontal transport clutch 2 [2].

NOTE

- **When mounting the horizontal transport clutch 2, set the convex part of the stopper into the concave part of the horizontal transport clutch 2.**

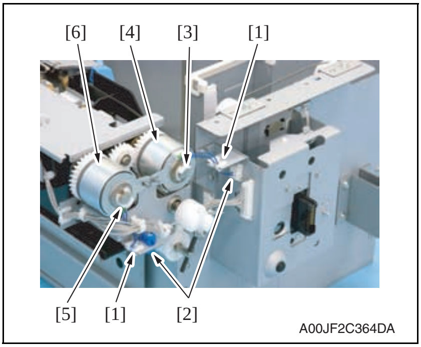
6.3.99 Tray 3 paper feed clutch (CL5)/Tray 3 transport clutch (CL6)

1. Slide out the tray 3.



2. Remove two screws [1] and pull out the tray 3 [2] to the end.

6



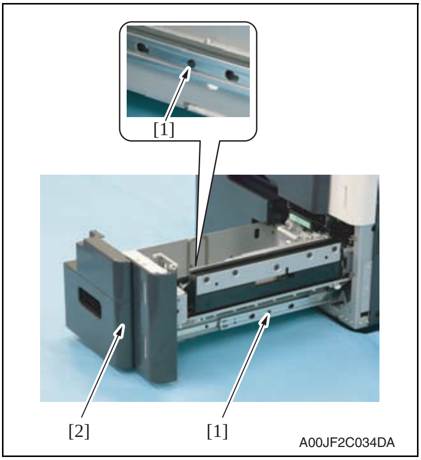
3. Remove the harness from the edge cover [1], and disconnect the connector [2].
4. Remove the C-clip [3], and remove the tray 3 paper feed clutch [4].
5. Remove the C-clip [5], and remove the tray 3 transport clutch [6].

NOTE

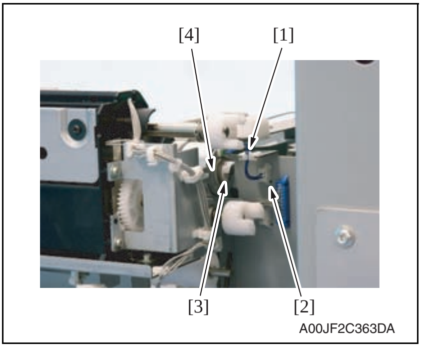
- **When mounting the tray 3 paper feed clutch/tray 3 transport clutch, set the convex part of the stopper into the concave part of the clutch.**

6.3.100 Tray 4 paper feed clutch (CL7)

1. Slide out the tray 4.



2. Remove two screws [1] and pull out the tray 4 [2] to the end.



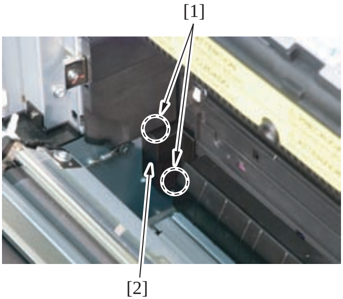
3. Remove the harness from the edge cover [1], and disconnect the connector [2].
4. Remove the C-clip [3], and remove the tray 4 paper feed clutch [4].

NOTE

- **When mounting the tray 4 paper feed clutch, set the convex part of the stopper into the concave part of the tray 4 paper feed clutch.**

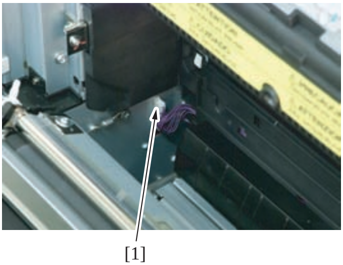
6.3.101 IDC registration sensor/F (IDCS/F), IDC registration sensor/R (IDCS/R).

1. Open the upper right door.
2. Remove the image transfer entrance guide.
   See the steps 1 to 4 of image transfer belt unit removing procedure.
   See P.55



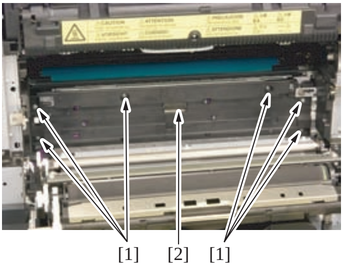
A00JF2C365DA

3. Unhook two tabs [1], and remove the connector cover [2].



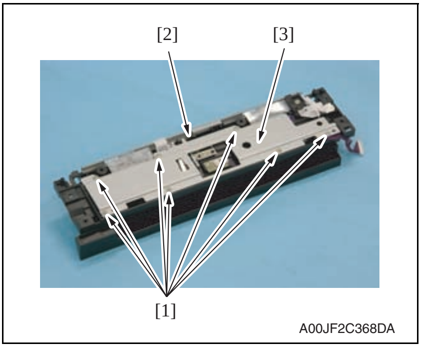
A00JF2C366DA

4. Disconnect the connector [1].

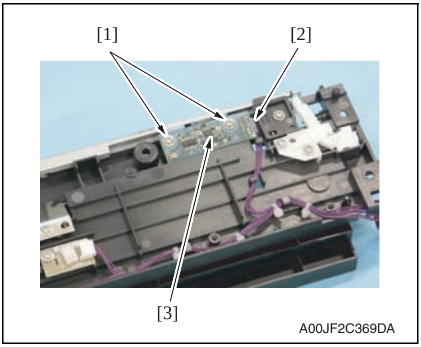


A00JF2C367DA

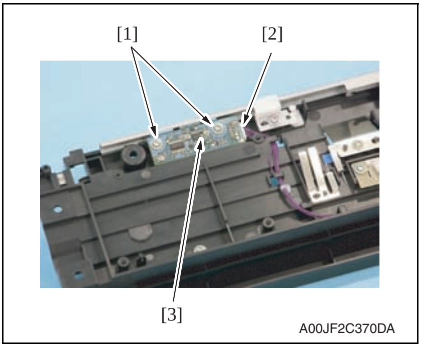
5. Remove six screws [1], and remove the sensor unit [2].



6. Remove seven screws [1] and the spring [2], and remove the sensor cover [3].



7. Remove two screws [1], and disconnect the connector [2], then remove the IDC registration sensor/F [3].

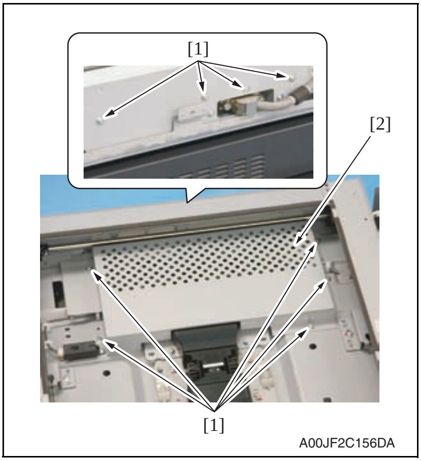


8. Remove two screws [1], and disconnect the connector [2], then remove IDC registration sensor/R [3].

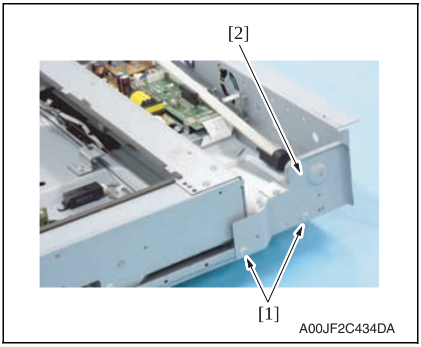
6.3.102 Scanner drive cables

A. Removal procedure

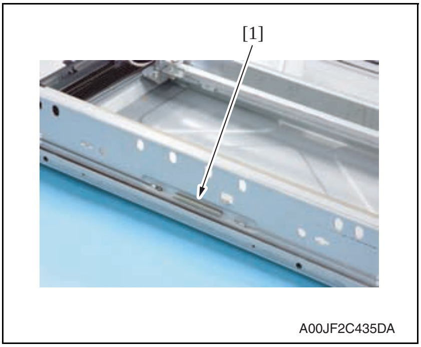
1. Remove the IR assy.
   See P.152
2. Remove the scanner assy.
   See P.135
3. Remove the scanner motor.
   See P.199
4. Remove the original glass moving unit.
   See P.131



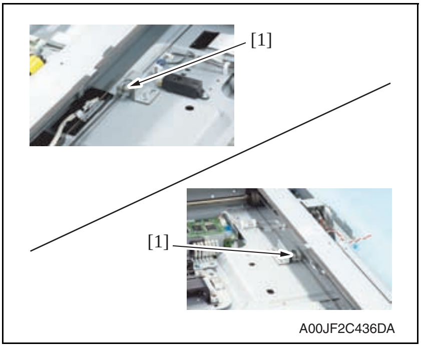
5. Remove nine screws [1], and remove the image processing board protective shield [2].



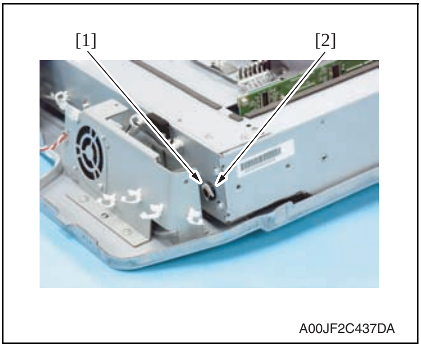
6. Remove two screws [1], and remove the metal plate [2].



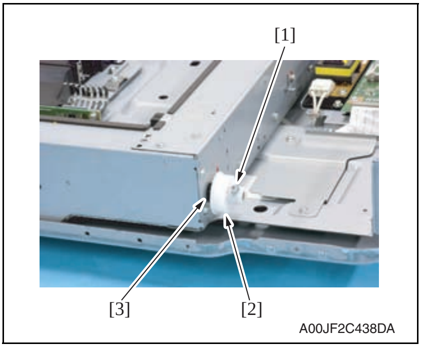
7. Remove the hook side spring [1] of the scanner drive cables.



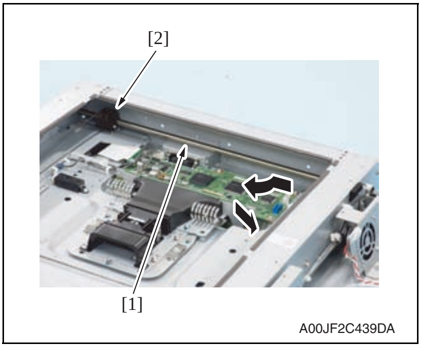
8. Remove the bead side [1] of the scanner drive cables from the adjustment anchor.



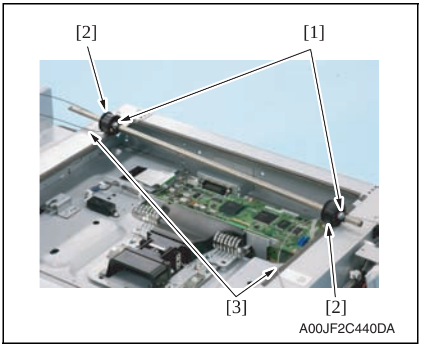
9. Remove the C-ring [1] and bearing [2].



10. Remove the screw [1], and remove the scanner drive gear [2].
11. Remove the bearing [3].



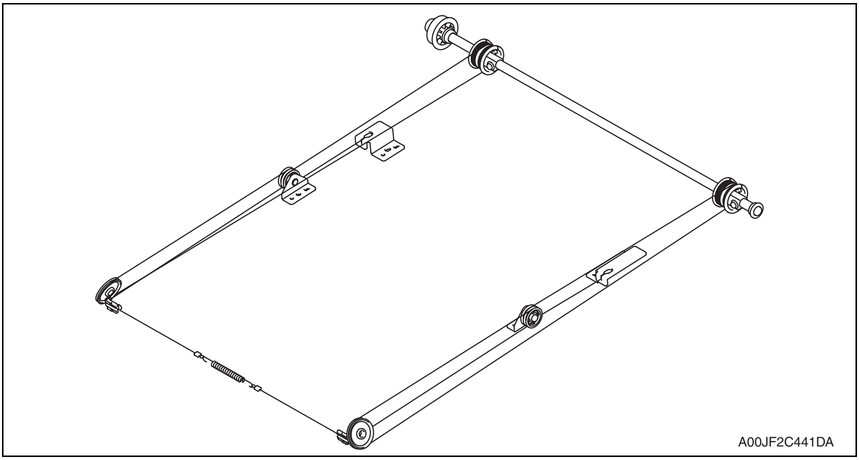
12. Remove the shaft [1] and pulleys [2].



13. Remove the screw [1] one each and take out the two pulleys [2] from the shaft.
14. Remove the scanner drive cables [3] from each pulley [2].

B. reinstall procedure

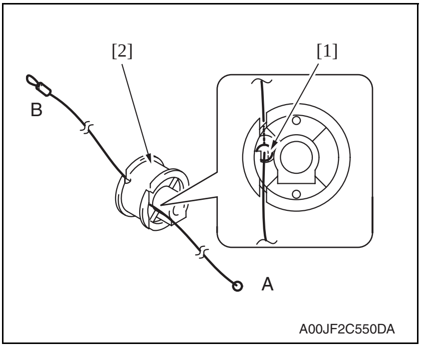
(1) Overall figure



(2) Winding of the scanner drive cables

NOTE

- **The scanner drive cable differs in type between the front (silver) and the rear (black), which are colored differently.**

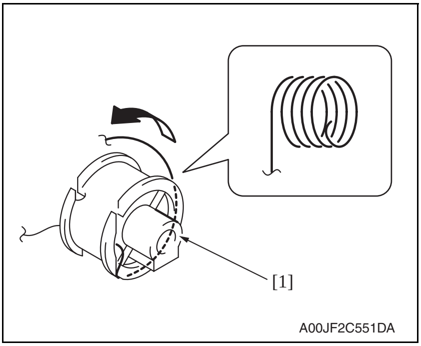


<Front>

1. Set the round bead [1] of the scanner drive cable (silver) to the pulley [2] at the position as shown in the illustration.

NOTE

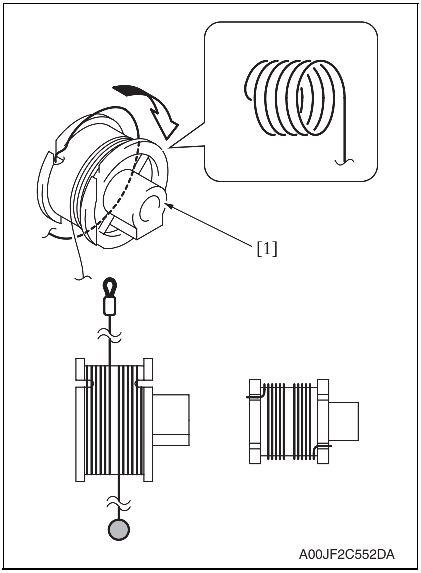
- **Make sure that the bead snugly rests in the slit in the pulley.**



2. Twist the A side scanner drive cable around the pulley [1] starting from the front groove in anticlockwise direction five times.

NOTE

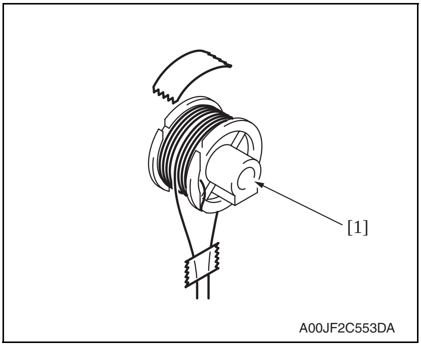
- **Make sure that no part of the cable rides on the other.**



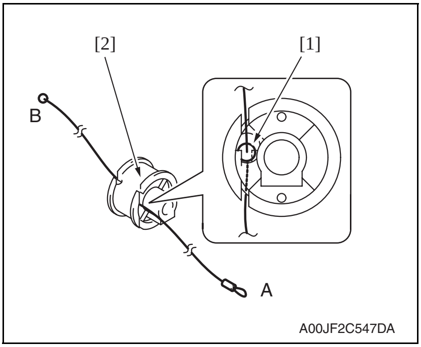
3. Twist the B side scanner drive cable around the pulley [1] starting from the rear groove in clockwise direction five times.

NOTE

- **Make sure that no part of the cable rides on the other.**



4. Apply the tape to fix the scanner drive cable to the pulley [1].

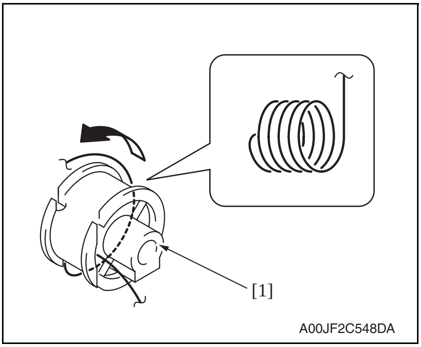


<Rear>

5. Set the round bead [1] of the scanner drive cable (black) to the pulley [2] at the position as shown in the illustration.

NOTE

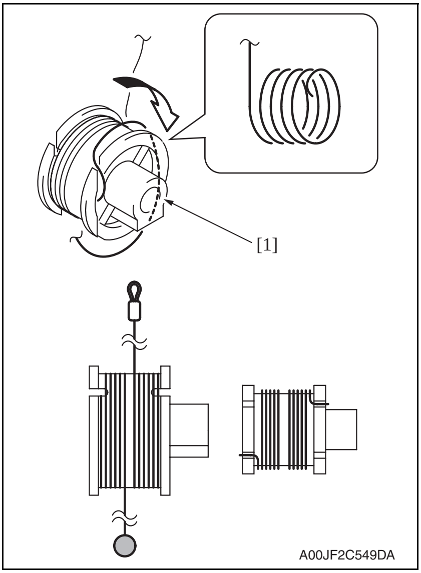
- **Make sure that the bead snugly rests in the slit in the pulley.**



6. Twist the B side scanner drive cable around the pulley [1] starting from the rear groove in anticlockwise direction five times.

NOTE

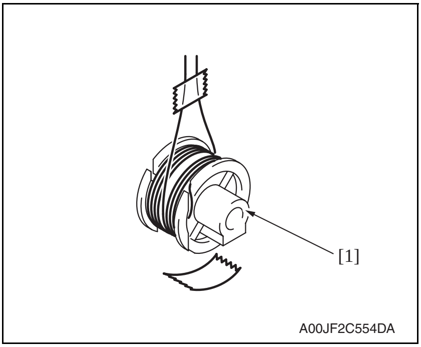
- **Make sure that no part of the cable rides on the other.**



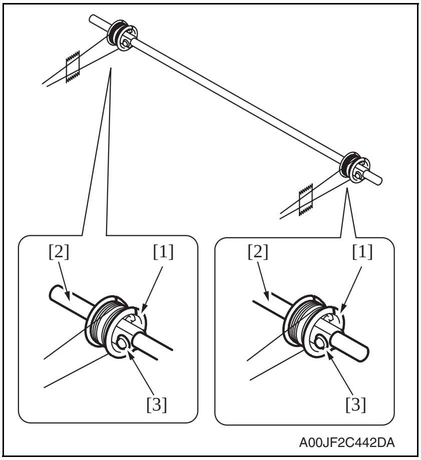
7. Twist the A side scanner drive cable around the pulley [1] starting from the front groove in clockwise direction five times.

NOTE

- **Make sure that no part of the cable rides on the other.**



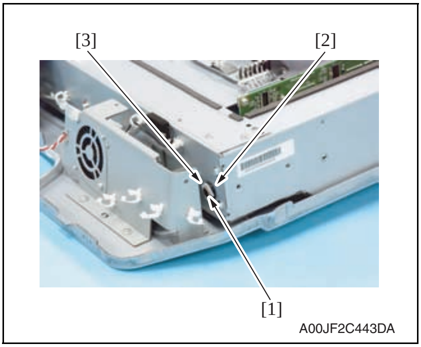
8. Apply the tape to fix the scanner drive cable to the pulley [1].



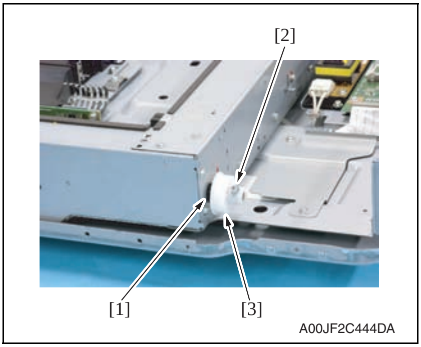
9. Put the front/rear pulleys [1] into the shaft [2], and fix them with one screw each [3].

NOTE

- **Set the pulley at the direction as shown in the illustration.**
- **Fix the pulley at the position as shown in the illustration.**
- **Apply the screw lock on the screw.**



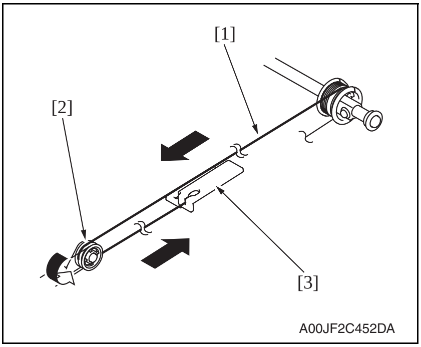
10. Set the shaft [1] and install the bearing [2] and the C-ring [3].



11. Install the bearing [1].
12. Install the gear [3] with the screw [2].

NOTE

- **Apply the screw lock on the screw.**

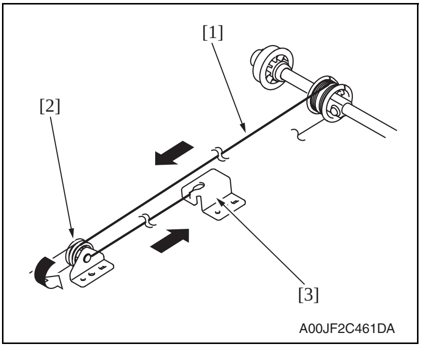


<Front>

13. Place the fixed bead side of the scanner drive cable [1] to the pulley B [2], and place the fixed bead to the adjustment anchor [3].

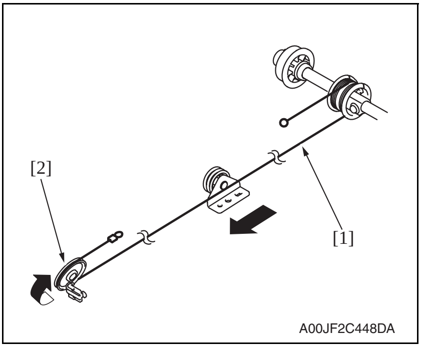
NOTE

- **Make sure to hook the scanner drive cable to the outside groove of the pulley B.**



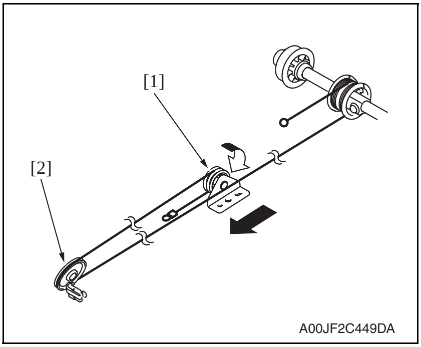
<Rear>

14. Place the fixed bead side of the scanner drive cable [1] to the pulley D [2], and place the fixed bead to the adjustment anchor [3].



<Rear>

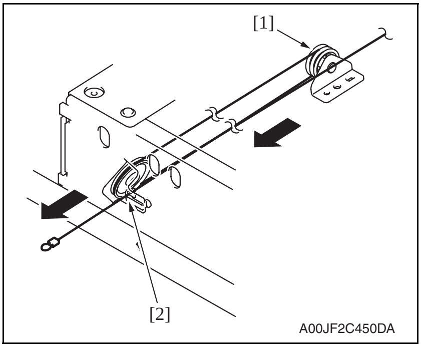
15. Place the hook side of the scanner drive cable [1] to the pulley C [2].



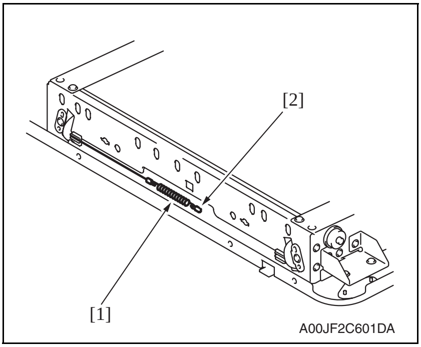
16. Place the scanner drive cable to the pulley D [2] via the pulley C [1].

NOTE

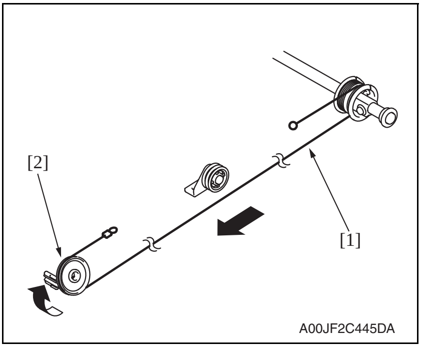
- **Make sure to hook the scanner drive cable to the outside groove of the pulley D [2].**



17. Put the scanner drive cable into the IR frame hole [2] via the pulley D [1].

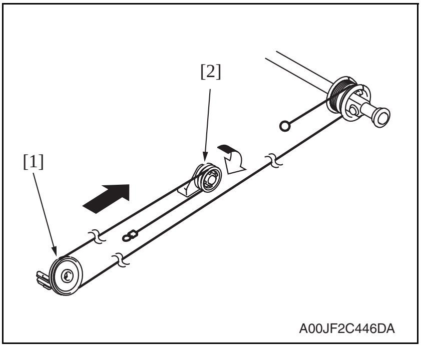


18. Hook the end of the spring [1] to the wire and the other end to the hook [2] on the IR left frame.



<Front>

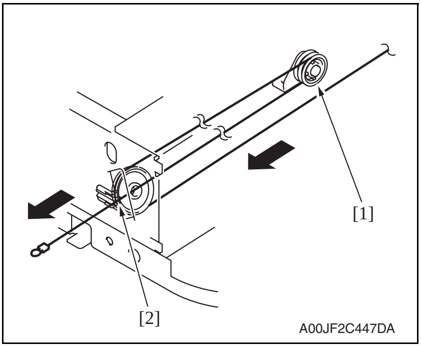
19. Place the hook side of the scanner drive cable [1] to the pulley A [2].



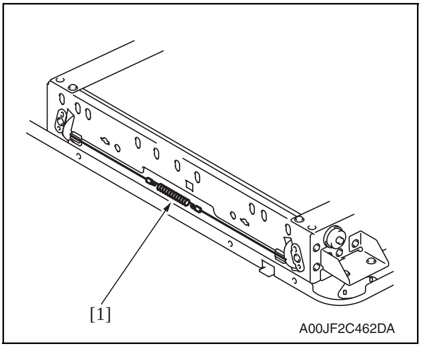
20. Place the scanner drive cable to the pulley B [2] via the pulley A [1].

NOTE

- **Make sure to hook the scanner drive cable to the outside groove of the pulley B [2].**



21. Put the scanner drive cable into the IR frame hole [2] via the pulley B [1].



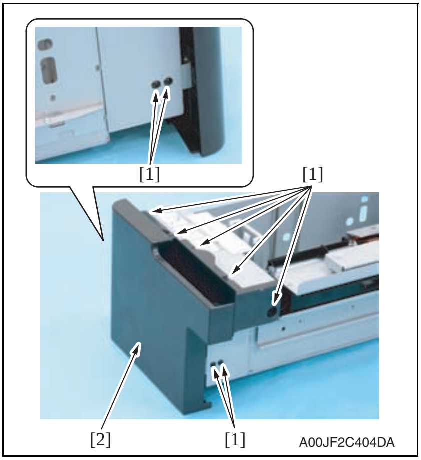
22. Remove the end of the spring [1] from the hook. Hook the end of the spring to the wire coming from the front.
23. Remove the tape that fixes the front/rear pulleys.
24. Adjust the focus positioning of the scanner and mirrors unit.
    See P.561
25. Adjust the position of the scanner and 2nd/3rd mirrors carriage.
    See P.562
26. Mount the original glass moving unit, and adjust the height of the original glass moving unit.
    See P.564
27. Perform the following setting.
    [Service Mode] → [Machine] → [Scan Area] → [Feed Direction Adjustment]]
    See P.455
28. Perform the following setting.
    [Service Mode] → [ADF] → [Read Pos Adj]
    See P.32 of the DF-611/610 service manual.

6.3.103 Tray 3/4 lift wire

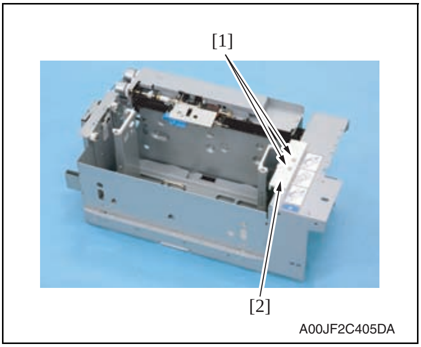
NOTE

- **The tray 3 and 4 are of the same form and mechanism. This procedure shows the steps taken for the tray 3.**

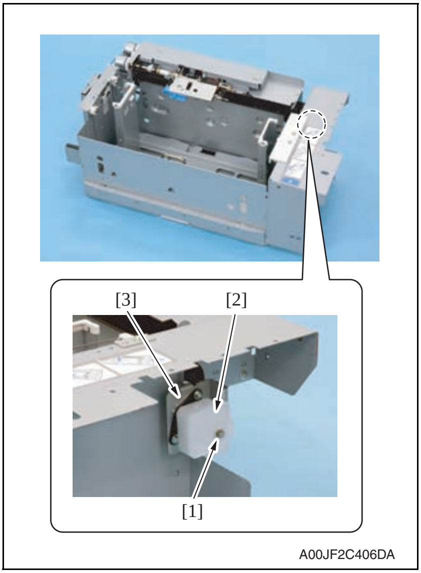
1. Remove the tray from the main body.
   See P.122



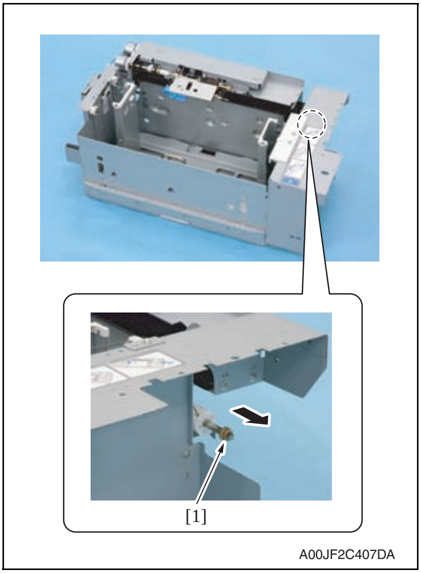
2. Remove nine screws [1], and remove the tray 3 front cover [2].



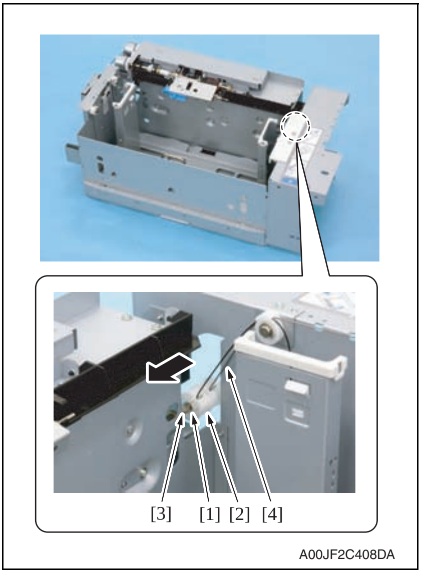
3. Remove two screws [1], and remove the wire cover /Fr [2].



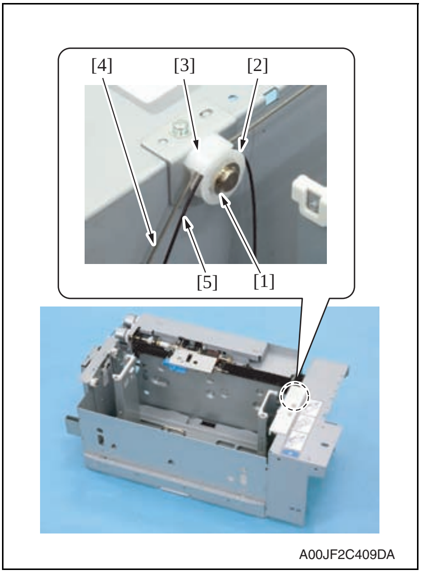
4. Remove the E-ring [1] and the gear cover [2], and take out the gear Assy [3].



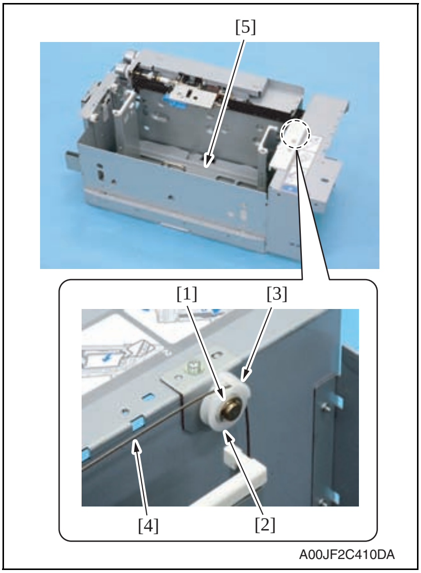
5. Remove the bearing [1].



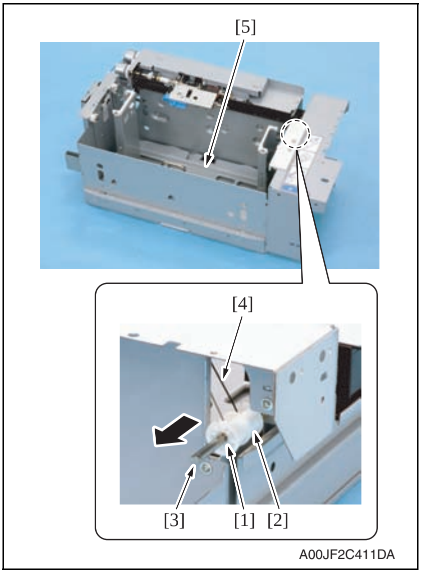
6. Remove the E-ring [1] and slide the drive pulley [2] in the arrow-marked direction to remove the wire /2 (white) [4] from the shaft [3].



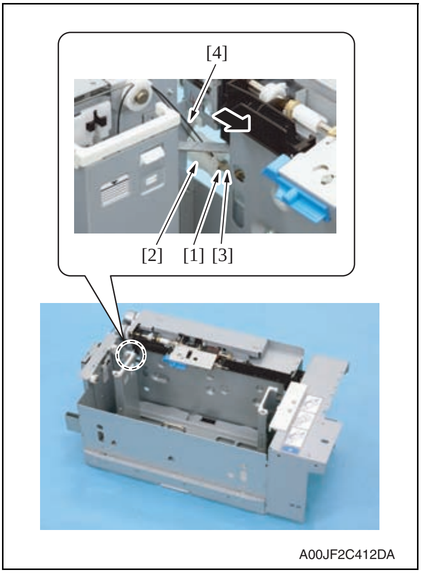
7. Remove the E-ring [1].
8. Remove the pulley [2] and the wire restraining cover [3], and then remove the wire /2 (white) [4] and the wire /1 (black) [5].



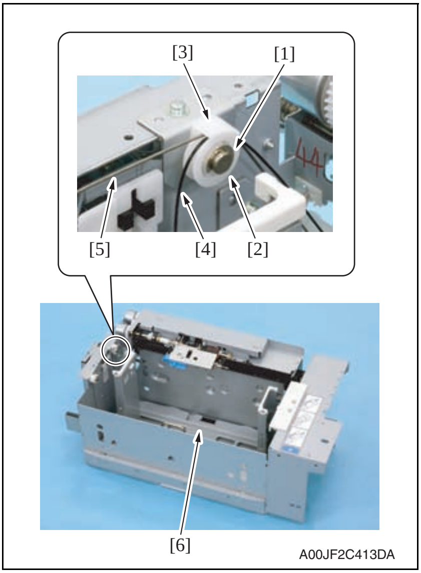
9. Remove the E-ring [1].
10. Remove the pulley [2] and the wire restraining cover [3], and then remove the wire /2 (white) [4].
11. Pull out and remove the wire /2 (white) toward the rear side of the lift plate [5].



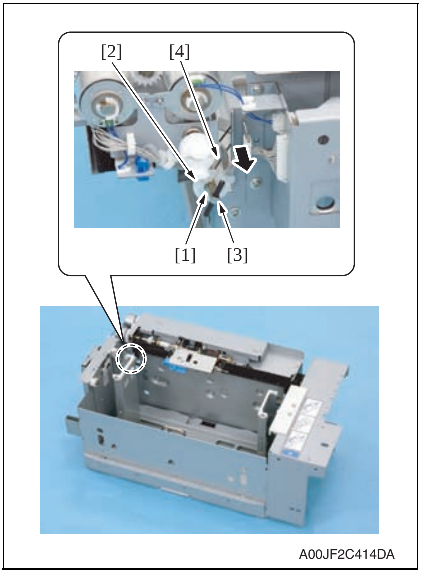
12. Remove the E-ring [1] and slide the drive pulley [2] in the arrow-marked direction to remove the wire /1 (black) [4] from the shaft [3].
13. Pull out and remove the wire /1 (black) toward the rear side of the lift plate [5].



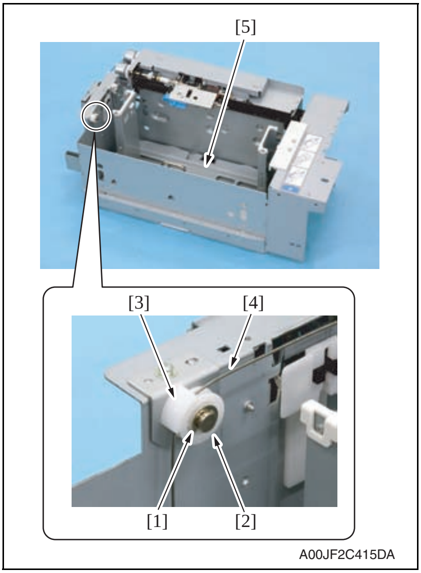
14. Remove the E-ring [1] and slide the drive pulley [2] in the arrow-marked direction to remove the wire /3 (black) [4] from the shaft [3].



15. Remove the E-ring [1].
16. Remove the pulley [2] and the wire restraining cover [3], and then remove the wire /3 (black) [4] and the wire /4 (white) [5].
17. Pull out and remove the wire /3 (black) toward the rear side of the lift plate [6].



18. Remove the E-ring [1] and slide the drive pulley [2] in the arrow-marked direction to remove the wire /4 (white) [4] from the shaft [3].



19. Remove the E-ring [1].

20. Remove the pulley [2] and the wire restraining cover [3], and then remove the wire /4 (white) [4].

21. Pull out and remove the wire /4 (white) toward the rear side of the lift plate [5].

22. To reinstall, reverse the order of removal.

NOTE

- **The same front/rear wires are used for both white and black.**

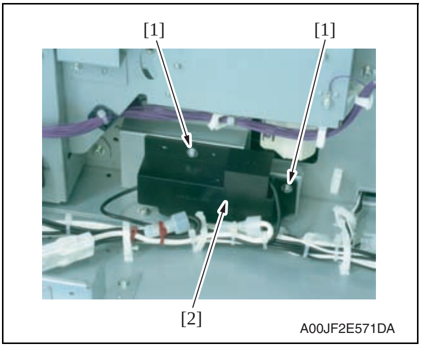
6.3.104 Fuse (F1) *USA only

NOTE

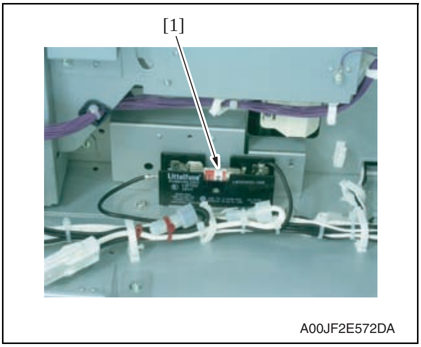
- **When the fuse is replaced, use the following fuse to be replaced.**
  Fuse (F1): Littelfuse, Inc., Type: KLDR 6, 600Vac, 6 A, Class CC, Time delay fuse)

A. Replacing procedure

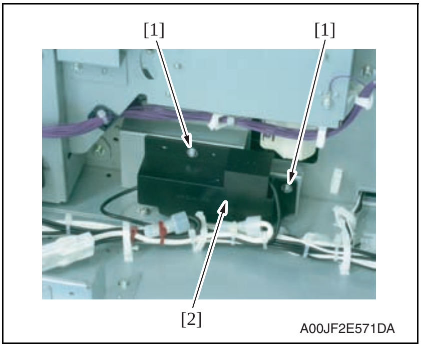
1. Remove the DC power supply.
   See P.160



2. Remove two screws [1], and remove the fuse cover [2].



3. Replace the fuse [1].



4. Reinstall the fuse cover [2] with two screws [1].

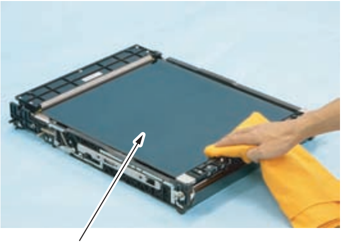
6.4 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure represents the ethanol isopropyl alcohol.**

6.4.1 Transfer belt unit

1. Remove the transfer belt unit.
   See P.55



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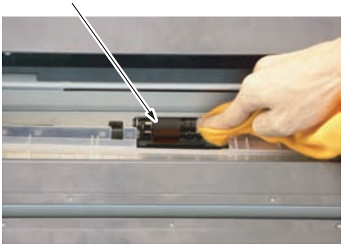
2. Using a dried soft cloth, wipe the transfer belt [1].

NOTE

- **If it is difficult to clean with dried soft cloth, dampen a soft cloth with a solvent.**
- **Do not wipe out with water.**
- **When solvent is used to dampen a cloth, do not use the ones other than shown below:**
  Isopropyl alcohol
- **After cleaned with the solvent, make copies more than 28-piece of A3 white paper to eliminate the image noise.**

6.4.2 Tray 1 feed roller/tray 1 pick-up roller

1. Open the manual bypass tray door.
2. Remove the tray 1 separation roller assy.
   See the steps 1 to 2 of tray 1 separation roller assy replacement procedure.
   See P.34
3. Slide out the tray 1.



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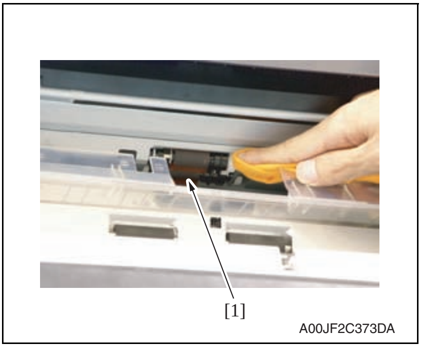
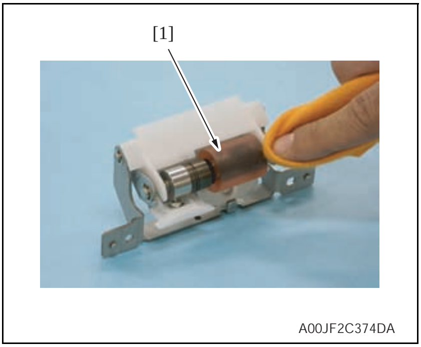
4. Using a soft cloth dampened with alcohol, wipe the tray 1 feed roller [1] clean of dirt.



5. Using a soft cloth dampened with alcohol, wipe the tray 1 pick-up roller [1] clean of dirt.

6.4.3 Tray 1 separation roller

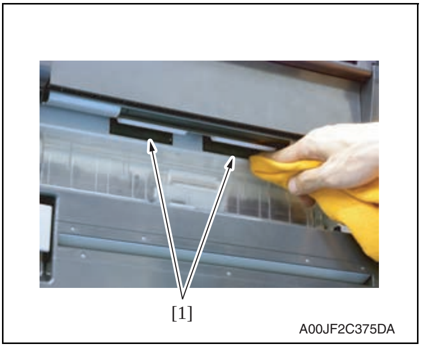
1. Remove the tray 1 separation roller assy.
   See the steps 1 to 2 of tray 1 separation roller assy replacement procedure.
   See P.34



2. Using a soft cloth dampened with alcohol, wipe the tray 1 separation roller [1] clean of dirt.

6.4.4 Tray 1 transport roller

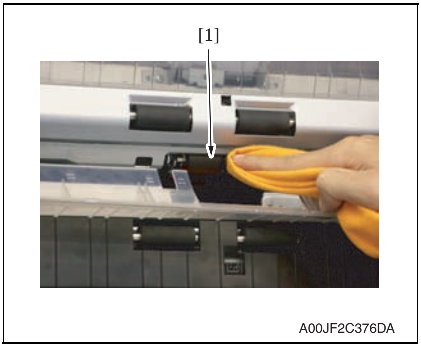
1. Open the manual bypass tray door.



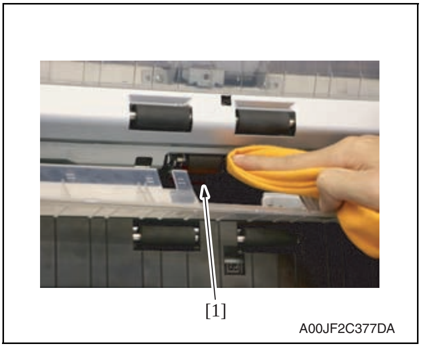
2. Using a soft cloth dampened with alcohol, wipe the tray 1 transport roller [1] clean of dirt.

6.4.5 Tray 2 feed roller/tray 2 pick-up roller

1. Open the lower right door.
2. Remove the tray 2 separation roller assy.
   See the steps 1 to 2 of tray 2 separation roller assy replacement procedure.
   See P.38
3. Slide out the tray 2.



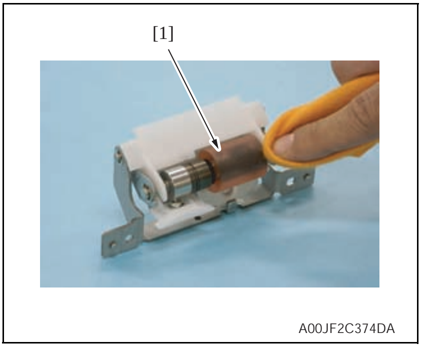
4. Using a soft cloth dampened with alcohol, wipe the tray 2 feed roller [1] clean of dirt.



5. Using a soft cloth dampened with alcohol, wipe the tray 2 pick-up roller [1] clean of dirt.

6.4.6 Tray 2 separation roller

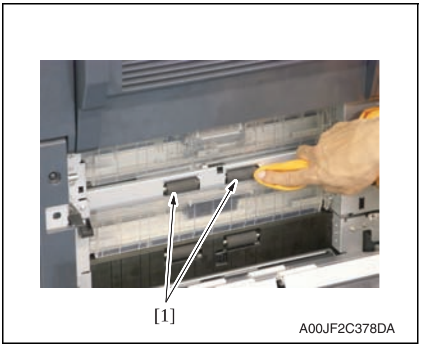
1. Remove the tray 2 separation roller assy.
   See the steps 1 to 2 of tray 2 separation roller assy replacement procedure.
   See P.38



2. Using a soft cloth dampened with alcohol, wipe the tray 2 separation roller [1] clean of dirt.

6.4.7 Tray 2 transport roller

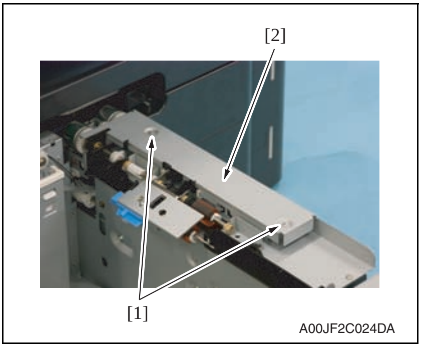
1. Open the lower front door.



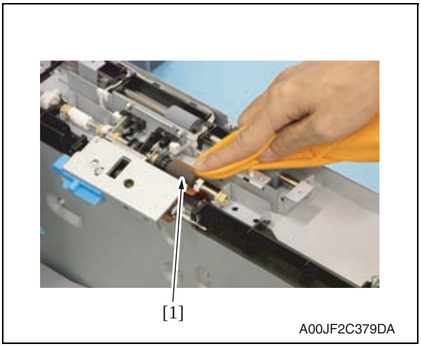
2. Using a soft cloth dampened with alcohol, wipe the tray 2 transport roller [1] clean of dirt.

6.4.8 Tray 3 feed roller/tray 3 pick-up roller

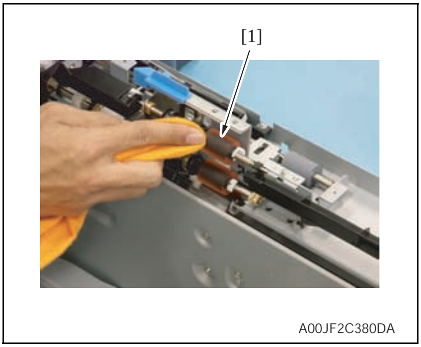
1. Slide out the tray 3.



2. Remove two screws [1], and remove the tray 3 paper feed cover [2].



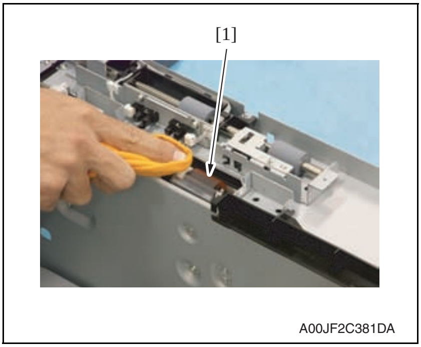
3. Using a soft cloth dampened with alcohol, wipe the tray 3 feed roller [1] clean of dirt.



4. Using a soft cloth dampened with alcohol, wipe the tray 3 pick-up roller [1] clean of dirt.

6.4.9 Tray 3 separation roller

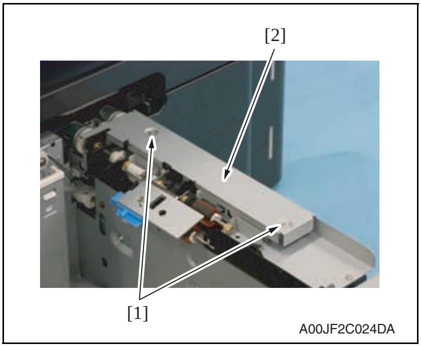
1. Remove the feed roller/pick-up roller assy.
   See the steps 1 to 4 of tray 3 feed roller replacement procedure.
   See P.39



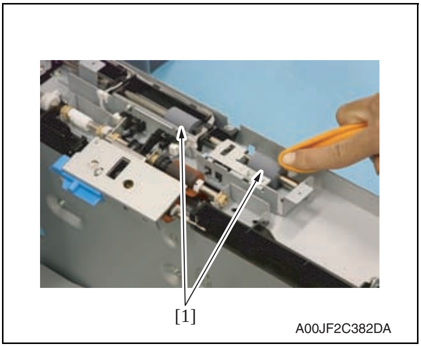
2. Using a soft cloth dampened with alcohol, wipe the tray 3 separation roller [1] clean of dirt.

6.4.10 Tray 3 transport roller

1. Slide out the tray 3.



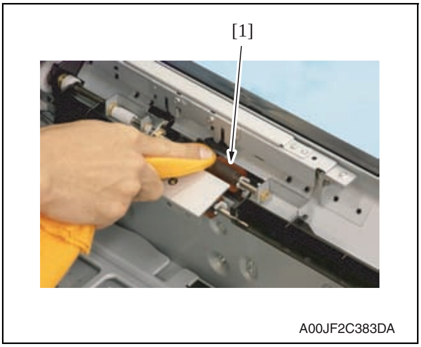
2. Remove two screws [1], and remove the tray 3 paper feed cover [2].



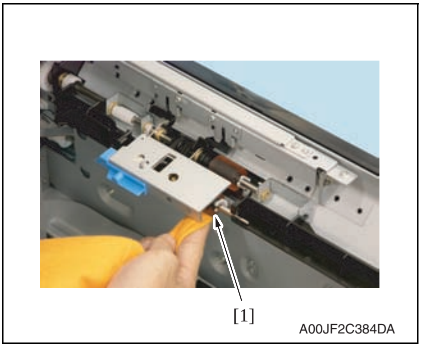
3. Using a soft cloth dampened with alcohol, wipe the tray 3 transport roller [1] clean of dirt.

6.4.11 Tray 4 feed roller/tray 4 pick-up roller

1. Slide out the tray 4.



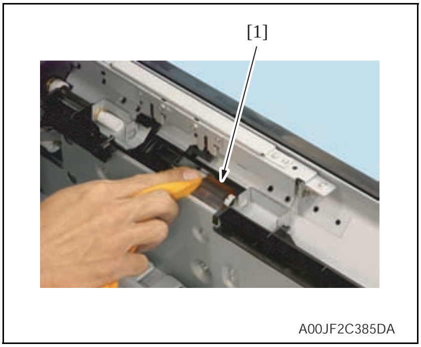
2. Using a soft cloth dampened with alcohol, wipe the tray 4 feed roller [1] clean of dirt.



3. Using a soft cloth dampened with alcohol, wipe the tray 4 pick-up roller [1] clean of dirt.

6.4.12 Tray 4 separation roller

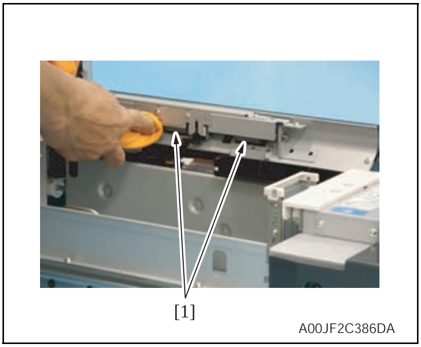
1. Remove the feed roller/pick-up roller assy.
   See the steps 1 to 4 of tray 4 feed roller replacement procedure.
   See P.42



2. Using a soft cloth dampened with alcohol, wipe the tray 4 separation roller [1] clean of dirt.

6.4.13 Tray 4 transport roller

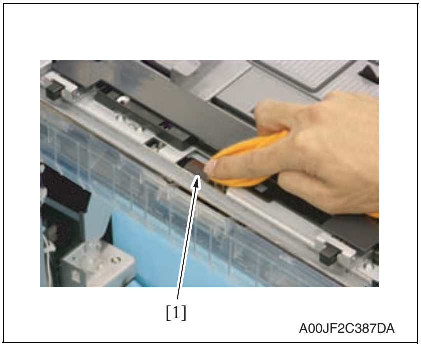
1. Slide out the tray 4.



2. Using a soft cloth dampened with alcohol, wipe the tray 4 transport roller [1] clean of dirt.

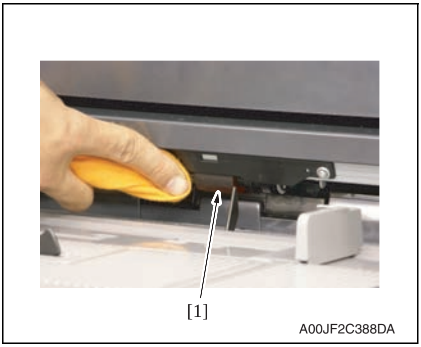
6.4.14 Manual bypass tray feed roller

1. Open the manual bypass tray door.



2. Using a soft cloth dampened with alcohol, wipe the manual bypass tray feed roller [1] clean of dirt.

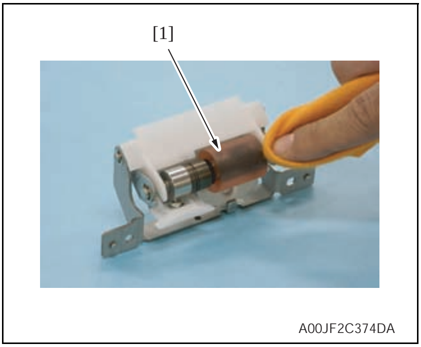
6.4.15 Manual bypass tray pick-up roller



1. Using a soft cloth dampened with alcohol, wipe the manual bypass tray pick-up roller [1] clean of dirt.

6.4.16 Manual bypass tray separation roller

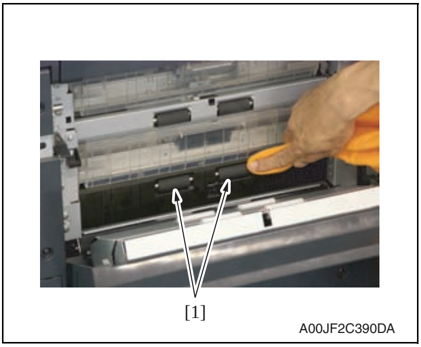
1. Remove the manual bypass tray separation roller assy.
   See the steps 1 to 2 of manual bypass tray separation roller assy replacement procedure.
   See P.47



2. Using a soft cloth dampened with alcohol, wipe the manual bypass tray separation roller [1] clean of dirt.

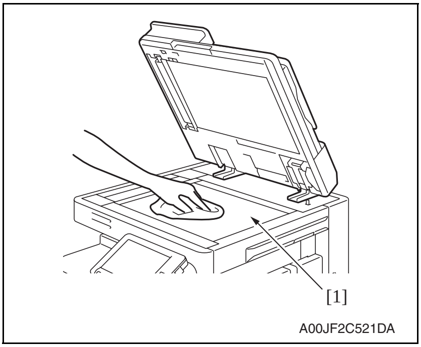
6.4.17 Intermediate transport roller

1. Open the lower right door.



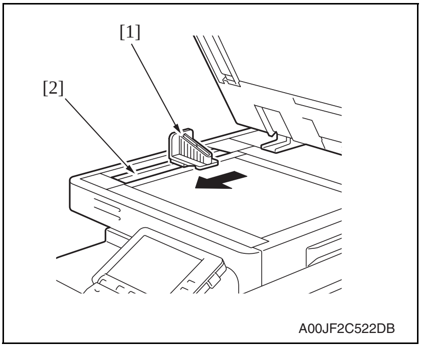
2. Using a soft cloth dampened with alcohol, wipe the intermediate transport roller [1] clean of dirt.

6.4.18 Original glass



1. Using a soft cloth dampened with alcohol, wipe the original glass [1] clean of dirt.

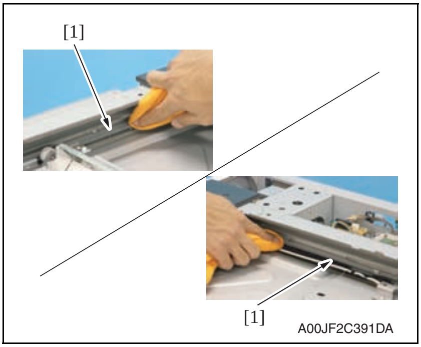
5



2. Clean the slit glass [2] with the cleaner [1].

6.4.19 Scanner rails

1. Remove the original glass.
   See P.114



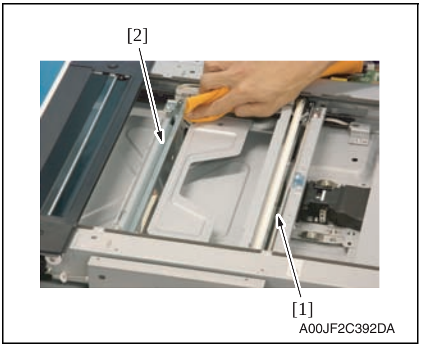
2. Using a soft cloth dampened with alcohol, wipe the scanner rails [1] clean of dirt.

NOTE

- **Apply lubricant after cleaning.**

6.4.20 Mirrors (1st/2nd/3rd)

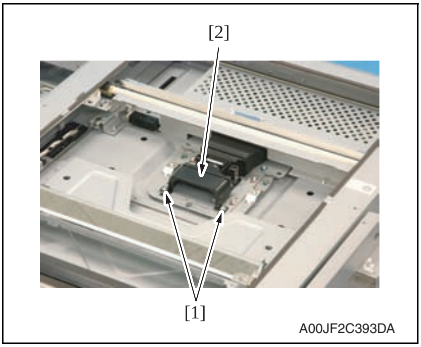
1. Remove the original glass.
   See P.114



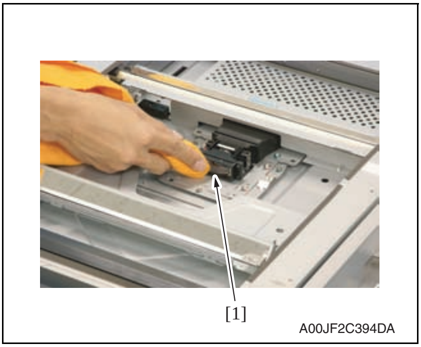
2. Using a soft cloth dampened with alcohol, wipe the mirror 1 [1] and mirror 2/3 [2].

6.4.21 Lens

1. Remove the original glass.
   See P.114



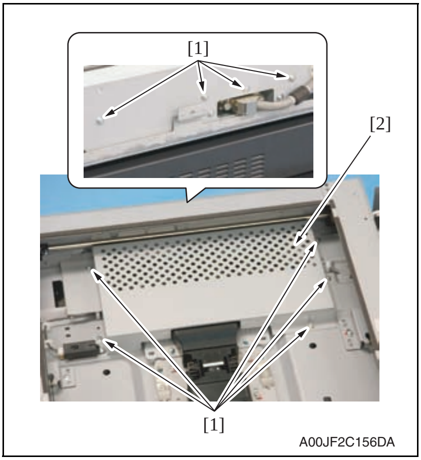
2. Remove two screws [1] and lens cover [2].



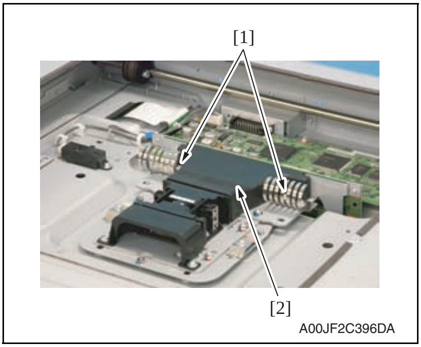
3. Using a soft cloth dampened with alcohol, wipe the lens [1] clean of dirt.

6.4.22 CCD sensor

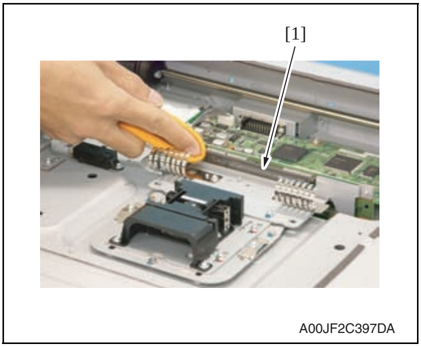
1. Remove the original glass.
   See P.114



2. Remove nine screws [1], and remove the image processing board protective shield [2].



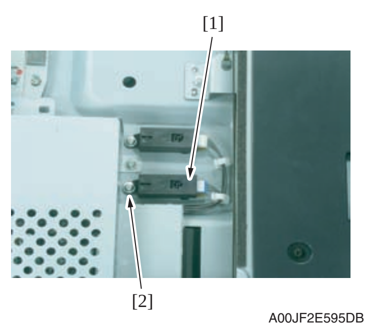
3. Remove two screws [1], and remove the CCD sensor cover [2].



4. Using a soft lint free cloth dampened with alcohol, wipe the CCD sensor [1] clean of dirt.

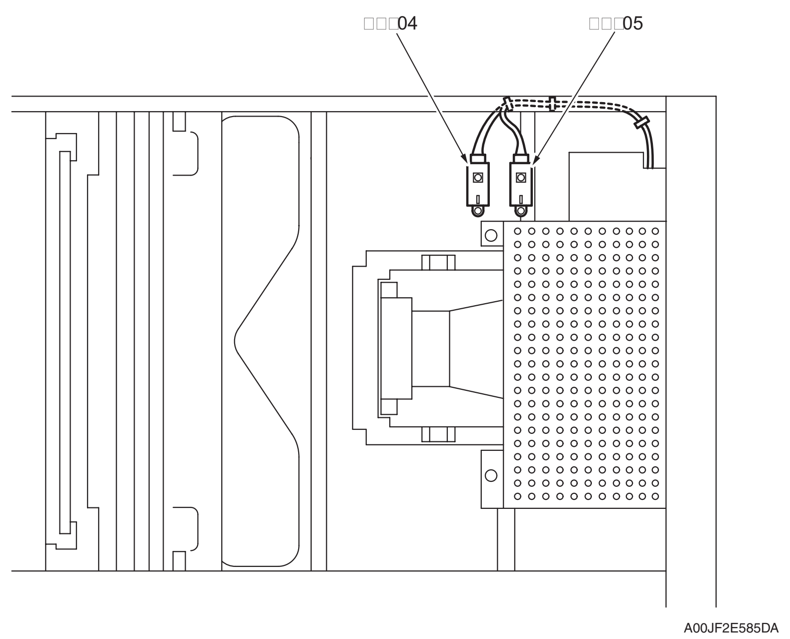
6.5 Mount the original size detection 2 sensor (PS205)

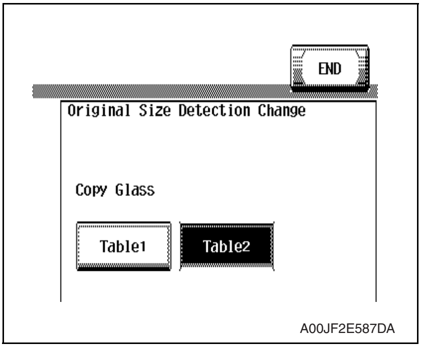
1. Remove the original glass.
   See P.114



2. Using the screw [2], mount the original size detection 2 sensor (PS205) [1] and fix it.

<How to set the harness>





Original Size Detection Change

Copy Glass

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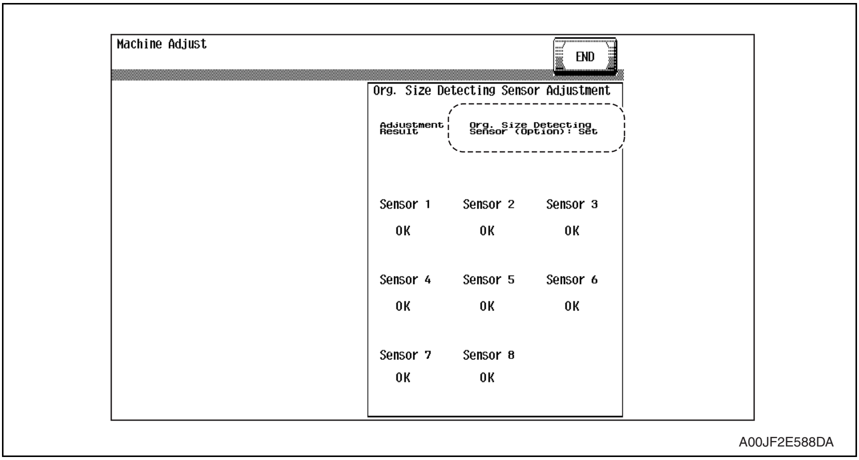
3. Select [Service Mode] → [System 1] → [Original Size Detection], and set the original glass to [Table2].

4. Select [Service Mode] → [Machine] → [Org. Size Detecting Sensor Adj]. See P.446



Machine Adjust

Org. Size Detecting Sensor Adjustment

Adjustment Result

Org. Size Detecting Sensor (Option): Set

Sensor 1	Sensor 2	Sensor 3
OK	OK	OK
Sensor 4	Sensor 5	Sensor 6
OK	OK	OK
Sensor 7	Sensor 8	
OK	OK	

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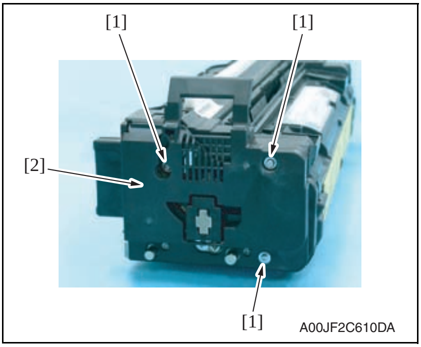
5. Check to make sure that the [Org. Size Detecting Sensor (Option): Set] is displayed on the original size detection sensor adjustment screen.

4 6.6 Lubrication procedure

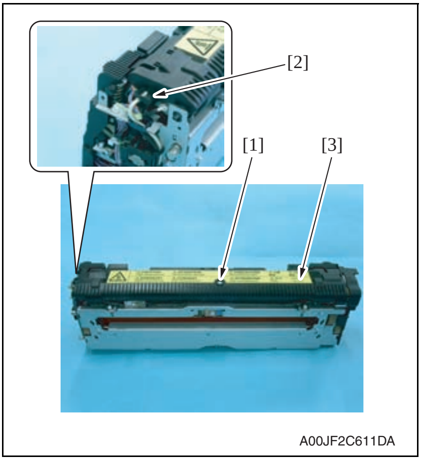
6.6.1 Fusing unit

- When the fusing unit produces abnormal noise under operating conditions, lubricate the brush roller shaft and the sliding member of the bearings which can make the noise.

1. Remove the fusing unit
   See P.60



2. Remove three screws [1], and remove the fusing unit cover/1 [2].

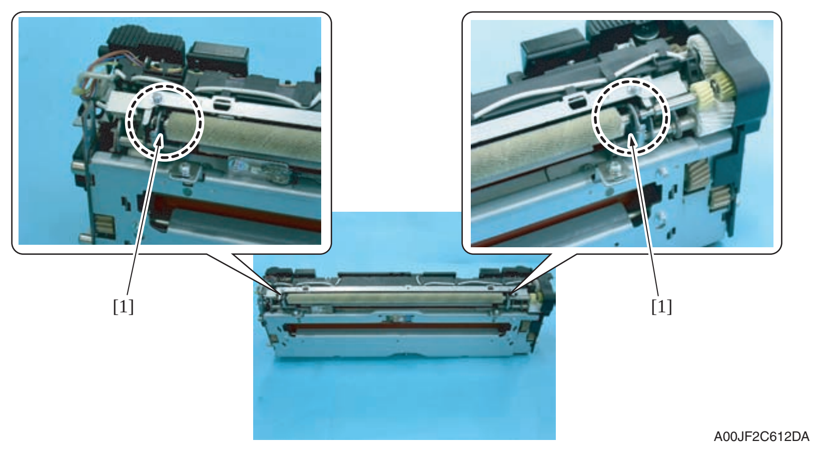


3. Remove the screw [1].
4. Remove the harness from the harness guide [2], and remove the fusing unit cover/2 [3].

5. Apply the heat resistant conductive grease (SANKOL ECG-25) to the surface [1] where the brush roller shaft contacts the bearings.

NOTE

- **Be sure to use heat-resistant conductive grease.**
- **Do not allow the grease to contact the brush roller.**
- **Do not disassemble any parts other than those described in the above procedure.**



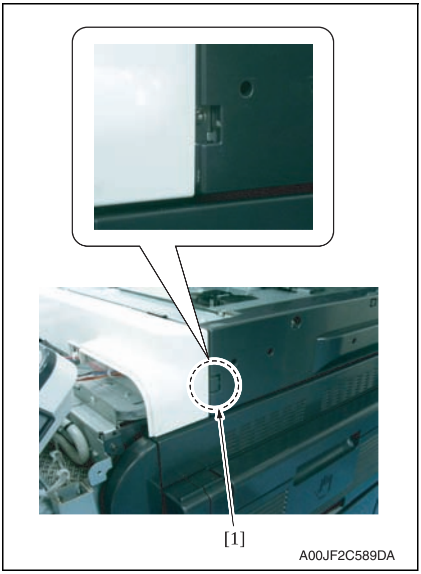
NOTE

- **Take care so that harness in the fusing unit does not get caught between parts when assembling the parts.**

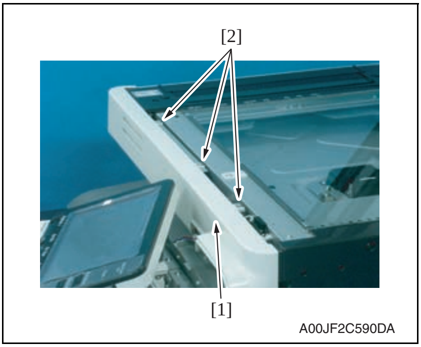
6.7 Option counter

6.7.1 Installation method for the key counter

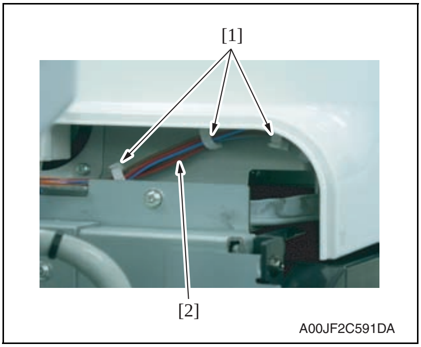
1. Remove the upper front cover /1.
   See P.108
2. Remove the upper front cover /2.
   See P.108
3. Remove the IR upper front cover.
   See P.113



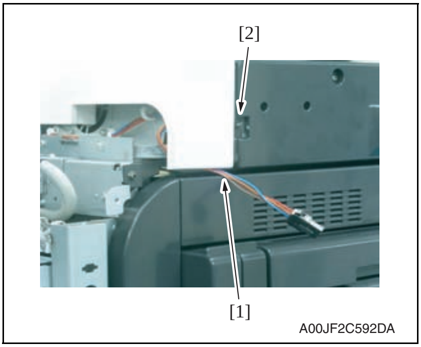
4. Cut out the knockouts [1] of the IR right cover.



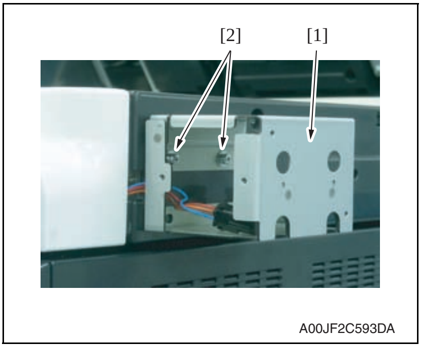
5. Loosen three screws [2] of the IR front cover [1].



6. Remove the harness [2] for the key counter from three wire saddles [1].
7. Fix the harness of the remainder to three wire saddles [1] again.



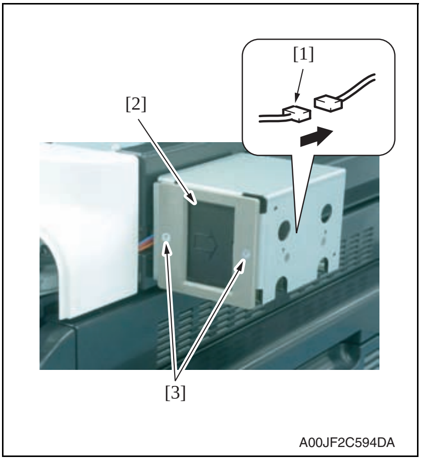
8. Route the harness for the key counter [1] as shown in the illustration on the left and let the harness out through the hole of the IR right cover [2].



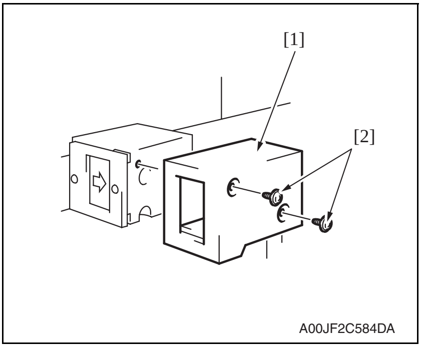
9. Using two screws [2], secure the counter mounting bracket [1].

NOTE

- **Secure the counter mounting bracket passing the connector into the bracket.**
- **Use the four long screws (9646 0418 14: M4 x 18) in the key counter kit to secure the counter mounting bracket.**



10. Connect the key counter socket connector [1].
11. Using two screws [3], secure the counter socket [2].



12. Using two screws [1], secure the key counter cover [2].

13. Select [Service Mode] → [Billing Setting] → [Management Function Choice] → [Key Counter Only], [Vendor 1 + Key Counter] or [Vendor 2 + Key Counter].
    Set color mode and message.
    For details on setting, see “Adjustment/Setting.”
    See P.552

Adjustment/Setting

7. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

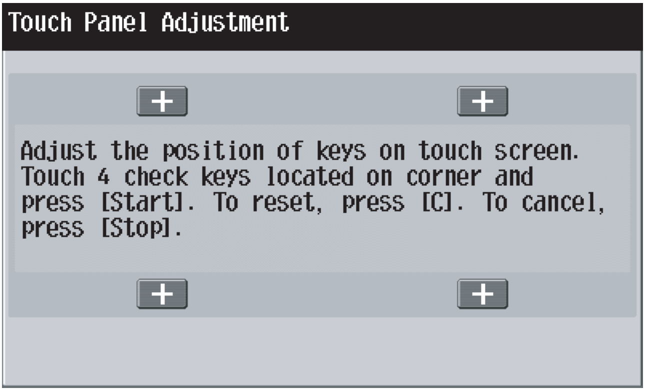
- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

8. Utility Mode

8.1 Touch Panel Adjustment

Functions	• To adjust the position of the touch panel display
Use	• Make this adjustment if the touch panel is slow to respond to a pressing action. • Use during the setup procedure.
Setting/ Procedure	*1.* Press the Accessibility key. *2.* Touch [Touch Panel Adj.]. *3.* Using the tip of a pen or similar object, touch the four keys (+) on the screen in sequence. • These crosses may be touched in any order; but be sure to touch the center of each cross. • Use care not to damage the screen surface with the tip of the pen.  Touch Panel Adjustment Adjust the position of keys on touch screen. Touch 4 check keys located on corner and press [Start]. To reset, press [C]. To cancel, press [Stop]. A00JF3E532DA *4.* Touching all four crosses will turn the Start key ON in blue. *5.* Press the Start key.

8.2 Utility Mode function tree

* The function tree is shown to comply with the format displayed on the screen.

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For displaying the keys with *, ** marks, see "Administrator Security Level."**
  See P.416
- **For displaying the keys with *** marks, see "Administrator Feature Level."**
  See P.548

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One-Touch/ User Box Registration	Create One-Touch destination	Address Book	E-mail		P.294
			User Box		P.294
			Fax		P.294
			PC (SMB)		P.294
			FTP		P.294
			WebDAV		P.295
			IP Address Fax		P.295
			Internet Fax		P.295
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		E-mail Setting	E-mail Subject		P.295
			E-mail Body		P.296
	Create User Box	Public/Personal User Box			P.296
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	Scan/Fax Settings	JPEG Compression Level		P.310
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			Output Tray Settings		P.320
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			Shift Output Each Job		P.321
		Date/Time Settings			P.321
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				Half-Fold Position	
				Tri-Fold Position Adjustment	
				Punch Vertical Position Adjustment	
				Punch Horizontal Position Adjustment	
				Punch Regist Loop Size Adjustment	
				Punch Edge Sensor Adjustment	
				Punch Unit Vertical Position	
				Punch Unit Horizontal Position	
				Punch Unit Size Detect Sensor	
				1st Z-Fold Position Adjustment	
				2nd Z-Fold Position Adjustment	
				Cover Sheet Feeder Size Adjustment	
			Density Adjustment	Thick 1/1+ -Yellow	P.332
				Thick 2/3/4-Yellow	
				Thick 1/1+ -Magenta	
				Thick 2/3/4-Magenta	
				Thick 1/1+ -Cyan	
				Thick 2/3/4-Cyan	
				Thick 1/1+ -Black	
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Banner Printing				P.430
My Panel Settings	Language Setting			P.431
	Measurement Unit Setting			
	Copier Settings			
	Scan/Fax Settings			
	Color Selection Setting			
	Main Menu Settings			
	Initial Screen Setting			

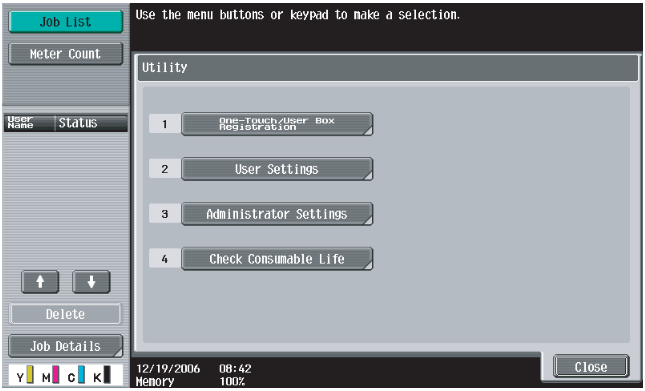
Utility Mode			Ref. page
Meter Count	Check Details	Print List	—
		Coverage Rate	—
		Copy	—
		Print	—
		Scan/Fax	—
		Other	—
Remaining Copy Count *1			—

*1: Displayed after a user or account authentication if maximum limit is set for the number of copies the user or account can make.

8.3 Utility Mode function setting procedure

8.3.1 Procedure

1. Press the Utility/Counter key.
2. The Utility Mode screen will appear.



Use the menu buttons or keypad to make a selection.

12/19/2006 08:42
Memory 100%

A00JF3E533DA

8.3.2 Exiting

- Touch the [Close] key.

8.3.3 Changing the setting value in Utility Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-key pad to enter the setting value.
  (To change the setting value, first press the Clear key before making an entry.)

8.4 One-Touch User Box Registration

- In a copier where the user authentication function that uses an external server or MFP is set to ON, when you operate the copier without performing user authentication, this menu is not displayed.
- It will not be displayed when the authentication device is set to “Set” by the following setting.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

8.4.1 Create One-Touch destination

A. Address Book

(1) E-mail

Functions Use	• To register/change e-mail address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(2) User Box

- It will not be displayed when the following setting shows that authentication device or the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

Functions Use	• To register/change the Box address when storing the scanned data in the box in the hard disk in the main body.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting. • At least one User Box must be registered for registering a Box address.

(3) Fax

Functions Use	• To register/change the fax destinations.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(4) PC(SMB)

Functions Use	• To register/change SMB address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(5) FTP

Functions Use	• To register/change FTP address to send scanned data.
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(6) WebDAV

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• To register/change WebDAV address to send scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, edit or delete the setting.

(7) IP Address Fax

- Setting will be available only when [IP Address FAX] is set to “ON” in the following settings.
  [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

Functions	• To register/change the IP address fax destination when transmitting the IP address fax data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, change or delete the setting.

(8) Internet Fax

- Setting will be available only when [Internet FAX] is set to “ON” in the following settings.
  [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

Functions	• To register/change the Internet fax address when transmitting the internet fax data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, change or delete the setting.

B. Group

Functions	• To register/change a group to send scanned data/fax data simultaneously.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed group to check, edit or delete them. • At least one address must be registered for registering a new group.

C. E-mail Settings

- It will not be displayed when the following setting shows that the management device 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) E-mail Subject

Functions	• To register the e-mail subject when transmitting the scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to detail check, edit or delete the setting. • The subject can be set as default by selecting the subject displayed on the screen and pressing [Set as Default].

(2) E-mail Body

Functions	• To register the e-mail message when transmitting the scanned data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to detail check or delete the setting. • The text can be set as default by selecting the text displayed on the screen and pressing [Set as Default].

8.4.2 Create User Box

- It will not be displayed when the authentication device is set to “Set” by the following setting.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- It will not be displayed when the following setting shows that the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)
- This menu is not available due to functional restriction during user authentication when [User Box] is set to Restrict.

A. Public/Personal User Box

Functions	• To register/change the box for storing text data in the hard disk of the machine.
Use	• Shared or personal box can be registered according to its intended use.
Setting/ Procedure	• A new box can be registered by touching [New]. • Select any displayed box to change or delete it.

B. Bulletin Board User Box

- It will be displayed only when the optional fax kit (FK-502) is mounted.
- It will not be displayed during user authentication if the fax operation is set to “Restrict” by the function restriction.

Functions	• To register/change the bulletin board user box.
Use	
Setting/ Procedure	• A new box can be registered by touching [New]. • Select any displayed box to change or delete it.

C. Relay User Box

- It will be displayed only when the optional FAX kit (FK-502) is mounted.
- It will be displayed when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Relay]

Functions	• To register/change the Relay User Box.
Use	
Setting/ Procedure	• A new box can be registered by touching [New]. • Select any displayed box to change or delete it.

8.4.3 Limiting Access to Destinations

- It will not be displayed when the following setting is set to “ON.”
  [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]

A. Outline

- The Limiting Access to Destinations setting allows or restricts individual user's access to each destination. This enables security control by restricting information that can be accessed.

(1) Apply Levels

- One of the six levels from 0 to 5 can be assigned to all destinations. Similarly, one of the levels from 0 to 5 can be assigned to all users. Depending on the combination of the destination and user levels, destinations that a user can access can be limited.
  For example, users of level 2 can access the destinations that belong to the levels 0 to 2, but cannot access to the destinations that belong to the levels 3 to 5. Level 5 users can access all destinations of the levels 0 to 5.

(2) Groups

- A group can be made with a certain name to allow its members to access its destinations. Users and destinations can be registered for the group so that the registered destinations can be accessed by the registered users.
  Access restriction depending on an individual level is also applied to the group with access to the destinations determined by the combination of the user and destination levels within a group.
- A destination can be included in only one group.
- A user can be included in multiple different groups.

B. Apply Levels/Groups to Destinations

(1) Address Book

Functions	• Sets a level and a group for destinations registered in the address book.
Use	
Setting/ Procedure	• Select a destination, press [Apply Level] or [Apply Group] and make a setting.

(2) Group

Functions	• Sets a level and a group for destinations registered in the group.
Use	
Setting/ Procedure	• Select a destination, press [Apply Level] or [Apply Group] and make a setting.

(3) Program

Functions	• Sets a level and a group for destinations registered in the program.
Use	
Setting/ Procedure	• Select a destination, press [Apply Level] or [Apply Group] and make a setting.

8.5 User Settings

8.5.1 System Settings

A. Language Selection

Functions	• To select the language on the LCD display.
Use	• To change the language on the control panel to another language.
Setting/ Procedure	• The language options depend on the marketing area selected in [Marketing Area] available from [System 1] under Service Mode.

B. Measurement Unit Settings

Functions	• To select the unit displayed on the LCD display.
Use	• To change the unit displayed on the control panel.
Setting/ Procedure	• The default setting varies depending on the marketing area. mm (Numerical Value) inch (Numerical Value) inch (Fraction)

C. Paper Tray Settings

(1) Auto Tray Selection Settings

Functions	• To set the tray for automatic selection when APS is being set. • To establish the priority for switching the Tray when ATS is being set.
Use	• To specify the tray to be used when APS is being set. • To establish the priority of the Tray when ATS is being set.
Setting/ Procedure	• Select the tray on the [Auto Tray Select] screen. • Set the priority on the [Tray Priority] screen.

(2) Auto Tray Switch ON/OFF

Functions	• To set whether to automatically switch to another tray with same size paper when the paper feed tray runs out of paper during printing.
Use	• To switch the paper feed tray automatically.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

(3) No Matching Paper in Tray Setting

Functions	• To set whether to switch to another tray automatically when the specified tray runs out of paper during printing. Stop Printing (Tray Fixed) : It stops printing when the specified tray runs out of paper. Switch Trays (Tray Priority): To switch to another tray with the specified paper and print when the tray is out of paper
Use	
Setting/ Procedure	• The default setting is Stop Printing (Tray Fixed). “Stop Printing (Tray Fixed)” Switch Trays (Tray Priority)

(4) Print Lists

- It will not be displayed when the following setting shows that authentication device or the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)
- It will not be displayed when the authentication device 1 is set to “Set” by the following setting.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions Use	• To set the paper feed tray for output the list for the meter count or the unit check. • It sets the simplex/duplex printing of the output for the sales counter or the unit check list.
Setting/ Procedure	<Paper tray> • The default setting is Tray 1. <Simplex/Duplex> • The default setting is 1-Sided.

(5) Cover Sheet Feeder Setting

See P.22 of the PI-503 service manual.

D. Auto Color Level Adjust.

Functions	• To set the criterion level to discriminate between a colored original and a black-and-white original in the auto color mode.
Use	• To change the criterion level for the partly colored image to be taken as a black-and-white original.
Setting/ Procedure	• Five levels are available to choose from and the default setting is 3. Black Standard Full Color 1 2 “3” 4 5

E. Power Save Settings

- It will be displayed only when the following setting is set to “Level 1” or “Level 2.”
  [Administrator Settings] → [Security Setting] → [Administrator Security Level]
- t will not be displayed when the following setting shows that authentication device 1 or the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) Low Power Mode Settings

Functions	• To set the time until low power starts operating after the last key operation has been completed. • Low power: To turn LED and LCD OFF, and lower the power consumption.
Use	• To change the time until low power starts.
Setting/ Procedure	• Use the 10-key pad for setting. • The default setting is 15 min. “15 min.” (10 to 240)

(2) Sleep Mode Settings

Functions	• To set the time until sleep mode starts operating after the last key operation has been completed. • Turn all lines OFF except 5 V line for control. • “OFF” will only be displayed when [No Sleep] in Service Mode is set.
Use	• To change the time until the sleep mode starts.
Setting/ Procedure	• Use the 10-key pad for setting. • The default setting is 30 min. “30 min.” (15 to 240) / OFF

F. Output Settings

- It will be displayed only when the following setting is set to “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]
- It will not be displayed when the following setting shows that authentication device or the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

(1) Print/Fax Output Settings

Functions	• To set the timing for printing for the PC print job or fax received.
Use	Batch Print : Starts printing when all data are received Page Print : Starts printing every time data for each page are received
Setting/ Procedure	<Printer> • The default setting is Page Print. <Fax> • The default setting is Batch Print. **NOTE** • **[FAX] will be displayed only when the optional fax kit (FK-502) is mounted.**

(2) Output Tray Setting

- When the optional finisher FS-517/518 or FS-608 is mounted.

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 Print : Tray 1 Report Output : Tray 2 Fax : Tray 2

- When the optional finisher FS-519 is mounted.

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 (Tray 3: When [Bin Setting] is enabled.) Print : Tray 1 Report Output : Tray 2 (Tray 3: When the optional OT-602 is mounted./When [Bin Setting] is enabled.) Fax : Tray 2 (Tray 3: When the optional OT-602 is mounted./When [Bin Setting] is enabled.)

- When the JS-504 is mounted.

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the prior output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 Print : Tray 2 Report Output : Tray 1 Fax : Tray 2

(3) Bin Setting (bizhub C451 only)

- It will be displayed only when the optional mailbin kit MT-502 is mounted.

Functions	• Assign the tray 1 of the finisher to the mailbin 5, and the tray 2 to the mailbin 6. • The tray 2 can be assigned when the optional exit tray OT-602 is mounted.
Use	• Use when assigning the tray 1 and the tray 2 of the finisher to the mailbins.
Setting/ Procedure	• The default setting is Disable. Enable “Disable”

G. AE Level Adjustment

- It will be displayed only when the following setting is set to “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]
- It will not be displayed when the following setting shows that authentication device or the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

Functions	• To set the default setting for AE (Auto Exposure) The larger the value becomes the more emphasized the background will be.
Use	To make the background level foggier: Increase the setting value To make the background level less foggy: Decrease the setting value
Setting/ Procedure	• The default setting is 2. “2” (0 to 4)

H. Auto Paper Select for Small Original

Functions	• To make the copy setting when the paper is undetectably small, or no original is being set.
Use	• To copy the original such as business cards with which the original detection is not effective. Copy on Small Size : Copies on A5 paper. Copy on A4/Letter : Copies on A4 or Letter (8 $^1/_2$ x 11) size paper. Prohibit Copy : Does not copy since the original size cannot be detected. paper feed tray needs to be selected prior to pressing the Start key.
Setting/ Procedure	• The default setting is Prohibit Copy. Copy on Small Size Copy on A4/Letter “Prohibit Copy”

I. Blank Page Print Settings

- It will be displayed only when the following setting is set to “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]
- It will not be displayed when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• Select wether or not to print the stamp/composition on blank pages.
Use	• To print a stamp/composition on blank pages.
Setting/ Procedure	• The default setting is Do Not Print. Print “Do Not Print”

8.5.2 Custom Display Settings

A. Copier Settings

(1) Default Tab

Functions	• Selects a default tab display in the copy mode.
Use	• To change the default tab display in the copy mode. Basic : Normal basic screen Quick Copy : This screen displays all options that can be selected for Paper, Zoom, and Duplex/Combine functions. For color functions, all selectable options can be displayed on the screen. The normal [Basic] screen is also displayed as another tab on the screen.
Setting/ Procedure	• The default setting is Basic. “Basic” Quick Copy

(2) Shortcut Key 1/2

Functions	• Selects whether to use the shortcut key. • Adds frequently used shortcut keys of auxiliary functions to the basic screen.
Use	
Setting/ Procedure	• The default setting is OFF. ON “OFF” • When this setting is set to ON, select auxiliary functions to get their shortcut keys displayed on the screen.

B. Scan/Fax Settings

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) Default Tab

Functions	• To set the basic screen display in scan/fax mode.
Use	• To change the basic screen display in scan/fax mode.
Setting/ Procedure	• The default setting is Address Book. Address Search (LDAP) Job History “Address Book” Direct Input

(2) Program Default

Functions	• To set the default display for the program screen during scan/fax mode.
Use	• To keep the default display on the program screen which frequently changes during scan/fax mode
Setting/ Procedure	• The default setting is PAGE 1. Temporary One-Touch/ “PAGE1” to PAGE27

(3) Address Book Index Default

Functions	• To set the default display for the address book screen during scan/fax mode.
Use	• To keep the default display instead of search string on the address book which frequently changes during scan/fax mode.
Setting/ Procedure	• The default setting is Main. “Favorite” /ABC to WXYZ / etc

(4) Shortcut Key 1/2

- [Shortcut Key 2] is not displayed when the optional image controller (IC-409) is installed.

Functions	• Selects whether to use the shortcut key.
Use	• Adds frequently used shortcut keys of auxiliary functions to the basic screen.
Setting/ Procedure	• The default setting is OFF. ON “OFF” • When this setting is set to ON, select auxiliary functions to get their shortcut keys displayed on the screen.

(5) Default Address Book

Functions	• Sets a default screen display for the scan/fax mode where the address book is set to be displayed.
Use	
Setting/ Procedure	• The default setting is Index. “Index” Address Type

C. Copy Screen

- It will not be displayed when the following setting shows that key counter, vendor, or authentication device 1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  However, this menu is available when the key counter is installed and [The next job reservation] is set to License.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) Copy Operating Screen

Functions	• To set the display on the control panel screen during printing.
Use	• To display the screen to indicate printing when printing is being carried out. Yes : The screen shows that the printing is being carried out. The job can be reserved with [Program Next Job]. No: The screen does not indicate the printing being carried out. The normal copy setting screen will be displayed. The copy reservation is available.
Setting/ Procedure	• The default setting is No. Yes “No”

D. Fax Active Screen

- It will be displayed only when the optional fax kit (FK-502) is mounted.
- It will not be displayed when the following setting shows that key counter, vendor, or authentication device 1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) TX Display

Functions	• To set the screen display for the control panel when transmitting fax.
Use	• To display [Sending] on the screen when transmitting fax.
Setting/ Procedure	• The default setting is No. Yes “No”

(2) RX Display

Functions	• To set the screen display on the control panel when receiving fax.
Use	• To display [Receiving] on the screen when receiving the fax.
Setting/ Procedure	• The default setting is No. Yes “No”

E. Color Selection Settings

Functions	• Specifies a color that highlights a selection on the control panel.
Use	
Setting/ Procedure	• The default setting is Green. “Green” Blue Yellow Pumpkin

F. Left Panel Display Default

Functions	• Specifies an item that is shown as a default on the left panel display.
Use	• To change the item that is shown as a default on the left panel display. Job List (List Display) : Displays a list of jobs that are both being printed and waiting to be printed. Job List (Status Display) : Displays the status of jobs that are being processed. Check Job Settings : Displays the setting of the copy job that is being printed.
Setting/ Procedure	• The default setting is Job List. “Job List.” Check Job Settings

G. Search Option Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.

(1) Uppercase and Lowercase Letters

Functions Use	• Select whether or not to differentiate between upper case and lowercase letters.
Setting/ Procedure	• The default setting is Differentiate. “Differentiate” Do Not Differentiate

(2) Search Option Screen

Functions Use	• Select whether or not to display [Uppercase and Lowercase Letters] setting in the advanced search. • Displaying the search option screen allows changing the search criteria for an individual search.
Setting/ Procedure	• The default setting is Off. On “Off”

8.5.3 Copier Settings

A. Auto Booklet ON when Fold & Staple

- bizhub C650/C550 : It will be displayed only when the optional finisher FS-608 is mounted.
- bizhub C451 : It will be displayed only when the optional finisher FS-608 or the optional saddle stitcher SD-505 is mounted.

Functions	• To set whether to set the auto booklet when fold & staple is selected.
Use	• To cancel setting the auto booklet when fold & staple is selected.
Setting/ Procedure	• The default setting is Auto Select Booklet. “Auto Select Booklet” OFF

B. Auto Zoom for Combine/Booklet

Functions Use	• To set whether to select the appropriate magnification when combine or booklet is selected during auto paper select.
Setting/ Procedure	• The default setting is Auto Display Zoom Ratio. “Auto Display Zoom Ratio” OFF

C. Auto Sort/Group Selection

Functions	• Selects whether to use the auto sort/group selection function when a job has output of two or more sheets. Yes : Automatically disables the Auto sort/group selection when a sheet of original is placed on the ADF and the start key is pressed. Automatically enables the Auto sort/group selection when two or more sheets of originals are placed on the ADF and the start key is pressed. No : Disable the Auto sort/group selection.
Use	
Setting/ Procedure	• The default setting is Yes. "Yes" No

D. Default Copy Settings

- This menu is unavailable if user authentication is not made while either of authentication devices is set to Set in the [Service Mode] → [Billing Setting] → [Management Function Choice].
- This menu is not available when the key counter is set or when a warning appears to inform that the vendor's main power switch needs to be checked or coins (a card) are not inserted under the condition where the vendor is set to Set in the [Service Mode] → [Billing Setting] → [Management Function Choice].

Functions	• To make default settings for the copy mode. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account track is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • The settings made on the control panel before entering the setting menu screens are registered as the default settings of copy functions. <Factory Default> • The settings made at the time of shipment from the factory are registered as the default settings of copy functions.

E. Default Enlarge Display Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.
- Displayed only when you select [Utility/Counter] → [User Settings] → [Copier Settings] in the enlarge display mode.

Functions	• To make default settings for the enlarge display mode. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account track is changed.
Use	• To change the Initial mode setting to meet the user’s need.
Setting/ Procedure	<Current Setting> • The settings made on the control panel before entering the setting menu screens are registered as the default settings of copy functions. <Factory Default> • The settings made at the time of shipment from the factory are registered as the default settings of copy functions.

F. When AMS Direction is Incorrect

- It will not be displayed when the following setting shows that vendor1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to print when the original is set in different direction from the set paper during auto zoom select.
Use	• To display alarm when original is set in different direction from paper and to cancel the job during auto zoom select. Print : To print according to the selected direction and size of paper Delete Job : To display alarm and cancel the job
Setting/ Procedure	• The default setting is Print. “Print” Delete Job

G. Separate Scan Output Method

- It will not be displayed when the following setting shows that vendor1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set the output mode at Separate Scan setting.
Use	• To print all at once after reading all data. Page Print : Print consecutively during the read operation. Batch print : Print all at once after reading all data. Copy setting can be changed after the read operation.
Setting/ Procedure	• The default setting is Page Print. “Page Print” Batch Print

H. Enlargement Rotation

- It will not be displayed when the following setting shows that vendor1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• Sets whether to rotate images of which length is more than 297 mm in the main scan direction (in the horizontal direction on the ADF or the Original glass) in the copying process. Allow : Makes an enlargement rotation only when black is selected for the color setting. Restrict : Disables an enlargement rotation regardless of the color setting.
Use	
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

I. Auto Zoom (Platen)

- It will be displayed only when the following setting is set to “Level 1” or “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• To set whether to function the auto magnification when the feed tray is selected with document set on the original glass (excepting at automatic paper selection mode.)
Use	• To function the auto magnification when the Tray is selected.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

J. Auto Zoom (ADF)

- It will be displayed only when the following setting is set to “Level 1” or “Level 2”.
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• To set whether to function the auto magnification when the feed tray is selected with document set on the ADF (excepting at automatic paper selection mode.)
Use	• To function the auto magnification when the feed tray is selected.
Setting/ Procedure	• The default setting is ON. “ON” OFF

K. Specify Default Tray when APS Off

- It will be displayed only when the following setting is set to “Level 1” or “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• To set the tray to be used when APS is cancelled.
Use	• To set the tray for the initial setting when APS is cancelled.
Setting/ Procedure	• The default setting is Tray (Tray 1) Before APS OFF. “Tray Before APS OFF” Default Tray

L. Select Tray for Insert Sheet

- It will be displayed only when the following setting is set to “Level 1” or “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• To select the default setting of the tray for cover sheet paper.
Use	
Setting/ Procedure	• The default setting is Tray 2.

M. Tri-Fold Print Side

- It will be displayed only when the following setting is set to “Level 1” or “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]
- It will be displayed only when the optional finisher FS-608 is mounted.

Functions	• Specifies the side of copies to be folded.
Use	Inside : Folds paper in three with the printed side in. Outside : Folds paper in three with the printed side out.
Setting/ Procedure	• The default setting is Inside. Outside “Inside”

N. Print Jobs During Copy Operation

- It will be displayed only when the following setting is set to “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• To set whether to accept the printing job for print data or fax data during copy operation.
Use	• To refuse print data or fax data during copy operation. Accept : Receives the print data or fax data to print. Receive Only : Print data or fax data will be printed when the copy operation is finished.
Setting/ Procedure	• The default setting is Accept. “Accept” Receive Only

O. Automatic Image Rotation

- [It will be displayed only when the following setting is set to “Level 1” or “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• Sets whether to automatically rotate images to print if the original and specified paper directions are not consistent with each other.
Use	
Setting/ Procedure	• The default setting is On. “On” Off

8.5.4 Scan/Fax Settings

A. JPEG Compression Level

Functions	• To set the JPEG compression method when scanning with JPEG while in scan/fax mode.
Use	• To change the compression rate when JPEG scanning. High Quality : Lowers the compression rate and puts priority in quality while scanning. Standard : Compression rate and quality are normally balanced while scanning. High Compression: Makes the compression rate higher and puts priority in lowering the data volume while scanning.
Setting/ Procedure	• The default setting is Standard. High Quality “Standard” High Compression

B. Black Compression Level

Functions	• To set the monochrome compression method for scanning in the monochrome mode while in scan/fax mode.
Use	• To be used when changing the monochrome mode while in scanner mode.
Setting/ Procedure	• The default setting is MMR. MH “MMR”

C. TWAIN Lock Time

- It will not be displayed when the optional image controller IC-409 is mounted.

Functions Use	• To set the period of time for unlocking the operation panel while in TWAIN scanning.
Setting/ Procedure	• The default setting is 120 sec. “120 sec.” (30 to 300 sec.)

D. Default Scan/Fax Settings

- This menu is unavailable if user authentication is not made while either of authentication devices is set to set in the [Service Mode] → [Billing Setting] → [Management Function Choice].
- This menu is not available when the key counter is set or when a warning appears to inform that the vendor's main power switch needs to be checked or coins (a card) are not inserted under the condition where the vendor is set to Set in the [Service Mode] → [Billing Setting] → [Management Function Choice].

Functions	• To make default settings for the fax/scan mode. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account track is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • The settings made on the control panel before entering the setting menu screens are registered as the default settings of fax/scan functions. <Factory Default> • The settings made at the time of shipment from the factory are registered as the default settings of fax/scan functions.

E. Default Enlarge Display Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.
- Displayed only when you select [Utility/Counter] → [User Settings] → [Scan/Fax Settings] in the enlarge display mode.

Functions	• To make default settings for the enlarge display mode. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account track is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • The settings made on the control panel before entering the setting menu screens are registered as the default settings of fax/scan functions. <Factory Default> • The settings made at the time of shipment from the factory are registered as the default settings of fax/scan functions.

F. Compact PDF Compression Level

Functions	• Selects a compression method applied to scanned data that is produced with the use of Compact PDF in the scan/fax mode.
Use	• To change the compression ratio applied to scanned data that is produced with the Compact PDF format. High Quality : Lowers the compression rate and puts priority in quality while scanning. Standard : Compression rate and quality are normally balanced while scanning. High Compression: Makes the compression rate higher and puts priority in lowering the data volume while scanning.
Setting/ Procedure	• The default setting is Standard. High Quality “Standard” High Compression

8.5.5 Printer Settings

A. Basic Settings

(1) PDL Setting

Functions	• To set the PDL (Page Description Language) for PC printing.
Use	• To fix the PDL as necessary. It usually switches automatically.
Setting/ Procedure	• The default setting is Auto. “Auto” PCL PS

(2) Number of Copies

Functions	• To set the number to be copied when not specified by the printer driver during PC printing.
Use	• To use when the number cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is 1. “1” (1 to 9999)

(3) Original Direction

Functions Use	• To set the default setting for the direction of the original during PC printing.
Setting/ Procedure	• The default setting is Portrait. “Portrait” Landscape

(4) Spool Print Jobs in HDD before RIP

Functions Use	• To set whether to store the print data to HDD when receiving the next job during RIP process of the current job.
Setting/ Procedure	• The default setting is ON “ON” OFF

(5) A4/A3 ↔ LTR/LGR Auto Switch

Functions	• To set whether to switch between A4 and Letter (8 1/2 x 11) size paper, and A3 and Ledger (11 x 17) size paper in reading.
Use	• To output Letter (8 1/2 x 11) size document to A4 size, and Ledger (11 x 17) size document to A3 size. • To output A4 size document to Letter (8 1/2 x 11) size, and A3 size document to Ledger (11 x 17) size. **NOTE** **• When switching the size, the image will be printed in the same magnification.** **• The image will not be reduced when there is image deficiency.**
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(6) Banner Sheet Setting

Functions	• To set whether or not to print on the banner (front cover) page.
Use	• To use when the banner (front cover) page is to be printed.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(7) Binding Direction Adjustment

Functions	• Specifies the alignment between the sides of paper (binding position adjustment) in duplex printing.
Use	• To achieve faster printing performance, select Productivity Priority. To address misalignment problems between sides of copies in the horizontal and vertical directions, select Finishing Priority. Finishing Priority : Able to optimize sides aligning operation as the process is performed after the machine receives all of the print data. Productivity Priority : Able to accelerate print speed as sides alignment proceeds together with data reception and print operation. Control Adjustments : Comply with the command from the printer driver and does not take the side alignment step.
Setting/ Procedure	• The default setting is Finishing Priority. “Finishing Priority” Productivity Priority Control Adjustments

3 (8) Line Width Adjustment

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• To correct line width of the output data during PC print.
Use	• To correct the line width of the output data according to user’s needs.
Setting/ Procedure	• The default setting is Thin. “Thin” Normal Thick

B. Paper Setting

(1) Paper Tray

Functions	• To set the paper feed tray when not specified by the printer driver during PC printing.
Use	• To use when paper feed tray cannot be specified by the printer driver when printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Auto.

(2) Paper Size

Functions	• To set the paper size when not specified by the printer diver during printing.
Use	• To use when the paper size cannot be specified by the printer driver during printing from Windows DOS, etc.

(3) 2-Sided Print

Functions	• To set whether to carry out duplex print during PC printing when not specified by the printer driver.
Use	• To use when 2-sided printing cannot be specified by the printer driver while printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(4) Binding Position

Functions	• To set the binding direction during duplex printing when not specified by the printer driver during PC printing.
Use	• To use when binding direction cannot be specified by the printer driver during printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is Left Bind. Top Bind “Left Bind” Right Bind

(5) Staple

- bizhub C650/C550 : The menu is available only when the optional finisher FS-517/518/608 is mounted.
- bizhub C451 : The menu is available only when the optional finisher FS-517/608 or FS-519 is mounted.

Functions	• To set whether to staple or not when not specified by the printer driver during PC printing.
Use	• To use hen staple is not specified by the printer driver during printing by the Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. 1 Position 2 Position “OFF”

(6) Punch

- bizhub C650/C550 : The menu is available only when the optional finisher FS-517/518/608 and punch kit PK-512/513 is mounted.
- bizhub C451 : The menu is available only when the optional finisher FS-517/608 or FS-519 and punch kit PK-510 is mounted.

Functions	• To select whether to make punch-holes or not when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify punching during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. 2-Hole/3-Hole/4-Hole “OFF” * The number of punch holes being set is available from [Service Mode] → [Finisher].

(7) Banner Paper Tray

Functions	• To set the feed tray for printing on the banner (front cover) page.
Use	• To set the feed tray for printing on the banner (front cover) page.
Setting/ Procedure	• The default setting is Auto.

C. PCL Settings

(1) Font Settings

Functions	• To set the font when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify the font during printing from Windows DOS, etc. • It can be selected from the Resident font or the download font.
Setting/ Procedure	• The default setting is Courier. 1. When selecting from the Internal font, touch [Internal], and select the one from the displayed font list.

(2) Symbol Set

Functions	• To set the font symbol set when not specified by the printer driver during PC printing.
Use	• To use when the font symbol set cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Roman-8 or PC8, Code Page 437.

(3) Font Size

Functions	• To set the font size when not specified by the printer driver during PC printing.
Use	• To set the font size when it cannot be specified by the printer driver during printing from Windows DOS, etc. • To set scalable font (: Point) and bitmap font (: Pitch) respectively.
Setting/ Procedure	• The default setting is Scalable Font : 12.00 points Bitmap Font : 10.00 pitch

(4) Line/Page

Functions	• To set the number of lines per page for printing the text data.
Use	• To change the number of lines per page for printing the text data.
Setting/ Procedure	• Default setting value differs depending on the values by the following two different settings. [Utility] → [User Setting] → [Printer Setting] → [Basic Setting] → [Original Direction] [Utility] → [User Setting] → [Printer Setting] → [Paper Setting] → [Default Paper Size] “60 or 64 lines” (5 to 128)

(5) CR/LF Mapping

Functions	• To set the mode for replacing data when printing the text data.
Use	• To change the mode for replacing data when printing the text data. Mode 1 : CR → CR-LF LF=LF FF=FF Mode 2 : CR=CR LF→CR-LF FF→CR-FF Mode 3 : CR→CR-LF LF→CR-LF FF→CR-FF OFF : Does not replace
Setting/ Procedure	• The default setting is OFF. Mode 1 Mode 2 Mode 3 “OFF”

D. PS Setting

(1) Print PS Errors

Functions	• To set whether to print or not the error information when an error occurred during PS rasterizing.
Use	• To print the information concerning the postscript error.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) ICC Profile Settings

Functions	• To select a profile to be used for print jobs from a computer when a profile is not specified by printer driver.
Use	• Possible to set a profile separately for each of the following items. Photo-RGB Color Photo-Output Profile Text-RGB Color Text-Output Profile Figure/Table/Graph-RGB Color Figure/Table/Graph-Output Profile Simulation Profile
Setting/ Procedure	• The default settings are shown below. Photo-RGB Color : Device Color Photo-Output Profile : Auto Text-RGB Color : Device Color Text-Output Profile : Auto Figure/Table/Graph-RGB Color : Device Color Figure/Table/Graph-Output Profile : Auto Simulation Profile : None

E. XPS Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.

(1) Verify XPS Digital Signature

Functions	• Selects whether to verify digital signatures attached to XPS (XML Paper Specification) files when printing the files. • When digital signature verification is selected, files with invalid digital signatures are not printed.
Use	
Setting/ Procedure	• The default setting is OFF. ON “OFF”

F. Print Reports

- It will not be displayed when the following setting shows that authentication device 1 or vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

Functions	• To output the report or demo page concerning the print setting.
Use	• To check the setting concerning the printer. The types of report available for output are as follows. Configuration Page : The list of printer setting will be output. Demo Page : The test page will be output. PCL Font List : PCL font list will be output. PS Font List : PS font list will be output.
Setting/ Procedure	*1.* Touch [User Setting] → [Printer Setting] → [Print Reports]. *2.* Select the report to be output. *3.* Select the feed tray. *4.* Select Simplex or Duplex print, and touch the Start key.

8.5.6 Change Password

- When conducting user authentication (MFP only), it will be displayed only when the authentication is complete.
- This menu is available only when box administrator authentication is established during user authentication or account track.

Functions	• To modify the password used for the user authentication.
Use	• To modify the user authentication password currently used.
Setting/ Procedure	• Enter the user authentication password with the keys on the control panel. Current Password : Enter the user authentication password currently used. New Password : Enter the new user authentication password to be used. Retype Password : Enter the new user authentication password again. **NOTE** • **When [Password Rules] which can be displayed by the following setting is set to “ON”, password using the single letter or the password same with the previous one, less than 8-digit will not be modified.** **[Utility] → [Administrator Settings] → [Security Setting]** • **When the following setting is set to “ON”, entering the incorrect password three times will cause access lock. When an access lock occurred, turn the main power switch OFF, and wait for 10 seconds or more and turn main power switch ON again to enter the password again.** **[Administrator Settings] → [Security Setting] → [Enhanced Security Mode]**

8.5.7 Change E-mail Address

- When conducting user authentication (MFP only), it will be displayed only when the authentication is complete.
- It will be displayed only when the following setting is set to “Level 2.”
  [Administrator Settings] → [Security Settings] → [Administrator Security Levels]

Functions	• To modify the e-mail address which is registered as a user.
Use	• To use when modifying the e-mail address currently being used.
Setting/ Procedure	• Enter the new e-mail address using the keys on the control panel.

8.6 Administrator Settings

- The Administrator Settings will be available by entering the administrator password (8 digits) set by the Administrator Settings or Service Mode.
  (The administrator password is initially set to "12345678.")

NOTE

- **When the following setting is set to "ON", entering the incorrect administrator password three times will cause access lock.**
  The access lock is released after the lapse of a predetermined period of time after the main power switch is turned OFF and then ON more than 10 seconds later.
  The access lock can be released by touching keys as follows.
  [Service Mode] → [Enhanced Security] → [Administrator unlocking].

8.6.1 System Settings

A. Power Save Settings

(1) Low Power Mode Settings

Functions	• To set the time until low power starts operating after the last key operation has been completed. • Low power: To turn LED and LCD OFF, and lower the power consumption.
Use	• To change the time until low power starts.
Setting/ Procedure	• Use the 10-key pad for setting. • The default setting is 15 min. "15 min." (10 to 240)

(2) Sleep Mode Settings

Functions	• To set the time until sleep mode starts operating after the last key operation has been completed. • Turn all lines OFF except 5 V line for control. • "OFF" will only be displayed when "No Sleep" in Service Mode is set.
Use	• To change the time until the sleep mode starts. **NOTE** • **The sleep mode will begin in 48 hours even if it sets it to "OFF."**
Setting/ Procedure	• Use the 10-key pad for setting. • The default setting is 30 min. "30 min." (15 to 240) / OFF

(3) Power Save Key

Functions	• To set the type of the power save mode which starts by pressing the Power Save key.
Use	• To change the power save function which starts by pressing the Power Save key.
Setting/ Procedure	• The default setting is Low Power. "Low Power" Sleep

(4) Enter Power Save Mode

Functions	• To set whether to immediately switch to the power save mode after printing in case of receiving the fax during power save mode.
Use	• To immediately switch to the power save mode after printing in case of receiving the fax during power save mode. Normal : Switches to the power save mode according to the normal power save mode after the printing. Immediately : Switches to the power save mode immediately after the printing.
Setting/ Procedure	• The default setting is “Normal.” “Normal” Immediately

B. Output Settings

(1) Print/Fax Output Settings

Functions	• To set the timing for printing for the PC print job or fax received.
Use	Batch Print : Starts printing when all data are received Page Print : Starts printing every time data for each page are received
Setting/ Procedure	<Printer> • The default setting is Page Print. <Fax> • The default setting is Batch Print. **NOTE** • **[FAX] will be displayed only when the optional fax kit (FK-502) is mounted.**

(2) Output Tray Settings

- When the optional finisher FS-517/518 or FS-608 is mounted.

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 Print : Tray 1 Report Output : Tray 2 Fax : Tray 2

- When the optional finisher FS-519 is mounted.

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 (Tray 3: When [Bin Setting] is enabled.) Print : Tray 1 Report Output : Tray 2 (Tray 3: When the optional OT-602 is mounted./When [Bin Setting] is enabled.) Fax (Main Line) : Tray 2 (Tray 3: When the optional OT-602 is mounted./When [Bin Setting] is enabled.) Fax (2nd Line) : Tray 2 (Tray 3: When the optional OT-602 is mounted./When [Bin Setting] is enabled.)

- When the JS-504 is mounted.

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the prior output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 Print : Tray 2 Report Output : Tray 1 Fax : Tray 2

(3) Bin Setting (bizhub C451 only)

- It will be displayed only when the optional mailbin kit MT-502 is mounted.

Functions	• Assign the tray 1 of the finisher to the mailbin 5, and the tray 2 to the mailbin 6. • The tray 2 can be assigned when the optional exit tray OT-602 is mounted.
Use	• Use when assigning the tray 1 and the tray 2 of the finisher to the mailbins.
Setting/ Procedure	• The default setting is Disable. Enable “Disable”

(4) Shift Output Each Job

- bizhub C650/C550 : It will be displayed only when the optional finisher FS-517/518/608 is mounted.
- bizhub C451 : It will be displayed only when the optional finisher FS-517/608, FS-519 or the optional job separator JS-504 is mounted.

Functions	• To set whether to offset each job when paper is printed using the finisher FS-514.
Use	• Some paper type may fail to be discharged or get deteriorated loading when large volume copies are printed using the finisher. This function is used to print large volume copies when finisher is mounted. (When this function is set to “No”, the paper is discharged without offsetting the paper to the center of the tray.)
Setting/ Procedure	• The default setting is Yes. “Yes” No

C. Date/Time Settings

Functions	• To set the date/time and the time zone to start the clock.
Use	• To change settings concerning the date/time. • This setting should be carried out for set up.
Setting/ Procedure	• For time zone, set the time difference with the world standard time. • Setting range for the time zone: -12:00 to +12:00 (by 30 minutes) • When the following setting is set to “ON”, [Set Data] will be displayed. Touch [Set Data] and modify the time. [Administrator Settings] → [Network Settings] → [Detail Settings] → [Time Adjustment Setting]

D. Daylight Saving Time

Functions	• To set whether to set the daylight saving time. • To set the time difference in setting the daylight saving time.
Use	• To set the daylight saving time.
Setting/ Procedure	• The default setting is No. Yes “No” • When setting to ON, set the time difference to move up. “60 min.” (1 to 150)

E. Weekly Timer Settings

(1) Weekly Timer ON/OFF Settings

Functions	• To set whether to use or not to use the weekly timer.
Use	• To set the weekly timer.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Time Settings

Functions	• To set the time to turn ON/OFF the weekly timer for each day of the week.
Use	
Setting/ Procedure	*1.* Touch the key of the day to be set. *2.* Using the 10-key pad, input the ON time and the OFF time. *3.* For cancelling the setting, press [Clear].

(3) Date Settings

Functions	• To select the date or the day of the week for the weekly timer to function.
Use	
Setting/ Procedure	*1.* Select the Year/Month with [+] / [-] keys. *2.* For setting by the date, touch the appropriate key of the day. *3.* For setting by the day of the week, touch the appropriate key of the week by [Daily Setting]. *4.* Check to make sure that the set key of the day is highlighted, and touch [OK].

(4) Select Time for Power Save

Functions	• To set the time to turn power OFF/ON when the weekly timer is set and the power is ON.
Use	• To turn power OFF for a certain period of time when the weekly timer is set.
Setting/ Procedure	• The default setting is No. Yes “No” <Set Time for Power Save> • Using the 10-key pad, input the time to turn OFF and to turn back ON again.

(5) Password for Non-Business Hours

Functions	• To set whether to input the password before using when the weekly timer is set.
Use	• To set the password for turning the power ON temporarily when the weekly timer is set.
Setting/ Procedure	• The default setting is No. Yes “No” • When setting to Yes, enter the password (eight digits).

F. Restrict User Access

(1) Copy Program Lock Settings

Functions	• To set the prohibition for modifying the registered copy program.
Use	• To be used when prohibiting the user from changing the copy program.
Setting/ Procedure	*1.* Touch the key for the appropriate copy program. *2.* Touch [OK].

(2) Delete Saved Copy Program

Functions	• To delete the registered program job.
Use	• To delete the registered program job.
Setting/ Procedure	*1.* Touch the appropriate program job. *2.* Touch [Delete]. *3.* Touch [Yes] on the check screen to delete the program job.

(3) Restrict Access to Job Settings

- It will not be displayed when the following setting shows that authentication device 1 or vendor 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

<Changing Job Priority>

Functions Use	• To set whether to allow or restrict the change on the print priority for the job.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

<Delete Other User Jobs>

Functions Use	• To set whether to allow or restrict job delete by other users when the user is authenticated.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

<Registering and Changing Addresses>

Functions	• To set whether to allow or restrict the change of the registered address.
Use	
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict **NOTE** • **[Allow] cannot be selected when the following setting is set to “ON”. [Administrator Settings] → [Security Setting] → [Enhanced Security Mode]**

<Changing Zoom Ratio>

Functions	• To set whether to allow or restrict the change on the registered magnification.
Use	
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

<Change the “From” Address>

Functions	• To set whether or not to prohibit the registered from address to be changed.
Use	
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

<Change Registered Overlay>

Functions	• Selects allow or restrict for the change of registered overlay.
Use	
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

(4) Restrict Operation

<Restrict Broadcasting>

Functions	• To set whether or not to prohibit sending the fax to more than one address.
Use	
Setting/ Procedure	• The default setting is OFF. ON “OFF”

G. Expert Adjustment

- It will not be displayed when the following setting shows that vendor 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the Key Counter is mounted or when the following setting shows that switch No.33 is set to [01] at HEX assignment.
  [Service Mode] → [System 2] → [Software Switch Setting])

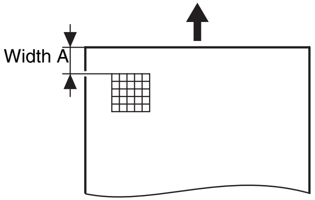
(1) AE Level Adjustment

Functions	• To set the default setting for AE (Auto Exposure) the larger the value becomes the more emphasized the background will be.
Use	To make the background level foggier: Increase the setting value To make the background level less foggy: Decrease the setting value
Setting/ Procedure	• The default setting is 2. “2” (0 to 4)

(2) Printer Adjustment

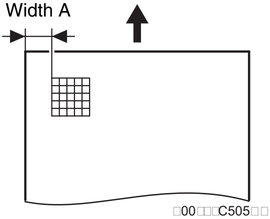
<Leading Edge Adjustment>

- It will not be displayed when the following setting shows that Management Device 1 is mounted during the device power is OFF or no authentication is set.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice].

Functions	• To vary the print start position in the sub scan direction for each of different paper types in the manual bypass tray.
Use	• The PH unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image. • Able to make an individual adjustment for each paper type of plain paper, thick 1/1+, thick 2, thick 3, thick 4, transparencies, and envelopes.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Place A3 paper on the manual bypass tray. *2.* Call the Administrator Settings to the screen. *3.* Touch [System Settings] → [Expert Adjustment] → [Printer Adjustment] → [Leading Edge Adjustment]. *4.* Select the [Normal]. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check the dimension of width A on the test pattern. *7.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *8.* Press the Start key to let the machine produce a test pattern. *9.* Check the dimension of width A on the test pattern. *10.* If width A is outside the specified range, change the setting again and make a check again. *11.* If width A falls within the specified range, touch [OK]. *12.* Following the same procedure, adjust for thick 1 to 3, OHP, and envelope.

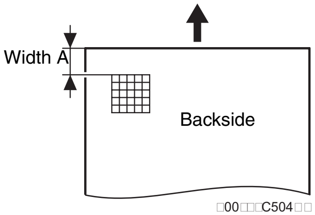
<Centering>

- It will not be displayed when the following setting shows that Management Device 1 is mounted during the device power is OFF or no authentication is set.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice].

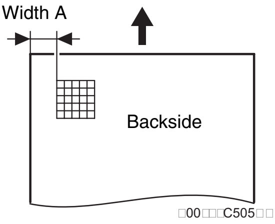
Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The PH unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Printer Adjustment] → [Centering]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.* If width A falls within the specified range, touch [OK]. *11.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 $^1/_2$ × 11 plain paper for the bypass.)

<Leading Edge Adjustment (Duplex Side 2)>

- It will not be displayed when the following setting shows that Management Device 1 is mounted during the device power is OFF or no authentication is set.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice].

Functions	• Makes an adjustment by changing the image write start position in the sub scan direction on the 2nd side of duplex printing for individual types of paper.
Use	• When the 2nd side image on paper fed from the tray is shifted in the sub scan direction. • Able to make an individual adjustment for each paper type of plain paper, thick 1/1+, thick 2 and thick 3.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Printer Adjustment] → [Leading Edge Adjustment (Duplex side 2)]. *3.* Select the [Normal]. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for thick 1 to 3, OHP, and envelope.

<Centering (Duplex 2nd Side)>

Functions	• To vary the print start position in the main scan direction for each paper source in the 2-sided mode.
Use	• To use when the optional automatic duplex unit AD-503 is set up. • The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Printer Adjustment] → [Centering (Duplex 2nd Side)]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.* If width A falls within the specified range, touch [OK]. *11.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 $^1/_2$ × 11 plain paper for the manual bypass tray.)

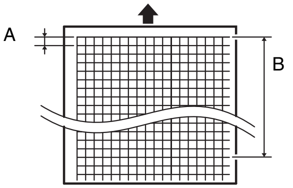
<Erase Leading Edge>

- It will be displayed only when the following setting is set to “Level 2”. [Service Mode] → [Enhanced Security] → [Administrator Feature Level]

Functions	• To set the leading edge erase amount of the paper.
Use	• To change the width of the area not printed along the leading edge of the paper. • To make this setting independently for Front and Back sides.
Setting/ Procedure	• The default setting is “4 mm”. “4 mm” 5 mm 7 mm

<Vertical Adjustment>

- It will be displayed only when the following setting is set to “Level 2.”
  [Service Mode] → [Enhanced Security] → [Administrator Feature Level]

Functions	• To synchronize the paper transport speed with the image writing speed.
Use	• The I adjustment becomes necessary. • The printed image on the copy distorts (stretched, shrunk). • When the printed image on the copy is stretched in the sub scan direction. • Able to make an individual adjustment for each paper type of plain paper, thick 1/1+, thick 2, thick 3 and thick 4.
Adjustment Specification	 Width A and width B on the test pattern produced should fall within the following ranges. Width A: equivalent to one grid Width B: equivalent to 48 grids Specifications A: 7.9 to 8.3 B: 389.1 to 392.1 Setting Range A, B: -7 to +7
Adjustment Instructions	If width A or B is longer than the specifications, make the setting value smaller than the current one. If width A or B is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Load manual bypass tray with A3 or 11 × 17 plain paper. *2.* Call the Administrator Settings to the screen. *3.* Touch these keys in this order: [System Settings] → [Expert Adjustment] → [Vertical Adjustment]. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern. *6.* If width of A or B falls outside the specified range, change the setting using the [+]/[-] keys. *7.* Press the Start key to let the machine produce a test pattern again. *8.* Check width A and width B on the test pattern. *9.* If width A or B falls outside the specified range, change the setting value and make a check again. *10.*If width A or B falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for [Thick 1 to 3], [OHP], and [Envelope]. (Check width A only for [OHP] and [Envelope].)

<Media Adjustment>

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type. • This function is provided to open [Transfer Output Fine Adjustment] → [2nd Transfer Adjust] of Service Mode up to administrator and the fine-adjusted value is reflected in the Service Mode setting.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Range	• The default setting is 0. -8 to +7 (step: 1)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image), increase the setting value. To decrease the ATVC value (in the direction of a less foggy image), decrease the setting value.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch these keys in this order: [Expert Adjustment] → [Printer Adjustment] → [Media Adjustment]. *3.* Select the side of the image (1st side or 2nd side), on which the transfer failure occurs. **NOTE** • **For envelopes and long paper, only 1st side can be selected.** *4.* Select the paper type with the transfer failure. *5.* Enter the new setting from the [+] / [-] keys. *6.* Touch [OK] to validate the adjustment value. *7.* Check the print image for any image problem.

(3) Finisher Adjustment

<2-Position Staple Pitch Adjustment>

See P.66 of the FS-517/518/608 service manual.

<Center Staple Position>

See P.58 of the FS-517/518/608 service manual.
See P.32 of the SD-505 service manual.

<Half-Fold Position>

See P.61 of the FS-517/518/608 service manual.
See P.30 of the SD-505 service manual.

<Tri-Fold Position Adjustment>

See P.63 of the FS-517/518/608 service manual.

<Punch Vertical Position Adjustment>

See P.12 of the PK-512/513 service manual.

<Punch Horizontal Position Adjustment>

See P.13 of the PK-512/513 service manual.

<Punch Regist Loop Size Adjustment>

See P.14 of the PK-512/513 service manual.

<Punch Edge Sensor Adjustment>

See P.13 of the PK-512/513 service manual.

<Punch Unit Vertical Position>

See P.32 of the ZU-603 service manual.

<Punch Unit Horizontal Position>

See P.33 of the ZU-603 service manual.

<Punch Unit Size Detect Sensor>

See P.33 of the ZU-603 service manual.

<1st Z-Fold Position Adjustment>

See P.34 of the ZU-603 service manual.

<2nd Z-Fold Position Adjustment>

See P.34 of the ZU-603 service manual.

<Cover Sheet Feeder Size Adjustment>

See P.21 of the PI-503 service manual.

(4) Density Adjustment

<Thick Paper Image Density-Yellow, Magenta, Cyan, Black>

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies. (Only black color adjustable for OHP transparencies)
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	Lighter (5 steps), “Std”, Darker (5 steps)
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Adjustment Procedure	1. Call the Administrator Settings to the screen. 2. Touch [System Settings] → [Expert Adjustment] → [Density Adjustment]. 3. Select a type of thick paper and a color that need to be adjusted. 4. Touch the Lighter or Darker key to correct the image density.

<Black Image Density>

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), “Std”, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Setting/ Procedure	1. Call the Administrator Settings to the screen. 2. Touch [System Settings] → [Expert Adjustment] → [Density Adjustment] → [Black Image Density]. 3. Touch the Lighter or Darker key as necessary to correct the image density.

(5) Image Stabilization

<Image Stabilization Only>

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after [Gradation Adjustment] has been executed. • When [D Max Density] and [Background Voltage Margin] of Service Mode are changed.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Image Stabilization] → [Image Stabilization Only]. *3.* Press the Start key to start Stabilizer. The Start key turns red and stays lit up red during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns blue.

<Initialize+Image Stabilization>

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after [Gradation Adjustment] has been executed. • Use if tone reproduction and maximum density are faulty even after image stabilization has been executed.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Image Stabilization] → [Initialize+Image Stabilization]. *3.* Press the Start key to start Stabilizer. The Start key turns red and stays lit up red during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns blue.

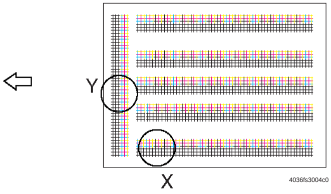
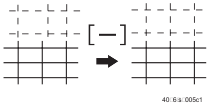
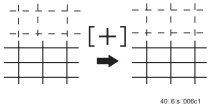
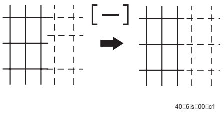
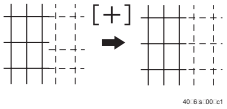
(6) Paper Separation Adjustment

Functions	• For duplex printing of thin paper, the paper separation position is adjusted for the first and second sides of paper.
Use	• To adjust the balance between paper separation and image transfer performances by changing the paper separation position in duplex printing of thin paper (64 g/ m^2) in hot and humid conditions.
Adjustment Range	• The default setting is 0. -2 mm to +2 mm (step:0.1 mm)
Adjustment Procedure	Priority on paper separation performance: Increase the setting value Priority on image transfer performance: Decrease the setting value
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Paper Separation Adjustment]. *3.* Select [Front] or [Back]. *4.* Change the setting value with [+] or [-] key. *5.* Touch [OK] to determine the adjusted value. *6.* Make a print and check the image.

(7) Color Registration Adjust

- It will not be displayed when the following setting shows that Management Device 1 is mounted during the device power is OFF or no authentication is set.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice].

<Color Registration Adjust (Yellow, Magenta, Cyan)>

Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift. • Able to make an individual adjustment for each paper type of plain paper, thick 1/1+, thick 2, thick 3 and thick 4.
Adjustment Range	“0” (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Color Registration Adjust]. *3.* Load tray 1 with A3/11x17 or A4/8 $^1/_2$ x11 normal paper. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  Adjustment for X direction: Check point X If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  Direction of B  Adjustment for Y direction: Check point Y If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  Direction of B 

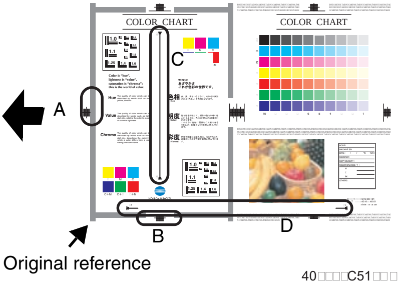
(8) Gradation Adjustment

- It will not be displayed when the following setting is set to “ON.”
  [Service Mode] → [Imaging Process Adjustment] → [Dev. Bias Choice]
- It will not be displayed when the following setting shows that Management Device 1 is mounted during the device power is OFF or no authentication is set.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice].

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the scanner.
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The image transfer belt unit has been replaced. • Printer (Gradation) : It gives the highest priority to gradation performance of the image as it adjusts. • Printer (Resolution) : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • Copy : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Procedure	*1.* Touch [Stabilizer] and the Start key to perform image stabilization. **NOTE** • **Before executing Gradation adjust, be sure to perform Stabilizer.** *2.* Call the Administrator Settings to the screen. *3.* Touch [System Settings] → [Expert Adjustment] → [Gradation Adjustment]. *4.* Select the appropriate mode for the gradation adjustment. *5.* Press the Start key to let the machine produce a test pattern. *6.* Place the test pattern produced on the original glass. *7.* Place ten blank sheets of A3/11 x 17 paper on the test pattern and lower the original cover. *8.* Press the Start key. (The machine will then start scanning the test pattern.) *9.* Touch [OK] and repeat steps from 2 through 7 twice (a total of three times). • If the image is faulty, perform the troubleshooting procedures for image problems.

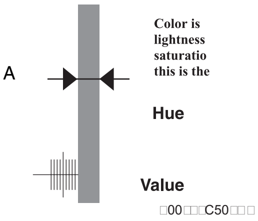
(9) Scanner Area

- Use the following color chart for the adjustment of the scanner section.
- If the color chart is not available, a scale may be used instead.
- It will be displayed only when the following setting is set to “Level 2.”
  [Service Mode] → [Enhanced Security] → [Administrator Feature Level]
- It will not be displayed when the following setting shows that Management Device 1 is mounted during the device power is OFF or no authentication is set.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice].

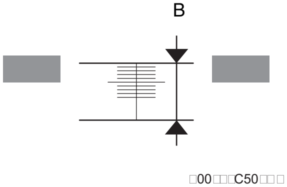


- A: Scanner Adjustment: Leading Edge Adjustment
- B: Scanner Adjustment: Centering
- C: Horizontal Adjustment
- D: Vertical Adjustment

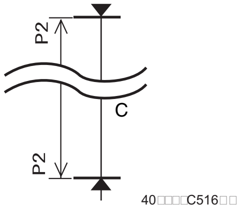
<Scanner Adjustment: Leading Edge>

Functions	• To adjust variations in mounting accuracy and sensitivity of the scanner home sensor and in mounting accuracy of the original width scale by varying the scan start position in the main scan direction.
Use	When the original glass is replaced. When the original width scale is replaced.
Adjustment Specification	 A Color is lightness saturatio this is the Hue Value □00□□□C50□□ □ •A width on the color chart and one on the copy sample are measured and adjusted so that the difference of A width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Leading Edge Adjustment] of the Printer Adjustment. Specifications A: ± 0.5 mm Setting range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Scanner Adjustment] → [Scanner Adjustment: Leading Edge]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

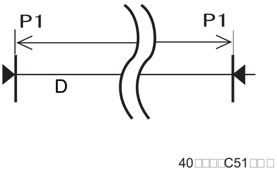
<Scanner Adjustment: Centering>

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the CCD unit is replaced. • When the original glass is replaced. • The scanner home sensor has been replaced.
Adjustment Specification	 •B width on the color chart and one on the copy sample are measured and adjusted so that the difference of B width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Leading Edge Adjustment] of the Printer Adjustment. Specifications B: ± 1.0 mm Setting range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Administrator Setting to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Scanner Adjustment] → [Scanner Adjustment: Centering]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make a copy. *8.* Check point B of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

<Horizontal Adjustment>

Functions	• To adjust the zoom ratio in the main scan direction for the scanner section.
Use	• The CCD unit has been replaced.
Adjustment Specification	 •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. Specifications C: ± 1.0 mm Setting range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Scanner Adjustment] → [Horizontal Adjustment]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

<Vertical Adjustment>

Functions	• To adjust the zoom ratio in the sub scan direction for the scanner section
Use	• The scanner assy has been replaced. • The scanner motor has been replaced. • The scanner drive cables have been replaced.
Adjustment Specification	 •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. Specifications D: ± 1.5 mm Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Scanner Adjustment] → [Vertical Adjustment]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

(10) ADF Adjustment

- It will be displayed only when the following setting is set to “Level 2.”
  [Service Mode] → [Enhanced Security] → [Administrator Feature Level]
  See P.28 of the DF-611/610 service manual.

(11) Line Detection

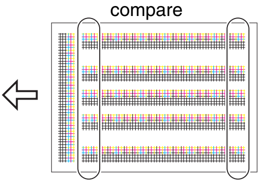
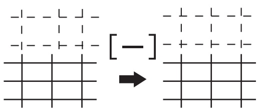
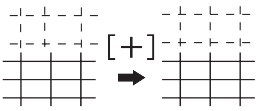
<Prior Detection Setting>

Functions	• To set whether or not to perform pre-detection of stain on the ADF original glass. • To set the detection level of the pre-detection of stain on the ADF original glass. • To set how to display the warning when stain on the ADF original glass is detected.
Use	• Use when changing the display of the warning which requests the cleaning of the stain on the glass detected by the pre-detection of the lines. TYPE1 : Warning will be displayed by the maintenance mark. (warning code: D-1/ D-2) TYPE2 : Warning will be displayed on the message area on the basic screen. TYPE3 : Warning will be displayed on all screens. OFF : Warning will not be displayed. • Use when changing the detection level for the pre-detection of stain on the original glass. Low : Stain on the glass will not be detected easily. Normal : Normal detection level High : Stain on the glass will easily be detected.
Setting/ Procedure	• The default setting is Yes. “Yes” No **NOTE** • **[Warning Level] and [Detection Level] can be set when “Yes” is selected.** • **Be aware that selecting “No” and performing the pre-detection with the following setting will display “NG.”** **[Service Mode] → [Machine] → [Split Line Prior Detection]** • **When “No” is selected, the original glass cleaning operation after the job ends does not operate.** <Warning Level> • The default setting is TYPE2. TYPE1 “TYPE2” TYPE3 OFF <Detection Level> • The default setting is Std. Low “Std.” High

<Detection While Feeding Setting>

Functions	• To set the operation for detection and removing operation of stain on the ADF original glass when feeding the original.
Use	• Use when changing the operation for detection and removing operation of stain on the ADF original glass when feeding the original. 0 : The glass will stop moving when the original is fed, and will not perform removing the stain. 1 : The glass will move between originals when feeding the original. 2 : When the original is fed, the glass will move while reading the original in order to remove the stain, and reduce the lines. 3 to 6 : When the original is fed, the glass will move while reading the original in order to remove the stain. The lines will be reduced also by the image process control. The level 3, 4, 5, and 6 of the image process are set in this order with 3 being the most efficient in reducing the lines. **NOTE** • **When this function is used, an image quality problem might be occurred in the side effect by the image processing control according to the dirt condition of the original glass.** • When the following setting is set to “0” or “1”, the range which the administrator can set will be restricted to “0 (Disable)” or “1 (Enable).” [Service mode] → [System 2] → [Split Line Detect. Setting] → [Paper Passaging Detection]
Setting/ Procedure	• The default setting is 1. 0 to 6

(12) Trail Edge Adjust

Functions	• To adjust trail edge if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift at trail edge. • Able to make a setting on a process speed basis independently for each paper type of plain paper (color), thick 1/1+, and thick 2/3/4.
Adjustment Range	"0" (-5 to +5 dot)
Adjustment Instructions	If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting.
Setting/ Procedure	*1.* Call the Administrator Settings to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Color Registration Adjust]. *3.* Load manual bypass tray with A3/11 x 17 or A4/8 $^1/_2$ x 11 normal paper. *4.* Select a paper type that is set on the manual bypass tray. *5.* Press the Start key. *6.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *7.* Using the [+] / [-] key, change the setting value as necessary. *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point Z  Adjustment for Z direction: Check point Z If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  Direction of B 

H. List/Counter

(1) Management List

- It will not be displayed when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the Key counter is mounted or when the following setting shows that switch No.33 is set to [01] at HEX assignment.
  [Service Mode] → [System 2] → [Software Switch Setting])

<Job Settings List>

Functions	• To output the value set by the setting menu.
Use	
Setting/ Procedure	*1.* Touch [Job Settings List]. *2.* Select the feed tray. *3.* Select simplex or duplex print, and touch the Start key.

(2) Paper Size/Type Counter

Functions	• To register the combination of the specific paper size and the paper type, and to set the count.
Use	
Setting/ Procedure	*1.* Press a key out of 1 to 10 registration keys. *2.* Select the paper type. *3.* Touch the paper size key to select the paper size.

(3) Meter Counter List

- Setting will be available only when the following setting shows that either authentication device, management device 2, vendor 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To output the meter counter list.
Use	• To print out the list in this setting because counter list cannot be printed when the following setting shows that vendor is mounted. [Meter Counter] → [Details]
Setting/ Procedure	*1.* Touch [Meter Counter List]. *2.* Select the Feed tray. *3.* Select Simplex or Duplex print, and touch the Start key.

(4) Check Consumables List

- Setting will be available only when the following setting shows that either authentication device, management device 2, vendor 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To output the consumable life list.
Use	• To print out the list in this setting because the list cannot be printed when the following setting shows that Vendor is mounted. [Utility] → [Check Consumable Life]
Setting/ Procedure	*1.* Touch [Consumable Life List]. *2.* Select the feed tray. *3.* Select Simplex or Duplex print, and touch the Start key.

I. Reset Settings

(1) System Auto Reset

Functions	• To set the period of time until system auto reset starts functioning.
Use	• To change the period of time until system auto reset starts functioning.
Setting/ Procedure	<Priority Mode> • To set the functions displayed during system auto reset from Copy and Scan/Fax. • The default setting is Copy. "Copy" Scan/Fax <System Auto Reset Time> • The default setting is 1 min. "1 min." (1 to 9, OFF)

(2) Auto Reset

Functions	• To set the period of time until auto reset starts functioning in "Copy" and "Scan/Fax."
Use	• To change the period of time until auto reset starts functioning.
Setting/ Procedure	• The default setting is 1 min. "1 min." (1 to 9, No)

(3) Job Reset

<When Account is changed>

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

Functions	• Selects whether to reset (initialize) a machine when the key counter is unplugged, a magnetic card is pulled out, or user authentication/account track is set.
Use	• To select not to reset to the default settings even when the accounts are changed through the use of a data management device.
Setting/ Procedure	• The default setting is Reset. "Reset" Do Not Reset

<When Original is set on ADF>

Functions	• Select whether to reset the function when originals are placed on the ADF.
Use	• Reset the function when originals are set on the ADF.
Setting/ Procedure	• The default setting is Do Not Reset. Reset "Do Not Reset"

<Next Job: Staple Setting>

Functions Use	• To set whether to cancel the staple setting when the staple setting job started and the next job setting has become available.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Next Job: Original Set/Bind Direction>

Functions Use	• To set whether to cancel the original set/bind direction when the job (which original set/bind direction is set) started and the next job setting has become available.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Next Job: Reset Data After Job>

Functions Use	• To set whether to cancel the setting for scanning or transmitting fax when the scanning is finished or fax is transmitted, making the next job setting available. (The address will be cleared even when [OFF] is selected.)
Setting/ Procedure	• The default setting is ON. “ON” OFF

J. User Box Settings
(1) Delete Unused User Box

Functions Use	• To delete the unnecessary box without data.
Setting/ Procedure	*1.* Touch [Delete Unused User Box]. *2.* Touch [Yes] on the Check screen.

(2) Delete Secure Print Documents

Functions Use	• To delete the whole classified documents in the box.
Setting/ Procedure	*1.* Touch [Delete Secure Documents]. *2.* Touch [Yes] on the Check screen.

(3) Auto Delete Secure Document

Functions Use	• To set whether or not to delete the confidential documents in the box after a certain period of time. It also sets the period of time to store data.
Setting/ Procedure	• The default setting is 1 Day. 12 Hours “1 Day” 2 Days 3 Days 7 Days 30 Days Save

(4) Encrypted PDF Delete Time

Functions Use	• Specifies whether to delete encrypted PDF data stored in the box after a lapse of a predetermined period of time. Sets the time period for which encrypted PDF data can be stored.
Setting/ Procedure	• The default setting is 1 Day. 12 Hours “1 Day” 2 Days 3 Days 7 Days 30 Days Save

(5) Touch & Print Delete Time

Functions Use	• Specifies whether to delete touch & print data stored in the box after a lapse of a predetermined period of time. Sets the time period for which touch & print data can be stored
Setting/ Procedure	• The default setting is 1 Day. 12 Hours “1 Day” 2 Days 3 Days 7 Days 30 Days Save

(6) Document Hold Setting

Functions Use	• Selects whether to store the document again in the box after it was retrieved from the box. • If the function is set to No, the document is automatically deleted after it was retrieved.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(7) External Memory Function Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.
- It will be displayed when the optional local inter face kit EK-602 or EK-603 is mounted.

Functions Use	• This operation enables or disables functions using an external memory connected to this machine. • Capability to enable [Save Document] and [Print Document] separately. Save Document : a function that saves scanned documents into the external memory using [Save Document] in the box mode. Print Document : a function that prints and sends documents saved in the external memory using [Use Document] in the box mode.
Setting/ Procedure	<Save Document> • The default setting is OFF. ON “OFF” <Print Document> • The default setting is ON. “ON” OFF

K. Standard Size Setting

- It will be displayed only when the following setting is set to “Level 2.”
  [Service Mode] → [Enhanced Security] → [Administrator Feature Level]

(1) Original Glass Original Size Detect

Functions	• To change the document size detection table.
Use	• Use to change the setting for the document size detection table.
Setting/ Procedure	• The default setting is Table1. “Table1” Table2

(2) Foolscap Size Setting

Functions	• To set the size for foolscap paper.
Use	• Upon setup. • To change the size for foolscap paper.
Setting/ Procedure	• Select the size from among the following five. 220 x 330 mm $8^{1}/_{2}$ x 13 $8^{1}/_{4}$ x 13 $8^{1}/_{8}$ x $13^{1}/_{4}$ “8 x 13”

L. Stamp Settings

(1) Header/Footer Settings

Functions	• Saves or deletes header/footer settings. • Able to obtain registered header/footer data by [Application] → [Stamp/Composition]
Use	
Setting/ Procedure	• Touch [New] to register new headers and footers.

(2) Fax TX Settings

Functions	• Specifies whether to reset a stamp setting when fax is sent.
Use	
Setting/ Procedure	• The default setting is Cancel. “Cancel” Do Not Cancel

M. Blank Page Print Settings

Functions	• Specifies whether to print a stamp/page number on blank pages.
Use	
Setting/ Procedure	• The default setting is Print. “Print” Do Not Print

N. Application Key Settings

- This is displayed only when the function enhanced version 3 or later firmware is installed.
- This is displayed only when the optional i-Option (LK-101 or LK-103) is activated.

Functions	• To assign the additional functions provided by i-Option to the application keys.
Use	• This settings allow free application key assignment to additional functions provided by i-Option as well as to “User Box”, “Fax/Scan” and “Copy” to which the application keys were conventionally assigned. (However, Key 0 is assigned to the function of displaying the application menu so that other functions cannot be assigned to Key 0.) • The functions that can be assigned are as follows: Copy, Fax/Scan, User Box, Image Panel, Web Browser, My Panel
Setting/ Procedure	*1.* Select [Key 1] or [Key 2]. *2.* Select a function to which the key is assigned, and touch [OK].

8.6.2 Administrator/Machine Settings

A. Administrator Registration

Functions	• Registers administrator information displayed Help service/Administrator information screen as well as sender addresses used for E-mail transmission from the machine.
Use	
Setting/ Procedure	*1.* Touch [Administrator Name], [E-mail Address] to input them. *2.* Using the 10-key pad, enter the extension No.

B. Input Machine Address

Functions	• To register the name of the machine and e-mail address.
Use	Machine Name : When the file name of the transmitted file or the document name of document registered in Box is generated automatically, it is added. E-mail : To be used as from address at internal Fax transmission.
Setting/ Procedure	*1.* Touch [Device Name] and input the name. *2.* Touch [E-mail Address] and input the E-mail address.

8.6.3 One-Touch/User Box Registration

A. Create One-Touch Destination

(1) Address Book

<E-mail>

Functions	• To register/change the e-mail address for transmitting the scanned data by e-mail.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<User Box>

- It will not be displayed when the following setting shows that authentication device or the vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

Functions	• To register or change the box address for storing the scanned data to the box in the hard disk of the machine.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting. • At least one user box must be registered in order to register the box address.

<Fax>

Functions	• To register or change the fax number for transmitting the fax.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<PC (SMB)>

Functions	• To register or change the SMB address for transmitting the scanned data by SMB.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<FTP>

Functions	• To register and change the FTP address for transmitting the scanned data by FTP.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

3 <WebDAV>

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• To register and change the WebDAV address for transmitting the scanned data by FTP.
Use	
Setting/ Procedure	• Touch [New] to register the new address. • Select any displayed address to check, edit, or delete the setting.

<IP Address Fax>

- Setting will be available only when [IP Address FAX] is set to “ON” in the following settings.
  [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

Functions	• To register/change the IP address fax destination when transmitting the IP address fax data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, change or delete the setting.

<Internet Fax>

- Setting will be available only when [Internet FAX] is set to “ON” in the following settings. [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

Functions	• To register/change the Internet fax address when transmitting the internet fax data.
Use	
Setting/ Procedure	• A new address can be registered by touching [New]. • Select any displayed address to check, change or delete the setting.

(2) Group

Functions	• To register or change the group with a number of addresses to transmit data simultaneously.
Use	
Setting/ Procedure	• Touch [New] to register the new group. • elect any displayed group to check, edit, or delete the setting. • At least one address must be registered in order to register the group.

(3) E-mail Settings

- It will not be displayed when the management device 2 is set to “Set” by the following setting.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

<E-mail Subject>

Functions	• To register the e-mail subject for transmitting the scanned data by e-mail.
Use	
Setting/ Procedure	• Touch [New] to register the new subject. • Select any displayed subject to detail check, edit, or delete the setting. • The subject can be set as default by selecting the subject displayed on the screen and pressing [Set as Default].

<E-mail Body>

Functions	• To register the e-mail message for transmitting the scanned data by e-mail.
Use	
Setting/ Procedure	• Touch [New] to register the new message. • Select any displayed message to detail check or delete the setting. • The text can be set as default by selecting the text displayed on the screen and pressing [Set as Default].

B. Create User Box

- It will not be displayed when the following setting shows that authentication device 1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- It will not be displayed when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the key counter is mounted.)

(1) Public/Personal User Box

Functions	• To register or change the box for storing the text data in the hard disk of the machine.
Use	• To register the shared or personal box for any purpose.
Setting/ Procedure	• Touch [New] to register the new box. • Select any displayed box to edit or delete it.

(2) Bulletin Board User Box

Functions	• To register or change the bulletin board user box.
Use	
Setting/ Procedure	• Touch [New] to register the new box. • Select any displayed box to edit or delete it.

(3) Relay User Box

- It will be displayed when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Relay]

Functions	• To register/change the Relay User Box.
Use	
Setting/ Procedure	• A new box can be registered by touching [New]. • Select any displayed box to change or delete it.

(4) Annotation User Box

Functions	• To register or change the annotation user box.
Use	• To attach the image of the date, time, and/or filing number to the document data stored in the scanner mode, and to distribute them.
Setting/ Procedure	• Touch [New] key to register the new box. • Select any displayed box to change or delete it.

C. One-Touch/User Box Registration List

- It will not be displayed when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the Key counter is mounted or when the following setting shows that switch No.33 is set to [01] at HEX assignment.
  [Service Mode] → [System 2] → [Software Switch Setting])

(1) Address Book List

Functions	• To output the address book list.
Use	• To print the list of abbreviated addresses which are registered.
Setting/ Procedure	*1.* Select the destination type to be output. *2.* Touch [Starting destination No.] and enter the number from which output starts. *3.* Touch [No. of Destinations] and specify the number of destinations to be output. *4.* Touch [Print], and select the paper feed tray. *5.* Select the simplex or duplex print, and press the Start key to output the list of abbreviated addresses.

(2) Group List

Functions	• To output the group list.
Use	• To print out the list of addresses of the group which are registered.
Setting/ Procedure	*1.* Touch [Starting destination No.] and enter the number from which output starts. *2.* Touch [No. of Destinations] and specify the number of destinations to be output. *3.* Touch [Print], and select the paper feed tray. *4.* Select the simplex or duplex print, and press the Start key to output the list of abbreviated addresses.

(3) Program List

Functions	• To output the program list.
Use	• To print out the list of the program addresses which are registered.
Setting/ Procedure	*1.* Select the destination type to be output. *2.* Touch [Starting destination No.] and enter the number from which output starts. *3.* Touch [No. of Destinations] and specify the number of destinations to be output. *4.* Touch [Print], and select the paper feed tray. *5.* Select the simplex or duplex print, and press the Start key to output the list of abbreviated addresses.

(4) E-mail Subject/Text List

Functions	• To output the subject or the text list.
Use	• To print out the e-mail subject/text List which are registered.
Setting/ Procedure	*1.* Select the paper feed tray. *2.* Select the simplex or duplex print, and press the Start key to output the list of abbreviated addresses.

D. Maximum Number of User Boxes

Functions	• Set the maximum of public, personal, and group boxes that individual users can hold.
Use	
Setting/ Procedure	*1.* Select a user box type and name. *2.* If a maximum number of user boxes is not specified, set Max. No. of Use Boxes to [OFF]. *3.* If a maximum number of user boxes is not specified, set Max. No. of Use Boxes to [OFF].

8.6.4 User Authentication/Account Track

- It will not be displayed when the following setting shows that key counter or vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

A. General Settings

(1) User Authentication

Functions	• To set the user authentication method.
Use	• To select whether to authenticate the user by the external server or MFP.
Setting/ Procedure	• The default setting is OFF. "OFF" ON (External Server) ON (MFP) **NOTE** • **[OFF] cannot be selected when the following setting is set to "ON." [Administrator Settings] → [Security Setting] → [Enhanced Security Mode]** • **[ON (External Server)] cannot be selected when external servers are not registered in the following setting. [Administrator Settings] → [User Authentication/Account Track] → [External Server Settings]** • **Neither [ON (External Server)] or [ON (MFP)] can be selected when the presence of management device is set in the following setting. [Service Mode] → [Billing Setting] → [Management Function Choice]**

(2) Public User Access

Functions	• To set whether to allow or prohibit the nonregistered user to use the system when User authentication has been set. • Able to use the machine without authentication by logging in as a public user when [ON (Without Login)] is selected.
Use	
Setting/ Procedure	• The default setting is Restrict. "Restrict" Allow ON (Without Login) **NOTE** • **This setting is not available without user authentication.** • **[Allow] cannot be selected when the following setting is set to "ON." [Administrator Settings] → [Security Setting] → [Enhanced Security Mode]** • **[Allow] cannot be selected when [Synchronize User Authentication & Account Track] is set to "Do Not Synchronize."**

(3) Account Track

Functions	• To set whether to enable the account track function or not.
Use	• To enable the account track function.
Setting/ Procedure	• The default setting is OFF. “OFF” ON

(4) Account Track Input Method

Functions	• To set the authentication method for the account track.
Use	• To select whether to authenticate by password or by account name & password.
Setting/ Procedure	• The default setting is Account Name & Password. “Account Name & Password” Password Only **NOTE** • **This setting is not available without the account track.** • **“Password Only” cannot be set when using both user authentication and account track.**

(5) Synchronize User Authentication & Account Track

Functions	• To set whether to synchronize the user authentication and account track.
Use	• To be used when not to synchronize the user authentication and account track.
Setting/ Procedure	• The default setting is Synchronize. “Synchronize” Do not synchronize **NOTE** • **The setting is available only when carrying out the user authentication and account track.**

(6) When # of Jobs Reach Maximum

Functions	• To set whether to stop the currently printing job and start the next job, or to stop the machine, when reaching to the upper limit for the number of printed pages set by the user authentication and the account track.
Use	• To stop the machine when the number of printed pages reach the upper limit set by the user authentication and the account track.
Setting/ Procedure	• The default setting is Skip Job. “Skip Job” Stop Job

(7) Number of User Counters Assigned

- It will not be displayed when the following setting shows that management device 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set the number available to be assigned for the user registration and account registration.
Use	• To change the number available to be assigned for the user registration and account registration.
Setting/ Procedure	• The default setting is 500. • The total number to be registered for the user authentication and account track is 1000. The number for the user registration will be set. When setting the [# of Counters Assigned for Users] to 50, the number available for Account Track will be 950. **NOTE** • **The setting is available only when carrying out the user authentication and account track.**

(8) Ticket Hold Time Setting

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions Use	• Specify the desired length of holding time of Kerberos authentication ticket. **NOTE** • **This setting takes effect only when the authentication server type is set to active directory.**
Setting/ Procedure	• The default settings is 60 min. 1 to 60 min.

(9) Scanner Settings

- It will be displayed only when the optional image controller IC-409 is mounted and user authentication or account track has been set.

Functions	• To select whether to use TWAIN scan function available in Fiery Remote Scan when user authentication or account track is set to on.
Use	• When user authentication or account track is set to on, select the use of TWAIN scan function available in Fiery Remote Scan software that is supplied with the image controller.
Setting/ Procedure	• The default settings are Restrict. Allow “Restrict”

B. User Authentication Setting

- The settings are available only when carrying out the user authentication.

(1) Administrative Setting

<User Name List>

- It cannot select [OFF] when the following setting is set to "ON."
  [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]

Functions	• To set whether to display or not the list key for user names on user authentication screen.
Use	• To display the list key for user names on user authentication screen.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • **[ON] cannot be selected when [ON] is specified in the following setting. [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]**

<Default Function Permission>

Functions	• To set the default value for the function permission in user authentication by the external server.
Use	• To set the function which authenticated user can use when initially authenticating the user by the external server. • Items available for setting: Copy, Scan, Fax, Print, User Box, Print Scan/Fax TX and Save to External Memory
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

4 <ID & Print Settings>

- This is displayed only when the function enhanced version 3 or later firmware is installed.

Functions	• To set whether to use ID & Print (a job sent by a user cannot be printed until the user authentication is completed). • To set whether to print a job of unauthenticated or public user or to save the job into the ID & Print User Box.
Use	
Setting/ Procedure	<ID & Print> • The default setting is OFF. ON "OFF" <Public User> • The default setting is Print Immediately. "Print Immediately" Save

<ID & Print Operation Settings>

- This is displayed only when the function enhanced version 3 or later firmware is installed.
- It will be displayed only when the following setting shows that authentication device is set to “installed”.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to print all jobs or only one job from the same authenticated user when ID & Print is selected.
Use	
Setting/ Procedure	• The default setting is Print All Jobs. “Print All Jobs” Print Each Job

(2) User Registration

Functions	• To register or change the user.
Use	• To register, change or delete the user for authentication.
Setting/ Procedure	*1.* Select the user, and touch [Edit] *2.* Input the user name, user password, and e-mail address. **NOTE** • **It cannot be entered when conducting authentication by external server.** *3.* Set the output permission, max allowance set, function permission, and touch [OK]. **NOTE** • **When the public users are allowed, the output permission and the function permission can be set.** • **[Authentication Information Registration] does not appear when the presence of Authentication Device 2 is set in the following setting. [Service Mode] → [Billing Setting] → [Management Function Choice]** • **[Output Permission], [Max. Allowance Set], and [Function Permission] do not appear when the presence of Management Device 1 is set in the following setting. [Service Mode] → [Billing Setting] → [Management Function Choice]**

(3) User Counter

Functions	• To display the status of use of the copy+print, copy, print and scan/fax for each user.
Use	• To check the status of use of the copy+print, copy, print and scan/fax for each user.
Setting/ Procedure	*1.* Select the user and touch [Counter Details]. *2.* Select the key to check to see the status of use. *3.* For clearing the counter, touch [Clear Counter]. *4.* For clearing the all counters, touch [Reset All Counters].

C. Account Track Setting

- The settings are available only when carrying out the account track.

(1) Account Track Registration

Functions	• To register and change the account.
Use	• To register, change or delete the account for account track.
Setting/ Procedure	*1.* Select the proper Account and touch [Edit]. *2.* Input the [Account Name], [Password] and [Name]. *3.* Set the [Output Permission], and [Max. Allowance Set], and touch [OK]. **NOTE** • **When the "Password Only" is selected for [Account Track Input Method], [Account Name] does not appear.** • **When the "Password Only" is selected for [Account Track Input Method], [Account Name] does not appear.**

(2) Account Track Counter

Functions	• To display the status of use of the copy+print, copy, print and scan/fax for each account.
Use	• To check the status of use of the copy+print, copy, print and scan/fax for each account.
Setting/ Procedure	*1.* Select the account and touch [Counter Details]. *2.* Select the key for the item to be checked. *3.* For clearing the counter, touch [Clear Counter]. *4.* For clearing the all counters, touch [Reset All Counters].

D. Print without Authentication

- It cannot select [Allow] when the following setting is set to "ON."
  [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]

Functions	• To set whether to allow or restrict the print which user and account are not specified.
Use	• To allow or restrict printing which user and account are not specified. • When Allow is selected, pages printed by unidentified users are counted and included in the count of the public user.
Setting/ Procedure	• The default setting is Restrict. Allow "Restrict"

E. Print Counter List

- The setting is available only when carrying out the user authentication or account track.
- It will not be displayed when the following setting shows that key counter, vendor, authentication device1 or management device 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To print out the User counter and the account counter.
Use	• To output the user counter and account counter to be checked.
Setting/ Procedure	*1.* Touch [Counter List]. *2.* Select the simplex or duplex print, and press the start key to output the counter list.

F. External Server Settings

Functions	• Registers and sets an external server that is used for user authentication.
Use	• To make user authentication by external server authentication.
Setting/ Procedure	*1.* Select one from No. 1 to No. 20 and touch [NEW]. *2.* Set [Server Name] and [Server Type]. *3.* To change settings, select an external server to be edited and touch [Edit]. <Server Type> Active Directory NTLM v1 NTLM v2 NDS LDAP **NOTE** • **Neither [NTLM v1] nor [NTLM v2] appear when OFF is selected in the following setting. [Administrator Settings] → [Network Settings] → [SMB Settings] → [User Authentication (NTLM)]** • **[NDS] does not appear when OFF is selected in the following setting. [Administrator Settings] → [Network Settings] → [NetWare Settings] → [User Authentication Setting (NDS)]**

G. Limiting Access to Destinations

(1) Create Group

Functions	• Registers and edits groups of destinations for limiting access.
Use	
Setting/ Procedure	*1.* Select a group and touch [Edit]. *2.* Enter [Group Name]. *3.* Set the Access Allowed Level and touch [OK].

(2) Apply Levels/Groups to Destinations

Functions	• Sets Apply Level and Apply Group for individual destinations.
Use	
Setting/ Procedure	*1.* Select one from Address Book, Group, and Program. *2.* Select a registered address. Touch [Apply Group] and [Apply Level] independently to make each settings.

(3) Apply Levels/Groups to Users

Functions	• Sets Apply Level or Apply Group for individual users.
Use	
Setting/ Procedure	*1.* Select a registered user. Touch [Apply Group] and [Apply Level] independently to make each settings.

H. Authentication Device Settings

- The function can be displayed only when the authentication device 2 is set to Set by [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) General Settings

Functions Use	• Specifies a device used for user authentication. Card Authentication : Select the IC card type and operation settings. Bio Authentication : Select the beep and operation settings.
Setting/ Procedure	Card Authentication Bio Authentication • Select either one of the authentication devices and press the corresponding key to go to the individual operation setting screen. • The screen displays the authentication device that is selected in [Service Mode] → [Billing Setting] → [Management Function Choice] → [Authentication Device 2]. When [Card 1] is selected as the authentication device, select the card type from among [FeliCa], [TypeA], [SSFC], [FCF], and [FCF (Campus)] and make the operation settings. When [Card 2] is selected as authentication device, the authentication device name will be displayed differently depending on the type of installed loadable device driver. • If SSFC (Shared Security Formats Cooperation) is selected in Card Authentication, set [Company Code], [Company Identification Code], [Area No.], [Building No.], [Floor No.], [Room No.], and [Security Level]. • If LEGIC (PID) is selected in Card Authentication, perform the access setting (STAMP input) for LEGIC (PID). • If MIFARE (PID) is selected in Card Authentication, perform the MIFARE key setting.

(2) Touch & Print Setting

Functions Use	• Specifies whether to store jobs in the touch & print box when bio authentication is used.
Setting/ Procedure	• The default setting is Yes. "Yes" No

(3) Logoff Settings

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

Functions Use	• Select whether or not the user is logged off after a scan or fax is sent or after the copy document is scanned.
Setting/ Procedure	• The default setting is Do not log off. "Do not log off" Log off

I. Auth/Acct Track Common Setting

- This is displayed only when the function enhanced version 4 or later firmware is installed.

(1) Logout Confirmation Screen Display Setting

Functions	• Select whether or not to display the logout confirmation screen. • If the setting is made not to display the confirmation screen, the logout sequence is performed only through the Access key operation with no confirmation screen appearing.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

8.6.5 Network Setting

A. TCP/IP Settings

(1) TCP/IP Settings

Functions	• To set whether to enable or disable TCP/IP settings.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, turn off the main power switch and turn it on again more than 10 seconds after.**

(2) IP Settings

Functions	• To set whether to enter the IP address directly or to obtain it automatically.
Use	• To change the method for setting the IP address.
Setting/ Procedure	• The default setting is Auto Input. Manual Input “Auto Input” • When it is set to [Auto Input], select the method to obtain it automatically. DHCP Setting : ON OFF BOOTP Setting : ON OFF ARP/PING Setting : ON OFF AUTO IP Setting : ON OFF **NOTE** • **[ARP/PING Setting] and [Auto IP Setting] cannot be set to “OFF” simultaneously.** • **They will all be set to “ON” when [Manual Input] is changed to [Auto Input].** • When it is set to [Manual Input], set the IP address, subnet mask and default gate way.

(3) DNS Host

Functions	• To set the DNS host name. • To set whether or not to enable the dynamic DNS setting.
Use	• To enter the DNS host name. • To set the dynamic DNS.
Setting/ Procedure	<DNS Host Name> *1.* Touch [DNS Host Name]. *2.* Enter the DNS host name on the screen key board, and touch [OK]. <Dynamic DNS Settings> • The default setting is No Limit. Enable “No Limit”

(4) DNS Domain

Functions	• To set whether or not to enable the auto obtaining for the DNS domain name. • To set the DNS default domain name. • To set the DNS search domain name.
Use	• To enter the DNS default domain name. • To enter the DNS search domain name.
Setting/ Procedure	<DNS Domain Name Auto Retrieval> • The default setting is Enable. “Enable” No Limit **NOTE** • **“Enable” cannot be set when [IP Settings] is set to “Auto Input.”** <Domain Name> *1.* Touch [Default DNS Domain Name] or [DNS Search Domain Name 1 to 3]. *2.* Enter the domain name using the keyboard on the screen and touch [OK].

(5) DNS Server Settings

Functions	• To set whether or not to enable the auto obtaining of the DNS server address. • To set the priority/substitute DNS server.
Use	• To enter priority/substitute DNS server.
Setting/ Procedure	<DNS Server Auto Obtain> • The default setting is Enable. “Enable” No Limit **NOTE** • **“Enable” cannot be set when [IP Settings] is set to “Auto Input.”** <Priority/substitute DNS server.> • Touch the corresponding key, and input the server address by IPv4 or the IPv6 format.

(6) RAW Port Number

Functions	• To set the RAW port number.
Use	• To set the RAW port number for the printer. • Several data can be accepted at the same time by selecting several ports.
Setting/ Procedure	*1.* Select the necessary port number. *2.* When using the selected port, press the Clear key to clear the value, and enter the RAW port number using the 10-key pad. *3.* Touch [OK].

(7) IP Filtering (Permit Access)

Functions	• To set the IP filtering (Permit Access).
Use	• To set whether to allow only IP addresses that are within a specified range.
Setting/ Procedure	*1.* Select Enable or “Disable”. *2.* When [Enable] is set, select one from Set 1 to Set 5 and specify the range of IP addresses to be allowed using the 10-key pad. *3.* Touch [OK].

(8) IP Filtering (Deny Access)

Functions	• To set the IP filtering (Deny Access).
Use	• When [Enable] is set, select one from Set 1 to Set 5 and specify the range of IP addresses to be allowed using the 10-key pad.
Setting/ Procedure	*1.* Select Enable or “Disable”. *2.* When [Enable] is set, select one from Set 1 to Set 5 and enter the range of IP addresses to be denied using the 10-key pad. *3.* Touch [OK].

(9) IPv6 Settings

Functions	• To set whether to use IPv6 in IP network communication. • To set whether to use the IPv6 address automatic acquisition setting. • To set IPv6 addresses.
Use	• To use IPv6 in IP network communication.
Setting/ Procedure	<IPv6 Settings> • The default setting is ON. “ON” OFF <Auto IPv6 Settings> • The default setting is ON. “ON” OFF **NOTE** **• When the setting is changed, turn off the main power switch and turn it on again more than 10 seconds after.** <IPv6 address> • When [Auto IPv6 Settings] is set to OFF, make the settings of global address and gateway address. *1.* Touch [Global Address] or [Gateway Address]. *2.* Enter the address with the keys on the screen. *3.* To change the prefix length of global address, touch [Prefix Length] and specify the number of bits within the range of 1 to 128. **NOTE** **• [Link-Local Address] key appears, but its settings are not allowed to be changed.**

(10) IPsec Settings

Functions	• To set whether to use IPsec protocol for IP network communication.
Use	• When IPsec protocol is used to perform encrypted communication.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<IKE Settings>

Functions	• To make the settings that relate to IKE (Internet Key Exchange) protocol which is used for IPsec communication. • Settings can be made independently for four different sets (Group 1 to 4).
Use	
Setting/ Procedure	<Group> • Among four groups (Group 1 to 4), select a group where settings are made. <Encryption Algorithm> • Set a encryption algorithm used for IPsec communication. • The default setting is OFF. DES_CBC 3DES_CBC "OFF" <Authentication Algorithm> • Set an authentication algorithm used for IPsec communication. • The default setting is OFF. MD5 SHA-1 "OFF" <Key Validity Period> • Set a key validity period. • The default setting is 28800 (sec.). 80 to 604800 (sec.) <Diffie-Hellman Group> • Set Diffie-Hellman group. • The default setting is Group 2.

<IPsec SA Settings>

Functions	• To make the settings that relate to IPsec SA (Security Association) which is used for IPsec communication. • Settings can be made independently for eight different sets (Group 1 to 8).
Use	
Setting/ Procedure	<Group Set Number> • Among Group 1 to 8, select a group where settings are made. • After touching the key of the Group, make the following settings. (If the combination of each selection is not allowed among different settings, the key operation of the corresponding option is locked.) <Security Protocol> • Set a security protocol. • The default setting is OFF. AH ESP ESP_AH “OFF” <ESP Encryption Algorithm> • Set an encryption algorithm used for ESP protocol. • The default setting is OFF. DES_CBC 3DES_CBC AES_CBC AES_CTR NULL “OFF” <ESP Authentication Algorithm> • Set authentication algorithm used for ESP protocol. • The default setting is OFF. MD5 SHA-1 “OFF” <AH Authentication Algorithm> • Set authentication algorithm used for AH protocol. • The default setting is OFF. MD5 SHA-1 “OFF” <Lifetime After Establishing SA> • Set the period of time starting from when SA connection is established and ending when the SA connection is cut. • The default setting is 3600 (sec.). 120 to 604800 (sec.)

<Peer>

Functions	• To register destinations used for IPsec communication. • Settings can be made independently for different ten sets (Group 1 to 10).
Use	
Setting/ Procedure	<Peer> • Among Group 1 to 10, select a group where settings are made. • After touching the key of the Group, make the following setting. <Encapsulation Mode> • Set a encapsulation mode used for IPsec. • The default setting is OFF. Tunnel Mode Transport Mode "OFF" <IP Address> • When the encapsulation mode is set, specify the IP address of destinations. • Touch [IP Address] and enter the IP address with IPv4 or IPv6 format. <Pre-Shared Key Text> • When the encapsulation mode is set, specify a Pre-shared key (Key data). • Touch [Input] and enter the Pre-shared key. <Perfect Forward Secrecy> • When the transport mode is selected, set whether to use Perfect forward secrecy. • The default setting is OFF. ON "OFF"

B. NetWare Settings

(1) IPX Settings

Functions	• To enable or disable the NetWare (IPX) setting. • To set the ethernet frame type.
Use	• To use NetWare (IPX) setting. • To specify the frame type for transmission.
Setting/ Procedure	<IPX Settings> • The default setting is ON. "ON" OFF <Ethernet Frame Type> • The default setting is Auto Detect. "Auto Detect" 802.2 802.3 Ethernet II 802.3SNAP

(2) Netware Print Settings

Functions	• To set whether to use the NetWare print mode. • To set the NetWare print mode. • To display NetWare status.
Use	• To change the NetWare print mode. • To check NetWare status.
Setting/ Procedure	<Netware Print Settings> • The default setting is ON. “ON” OFF <NetWare Print Mode> • The default setting is PServer. “PServer” Nprinter/Rprinter • After selecting either key in the NetWare print mode setting, proceed to each setting screen. <Status> *1.* Touch [Status]. *2.* Touch up/down arrow keys to select the server to check. *3.* Check the NetWare status.

(3) P Server Settings: Print Server Name/Print Server Password

Functions	• To set the print server name and print server password.
Use	• To enter the print server name or the print server password.
Setting/ Procedure	*1.* Touch [Print Server name] or [Print Server Password]. *2.* Enter the print server name or the print server password (up to 63 characters) using the on-screen keyboard, and touch [OK].

(4) P Server Settings: Polling Interval

Functions	• To set the polling interval.
Use	• To set the interval to search the print queue.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the polling interval between 1 and 65535 using the 10-key pad.

(5) P Server Settings: NDS/Bindery Setting

Functions	• To set whether to enable or disable the bindery setting when using NetWare4.x model and after.
Use	• To enable the bindery service.
Setting/ Procedure	• The default setting is NDS. “NDS” NDS/Bindery

(6) P Server Settings: File Server Name

Functions	• To set the file server name.
Use	• To set the full server name for the print server to logon.
Setting/ Procedure	*1.* Touch [File Server Name]. *2.* Enter the File server name (up to 47 characters) on the on-screen keyboard, and touch [OK].

(7) P Server Settings: NDS Context Name

Functions	• To set the NDS context name (context name to register NDS print server).
Use	• To set the NDS context name.
Setting/ Procedure	*1.* Touch [NDS Context name]. *2.* Enter the NDS context name (up to 191 characters) on the on-screen keyboard, and touch [OK].

(8) P Server Settings: NDS Tree Name

Functions	• To set the NDS tree name (name to login).
Use	• To set the NDS tree name.
Setting/ Procedure	*1.* Touch [NDS Tree Name]. *2.* Enter the NDS tree name (up to 63 characters) on the on-screen keyboard, and touch [OK].

(9) Nprinter/Rprinter Settings: Print Server Name

Functions	• To set the print server name.
Use	• To set the print server name.
Setting/ Procedure	*1.* Touch [Print Server Name]. *2.* Enter the printer name (up to 63 characters) on the on-screen keyboard, and touch [OK].

(10) Nprinter/Rprinter Settings: Printer Number

Functions	• To set the printer number.
Use	• To set the printer number.
Setting/ Procedure	*1.* Touch [Auto] and cancel the reverse display. *2.* Press the Clear key. *3.* Enter the number between 0 and 254 using the 10-key pad.

(11) User Authentication Setting (NDS)

Functions	• To set whether or not to use the user authentication setting.
Use	• To conduct user authentication in netware environment.
Setting/ Procedure	• The default setting is ON. “ON” OFF

C. http Server Settings

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) http Server Settings

Functions	• To set whether or not to use the http server setting.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

(2) PSWC Settings

Functions	• To set whether to use the PageScope Web Connection.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

(3) IPP Settings

Functions	• To set whether to enable or disable IPP (Internet Printing Protocol) setting.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

(4) Accept IPP jobs

Functions	• To set whether to allow or restrict the IPP job.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

(5) Support Information

Functions	• To set the operation support information.
Use	• For the response setting to see if IPP transmission supports each function.
Setting/ Procedure	*1.* Touch [Support Information]. *2.* Set “ON” or OFF for each item.

(6) Printer Information

Functions	• To set the printer information.
Use	• To set the printer information.
Setting/ Procedure	*1.* Touch [Printer Information]. *2.* Enter the printer name, printer location, and printer information on the on-screen keyboard. *3.* Touch [Print URI] to check the printer URI information.

(7) IPP Authentication Settings

Functions	• To set whether or not to use the IPP authentication setting.
Use	• To conduct IPP authentication.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(8) Authentication Method

Functions	• To set the authentication method for IPP authentication.
Use	• To change the authentication method when conducting IPP authentication.
Setting/ Procedure	• The default setting is requesting-user-name. "requesting-user-name" basic digest

(9) User Name

Functions	• To set the User name for IPP authentication.
Use	
Setting/ Procedure	*1.* Touch [User Name]. *2.* Enter the user name on the on-screen keyboard, and touch [OK].

(10) Password

Functions	• To set the password for IPP authentication.
Use	
Setting/ Procedure	*1.* Touch [Password]. *2.* Enter the password on the on-screen keyboard, and touch [OK].

(11) realm

Functions	• To set the realm for identifying the authentication setting for IPP authentication.
Use	
Setting/ Procedure	*1.* Touch [realm]. *2.* Enter the realm on the on-screen keyboard, and touch [OK].

D. FTP Settings

(1) FTP TX Settings

Functions	• To set whether to use FTP TX settings.
Use	
Setting/ Procedure	• The default setting is ON. "ON" OFF

(2) FTP TX Settings: Proxy Server Address

Functions	• To set the proxy server address.
Use	• To enter the proxy server address.
Setting/ Procedure	*1.* Touch [Host Address]. *2.* Select [Input Host Name], [IPv4 Address Input], or [IPv6 Address Input] and enter a host address.

(3) FTP TX Settings: Proxy Server Port Number

Functions	• To set the proxy server port number.
Use	• To enter the proxy server port number.
Setting/ Procedure	• Press the Clear key. • Enter the proxy server port number between 1 and 65535 using the 10-key pad.

(4) FTP TX Settings: Port No.

Functions	• To set the port number to be used for transmission with FTP server.
Use	• To enter the port number to be used for transmission with FTP server.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the proxy server port number between 1 and 65535 using the 10-Kay pad.

(5) FTP TX Settings: Connection Timeout

Functions	• To set the timeout period for connecting to FTP server.
Use	• To change the timeout period for connecting.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the connecting timeout period between 5 and 300 using the 10-key pad.

(6) FTP Server Settings

Functions	• To set whether to use this machine as FTP server.
Use	• Not to use the machine as FTP server.
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **[ON] cannot be selected when the following setting is set to “ON.” [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]**

E. SMB Setting

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) Client Settings

Functions	• To set whether or not to use the SMB transmission setting. • To set whether or not to enable the user authentication setting by NTLM. • To set the NTLM version for the user authentication.
Use	• To use when setting the SMB transmission setting. • To use when conducting the user authentication by NTLM (NT LAN Manager). • To use when changing the NTLM version for user authentication. NTLM has v1 and v2. Select the version which suits the network environment.
Setting/ Procedure	<Client Settings> • The default setting is ON. "ON" OFF <NTLM Settings> • The default setting is v1. "v1" v2 v1/v2 <User Authentication (NTLM)> • The default setting is ON. "ON" OFF

(2) Print Settings

Functions	• To set whether to use SMB port or not in printer mode.
Use	
Setting/ Procedure	• The default setting is ON. "ON" OFF

(3) Print Settings: NetBIOS Name

Functions	• To set NetBIOS name.
Use	• To set NetBIOS name.
Setting/ Procedure	*1.* Touch [NetBIOS Name]. *2.* Enter the NetBIOS name (up to 15 characters) on the on-screen keyboard, and touch [OK].

(4) Print Settings: Print Service Name

Functions	• To set the print service name.
Use	• To set the print service name.
Setting/ Procedure	*1.* Touch [Print Service Name]. *2.* Enter the print service name (up to 13 characters) on the on-screen keyboard, and touch [OK].

(5) Print Settings: Workgroup

Functions	• To set the workgroup.
Use	• To set the workgroup.
Setting/ Procedure	*1.* Touch [Workgroup]. *2.* Enter the workgroup (up to 15 characters) on the on-screen keyboard, and touch [OK].

(6) WINS Settings

Functions	• To set whether or not to enable the WINS setting.
Use	• To use the WINS (Windows Internet Name Service) setting is necessary. • By using the WINS, the traffic by broadcast can be reduced, and the communication becomes available with the network where broadcast does not reach.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(7) WINS Settings: Automatic Retrieval Settings

Functions	• To set whether or not to enable the auto obtaining of the WINS server address.
Use	• To acquire the WINS server address automatically. • To obtain the WINS server address from DHCP server. If there are more than on address settings, up to two can be acquired.
Setting/ Procedure	• The default setting is Enable. “Enable” No Limit

(8) WINS Settings: WINS Server Address 1, 2

Functions	• To set the WINS server address.
Use	• To use when manually entering the WINS server address. • The primary address and the secondary address can be set. (The primary address has the priority during operation.)
Setting/ Procedure	*1.* Touch [1] or [2]. *2.* Enter the WINS server address.

(9) WINS Settings: Node Type Setting

Functions	• To set a node type.
Use	• To change the current node type.
Setting/ Procedure	• The default setting is H Node. B Node P Node N Node “H Node”

(10) Direct Hosting Setting

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• To set whether or not to enable the direct hosting setting.
Use	• To use the direct hosting setting is necessary.
Setting/ Procedure	• The default setting is ON. “ON” OFF

F. LDAP Settings

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) Enabling LDAP

Functions	• To set whether to enable or disable the LDAP function.
Use	• To use LDAP function.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Setting Up LDAP

- Registration and/or setting concerning the LDAP server can be conducted.
- Touch [Setting Up LDAP], and select the optional blank key to register and/or set.

<LDAP Server Name>

Functions	• Set the LDAP server name.
Use	
Setting/ Procedure	*1.* Touch [Server Name]. *2.* Enter the server name (up to 32 one-byte characters) on the on-screen keyboard, and touch [OK].

<Max. Search Results>

Functions	• To set the Max. results of address for LDAP search.
Use	• To change the Max. results of address for LDAP search.
Setting/ Procedure	*1.* Touch [Max. Search Results]. *2.* Press the Clear key. *3.* Enter the Max. Search result numbers between 5 and 1000 using the 10-key pad.

<Timeout>

Functions	• To set the Max. timeout period for LDAP search.
Use	• To change the Max. timeout period for LDAP search.
Setting/ Procedure	*1.* Touch [Timeout]. *2.* Press the Clear key. *3.* Enter the timeout period between 5 and 300 using the 10-key pad.

<Initial Setting for Search Details>

Functions	• To set the initial items for search conditions in LDAP detail search.
Use	• To set the initial items for search conditions in LDAP detail search.
Setting/ Procedure	*1.* Touch [Initial Setting for Search Details]. *2.* Touch the key about condition for each search item, and select the condition.

<Check Connection>

- It will not be displayed when [Enabling LDAP] is set to “OFF.”
- It will not be displayed when the following is set to “Restrict.”
  [Administrator Settings] → [Security Settings] → [Security Details] → [Manual Destination Input]

Functions	• To check the connection with the LDAP server which has been set.
Use	
Setting/ Procedure	*1.* Touch [Check Connection]. *2.* Confirm a proper connection and touch [Close].

<Reset All Settings>

Functions	• To return the contents registered in the LDAP server to what they were prior to the shipping.
Use	
Setting/ Procedure	*1.* Touch [Reset All Settings]. *2.* Check the message and touch [Yes]. *3.* Touch [OK].

<Server Address>

Functions	• To set the LDAP server address.
Use	• To enter LDAP server address.
Setting/ Procedure	*1.* Touch [Server Address]. *2.* Select [Input Host Name], [IPv4 Address Input] or [IPv6 Address Input], and enter the server address.

<Search Base>

Functions	• To set the directory path for LDAP server.
Use	• To enter the directory path for LDAP server.
Setting/ Procedure	*1.* Touch [Search Base]. *2.* Enter the search base (up to 255 characters) on the on-screen keyboard, and touch [OK].

<SSL Setting>

Functions	• To set whether to use SSL (data encryption) for connecting to LDAP server.
Use	• To use SSL (data encryption) for connecting to LDAP server.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Port Number>

Functions	• To set the LDAP server port number.
Use	• To enter the LDAP server port number.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-Kay pad.

<Port Number (SSL)>

Functions	• To set the port number for LDAP server when using SSL.
Use	• To enter the port number for LDAP server when using SSL.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-Kay pad.

<Authentication Type>

Functions	• To set the authentication method to logon to LDAP server.
Use	• To change the authentication method to logon to LDAP server. anonymous : User name and password are not necessary (Dynamic authentication will be invalid when anonymous is selected.) Simple : Simple method which needs the user name and the password Digest-MD5 : Method available with normal LDAP server. When failing to authenticate with Digest-MD5, it automatically switches to CRAM-MD5. GSS-SPNEGO : Method available with Windows active directory (Kerberos authentication). NTLM (v1) : Standard user authentication format used for Windows NT, etc. NTLM (v2) : Standard user authentication format used for Windows NT, etc. It has been applied to the Windows NT4.0 SP4 and later versions. Its security has been enhanced compared to v1.
Setting/ Procedure	• The default setting is anonymous. “anonymous” Simple Digest-MD5 GSS-SPNEGO NTLM v1 NTLM v2

<Select Server Authentication Method>

Functions	• To set the authentication system when conducting LDAP server authentication.
Use	• To use when changing the server authentication system. Use Set Value : It conducts authentication with the setting value set by [LDAP Server Registration]. Use User Authentication ID and Password : It conducts authentication with the registration data for the copier’s user authentication. Dynamic Authentication : It conducts authentication by dynamic authentication.
Setting/ Procedure	• The default setting is Use Set Value. “Use Set Value” Use User Authentication ID and Password Nprinter/Rprinter

<Referral Setting>

Functions	• To set whether or not to use the referral setting.
Use	• To use when tracing the server with referral at the time of LDAP connection.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Login Name>

Functions	• To set the login name to connect to LDAP server.
Use	• To set the login name to connect to LDAP server.
Setting/ Procedure	*1.* Touch [Login Name]. *2.* Enter the logon name (up to 255 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The setting is not available when authentication method is set to anonymous.**

<Password>

Functions	• To set the password for connecting to LDAP server.
Use	• To set the password for connecting to LDAP server.
Setting/ Procedure	• Touch [Password]. • Enter the password (up to 63 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The setting is not available when authentication method is set to anonymous.**

<Domain Name>

Functions	• To set the domain name for connecting to LDAP server.
Use	• To set the domain name for connecting to LDAP server.
Setting/ Procedure	*1.* Touch [Domain Name]. *2.* Enter the domain name (up to 64 characters) on the on-screen keyboard, and touch [OK].

(3) Default LDAP Server Setting

Functions	• To set the server to be used as the default when searching LDAP.
Use	
Setting/ Procedure	*1.* Touch [Default LDAP Server Setting]. *2.* Select the optional server.

G. E-mail Settings

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) E-mail TX (SMTP)

<E-mail TX (SMTP)>

Functions	• To set whether to enable or disable the e-mail transmission setting.
Use	• To disable the e-mail transmission setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Scan to E-mail>

Functions	• To set whether or not to transfer scanned data by e-mail.
Use	• To use when not transferring scanned data by e-mail.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Status Notification>

Functions	• To set whether or not to inform the status by e-mail.
Use	• To use when not informing the status by e-mail.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Total Counter Notification>

Functions	• To set whether or not to inform the total counter by e-mail.
Use	• To use when not informing the total counter by e-mail.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<SMTP Server Address>

Functions	• To set the SMTP server address.
Use	• To enter the SMTP server address.
Setting/ Procedure	*1.* Touch [Host Address]. *2.* Select [Input Host Name], [IPv4 Address Input] or [IPv6 Address Input], and enter the server address.

<Binary Division>

Functions	• To set whether to carry out binary division for data to be transmitted.
Use	• Not to carry out binary division for data to be transmitted.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Divided Mail Size>

Functions	• To set the dividing size when carrying out the binary division for data to be transmitted.
Use	• To change the dividing size of the data.
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the dividing mail size between 100 and 15000 (in 100 increments) using the 10-key pad.

<Connection Timeout>

Functions	• To set the timeout period for connection in transmitting e-mail to SMTP server.
Use	• To change the timeout period for connection in transmitting e-mail to SMTP server.
Setting/ Procedure	• Select the timeout period using [+] / [-] keys. • The default setting is 60 sec. "60 sec." (30 to 300, in 30 sec. increments)

<Server Capacity>

Functions	• To set the Max. capacity per mail which SMTP server can receive.
Use	• To change the Max. capacity per mail which SMTP server can receive.
Setting/ Procedure	• The default setting is No Limit. "No Limit" (1 to 100)

<SSL Setting>

Functions	• To set whether or not to use SSL when sending an e-mail.
Use	• To use when sending an e-mail using SSL.
Setting/ Procedure	• The default setting is OFF. SMTP over SSL Start TLS "OFF"

<Port No.>

Functions	• To set the port number for transmission with SMTP server.
Use	• To enter the port number for transmission with SMTP server.
Setting/ Procedure	1. Touch [Input]. 2. Press the Clear key. 3. Enter the port number between 1 and 65535 using the 10-key pad.

<Port Number (SSL)>

Functions	• To set the port number when using SSL.
Use	• To use for entering the port number when using SSL.
Setting/ Procedure	1. Touch [Input]. 2. Touch the Clear key. 3. Enter the port number (SSL) between 1 and 65535 using the 10-key pad.

<Detail Settings: SMTP Authentication>

Functions	• To set whether or not to enable SMTP authentication.
Use	• To use when conducting SMTP authentication.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When set to "ON", enter the [User ID], [Password] and [Domain Name].

<Detail Settings: POP Before SMTP Authentication>

Functions	• To set whether or not to enable the POP Before SMTP authentication.
Use	• To use when conducting POP Before SMTP authentication.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Detail Settings: POP Before SMTP Time>

Functions	• To set the time necessary for POP Before SMTP authentication.
Use	• To change the time necessary for POP Before SMTP authentication.
Setting/ Procedure	*1.* Touch [Input]. *2.* Press the Clear key. *3.* Enter the time for POP Before SMTP between 0 and 60 using the 10-key pad.

(2) E-mail RX (POP)

<E-mail RX (POP)>

Functions	• To set whether to enable or disable the e-mail reception setting.
Use	• To disable the e-mail reception setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<POP Server Address>

Functions	• To set the POP server address.
Use	• To enter the POP server address.
Setting/ Procedure	*1.* Touch [Host Address]. *2.* Select [Input Host Name], [IPv4 Address Input] or [IPv6 Address Input], and enter the server address.

<Connection Timeout>

Functions	• To set the timeout period for connection in receiving e-mail to POP server.
Use	• To set the timeout period of connection in receiving e-mail to POP server.
Setting/ Procedure	• Select the timeout period of connection using [-]/[+] keys.

<SSL Setting>

Functions	• To set whether or not to use SSL when receiving an e-mail.
Use	• To use when receiving an e-mail which used SSL.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Port No.>

Functions	• To set the port No. for transmitting with POP server.
Use	• To enter the port No. for transmitting with POP server.
Setting/ Procedure	1. Touch [Input]. 2. Touch the Clear key. 3. Enter the port No. between 1 and 65535 using the 10-key pad.

<Port Number (SSL)>

Functions	• To set the port number when using SSL.
Use	• To enter the port number when using SSL.
Setting/ Procedure	1. Touch [Input]. 2. Touch the Clear key. 3. Enter the port number (SSL) between 1 and 65535 using the 10-key pad.

<Login Name>

Functions	• To enter a login name used for POP server authentication.
Use	
Setting/ Procedure	1. Touch [Login Name]. 2. Enter a login name.

<Password>

Functions	• To enter a login name used for POP server authentication.
Use	
Setting/ Procedure	1. Touch [Password]. 2. Enter a password.

<APOP Authentication>

Functions	• To set whether to use APOP authentication.
Use	• To use APOP authentication.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Check for New Messages>

Functions	• To set whether to automatically check a POP server for new messages.
Use	
Setting/ Procedure	• The default setting is Yes. “Yes” No

<Polling Interval>

Functions Use	• To set a polling interval at which a POP server is checked for new messages.
Setting/ Procedure	• The default setting is 15 minutes. 1 to 60 minutes

(3) S/MIME Communication Settings

Functions Use	• To set whether to activate S/MINE communication that provides encrypted E-mail transmission.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Digital Signature>

Functions Use	• Set whether to add a digital signature to S/MIME messages.
Setting/ Procedure	• The default setting is Do not add signature. “Do not add signature” Always add signature Select when sending

<E-mail Text Encryption Method>

Functions Use	• To select an encryption method used for S/MIME E-mail text.
Setting/ Procedure	• The default setting is 3DES. RC2-40 RC2-64 RC2-128 DES “3DES” AES-128 AES-192 AES-256

<Print S/MIME Information>

Functions Use	• To select whether to print S/MIME information when sending and receiving E-mail.
Setting/ Procedure	• The default setting is No. Yes “No”

<Automatically Obtain Certificates>

Functions Use	• To set whether to automatically acquire a certificate when sending or receiving E-mail.
Setting/ Procedure	• The default setting is No. Yes “No”

H. SNMP Setting

(1) SNMP Setting

Functions	• To set whether to use SNMP (Simple Network Management Protocol) or not. • To set the SNMP version to be used.
Use	• Not to use SNMP. • To readout management information base and to enter community name for writing.
Setting/ Procedure	• The default setting is ON. "ON" OFF • To individually set whether or not to use SNMP v1/v2c (IP), SNMP v3 (IP), and SNMP v1 (IPX). • The default setting is ON. "ON" OFF

(2) UDP Port Number

Functions	• To set the UDP standby port number which is used for SNMP (IP).
Use	
Setting/ Procedure	*1.* Touch the Clear key. *2.* Enter the port number between 1 and 65535 using the 10-key pad.

(3) SNMP v1/v2c Settings

Functions	• To conduct setting when using SNMP v1/v2c.
Use	• To use when changing write setting. • To use when entering the community name for reading the Management Information Base (MIB) and writing to it.
Setting/ Procedure	<Read Community Name Settings> • Enter a Read community name. <Write Setting> • The default setting is Enable. "Enable" Disable **NOTE** • **[Enable] cannot be selected when the following setting is set to "ON." [Administrator Settings] → [Security Setting] → [Enhanced Security Mode]** <Write Community Name Settings> • Enter a Write community name.

(4) SNMP v3 Settings

<Context Name Settings>

Functions	• Set the context name which is used for SNMP v3.
Use	
Setting/ Procedure	*1.* Touch [Name]. *2.* Enter the context name (up to 64 characters) on the on-screen key board, and touch [OK].

<Discovery User Permissions>

Functions Use	• To set whether or not to enable the discovery authority user which is used for SNMP v3.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Discovery User Name Settings>

Functions Use	• To set the name of the discovery authority users which is used for SNMP v3.
Setting/ Procedure	*1.* Touch [Discovery User Name]. *2.* Enter the discovery user name (up to 32 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The user name same with the read user name or the write user name cannot be set.**

<Read User Name Settings>

Functions Use	• To set the read-only user name used for SNMP v3.
Setting/ Procedure	*1.* Touch [Read User Name]. *2.* Enter the read user name (up to 32 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The user Name same with the discovery user name cannot be used.**

<Security Level>

Functions	• To set the security level of the read-only user used for SNMP v3.
Use	• To use when changing the security level of the read-only user. OFF : No authentication will be conducted when the read-only user accesses. auth-password : Conducts authentication only for the authentication password when the read-only user accesses. auth-Password/privpassword : Conducts authentication by authentication password and privacy password when read-only user accesses.
Setting/ Procedure	• The default setting is auth-password/privpassword. OFF auth-password “auth-password/privpassword”

<Password Setting>

Functions Use	• To set the Authentication password for the read-only User which is used for SNMP v3.
Setting/ Procedure	*1.* Select a type of password. *2.* Enter the password (up to 32 characters) on the on-screen keyboard, and touch [OK].

<Write User Name Settings>

Functions Use	• To set the name of the reading/writing authority user which is used for SNMP v3.
Setting/ Procedure	*1.* Touch [Write User Name]. *2.* Enter the write user name (up to 32 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The user name same with the discovery use name cannot be used.**

<Security Level>

Functions	• To set the security level for the reading/writing authority user which is used for SNMP v3.
Use	• To use for changing the security level of the reading/writing authority user. OFF : Authentication will not be conducted when reading/writing authority user accesses. auth-password : Conducts authentication only with authentication password when reading/writing authority user accesses. auth-password/privpassword : Conducts authentication by authentication password and privacy password when reading/writing authority user accesses.
Setting/ Procedure	• The default setting is auth-password/privpassword. OFF auth-password "auth-password/privpassword" **NOTE** • **[Authentication OFF] cannot be selected when the following setting is set to "ON."** **[Administrator Settings] → [Security Settings] → [Enhanced Security Mode]**

<Encryption Algorithm>

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions Use	• To set the encryption algorithm in SNMPv3 communication.
Setting/ Procedure	• The default setting is DES. "DES" AES-128

<Authentication Algorithm>

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions Use	• To set the authentication algorithm in SNMPv3 communication.
Setting/ Procedure	• The default setting is MD5. "MD5" SHA-1

I. AppleTalk Settings

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

(1) AppleTalk Settings

Functions	• To set whether to enable or disable the AppleTalk setting.
Use	• To use AppleTalk setting.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Printer Name

Functions	• To set the printer name displayed on the AppleTalk network.
Use	• To set the printer name displayed on the AppleTalk network.
Setting/ Procedure	*1.* Touch [Printer Name]. *2.* Enter the printer name (up to 31 characters) on the on-screen keyboard, and touch [OK].

(3) Zone Name

Functions	• To set the zone name connected with AppleTalk network.
Use	• To set the zone name connected with AppleTalk network.
Setting/ Procedure	*1.* Touch [Zone Name]. *2.* Enter the zone name (up to 31 characters) on the on-screen keyboard, and touch [OK].

(4) Current Zone

Functions	• To display the current zone on AppleTalk network.
Use	• To check the current zone on the AppleTalk network.

J. Bonjour Setting

(1) Bonjour Setting

Functions	• To set whether or not to use the Bonjour setting.
Use	• To use when operating under the Bonjour service environment.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(2) Bonjour Name

Functions	• To set the bonjour name.
Use	• To set the name for identifying over the bonjour network.
Setting/ Procedure	*1.* Touch [Bonjour Name]. *2.* Enter the Bonjour name (up to 64 characters) on the on-screen keyboard, and touch [OK].

K. TCP Socket Settings

(1) TCP Socket

Functions	• To set whether or not to set the TCP socket. • To set the port number for TCP socket transmission.
Use	• To use when using the application, etc. for TCP socket transmission. • To be used when entering the port number used for TCP socket transmission.
Setting/ Procedure	• The default setting is ON. “ON” OFF <Port Number> *1.* Touch the Clear key. *2.* Enter the port number between 1 and 65535 using the 10-key pad.

(2) TCP Socket (ASCII Mode)

Functions	• To set whether or not to set the TCP socket for ASCII mode. • To set the port number which is used for TCP socket transmission by ASCII mode.
Use	• To use when using the application, etc. for TCP socket transmission by ASCII mode. • To use when entering the port number for TCP socket transmission by ASCII mode.
Setting/ Procedure	• The default setting is ON. “ON” OFF <Port Number (ASCII Mode)> *1.* Touch the Clear key. *2.* Enter the port number between 1 and 65535 using the 10-key pad.

L. Network Fax Setting

(1) Network Fax Function Settings

- It will not be displayed on the screen when all items are set to “OFF” in the following settings.
  [Service Mode] → [System 2] → [Network Fax Settings]

<IP Address Fax Function>

- Setting will be available only when [IP Address Fax] is set to “ON” in the following settings.
  [Service Mode] → [System 2] → [Network Fax Settings]

Functions	• To set whether or not to use IP address fax function.
Use	• To use IP address fax function.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Internet Fax Function>

- Setting will be available only when [Internet Fax] is set to “ON” in the following settings. [Service Mode] → [System 2] → [Network Fax Settings]

Functions	• To set whether or not to use Internet fax function.
Use	• To use Internet fax function.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) SMTP TX Settings

Functions	• To set SMTP TX when network fax function is being used.
Use	• To set SMTP TX port number and connecting time out period when network fax function is being used.
Setting/ Procedure	<Port Number> *1.* Touch [Input]. *2.* Enter the port number between 1 and 65535 using the 10-key pad. <Connection Timeout> *1.* Touch [Input]. *2.* Enter the connection timeout time between 5 and 1000 (sec.) using the 10-key pad.

(3) SMTP RX Settings

Functions	• To set SMTP RX when network fax function is being used.
Use	• To use SMTP RX function when network fax function is being used. • To set SMTP RX port number and connecting time out period when network fax function is being used.
Setting/ Procedure	<SMTP RX> • The default setting is ON. “ON” OFF <Port No.> *1.* Touch [Input]. *2.* Enter the port number between 1 and 65535 using the 10-key pad. <Connection Timeout> *1.* Touch [Input]. *2.* Enter the connection timeout time between 5 and 1000 (sec.) using the 10-key pad.

M. WebDAV Settings

(1) WebDAV Client Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.

<WebDAV Client Setting>

Functions	• To set whether to use WebDAV Client Settings.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

<WebDAV Client Settings: Proxy Server Address>

Functions	• To set the proxy server address.
Use	• To enter the proxy server address.
Setting/ Procedure	*1.* Touch [Host Address]. *2.* Select [Input Host Name], [IPv4 Address Input], or [IPv6 Address Input] and enter a host address.

<WebDAV Client Settings: Proxy Server Port Number>

Functions	• To set the proxy server port number.
Use	• To enter the proxy server port number.
Setting/ Procedure	• Press the Clear key. • Enter the proxy server port number between 1 and 65535 using the 10-key pad.

<WebDAV Client Settings: User Name>

Functions	• To set the user name for WebDAV authentication.
Use	
Setting/ Procedure	*3.* Touch [User Name]. *4.* Enter the user name on the on-screen keyboard, and touch [OK].

<WebDAV Client Settings: Password>

Functions	• To set the password for WebDAV authentication.
Use	
Setting/ Procedure	*5.* Touch [Password]. *6.* Enter the password on the on-screen keyboard, and touch [OK].

<WebDAV Client Settings: Connection Timeout>

Functions	• To set the timeout period for connecting to WebDAV server.
Use	• To change the timeout period for connecting.
Setting/ Procedure	*7.* Touch [Input]. *8.* Press the Clear key. *9.* Enter the connecting timeout period between 5 and 300 using the 10-key pad.

4 (2) WebDAV Server Settings

- This is displayed only when the function enhanced version 3 or later firmware is installed.

<WebDAV Server Setting>

Functions	• To set whether to use WebDAV Server Settings.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

<WebDAV Server Settings: SSL Setting>

Functions	• To set whether to use SSL/TSL for communications when using the machine as WebDAV server.
Use	
Setting/ Procedure	• The default setting is Non-SSL Only. “Non-SSL Only” SSL Only SSL/Non-SSL

<WebDAV Server Settings: Password Setting

Functions	• To set a password to access WebDAV server.
Use	
Setting/ Procedure	*1.* Touch [Password Setting]. *2.* Enter a password with the keyboard on the screen, and touch [OK]. • Touching [Initial Password] can restore the default password setting. (Default password: sysadm)

N. Web Service Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.

(1) Web Service Common Settings

<Web Service Common Settings: Friendly Name>

Functions	• To define a friendly name that is used when printing a job with WSD (Web Service on Devices) function.
Use	
Setting/ Procedure	*1.* Touch [Friendly Name]. *2.* Enter the friendly name (up to 62 characters) on the on-screen keyboard, and touch [OK].

<Web Service Common Settings: SSL Setting>

Functions	• To set whether to use SSL when using WSD (Web Service on Devices) function.
Use	
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Printer Settings

<Printer Settings>

Functions	• To set whether to use this printer as a WSD printer.
Use	
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Printer Settings: Printer Name>

Functions Use	• To set the WS printer name.
Setting/ Procedure	1. Touch [Printer Name]. 2. Enter the friendly name (up to 63 characters) on the on-screen keyboard, and touch [OK].

<Printer Settings: Printer Location>

Functions Use	• To set the WS printer location.
Setting/ Procedure	1. Touch [Printer Location]. 2. Enter the friendly name (up to 63 characters) on the on-screen keyboard, and touch [OK].

<Printer Settings: Printer Information>

Functions Use	• To set the WS printer information.
Setting/ Procedure	1. Touch [Printer Information]. 2. Enter the friendly name (up to 63 characters) on the on-screen keyboard, and touch [OK].

(3) Scanner Settings

<Scanner Settings>

Functions Use	• To set whether to use this machine as a WSD scanner.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Scanner Settings: Scanner Name>

Functions Use	• To set the WSD scanner name.
Setting/ Procedure	1. Touch [Scanner Name]. 2. Enter the friendly name (up to 63 characters) on the on-screen keyboard, and touch [OK].

<Scanner Settings: Scanner Location>

Functions Use	• To set the WS scanner location.
Setting/ Procedure	1. Touch [Scanner Location]. 2. Enter the friendly name (up to 63 characters) on the on-screen keyboard, and touch [OK].

<Scanner Settings: Scanner Information>

Functions	• To set the WS scanner information.
Use	
Setting/ Procedure	*1.* Touch [Scanner Information]. *2.* Enter the friendly name (up to 63 characters) on the on-screen keyboard, and touch [OK].

<Scanner Settings: Connection Timeout>

Functions	• To set the timeout period for connection of WS scanner.
Use	
Setting/ Procedure	*1.* Press the Clear key. *2.* Enter the connecting timeout period between 30 and 300 using the 10-key pad.

O. Detail Settings

(1) Device Setting

<MAC Address>

Functions	• To display the MAC address of the machine.
Use	• To check the MAC address of the machine.
Setting/ Procedure	• The address cannot be changed.

<Network Speed>

Functions	• To set the network speed.
Use	• To set the specific network speed.
Setting/ Procedure	• The default setting is Auto. “Auto” 10Mbps Full Duplex 10Mbps Half Duplex 100Mbps Full Duplex 100Mbps Half Duplex 1Gbps Full Duplex **NOTE** • **When Network speed setting is changed, turn off the main power switch and turn it on again more than 10 seconds after.**

(2) Time Adjustment Setting

Functions	• To set whether to enable or disable the NTP setting.
Use	• To synchronize the time between the server and the client.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<NTP Server Setting>

Functions	• To set the NTP server address.
Use	• To enter the NTP server address.
Setting/ Procedure	<Host Address> *1.* Touch [Host Address]. *2.* Select [IP Address Input], and enter the IP address. *3.* Select [Host name Input], and enter the host name. <Port Number> *1.* Touch the Clear key. *2.* Enter the port number between 1 and 65535 using the 10-key pad.

(3) Status Notification Setting

- It will not be displayed when the following setting shows that authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
- To notify status, notifications both by E-mail and by SNMP TRAP function can be set. For E-mail, up to ten IP addresses and one IPX address can be set. For SNMP TRAP function, up to five IP addresses and one IPX can be set.

<Register Notification Address (IP Address)>

Functions	• To set IP addresses to which machine status notifications are sent.
Use	• Use this function when setting IP addresses to which machine status notifications are sent. • Up to 5 addresses can be registered.
Setting/ Procedure	*1.* From IP address 1 to 5, select an IP address where settings are made. *2.* Touch [Host Address]. *3.* Select [Input Host], [IPv4 Address Input] or [IPv6 Address Input] and enter a host address. *4.* Touch the Clear key and enter a port number within the range of 1 to 65535 using the 10-key pad. *5.* Touch [Community Name] and enter a community name. *6.* Touch [Notification Item] and set the items to be notified to [ON]. *7.* Touch [OK] and finish the settings.

<Register Notification Address (IPX Address)>

Functions	• To set IPX addresses to which machine status notifications are sent.
Use	• Use this function when setting IPX addresses to which machine status notifications are sent.
Setting/ Procedure	*1.* Touch [IPX Address]. *2.* Touch [Network Address] or [Node Address] and enter an address. *3.* Touch [Community Name] and enter a community name. *4.* Touch [Notification Item] and set the items to be notified to [ON]. *5.* Touch [OK] and finish the settings.

<Register Notification Address (E-mail Address)>

Functions	• To set E-mail addresses to which machine status notifications are sent.
Use	• Use this function when setting E-mail addresses to which machine status notifications are sent. • Up to 10 addresses can be registered.
Setting/ Procedure	*1.* Touch [Forward]. *2.* From E-mail addresses 1 to 10, select an E-mail address where settings are made. *3.* Touch [Edit E-mail Address]. *4.* Enter an E-mail address (up to 320 one-byte characters) using the keyboard on the screen and touch [OK]. *5.* Touch [Notification Item] and set the items to be notified to [ON]. *6.* Touch [OK] and finish the settings.

(4) Total Counter Notification Settings

<Notification Schedule Setting>

Functions	• To set the schedule for informing the total counter value.
Use	• To use when informing the total counter value by e-mail regularly. • Two different schedules can be set for reporting.
Setting/ Procedure	*1.* Touch [Schedule 1] or [Schedule 2]. *2.* Select the reporting cycle from [Daily], [Weekly] or [Monthly]. *3.* When selecting [Daily] for the reporting cycle, set the Interval of day(s). *4.* When selecting [Weekly] for the reporting cycle, set the Interval of week(s) and day of the Week. *5.* When selecting [Monthly] for the reporting cycle, set the Interval of month(s) and date of the month.

<Notification Address Setting>

Functions	• To set the e-mail address for reporting the total counter value. • Up to three e-mail addresses can be set. • It can be selected whether to apply the schedule of the [Set Schedule] to each address.
Use	
Setting/ Procedure	*1.* Touch [Address 1], [Address 2] or [Address 3]. *2.* Touch [E-mail Address Edit]. *3.* Enter the e-mail address (up to 320 one-byte characters) on the on-screen keyboard, and touch [OK]. *4.* Touch [Set Schedule]. *5.* Select ON/OFF for each schedule.

<Model Name>

Functions	• To set the device name for identifying the copier when reporting the total counter.
Use	
Setting/ Procedure	*1.* Touch [Model Name]. *2.* Enter the model name (up to 20 one-byte characters) on the on-screen keyboard, and touch [OK].

<Send Now>

Functions	• To transfer the current total counter value to the set address.
Use	

(5) PING Confirmation

Functions	• To set the TCP/IP network diagnosis by PING.
Use	• To check the condition of TCP/IP network.
Setting/ Procedure	*1.* Touch [Host Address] for PING transmission. *2.* Select [Input Host Name], [IPv4 Address Input], or [IPv6 Address Input] and enter a host address. *3.* Touch [Check Connection] key to check the connection.

(6) SLP Setting

Functions	• To set whether to use SLP or not. Device search will be available with TWAIN by setting SLP enable.
Use	
Setting/ Procedure	• The default setting is Enable. "Enable" Disable

(7) LPD Setting

Functions	• To set whether to use LPD during printing or not.
Use	
Setting/ Procedure	• The default setting is Enable. "Enable" Disable

(8) Prefix/Suffix Setting

<ON/OFF Setting>

Functions	• To set whether to add prefix or suffix to the address when calling or entering an address.
Use	• To add prefix or suffix to the address.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Prefix/Suffix Setting>

Functions	• To register or change the prefix or suffix. • Eight types of prefix and suffix can be added. Prefix: Letters added to the top of the text (header part) Suffix: Letters added to the bottom of the text (footer part)
Use	• To register or change the address displayed for prefix or suffix.
Setting/ Procedure	• Available number to be registered as prefix is up to 20 characters. • Available number to be registered as suffix is up to 64 characters.

(9) Action for Invalid Certificate

Functions	• To set how to process the job when SSL certificate becomes invalid.
Use	
Setting/ Procedure	• The default setting is Continue. "Continue" Delete the Job

8.6.6 Copier Settings

A. Auto Zoom (Platen)

Functions	• To set whether to function the auto zoom when the tray is selected with document set on the original glass (excepting at automatic paper selection mode.)
Use	• To function the auto zoom when the feed tray is selected.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

B. Auto Zoom (ADF)

Functions	• To set whether to function the auto zoom when the feed tray is selected with document set on the ADF (excepting at automatic paper selection mode.)
Use	• To function the auto zoom when the tray is selected.
Setting/ Procedure	• The default setting is ON. “ON” OFF

C. Specify Default Tray when APS OFF

Functions	• To set the tray to be used when APS is cancelled.
Use	• To set the tray (tray 1) for the default setting when cancelling APS.
Setting/ Procedure	• The default setting is Tray Before APS ON. “Tray Before APS ON” Default Tray

D. Select Tray for Insert Sheet

Functions	• To select the initial value for the tray for the cover sheet paper.
Use	
Setting/ Procedure	• The default setting is Tray 2.

E. Print Jobs During Copy Operation

Functions	• To set whether to receive printing jobs for print data or fax data during copy operation.
Use	• To restrict receiving printing jobs for print data or fax data during copy operation. Accept : Receives the print data or fax data and print Receive Only : Print data or fax data will be printed when the copy operation is finished
Setting/ Procedure	• The default setting is Accept. “Accept” Receive Only

F. Tri-Fold Print Side

- It will be displayed only when the optional finisher FS-608 is mounted.

Functions	• Specifies the side of copies to be folded. Inside : Folds paper in three with the printed side in. Outside : Folds paper in three with the printed side out.
Use	
Setting/ Procedure	• The default setting is Inside. Outside “Inside”

G. Automatic Image Rotation

Functions	• Select whether or not the image is automatically rotated when the document and copy paper orientations are different.
Use	When Auto Paper / Auto Zoom / Reduce is set: If the “Auto” Paper setting, “Auto” Zoom setting or a Reduce setting is selected, the image is automatically rotated to fit the orientation of the paper. When Auto Paper / Auto Zoom is set : If the “Auto” Paper setting or “Auto” Zoom setting is selected, the image is automatically rotated to fit the orientation of the paper. When Auto Zoom / Reduce is set : If the “Auto” Zoom setting or a Reduce setting is selected, the image is automatically rotated to fit the orientation of the paper. When Auto Zoom is set : If the “Auto” Zoom setting is selected, the image is automatically rotated to fit the orientation of the paper.
Setting/ Procedure	• The default setting is When Auto Paper / Auto Zoom is set. When Auto Paper / Auto Zoom / Reduce is set “When Auto Paper / Auto Zoom is set” When Auto Zoom / Reduce is set When Auto Zoom is set

8.6.7 Printer Settings

A. USB Timeout

Functions	• To set a period of time that elapses before input and output timeouts of communication are activated.
Use	• To set a period of time that elapses before input and output timeouts of communication are activated.
Setting/ Procedure	• The default setting is 60 seconds for input and output timeouts. “60 seconds” (10 to 1000 seconds)

B. Network Timeout

Functions	• To set a period of time that elapses before input and output timeouts of communication are activated.
Use	• To set a longer time period when timeout happens under some network statuses.
Setting/ Procedure	• The default setting is 60 seconds for input and output timeouts. “60 seconds” (10 to 1000 seconds)

C. Print XPS Errors

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• To set whether to print error information when an error occurs while printing a XPS file.
Use	
Setting/ Procedure	• The default setting is Yes. “Yes” No

8.6.8 Fax Settings

- Settings are available only when the optional fax kit (FK-502) is mounted.

A. Header Information

Functions	• To register the name of the sender and fax ID which will be printed when transmitting fax.
Use	• To register or change the name of the sender and fax ID.
Setting/ Procedure	*1.* Touch [Sender] and enter the name of the sender (up to 30 characters) on the on-screen keyboard. *2.* Enter Sender Fax No. (up to 20 characters) using the 10-key pad and [+], [Space] displayed on the screen.

B. Header/Footer Position

(1) Header Position

Functions	• To set the position to print the header when transmitting fax.
Use	• To change the position to print the header.
Setting/ Procedure	• The default setting is Outside Body Text. Inside Body Text “Outside Body Text” OFF **NOTE** • **[Outside Body Text] cannot be selected for Internet Fax/IP Address Fax.**

(2) Print Receiver’s Name

- It will not be displayed on the screen when [Fax Target] is set to “US” or “HK” in the following settings.
  [Service Mode] → [System 1] → [Marketing Area]

Functions	• To set whether to print the information of TX destination (Registered name or Fax No.) when transmitting fax.
Use	• To print information of TX destination. (Registered name or Fax No.)
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(3) Footer Position

Functions	• To set whether to print the footer when transmitting fax.
Use	• To print the footer when transmitting fax.
Setting/ Procedure	• The default setting is OFF. Inside Body Text Outside Body Text “OFF” **NOTE** **• [Outside Body Text] cannot be selected for the color mode of Internet Fax/IP Address Fax.**

C. Line Parameter Setting

(1) Dialing Method

Functions	• To set the dialing method.
Use	• To change the dialing method. • The displays are different depending on the country.
Setting/ Procedure	• The default setting is PB. “PB” 10 pps **NOTE** **• The displays are different depending on the country.**

(2) Receive Mode

- It will not be displayed when the following setting shows that management device 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set the fax reception mode.
Use	• To change to manual reception when using the remote reception function, etc. when connected to the external telephone.
Setting/ Procedure	• The default setting is Auto RX. “Auto RX” Manual RX

(3) Number of RX Call Rings

Functions	• To set the number of times to receive call rings.
Use	• To change the number of times of the fake ringback tone after it starts calling until it starts receiving.
Setting/ Procedure	• The default setting is 2 X. “2 X” (0 to 15)

(4) Number of Redials

Functions	• To set the number of redials.
Use	• To change the number of times to redial when the line is busy, etc. • The line which can be set up is different depending on the country.
Setting/ Procedure	• The default setting is 3 X. “3 X” (0 to 7) **NOTE** • **The line which can be set up is different depending on the country.**

(5) Redial Interval

Functions	• To set the interval for redialing.
Use	• To change the interval for redialing.
Setting/ Procedure	• The default setting is 3 min. “3 min” (1 to 15)

(6) Line Monitor Sound

Functions	• To set whether to output the line monitor sound from the speaker or not.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF

(7) Line Monitor Sound Vol.

Functions	• To set the volume of the speaker.
Use	• To change the volume of the speaker.
Setting/ Procedure	• Change the volume by touching the [Lower] or [Higher].

D. TX/RX Settings

(1) Duplex Print (RX)

- It will not be displayed when [Print Separate Fax Pages] is set to “ON.”

Functions	• To set whether to carry out the duplex print for the received original when receiving fax.
Use	• To carry out the duplex print for the received original.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Letter/Ledger over A4/A3

Functions	• To set weather to use the inch paper priority when receiving fax.
Use	• To use the inch paper priority when receiving fax.
Setting/ Procedure	ON OFF **NOTE** • **The default setting is different depending on the country.**

(3) Print Paper Selection

Functions	• To set the priority for paper feed tray when receiving fax.
Use	• To change the priority for paper feed tray when receiving fax. Auto select : Selected automatically Priority Size : Printed on size with priority. When the size is not set, it will be printed on the closest size. Fixed Size : Printed only on the fixed size.
Setting/ Procedure	• The default setting is Auto Select. "Auto Select" Fixed Size Priority Size

(4) Print Paper Size

Functions	• To set the paper size to print the text when receiving fax.
Use	• To change the paper size for printing the received text. • The displays are different depending on the country. • To make the setting of [Print Paper Size] enable, set [Tray Selection for RX Print] to [Auto].
Setting/ Procedure	• The initial setting is A4. A3 B4 "A4" **NOTE** • **The displays are different depending on the country.**

(5) Incorrect User Box No. Entry

Functions	• To set the operation when the unregistered box number is entered.
Use	• To change the operation when the unregistered box number is entered.
Setting/ Procedure	• The default setting is Print. "Print" Show Error Message Auto Create User Box

(6) Tray Selection for RX Print

Functions	• To select the paper tray to be fixed when printing the received text.
Use	• To fix the paper tray when printing the received text.
Setting/ Procedure	• The default setting is Auto. • Items available for selection are different depending on the paper feed option mounted. "Auto" Tray 1 Tray 2 Tray 3 Tray 4

(7) Min. Reduction for RX Print

Functions	• To set the print magnification for received text.
Use	• To change the print magnification for received text.
Setting/ Procedure	• The default setting is 96. "96" (87 to 96, x1.0)

(8) Print Separate Fax Pages

- It will not be displayed when [Duplex print (RX)] is set to “ON.”

Functions	• To set whether to divide the original into pages when it is longer than the standard size.
Use	• To divide the original into pages when it is longer than the standard size.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(9) File After Polling TX

Functions	• To set whether to delete the original which polling transmission has been completed.
Use	• For not deleting the original which polling transmission has been completed.
Setting/ Procedure	• The default setting is Delete. “Delete” Save

(10) No. of Sets (RX)

Functions	• To set the number of copies to be printed with the received document.
Use	• To use when changing the number of copies to be printed with the received document.
Setting/ Procedure	• The default setting is 1 set. 1 to 10 set.

E. Function Settings

(1) Function ON/OFF Setting

<F-Code TX>

Functions	• To set whether to use the F code transmission.
Use	
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** **• When the setting is changed, turn off the main power switch and turn it on again more than 10 seconds after.**

<Relay RX>

- It will be displayed when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Relay]

Functions	• To set whether to use the relay RX function.
Use	• To use the machine as the relay delivery station during relay TX.
Setting/ Procedure	• The default setting is ON. “ON” OFF

<Relay Printing>

- It will be displayed when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Relay]

Functions	• To set whether to use the relay print function.
Use	• To print out the document that the machine relayed during relay TX. • The relay print will be output in the following case. *1.* When the relay delivery completes appropriately. *2.* When the delivery job is cancelled halfway by turning OFF sub power switch. *3.* When the delivery job is cancelled due to redial over. *4.* When main power switch is turned OFF/ON during relay print error. *5.* When delivery job is deleted in user operation during redialing. *6.* When delivery job is deleted in user operation during relay delivery.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

<Destination Check Display Function>

Functions	• To set whether or not to display the list of specified addresses when sending the fax.
Use	• To use when displaying and checking the list of specified addresses when sending the fax.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

4 <Confirm Address (TX)>

Functions	• To set whether to use Confirm Address (the machine displays the screen where the user reenters the fax number for confirmation when the user faxes by entering the fax number directly with the keys).
Use	• To enable entering the fax number again to avoid faxing to a wrong recipient.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

4 <Confirm Address (Register)>

Functions	• To set whether to use Confirm Address (the machine displays the screen where the user reenters the fax number for confirmation when the user faxes by entering the fax number directly with the keys).
Use	• To enable entering the fax number again to avoid faxing to a wrong recipient.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(2) Memory RX Setting

- It will be displayed only when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Compulsory Memory RX]
- It will not be displayed when [PC-FAX RX Setting], [Forward TX Setting] or [TSI User Box Setting] is set to “ON.”
- It will not be displayed when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to use the forced memory RX function.
Use	• To store the received text in the hard disk without printing, and print it out when ordered.
Setting/ Procedure	• The default setting is NO. • Enter the password (up to 8 digits) for printing when set to [ON].

(3) Closed Network RX

- It will be displayed when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Closed area RX]

Functions	• To set whether to use the closed network function.
Use	• To receive data only from the device which password matches.
Setting/ Procedure	• The default setting is OFF. • When set to [ON], enter the password (up to 4 digits) to be used.

(4) Forward TX Setting

- It will not be displayed when [PC-FAX RX Setting], [Memory RX] or [TSI User Box Setting] is set to “ON.”
- It will not be displayed when the following setting shows that Vendor or Authentication Device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to use the forward fax function.
Use	• To forward the received text to the receiver which has been specified. Forward & Print : Forward the received text, and print all out Forward & Print (If TX Fails) : Forward the received text, and prints out only when fails to be forwarded
Setting/ Procedure	<Forward TX Setting> • The default setting is No. • When set to [Yes], set the address to forward to.

(5) Incomplete TX Hold

- It will be displayed when the following setting is set to “ON.”
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Re-Transmission]
- It will not be displayed when the following setting shows that Management Device 2 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to use incomplete TX hold function.
Use	• To re-send the data failed to be sent after a given time.
Setting/ Procedure	• The default setting is No. ON “No” • When set to Yes, specify the Incomplete TX Hold Time.

(6) PC-Fax RX Setting

- It will not be displayed when [Forward TX Setting], [Memory RX] or [TSI User Box Setting] is set to “ON.”

Functions	• To set whether to use the PC-FAX reception function.
Use	• To store the received text file in the box in the hard disk.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict” • When Allow is selected, make the settings of Receiving user box destination, Print ON/OFF, and Password check ON/OFF.

(7) TSI User Box Setting

- It will not be displayed when [Forward TX Setting], [Memory RX] or [PC-Fax RX Setting] is set to “ON.”

Functions	• To set whether to use TSI distribution or not. • To set setting method when there is no matched box at receiving.
Use	• To use TSI distribution. • To change setting method when there is no matched box at receiving. Automatically Print : To print the received data. Memory RX Use Box : To store the received data in the forced memory receiving box.
Setting/ Procedure	<TSI User Box Setting> • The default setting is No. Yes “No” • Press [TSI User Box Registration] and register the distribution. <Non-matched Box Setting> • The default setting is Automatically Print. “Automatically Print” Memory RX User Box

F. PBX Connection Setting

Functions	• To set whether to use PBX connection setting or not.
Use	• This will be used when the machine is connected to PBX line.
Setting/ Procedure	• The default setting is No. • When set to [Yes], enter the external number between 0 and 9999.

G. Report Settings

(1) Activity Report

- It will not be displayed when the following setting shows that vendor or authentication device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to print out the activity report or not, and also the timing for printing.
Use	• To print out the activity report.
Setting/ Procedure	• The default setting is ON. “ON” OFF • When this setting is set to ON, make the setting of Output Setting. • The default setting is Every 100 Comm. Daily “Every 100 Comm.” 100/ Daily

(2) TX Result Report

Functions	• To set whether to print out the TX report, and also the timing for printing.
Use	• To print out the TX report.
Setting/ Procedure	• The default setting is If TX Fails. ON “If TX Fails” OFF

(3) Sequential TX Report

Functions	• To set whether to print out the sequential TX report or not.
Use	• To print out the sequential TX report.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(4) Timer Reservation TX Report

Functions	• To set whether to print out the reservation TX or not.
Use	• To print out the reservation TX.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(5) Confidential RX Report

Functions	• To set whether to print out the confidential RX report.
Use	• To print out the confidential RX report.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(6) Bulletin TX Report

Functions	• To set whether to print out the bulletin TX report or not.
Use	• To print out the bulletin TX report.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(7) Relay TX Result Report

- It will be displayed when the following setting is set to "ON."
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Relay]

Functions	• To set whether to print out the relay TX result report or not.
Use	• To print out the relay TX result report after the relay delivery is completed when the machine is used as the relay delivery station.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(8) Relay Request Report

- It will be displayed when the following setting is set to "ON."
  [Service Mode] → [FAX] → [System] → [Display Setting] → [Relay]

Functions	• To set whether to print out the relay request RX report or not.
Use	• To print out the relay request RX report during relay request RX when the machine is used as the relay delivery station.
Setting/ Procedure	• The default setting is ON. "ON" OFF

(9) PC-Fax TX Error Report

Functions	• To set whether to print out the PC-fax TX error report or not.
Use	• To print out the PC-fax error report when TX error occurs during PC-fax TX.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(10) Broadcast Result Report

Functions	• To set the format to output the broadcast result report.
Use	• To print out the broadcast result report All Destinations : Outputs all reports after transmitting to all addresses Each Destination : Outputs a report after each transmission
Setting/ Procedure	• The default setting is All Destinations. "All Destinations" Each Destination

(11) TX Result Report Check

Functions	• To set whether to display the TX result report screen.
Use	• To display the TX result report screen.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(12) Network Fax RX Error Report

- Settings will be available when either [IP Address Fax] or [Internet Fax] is set to "ON" in the following settings.
  [Administrator Settings] → [Network Setting] → [Network Fax Setting] → [Network Fax Function Settings]

Functions	• To set whether to print RX error report when network fax function is being used.
Use	• To print the error report at unusual situation such as receiving the image data that cannot be processed.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(13) MDN Message

- Settings will be available only when [Internet Fax] is set to "ON" in the following settings.
  [Administrator Settings] → [Network Setting] → [Network Fax Setting] → [Network Fax Function Settings]

Functions	• To set whether to print message when receiving response message to MDN request when internet fax function is being used.
Use	
Setting/ Procedure	• The default setting is ON "ON" OFF

(14) DSN Message

- Settings will be available only when [Internet Fax] is set to "ON" in the following settings.
  [Administrator Settings] → [Network Setting] → [Network Fax Setting] → [Network Fax Function Settings]

Functions	• To set whether to print message when receiving response message to DSN request when network fax function is being used.
Use	
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(15) Print E-mail Message Body

- Settings will be available only when [Internet Fax] is set to “ON” in the following settings. [Administrator Settings] → [Network Setting] → [Network Fax Setting] → [Network Fax Function Settings]

Functions	• To set whether to print mail text received normally as the report when internet fax function is being used.
Use	• To print the received mail text when printing the received image data.
Setting/ Procedure	• The default setting is ON. “ON” OFF

H. Job Settings List

- It will not be displayed when the following setting shows that Vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]
  (It will be displayed when the Key counter is mounted or when the following setting shows that switch No.33 is set to [01] at HEX assignment.
  [Service Mode] → [System 2] → [Software Switch Setting])

Functions	• The set value list of the fax set up into this machine can be printed.
Use	
Setting/ Procedure	*1.* Touch [Administrator Settings] → [Fax Setting] → [Job Settings List]. *2.* Select the feed tray. *3.* Select the simplex or duplex print, and touch the Start key.

I. Multi Lines Settings

- It will be displayed only when the optional fax multi line (ML-501) is mounted.

(1) Line Parameter Setting

<Dialing Method>

Functions	• To set the dial method for the expanded line.
Use	• To use when changing the dial method for the expanded line.
Setting/ Procedure	• The default setting is PB. “PB” 10 pps **NOTE** • **The displays are different depending on the country.**

<Number of Rx Call Rings>

Functions	• To set the number of RX call rings for the expanded line.
Use	• To change the number of artificial ringback tones with expanded line when receiving calls until it starts receiving operation.
Setting/ Procedure	• The default setting is 2 X. “2 X” (0 to 15)

<Line Monitor Sound>

Functions	• To set whether or not to output the line monitor sound of the expanded line from the speaker.
Use	
Setting/ Procedure	• The default setting is ON. "ON" OFF

(2) Function Settings

<PC-FAX TX Setting>

- This setting does not appear when "RX Only" is selected for [Multi Line Settings].

Functions	• To set the number of the line used for PC-FAX transmission.
Use	• To use when specifying the line to be used for PC-FAX transmission when using the expanded line.
Setting/ Procedure	• The default setting is No Selection. "No Selection" Line 1 Line 2

(3) Multi Lines Setting

Functions	• To set the system for using each line when using more than one line.
Use	• To use when setting the system for using each line when using more than one line.
Setting/ Procedure	<Multi Line Usage> • When selecting [Normal], perform the transmission setting for Line 2. <Line 2 Setting> • The default setting is TX and RX. "TX and RX" RX Only TX Only

(4) Sender Fax No.

Functions	• To register the fax ID when using the additional line.
Use	• To register the fax ID (for additional line).
Setting/ Procedure	• Use 10-key pad or [+] / [space], enter the fax ID (up to 20 characters).

J. Network Fax Settings

- It will be displayed only when either [IP Address Fax] or [Internet Fax] is set to “ON” in the following settings.
  [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

(1) Black Compression Level

- It will be displayed only when either [IP Address Fax] or [Internet Fax] is set to “ON” in the following settings.
  [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

Functions	• To set black compression level at monochrome TX mode when network fax function is being used.
Use	• To change black compression level at monochrome TX mode.
Setting/ Procedure	• The default setting is MH. “MH” MR MMR

(2) Internet Fax Self Rx Ability

- It will be displayed only when [Internet Fax] is set to “ON” in the following settings.
  [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

<table>
<tr><td>Functions</td><td>• To set image data compression system, paper size and resolution, which can be received by the machine with internet fax.</td></tr>
<tr><td>Use</td><td>• To limit the data acceptable with internet fax.</td></tr>
<tr><td>Setting/ Procedure</td><td>• The following shows the options of each setting item.
<table>
<tr><th>Compression Type</th><th>Paper Size</th><th>Resolution</th></tr>
<tr><td>“MMR”</td><td>“A3”</td><td>Ultra Fine</td></tr>
<tr><td>“MR”</td><td>“B4”</td><td>Super Fine</td></tr>
<tr><td>“MH”</td><td>“A4”</td><td>Fine</td></tr>
<tr><td>—</td><td>—</td><td>Std.</td></tr>
</table></td></tr>
</table>

(3) I-Fax Advanced Settings

- It will be displayed only when [Internet Fax] is set to “ON” in the following settings. [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]

Functions	• To set advanced functions of internet fax.
Use	MDN Request : To set whether to send MDN (Message Disposition Notification) request when transmitting through internet fax. DSN Request : To set whether to send DSN (Delivery Status Notification) request when transmitting through internet fax. MDN Response : To set whether to response for MDN request made by the other machine when receiving through internet fax. MDN/DSN Response Watch Time : To set the period to observe the response from the other machine when sending MDN/DSN request. In the case of time over, time out message is notified. Max Resolution : To set maximum resolution for reading, TX/RX and record when internet fax function is being used. **NOTE** • **Only MDN Request will be sent when both MDN Request and DSN Request are set to “ON.”**
Setting/ Procedure	• Default settings are shown below. MDN Request : “ON” OFF DSN Request : ON “OFF” MDN Response : “ON” OFF MDN/DSN Response Watch Time : “24 hours” (1 to 99) OFF Max Resolution : 400 x 400 “600 x 600”

8.6.9 System Connection

A. OpenAPI Settings

(1) Access Setting

Functions	• To allow or restrict the access from other systems with OpenAPI when using Page Scope Data Administrator.
Use	• To restrict access from other systems with OpenAPI.
Setting/ Procedure	• The default setting is Allow. “Allow” Restrict

(2) Port Number

Functions	• To set the access port for other systems with OpenAPI when using PageScope Data Administrator.
Use	• To change the access port number for other systems with OpenAPI.
Setting/ Procedure	*1.* Select Port No. or Port Number (SSL), and touch [Input]. *2.* Press the Clear key. *3.* Enter the port number between 1 and 65535 using the 10-key pad.

(3) SSL

- It will be displayed when certificate is issued from PageScope Web Connection.

Functions	• To set whether to encrypt access from other systems by SSL when using Page Scope Data Administrator.
Use	• To encrypt access by SSL from other systems using OpenAPI.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

(4) Authentication

Functions	• To set whether to authenticate access of other systems which uses OpenAPI when using PageScope Data Administrator.
Use	• To set authentication of the access from other systems using OpenAPI.
Setting/ Procedure	• The default setting is OFF. ON "OFF" • When setting to [ON], enter the login name and the password to be set.

B. Call Remote Center

- It will be displayed when the setup at the CS Remote Care center is complete.

Functions	• To call the CS Remote Care center from the administrator, when the CS Remote Care setup is complete.
Use	
Setting/ Procedure	For details, see "CS Remote Care." See P.469

8.6.10 Security Settings

A. Administrator Password

Functions	• To set/change the administrator password.
Use	• To change the administrator password.
Setting/ Procedure	• Enter the administrator password on the on-screen keyboard. Current Password : Enter the current administrator password New Password : Enter the new administrator password to be used Re-Input Password : Re-enter the new administrator password **NOTE** • **When selecting [Utility] → [Administrator Settings] → [Security Setting] → [Security Details] leads to [Password Rules] being ON, the password with the same letters, the password which is same as the previous one and the password of less than eight digits cannot be changed.**

B. User Box Admin. Setting

- Setting is disabled if user authentication or account track is not performed.

Functions	• To set whether to allow or restrict the box administrator to use the system.
Use	• To allow the box administrator to use the system. The box administrator is the special administrator for box, who is allowed to browse contents in common box / individual box without the password. **NOTE** • **[Allow] cannot be set when the user authentication or account track is not carried out.**
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict” **NOTE** • **[Allow] cannot be selected when user authentication and account track are not conducted.** • **[Allow] cannot be selected when the following setting is set to “ON.”** **[Administrator Settings] → [Security Settings] → [Enhanced Security Mode]** • Set the password when setting to [Allow]. **NOTE** • **When the following setting shows that [Password Rules] is set to “ON”, the Password using only a single letter or the password same with the previous one, or the password with less than eight letters cannot be accepted.** **[Administrator Settings] → [Security Settings]**

C. Administrator Security Levels

- It will not be displayed when the following setting shows that vendor or authentication device 1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set the level for administrator settings item open to the user.
Use	• To make part of the administrator settings items open to the user. Level 1 : [Power Save Setting], [Auto Magnification Selection (Platen)], [Auto Magnification Selection (ADF)], [Specify Default Tray when APS Off], and [Select Tray for Insert Sheet] are available to users. Level 2 : [Power Save Setting], [Output Setting], [Date/Time Setting], [Daylight Savings Time Setting], [AE Level Adjustment], [Auto Magnification Selection (Platen)], [Auto Magnification Selection (ADF)], [Specify Default Tray when APS Off], [Select Tray for Insert Sheet], and [Print Jobs During Copy Operation] are available to users. Prohibit : Not to allow the user to set neither Level 1 nor Level 2
Setting/ Procedure	• The default setting is Prohibit. Level 1 Level 2 “Prohibit”

D. Security Details

(1) Password Rules

Functions	• To set whether to apply the password rules.
Use	• To apply the password rule to enhance security. • Passwords to be covered: CE password, administrator password, user box password, user password, account track password, passwords for confidential documents. • Details of the password rules: Password except user password, user box password shall be 8 digits of one-bite alphanumeric characters. (Case-sensitive) User password shall be 8 digits of one-bite alphanumeric characters. (Case-sensitive) User box password shall be 8 digits of one-bite alphanumeric characters. Password with only the same letter is prohibited. Password same with the one prior to change is prohibited. When the password rule is set to [ON], the password cannot be changed or registered unless it follows the above conditions.
Setting/ Procedure	• The default setting is OFF. ON “OFF” **NOTE** • **[OFF] cannot be selected when the following setting is set to “ON.”** **[Administrator Settings] → [Security Settings] → [Enhances Security Mode]** • **[ON] cannot be selected when the following setting is set to “OFF.”** **[Service Mode] → [Enhanced Security] → [CE Authentication]** **[CE Authentication] will not be displayed and cannot be set to “OFF” when [Password Rules] is set to “ON.”**

(2) Prohibited Functions When Authentication Error

<table>
<tr><td>Functions</td><td>• To set the function for prohibiting authentication operation in order to prevent the unauthorized access.</td></tr>
<tr><td>Use</td><td>• To use when setting the system to prohibit authentication failure when conducting authentication by password, etc.
• Authentications which are subjected to this function: CE authentication, administrator authentication, user+ accounts authentication, SNMP authentication, secure print authentication, user box authentication.

Mode 1 : When failed to authenticate, authentication operation (entering the password) will be prohibited for a certain period of time.
Mode 2 : When failed to authenticate, authentication operation (entering the password) will be prohibited for a certain period of time.
The number of times failure occurred will be counted, and when the number reaches to the specified time, authentication will be prohibited and the access will be locked.
When the access is locked, touch [Release] on the main body, or turn main power switch OFF/ON to cancel it.
For CE authentication and administrator authentication, only turning main power switch OFF/ON will cancel it.
When the machine goes into an access lock condition, release the lock in the following procedure.
<table>
<tr><td>user+ accounts authentication
SNMP authentication
secure print authentication
user box authentication</td><td>• Touch keys in the following order. [Administrator Settings] → [Security Setting] → [Security Details] → [Prohibited Functions When Authentication Error].
Then touch [Release].</td></tr>
<tr><td rowspan="2">Administrator authentication</td><td>• After the main power switch is turned OFF and ON, the access lock is released automatically after the lapse of a predetermined period of time.</td></tr>
<tr><td>• [Service Mode] → [Enhanced Security] → [Administrator unlocking]</td></tr>
<tr><td>CE authentication</td><td>• The lock release timer starts to operate by input the Stop → 0 → 9 → 3 → 1 → 7 in [Meter Count] → [Check Details] → [Coverage Rate] after the main power switch is turned OFF and On. When the timer reaches the time specified in this setting, the access lock is released.</td></tr>
</table>
</td></tr>
<tr><td>Setting/
Procedure</td><td>• The default setting is Mode 1.

“Mode 1” Mode 2

<b>NOTE</b>
<b>• [Mode1] cannot be selected when the following setting is set to “ON.”
[Administrator Settings] → [Security Setting] → [Enhanced Security Mode]</b>
<b>• Only the number of times for trials up to the access lock can be changed.</b>

• When [Mode 2] is selected, set the number of times where checks are made before access is locked.

• Touch [Release Time Settings] and set a period of time that elapses before access lock is released.</td></tr>
</table>

(3) Confidential Document Access Method

Functions	• To display the status of the authentication system on the control panel for the confidential document access.
Use	• It cannot be changed at the operator's option since it will automatically be set according to the [Prohibit Functions When Auth. Error] setting. • It will be set to [Mode 1] when [Prohibit Functions When Auth. Error] is set to [Mode 1]. It will be set to [Mode 2] when [Prohibit Functions when Auth. Error] is set to [Mode 2]. Mode 1 : This mode is for authentication by confidential document ID and password. It displays the list of the corresponding confidential document to print them. Mode 2 : This mode is for authentication by confidential document ID. It displays the list of the corresponding confidential document, and print them with authentication by password. **NOTE** • **[Mode1] cannot be selected when the following setting is set to "ON."** **[Administrator Settings] → [Security Setting] → [Enhanced Security Mode]**
Setting/ Procedure	• The default setting is Mode 1. "Mode 1" Mode 2

(4) Manual Destination Input

Functions	• To set whether to allow or prohibit to manually enter the destination address on the Destination Input screen.
Use	• To prohibit entering the destination address manually.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

(5) Print Data Capture

Functions	• To set whether to allow or restrict capturing the print job data.
Use	• To be used when carrying out [Service Mode] → [System 2] → [Data capture].
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict **NOTE** • **[Allow] cannot be selected when the following setting is set to "ON."** **[Administrator Settings] → [Security Setting] → [Enhanced Security Mode]**

(6) Audit Log Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.
- It will be displayed when the following setting shows that switch No.42 is set to [01] at HEX assignment.
  [Service Mode] → [System 2] → [Software Switch Setting]

Functions	• Selects whether to keep logs of operations and access made by users and service engineers. • To set whether to overwrite existing logs.
Use	• To ensure security, this settings is used to keep logs of operations and access including security settings changes, authentication, and job executions by users and service engineers. • Audit logs are saved in HDD and NVRAM.
Setting/ Procedure	• The default setting is No. Yes “No” **NOTE** • **After selecting “Yes”, the main power switch must be turned OFF and ON so that the new setting takes effect.** • **When ON is selected in [Administrator Settings] → [Security Settings] → [Enhanced Security Mode], this setting is automatically set to “Yes.”** <Overwrite> • Set whether to allow or restrict overwriting existing logs when saving audit logs. • The default setting is Restrict. Allow “Restrict” • To erase audit logs, press [Erase Audit Log].

(7) Restrict Fax TX

Functions	• To set whether or not to prohibit sending fax.
Use	• To prohibit sending fax.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(8) Hide Personal Information

Functions	• Selects whether to display file names and destinations in job logs.
Use	• Not to display file names and destinations that appears on job logs for security protection purpose.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(9) Display Activity Log

Functions Use	• Selects whether to display communication logs for scan/fax transmission.
Setting/ Procedure	• The default setting is ON. “ON” OFF

(10) Delete Job Log

Functions Use	• Clear the all job logs.
Setting/ Procedure	*1.* Touch [Delete Job Log]. *2.* Select [Yes] on the confirmation screen and touch [OK].

E. Enhanced Security Mode

Use	• To set whether or not to enhance security.
Setting/ Procedure	• To use when enhancing the security function at user's option. • The following settings are necessary for setting the security enhancement "ON". Administrator Password : Change it with the one which meets password rules. User Authentication : Set to "User Authentication (MFP)" or "User Authentication (External Server)". HDD Lock Password or Encryption word : Set the HDD lock password or encryption word with 20 characters. (Encryption word can be set only when SC-503 is mounted.) SSL Certificate : Register self-certificate for SSL communication from the PSWC. Image Controller Setting : Set to [Controller 0]. CE Password : Change it with the one which meets password rules. Operation Ban release time:Set to 5 minutes or more. CE Authentication : Set to [ON]. CS Remote Care : Conduct RAM clear, and cancel the setting. Management Function Choice : Set to "Unset."
Use	• The default setting is OFF. ON "OFF"

NOTE

- **Setting the Enhanced Security Mode "ON" will change the setting values for the following functions.**

Name of the function	Default setting	When Enhanced Security Mode is ON
Password Rules	OFF	ON (Cannot be changed)
Prohibit Functions When Auth. Error	Mode 1	Mode 2 (Cannot be changed) set to three times *Can change times (from once to three times)
User Name List	OFF	OFF (Cannot be change)
Print without Authentication	Restrict	Restrict (Cannot be changed)
User Box Admin. Setting	Restrict	Restrict (Cannot be changed)
Temporary Data Overwrite Setting	OFF	Mode 1 (Cannot be changed to Mode 2)
Secure Document Access Method	Mode 1	Mode 2 (Cannot be changed) *It will be changed according to "Prohibit Functions When Auth. Error".
SSL	OFF	ON (Cannot be changed)
FTP Server	ON	OFF (Cannot be changed)
SNMPv1/v2c	Read/Write allowed	Only "Read" is allowed (Cannot be changed)
SNMPv3 Write User Security Level	auth-password/ priv-password	Cannot be changed to disable authentication system
Network Setting Clear (PageScope Web Connection)	Allow	Restrict
Administrator password change via network (PageScope Web Connection)	Allow	Restrict (Cannot be changed)

Name of the function	Default setting	When Enhanced Security Mode is ON
Registering and Changing Addresses by user	Allow	Restrict (Cannot be changed)
Public User Access	Restrict	Restrict (Cannot be changed)
Print Data Capture	Allowed	Prohibited (Cannot be changed)
Release Time Settings	5 min.	The lower limit of settable range is 5 minutes. (Cannot be set to less than 5 minutes)
Secure print user box preview	Image display/List display/document detail display	Only list display available before password authentication (Mode 2)
Internet ISW (Service Mode)	Disabled	Disabled (Cannot be changed)
Operation Ban release time (Service Mode)	5 min.	The lower limit of settable range is 5 minutes. (Cannot be set to less than 5 minutes)

F. HDD Settings

(1) Check HDD Capacity

Functions	• To display the used space capacity, total space capacity, and the remaining capacity of the hard disk.
Use	• To check the capacity and the status of use of the hard disk.

(2) Overwrite Temporary Data

- When the image becomes unnecessary, temporary data overwrite function will write meaningless data over all area where images are stored, and destroy the image data itself.
  The structure of image data will be destroyed so that in case HDD is stolen, the remaining data included in the image data will not leak. Using the HDD lock password function or optional security kit (SC-503) along with this function will provide a high level of security which prevents images of great importance from leaking. It is recommended to use HDD lock password function or security kit (SC-503) along with this function for those who require high level of security.

Functions	• To set whether or not to use overwrite temporary data. • To set overwriting method to use temporary data overwrite function.
Use	• To use when making temporary data overwrite function valid. • All data are temporarily written into HDD or memory during PC print, copier print, scanning and fax transmission. When the operation is complete, perform overwriting to the area data were once written in HDD or memory in order to enhance security. • To change overwriting method to use temporary data overwrite function. Mode 1: To overwrite 0x00 one time. Mode 2: Overwrite 0x00 → overwrite 0xff → overwrite 0x61 →validation • "Encryption Priority/Overwrite Priority" can be selected when the optional security kit SC-503 is mounted. Encryption Priority : When the encryption word is set, the security level of the data will be enhanced before writing to HDD. When erasing data, they will all be converted into encryption data before overwritten. Therefore, overwriting will be executed with the value besides the value specified by the selected mode. Overwrite Priority : Standard encryption method will be applied to data written to HDD even when the encryption word is set, so overwriting and erasing will be performed without fail using the specified value in the selected mode. It is used for performing the overwriting and erasing according to the HDD data erase standard. **NOTE** • **It is necessary to make HDD format when encryption priority/overwrite priority setting is changed.**
Setting/ Procedure	• The default setting is OFF. "OFF" Mode 1 Mode 2 **NOTE** • **[OFF] cannot be selected when the following setting is set to "ON."** **[Administrator Settings] → [Security Setting] → [Enhanced Security Mode]** • The default setting is Encryption Priority. (Only when the optional security kit SC-503 is mounted.) "Encryption Priority" Overwrite Priority

(3) Overwrite All Data

Functions	• To delete the whole data in the hard disk by overwriting. • To initialize the area of use for the user stored in NVRAM.
Use	• To use when disposing of the hard disk. • Select the overwriting method from Mode 1 through 8. Mode 1 : It overwrites 0x00 once. Mode 2 : Overwrites with random numbers → overwrites with random numbers → overwrites with 0x00 Mode 3 : Overwrites with 0x00 → overwrites with 0xff → overwrites with random numbers → verifies Mode 4 : Overwrites with random numbers → overwrites with 0x00 → overwrites with 0xff Mode 5 : Overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff Mode 6 : Overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff → overwrites with random numbers Mode 7 : Overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff → overwrites with 0xaa Mode 8 : Overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff → overwrites with 0x00 → overwrites with 0xff → overwrites with 0xaa → verifies
Setting/ Procedure	*1.* Touch [Overwrite All Data]. *2.* Touch [Overwrite]. *3.* Touch [Yes] on the check screen. *4.* Touch [YES] on the confirmation screen. *5.* Turn off the main power switch and turn it on again more than 10 seconds after.

(4) HDD Lock Password

Functions	• To set the lock password for the hard disk.
Use	• To enter, change or delete the lock password for the hard disk.
Setting/ Procedure	*1.* Touch [HDD Lock Password]. *2.* Enter the password (20 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **Password using only a single letter is not acceptable.** • **Don't forget the password. When the password is forgotten, the replacement of hard disk is needed.** *3.* Re-enter the password to confirm. *4.* Turn OFF the main power switch and turn it ON again more than 10 seconds after.

(5) Format HDD

Functions	• To conduct logical formatting of HDD.
Use	• To initialize HDD. **NOTE** • **It is subject to logical formatting here, therefore if starting with physical formatting, follow as [Service Mode] → [State Confirmation] → [Memory/HDD Adj.] → [HDD Format].**
Setting/ Procedure	*1.* Touch [HDD Formatting]. *2.* Select [Yes] on the confirmation screen and touch [OK]. *3.* Turn off the main power switch and turn it on again more than 10 seconds after.

(6) HDD Encryption Setting

- It can be set only when the optional security kit (SC-503) is mounted.

Functions	• To set encryption key necessary to mount the optional security kit SC-503.
Use	• To setup security kit SC-503. • To re-set encrypting word due to exchange of NVRAM board or etc. **NOTE** • **This setting is available only when the optional security kit SC-503 is mounted.** • **HDD formatting is required after this setting. Therefore it is necessary to retrieve certain data from HDD in advance.** **The following data will be lost after HDD formatting.** **① Address data** **② Authentication data : Authentication mode, user authentication setting, account track setting** **③ Box setting data : Box and text in the box, setting information of each box, box for fax** **④ Job history, fax transmission history**
Setting/ Procedure	*1.* Press [HDD Encryption Setting]. *2.* Enter encryption key (20 characters) with the keyboard on the operation panel and press [OK]. **NOTE** • **Double-byte and identical characters are not acceptable.** *3.* Turn off the main power switch and turn it on again more than 10 seconds after. *4.* Open [Administrator Settings] and conduct HDD formatting according to the instruction appeared on the panel. *5.* Turn off the main power switch and turn it on again more than 10 seconds after.

G. Function Management Setting

(1) Each Function Setting

- It will be displayed only when the following setting shows that Vendor 2 or Management Device is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set whether to use management function for each item of [Copy], [PC print], [Send data] and [Print others]. [Print others] is not displayed when vendor is connected. • [ON] for [Send Data] will not be displayed when the optional image controller (IC-409) is mounted.
Use	• To set whether to use Management function for each item of [Copy], [PC print], [Send data] and [Print others]. [Print others] is not displayed when Vendor is connected.
Setting/ Procedure	• The default setting is ON. "ON" OFF Prohibit

(2) Max Copy Set

- It will be displayed only when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set the upper limit of the number of copy or PC print when management function has been set.
Use	
Setting/ Procedure	• The default setting is 9999. 1 to "9999"

(3) Network Function Settings

Functions	• To set whether to use network function or not when management function has been set.
Use	• Not to use the network function whose counter is difficult to be managed when management function has been set. • The following are target functions. PC-FAX transmission/Using the HDD TWAIN driver to view and retrieve documents in user boxes/Using PageScope Box Operator to view and retrieve documents in user boxes/Using PageScope Scan Direct to retrieve documents in user boxes/Using PageScope Job Spooler to view and retrieve documents in user boxes/Box operations using the PageScope Web Connection
Setting/ Procedure	• The default setting is ON. "ON" OFF **NOTE** • **However, when the vendor or management device setting in the Service Mode is set, this setting is set to OFF.** **Exercise caution since it will stay in "OFF" setting even when "unset" is selected on vendor or management device setting in Service Mode later.**

(4) Authentication Time Setting

- It will be displayed only when the following setting shows that authentication device 1 is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To set the authentication mode when authentication device is used.
Use	• To change the authentication mode when authentication device is used. Keep Card : Authentication is available leaving the card in the given place when making authentication with the device. Touch and Print : Card is placed only when authentication is made with the device and if the card is left for a given time (authentication reset time) the authentication setting is reset. • When selecting “Touch and Print”, authentication reset is set after completing the job in [Authentication Time].
Setting/ Procedure	<Authentication Method> • The default setting is Touch and Go. Keep Card “Touch and Print” <Authentication Time> • The default setting is 1 min. 1 to 30 min. <Authentication Log-out When Job is Completed> • The default setting is Yes. “Yes” No

H. Stamp Settings

(1) Apply Stamps

Functions	• Selects whether to add a stamp to documents when jobs are printed or fax/scanned data is sent.
Use	
Setting/ Procedure	• The each default setting is Do Not Apply. Apply “Do Not Apply” • Touch “Apply” to make stamp settings independently for print and transmission modes.

(2) Delete Registered Stamp

Functions	• Deletes registered stamps, and copy protect/repeat stamps.
Use	
Setting/ Procedure	*1.* Touch [Delete Registered Stamp]. *2.* Select [Stamp] or [Copy Protect/Stamp Repeat]. *3.* Select [Yes] on the confirmation screen and touch [OK] to delete the registered stamps.

I. Image Log Transfer Settings

- This is displayed only when the function enhanced version 2 or later firmware is installed.
- It will be displayed when the following setting shows that switch No.63 is set to [01] at HEX assignment.
  [Service Mode] → [System 2] → [Software Switch Setting]

Functions	• Specifies whether to transfer the input or output image data to the server using whenever MFP inputs or outputs image data. Makes the settings of the WebDAV server or the FTP server where image data are transferred.
Use	• Use this settings to keep logs of input and output image data for security purpose.
Setting/ Procedure	• The each default setting is No. Yes “No” • When selecting [Yes], make the settings of the FTP server where data are transferred. • Set the following item. <WebDAV Server setting> • Host Name, File Path, User Name, Password, Port Number, Proxy, SSL Setting. <FTP Server setting> • Host Name, File Path, User Name, Password, Port Number, PASV, and Proxy. **NOTE** • **When [Yes] is selected, a person who is registered as User cannot use Scan To FTP/WebDAV function.**

J. Driver Password Encryption Setting

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

Functions Use	• To set whether to use the factory default encryption word or user-defined one as a common key that encrypts a password used for a print job. User-Defined : Sets an encryption word. Enter an encryption word of 20 letters. Use Factory Default: Uses the factory default encryption word (undisclosed predefined encryption key). **NOTE** • **When selecting [User-Defined], set an encryption key being consisted of the same letters in the printer driver. If the encryption word set in the main body differs from the encryption key set in the printer driver, different encrypted passwords are created and printing cannot be made.** • **The use of OpenAPI allows an encryption key to be obtained from the main body.**
Setting/ Procedure	• The default setting is Use Factory Default. User-Defined “Use Factory Default”

8.6.11 License Settings

- This is displayed only when the function enhanced version 3 or later firmware is installed.

A. Get Request Code

Functions	• To display and print a request code and serial number used to activate i-Option.
Use	• Used to confirm the request code and serial number.
Setting/ Procedure	*1.* Touch [Get Request Code], and [Yes]. *2.* A serial number and request code are issued. *3.* By touching [Print], the serial number and request code are printable.

B. Install License

- This is displayed only when the additional memory included in the optional upgrade kit UK-201 is installed.

Functions	• To allow administrator to activate functions provided by i-Option.
Use	• Used when administrator activates functions provided by i-Option. • By selecting a desired function and entering the corresponding license code, the function can be activated. • By making settings in [Service Mode] → [Billing Setting], CE can also activate functions provided by i-Option.
Setting/ Procedure	*1.* Touch [Install License]. *2.* Touch [Select Function]. *3.* Select i-Option function to be activated, and touch [Yes]. *4.* Touch [OK]. *5.* Touch [License Code]. *6.* Enter the license code that was issued in the license management server using the key board on the control panel, and touch [OK]. *7.* Touch [Install] key. *8.* Confirm the message, select [Yes], and touch [OK]. *9.* Turn OFF and ON the main power switch.

C. List of Enabled Functions

- This is displayed only when the additional memory included in the optional upgrade kit UK-201 is mounted.

Functions	• To display currently activated functions.
Use	• Used to check the functions that are activated now.

8.7 Banner Printing (bizhub C451 only)

- It will not be displayed when the optional finisher FS-517/608 is mounted.
- 5 It will not be displayed when the following setting shows that vendor is mounted.
  [Service Mode] → [Billing Setting] → [Management Function Choice]

Functions	• To shift to the banner printing mode.
Use	• To use when printing on the long size paper.
Setting/ Procedure	*1.* Set the long size paper to the bypass tray. *2.* Touch [Banner Printing], and touch [ON]. *3.* Send the job for the long paper print. *4.* Touch [Finish] to finish banner printing mode. **NOTE** • **Only PC print is available for the long paper print.** • **Normal job cannot be accepted during banner printing mode.**

8.8 My Panel Settings

- This is displayed only when a registered user is logging in after user authentication. However, this is not displayed when both management device 2 and user authentication are used.

Functions	• To make various settings about My Panel.
Use	• To customize My Panel screen for individual registered users. • Items that can be set are as follows: Language Setting, Measurement Unit Setting, Copier Settings, Scan/Fax Settings, Color Selection Setting, Main Menu Settings, and Initial Screen Setting
Setting/ Procedure	*1.* Touch [My Panel Settings]. *2.* Touch a key that represents a desirable item and change its settings. **NOTE** • **Registering, editing, and deleting My Panel settings are allowed only when logging in as a registered user.** • **When My Panel is not customized, the settings for MFP take effect in the three of the control panel settings, Language setting, Measurement unit setting, and Color selection setting.** • **Depending on the functions provided by each MFP and the optional device configuration, not all My Panel settings may not take effect.**

9. Adjustment item list

Replacement part/Service job Adjustment/setting items				No	Replace paper feed roller	Replace separation roller assy	Change marketing area	Install LCT	Replace CCD unit	Replace mirror unit	Replace IU	Replace transfer belt unit	Replace PH unit
Service Mode	Machine	Printer Area	Print Positioning: Leading Edge	1									(4)
			Print Positioning: Side Edge	2				○					(5)
			Paper Feed Direction Adj.	3					(3)	(4)			
		Scan Area	Image position: Leading Edge	4									
			Image position: Side Edge	5					(5)				
			Cross Direction Adjustment	6					(4)				
			Feed Direction Adjustment	7						(5)			
		Org. Detecting Sensor Adj.		8			○						
		Skew adjustment	Skew adjustment	9									(1)
			Skew adjustment reset	10									(2)
		LD adjustment	LD delay adjust.	11									(3)
			LD lightness balance adjust.	12									
	Touch Panel Adjust			13									
	State Confir-mation	Memory/ HDD Adjust	HDD R/W Check	14									
			HDD Format	15									
			Conversion Up/Down	16									
			Up/Down Version	17									
		Table Number		18									
	Firmware Version			19									
	System 1/2	Re-entry of setting values		20									
		Serial Number		21									
		Scan Calibration		22					(1)				
		Line Mag Setting		23					(2)				
	Counter	Life	Counter Clear	24	○	○							
	Image Process Adjustment		Gradation Adjust	25							○	○	
	ADF		Read Pos Adj *1	26						(3)			
	Enhanced Security		NVRAM Data Backup	27									
Re-entry of Utility settings				28									
Re-entry of Enhanced Security settings				29									
Parallel adjustment of scanner/mirrors carriage				30						(1)			
Positioning scanner unit				31						(2)			
Scanner motor belt adjustment				32									
Original glass moving unit height adjustment				33									
F/W upgrading				34									
Installation of original size sensor				35									
Remounting of NVRAM (MFP board)				36									
Replace transfer belt unit				37									

- This table shows the adjustment items that are required when a part of the machine has been replaced. Priority order, if applicable, during the adjustment procedures is indicated by the corresponding number in the parentheses.

No	Replace original size detection sensor	Wind scanner drive cables	Replace scanner motor	Replace scanner assy	Replace scanner home sensor	Replace original glass moving unit	Replace glass step sheet	Replace printer control board	Replace MFP board	Replace image processing board	Replace original glass	Replace IDC/registration sensor/F,R	Replace hard disk	Add key counter	Execute initialize	Execute add. option	Execute F/W update	Add fax board
1																		
2																		
3																		
4											(2)							
5					❍						(1)							
6																		
7		(5)	(2)	(3)														
8	(3)																	
9																		
10																		
11																		
12																		
13															(6)			
14													(2)					
15													(1)					
16																	❍	
17																	❍	
18	(2)														(2)			
19																❍	❍	
20															(4)			
21															(3)			
22																		
23																		
24																		
25									(3)									
26		(4)		(2)		(2)	❍											
27									(4)									
28															(1)			
29														❍	(5)			
30		(2)																
31		(3)		(1)														
32		(1)	(1)															
33						(1)												
34								❍	(2)	❍								❍
35	(1)																	
36									(1)									
37												❍						

10. Service Mode

10.1 Service Mode function setting procedure

NOTE

- **Ensure appropriate security for Service Mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.**

A. Procedure

1. Press the Utility/Counter key.

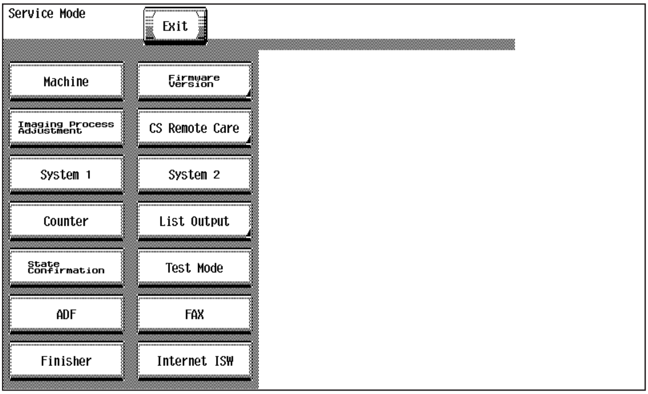
2. Touch [Details] on meter count display.

3. Press the following keys in this order.; Stop → 0 → 0 → Stop → 0 → 1

NOTE

- **When selecting [CE Authentication] under [Enhanced Security] available from Service Mode, authentication by CE password is necessary.**
  Enter the 8 digits CE password, and touch [END].
  (The initial setting for CE password is “92729272.”)
- **When the following setting is set to “ON”, CE password authentication is necessary.**
  [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]
- **If a wrong CE password is entered, re-enter the right password. The machine will not enter Service Mode unless the CE password is entered correctly. To return to the Basic screen, turn OFF the sub power switch and turn it ON again.**
  When the following setting is set to “Mode 2”, operation will be prohibited since it indicates authentication failure by failing to enter the correct CE password within the specified number of times.
  if the access lock is activated, the lock release timer starts to operate by input the Stop → 0 → 9 → 3 → 1 → 7 in [Meter Count] → [Check Details] → [Coverage Rate] after the main power switch is turned OFF and On. When the timer reaches the time specified in this setting, the access lock is released.
- **The service code entered is displayed as “*.”**

4. The Service Mode menu will appear.



A00JF3E534DA

NOTE

- **Be sure to change the CE password from its default value.**
- **For the procedure to change the CE password, see the Enhanced Security.**
  See P.546

B. Exiting

- Touch the [Exit] key.

C. Changing the setting value in Service Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-key pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

10.2 Service Mode function tree

✻ The function tree is shown to comply with the format displayed on the screen.

*1: Settings are available only when the optional fax kit (FK-502) is mounted.

*2: It will be displayed only when the optional fax multi line (ML-501) is mounted.

*3: It will be displayed only when the optional finisher (FS-517/518/608 or FS-519) is mounted.

*4: It will be displayed only when the optional finisher (FS-519) is mounted.

*5: It will be displayed only when the optional finisher (FS-517/518/608) is mounted.

*6: It will be displayed only when the optional finisher (FS-608) is mounted.

*7: It will be displayed only when the [Internet ISW Set] is set to “ON.”

*8: It will be displayed only when the optional post inserter (PI-503) is mounted.

*9: It will be displayed only when the optional job separator (JS-504) is mounted.

*10: It will be displayed only when the optional Z folding unit (ZU-603) is mounted.

Service Mode			Ref. Page
Machine	Color alignment Adjustment		P.443
	Fusing Temperature		P.444
	Fusing Transport Speed		P.445
	Org. Size Detecting Sensor Adj.		P.446
	Printer Area	Leading Edge Adjustment	P.447
		Centering	P.448
		Leading Edge Adj. (Duplex Side 2)	P.449
		Centering (Duplex 2nd Side)	P.450
		Paper Feed Direction Adj.	P.451
	Scan Area	Image Position: Leading Edge	P.452
		Image Position: Side Edge	P.453
		Cross Direction Adjustment	P.454
		Feed Direction Adjustment	P.455
	Printer Resist Loop		P.456
	Color Registration Adjustment	Cyan	P.457
		Magenta	
		Yellow	
	Skew adjustment	Skew adjustment	P.458
		Skew adjustment reset	P.458
	LD adjustment	LD delay adjust.	P.458
		LD lightness balance adjust.	P.459
	Manual Bypass Tray Adjustment		P.460
	Lead Edge Erase Adjustment		P.460
	Thick Paper Mode		P.460
	Split Line Prior Detection		P.461
Firmware Version			P.461

Service Mode			Ref. Page
Imaging Process Adjustment	Gradation Adjust		P.461
	Transfer Belt	Cleaning Bias	P.462
		Auto Cleaning	P.463
	D Max Density		P.463
	TCR Level Setting		P.464
	Background Voltage Margin		P.464
	Transfer Output Fine Adjustment	Primary transfer adj.	P.465
		Secondary transfer adj.	P.465
	Stabilizer	Stabilization Only	P.466
		Initialize+Image Stabilization	P.466
	Thick Paper Density Adjustment	Thick 1,1+	P.466
		Thick 2,3,4	
	Paper separation adjustment		P.467
	TCR Toner Supply		P.467
	Monochrome Density Adjustment		P.467
	Dev. Bias Choice		P.468
CS Remote Care			P.469
System 1	Marketing Area		P.489
	Tel/Fax Number		P.489
	Serial Number		P.490
	No Sleep		P.490
	Foolscap Size Setting		P.490
	Original Size Detection		P.490
	Install Date		P.491
	Initialization	Data Clear	P.491
		System Error Clear	P.491
	Charging CH cleaning	Cleaning	P.491
		Self-Cleaning	P.492
	Trouble Isolation		P.492
	IU Life Setting		P.493
	Post card transfer table		P.493
	Change Warm Up Time		P.494
	Machine State LED Setting		P.494
System 2	HDD		P.495
	Image Controller Setting		P.495
	Option Board Status		P.496
	Consumable Life Reminder		P.496
	Unit Change		P.496
	Software Switch Setting		P.497
	Scan Calibration		P.498
	LCC size setting		P.498

Service Mode			Ref. Page
System 2	LCT Paper Size Setting		P.498
	Line Mag Setting		P.499
	Data Capture		P.499
	Split Line Detect. Setting		P.501
	Stamp		P.502
	Network Fax Settings		P.503
Counter	Life		P.504
	Jam		P.505
	Service Call Counter		P.505
	Warning		P.505
	Maintenance		P.506
	Service Total		P.506
	Counter Of Each Mode		P.506
	Service Call History (Data)		P.506
	ADF Paper Pages		P.506
	Paper Jam History		P.507
	Fax Connection Error		P.507
	Split Line Counter		P.507
	Parts Counter (Fixed)		P.508
	Counter Reset		—
List Output	Machine Management List		P.510
	Adjustments List		P.510
	Parameter List		P.510
	Service Parameter		P.510
	Protocol Trace	Last	P.510
		Error	
	Fax Setting List		P.510
	Fax Analysis List		P.510
State Confirmation	Sensor Check		P.511
	Table Number		P.529
	Level History1		P.529
	Level History2		P.529
	Temp. & Humidity		P.530
	CCD Check		P.530

Service Mode			Ref. Page
State Confirmation	Memory/HDD Adj.	Memory Check	P.530
		Compress / Decompression Check	P.531
		JPEG check	P.531
		Memory Bus Check	P.531
		Work Memory In/Out Check	P.531
		HDD Version Upgrade (LK)	P.532
		Down Ver.	P.532
		Down Version	P.532
		Up Ver.	P.532
		Conversion Up	P.533
		HDD R/W Check	P.533
		HDD Format	P.533
		Conversion Down	P.534
		XPS Enable Format	P.534
		XPS Disable Format	P.534
	Memory/HDD State		P.535
	Color Regist		P.535
	IU Lot No.		P.535
	Adjustment Data List		P.535
Test Mode	Gradation Pattern		P.536
	Halftone Pattern		P.537
	Lattice Pattern		P.537
	Solid Pattern		P.538
	Color Sample		P.538
	8 Color Solid Pattern		P.539
	CMM Pattern		P.539
	Running Mode		P.539
	Fax Test		P.540
ADF	Original Stop Position		P.540
	Registration Loop Adj.		
	Auto Stop Position Adjustment		
	Paper Passage		
	Sensor Check		
	Original Tray Width		
	Read Pos Adj		
	Feed Zoom	Orig. Feed Zoom Ad	
		Auto Adjust	
	Scanning Light Adjustment		

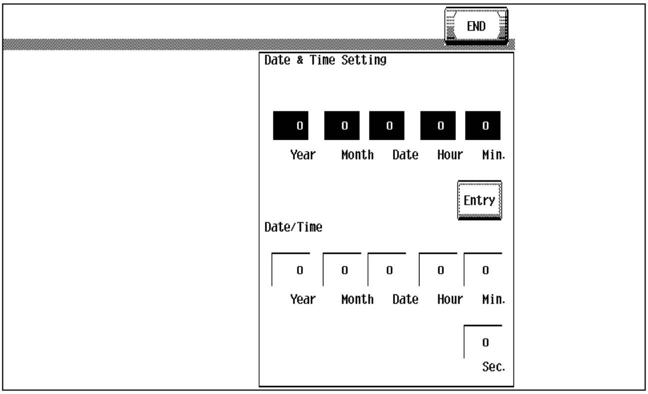
Service Mode			Ref. Page
FAX *1	Line 1 *1	Modem/NCU *1	P.540
		NetWork *1	
		System *1	
		Fax File Format *1	
		Communication *1	
		List Output *1	
		Function Parameter *1	
		Initialization *1	
	Line 2 *1	Modem/NCU *1	
		Network *1	
		Communication *1	
		Initialization *1	
Finisher *3	CB-FN adjustment *4	Fold&Staple Pos. Adjustment *4	P.540
		Finisher Check *4	
		Punch Regist Loop Size *4	
		Punch Horizontal Position *4	
	FS-FN adjustment *5	Center Staple Position *6	
		Half-Fold Position *6	
		Punch Vertical Position *5	
		Punch Horizontal Position *5	
		Punch edge detection *5	
		Punch Unit Vertical Position Adj. *10	
		Punch Unit Horizontal Position *10	
		Punch unit edge detection *10	
		Punch Resist Loop Size (Body) *5	
		Punch Resist Loop Size (PI) *8	
		1st Z-Fold Position Adj. *10	
		2nd Z-Fold Position Adj. *10	
		Tri-Fold Position *6	
		2 Position Staple Dist. *6	
		Cover Sheet Tray Size Detection*8	
		Cover Sheet Feeder Adj.*8	
		finisher check *5	
		Load Data *5	
	Staple option setting		
	Punch Option setting		
	Fold power of pages restrict.		
	Job Separator *9		

Service Mode		Ref. Page
Internet ISW	Internet ISW Set	P.542
	HTTP Setting *5	P.542
	FTP Setting *5	P.543
	Forwarding Access Setting *5	P.544
	Download *5	P.545

10.3 Date/Time Input mode

- This mode is used to set time-of-day and date.

10.3.1 Date & Time Setting mode screen



A00JF3E537DA

A. Date & Time Setting mode setting procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 1 → 1 → 4 → 4 → Clear
3. Enter year, month, day, hour, and minute, in that order, from 10-key pad.
   (Year 4 digits → Month 2 digits → Day 2 digits → Hour 2 digits → Minute 2 digits)

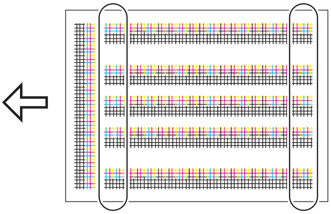
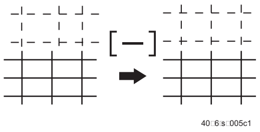
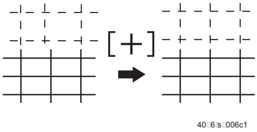
NOTE

- **When setting the month, day, hour, or minute, enter "0" first if the data one digit.**

4. Make sure that correct figures have been entered and then touch [Entry].
5. Touch [END] to return to the Service Mode.

10.4 Machine

10.4.1 Color Alignment Adjustment

Functions	• To adjust color shift if color shift is found at the trailing edge of either plain paper or thick paper by the comparison of originals and their output.
Use	• Uses this function when color shift occurs at the trailing edge of images. • Able to make a setting on a process speed basis independently for each paper type of plain paper (color), thick 1/1+, and thick 2/3/4.
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting.
Setting/ Procedure	1. Call the Service Mode to the screen. 2. Touch these keys in this order: [Machine] → [Color Registration Adjustment]. 3. Load manual bypass tray with A3/11 x 17 or A4/8 $^1/_2$ x 11 plain paper. 4. Select the paper type to be adjusted. 5. Press the Start key. 6. Using the printed test pattern, check color shift in the sub scan direction on both leading and trailing edge areas. If color shift is found only around the trailing edge, perform the following adjustment. (If color shift is found on both areas, perform [Color Registration Adjustment]. 7. Using the [+] / [-] key, change the setting value as necessary. 8. Produce another test pattern and make sure that there is no deviation. Check Procedure <compare two places>  If the cross deviates in the direction of A, decrease the setting. If the cross deviates in the direction of B, increase the setting. Direction of A  Direction of B 

10.4.2 Fusing Temperature

Functions	• To adjust individually the temperature of the heating roller and the fusing pressure roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions.
Use	• When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change. • Use when the curling of the paper due to the paper type or environmental change occurred, or when the paper jam, as well as stapling or folding position error occurred due to the curling of the paper. • By setting the temperature higher (+), gloss of print can be improved. • By setting the temperature lower (-), exit roller mark can be reduced.
Adjustment Range	(see table below)
Adjustment Instructions	If fusing performance is poor, increase the setting. If wax streaks occur, decrease the setting. If offset is poor, decrease the setting. If curling of the paper occurs, decrease the setting.
Setting/ Procedure	**NOTE** • **To adjust the fusing temperature, adjust on the heating side first. If the further adjustment is necessary, adjust on the pressure side.** *1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Fusing Temperature]. *3.* Select the paper type and fusing roller type (Heater Roller or Pressure). *4.* Enter the new setting from the [+] / [-] key. *5.* Touch [END] to validate the adjustment value. *6.* Return to the basic screen. *7.* Output two or three test printing and check to see whether the image has any problem. *8.* Make the adjustment for each type of paper.

Adjustment Range:

Paper type	Setting range	step
Plain Paper	-20 °C to +5 °C	5 °C
OHP Film	-20 °C to +5 °C	5 °C
Thick 1	-20 °C to +5 °C	5 °C
Thick 1+	-20 °C to +5 °C	5 °C
Thick 2	-20 °C to +5 °C	5 °C
Thick 3	-20 °C to +5 °C	5 °C
Thick 4	-20 °C to +5 °C	5 °C
Post.	-20 °C to +5 °C	5 °C
Enve.	-5 °C to +5 °C	5 °C

10.4.3 Fusing Transport Speed

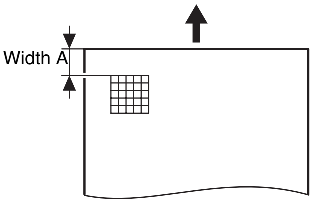
<table>
<tr><td>Functions</td><td>• To adjust the speed of the fusing drive motor so as to match the fusing speed with transport speed.</td></tr>
<tr><td>Use</td><td>• Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.</td></tr>
<tr><td>Variable Range</td><td>-20 to +20 (in 1 increments)</td></tr>
<tr><td>Adjustment Instructions</td><td>If brush effect is evident, vary the setting value and check for image.
If a blurred image occurs, decrease the setting.</td></tr>
<tr><td>Setting/ Procedure</td><td>1. Call the Service Mode to the screen.
2. Touch these keys in this order: [Machine] → [Fusing Transport Speed].
3. Select the transport speed, at which the brush effect or blurred image has occurred.
<bizhub C650>
<table>
<tr><th>Transport speed</th><th>Paper Setting</th></tr>
<tr><td>310 mm/s</td><td>Plain paper: monochrome</td></tr>
<tr><td>240 mm/s</td><td>Plain paper: color</td></tr>
<tr><td>155 mm/s</td><td>Thick 1, Thick 1+: monochrome/color</td></tr>
<tr><td>120 mm/s</td><td>Thick 2, Thick 3, Thick 4, envelope, postcard: monochrome/color
OHP film: monochrome</td></tr>
</table>
<bizhub C550>
<table>
<tr><th>Transport speed</th><th>Paper Setting</th></tr>
<tr><td>264 mm/s</td><td>Plain paper: monochrome</td></tr>
<tr><td>216 mm/s</td><td>Plain paper: color</td></tr>
<tr><td>132 mm/s</td><td>Thick 1, Thick 1+: monochrome/color</td></tr>
<tr><td>108 mm/s</td><td>Thick 2, Thick 3, Thick 4, envelope, postcard: monochrome/color
OHP film: monochrome</td></tr>
</table>
<bizhub C451>
<table>
<tr><th>Transport speed</th><th>Paper Setting</th></tr>
<tr><td>216 mm/s</td><td>Plain paper: monochrome/color</td></tr>
<tr><td>132 mm/s</td><td>Thick 1, Thick 1+: monochrome/color</td></tr>
<tr><td>108 mm/s</td><td>Thick 2, Thick 3, Thick 4, envelope, postcard: monochrome/color
OHP film: monochrome</td></tr>
</table>
4. Enter the new setting from the 10-key pad.
5. Touch [END] to validate the adjustment value.
6. Check the copy image for any image problem.</td></tr>
</table>

10.4.4 Org. Size Detecting Sensor Adj.

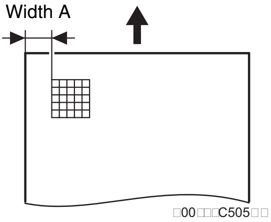
Functions	• To automatically adjust the original detection distance for the original size sensor. • To display if the original size detection 2 Sensor is mounted.
Use	• When the sensor is replaced with a new one. • When an optional sensor has been added. • When an erroneous original size detection is made. • When the marketing area setting is changed.
Adjustment Instructions	If the adjustment has been successfully made, it completes the adjustment procedure. If the adjustment has turned out to be unsuccessful, check the optional original size sensors for correct installation and change the defective sensor or harness.
Setting/ Procedure	*1.* Place a blank sheet of A3 or 11 × 17 paper on the original glass and lower the original cover. *2.* Call the Service Mode to the screen. *3.* Touch these keys in this order: [Machine] → [Org. Size Detecting Sensor Adj.]. *4.* Press the Start key.

10.4.5 Printer Area

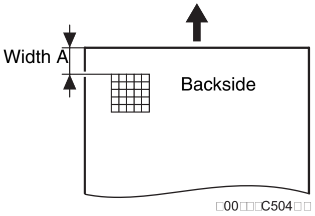
A. Leading Edge Adjustment

Functions	• To vary the print start position in the sub scan direction for each of different paper types in the manual bypass tray. (To adjust the timing where paper is sent out from the timing roller)
Use	• The PH unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image. • This setting can be made independently for plain paper, Thick 1/1+, Thick 2, Thick 3, Thick 4, OHP transparencies, and envelopes.
Adjustment Specification	 □00□□C504□□ Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Place A3 paper on the manual bypass tray. *2.* Call the Service Mode to the screen. *3.* Touch [Machine] → [Printer Area] → [Leading Edge Adjustment]. *4.* Select the [Plain Paper]. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check the dimension of width A on the test pattern. *7.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *8.* Press the Start key to let the machine produce a test pattern. *9.* Check the dimension of width A on the test pattern. *10.* If width A is outside the specified range, change the setting again and make a check again. *11.* If width A falls within the specified range, touch [END]. *12.* Following the same procedure, adjust for Thick 1 to 3, OHP film, and Enve.

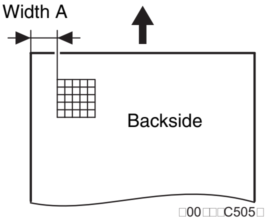
B. Centering

Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The PH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine] → [Printer Area] → [Centering]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.* If width A falls within the specified range, touch [END]. *11.* Following the same procedure, adjust for all other paper sources. (Use A4 or $8\,^1/_2 \times 11$ plain paper for the bypass.)

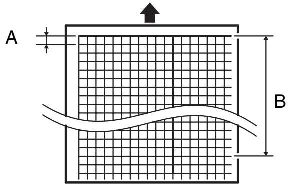
C. Leading Edge Adj. (Duplex Side 2)

Functions	• For individual types of paper, this function allows the adjustment of the image write start position in the sub scan direction on the 2nd side of duplex printing.
Use	• This adjustment is made when the image on the 2nd side of paper deviates from the original position in the sub scan direction. • This adjustment can be made independently for each of plain paper, thick paper 1/1+, thick paper 2, and thick paper 3.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Place A3 paper on the manual bypass tray. *2.* Call the Service Mode to the screen. *3.* Touch [Machine] → [Printer Area] → [Leading Edge Adj. (Duplex Side 2)]. *4.* Select the [Plain Paper]. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check the dimension of width A on the test pattern. *7.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *8.* Press the Start key to let the machine produce a test pattern. *9.* Check the dimension of width A on the test pattern. *10.* If width A is outside the specified range, change the setting again and make a check again. *11.* If width A falls within the specified range, touch [END]. *12.* Following the same procedure, adjust for Thick paper.

D. Centering (Duplex 2nd Side)

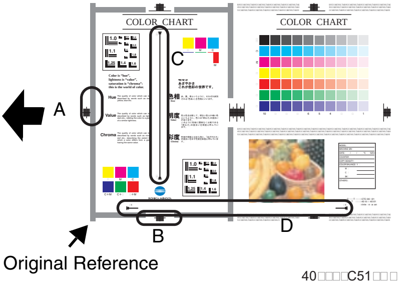
Functions	• To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
Use	• The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine] → [Printer Area] → [Centering (Duplex 2nd Side)]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.* If width A falls within the specified range, touch [END]. *11.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 $^1/_2$ × 11 plain paper for the manual bypass tray.)

E. Paper Feed Direction Adj.

Functions	• To synchronize the paper transport speed with the image writing speed.
Use	• Feed Direction Adjustment becomes necessary. • The print image on the copy distorts (stretched, shrunk). • When the print image on the copy is stretched in the sub scan direction. • This setting can be made independently for plain paper, Thick 1/1+, Thick 2, Thick 3, and Thick 4.
Adjustment Specification	 □00□□C506□□ Width A and width B on the test pattern produced should fall within the following ranges. Width A: equivalent to one grid Width B: equivalent to 48 grids Specifications A: 7.9 to 8.3 B: 389.1 to 392.1 Setting Range A, B: -7 to +7
Adjustment Instructions	If width A or B is longer than the specifications, make the setting value smaller than the current one. If width A or B is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Load manual bypass tray with A3 or 11 × 17 plain paper. *2.* Call the Service Mode to the screen. *3.* Touch [Machine] → [Printer Area] → [Paper Feed Direction Adj.]. *4.* Select [Plain Paper]. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern. *7.* Touch these keys in this order: [Machine] → [Printer Area] → [Paper Feed Direction Adj]. *8.* If width of A or B falls outside the specified range, change the setting using the [+]/[-] keys. *9.* Press the Start key to let the machine produce a test pattern again. *10.*Check width A and width B on the test pattern. *11.*If width A or B falls outside the specified range, change the setting value and make a check again. *12.*If width A or B falls within the specified range, touch [END]. *13.*Following the same procedure, adjust for thick paper.

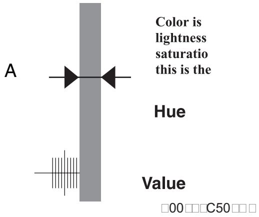
10.4.6 Scan Area

- Use the following color chart for the adjustment of the scanner section.
- If the color chart is not available, a scale may be used instead.

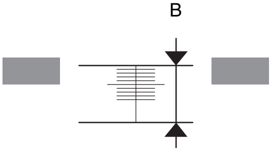


- A: Image Position: Leading Edge
- B: Image Position: Side Edge
- C: Cross Direction Adjustment
- D: Feed Direction Adjustment

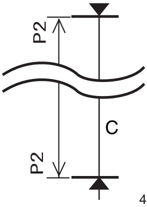
A. Image Position: Leading Edge

Functions	• To adjust variations in mounting accuracy and sensitivity of the scanner home sensor and in mounting accuracy of the original width scale by varying the scan start position in the main scan direction.
Use	• When the original glass is replaced. • When the original width scale is replaced.
Adjustment Specification	 A Color is lightness saturatio this is the Hue Value □00□□C50□□ •B width on the color chart and one on the copy sample are measured and adjusted so that the difference of A width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Leading Edge Adjustment] of [Printer Area]. Specifications A: ± 0.5 mm (10 ± 0.5 mm if a scale is used) Setting range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Image Position: Leading Edge]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If width A on the copy falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

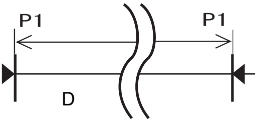
B. Image Position: Side Edge

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the CCD unit is replaced. • When the original glass is replaced. • The scanner home sensor has been replaced.
Adjustment Specification	 •A width on the color chart and one on the copy sample are measured and adjusted so that the difference of B width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Centering] of [Printer Area]. Specifications B: ± 1.0 mm Setting range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Image Position: Side Edge]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make a copy. *8.* Check point B of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

C. Cross Direction Adjustment

Functions	• To adjust the zoom ratio in the main scan direction for the scanner section.
Use	• The CCD unit has been replaced.
Adjustment Specification	 •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of [Printer Area]. Specifications C: ± 1.0 mm Setting range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Cross Direction Adjustment]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

D. Feed Direction Adjustment

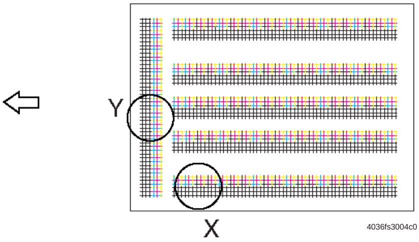
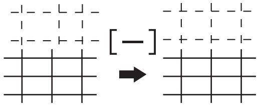
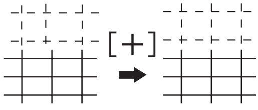
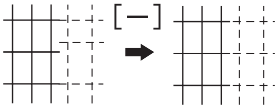
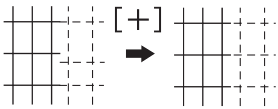
Functions	• To adjust the zoom ratio in the sub scan direction for the scanner section.
Use	• The scanner assy has been replaced. • The scanner motor has been replaced. • The scanner drive cables have been replaced.
Adjustment Specification	 40□□□□C51□□ □ •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of [Printer Area]. Specifications D: ± 1.5 mm Setting range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Feed Direction Adjustment]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting using the [+] / [-] key. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

10.4.7 Printer Resist Loop

<table>
<tr><td>Functions</td><td>• To set the correction value of the paper loop length for each process speed of tray 1 to tray 4, LCT, bypass, and duplex.
• To adjust the length of the loop formed in paper before the registration rollers.
• Use “Paper Passage” for paper passage check.</td></tr>
<tr><td>Use</td><td>When a paper skew occurs.
When a paper misfeed occurs.</td></tr>
<tr><td>Adjustment Instructions</td><td>To decrease the loop amount: Increase the setting value
To increase the loop amount: Decrease the setting value</td></tr>
<tr><td>Adjustment Range</td><td>• The adjustable range is different depending on paper source and processing speed.
<bizhub C650>
<table>
<tr><th></th><th>Tray 1/2</th><th>Tray 3/4 LCT</th><th>Manual</th><th>Duplex</th></tr>
<tr><td>310 mm/sec</td><td>-5 to +5</td><td>—</td><td>-5 to +5</td><td>-5 to +5</td></tr>
<tr><td>240 mm/sec</td><td>-5 to +5</td><td>-5 to +5</td><td>-5 to +5</td><td>-5 to +5</td></tr>
<tr><td>155 mm/sec</td><td>-9 to +9</td><td>—</td><td>-9 to +9</td><td>-9 to +9</td></tr>
<tr><td>120 mm/sec</td><td>-10 to +10</td><td>—</td><td>-10 to +10</td><td>-10 to +10</td></tr>
<tr><td>420 mm/sec</td><td>—</td><td>0 to +3</td><td>—</td><td>—</td></tr>
</table>
<bizhub C550>
<table>
<tr><th></th><th>Tray 1/2</th><th>Tray 3/4 LCT</th><th>Manual</th><th>Duplex</th></tr>
<tr><td>264 mm/sec</td><td>-5 to +5</td><td>—</td><td>-5 to +5</td><td>-5 to +5</td></tr>
<tr><td>216 mm/sec</td><td>-5 to +5</td><td>-5 to +5</td><td>-5 to +5</td><td>-5 to +5</td></tr>
<tr><td>132 mm/sec</td><td>-9 to +9</td><td>—</td><td>-9 to +9</td><td>-9 to +9</td></tr>
<tr><td>108 mm/sec</td><td>-10 to +10</td><td>—</td><td>-10 to +10</td><td>-10 to +10</td></tr>
<tr><td>420 mm/sec</td><td>—</td><td>0 to +3</td><td>—</td><td>—</td></tr>
</table>
<bizhub C451>
<table>
<tr><th></th><th>Tray 1/2</th><th>Tray 3/4 LCT</th><th>Manual</th><th>Duplex</th></tr>
<tr><td>216 mm/sec</td><td>-5 to +5</td><td>-5 to +5</td><td>-5 to +5</td><td>-5 to +5</td></tr>
<tr><td>132 mm/sec</td><td>-9 to +9</td><td>—</td><td>-9 to +9</td><td>-9 to +9</td></tr>
<tr><td>108 mm/sec</td><td>-10 to +10</td><td>—</td><td>-10 to +10</td><td>-10 to +10</td></tr>
<tr><td>420 mm/sec</td><td>—</td><td>0 to +3</td><td>—</td><td>—</td></tr>
</table>
</td></tr>
<tr><td>Setting/ Procedure</td><td>1. Call the Service Mode to the screen.
2. Touch these keys in this order: [Machine] → [Printer Resist Loop].
3. Select a paper source and a processing speed where the settings are made by touching the corresponding keys.
4. Enter the new setting from the 10-key pad.</td></tr>
</table>

10.4.8 Color Registration Adjustment

A. Cyan, Magenta, Yellow

Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift. • This setting can be made independently for plain paper, Thick 1/1+, Thick 2, Thick 3, and Thick 4.
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Color Registration Adjustment]. *3.* Load manual bypass tray with A3/11 x 17 or A4/8 $^1/_2$ x 11 plain paper. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  Adjustment for X direction: Check point X If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  Direction of B  Adjustment for Y direction: Check point Y If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  Direction of B 

10.4.9 Skew adjustment

A. Skew adjustment

Functions	• This function allows you to set the default position of the skew correction motor. • Adjusts and sets a value that is used as an individual skew correction motor's reference position for skew correction control.
Use	• This setting is made after the PH unit is replaced. • Use this function when the information of the motor's position setting is lost due to the replacement of the service EEPROM board or other reasons.
Adjustment Range	0 to 480 (step:1)
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Skew adjustment] → [Skew adjustment]. *3.* Select the color to be set. *4.* Enter the skew value described on the new PH unit with the 10-key pad. *5.* Touch [OK]. *6.* Proceed to [Skew adjustment reset].

B. Skew adjustment reset

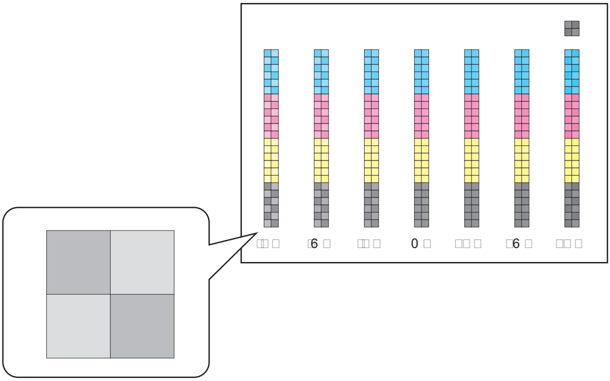
Functions	• Returns the skew correction motor to the default position and clear the backup copies of the cumulative skew amount.
Use	• After PH unit replacement, perform [Skew adjustment] and then execute this function. • After addressing the alert code P-14 and completing an action to the problem, perform this function. • Use this function when the current skew correction motor's position becomes unavailable due to the skew adjustment interrupted by the door being opened or the main power switch being turned OFF.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Skew adjustment] → [Skew adjustment reset]. *3.* Touch the start key and execute the skew adjustment reset. **NOTE** • **After the skew adjustment reset is complete, be sure to perform [Initialize + Image Stabilization].**

10.4.10 LD adjustment

A. LD delay adjust.

Functions	• LD delay adjust sets adjustment values by adjusting LD light emission delay amount. (Values to be entered are described on the side of the PH unit.)
Use	• This setting is made after the PH unit is replaced. • This adjustment is made when the service EEPROM board is replaced or the backup of information on position settings is lost.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [LD adjustment] → [LD delay adjust.]. *3.* Select the color to be set. *4.* Enter the values described on the side of the PH unit using 10-key pad. *5.* Touch [OK].

B. LD lightness balance adjust.

Functions	• This function adjusts the LD lightness balance between the two LDs to correct the difference of LD lightness between the LDs.
Use	• This setting is made after the PH unit or the service EEPROM board is replaced. • This adjustment is made to prevent uneven density in highlighted halftone area processed with error diffusion being caused by inappropriate laser intensity.
Setting/ Procedure	1. Call the Service Mode to the screen. 2. Touch these keys in this order: [Machine] → [LD adjustment] → [LD lightness balance adjust.]. 3. Select [For adjustment] and press Start key. 4. The test print includes seven rows of patterns produced with different levels of LD2 light intensity towards LD1.  □00□□C5□□□ 5. Three squares each made up by four small squares are printed with the different four colors. The two small squares diagonal to each other are printed using the same LD. Depending on individual print timing, it is decided that which pair of small squares corresponds to which LD. The pair of small squares where image density changes corresponds to LD2. 6. From the test pattern, select the pattern where the least density difference appears between LD1 and LD2 for each color. 7. Enter the adjustment value corresponding to the pattern you selected (see the above illustration) or a value close to the adjustment value using the ten key pads on the panel. 8. Select [For effect confirmat.] and press Start key. 9. Check that LD2 small squares have no image noise of woodgrain. 10. Touch [OK].

10.4.11 Manual Bypass Tray Adjustment

Functions	• To set the maximum width and the minimum width for the manual bypass paper size unit of the manual bypass guide.
Use	• Use when the manual bypass paper size unit of the manual bypass guide has been changed. • Use when a false paper size is displayed when the manual bypass is used.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Manual Bypass Tray Adjustment]. *3.* Touch [Max. Width]. *4.* Load the bypass tray with paper having a width of 301 mm. *5.* Press the Start key and check that the results are [OK]. *6.* Touch [Min. Width.]. *7.* Load the bypass tray with paper having a width of 89 mm. *8.* Press the Start key and check that the results are [OK]. ✻ Make the adjustment again if the results are [NG].

10.4.12 Lead Edge Erase Adjustment

Functions	• To set the leading edge erase amount of the paper.
Use	• Upon user requests, it is possible to specify the void area where image is not printed along the leading edge.
Setting/ Procedure	• The default setting is 4 mm. “4 mm” 5 mm 7 mm **NOTE** • **When “4 mm” is selected, 4.2 mm is the actual amount to be erased in print based on the control system of the machine.**

10.4.13 Thick Paper Mode

Functions	• For thick paper, the paper interval can be changed.
Use	• To resolve image failure (black streaks) in the main scan direction due to the vibrations created when the trailing edge of the preceding paper is passing by the timing roller. • To reduce the effect of vibrations on image quality by widening paper interval. Image Quality : Operates with the paper interval longer than normal. Productivity : Operates with the paper interval closer to the normal
Setting/ Procedure	• The default setting is Productivity. Image Quality “Productivity”

10.4.14 Split Line Prior Detection

Functions	• To check the stain on the ADF original glass and display the result.
Use	• To manually perform the pre-detection of the stain which is normally conducted when the main/sub power switch is turned ON, recovering from the sleep/low power mode, etc. • [Split Line Prior Detection] will be conducted with the detection level set by the following setting. [Service Mode] → [System 2] → [Split Line Detect. Setting] → [Prior Detection] When the above setting is set to “Not Set”, “NG” will be displayed even though the pre-detection is conducted.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Split Line Prior Detection]. *3.* Press the start key to start the pre-detection. *4.* Check to make sure that “OK” is displayed for the result. * When the result says “NG”, clean the glass and check again.

10.5 Firmware Version

Functions	• To check the firmware version.
Use	• Use when the firmware is upgraded. • When the firmware is upgraded or PWB is replaced.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Firmware Version]. *3.* Select the appropriate key from 1 to 3 to check the Firmware Version.

10.6 Imaging Process Adjustment

10.6.1 Gradation Adjust

- It will not be displayed when the following setting is set to “ON”.
  [Service Mode] → [Image Process Adjustment] → [Dev. Bias Choice]

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the scanner.
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The image transfer belt unit has been replaced. ✻ The Adj. Values of “Dark” and “Highlight” shown on the gradation adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image. • Stablizer : Before gradation adjust, perform image stabilization. • Gradation Mode : It gives the highest priority to gradation performance of the image as it adjusts. • Resolution Mode : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • High Compression Mode : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Specification	Dark : 0 ± 100 Highlight : 0 ± 60

Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Image Process Adjustment] → [Gradation Adjust]. *3.* Touch [Stabilizer] and the Start key to perform image stabilization. **NOTE** • **Before executing Gradation adjust, be sure to perform Stabilizer.** *4.* Select the appropriate mode for the gradation adjustment. *5.* Press the Start key to let the machine produce a test pattern. **NOTE** • **When the image stabilization performed in step 3 is NG, the Start key stops functioning.** • **When one of the alert codes, P-5, P-6, P-7, P-8, P-9, and P-28 is on the screen and [Gradation Mode] is selected, the Start key stops functioning.** *6.* Place the test pattern produced on the original glass. *7.* Place ten blank sheets of A3/11x17 paper on the test pattern and lower the original cover. *8.* Press the Start key. (The machine will then start scanning the test pattern.) *9.* Touch [OK] and repeat steps from 4 through 8 twice (a total of three times). *10.*Touch [Gradation Adjust] to display the Adj. Values and Conv. Values of each color (C, M, Y and K) for Dark and Highlight. *11.*Use the following procedures to check the Conv. Value. **Dark: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Dark nor Highlight falls outside the ranges specified above: Perform steps from 4 to 8.** **NOTE** • **If the convergence falls within the specified range after the second Gradation Adjustment, further adjustment may not be necessary.** • If a fault is detected, “0” is displayed for all values. In that case, after turning off the main power switch, turn it on again more than 10 seconds after and then make the gradation adjustment again. • If either dark or highlight still remains outside the specified ranges perform D Max Density. • If a total of four sequences of gradation adjust do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

10.6.2 Transfer Belt

A. Cleaning Bias

Functions	• To set the level of transfer belt cleaning bias independently for each process speed.
Use	• When the image pattern is not completely removed, it strengthen the transfer belt cleaning bias in order to make the cleaner more effective. • For each processing speed, positive and negative output values can be set.
Setting/ Procedure	• The each default setting is 0. -5 to +5 (step:1 *) *: One step corresponds to 5 µA.

B. Auto Cleaning

Functions	• To set whether to perform the long regular transfer belt cleaning operation (approx. 30 sec).
Use	• The long cleaning operation (approx. 30 seconds) can be used to take more effective measures against toner filming on the surface of the transfer belt. Enable : Performs the long cleaning operation (approx. 30 sec) after the normal regular cleaning operations (approx. 10 sec) which are performed nine times. Disable : Performs only the normal regular operations (approx. 10 sec) but not the long cleaning operation (approx. 30 sec).
Setting/ Procedure	• The default setting is Enable. "Enable" Disable

10.6.3 D Max Density

Functions	• To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of gamma of each color after gradation adjust.
Use	• An image quality problem is not corrected even after gradation adjust has been run.
Adjustment Range	• The default setting is 0. -10 to +10 (step: 1 *) *: 1 step corresponds to 0.03 in density difference.
Adjustment Instructions	To increase the maximum amount of toner sticking, increase the setting value. To decrease the maximum amount of toner sticking, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [D Max Density]. *3.* Select [COPY] or [Printer]. *4.* Select the color to be adjusted. *5.* Enter the new setting from the 10-key pad or [+/-]. *6.* Touch [END] to return to the [Process] menu screen. *7.* Touch [Stabilizer]. *8.* Touch [Stabilizer Mode]. *9.* Press the Start key to validate the adjustment value. *10.*Check the copy image for any image problem. **NOTE** **• If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.6.4 TCR Level Setting

Functions	• To adjust the T/C control level when an abnormal image density occurs as a result of a change in the amount of charge of toner and carrier due to an environmental change.
Use	• Use when T/C changes due to changes in environmental conditions of the user site.
Adjustment Range	• The default setting is 0. -3 to +3 (1 step in positive (+) direction: 0.5 % increase, 1 step in negative (-) direction: 0.05 % decrease, Center value 0 corresponds to 7 % T/C ratio.)
Adjustment Instructions	To increase T/C, increase the setting value. To decrease T/C, decrease the setting value.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Process] → [TCR Level Setting]. *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key pad and [+/-] key. *5.* Touch [END] to validate the adjustment value. *6.* Check the copy image for any image problem.

10.6.5 Background Voltage Margin

Functions	• To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after gradation adjust.
Use	• Use when a foggy background occurs due to a printer problem.
Adjustment Range	• The default setting is 0. -5 to +5 (step: 1)
Adjustment Instructions	To make the background level foggier, decrease the setting value. To make the background level less foggy, increase the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Background Voltage Margin]. *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-key pad. *5.* Touch [END] to return to the [Image Adjust] menu screen. *6.* Touch [Stabilizer]. *7.* Touch [Stabilization Only]. *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.6.6 Transfer Output Fine Adjustment

A. Primary transfer adj.

Functions	• Adjust the output value for the 1st image transfer voltage.
Use	• To use when white spots appeared.
Adjustment Range	• The default setting is 0. -8 to +7 (step: 1)
Adjustment Instructions	Adjust the output value for the 1st image transfer voltage by; Increasing it: Increase the setting value (white spots will decrease) Decreasing it: Decrease the setting value
Setting/ Procedure	1. Call the Service Mode to the screen. 2. Select [Test Mode] → [Halftone Pattern] to output the red or green test pattern. See P.537 3. When the test pattern image has white spots, adjust with the following procedure. 4. Touch these keys in this order: [Imaging Process Adjustment] → [Transfer Output Fine Adjustment]. 5. Select [Primary transfer adj.]. 6. Select the color. 7. Change the setting value using the [+] / [-] keys. 8. Touch [OK] key to set the adjustment value. Gradually increase the adjustment value to the acceptable white spots level while checking the test pattern. **NOTE** • **PC Drum memory may occur by taking measure to white spots occurred by increasing the 1st image transfer voltage to adjust it.** **Check the image on the test print or the color chart when adjusting.**

B. Secondary transfer adj.

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Range	• The default setting is 0. -8 to +7 (step: 1)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image), increase the setting value. To decrease the ATVC value (in the direction of a less foggy image), decrease the setting value.
Setting/ Procedure	1. Call the Service Mode to the screen. 2. Touch these keys in this order: [Imaging Process Adjustment] → [Transfer Output Fine Adjustment]. 3. Select [Secondary transfer adj.]. 4. Select the side of the image (1st side or 2nd side), on which the transfer failure occurs. **NOTE** • **For envelopes and long paper, only 1st side can be selected.** 5. Select the paper type with the transfer failure. 6. Enter the new setting from the [+] / [-] keys. 7. Touch [END] to validate the adjustment value. 8. Check the print image for any image problem.

10.6.7 Stabilizer

A. Stabilization Only

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after gradation adjustment has been executed. • When [D Max Density] and [Background Voltage Margin] of Service Mode are changed.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Stabilization Only]. *3.* Press the Start key to start Stabilizer. The Start key turns red and stays lit up red during the stabilizer sequence. *4.* Stabilizer is completed when the Start key turns blue.

B. Initialize+Image Stabilization

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after gradation adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after stabilizer mode has been executed. • When color shift correction is needed again after the machine maintenance. • After executing the skew adjustment reset.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Stabilizer]. *3.* Touch [Initialize+Image Stabilization]. *4.* Press the Start key to start stabilizer. The Start key turns red and stays lit up red during the stabilizer sequence. *5.* Stabilizer is completed when the Start key turns blue.

10.6.8 Thick Paper Density Adjustment

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies. (Only black color adjustable for OHP transparencies)
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies.
Adjustment Range	• The default setting is 0. -5 to +5 (step: 1)
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Thick Paper Density Adjustment]. *3.* Select [Thick 1, 1+] or [Thick 2, 3, 4]. *4.* Touch the Lighter or Darker key for the desired color to correct the image density.

10.6.9 Paper separation adjustment

Functions	• For duplex printing with the use of thin paper, the paper separation position is adjusted for the first and second sides of paper.
Use	• To ensure proper balance between paper separating and image transferring performances by varying the paper separation position applied for duplex printing of thin paper (64 g/ m²) in hot and humid conditions.
Adjustment Range	• The default setting is 0. -2 mm to +2 mm (step: 0.1 mm)
Adjustment Instructions	Priority on paper separation performance: Increase the setting value. Priority on image transfer performance: Decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Paper separation adjustment]. *3.* Select [First Side] or [Second Side]. *4.* Use the [+] or [-] key to change the setting value. *5.* Touch [OK] and determine the adjustment value. *6.* Make a print and check the produced image.

10.6.10 TCR Toner Supply

Functions	• To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of prints have been made of originals having a high image density.
Use	• When there is a drop in T/C.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [TCR Toner Supply]. *3.* Select the color, for which supply of toner is to be replenished. *4.* Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. *5.* These sequences are repeated up to a maximum of four times until the toner density reaches the reference value. If the toner density is found to be higher than the reference value, only a developer agitation sequence is carried out.

10.6.11 Monochrome Density Adjustment

Functions	• To fine-adjust the density of the printed image for a black print.
Use	• To vary the density of the printed image of a black print.
Adjustment Range	• The default setting is 0. -2 to +2 (step: 1)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Monochrome Density Adjustment]. *3.* Touch [Lighter] or [Darker] as necessary to correct the image density.

10.6.12 Dev. Bias Choice

Functions	• To change the setting of the developing bias voltage. • When this function is turned ON, it decreases the developing bias voltage, thereby preventing voltage leak from occurring.
Use	• Use when patches of white occur in the image in an ambience of low atmospheric pressure, such as in high altitudes. • If ON is set, the screen doesn't display [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and the Gradation Adjust is not allowed.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

10.7 CS Remote Care

10.7.1 Outlines

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone/fax line in order to control the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  a. Data which show the status of use of the machine such as total count, PM count.
  b. Data which show the abnormal situation on the machine such as where and how often errors occur.
  c. Data on adjustment
  d. Data on setting

NOTE

- **It cannot be set when the following setting is set to “ON”.**
  [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]

10.7.2 Setting up the CS Remote Care

NOTE

- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**
  See P.480

△4
- **When using a telephone line modem for connection, use the data modem which is based on the ITU-T recommendations V.34/V.32 bis/V.32 and AT command.**

Step	Procedure		
	Using the telephone line modem	Using the Fax line modem *1	Using E-mail
0	Register the device ID to the application at CS Remote Care center. The initial connection is not available unless the device ID is registered.		
1	Connecting the modem Turn the power for the modem OFF. Connect the machine and the modem with a modem cable. Connect the modem and the wall jack with a modular cable. * For connecting the modular cable, see the manual for the modem.	Be sure to remove the telephone line modem when the fax line is used.	Be sure to remove the telephone line modem when e-mail is used.
2	Clearing the RAM *1.* Select [Service Mode] → [CS Remove Care], and touch [Detail Setting]. *2.* Touch [RAM Clear]. *3.* Select Set, and touch [OK]. See P.480		

Step	Procedure		
	Using the telephone line modem	Using the Fax line modem *1	Using E-mail
3	Selecting the CS Remote Care function Select [Service Mode] → [CS Remove Care] → [System Selection], and touch [Modem].	Selecting the CS Remote Care function Select [Service Mode] → [CS Remove Care] → [System Selection], and touch [Fax].	Selecting the CS Remote Care function Select [Service Mode] → [CS Remote Care] → [System Setting], and touch [E-Mail 1] or [E-Mail 2].
4	Inputting the ID code 1. Select [Service Mode] → [CS Remote Care] → [ID Code], and touch [ID Code]. 2. Input the seven digits ID of the service person, and touch [ID Code] again. See P.478		
5	Setting the date and time for CS Remote Care 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Date & Time Setting]. 3. Input the date, time and the time zone using the 10-key pad, and touch [Set]. See P.479		
6	Setting the Center ID 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Machine Setting] → [Center ID], and input the Center ID (five digits). See P.479		
7	Setting the Device ID 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Machine Setting] → [Device ID], and input Device ID (nine digits). See P.479		
8	Proceed to step 9.		Encryption setting 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Basic Setting] and select either Encryption or No Encryption. Retransmission interval on e-mail delivery error • When selecting [E-mail2], set the retransmission interval on e-mail delivery error in software SW setting. See P.472
9	Setting the telephone number of the Center 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Machine Setting] → [Center Telephone Number]. 3. Input the telephone number of the center using the 10-keys pad and [P], [T], [W], [-]. See P.479		Setting the Respond Timeout 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Respond Timeout] and enter the response timeout using the 10-key pad. **NOTE** • **Under normal conditions, there is no need to change the default setting.** See P.479
10	Inputting the device telephone number 1. Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. 2. Touch [Machine Setting] → [Device Telephone Number]. 3. Input the Device telephone number using the 10-key pad and [P], [T], [W], [-]. See P.479		Proceed to step 11.

Step	Procedure		
	Using the telephone line modem	Using the Fax line modem *1	Using E-mail
11	Inputting the AT command for initializing the modem *1.* Select [Service Mode] → [CS Remote Care] → and touch [Detail Setting]. *2.* Touch [AT Command]. *3.* Input AT Command. **NOTE** • **Change this command only when it is necessary. (They do not need to be changed in normal condition.)** • **For details on AT command, see the manual for the modem.** See P.481	Proceed to step 12.	Setting the E-mail address *1.* Select [Service Mode] → [CS Remote Care], and touch [Server Set]. *2.* Touch [Server for RX], and set POP3 server address, POP3 login name, POP3 password and POP3 port number. See P.481 *3.* Press [Receive], and set the E-Mail address, Mail Check, Connection Time Out and APOP Authentication. See P.481 *4.* Touch [Send], and set the SMTP server address, SMTP port number, Connection Time Out, and APOP Authentication. See P.481 *5.* Touch [TX/RX Test], and press Start key to carry out a transmission/reception test. If it fails to exchange messages, see the error message to take necessary measure, and try again. See P.481
12	Setting the DIPSW for CS Remote Care **NOTE** • **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**		Proceed to step 13.
13	Executing the initial transmission *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [initial transmission] key on the right bottom of the screen to start initial transmission. *3.* When the machine is properly connected with the center, CS Remote Care setting screen will be displayed. **NOTE** • **The initial transmission key at the right bottom of the screen will be displayed only when the center ID, the device ID, Telephone number of the center and the device telephone number have been input.** See P.479		Receiving the initial connection E-mail message Sending the initial connection E-mail message from the center to the address of the copier. **NOTE** • **When receiving the initial connection E-mail message from the center while CS Remote Care-related screen is being displayed, the current setting information will be deleted, and CS Remote Care setting will be displayed.** • **For sending the initial connection E-mail, see the manual for CS Remote Care center.** • **Messages can be exchanged only between the center with initial connection and the copier.** • **The initial connection from the center will be carried out, and the E-mail address of the center will be stored in the copier.** • **When the initial registration is complete, the E-mail address of the center will be displayed by selecting [Service Mode] → [CS Remote Care] → [Detail Setting], [Basic Setting] → [E-Mail address].**

*1: Setting will be available only when the optional fax board is installed.

10.7.3 Software SW setting for CS Remote Care

NOTE

- **SW bits data are written into the NVRAM every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**

A. Input procedure

1. Select [Service Mode] → [CS Remote Care] → [Detail Setting], and touch [Software Switch Setting].
2. Touch [Switch No.], and input the switch number (two digits) using the 10-key pad.
3. Touch [Bit Assignment], and select switch bit number using the arrow keys, and input 0 or 1 using the 10-key pad.
   (For setting by hexadecimal numbers, touch [HEX Assignment] key, and input using the 10-key pad or A to F keys.)
4. Touch [Fix].

NOTE

- **About functions of each switch, see to “B. List of software SW for CS Remote Care.”**

B. List of software SW for CS Remote Care

NOTE

- **Do not change any bit not described on this table.**

SW No.	Bit	Functions	0	1	Default
SW 01	0	Dial mode	Pulse	Tone	1
	1	Reservation	—	—	0
	2	Reservation	—	—	0
	3	Reservation	—	—	0
	4	Baud rate	*1	*1	0
	5		*1	*1	0
	6		*1	*1	0
	7		*1	*1	1
SW 02	0	Emergency transmission	Do not call	Call	1
	1	Auto call on date specification	Do not call	Call	1
	2	Reservation	—	—	0
	3	Reservation	—	—	0
	4	Reservation	—	—	0
	5	Auto call on the IC Life	Do not call	Call	1
	6	Auto call on CCD clamp/gain adjustment failure	Do not call	Call	1
	7	Reservation	—	—	0
SW 03	0	Trouble display setting	*10	*10	0
	1	Auto call on the toner empty	Do not call	Call	1
	2	Reservation	—	—	0
	3	Auto call on the waste toner bottle full	Do not call	Call	1
	4 to 7	Reservation	—	—	0
SW 04	0 to 7	Reservation	—	—	0

SW No.	Bit	Functions	0	1	Default
SW 05	0	Modem redial interval	*2	*2	1
	1		*2	*2	1
	2		*2	*2	0
	3		*2	*2	0
	4 to 7	Reservation	—	—	0
SW 06	0	Modem redial times	*3	*3	0
	1		*3	*3	1
	2		*3	*3	0
	3		*3	*3	1
	4		*3	*3	0
	5		*3	*3	0
	6		*3	*3	0
	7	Reservation	—	—	0
SW 07	0	Redial for response time out	Do not redial	Redial	1
	1 to 7	Reserved	—	—	0
SW 08	0	Retransmission interval on e-mail delivery error	*4	*4	0
	1		*4	*4	1
	2		*4	*4	1
	3		*4	*4	0
	4 to 7	Reservation	—	—	0
SW 09	0	Retransmission times on e-mail delivery error	*5	*5	0
	1		*5	*5	1
	2		*5	*5	0
	3		*5	*5	1
	4		*5	*5	0
	5		*5	*5	0
	6		*5	*5	0
	7	Reservation	—	—	0
SW 10	0 to 7	Reservation	—	—	0
SW 11	0	Timer 1 RING reception → CONNECT reception	*6	*6	0
	1		*6	*6	0
	2		*6	*6	0
	3		*6	*6	0
	4		*6	*6	0
	5		*6	*6	1
	6		*6	*6	0
	7		*6	*6	0

SW No.	Bit	Functions	0	1	Default
SW 12	0	Timer 2 Dial request completed → CONNECT reception	*7	*7	0
	1		*7	*7	0
	2		*7	*7	0
	3		*7	*7	0
	4		*7	*7	0
	5		*7	*7	0
	6		*7	*7	1
	7		*7	*7	0
SW 13	0 to 7	Reservation	—	—	0
SW 14	0	Timer 4 Line connection → Start request telegram delivery	*8	*8	0
	1		*8	*8	0
	2		*8	*8	0
	3		*8	*8	0
	4		*8	*8	0
	5		*8	*8	1
	6		*8	*8	0
	7		*8	*8	0
SW 15	0	Timer 5 Wait time for other side’s response	*9	*9	0
	1		*9	*9	1
	2		*9	*9	1
	3		*9	*9	1
	4		*9	*9	1
	5		*9	*9	0
	6		*9	*9	0
	7		*9	*9	0
SW 16	0 to 7	Reservation	—	—	0
SW 17	0 to 7	Reservation	—	—	0
SW 18	0	Attention display To set weather to give the alarm display when using the modem but the power for the modem is OFF.	Do not call	Call	1
	1 to 7	Reservation	—	—	0
SW 19 to SW 40	0 to 7	Reservation	—	—	0

*1: Baud rate

Mode	01-7	01-6	01-5	01-4
9600 bps	0	1	1	0
19200 bps	0	1	1	1
“38400 bps”	1	0	0	0

*2: Modem redial interval

Mode	05-3	05-2	05-1	05-0
1 minute	0	0	0	1
2 minutes	0	0	1	0
“3 minutes”	0	0	1	1
4 minutes	0	1	0	0
5 minutes	0	1	0	1
6 minutes	0	1	1	0
7 minutes	0	1	1	1
8 minutes	1	0	0	0
9 minutes	1	0	0	1
10 minutes	1	0	1	0

*3: Modem redial times

Mode	06-6	06-5	06-4	06-3	06-2	06-1	06-0
0 to 9 times	000 0000 to 000 1001						
“10 times”	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

*4: Retransmission interval on e-mail delivery error

Mode	08-3	08-2	08-1	08-0
0 minute	0	0	0	0
10 minutes	0	0	0	1
20 minutes	0	0	1	0
30 minutes	0	0	1	1
40 minutes	0	1	0	0
50 minutes	0	1	0	1
“60 minutes”	0	1	1	0
70 minutes	0	1	1	1
80 minutes	1	0	0	0
90 minutes	1	0	0	1
100 minutes	1	0	1	0
110 minutes	1	0	1	1
120 minutes	1	1	0	0

*5: Retransmission times on e-mail delivery error

Mode	09-6	09-5	09-4	09-3	09-2	09-1	09-0
0 to 9 times	000 0000 to 000 1001						
“10 times”	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

*6: Timer 1 (RING reception → CONNECT reception)

Mode	11-7	11-6	11-5	11-4	11-3	11-2	11-1	11-0
0 to 31 sec	0000 0000 to 0001 1111							
“32 sec”	0	0	1	0	0	0	0	0
33 to 255 sec	0010 0001 to 1111 1111							

*7: Timer 2 (Dial request completed → CONNECT reception)

Mode	12-7	12-6	12-5	12-4	12-3	12-2	12-1	12-0
0 to 63 sec	0000 0000 to 0011 1111							
“64 sec”	0	1	0	0	0	0	0	0
65 to 255 sec	0100 0001 to 1111 1111							

*8: Timer 4 (Line connection → Start request telegram delivery)

Mode	14-7	14-6	14-5	14-4	14-3	14-2	14-1	14-0
0 to 31 (x 100 msec)	0000 0000 to 0001 1111							
“32 (x 100 msec)”	0	0	1	0	0	0	0	0
33 to 255 (x 100 msec)	0010 0001 to 1111 1111							

*9: Timer 5 (Wait time for other side’s response)

Mode	15-7	15-6	15-5	15-4	15-3	15-2	15-1	15-0
0 to 29 sec	0000 0000 to 0001 1101							
“30 sec”	0	0	0	1	1	1	1	0
31 to 255 sec	0001 1111 to 1111 1111							

*10: Trouble display setting

- Select the message for the trouble automatic notification when the machine is connected to the CSRC from among the following two, either the message when the machine is connected to the CSRC (The service representative will automatically be notified.) or the message when the machine is not connected to the CSRC (Please contact your service representative.).
  If the message when the machine is not connected to the CSRC is selected in the condition in which the machine is connected to the CSRC, the CS Remote Care center is automatically notified of any trouble that may occur and the message given on the control panel is that when the machine is not connected to the CSRC.
- This function is available only when the function enhanced version 3 or later firmware is installed.

Mode	03-0
“The message when the machine is not connected to the CSRC is given.”	0
The message when the machine is connected to the CSRC is given.	1

10.7.4 Setup confirmation

- **Follow the steps below to make sure that CS Remote Care has been properly set up.**

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care].
3. Check to make sure that only selected item is displayed.

10.7.5 Calling the maintenance

- When CE starts maintenance, inputting the ID code of CE (seven digits: numbers which CE can identify. They are controlled by the distributor.) will transmit the information to the Center side and tells that the maintenance has started. When the maintenance is finished, touching [Maintenance Complete] key will transmit the information to the center and tells that it is finished.

A. When starting the maintenance

1. Select Service Mode and touch [CS Remote Care].
2. Touch [ID Code], and input ID Code.
3. Touch [ID Coke].

* The Start key blinks while maintenance is being carried out.

B. When finishing the maintenance

1. Select Service Mode and touch [CS Remote Care].
2. Touch [Maintenance Complete].

10.7.6 Calling the center from the administrator

- When the CS Remote Care setup is complete, the administrator can call the CS Remote Care center.

1. Select [Administrator Settings], and touch [System Connection].
2. Touch [Admin. transmission].
3. Press the Start key.
   When the setup is not complete or another transmission is being carried out, the Admin. transmission key will not be displayed, and the transmission is not available.

NOTE

- **For transmitting data of the machine by calling the center on the specified date and time, refer to the manual for CS Remote Care center.**

10.7.7 Checking the transmission log

- The transmission log list will be output to be checked.

1. Select [Service Mode] → [CS Remote Care], and touch [Detail setting].
2. Touch [Communication Log Print].
3. Load tray 1 or bypass tray with A4S paper.
4. Press the Start key to output transmission log.

10.7.8 Detail on settings

A. System Selection

Functions	• To select the system type for remote diagnosis.
Use	• Use to newly build or change the system.
Setting/ Procedure	• Select E-Mail, Modem, or Fax. • Fax is available only when the optional fax kit is being installed. E-Mail Modem Fax

B. ID Code

Functions	• To register the service ID.
Use	• Use when registering and changing service ID.
Setting/ Procedure	• Enter a 7-digit code from the 10-key pad. (0000001 to 9999999) <Registration> • Touch ID code and enter the service ID. • Touch [ID code] to register the ID. • The [Detail Setting] will appear when the ID has been registered.

C. Detail Setting

(1) Basic Setting

Functions	• Execute the primary setting.
Use	• Use to change the set contents. • Use to register the machine to the CS Remote Care center.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [CS Remote Care]. *3.* Touching the [Detail Setting] will display the primary setting. <Center Setting> • Set the center ID, Device ID, and the phone No. • When e-mail is selected for system and all setup procedures are completed, e-mail address of the center is displayed. * When entering the phone number, 10-keys and keys on the screen have following meanings. [-] Pose : Waits to start transmitting after dialing [W] Wait : Detects the dial tone of the other end [T] Tone dial : Carry out tone dialing [P] Pulse dial : Carry out pulse dialing [*], [#] : To be used as necessary <Schedule (Only when the [E-Mail2] is selected)> • Set the schedule of notification to the center. • Up to three different notification schedules can be registered. • Select the notification cycle from [Day], [Week], or [Month]. When selecting [Day] for the notification cycle, set the Day Frequency. When selecting [Week] for the notification cycle, set the Week Frequency and day of the week. When selecting [Month], set the Month Frequency and the date of the month. <Center Notification (Only when the [E-Mail2] is selected)> • Select the items of data that will be sent to the center in one-way transmission through E-Mail2. • The following table shows each of the notification item keys and corresponding data.

[1]	Sales count data	[7]	EKC data
[2]	Error count data	[8]	Adjustment data
[3]	Service count data	[9]	Coverage data
[4]	Life count data Life cycle data	[10]	Not used
[5]	CSRC-System data Device config data	[11]	Not used
[6]	History data	[12]	Not used

NOTE

- **Multiple items of data can be selected and sent at one time. However, be sure that only EKC data cannot be sent together with other items of data.**

Initial Transmission

- Touching the Initial Transmission key will sent the information to the CS Remote Care center to register the machine.
  (Only when the modem or fax is selected on the system Input.)

(2) Date & Time Setting

Functions	• To set the data and time-of-day.
Use	• Use to set or change the date and time-of-day.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [CS Remote Care]. *3.* Touch [Detail Setting] to access Date & Time Setting. *4.* Enter the date (month, day and year), time-of-day, and the time zone from the 10-key pad. *5.* Touch [SET] to start the clock.

(3) RAM Clear

Functions	• To clear the following data at the center ID Code, Primary Setting, Date/Time Input (Time Zone), Software SW Setting and AT Command.
Use	• To be used for setting CS Remote Care. • To be used for reset the every data of the center to default. **NOTE** • **If RAM clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.**
Setting/ Procedure	• The default setting is “Unset.” Set “Unset”

(4) Communication Log Print

Functions	• To print out the communication log.
Use	• Use to output and use the communication log.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [CS Remote Care]. *3.* Touch [Detail Setting] to access communication log print. *4.* Load tray 1 or bypass tray with A4S or $8^1/_2$ x 11 paper. *5.* Press Start key to print out the communication log.

(5) Software Switch Setting

Functions	• To change the CS Remote Care settings.
Use	• To change the settings for CS Remote Care as necessary.
Setting/ Procedure	• Refer to “Software SW setting for CS Remote Care” for the setting. See P.472

(6) Response Time Out

Functions	• It sets the intervals for resending e-mails when transmission error occurred. • It can be set only when [E-Mail] is selected by System Setting.
Use	• To use when changing the intervals for resending e-mails when transmission error occurred.
Setting/ Procedure	• The default setting is 60 minute. “60 minute” (10 to 1440)

D. AT Command

Functions	• To set the command to be issued at the time of modem initialization. • This setting is available only when [Modem] is selected for the system setting.
Use	• To set the command to be issued at the time of modem initialization.
Setting/ Procedure	• Enter the command and touch [SET] to register.

E. Server Setting

- Server Setting can be set only when [E-Mail] is selected by System Setting.

(1) Server for RX

<POP3 server>

Functions	• To set the POP3 server address used for the CS Remote Care.
Use	• To set the address of the POP3 Server. • POP3 server address can be set with IP address or the domain name.
Setting/ Procedure	<Input IP Address> • IP address version 4 format [0 to 255].[0 to 255].[0 to 255].[0 to 255] <Input FQDN> • Enter the domain name.

<POP3 login name>

Functions	• To set the logon name for the POP3 server used for the CS Remote Care.
Use	• To set the logon name for the POP3 server.
Setting/ Procedure	• The default setting is No. • Up to 64 characters (alphanumeric characters and symbols) can be used.

<POP3 password>

Functions	• To set the logon password for the POP3 server used for the CS Remote Care.
Use	• To set the logon password for the POP3 server.
Setting/ Procedure	• The default setting is No. • Up to 15 characters (alphanumeric characters and symbols) can be used.

<POP3 port number>

Functions	• To set the POP3 port number used for the CS Remote Care.
Use	• To set the port number for the POP3 server.
Setting/ Procedure	• The default setting is 110. “110” (1 to 65535)

(2) Receive

<E-mail Address>

Functions	• To set the e-mail address used for the CS Remote Care.
Use	• To set the e-mail address.
Setting/ Procedure	• The default setting is No. • Up to 129 characters (alphanumeric characters and symbols) can be used.

<Mail Check>

Functions	• To set whether or not to use mail check and the time interval for the POP server used for the CS Remote Care.
Use	• To set whether or not to use mail check and the time interval for the POP server used for the CS Remote Care. • To change the time interval for mail check.
Setting/ Procedure	• The default setting is No. “No” (1 to120 min., No)

<Connection timeout>

Functions	• To set the timeout period for connection during reception.
Use	• To change the timeout period for connection during reception.
Setting/ Procedure	• The default setting is 60 Sec. “60 Sec” (30 to 300 Sec)

<APOP Authentication>

Functions	• To set whether or not to authenticate the APOP during reception.
Use	• To authenticate the APOP during reception.
Setting/ Procedure	• The default setting is No. Yes “No”

(3) Send

<SMTP server>

Functions	• To set the SMTP sever address for transmission used for the CS Remote Care.
Use	• To set the SMTP server address. • SMTP server address can be set by the IP address or the domain name.
Setting/ Procedure	<Input IP Address> • IP address version 4 format [0 to 255].[0 to 255].[0 to 255].[0 to 255] <Input FQDN> • Enter the domain name.

<SMTP port number>

Functions	• To set the SMTP port number for transmission used for the CS Remote Care.
Use	• To set the port number of the SMTP server.
Setting/ Procedure	• The default setting is 25. “25” (1 to 65535)

<SMTP Connection Time-out>

Functions	• To set the timeout period for transmission.
Use	• To change the timeout period for connection during transmission.
Setting/ Procedure	• The default setting is 60 Sec. “60 Sec” (30 to 300 Sec)

<Authentication Setting>

Functions	• To set whether or not to authenticate during transmission via SMTP server.
Use	• To use when authenticating during transmission. Available authentication mode: POP Before SMTP, SMTP authentication
Setting/ Procedure	• The default setting is OFF. “OFF” POP Before SMTP SMTP Authentication * Setting to “POP Before SMTP” will set the time for POP Before SMTP. • The default setting is 60 Sec. “60 Sec” (0 to 60 Sec) * When setting to SMTP authentication, touch the “Setting Check” key for authentication. User ID : Enter the user ID for SMTP authentication. Password : Enter the password for SMTP authentication. Domain name : Enter the domain name for SMTP authentication.

(4) TX/RX Test

Functions	• To determine the correct transmission and reception using CS Remote Care.
Use	• Use to determine the correct transmission and reception using CS Remote Care.
Setting/ Procedure	• Press the Start key to let the machine start the transmission and reception test. • The test procedure and result will be displayed on the screen.

(5) Data Initialization

Functions	• To initialize the contents for the sever setting.
Use	• Use to initialize the contents for the server setting.
Setting/ Procedure	• The default setting is No. Yes “No”

10.7.9 List of the CS Remote Care error code

A. When connecting by modem

Error code	Error	Solution
0001	The line is busy (Busy detection)	• Transmit again manually.
0002	Failure of the Modem default setting at transmitting (When the transmission completes with modem initial setting failed)	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0003	Timeout of CONNECT at transmitting (No response to ATD)	• Transmit again manually • Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0005	Timeout of CONNECT at receiving (No response to ATA)	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0006	Shut down of the data modem line (Host) (Carrier OFF is detected)	• No solution, because the line is shut down at the host side.
0008	Timeout of start request telegram delivery (Start request telegram is not delivered after line connection)	• Transmit again manually.
0009	Timeout of finish request telegram delivery (Finish request telegram is not delivered (Start of shut down).)	• Transmit again manually.
000A	Receiving rejection (Receiving is made when the main body is set to reject receiving.)	• Check the setting condition of the host side. • Check the setting condition of the main body side.
000B	RS232C driver over run (When the modem detects over run.)	• If the same error is detected several times, turn the modem power OFF and ON.
000C	If the same error is detected several times, turn the modem power OFF and ON.	• If the same error is detected several times, turn the modem power OFF and ON.
000D	Break Interrupt (BI) indicator (When the modem detects Break Interrupt (BI) indicator.)	• If the same error is detected several times, turn the modem power OFF and ON.
0011	Baud rate ERROR (When selected baud rate is out of the specification (9600 bps to 38400 bps).)	• Check the baud rate of the software DipSW.
0018	Machine ID has already been registered (Request telegram 2 (SET-UP) comes from the main body that has already registered machine ID.)	• Set the initial registrations again for all including the host side.
0019	Center ID error (Center ID of the host is not identical with the one of start request telegram.)	• Check center ID setting of the main body side. • Check center ID setting of the main body side.

Error code	Error	Solution
001A	Device ID inconsistency (Device ID of the host is not identical with the one of start request telegram.)	• Check device ID setting of the main body side. • Check the setting of the host side.
001B	Device ID unregistered (Request telegram 2 (Constant data transmitting, emergency call) comes from the main body that has not registered machine ID yet.)	• Check device ID setting of the main body side. • Check the setting of the host side.
001E	Impossible to change (during printing) (Setting cannot be changed because the setting change is made during the machine is printing or starts printing.)	• Try again when the machine is not printing.
0020	Timeout of telegram delivery (At waiting mode of telegram delivery the machine fails to receive the telegram in a given time.)	• Try communication again.
0027	Transmission / receiving collision (Receiving is detecting during transmitting processing)	• Try communication again.

NOTE

- **When a code other than the ones listed above is displayed, contact KMBT and inform the error code.**

B. When connecting by e-mails

Error code	Error	Solution
0001	Connection timeout during transmission	• Check the SMTP server on User side.
0###	Transmission error ###: SMTP responding code (hexadecimal)	• Check the SMTP server on User side.
0003	Connection timeout when receiving	• Check the POP3 server on User side.
0005	Receiving error	• Check the POP3 server on User side.
1030	Machine ID mismatching • Received an e-mail which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	• Ask the host to send another instruction mail for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	• Check the status of the machine registration on host side.
1084	Date expired • Expiration date for data modification command has passed.	• Ask the host to send another instruction mail for modifying.
1092	Received an error mail when center setup is not complete	• Check the status of the machine registration on host side.
2039	Socket is not connected. • LAN cable on the copier side is detached.	• Check the SMTP server and POP3 server on user side.
203E	Network is down. • LAN cable on the copier side is detached.	• Check the connection between the copier on the user's side and the network connector. • Check the network environment on the user's side.
3000	POP3_AUTHORIZATION_ERR	• Check the POP3 server environment on user's side.
3001	POP3_TRANSACTION_ERR	• Check the POP3 server environment on user's side.
3002	POP3_CONNECT_ERR	• Check the POP3 server environment on user's side.
3003	POP3_TIMEOUT_ERR	• Check the POP3 server environment on user's side.
3004	POP3_FORMAT_ERR	• Check the POP3 server environment on user's side.
3005	POP3_MEMORY_ERR	• Check the POP3 server environment on user's side.
3006	POP3_JOBID_ERR	• Check the POP3 server environment on user's side.
3007	POP3_NO_DATA_ERR	• Check the POP3 server environment on user's side.

Error code	Error	Solution
3008	POP3_DELETE_FAIL_ERR	• Check the POP3 server environment on user's side.
3009	POP3_MAILBOX_FULL	• Check the POP3 server environment on user's side.
4103	Not ready • Tried to transmit or receive an e-mail when the machine was not yet in the e-mail receiving status after power was turned ON.	• Wait for a while and try transmitting again.
4104	SMTP channel not ready	• Wait for a while and try transmitting again.
4105	POP3 channel not ready	• Wait for a while and try transmitting again.
4106	Not Ready other than the ones listed above.	• Wait for a while and try transmitting again.

NOTE

- **When a code other than the ones listed above is displayed, contact KMBT and inform the error code.**

C. When connecting by Fax modem

Error code	Error	Solution
T50	Host terminal ID not correct	• Check the telephone number set for host.
R80	Serial number received from the host not correct.	• Check the status of the Machine registration on host side.
R81	Disconnection of writing instruction from host during machine is running.	• Wait for a while and try transmitting again.
R82	Disconnection of FAX-CSRC instruction when FAX-CSRC is not allowed.	• Check the status of the Machine registration on host side.
R83	Host command error.	• Contact KMBT and inform the error code.
R84	NVRAM writing error.	• Contact KMBT and inform the error code.

NOTE

- **When a code other than the ones listed above is displayed, see the FK-502 Service Manual.**

10.7.10 Troubleshooting for CS Remote Care

If communication is not done properly, check the condition by following the procedures shown below.

1. Shift the screen in the order of [Service Mode] → [CS Remote Care] → [Detail Setting]. At this time, in the cases of initial transmitting / administrator transmitting / maintenance start transmitting / maintenance finish transmitting, the communication result will be displayed at the top of the screen.

* For the communication result, the following message will be displayed based on its success or failure.

Display of communication result	Cause	Solution
Communicating	—	—
Communication trouble with the center	Although the machine tries to communicate with the center, there is any trouble and the communication completes unsuccessfully.	• See the list of error message and confirm the corresponding point. See P.484
Complete successfully	—	—
Modem trouble	Although the machine tries to communicate with the center, there is any trouble in the modem.	• Check if the power of modem in ON. • Check if there is any problem in connection between the modem and the main body.
Busy line	Although the machine tries to communicate with the center, the line to the center is busy.	• Communicate with the center again.
No response	Although the machine tries to communicate with the center, there is no response from the center.	• Communicate with the center again. • Check the communication environment of the center side.

10.8 System 1

10.8.1 Marketing Area

<table>
<tr><td>Functions</td><td>• To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.</td></tr>
<tr><td>Use</td><td>• Upon setup.</td></tr>
<tr><td>Setting/
Procedure</td><td><Marketing Area>
• Select the applicable marketing area and touch [END] to set the marketing area.

JAPAN US Europe
Others1 Others2 Others3 Others4

✻ These are the languages that can be selected on the Utility screen according to different marketing area settings:
<table>
<tr><td>Japan</td><td>English, Japanese</td></tr>
<tr><td>US</td><td>English, French, Spanish, Japanese</td></tr>
<tr><td>Europe</td><td>English, French, Italian, German, Spanish, Japanese</td></tr>
<tr><td>Others1</td><td>English, French, Spanish, Japanese</td></tr>
<tr><td>Others2</td><td>English, French, Spanish, Traditional Chinese, Hungle</td></tr>
<tr><td>Others3</td><td>English, Simplified Chinese</td></tr>
<tr><td>Others4</td><td>English, Traditional Chinese</td></tr>
</table>
<Fax Target>
1. Touch the [Fax Target].
2. Select the applicable marketing area using [+] and [-] keys, and touch [END].</td></tr>
</table>

10.8.2 Tel/Fax Number

Functions	• To enter the tel/fax number of the service contact that will appear on the control panel when a malfunction occurs in the machine.
Use	• Upon setup.
Setting/ Procedure	• Enter the tel/fax number (19 digits) from the 10-key pad. • Use Interrupt key to enter “-.”

10.8.3 Serial Number

Functions	• To register the serial numbers of the machine and options. • The numbers will be printed on the list output. • To use the serial number as machine ID during CS Remote Care communication.
Use	• Upon setup. **NOTE** • **When main power switch was turned ON while the serial No. was not entered, the message to require entering the serial No. will be displayed.** • **Do not change the serial number registered in the machine. If memory data is lost and entering the serial number is required, enter the original correct serial number.** **Be careful to enter the correct serial number since characters other than alphanumeric can be also entered. CSRC communication is not available if a wrong serial number is entered.** • **The serial number of "Printer" can be checked through the following: [Utility] → [Meter Count] → [Check Details].**
Setting/ Procedure	• Type the serial numbers. Printer, Scanner, ADF, LCT, Sorter/FN, Duplex, Vendor, Fax1, Fax2, RU, ZU (Not used)

10.8.4 No Sleep

Functions	• To display the option of "OFF" for the sleep mode setting screen available from administrator settings.
Use	• To display the option of "OFF" for the sleep mode setting. **NOTE** • **The sleep mode will begin in 48 hours even if it sets it to "OFF."**
Setting/ Procedure	• The default setting is "Prohibit." Permit "Prohibit"

10.8.5 Foolscap Size Setting

Functions	• To set the size for foolscap paper.
Use	• Upon setup. • To change the size for foolscap paper.
Setting/ Procedure	• Select the size from among the following five. 220 x 330 mm $8^1/_2$ x 13 $8^1/_4$ x 13 $8^1/_8$ x $13^1/_4$ 8 x 13

10.8.6 Original Size Detection

Functions	• To change the document size detection table.
Use	• Use to change the setting for the document size detection table. Copy Glass : To change the size detection table for the document glass.
Setting/ Procedure	<Copy Glass> • The default setting is "Table1." "Table1" Table2 **NOTE** • **Table 2 can be set only when original size detection 2 sensor is being mounted.**

10.8.7 Install Date

Functions	• To register the date the main body was installed.
Use	• Upon setup.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Select the key as follows. [System 1] → [Install Date]. *3.* Enter the date (Year 4 digit → Month 2 digit → date 2 digit) from the 10-key pad. *4.* Touch [Entry] to set the date of installation.

10.8.8 Initialization

A. Data Clear

Functions	• To initialize the setting data.
Use	• To clears the setting data. For details on items to be cleared, see "Contents to be cleared by reset function." See P.560 **NOTE** • **When removing or installing the hard disk after registering the data below, be sure to clear the data.** **Referring data: One-touch registration, user authentication/account track.**
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Select the key as follows. [System 1] → [Initialization] → [Data clear]. *3.* Press the Start key. *4.* When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

B. System Error Clear

Functions	• To reset the trouble data.
Use	• Use to clear the [Jam], [Trouble], [Error] displays, and other improper displays. For details on items to be cleared, see "Contents to be cleared by reset function." See P.560
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Select the key as follows. [System 1] → [Initialization] → [System Error Clear]. *3.* Press the Start key. *4.* When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

10.8.9 Charging CH cleaning

A. Cleaning

Functions	• Cleaning operation can be executed to the comb electrode of the imaging unit /K.
Use	• When image problems occur, you can execute the cleaning operation manually.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Select the key as follows. [System 1] → [Charging CH cleaning] → [Cleaning]. *3.* Press the Start key. *4.* When the Start key changes its lighting from red to blue, you can confirm that the cleaning operation has been completed.

B. Self-Cleaning

Functions	• This setting allows you to select the self cleaning of the comb electrode section in the imaging unit /K.
Use	• This setting can be used to temporarily stop the self cleaning operation in order to address problems. ON : The self cleaning operation occurs every 2,700 sheets of print, synchronizing the transfer belt cleaning operation. OFF : The machine does not perform the self cleaning operation. **NOTE** • **For color imaging units, the comb electrode section needs to be cleaned by hand every time when a toner cartridge of the corresponding color is replaced.**
Setting/ Procedure	• The default setting is ON. “ON” OFF

10.8.10 Trouble Isolation

<table>
<tr><td>Functions</td><td>• Individual units and options have a set or unset setting for the trouble isolation function.</td></tr>
<tr><td>Use</td><td>• When a problem occurs, this function enables the continuous use of the units that are not affected by separately controlling them and isolating other units that have a problem.
• The machine isolates only units that have a “set” setting.
NOTE
• **The malfunction detection mechanism is not applied to units and options that are being isolated.**
• This function can be selected for the following units and options.
<table>
<tr><td>Tray 1</td><td>Half-Fold/Tri-Fold Center Stapling</td><td>Scanner</td></tr>
<tr><td>Tray 2</td><td>Post Inserter</td><td></td></tr>
<tr><td>Tray 3</td><td>Z fold</td><td></td></tr>
<tr><td>Tray 4</td><td>Punch</td><td></td></tr>
<tr><td>LCT</td><td>Staple</td><td></td></tr>
<tr><td>manual</td><td></td><td></td></tr>
</table>
• Though trouble isolation is not selected, if the specified malfunctions occur on the above listed units or options, an alert screen appears and asks users whether to isolate the units or options where malfunction occurs.
See the “Trouble shooting” section for the corresponding trouble codes.
See P.605</td></tr>
<tr><td>Setting/ Procedure</td><td>• The default setting is Unset for individual units and options.
Set “Unset”
• After changing the setting, touch [Decision] and turn the main power switch OFF and ON to make the new setting effective.</td></tr>
</table>

10.8.11 IU Life Setting

- This is displayed only when the function enhanced version 2 or later firmware is installed.

Functions	• To set the life threshold for imaging units.
Use	• Use this setting when a gap appears between the actual life value of imaging unit and the life specification value due to the way * a machine is used. • Comparing the PC drum rotation time with the PC drum rotation time calculated based on the number of printed pages, the machine detects the end of unit life using the one that reaches the life specification value earlier. This setting aims to extend the life threshold for the PC drum rotation time and achieve a longer imaging unit life. Normal : detects the end of life when the life specification value is reached. Suspend : detects the end of life when a value greater (longer) than the life specification value is reached. *The product specification value is determined based on what types of printing are made on the machine. If the types of printing made on the machine are different from the specified printing conditions, the life value of the imaging unit tends to be different from the life specification value. See conditions for life specification values in the service manual titled maintenance for more information on printing conditions. See P.27 **NOTE** • **When "Suspend" is selected, images printed after the life specification value is out of guarantee.** **The life counter value of imaging unit is accessed from [Service Mode] → [Counter] → [Life].** • **Before making this setting, be sure to check that the machine does not display any message that warns each of imaging units, fusing unit, or image transfer belt unit reaches their life value.**
Setting/ Procedure	• The default setting is Normal. "Normal" Suspend **NOTE** • **When the setting has been changed, turn off the sub power switch and turn it on again.**

10.8.12 Post card transfer table

Functions	• This setting allows you to select the transfer table to be used for thick3 postcards.
Use	• For the use of thick 3 postcards, you can select the transfer table suitable for postcards. • This setting is used to improve transfer performance to postcards. Post. : The postcard 2nd image transfer table is used when printing on thick3 postcards. Thick 3 : The normal thick3 2nd image transfer table is used when printing on thick 3 postcards.
Setting/ Procedure	• The default setting is Thick 3. Post. "Thick 3"

10.8.13 Change Warm Up Time *bizhub C451 only

- This function is only for Taiwan.

Functions	• To change the warm up time to be spent before the start of monochrome printing.
Use	• When a paper curl problem occurs in monochrome printing immediately after the completion of warm up operation under Mode 1 selection (30 seconds for monochrome prints), the mode selection needs to be changed into Mode 2 (60 seconds for monochrome prints). Mode 1: Default, 30 seconds of warm up time for monochrome printing Mode 2: 60 seconds of warm up time for monochrome printing
Setting/ Procedure	• The default setting is Mode 1. "Mode 1" Mode 2

10.8.14 Machine State LED Setting

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

<table>
<tr><td>Functions
Use</td><td>• To set how to display main body statuses on the machine state LED (state display lamp, paper empty lamp).
• Each of Type1 and Type2 has the following LED display forms.
<table>
<tr><th colspan="2">Machine State LED Setting</th><th>Type1</th><th>Type2</th></tr>
<tr><td rowspan="5">Warning statuses</td><td>Attention
• Toner supply door open
• Improper toner cartridge placement</td><td>Blinking</td><td>Blinking</td></tr>
<tr><td>Near life</td><td>Blinking</td><td>Unlit</td></tr>
<tr><td>Alert code</td><td>Unlit</td><td>Unlit</td></tr>
<tr><td>Trouble isolation</td><td>Blinking</td><td>Blinking</td></tr>
<tr><td>Fatal error
• Trouble code
• Jam
• Door opened
• Life stop</td><td>Lit</td><td>Lit</td></tr>
<tr><td rowspan="4">Amount of paper remaining (Tray 1 and 2)</td><td>100 % to near empty</td><td>Unlit</td><td>Unlit</td></tr>
<tr><td>Near empty</td><td>Blinking</td><td>Unlit</td></tr>
<tr><td>Empty</td><td>Lit</td><td>Lit</td></tr>
<tr><td>Being lifted up
Door opened or closed</td><td>Unlit</td><td>Unlit</td></tr>
<tr><td rowspan="4">Amount of paper remaining (Tray 3 and 4, LCT)</td><td>100 % to near empty</td><td>Unlit</td><td>Unlit</td></tr>
<tr><td>Near empty</td><td>Blinking</td><td>Unlit</td></tr>
<tr><td>Empty</td><td>Lit</td><td>Lit</td></tr>
<tr><td>Being lifted up
Door opened or closed</td><td>Unlit</td><td>Unlit</td></tr>
</table>
</td></tr>
<tr><td>Setting/ Procedure</td><td>• Each default setting is Type1.
"Type 1" Type 2
<b>NOTE</b>
• <b>[Type 2] is the default setting, if the firmware of function enhanced version 3 or later is mounted.</b></td></tr>
</table>

10.9 System 2

10.9.1 HDD

Functions	• Not used.
Use	
Setting/ Procedure	

10.9.2 Image Controller Setting

Functions	• To set the type of the controller. • [Peripheral Mode] appears when [Others] is selected.
Use	• When setting up the controller.
Setting/ Procedure	Image Controller Setting • Select the controller to be used. “Controller 0” : The standard controller is used. Controller 1 : The optional image controller IC-409 is used. Controller 2 : undefined. Controller 3 : undefined. Others : undefined. Peripheral Mode • Select the operating mode of the Scanner. Mode 1: undefined. Mode 2: undefined. Mode 3: undefined. **NOTE** • **When the following setting is “ON”, this setting should be set to “Controller 0”. [Administrator Settings] → [Security Settings] → [Enhanced Security Mode] When [Enhanced Security Mode] is set to “ON”, this setting cannot be changed.** • **After changing setting, make sure to turn off the main power switch and turn it on again more than 10 seconds after.** **Note on returning the setting from “Controller 1” to “Controller 0”.** • Selecting “Controller 0” will initialize the following settings made while “Controller 1” was selected. Reset the following items as necessary when using the internal standard controller. <Control panel on the machine> • Setting items included in [Network Setting] available from [Administrator Setting]. (Except [Status Notification Setting] and [Prefix/Suffix Setting] available from the following setting. [Administrator Settings] → [Network Settings] → [Detail Settings].) • The following setting [Administrator Settings] → [User Authentication /Account Track] →[General Settings] → [External Server] • The following setting [Administrator Settings] → [System Connection] → [IS OpenAPI Setting] • Mailbox Destination (scan) • Information on the original specified by the program destination <Page Scope Web Connection> • SSL/TLS

10.9.3 Option Board Status

Functions	• To set when the optional fax mount kit, scan accelerator is mounted.
Use	• Use when setting up the optional fax mount kit, scan accelerator is mounted.
Setting/ Procedure	• Setting modes are Fax (circuit 1), Fax (circuit 2) and JPEG. • The default settings are “Unset.” Fax (circuit 1) : Set “Unset” Fax (circuit 2) : Set “Unset” JPEG : Set “Unset” **NOTE** • **When the setting has been changed, turn off the main power switch and turn it on again more than 10 seconds after.**

10.9.4 Consumable Life Reminder

Functions	• To select whether or not to give the display of PM parts lifetime PM parts lifetime display: An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part. • Applicable units: Transfer belt unit, fusing unit, imaging unit (C, M, Y, K)
Use	• Use to select not to give the display of PM parts lifetime.
Setting/ Procedure	• The default setting is “Yes.” “Yes” No

10.9.5 Unit Change

Functions	• To select who is to replace a unit. • When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit. When “User” is selected : Printing is inhibited. When “Service” is selected : Life warning.
Use	• Upon setup
Setting/ Procedure	• The following are the default settings: US, Japan, Others 4 Europe, Others1/2/3 Toner Cartridge : “User” Service “User” Service Imaging Unit : User “Service” “User” Service Waste Toner Box : User “Service” “User” Service Punch Dust Box : User “Service” “User” Service

10.9.6 Software Switch Setting

Functions Use	• To set the operating characteristic of each function from software switch depending on what types of printing are normally made.
Setting/ Procedure	*1.* Touch [Software Switch Setting]. *2.* Touch [Switch No.] and enter the intended switch number with the ten-key pad. *3.* Touch [Bit Assignment]. *4.* Use [←] or [→] to select a bit. To set the bit, enter 0 or 1 with the ten-key pad. *5.* To set the bit in hex, touch [HEX Assignment] and use the ten-key pad and [A] to [F] keys to enter numbers and characters. *6.* Touch [Fix].

A. Setting items in the software switch setting

(1) ACS mode control change

Functions	• To change the 1st image transfer roller pressure/retraction operation control in ACS mode.
Use	• When a user makes mainly monochrome prints, selecting 01 may allow avoiding the PC drum wear-out caused by unnecessary rotation of color imaging units. HEX Assignment 00: The color print (pressed) position is set as the default position of the 1st image transfer roller. (Default setting) HEX Assignment 01: The monochrome print (retracted) position is set as the default position of the 1st image transfer roller.
Setting/ Procedure	*1.* Touch [Software Switch Setting]. *2.* Touch [Switch No.] and enter “50” with the ten-key pad. *3.* Touch [HEX Assignment] and enter “00” or “01” with the ten-key pad. *4.* Touch [Fix].

(2) Secure Print shortcut key display in the User Box mode menu

- This function is available only when the function enhanced version 4 or later firmware is installed.

Functions Use	• To display the [Secure Print] shortcut key in the User Box mode menu (the default setting is not shown). bit0-0: Does not display the shortcut key bit0-1: Displays the shortcut key
Setting/ Procedure	*1.* Touch [Software Switch Setting]. *2.* Touch [Switch No.] and enter “69” with the ten-key pad. *3.* Touch [BIT Assignment] and select “bit0” with [←]/[→] key. *4.* Enter “0” or “1” with the 10-key pad. *5.* Touch [Fix].

(3) Printing on paper of nonstandard size fed from the bypass tray (AnySize mode)

- This function is available only when the function enhanced version 4 or later firmware is installed.

Functions	• To enable printing only by the setting made on the printer driver when printing is attempted on paper of nonstandard size fed by way of the bypass tray (the default setting is the conventional operation). bit0-0: Conventional operation bit0-1: The print cycle is initiated for the paper specified on the printer driver regardless of the bypass tray paper setting.
Use	
Setting/ Procedure	*1.* Touch [Software Switch Setting]. *2.* Touch [Switch No.] and enter “69” with the ten-key pad. *3.* Touch [BIT Assignment] and select “bit2” with [←]/[→] key. *4.* Enter “0” or “1” with the 10-key pad. *5.* Touch [Fix].

10.9.7 Scan Caribration

Functions	• To set whether to use the calibration adjustment value set prior to the shipping.
Use	• To be used when CCD unit has been changed. After replacing the CCD unit, the default value needs to be set since the calibration value set for each unit changes to control the differences in reading performance on each scanner (CCD). • The original calibration adjustment value can be disabled to address image failure and other problems caused by individual CCD performance difference.
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, the function becomes available by turning the sub power switch OFF and ON again.**

10.9.8 LCC Size Setting

Functions	• To set the paper size for the LCC.
Use	• Use to change the paper size for the LCC (tray 3/4).
Setting/ Procedure	• The default setting depends on the setting made for the applicable marketing area. A4 B5 8 $^{1}/_{2}$ x 11 16K A5 5 $^{1}/_{2}$ x 8 $^{1}/_{2}$ Post. S

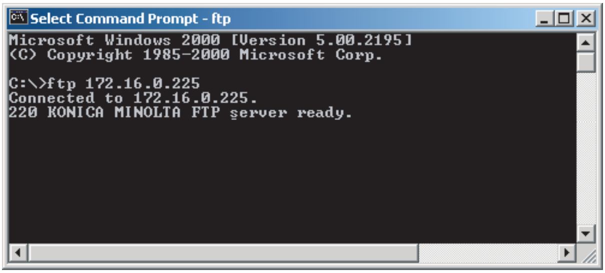
10.9.9 LCT Paper Size Setting

Functions	• To set the paper size for the LCT.
Use	• Use to change the paper size for the LCT (LU-301).
Setting/ Procedure	• The default setting depends on the setting made for the applicable marketing area. A4 8$^{1}/_{2}$ x 11

10.9.10 Line Mag Setting

Functions	• To set whether to use the offset value which has been set prior to the shipping.
Use	• To be used after replacing the CCD unit. After replacing the CCD unit, the default value needs to be set since the magnification offset value between the lines set for each unit changes to control the differences in reading performance on each scanner (CCD). • The original offset value can be disabled to address image failure and other problems caused by individual CCD performance difference.
Setting/ Procedure	• The default setting is ON. “ON” OFF **NOTE** • **When the setting is changed, the function becomes valid by turning the sub power switch OFF and ON again.**

10.9.11 Data Capture

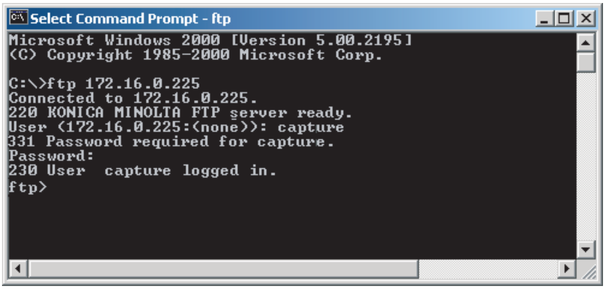
Functions	• When an error occurs, it acquires the print job data in order to analyze the cause of the error.
Use	• When an error occurs, this will be used to analyze the cause of the error according to the print job data.
Setting/ Procedure	**NOTE** • **The following conditions are necessary for this function. When selecting [Security Setting] → [Security Details] → [Print Data Capture] in Administrator Settings, [Allow] must be set. The hard disk must be mounted to the machine. When selecting [Administrator Settings] → [Network Settings] → [FTP Settings], [FTP Server Settings: ON] must be set.** • **This function is not available when the optional image controller IC-409 is mounted.** *1.* Select [Service Mode] → [System 2], and touch [Data Capture]. Select [ON]. (While the Data Capture setting is [ON], the print job data from the PC will be stored in the hard disk.) **NOTE** • **The original offset value can be disabled to address image failure and other problems caused by individual CCD performance difference.** *2.* Check the IP address of the machine. *3.* Connect the PC (Windows) and the machine with ethernet cable. *4.* Start the DOS command prompt of the PC, and specify the IP address of the machine to start FTP.  4037F3E538DA

```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>ftp 172.16.0.225
Connected to 172.16.0.225.
220 KONICA MINOLTA FTP server ready.
```

Setting/ Procedure

5. Input the user name and the password.
   User name: capture
   Password: sysadm

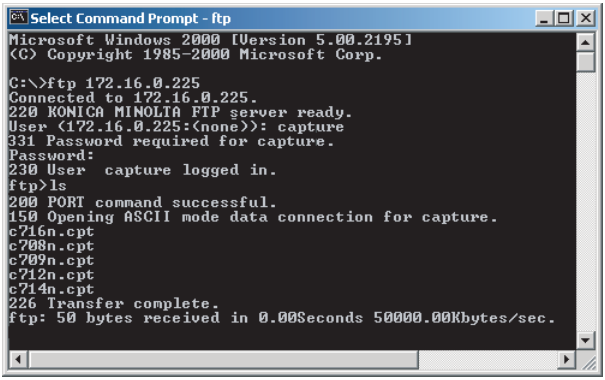


```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>ftp 172.16.0.225
Connected to 172.16.0.225.
220 KONICA MINOLTA FTP server ready.
User (172.16.0.225:(none)): capture
331 Password required for capture.
Password:
230 User  capture logged in.
ftp>
```

4037F3E539DA

6. Using the “ls” command, display the list of the file available for capture.

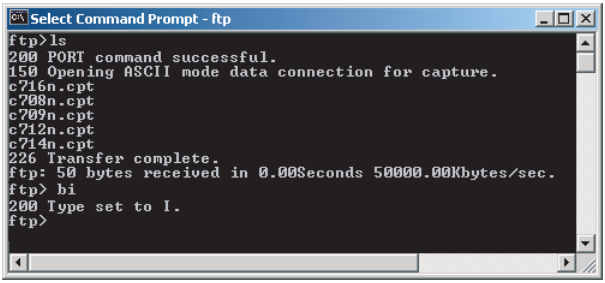


```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>ftp 172.16.0.225
Connected to 172.16.0.225.
220 KONICA MINOLTA FTP server ready.
User (172.16.0.225:(none)): capture
331 Password required for capture.
Password:
230 User  capture logged in.
ftp>ls
200 PORT command successful.
150 Opening ASCII mode data connection for capture.
c716n.cpt
c708n.cpt
c709n.cpt
c712n.cpt
c714n.cpt
226 Transfer complete.
ftp: 50 bytes received in 0.00Seconds 50000.00Kbytes/sec.
```

4037F3E540DA

7. Using the “binary” command, set the File transfer mode to the binary transfer.



```
ftp>ls
200 PORT command successful.
150 Opening ASCII mode data connection for capture.
c716n.cpt
c708n.cpt
c709n.cpt
c712n.cpt
c714n.cpt
226 Transfer complete.
ftp: 50 bytes received in 0.00Seconds 50000.00Kbytes/sec.
ftp> bi
200 Type set to I.
ftp>
```

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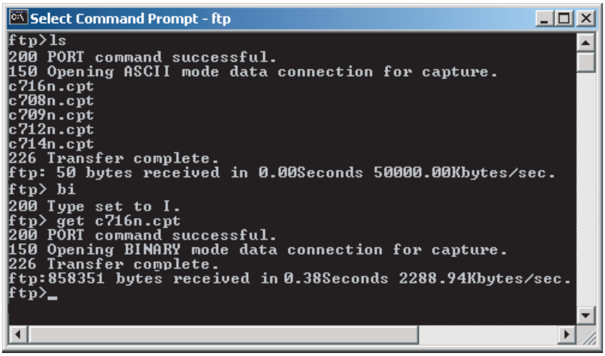
Setting/ Procedure

8. Using the “get” command, transfer the data for capture to PC.



```
ftp>ls
200 PORT command successful.
150 Opening ASCII mode data connection for capture.
c716n.cpt
c708n.cpt
c709n.cpt
c712n.cpt
c714n.cpt
226 Transfer complete.
ftp: 50 bytes received in 0.00Seconds 50000.00Kbytes/sec.
ftp> bi
200 Type set to I.
ftp> get c716n.cpt
200 PORT command successful.
150 Opening BINARY mode data connection for capture.
226 Transfer complete.
ftp:858351 bytes received in 0.38Seconds 2288.94Kbytes/sec.
ftp>_
```

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9. Finish the command prompt.

NOTE

- **After receiving capture data, select [Administrator Settings] → [Security Settings] → [Security Details], and select [Restrict] for print data capture in order to delete the job data stored in the hard disk.**
  When HDD Format or Overwrite Temporary Data is performed, job data is deleted.

10.9.12 Split Line Detect. Setting

A. Prior Detection

Functions	• To set the detection level for the pre-detection of stain on the ADF original glass.
Use	• Use when changing the setting for whether or not to detect the stain on the ADF original glass when opening/closing ADF as well as its detection level as the main/sub power being ON, recovering from the sleep/low power mode, etc. Not Set : Detection of stain on the glass will not be conducted. Low : Stain on the glass will not be detected easily. Normal : Normal level detection. High : Stain on the glass will easily be detected. **NOTE** • **Be aware that selecting “Not Set” and performing the pre-detection with the following setting will display “NG.”** **[Service Mode] → [Machine] → [Thin Line Prior Detection]** • **When “Not Set” is selected, the original glass cleaning operation after the job ends does not operate.**
Setting/ Procedure	• The default setting is “Normal.” Not Set Low “Normal” High

B. Warning Level

Functions	• To set how to display the warning when stain on the ADF original glass is detected.
Use	• Use when changing the display of the warning which requests the cleaning of the stain on the glass detected by the pre-detection of the lines. 0: Warning will not be displayed. 1: Warning will be displayed by the maintenance mark. (warning code: D-1/D-2) 2: Warning will be displayed on the message area on the basic screen. 3: Warning will be displayed on all screens. **NOTE** • **This setting is invalid when [Prior Detection] is set to "Not Set."**
Setting/ Procedure	• The default setting is 2. 0 1 "2" 3

C. Paper Passaging Detection

Functions	• To set the operation for detection and removing operation of stain on the ADF original glass when feeding the original.
Use	• Use when changing the operation for detection and removing operation of stain on the ADF original glass when feeding the original. 0 : The glass will stop moving when the original is fed, and will not perform removing the stain. 1 : The glass will move between originals when feeding the original. 2 : When the original is fed, the glass will move while reading the original in order to remove the stain, and reduce the lines. 3 to 6 : When the original is fed, the glass will move while reading the original in order to remove the stain. The lines will be reduced also by the image process control. The level 3, 4, 5, and 6 of the image process are set in this order with 3 being the most efficient in reducing the lines. **NOTE** • **When this function is used, an image quality problem might be occurred in the side effect by the image processing control according to the dirt condition of the original glass.** • When setting to "0" or "1", the setting area available for the administrator by the following setting will be restricted to "0 (Disable)" or "1 (Enable)." [Administrator Setting] → [System Setting] → [Expert Adjustment] → [Line Detection] → [Detection While Feeding Setting]
Setting/ Procedure	• The default setting is 1. 0 to 6

10.9.13 Stamp

Functions	• To set the mounting status of the optional stamp unit SP-501.
Use	• To use when setting up the stamp unit SP-501.
Setting/ Procedure	• The default setting is Unset. Set "Unset"

10.9.14 Network Fax Settings

Functions	• To set whether or not to use network fax function.
Use	• To use network fax function (IP address fax, internet fax). • Selection will be available when each network fax function is set to “ON” in the following settings. [Administrator Settings] → [Network Settings] → [Network Fax Settings] → [Network Fax Function Settings]
Setting/ Procedure	• The default settings are OFF. IP Address Fax : ON “OFF” SIP-Fax : Not Used Internet Fax : ON “OFF”

10.10 Counter

- The counter displays the counts of various counters to allow the technical representative to check or set as necessary.

10.10.1 Procedure

1. Touch [Counter] to show the counter menu.
2. Select the specific counter to be displayed.
3. To clear the counts of two or more counters within a group or across different groups at once, touch [Counter Reset], select the specific counters to be cleared, and touch [END]. Two or more counters can be selected.

10.10.2 Life

Functions	• To check the number of hours or times each of the different maintenance parts has been used. • To clear the count of each counter.
Use	• When each of the maintenance parts is replaced.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • It is not possible to clear the count of the counters for the fusing unit, transfer belt unit, Imaging Unit and TCR new article detection, which are provided with a new unit detection function. <1> • Fusing Unit : Number of times a sheet of paper is fed through • Transfer Roller Unit : Number of times a sheet of paper is fed through • Image Transfer Belt Unit : Number of times a sheet of paper is fed through • Ozone Filter : Number of times the ozone filter has been used. • Color Toner Filter : Number of times the color toner filter has been used. • 1st. : Number of sheets of paper fed from tray 1 • 2nd. : Number of sheets of paper fed from tray 2 • 3rd. : Number of sheets of paper fed from tray 3 • 4th. : Number of sheets of paper fed from tray 4 • Manual Tray : Number of sheets of paper fed from the bypass
	<2> • Imaging Unit (C) : Period of time over which the cyan imaging unit has been used. • Imaging Unit (M) : Period of time over which the magenta imaging unit has been used. • Imaging Unit (Y) : Period of time over which the yellow imaging unit has been used. • Imaging Unit (K) : Period of time over which the black imaging unit has been used. • LCT Parts : Number of sheets of paper fed from the LCT • ADF Feed : Number of sheets of paper fed through the take-up section of the ADF • ADF Reverse : Number of sheets of paper fed through the turnover unit of the ADF • Sorter/Finisher : Number of sheets of paper fed out of the sorter/finisher

Setting/ Procedure	<3> • TCR new article detection (C) : Period of time over which the cyan toner cartridge has been used. • TCR new article detection (M) : Period of time over which the magenta toner cartridge has been used. • TCR new article detection (Y) : Period of time over which the yellow toner cartridge has been used. • TCR new article detection (K) : Period of time over which the black toner cartridge has been used.

10.10.3 Jam

Functions	• To check the number of misfeeds that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of paper misfeeds that have occurred.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.4 Service Call Counter

Functions	• To check the number of malfunctions that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of malfunctions that have occurred.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.5 Warning

Functions	• To check the number of warning conditions detected according to the warming type • To clear the count of each counter.
Use	• To check the number of warning conditions that have been detected.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • When a warning condition occurs, an oil mark appears at the lower left corner of the basic screen. • Touching the oil mark will display the warning code screen.

10.10.6 Maintenance

Functions	• To set a count value for maintenance of any given part.
Use	• When any given part is replaced.
Setting/ Procedure	Maint.-Set • Enter the maintenance counter value from the 10-key pad. Maint.-Count • Counts up when a sheet of paper is fed through the machine. • Pressing the Clear key will clear the count. • If the count is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.7 Service Total

A. Total

Functions	• To display the count value for the service total counter.
Use	• Use to check the total No. of printed pages including the ones printed by the Service Mode.
Setting/ Procedure	Service Total : No. of pages printed by user mode and Service Mode. Service Total (Duplex) : No. of pages printed by user mode and Service Mode in duplex.

B. Paper Size

Functions	• To display the count value for service total counter of each paper size.
Use	• To check the total number of printed pages including the one at Service Mode according to each paper size.

10.10.8 Counter of Each Mode

Functions	• To display the printed pages in the following specified modes; copy, printer, scanner, and fax. It also displays the count value of using the specified mode.
Use	• Use to check the printed pages in the following specified modes; copy, printer, scanner, and fax, as well as No. of times each mode was used, in order to know the using condition.

10.10.9 Service Call History (Data)

Functions	• To display the trouble history in chronological order.
Use	• Use to check the trouble history in chronological order.

10.10.10 ADF Paper Pages

Functions	• To display the No. of pages fed to the automatic document feeder.
Use	• Use to check the No. of pages fed to the automatic document feeder.

10.10.11 Paper Jam History

Functions	• To display the jam history in chronological order.
Use	• Use to check the jam history in chronological order. **NOTE** **• [Code] displayed on the screen of JAM history indicates JAM code. For details of JAM code, see "Trouble shooting."** See P.577

10.10.12 Fax Connection Error

Functions	• To display the No. of fax transmission errors occurred.
Use	• Use to check the No. of fax transmission errors occurred.

10.10.13 Split Line Counter

Functions	• To display the average number of detected stain on the ADF original glass at the pre-detection. Pre-detect Large Size : Large-sized detected stain divided by the number of times pre-detection is practiced (average number of detected lines) will be displayed. Pre-detect Small Size : Small-sized detected stain divided by the number of times pre-detection is practiced (average number of detected lines) will be displayed. Detect Split line in acting : Number of detected stain on the original glass during the original feed divided by the number of scanning by ADF (average number of detected lines) will be displayed.
Use	• Used for checking the number of detected stain on the ADF original glass.
Setting/ Procedure	• To clear each counter value, select the items to be cleared, and press the Clear key. (When selecting [Pre-detect Large Size] or [Pre-detect Small Size] is selected, both values will be cleared.) • If the count is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

10.10.14 Parts Counter (Fixed)

- It will be displayed only when the optional finisher (FS-517/518 or FS-608) is mounted.

Functions	• When the optional finisher (FS-517/518 or FS-608), post inserter (PI-503) and/or Z folding unit (ZU-603) is mounted, the parts counter screen displays the relevant parts and their counts. When the relevant parts are replaced, their counters need to be reset to update the service history.
Use	• When the optional finisher (FS-517/518 or FS-608), post inserter (PI-503) and/or Z folding unit (ZU-603) is mounted, the relevant parts counter can be checked from this menu. • Service history can be maintained from this menu. **NOTE** • **See the table below for the relevant parts and count method.**
Setting/ Procedure	*1.* Touch in the order of [Service Mode] → [Counter] → [↑] → [Parts Counter (Fixed)]. *2.* Check the parts counter or display the relevant part of which counter will be reset. *3.* Check the part count. To reset the count value, touch the key of the part where the counter is reset. Touch the Clear key.

A. Fixed parts to be counted

No.	CSRC param- eter	Parts name	Parts number	Limit value	Count condition
1	21	FNS Up/Down motor	15JK-478	—	1 count each time a sheet of paper is exited into the FS main tray, and also makes 1 count each time a copy is exited in the staple mode.
2	22	FNS stapler/front	A07RA735 *1 15JM-501 *2 A07PA790 *3	300,000 *1 200,000 *2 500,000 *3	1 count each time a copy of paper is exited in each mode of the 1-staple, 2-staple and the stitch-and-fold.
3	23	FNS stapler/rear	A07RA736 *1 15JM-501 *2 A07PA791 *3	300,000 *1 200,000 *2 500,000 *3	
4	24	FNS shift motor	12QR-361	—	1 count each time an even number of copies is exited in the sort mode.
5	25	FNS paper exit opening motor	12QR-361	—	1 count at the start of a large size job (A4 SEF/8 $^{1}/_{2}$ x 11 SEF or larger) in the staple mode, and makes 1 count each time a copy is exited. And makes 1 count at the start of the folding, stitch-and-fold and the three-folding jobs.
6	26	FNS center press knife motor	120H8001	—	1 count each time a copy is exited in the folding, stitch-and-fold and the three-folding modes.
7	27	FNS bypass SD	12QR-263	—	1 count each time a copy is exited in the staple mode (A4/B5/8 $^{1}/_{2}$ x 11/ 16K size)
8	28	FNS DM gate SD	12QR-263	—	1 count each time a copy is exited in the three-folding mode.

No.	CSRC parameter	Parts name	Parts number	Limit value	Count condition
9	29	PI sheet paper feed clutch (Upper)	13QN8201	1,000,000	1 count each time a sheet is fed from the PI upper tray.
10	2A	PI sending roller pair/A (Upper)	50BA-574	200,000	
11	2B	PI sending roller pair/B (Upper)	13QN-446	100,000	
12	2C	PI reversal rubber pair (Upper)	13QN-443	100,000	
13	2D	PI torque limiter (Upper)	13QN4073	600,000	
14	2E	PI sheet paper feed clutch (Lower)	13QN8201	1,000,000	1 count each time a sheet is fed from the PI lower tray.
15	2F	PI sending roller pair/A (Lower)	50BA-574	200,000	
16	30	PI sending roller pair/B (Lower)	13QN-446	100,000	
17	31	PI reversal rubber pair (Lower)	13QN-443	100,000	
18	32	PI torque limiter (Lower)	13QN4073	600,000	
19	33	PI resist	13QN8201	1,000,000	1 count each time a sheet is ejected from PI.
20	34	FNS output roller/A	122H4825	100,000	1 count for a sheet ejected to the FNS main tray. 1 count for a set ejected in the staple mode.
21	35	FNS transportat. roller/4	13QE4531	100,000	1 count for a sheet in the staple/saddle stitching/half-fold/Tri-fold mode.
22	36	FNS transportat. paper roller/A	20AK4210	200,000	1 count for a sheet in the staple/saddle stitching/half-fold/Tri-fold mode.
23	37	PK counter	A04E00Y001 (PK-512/513)	3,000,000	Number of punching at PK.
24	38	Punch scrap transportation motor pair	12GQ-417	1,000,000	Number of punching at ZU. (1) 1 count for a sheet in the punch mode with ZU mounted but PK not available (2) 1 count for a sheet in the Z folding mode and punch mode with ZU mounted and PK available
25	39	Punch clutch	13NKK001	1,000,000	Number of punching at ZU. (1) 1 count for a sheet in the punch mode with ZU mounted but PK not available (2) 1 count for a sheet in the Z folding mode and punch mode with ZU mounted and PK available

*1: FS-517 only

*2: FS-608 only

*3: FS-518 only

10.11 List Output

10.11.1 Machine Management List

Functions	• To produce an output of a list of setting values, adjustment values, total counter values, and others.
Use	• At the end of setup or when a malfunction occurs.
Setting/ Procedure	• Load the A4S plain paper to a paper source. • Press the Start key, which will let the machine produce the list. • The time-of-day and date will also be printed.

10.11.2 Adjustment List

Functions	• To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.
Use	• At the end of setup or when a malfunction occurs.
Setting/ Procedure	• Load the A4S plain paper to a paper source. • Press the Start key, which will let the machine produce the list. • The time-of-day and date will also be printed.

10.11.3 Parameter List

- For details, see FK-502 Service Manual.

10.11.4 Service Parameter

- For details, see FK-502 Service Manual.

10.11.5 Protocol Trace

- For details, see FK-502 Service Manual.

10.11.6 Fax Setting List

- For details, see FK-502 Service Manual.

10.11.7 Fax Analysis List

- For details, see FK-502 Service Manual.

10.12 State Confirmation

10.12.1 Sensor Check

Functions	• To display the states of the input ports of sensors and switches when the machine remains stationary.
Use	• Used for troubleshooting when a malfunction or a misfeed occurs.
Setting/ Procedure	• The operation of each of the switches and sensors can be checked on a real-time basis. • It can be checked as long as the 5-V power line remains intact even when a door is open.

A. Electrical components check procedure through input data check

- When a paper misfeed occurs in the paper feed section of the machine, the tray 2 paper feed sensor is considered to be responsible for it.

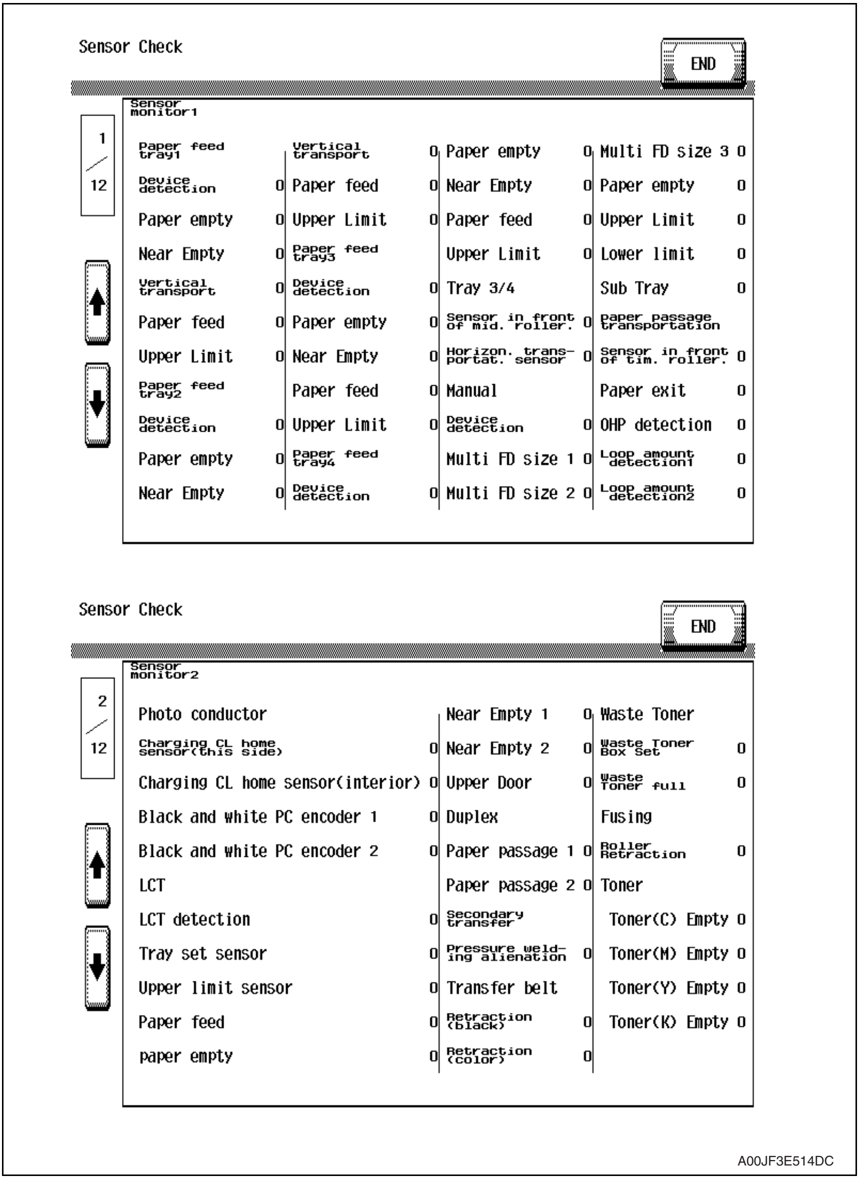
1. Remove the sheet of paper misfed.
2. From the sensor check list that follows, check the panel display of the tray 2 paper feed sensor. For the tray 2 paper feed sensor, you check the data of “Paper feed” of “Tray 2.”
3. Call the Service Mode to the screen.
4. Select [State Confirmation] → [Sensor Check] and then select the screen that contains “Paper feed” under “Tray 2.” For “Paper feed” under “Tray 2,” select “1” on the left-hand side of the screen.
5. Check that the data for “Paper feed” under “Tray 2” is “0” (sensor blocked).
6. Move the actuator to unblock the tray 2 paper feed sensor.
7. Check that the data for “Paper feed” under “Tray 2” changes from “0” to “1” on the screen.
8. If the input data is “0,” change the sensor.

10.12.2 Sensor check screens

- These are only typical screens which may be different from what are shown on each individual machine.

A. Sensor monitor

(1) Sensor monitor 1,2



Paper feed tray1		Vertical transport	0	Paper empty	0	Multi FD size 3	0
Device detection	0	Paper feed	0	Near Empty	0	Paper empty	0
Paper empty	0	Upper Limit	0	Paper feed	0	Upper Limit	0
Near Empty	0	Paper feed tray3		Upper Limit	0	Lower limit	0
Vertical transport	0	Device detection	0	Tray 3/4		Sub Tray	0
Paper feed	0	Paper empty	0	Sensor in front of mid. roller.	0	paper passage transportation	
Upper Limit	0	Near Empty	0	Horizon. trans-portat. sensor	0	Sensor in front of tim. roller.	0
Paper feed tray2		Paper feed	0	Manual		Paper exit	0
Device detection	0	Upper Limit	0	Device detection	0	OHP detection	0
Paper empty	0	Paper feed tray4		Multi FD size 1	0	Loop amount detection1	0
Near Empty	0	Device detection	0	Multi FD size 2	0	Loop amount detection2	0

Photo conductor		Near Empty 1	0	Waste Toner	
Charging CL home sensor(this side)	0	Near Empty 2	0	Waste Toner Box Set	0
Charging CL home sensor(interior)	0	Upper Door	0	Waste Toner full	0
Black and white PC encoder 1	0	Duplex		Fusing	
Black and white PC encoder 2	0	Paper passage 1	0	Roller Retraction	0
LCT		Paper passage 2	0	Toner	
LCT detection	0	Secondary transfer		Toner(C) Empty	0
Tray set sensor	0	Pressure weld-ing alienation	0	Toner(M) Empty	0
Upper limit sensor	0	Transfer belt		Toner(Y) Empty	0
Paper feed	0	Retraction (black)	0	Toner(K) Empty	0
paper empty	0	Retraction (color)	0		

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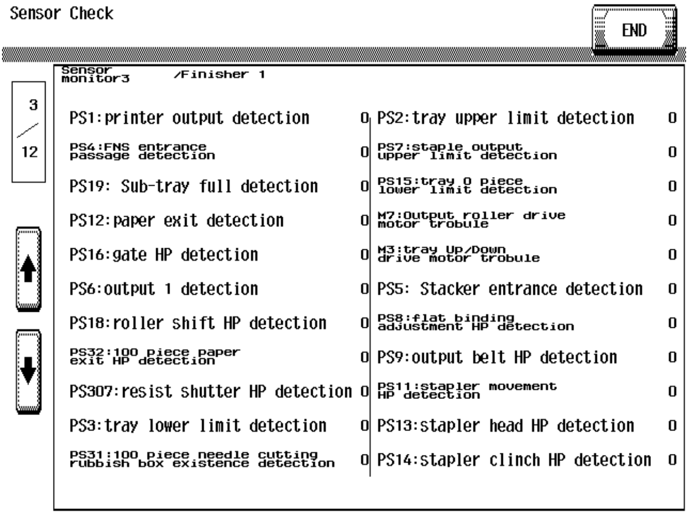
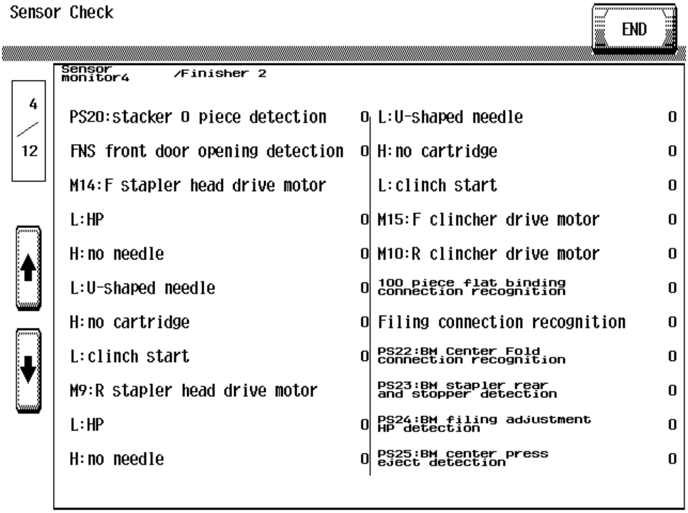
(2) Sensor monitor 3,4



Sensor Check

Sensor monitor3 /Finisher 1

PS1:printer output detection	0	PS2:tray upper limit detection	0
PS4:FNS entrance passage detection	0	PS7:staple output upper limit detection	0
PS19: Sub-tray full detection	0	PS15:tray 0 piece lower limit detection	0
PS12:paper exit detection	0	M7:Output roller drive motor trobule	0
PS16:gate HP detection	0	M3:tray Up/Down drive motor trobule	0
PS6:output 1 detection	0	PS5: Stacker entrance detection	0
PS18:roller shift HP detection	0	PS8:flat binding adjustment HP detection	0
PS32:100 piece paper exit HP detection	0	PS9:output belt HP detection	0
PS307:resist shutter HP detection	0	PS11:stapler movement HP detection	0
PS3:tray lower limit detection	0	PS13:stapler head HP detection	0
PS31:100 piece needle cutting rubbish box existence detection	0	PS14:stapler clinch HP detection	0



Sensor Check

Sensor monitor4 /Finisher 2

PS20:stacker 0 piece detection	0	L:U-shaped needle	0
FNS front door opening detection	0	H:no cartridge	0
M14:F stapler head drive motor		L:clinch start	0
L:HP	0	M15:F clincher drive motor	0
H:no needle	0	M10:R clincher drive motor	0
L:U-shaped needle	0	100 piece flat binding connection recognition	0
H:no cartridge	0	Filing connection recognition	0
L:clinch start	0	PS22:BM Center Fold connection recognition	0
M9:R stapler head drive motor		PS23:BM stapler rear and stopper detection	0
L:HP	0	PS24:BM filing adjustment HP detection	0
H:no needle	0	PS25:BM center press eject detection	0

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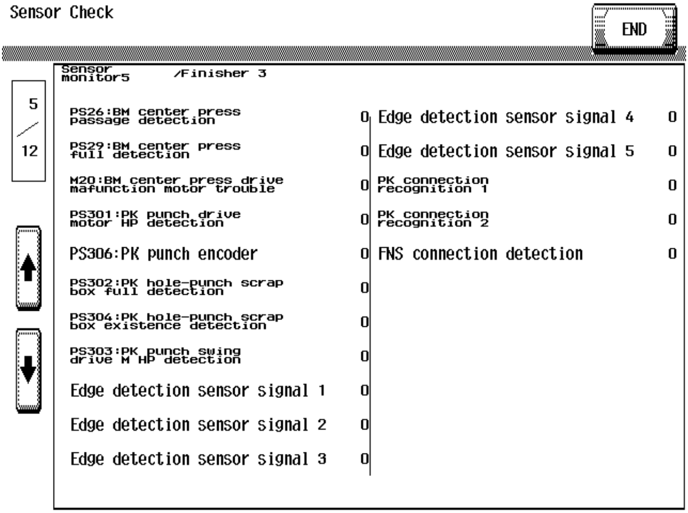
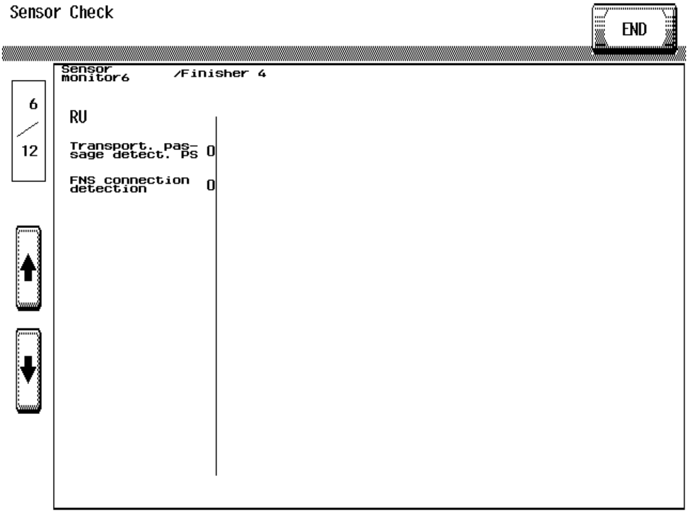
(3) Sensor monitor 5,6



Sensor Check

Sensor monitor5 /Finisher 3

PS26:BM center press passage detection	0
PS29:BM center press full detection	0
M20:BM center press drive mafunction motor trouble	0
PS301:PK punch drive motor HP detection	0
PS306:PK punch encoder	0
PS302:PK hole-punch scrap box full detection	0
PS304:PK hole-punch scrap box existence detection	0
PS303:PK punch swing drive M HP detection	0
Edge detection sensor signal 1	0
Edge detection sensor signal 2	0
Edge detection sensor signal 3	0
Edge detection sensor signal 4	0
Edge detection sensor signal 5	0
PK connection recognition 1	0
PK connection recognition 2	0
FNS connection detection	0



Sensor Check

Sensor monitor6 /Finisher 4

RU

Transport. passage detect. PS	0
FNS connection detection	0

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(4) Sensor monitor 7,8

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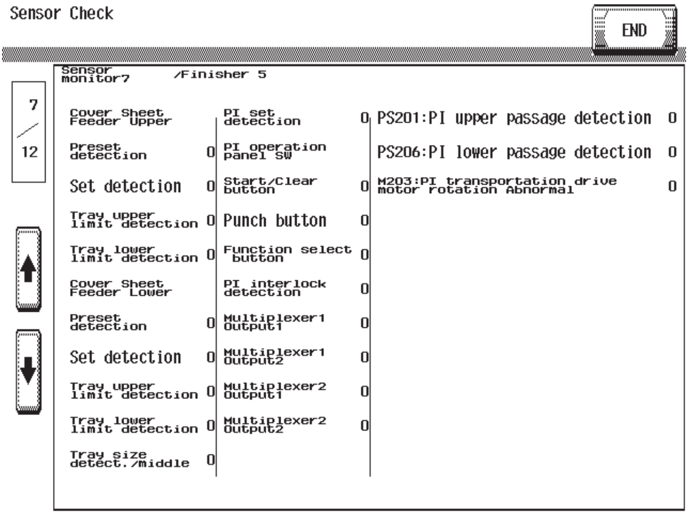


Sensor Check

Sensor monitor7 /Finisher 5

Cover Sheet Feeder Upper

Preset detection 0

Set detection 0

Tray upper limit detection 0

Tray lower limit detection 0

Cover Sheet Feeder Lower

Preset detection 0

Set detection 0

Tray upper limit detection 0

Tray lower limit detection 0

Tray size detect./middle 0

PI set detection 0

PI operation panel SW

Start/Clear button 0

Punch button 0

Function select button 0

PI interlock detection 0

Multiplexer1 Output1 0

Multiplexer1 Output2 0

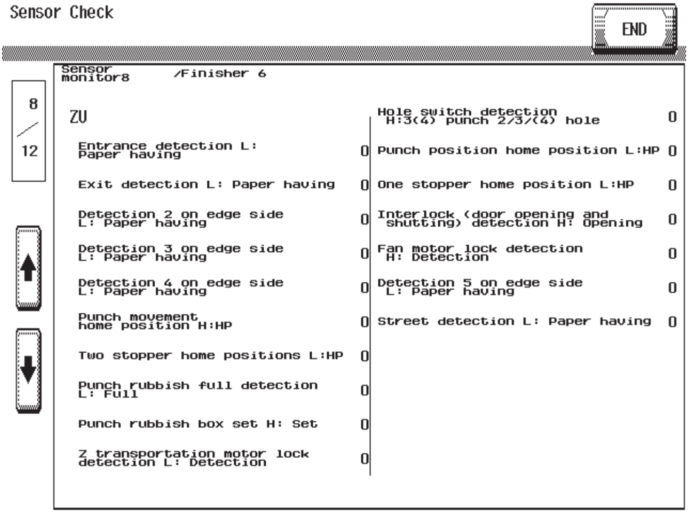
Multiplexer2 Output1 0

Multiplexer2 Output2 0

PS201:PI upper passage detection 0

PS206:PI lower passage detection 0

M203:PI transportation drive motor rotation Abnormal 0



Sensor Check

Sensor monitor8 /Finisher 6

ZU

Entrance detection L: Paper having 0

Exit detection L: Paper having 0

Detection 2 on edge side L: Paper having 0

Detection 3 on edge side L: Paper having 0

Detection 4 on edge side L: Paper having 0

Punch movement home position H:HP 0

Two stopper home positions L:HP 0

Punch rubbish full detection L: Full 0

Punch rubbish box set H: Set 0

Z transportation motor lock detection L: Detection 0

Hole switch detection H:3(4) punch 2/3/(4) hole 0

Punch position home position L:HP 0

One stopper home position L:HP 0

Interlock (door opening and shutting) detection H: Opening 0

Fan motor lock detection H: Detection 0

Detection 5 on edge side L: Paper having 0

Street detection L: Paper having 0

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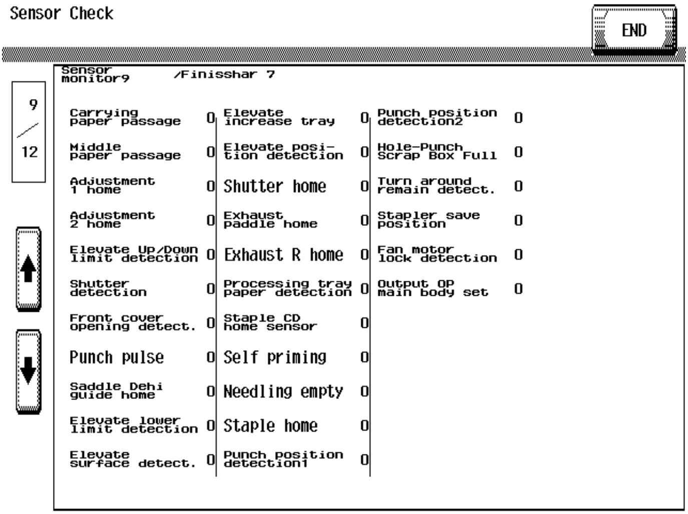
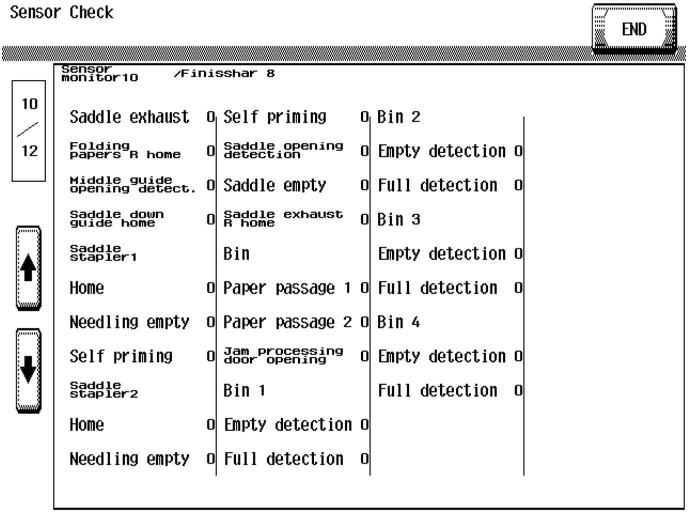
(5) Sensor monitor 9,10



Sensor monitor9 /Finisshar 7

Carrying paper passage	0	Elevate increase tray	0	Punch position detection2	0
Middle paper passage	0	Elevate position detection	0	Hole-Punch Scrap Box Full	0
Adjustment 1 home	0	Shutter home	0	Turn around remain detect.	0
Adjustment 2 home	0	Exhaust paddle home	0	Stapler save position	0
Elevate Up/Down limit detection	0	Exhaust R home	0	Fan motor lock detection	0
Shutter detection	0	Processing tray paper detection	0	Output OP main body set	0
Front cover opening detect.	0	Staple CD home sensor	0		
Punch pulse	0	Self priming	0		
Saddle Dehi guide home	0	Needling empty	0		
Elevate lower limit detection	0	Staple home	0		
Elevate surface detect.	0	Punch position detection1	0		

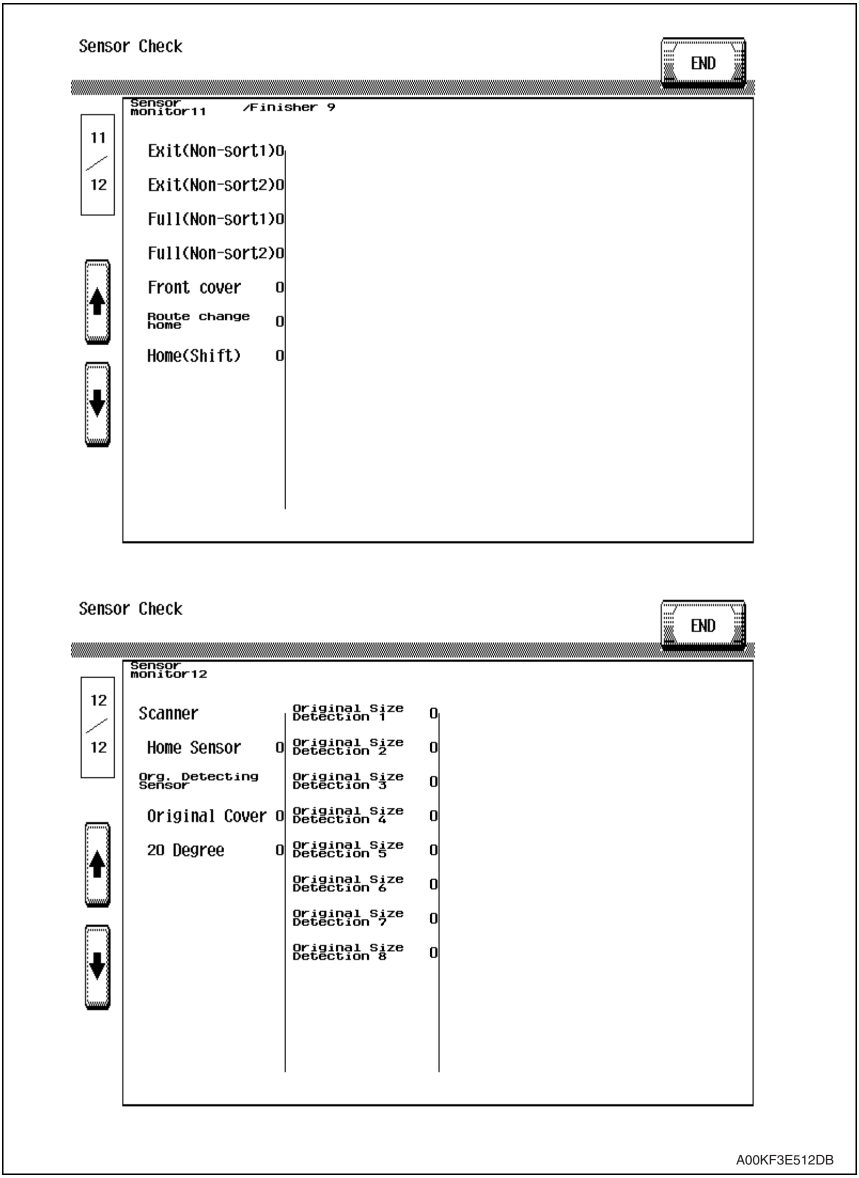


Sensor monitor10 /Finisshar 8

Saddle exhaust	0	Self priming	0	Bin 2	
Folding papers R home	0	Saddle opening detection	0	Empty detection	0
Middle guide opening detect.	0	Saddle empty	0	Full detection	0
Saddle down guide home	0	Saddle exhaust R home	0	Bin 3	
Saddle stapler1		Bin		Empty detection	0
Home	0	Paper passage 1	0	Full detection	0
Needling empty	0	Paper passage 2	0	Bin 4	
Self priming	0	Jam processing door opening	0	Empty detection	0
Saddle stapler2		Bin 1		Full detection	0
Home	0	Empty detection	0		
Needling empty	0	Full detection	0		

A00KF3E511DA

(6) Sensor monitor 11,12



Sensor Check

Sensor monitor11 /Finisher 9

Exit(Non-sort1) 0
Exit(Non-sort2) 0
Full(Non-sort1) 0
Full(Non-sort2) 0
Front cover 0
Route change home 0
Home(Shift) 0

Sensor Check

Sensor monitor12

Scanner
Home Sensor 0
Org. Detecting Sensor
Original Cover 0
20 Degree 0

Original Size Detection 1 0
Original Size Detection 2 0
Original Size Detection 3 0
Original Size Detection 4 0
Original Size Detection 5 0
Original Size Detection 6 0
Original Size Detection 7 0
Original Size Detection 8 0

A00KF3E512DB

10.12.3 Sensor check list

A. Sensor monitor

(1) Sensor monitor 1 (Main body)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS1	Paper feed tray 1	device detection	Tray 1 device detection sensor	In position	Out of position
PS2		paper empty	Tray 1 paper empty sensor	Paper not present	Paper present
PS3		Near Empty	Tray 1 near empty sensor	Blocked	Unblocked
PS4		Vertical transport	Tray 1 vertical transport sensor	Paper present	Paper not present
PS5		Paper feed	Tray 1 paper feed sensor	Paper present	Paper not present
PS6		Upper Limit	Tray 1 upper limit sensor	At raised position	Not at raised position
PS9	Paper feed tray 2	device detection	Tray 2 device detection sensor	In position	Out of position
PS10		paper empty	Tray 2 paper empty sensor	Paper not present	Paper present
PS11		Near Empty	Tray 2 near empty sensor	Blocked	Unblocked
PS12		Vertical transport	Tray 2 vertical transport sensor	Paper present	Paper not present
PS13		Paper feed	Tray 2 paper feed sensor	Paper present	Paper not present
PS14		Upper Limit	Tray 2 upper limit sensor	At raised position	Not at raised position
—	Paper feed tray 3	device detection	—	In position	Out of position
PS19		paper empty	Tray 3 paper empty sensor	Paper not present	Paper present
PS22		Near Empty	Tray 3 near empty sensor	Blocked	Unblocked
PS21		Paper feed	Tray 3 paper feed sensor	Paper present	Paper not present
PS20		Upper Limit	Tray 3 upper limit sensor	At raised position	Not at raised position

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
—	Paper feed tray 4	device detection	—	In position	Out of position
PS24		paper empty	Tray 4 paper empty sensor	Paper not present	Paper present
PS27		Near Empty	Tray 4 near empty sensor	Blocked	Unblocked
PS26		Paper feed	Tray 4 paper feed sensor	Paper present	Paper not present
PS25		Upper Limit	Tray 4 upper limit sensor	At raised position	Not at raised position
PS28	Tray 3/4	Sensor in front of mid. roller.	Intermediate roller sensor	Paper present	Paper not present
PS29		Horizon. Transportat. sensor	Horizontal transport sensor	Paper present	Paper not present
PS30	Manual	device detection	Bypass set sensor	Blocked	Unblocked
PS31		multi FD size 1	Multi FD size sensor/1	ON	OFF
PS32		multi FD size 2	Multi FD size sensor/2	ON	OFF
PS33		multi FD size 3	Multi FD size sensor/3	ON	OFF
PS34		paper empty	Bypass paper empty sensor	At raised position	Not at raised position
PS35		Upper Limit	Bypass paper limit sensor	At raised position	Not at raised position
PS36		Lower Limit	Bypass paper lower sensor	At lower limit position	Not at lower limit position
△2 PS37		Sub Tray	Bypass sub tray set sensor	Blocked	Unblocked
PS38	Paper passage transportation	Sensor in front of tim. roller.	Timing roller sensor	Paper present	Paper not present
PS39		Paper exit	Paper exit sensor	Paper present	Paper not present
PS40		OHP detection	OHP detection sensor	OHP	Not OHP
PS41		loop amount detection 1	Loop amount detection sensor/1	Loop present	Loop not present
PS42		loop amount detection 2	Loop amount detection sensor/2	Loop present	Loop not present

(2) Sensor monitor 2 (Main body, LCT)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS43	Photo conductor	Charging CL home sensor (this side)	Charging cleaner home sensor	Blocked	Unblocked
PS44		Charging CL home sensor (interior)	Charging cleaner return sensor	Blocked	Unblocked
PS45		Black and white PC encoder 1	K PC encoder sensor/1	Blocked	Unblocked
PS46		Black and white PC encoder 2	K PC encoder sensor/2	Blocked	Unblocked
—	LCT	LCT detection	See P.32 of the LU-301 service manual.		
PS1		Tray set sensor			
PS2		upper limit sensor			
PS3		Paper feed			
PS4		paper empty			
PS5		Near empty 1			
PS6		Near empty 2			
MS1		Upper Door			
PS47	Duplex	Paper passage1	ADU paper passage sensor/1	Paper present	Paper not present
PS48		Paper passage2	ADU paper passage sensor/2	Paper present	Paper not present
PS50	secondary transfer	Pressure welding alienation	Pressure welding alienation sensor	Not Retracted	Retracted
PS51	transfer belt	Press. welding alienat. (black)	Pressure welding alienation sensor/K	Not Retracted	Retracted
PS52		Press. welding alienat. (color)	Pressure welding alienation sensor/color	Not Retracted	Retracted
PS53	Waste toner	Waste toner box set	Waste toner box set sensor	Blocked	Unblocked
PS54		Waste toner full	Waste toner full sensor	Blocked	Unblocked
PS55	Fusing	Roller pressure weld. alienat.	Pressure home sensor	Not Retracted	Retracted
PZS/C	Toner	C toner empty	Toner empty sensor/C	Toner present	Toner not present
PZS/M		M toner empty	Toner empty sensor/M	Toner present	Toner not present
PZS/Y		Y toner empty	Toner empty sensor/Y	Toner present	Toner not present
PZS/K		K toner empty	Toner empty sensor/K	Toner present	Toner not present

(3) Sensor monitor 3 (FS-517/518/608)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS1	Sensor monitor3/Finisher1	printer output detection	See P.55 of the FS-517/518/608 service manual.		
PS4		FNS entrance passage detection			
PS19		SUb-tray full detection			
PS12		paper exit detection			
PS16		gate HP detection			
PS6		output 1 detection			
PS18		roller shift HP detection			
PS32		100 piece paper exit HP detection			
PS307		resist shutter HP detection			
PS3		tray lower limit detection			
PS31		100 piece needle cutting rubbish box existence detection			
PS2		tray upper limit detection			
PS7		staple output upper limit detection			
PS15		tray 0 piece lower limit detection			
M7		Output roller drive motor trouble			
M3		tray Up/Down drive motor trouble			
PS5		Stacker entrance detection			
PS8		flat binding adjustment HP detection			
PS9		output belt HP detection			
PS11		stapler movement HP detection			
PS13		Stapler head HP detection			
PS14		stapler clinch HP detection			

(4) Sensor monitor 4 (FS-517/518/608)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS20	Sensor monitor4/Finisher2	stacker 0 piece detection	See P.55 of the FS-517/518/608 service manual.		
MS1		FNS front door opening detection			
M14		F stapler head drive motor			
		HP			
		no needle			
		U-shaped needle			
		no cartridge			
		clinch start			
M9		R stapler head drive motor			
		HP			
		no needle			
		U-shaped needle			
		no cartridge			
		clinch start			
M15		F clincher drive motor			
M10		R clincher drive motor			
-		100 piece flat binding connection recognition			
-		filing connection recognition			
PS22		BM Center Fold connection recognition			
PS23		BM stapler rear and stopper detection			
PS24		BM filing adjustment HP detection			
PS25		BM center press eject detection			

(5) Sensor monitor 5 (FS-517/518/608, PK-512/513)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS26	Sensor monitor5/Finisher3	BM center press passage detection	See P.55 of the FS-517/518/608 service manual.		
PS29		BM center press full detection			
M20		BM center press drive malfunction motor trouble			
PS301		PK punch drive motor HP detection	See P.10 of the PK-512/513 service manual.		
PS306		PK punch encoder			
PS302		PK hole-punch scrap box existence detection			
PS304		PK hole-punch scrap box existence detection			
PS303		PK punch swing drive M HP detection			
SP305		Edge detection sensor signal 1			
		Edge detection sensor signal 2			
		Edge detection sensor signal 3			
		Edge detection sensor signal 4			
		Edge detection sensor signal 5			
—		PK connection recognition 1			
—		PK connection recognition 2			
—		FNS connection detection	See P.55 of the FS-517/518/608 service manual.		

(6) Sensor monitor 6 (FS-517/518/608)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS202	Sensor monitor6/Finisher3	RU Transport. passage detect. PS	See P.55 of the FS-517/518/608 service manual.		
—		RU FNS connection detection			

(7) Sensor monitor 7 (PI-503)

Symbol	Panel display			Part/signal name	Operation characteristics/ panel display	
					1	0
PS202	Sensors monitor7	Cover Sheet Feeder Upper	Preset detection	See P.19 of the PI-503 service manual.		
PS203			Set detection			
PS204			Tray upper limit detection			
PS205			Tray lower limit detection			
PS207		Cover Sheet Feeder Lower	Preset detection			
PS208			Set detection			
PS209			Tray upper limit detection			
PS210			Tray lower limit detection			
PS212			Tray size detect. / middle			
—		PI set detection				
PIOB		PI operation panel SW	Start/Clear button			
			Punch button			
			Function select button			
—		PI interlock detection				
—		Multiplexer1 Output1				
—		Multiplexer1 Output2				
—		Multiplexer2 Output1				
—		Multiplexer2 Output2				
PS201		PS201:PI upper passage detection				
PS206		PS206:PI lower passage detection				
M203		PI203:PI transportation drive motor rotation Abnormal				

(8) Sensor monitor 8 (ZU-603)

Symbol	Panel display		Part/signal name	Operation characteristics/ panel display	
				1	0
PSDTB	Sensors monitor 8	Entrance detection L: Paper having	See P.30 of the ZU-603 service manual.		
PS9		Exit detection L: Paper having			
PSDTB		Detection 2 on edge side L: Paper having			
PSDTB		Detection 3 on edge side L: Paper having			
PSDTB		Detection 4 on edge side L: Paper having			
PS5		Punch movement home position H: HP			
PS4		Two stopper home positions L: HP			
PS8		Punch rubbish full detection L: Full			
PS7		Punch rubbish box set H: Set			
PS10		Z transportation motor lock detection L: Detection			
MS2		Hole switch detection H: 3 (4) punch 2/3/(4) hole			
PS6		Punch position home position L: HP			
PS3		One stopper home position L: HP			
MS1		Interlock (door opening and shutting) detection H: Opening			
FM1		Fan motor lock detection H: Detection			
PSDTB		Detection 5 on edge side L: Paper having			
PS1		Street detection L: Paper having			

(9) Sensor monitor 9 (FS-519)

Symbol	Panel display		Part/signal name	Operation characteristics/ panel display	
				1	0
PS1	Sensors monitor9	Carrying Paper Passage	See P.54 of the FS-519/PK-510/OT-602 service manual.		
PS2		Middle Paper Passage			
PS7		Home1 (CD-Align)			
PS8		Home2 (CD-Align)			
SW3		Elevate Tray Raised/ Lowered			
SW2		Shutter			
SW1		Front Cover			
PS502		Punch Pulse			
PS23		Home (Saddle In and Out)			
PS13		Elevate Tray Lowered			
PS12		Surface (Elev.)			
—		Elevate Tray Proliferation			
PS11		Elevate Position			
PS14		Home (Shutter)			
PS6		Home (Exit Paddle)			
PS5		Home (Exit R)			
PS3		Empty (Finisher)			
PS9		Home (Staple CD)			
—		Self Printing			
—		Staple Empty			
—		Home (Stapler)			
PS500		Punch Position1			
PS501		Punch Position2			
PS503		Punch Dust Full			
PS4		Remain in Reverse Section			
PS10		Stapler Save Position			
M9		Fan Motor Lock			
SW4		Exit OP Machine Set			

(10) Sensor monitor 10 (SD-505, MT-502)

Symbol	Panel display		Part/Signal name	Operation characteristics/ panel display	
				1	0
PS20	Sensors monitor 10	Saddle exit	See P.26 of the SD-505 service manual.		
PS22		Folding R home			
SW5		Middle guide			
PS24		Saddle guide			
—		Saddle stapler 1			
—		Home			
—		Staple empty			
—		Self priming			
—		Saddle stapler 2			
—		Home			
—		Staple empty			
—		Self priming			
SW4		Saddle			
PS21		Saddle empty			
PS18		Home (Saddle exit)			
PS10	Bin	Paper Passage 1	See P.8 of the MT-502 service manual.		
PS9		Paper Passage 2			
PS11		Door (Jam)			
PS1	Bin1	Empty			
PS5		Full			
PS2	Bin2	Empty			
PS6		Full			
PS3	Bin3	Empty			
PS7		Full			
PS4	Bin4	Empty			
PS8		Full			

(11) Sensor monitor 11 (JS-504)

Symbol	Panel display		Part/Signal name	Operation characteristics/panel display	
				1	0
PS1	Sensors monitor 11	Exit (Non-sort 1)	See P.16 of the JS-504 service manual.		
PS2		Exit (Non-sort 2)			
T1FDTB/ LED		Full (Non-sort 1)			
T2FDTB/ LED		Full (Non-sort 2)			
PS3		Front cover			
PS4		Route change home			
PS6		Home (Shift)			

(12) Sensor monitor 12 (IR section)

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS201	Scanner	Home Sensor	Scanner home sensor	At home	Out of home
S201	Org. Detecting Sensor	Original Cover	Original cover sensor	Lowered	Raised
PS202		20 Degree	20 degree sensor	Less than 20 degree	20 degree or more
PS204		Original Size Detection 1	Original size detection 1 sensor	Original loaded, not mounted	Original not loaded
PS205		Original Size Detection 2	Original size detection 2 sensor	Original loaded, not mounted	Original not loaded
—		Original Size Detection 3	Not used	—	—
—		Original Size Detection 4	Not used	—	—
—		Original Size Detection 5	Not used	—	—
—		Original Size Detection 6	Not used	—	—
—		Original Size Detection 7	Not used	—	—
—		Original Size Detection 8	Not used	—	—

10.12.4 Table Number

Functions	• When IDC is detected, for plain paper, Thick 1/1+, Thick 2/3/4, and Black, the machine independently displays each Vg/Vdc output value that is calculated based on the density (toner amount stuck on the belt) of the test pattern created on the transfer belt. • Reference values: C, M, Y K Vdc: around 400 V, Vg: around 500 V
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• If the value is high, correct so that the image density becomes low. • If the value is low, correct so that the image density becomes high.

10.12.5 Level History1

Functions	• To display TCR (T/C ratio), IDC/registration sensor output values, and fusing temperature.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• TCR-C/-M/-Y/-K : Shows the T/C output reading taken last. • IDC1/IDC2 : Shows the latest IDC data. • Middle heat temperature : Displays the latest temperature on the middle of the heating roller. • Pressurizing side temperature : Displays the latest temperature of the pressure roller. • Heat edge temperature : Displays the latest temperature at the edges of the heating roller. • Soaking side temperature : Displays the latest temperature of the soaking roller. • NC sensor temperature : Displays the temperature detected by NC sensor. "Reading taken last" means • Density of toner of the latest image • When a test print is produced by pressing the Start key while level history 1 is being displayed.

10.12.6 Level History 2

Functions	• IDC Sensor (Transfer belt bare surface level) as adjusted through the image stabilization sequence and ATVC value.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• IDC Sensor: Shows the intensity adjustment value (0 to 255) of the IDC sensor. • ATVC (C, M, Y, K): Shows the first image transfer ATVC adjustment value (10 to 100 µA). • ATVC (2nd) : Shows the second image transfer ATVC adjustment value (300 to 5000 V).

10.12.7 Temp. & Humidity

Functions	• To display the temperature and humidity of a specific location (IDC sensor portion) inside the machine and fusing temperature.
Use	• Used as reference information when a malfunction occurs.
Setting/ Procedure	• Temp-Inside : 0 to 100 °C in 1 °C increments • Temp-Heater : 0 to 255 °C in 1 °C increments • Temp-press. : 0 to 255 °C in 1°C increments • Humidity : 0 to 100 % in 1 % increments • Absolute Humidity : 0 to 100 in 1 increments

10.12.8 CCD Check

Functions	• To display the D/A value of CCD clamp/gain for R, G, and B.
Use	• Used for troubleshooting for the CCD sensor.
Setting/ Procedure	• Use the following guidelines on the correct range of values. CLAMP: The difference between the max. and min. output values should be within ±100. GAIN : The difference from the CLAMP values (R, B) should be within (90 for R and B. The difference from the CLAMP value (G) should be within ±50 for G. The difference between each pair of RO and RE, GO and GE, and BO and BE should be within 30.

10.12.9 Memory/HDD Adj.

A. Memory Check

Functions	• To check correspondence of data written to and that read from memory through write/read check. Rough Check • A check is made to see if the image data reading and writing are correctly made in a very limited area. • The progress of the check sequence is displayed in percentage. Detail Check • A check is made to see if the image data reading and writing are correctly made at the addresses and buses in all areas. • The progress of the check sequence is displayed in percentage.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Memory Check]. *3.* Select the desired type of check, either [Rough Check] or [Detail Check]. *4.* Press the Start key to start the check procedure. *5.* When the check procedure is completed, the results are shown on the screen. If the check results are NG, check the memory for connection or replace the memory with a new one. ✻ Press the Stop key to interrupt the check sequence.

B. Compress / Decompression Check

Functions	• To check whether compression and decompression are carried out properly.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Compress / Decompression Check]. *3.* Pressing the Start key will automatically start to complete a compression/decompression check sequence. *4.* The check result will be displayed.

C. JPEG check

- This function is available only when the optional scan accelerator kit (SA-501) is mounted.

Functions	• This function enables you to check whether image data are compressed properly through the scan accelerator kit (SA-501).
Use	• When a copy image problem occurs, you can refer to JPEG check.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [JPEG check]. *3.* Pressing the Start key will automatically start to complete a JPEG check sequence. *4.* The check result will be displayed.

D. Memory Bus Check

Functions	• To check to see if image data is correctly transferred from scanner to memory, and from memory to printer.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Memory Bus Check]. *3.* Select either [Scanner → Memory], [Memory → PRT], or both. *4.* Pressing the Start key will start the memory bus check and be terminated automatically. *5.* The check result will be displayed, [OK] or [NG].

E. Work Memory In/Out Check

Functions	• To check to see if input and output of image data of work memory are correctly performed.
Use	• If the print image is faulty.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [Work Memory In/Out Check]. *3.* Select either [Input Check], [Output Check], or both. *4.* Pressing the Start key will start the work memory input/output operation check sequence and be terminated automatically. *5.* The check result will be displayed, [OK] or [NG].

F. HDD Version Upgrade (LK)

- This is displayed only when the function enhanced version 3 or later firmware is installed.

Functions	• To maintain the compatibility of management information data and documents stored in HDD after the firmware upgrade.
Use	• This must be performed after upgrading the firmware to the function enhanced version 3.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Version Upgrade (LK)]. *3.* Touch Start key to initiate upgrading the current HDD version. *4.* When the upgrade is completed, the result is displayed on the screen. **NOTE** • **Make sure to turn OFF the main power switch when firmware upgrade is completed, and turn it ON again more than 10 seconds after.**

G. Down Ver.

- This is displayed only when the function enhanced version 4 or later firmware is installed.

Functions	• In the process of firmware downgrade from the function enhanced version 4 firmware to the function enhanced version 3, use this function before rewriting the firmware.
Use	
Adjustment Procedure	• For the details about how to use this function, see “Firmware upgrade.” See P.65

H. Down Version

- This is displayed only when the function enhanced version 2 or the function enhanced version 3 firmware is installed.

Functions	• To convert the mode information for responding to Scan To WebDAV and Scan To USB to a form compatible with the older firmware version.
Use	• In the process of firmware downgrade from the function enhanced version 2 firmware, use this function before rewriting the firmware.
Adjustment Procedure	• For the details about how to use this function, see “Firmware upgrade.” See P.65

I. Up Ver.

- This is displayed only when the function enhanced version 2 or the function enhanced version 3 firmware is installed.

Functions	• To expand the mode information for responding to Scan To WebDAV and Scan To USB.
Use	• In the process of firmware upgrade to the function enhanced version 2 firmware, use this function after rewriting the firmware.
Adjustment Procedure	• For the details about how to use this function, See “Firmware upgrade.” See P.65

J. Conversion Up

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

Functions	• To convert and update management information data so that they become compatible with the enhanced version of firmware.
Use	• In the process of firmware upgrade to the function enhanced version 1 or 2 firmware, use this function after rewriting the firmware.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [State Confirmation] → [Memory /HDD Adj.] → [Conversion Up]. *3.* Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up. *4.* When Conversion Up is completed, the result is displayed on the screen. **NOTE** • **Make sure to turn off the main power switch when Conversion Up is complete, and turn it on again more than 10 seconds after.**

K. HDD R/W Check

Functions	• To check to see if the hard disk is connected properly, and if read/write operation of the hard disk is correctly performed.
Use	• When the hard disk is mounted.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [HDD R/W Check]. *3.* Pressing the Start key will start the hard disk R/W check sequence and be terminated automatically. *4.* The check result will be displayed, [OK] or [NG].

L. HDD Format

Functions	• To format the hard disk. • The function proceeds in the order of physical format to logical format. • If the hard disk is yet to be formatted, the malfunction code “C-D010” will appear. Ignore this code and continue with the formatting procedure.
Use	• When the hard disk is mounted. • When the hard disk is to be initialized. (Physical format to logical format)
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [State Confirmation] → [Memory / HDD Adj.] → [HDD Format]. **(1) Physical Format** *1.* Touch [Physical Format]. *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn off the main power switch and turn it on again more than 10 seconds after. **(2) Logical Format (only when initial is set up)** *1.* Touch [Logical Format]. *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn off the main power switch and turn it on again more than 10 seconds after. ✻ Formatting the hard disk will erase all data contained in it.

M. Conversion Down

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

Functions	• To convert and update management information data so that they become compatible with the earlier version of firmware.
Use	• In the process of firmware downgrade from the function enhanced version 1 or 2 firmware, use this function before rewriting the firmware.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [State Confirmation] → [Memory /HDD Adj.] → [Conversion Down]. *3.* Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion down. *4.* When Conversion down is completed, the result is displayed on the screen. **NOTE** • **Make sure to turn off the main power switch when Conversion Down is complete, and turn it on again more than 10 seconds after.**

N. XPS Enable Format

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

Functions	• To perform a logical format of HDD and let HDD support the printing of XPS files.
Use	• After upgrading the firmware to the function enhanced version 1 or 2 firmware, use this function if there is a need of printing XPS files.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [State Confirmation] → [Memory /HDD Adj.] → [XPS Enable Format]. *3.* Check to see that the Start key is lit in blue. Touch the Start key to start formatting. *4.* When formatting is completed, the result is displayed on the screen. **NOTE** • **Make sure to turn off the main power switch when XPS Enable Format is complete, and turn it on again more than 10 seconds after.** • **When XPS Enable Format is performed, HDD is logical formatted. Font data, macro data, and others that have been installed by users disappear.** • **When XPS Enable Format is not performed, print jobs of XPS file format are cancelled.**

O. XPS Disable Format

- For bizhub C550/C451, this is displayed only when the function enhanced version 1 or later firmware is installed.

Functions	• To perform a logical format of HDD and stop supporting XPS file format.
Use	• In the process of firmware downgrade from the function enhanced version 1 or 2 firmware, use this function before rewriting the firmware.
Adjustment Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [State Confirmation] → [Memory /HDD Adj.] → [XPS Disable Format]. *3.* Check to see that the Start key is lit in blue. Touch the Start key to start formatting. *4.* When formatting is completed, the result is displayed on the screen. **NOTE** • **Make sure to turn off the main power switch when XPS Disable Format is complete, and turn it on again more than 10 seconds after.** • **When XPS Disable Format is performed, HDD is logical formatted. Font data, macro data and others that have been installed by users disappear.**

10.12.10 Memory/HDD State

Functions	• To display the condition and amount of the memory and hard disk. • To display the mounting condition of the optional encryption board (security kit SC-503).
Use	• Use to check the condition and amount of the memory and hard disk. • Use to setup the optional security kit SC-503.
Setting/ Procedure	• When the encryption board is mounted, the machine automatically recognizes it and displays [Set].

10.12.11 Color Regist

Functions	• To check each of C, M, and Y for color shift amount. • The data is updated after a color shift correction has been made or color shift adjustment has been completed.
Use	• Use for check when color shift is evident.
Setting/ Procedure	• For each of C, M, and Y, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) and the difference in color shift amount between the front and rear (X and Y directions) are displayed. • Display unit: dots

10.12.12 IU Lot No.

Functions	• To display the 10-digit lot number for each of Cyan, Magenta, Yellow, and Black IUs. • The lot number data is stored in EEPROM of each IU.
Use	• Use for checking the IU Lot No.
Setting/ Procedure	• The IU lot number is displayed even with the front door opened; however, the display is blank, since the machine is unable to read the lot number when the main power switch is turned ON with the front door open. Nonetheless, the lot number will be displayed when the front door is closed. (The engine obtains the IU lot number information when the front door is closed.)

10.12.13 Adjustment Data List

Functions	• To display the adjustment and setting value set in the main body.
Use	• Use to check the adjustment and setting value set in the main body.

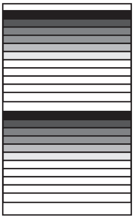
10.13 Test Mode

- To check the image on the printer side by letting the machine produce various types of test pattern. It also tests the printing operation in running mode, as well as the fax transmission.
- The machine searches through the paper sources in the order of tray 2, tray 3, tray 4, and tray 1 for paper of the maximum size for printing.

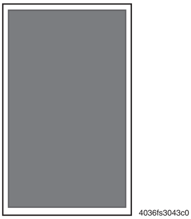
10.13.1 Procedure for test pattern output

1. Touch [Test Mode] to display the test mode menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

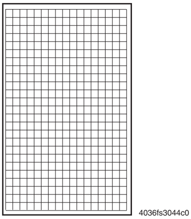
10.13.2 Gradation Pattern

Functions	• To produce a gradation pattern.
Use	• Used for checking gradation reproducibility.
Pattern	
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER”. • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), CMYK, 8Color, 4Color, Black (1PC) • Black (4PC): Uses four colors. • Black (1PC): Uses one color of black.

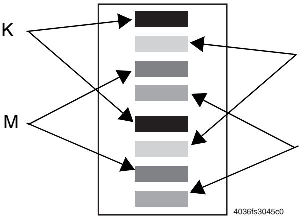
10.13.3 Halftone Pattern

Functions	• To produce a solid halftone pattern.
Use	• Used for checking uneven density and pitch noise.
Pattern	 SINGLE HYPER Gradation Cyan Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC), MIX • Type the density level (0 to “255”).

10.13.4 Lattice Pattern

Functions	• To produce a lattice pattern.
Use	• Used for checking fine line reproducibility and uneven density. • A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.
Pattern	 SINGLE FEET Cyan CD Width: 5 FD Width: 5 Density: 255 Normal
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select “FEET” or HYPER. • Select Gradation or Resolution. (Only select HYPER) • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC) • Enter CD width and FD width (0 to 191 dots). • Type the density level (0 to “255”). • Select “Normal” or Reverse.

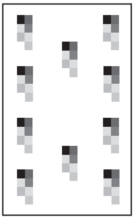
10.13.5 Solid Pattern

Functions	• To produce each of the C, M, Y, and K solid patterns.
Use	• Used for checking reproducibility of image density.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Type the density level (0 to “255”).

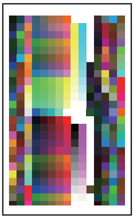
10.13.6 Color Sample

Functions	• To produce a color sample.
Use	• Used for checking reproducibility of each of the different colors.
Pattern	4036fs3046c0 SINGLE HYPER Gradation
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Produce 12-gradation-level patches of C, M, Y, K, R, G, and B, and a patch of each of the 12 reference colors in the hue circle with lightness and saturation corrected.

10.13.7 8 Color Solid Pattern

Functions	• To produce an 8-color solid pattern.
Use	• Used for checking color reproducibility and uneven density of each color.
Pattern	 4036fs3047c0 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Type the density level (0 to “255”).

10.13.8 CMM pattern

Functions	• To produce a CMM (Color Management Module) pattern.
Use	• Used to check color difference depending on the places where output is made.
Pattern	 A00JF3C525DA Error diffusion 270 degrees
Setting/ Procedure	• # of Print is always “1”. • Select “Error diffusion”, Gradation, or Resolution. • Select an angle from among “0 degrees”, 90 degrees, 180 degrees, and 270 degrees.

10.13.9 Running Mode

Functions	• To test the printing operation in running mode.
Use	• Use to check the printing operation in running mode from each paper source.
Setting/ Procedure	1. Call the Service Mode to the screen. 2. Touch these keys in this order: [Test Mode] → [Running Mode]. 3. Select the paper size (tray 1 or manual bypass tray only). 4. Select the paper type. 5. Press the Start key to start the running mode. 6. Pressing the Stop key will stop operation.

10.13.10 Fax Test

- For details, see FK-502 Service Manual.

10.14 ADF

See P.28 of the DF-611/610 service manual.

10.15 FAX

- For details, see FK-502 Service Manual.

10.16 Finisher

10.16.1 CB-FN adjustment

A. Fold&Staple Pos. Adjustment
See P.30 of the SD-505 service manual.

B. Finisher Check
See P.56 of the FS-519/PK-510/OT-602 service manual.

C. Punch Regist Loop Size
See P.58 of the FS-519/PK-510/OT-602 service manual.

D. Punch Horizontal Position
See P.59 of the FS-519/PK-510/OT-602 service manual.

10.16.2 FS-FN adjustment

A. Center Staple Position
See P.58 of the FS-517/518/608 service manual.

B. Half-Fold Position
See P.61 of the FS-517/518/608 service manual.

C. Punch Vertical Position
See P.12 of the PK-512/513 service manual.

D. Punch Horizontal Position
See P.13 of the PK-512/513 service manual.

E. Punch edge detection
See P.13 of the PK-512/513 service manual.

F. Punch Unit Vertical Position Adj.
See P.32 of the ZU-603 service manual.

G. Punch Unit Horizontal Position
See P.33 of the ZU-603 service manual.

H. Punch unit edge detection
See P.33 of the ZU-603 service manual.

I. Punch Resist Loop Size (Body)

See P.14 of the PK-512/513 service manual.

J. Punch Resist Loop Size (PI)

See P.21 of the PI-503 service manual.

K. 1st Z-Fold Position Adj.

See P.34 of the ZU-603 service manual.

L. 2nd Z-Fold Position Adj.

See P.34 of the ZU-603 service manual.

M. Tri-Fold Position

See P.63 of the FS-517/518/608 service manual.

N. 2 Position Staple Dist.

See P.66 of the FS-517/518/608 service manual.

O. Cover Sheet Tray Size Detection

See P.21 of the PI-503 service manual.

P. Cover Sheet Feeder Adj.

See P.22 of the PI-503 service manual.

Q. finisher check

See P.68 of the FS-517/518/608 service manual.
See P.35 of the ZU-603 service manual.

R. Load Data

See P.70 of the FS-517/518/608 service manual.

10.16.3 Staple option setting

See P.73 of the FS-517/518/608 service manual.
See P.62 of the FS-519/PK-510/OT-602 service manual.

10.16.4 Punch Option setting

See P.14 of the PK-512/513 service manual.
See P.60 of the FS-519/PK-510/OT-602 service manual.
See P.36 of the ZU-603 service manual.

10.16.5 Fold power of pages restrict.

See P.74 of the FS-517/518/608 service manual.
See P.37 of the ZU-603 service manual.

10.16.6 Job Separator

See P.17 of the JS-504 service manual.

10.17 Internet ISW

- By using this setting, the firmware stored in the server can be downloaded over internet for upgrading.
- For details for upgrading the firmware, refer to “Firmware upgrade” in the Maintenance section.
  See P.65

10.17.1 Internet ISW Set

Functions	• To set whether or not to enable each setting for Internet ISW.
Use	• To use when upgrading the firmware by Internet ISW. • Each setting such as Server setting will be valid by setting this to “ON”. **NOTE** • **When the following setting is set to “ON”, this setting will automatically be set to “OFF” and cannot be changed.** **[Administrator Settings] → [Security Settings] → [Enhanced Security Mode]**
Setting/ Procedure	• The default setting is OFF. ON “OFF”

10.17.2 HTTP Setting

- It will be displayed only when [Internet ISW Set] is set to “ON”.

A. Data Input Setting

Functions	• To set whether or not to enable downloading using the HTTP protocol.
Use	• To use when accessing the server using the HTTP protocol. • Setting on the proxy server will be valid when this setting is “ON”.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

B. Connect Proxy

Functions	• To set whether or not to connect via proxy server when accessing the server.
Use	• To use when accessing the server via proxy server.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

C. Proxy Server

Functions	• To set the address and the port number for the proxy server.
Use	• To use when accessing the server via proxy server.
Setting/ Procedure	<Server Address> • Enter an address using IPv4, IPv6, or FQDN format. <Port Number> • Enter the value between 1 and 65535 using the 10-key pad. (The default setting is 80)

D. Proxy Authentication

Functions	• To set the login name or password when authentication is necessary for accessing the proxy server.
Use	• To use when authentication is necessary for accessing the proxy server.
Setting/ Procedure	<Authentication> • The default setting is OFF. ON “OFF” <Log-in Name> • Enter the login name (up to 32 one-byte characters) on the on-screen keyboard. <Password> • Enter the password (up to 32 one-byte characters) on the on-screen keyboard.

E. Connection Time-Out

Functions	• To set the time for the timeout for accessing the server.
Use	• To use when changing the time for the timeout for accessing the server.
Setting/ Procedure	• The default setting is 60 sec. 30 to 300 sec.

10.17.3 FTP Setting

- It will be displayed only when [Internet ISW Set] is set to “ON”.

A. Data Input Setting

Functions	• To set whether or not to enable downloading using FTP protocol.
Use	• To use when accessing the server with FTP protocol. • Setting this to “ON” will enable the proxy server setting.
Setting/ Procedure	• The default setting is ON. “ON” OFF

B. Connect Proxy

Functions	• To set whether or not to access the server via proxy server.
Use	• To use when accessing the server via proxy server.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

C. Proxy Server

Functions	• To set the address and the port No. of the proxy server.
Use	• To use when accessing the server via proxy server.
Setting/ Procedure	<Server Address> • Enter an address using IPv4, IPv6, or FQDN format. <Port Number> • Enter the value between 1 and 65535 using the 10-key pad.

D. Connection Setting

Functions	• To set the port No. and the time for timeout when accessing the FTP server, and also to set whether or not to enable PASV mode.
Use	• To use when accessing the FTP server. • To use when connecting by the PASV (passive) mode (FTP server side will inform the connection port before connecting).
Setting/ Procedure	<Port Number> • Enter the value between 1 and 65535 using the 10-key pad. <Connection Time Out> • Enter the value between 1 and 60 (min.) using the 10-key pad. <PASV Mode> • The default setting is OFF. ON “OFF”

10.17.4 Forwarding Access Setting

A. User ID

Functions	• To register the user ID for accessing the program server where firmware is to be stored.
Use	
Setting/ Procedure	*1.* Select [User ID]. *2.* Enter the user ID (up to 64 one-byte characters) on the on-screen keyboard.

B. Password

Functions	• To register the password for accessing the program server where firmware is to be stored.
Use	
Setting/ Procedure	*1.* Select [Password]. *2.* Enter the password (up to 64 characters) on the on-screen keyboard.

C. URL

Functions	• To register the address and directory of the program server where the firmware is to be stored in URL.
Use	
Setting/ Procedure	*1.* Select [URL]. *2.* Enter the URL (up to 256 one-byte characters) on the on-screen keyboard. **NOTE** • **Enter the URL which format suits the protocol to be used. When connecting to http http:// (Host name or IP address)/ directory name or https:// (Host name or IP address)/directory name. When connecting to ftp ftp:// (Host name or IP address) / directory name.**

D. FileName

Functions	• To register the file name of the firmware data to be downloaded.
Use	
Setting/ Procedure	*1.* Select [FileName]. *2.* Enter the file name (up to 63 one-byte characters) on the on-screen keyboard.

10.17.5 Download

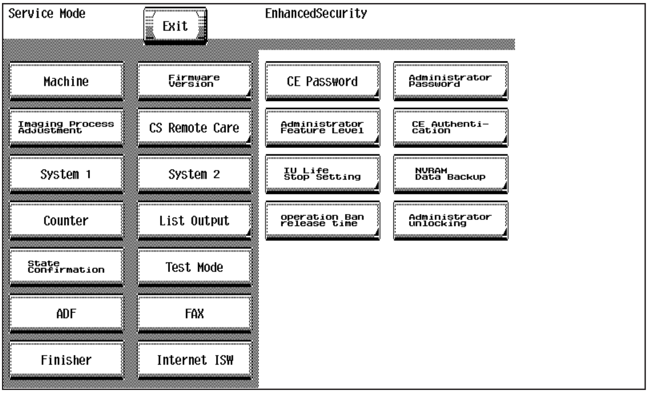
Functions	• Access the program server according to the Internet ISW setting, and download the firmware.
Use	• To use when updating the firmware via network.
Setting/ Procedure	*1.* Select [Download]. *2.* Touch [ISW Start] to start downloading the firmware. *3.* The message to show the status will be displayed on the screen while connecting and transferring data. **NOTE** • **When it failed to connect to the program server, or failed to download, the error code and the message will be displayed. Check the cause of the error by the error code, and follow the message for resetting. Refer to “Error cord list” for the error codes.** See P.96 *4.* When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

11. Enhanced Security

11.1 Enhanced Security function setting procedure

11.1.1 Procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 0→ Clear
3. Enhanced Security menu will appear.



A00JF3E535DA

11.1.2 Exiting

- Touch the [Exit].

11.2 Enhanced Security function tree

Service Mode		Ref. Page
Enhanced Security	CE Password	P.547
	Administrator Password	P.547
	Administrator Feature Level	P.548
	CE Authentication	P.548
	IU Life Stop Setting	P.548
	NVRAM Data Backup	P.549
	Operation Ban release time	P.549
	Administrator unlocking	P.549

11.3 Settings in the Enhanced Security

11.3.1 CE Password

Functions	• To set and change the CE password.
Use	• Use to change the CE password.
Setting/ Procedure	• Enter the CE password (8 digits) on the on-screen keyboard. • The initial setting is “92729272.” Current Password : Enter the currently using CE password. New Password : Enter the new CE password. Re-Input Password : Enter the new CE password again. **NOTE** • **When the following setting leads to the Password Rules [ON], the password with the same letters as well as the password which is same as the previous one cannot be changed.** **[Administrator Settings] → [Security Settings]** • **NEVER forget the CE password. When forgetting the CE password, call responsible person of KMBT.**

11.3.2 Administrator Password

Functions	• To set and change the administrator password.
Use	• Use to change the administrator password. • Use this function when the administrator forget the administrator password because a new password can be set without entering the current administrator password with this.
Setting/ Procedure	• Enter the administrator password (8 digits) on the on-screen keyboard. • The initial setting is “12345678.” New Password : Enter the new administrator password. Re-Input Password : Enter the new administrator password again. **NOTE** • **When the following setting leads to the Password Rules [ON], the password with the same letters, the password which is same as the previous one and the password of less than eight digits cannot be changed.** **[Administrator Settings] → [Security Settings]**

11.3.3 Administrator Feature Level

<table>
<tr><td>Functions</td><td>• To set which modes to be allowed for the administrator to use in Service Mode.</td></tr>
<tr><td>Use</td><td>• Use when allowing the administrator to use some modes in Service Mode.
• The modes allowed for the administrator to use in each setting are as follows.
<table>
<tr><th colspan="3">Administrator settings function</th><th>Level 1</th><th>Level 2</th></tr>
<tr><td rowspan="10">[System Setting] → [Expert Setting]</td><td>Printer Adjustment</td><td>Erase Leading Edge</td><td>—</td><td>❍</td></tr>
<tr><td rowspan="4">Scanner Adjustment</td><td>Leading Edge Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td>Centering</td><td>—</td><td>❍</td></tr>
<tr><td>Horizontal Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td>Vertical Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td rowspan="4">ADF Adjustment</td><td>Centering</td><td>—</td><td>❍</td></tr>
<tr><td>Original Stop Position</td><td>—</td><td>❍</td></tr>
<tr><td>Centering Auto Adjustment</td><td>—</td><td>❍</td></tr>
<tr><td>Auto Adj. of Stop Position</td><td>—</td><td>❍</td></tr>
<tr><td colspan="2">Original Glass Original Size Detect</td><td>—</td><td>❍</td></tr>
<tr><td>[Standard Size Setting]</td><td colspan="2">Foolscap Size Setting</td><td>—</td><td>❍</td></tr>
</table>
</td></tr>
<tr><td>Setting/ Procedure</td><td>• The default setting is Prohibit.
Level1 Level2 “Prohibit”</td></tr>
</table>

11.3.4 CE Authentication

- It will not be displayed when the following settings are set to “ON”.
  [Administrator Settings] → [Security Setting] → [Enhanced Security Mode] or [Password Rules].

Functions	• To determine whether or not to authenticate CE password as entering Service Mode.
Use	• Use when authenticating CE password as entering Service Mode. **NOTE** • **For setting the following setting to “ON”, set the CE Authentication to “ON” and change the initial CE password beforehand. [Administrator Settings] → [Security Setting] → [Enhanced Security Mode] or [Password Rules]**
Setting/ Procedure	• The default setting is OFF. ON “OFF”

11.3.5 IU Life Stop Setting

Functions	• To select whether or not to stop a print cycle when the IU reaches its service life.
Use	• Use to select not to stop the print cycle when the IU reaches its service life.
Setting/ Procedure	The default setting is Stop. “Stop” No Stop

11.3.6 NVRAM Data Backup

Functions	• To backup NVRAM data in the main body to the flash memory.
Use	• To backup current data in order to prevent data in NVRAM from being erased unexpectedly. • To backup data manually. It usually makes backup every hour automatically. • Backup data can be restored by following the specified procedure when the trouble (CD3XX) occurred. Refer to "Troubleshooting" for details on restoration procedure. See P.681
Setting/ Procedure	*1.* Touch [NVRAM Data Backup]. *2.* Touch [Start] to start making a backup. *3.* Check the message [Backup is completed.], and turn main power switch OFF. Wait for ten seconds or more and turn main power switch back ON.

11.3.7 Operation Ban release time

Functions	• To set the time that elapses before the machine releases an access lock that is activated after the CE password authentication.
Use	• To set the period of time that elapses before the machine releases the access lock, which aims to prevent the unintentional release of the access lock. • After the CE password authentication, if the access lock is activated, the lock release timer starts to operate by input the Stop → 0 → 9 → 3 → 1 → 7 in [Meter Count] → [Check Details] → [Coverage Rate] after the main power switch is turned OFF and On. When the timer reaches the time specified in this setting, the access lock is released.
Setting/ Procedure	• The default setting is 1 (minutes). 1 to 60 (minutes) **NOTE** • **When Enhanced Security Mode is set to ON in [Administrator Settings] → [Security Settings] → [Enhanced Security Mode], the period of time that can be set in this setting is 5 minutes or more.**

11.3.8 Administrator unlocking

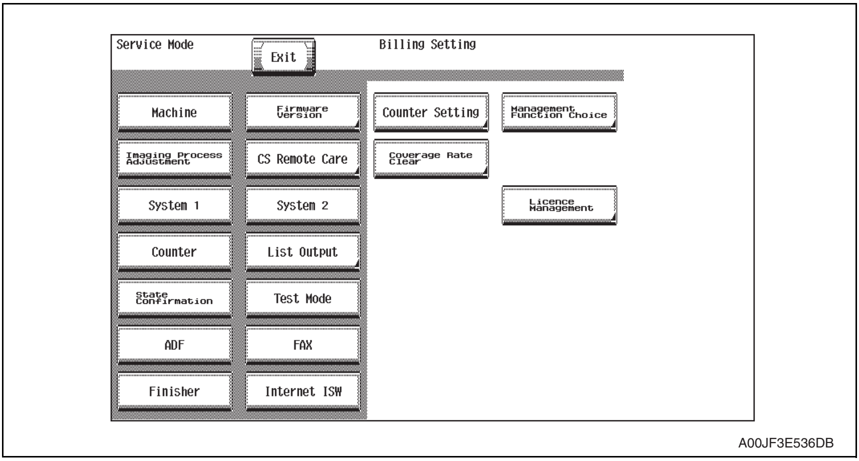
Functions	• To release an access lock that is activated after an administrator password authentication.
Use	• To release the access lock with service authority when an administrator password authentication fails and the access lock is activated. • When the main power switch is turned OFF and ON or the period of time set in the Release Time Settings elapses, the machine releases the access lock that is activated after the administrator password authentication. In addition to these operations, this setting provides another way to release the access lock.
Setting/ Procedure	*1.* Touch [Administrator unlocking]. *2.* Touch [unlocking] to release an access lock. *3.* When [OK] is displayed, touch [OK].

12. Billing Setting

12.1 Billing Setting function setting procedure

12.1.1 Procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 9
3. Billing Setting menu will appear.



12.1.2 Exiting

- Touch the [Exit].

12.2 Billing Setting function tree

Service Mode			Ref. Page
Billing Setting	Counter Setting		P.551
	Management Function Choice		P.552
	Coverage Rate Clear		P.559
	License Management	Activation	*1
		Deactivation	
		Repair	
		Initialize	
		Request Code	
		List	

*1: For details, see the LK-101/102/103 service manual.

12.3 Settings in the Billing Setting

12.3.1 Counter Setting

Functions	• To set the counting method for the total counter, size counter and long length paper counter. (The long length paper counter is operational only on bizhub C451) • To set the size regarded as the large size (2 counts.)
Use	• Use to change the counting method for the counters.
Setting/ Procedure	Total Counter Mode 1: 1 count per 1 copy cycle (Default: Japan) Mode 2: Large size is double counts (Default: US, Europe, Others 1, Others 2, Others 3, Others 4) **NOTE** • **The content of this setting is reflected in the count method with the key counter.** • **"Others 1" to "Others 4" are setting items in [Marketing Area] available from Service Mode.** See P.489
	Size Counter • A3/11 x 17 : When it exceeds 279 mm in the main scan direction and 420 mm in the sub scan direction (exceeds 399 mm at fax scan), it is regarded as the large size. • A3/B4/11 x 17/8 $^{1}/_{2}$ x 14 : When it exceeds 215 mm in the main scan direction and 355 mm in the sub scan direction (exceeds 337 mm at fax scan), it is regarded as the large size. • A3/11 x 17/B4/8$^{1}/_{2}$ x 14/Foolscap : When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction (exceeds 313 mm at fax scan), it is regarded as the large size (However the size in the main scan direction changes according to the foolscap size setting.) • Not counted (Default: Japan) • A3 and 11 x 17 (Default: US) • A3, B4, 11 x 17, and 8$^{1}/_{2}$ x 14 (Default: Europe, Others 1, Others 2, Others 3, Others 4) • A3, B4, Foolscap, 11 x 17, 11 x 14, and 8$^{1}/_{2}$ x 14

✻ Count-up table

Copying	1-Sided				2-Sided			
Size	Sizes other than those specified		Specified sizes		Sizes other than those specified		Specified sizes	
Mode	Mode		Mode		Mode		Mode	
	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

0: No count; 1: 1 count; 2: 2 counts; 3: 3 counts; 4: 4 counts

Setting/ Procedure	Long Length Paper Counter Mode • When printing on the long paper (457.2 mm or over), the counting value will be the total of the value set by the total counter mode and the value by this setting. • The default setting is Mode 4. Mode 1 : + 0 count Mode 2 : + 1 count Mode 3 : + 2 counts (457.2 to 915.0 mm will be + 1 count) Mode 4 : + 3 counts (457.2 to 686.0 mm will be + 1 count, and 686.1 to 915.0 mm will be + 2 count)

12.3.2 Management Function Choice

- To set whether or not the following items are to be mounted.
  Key Counter, Management Device (Data controller), Authentication Device, or Vendor

NOTE

- **It will not be displayed when the following setting is set to “ON”.**
  [Administrator Settings] → [Security Setting] → [Enhanced Security Mode]
- **When the setting shows that [Management Device 1], [Management Device 2] or [Vendor 2] is mounted, the following applications will be invalid.**
  PC FAX transmission / HDD TWAIN/PS Box Operator / PS Scan Direct / PS Job Spooler / Fiery: Scan to Box
  Also, the following setting will be set to “Disable”.
  [Administrator Settings] → [Security Setting] → [Management Function Setting] → [Network Function Setting]

A. Key Counter IF Vendor

Functions	• Not used
Use	
Setting/ Procedure	

B. Authentication Device 1

Functions	• To set whether or not the authentication device 1 is installed.
Use	• Set when the authentication device 1 (PageACSES) is mounted.
Setting/ Procedure	**NOTE** • **The setting is available only when user authentication and account track are set “OFF” with [Administrator Settings] → [User Authentication/Account Track] → [General Setting].** • **When the Authentication Device mount setting is set to “mount”, make sure that the [IP Address Fax] and [Internet Fax] settings are set to “OFF” with [Service Mode] → [System 2] → [Network Fax Settings].**

C. Authentication Device 2

Functions	• To set whether or not the authentication device 2 is installed.
Use	• Set when the authentication unit (biometric type or card type) is mounted. Biometrics : Uses biometrics (finger vein) authentication system Card 1 : Uses IC card authentication system Card 2 : Uses loadable device card authentication system • When selecting biometrics, set a film timeout interval. • When selecting [Card 1] or [Card 2], a response timeout interval is displayed. (The interval is unchangeable.) • When the setting is set to Card 2, the main power switch must be turned OFF and ON to let the new setting take effect. • Selecting Card 2, a loadable device driver allows to install.
Setting/ Procedure	<Authentication Mode> Card 1 Card 2 Biometrics

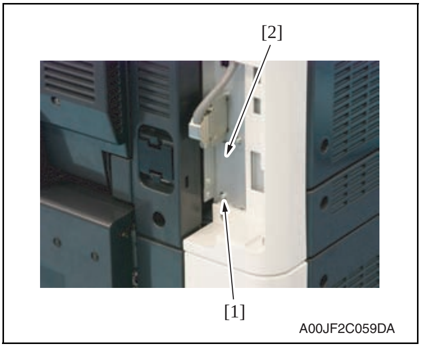
(1) Installing method of the loadable device driver

- The firmware is updated using the compact flash.

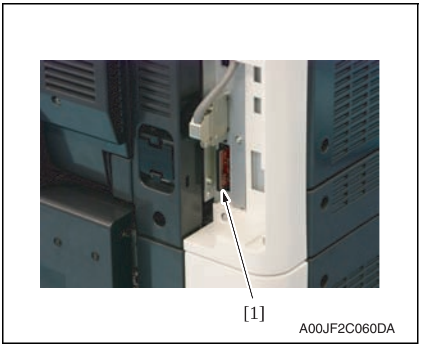
NOTE

- **NEVER remove or insert the compact flash card with the machine power turned ON.**

1. Prepare a compact flash on which the driver data of the loadable device to be used was written.
2. Turn OFF the main power switch.
3. Remove the interface cover.
   See P.115

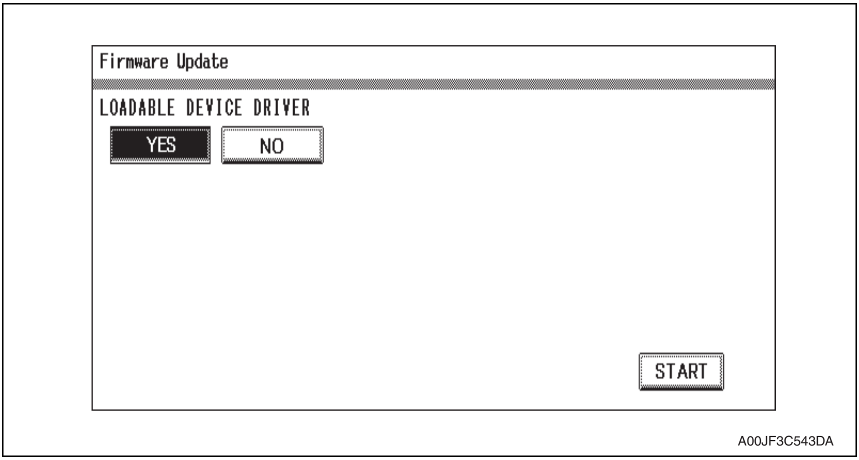


4. Remove the screw [1] and the metal blanking plate [2].



5. Insert the compact flash card [1] into the slot.

6. Turn ON the main power switch and the sub power switch.
7. Select [Yes] on the loadable device driver installation screen.



8. Press the [START] to start installing the driver.
   (At this time, the Start key starts blinking red.)
9. Check that the control panel shows the message indicating that the data has been installed correctly ([Downloading Completed]). Check also the check sum value ([Check Sum ####]) shown on the control panel. (The Start key lights blue.)
10. Turn OFF the main power switch.
11. Remove the compact flash card from the slot.
12. Turn ON the main power switch, and close the front door.

D. Key Counter Only

Functions	• To set whether or not the key counter is installed.
Use	• Set when the key counter is mounted. • Select [Color Mode] and [Message] when the key counter is mounted.
Setting/ Procedure	✻ Color Mode • When [Mode 1] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting]. Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle • When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting] and large size is selected on [Large Size Counter Mode] Mode 1: 2 counts per 1 copy cycle Mode 2: 4 counts per 1 copy cycle Mode 3: 6 counts per 1 copy cycle Mode 4: 8 counts per 1 copy cycle Mode 5: 10 counts per 1 copy cycle • When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting] and sizes other than large size are selected on [Large Size Counter Mode] Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle
Setting/ Procedure	✻ Message Select the message type when the administrative unit is mounted. Type 1: Message for key counter Type 2: Message for card scanning Type 3: Message for ID management Type 4: Message for remote SW ✻ Confirmation copy • Set whether to allow a confirmation copy when a key counter is installed. • The default setting is Ban. License “Ban” ✻ The next job reservation • Set whether to allow the reservation of the next job when a key counter is installed. • The default setting is Ban. License “Ban” **NOTE** **• The setting is available only when user authentication and account track are set “OFF” with [Administrator Settings] → [User Authentication/Account Track] → [General Setting].**

E. Management Device 1

Functions	• To set whether or not the management device 1 is installed.
Use	• Set when the management device 1 is mounted.
Setting/ Procedure	**NOTE** • **The setting is available only when user authentication is set "OFF" and account track is set "Off" or "Account Name + Password" with [Administrator Settings] → [User Authentication/Account Track] → [General Settings].**

F. Management Device 2

Functions	• To set whether or not the management device 2 is installed.
Use	• Set when the management device 2 is mounted.
Setting/ Procedure	✻ Management Setting • Select the Management Setting Mode Mode 1: Use contact type device (Logout with ID key is not allowed.) Mode 2: Use non-contact type device (Logout with ID key is allowed.) **NOTE** • **The setting is not available when either "External Server" of user authentication, "Password Only" of account track, "Do not synchronize" of user authentication and account track or "Allow" of public user access has been set with [Administrator Settings] → [User Authentication/Account Track] → [General Settings].**

G. Vendor 1

Functions	• Not used.
Use	
Setting/ Procedure	

H. Vendor 2

Functions	• To set whether or not the vendor 2 is installed.
Use	• Set when the vendor 2 is mounted. **NOTE** • **When using the vendor along with the key counter, inserting the key counter will set it to the “Key Counter Mode” and removing it will set it to the “Vendor Mode”.**
Setting/ Procedure	• Select color mode and message of key counter. (Only for key counter, the type of the color mode and message are same after mounting.) ✻ Confirmation copy • Set whether to allow a confirmation copy when a key counter is installed. • The default setting is Ban. License “Ban” ✻ The next job reservation • Set whether to allow the reservation of the next job when a key counter is installed. • The default setting is Ban. License “Ban” • Select message of vendor. ✻ Message Type 1: Message for key counter Type 2: Message for card scanning Type 3: Message for ID management **NOTE** • **The setting is available only when user authentication and account track are set “OFF” with [Administrator Settings] → [User Authentication/Account Track] → [General Setting].**

NOTE

- **Performing the setup for each unit to be mounted will internally change the setting values below. It needs resetting when cancelling the setting in order to set back to “not mounted” because the setting value will remain.**

	Setting Item	Vendor 2	Authentication Device 1	Authentication Device 2	Management Device 1	Management Device 2
Utility	Default Copy Settings	Factory Default		—	—	—
	Default Scan/ Fax Settings	Factory Default		—	—	—
	Copy Operating Screen	[Yes]		—	—	—
	Fax Active Screen	Rx Display [Yes]		—	—	—
	Scan/Fax Settings Default Tab	Direct Input	—	—	—	—
	Left Panel Display Default	[Job List]		—	—	—
Administrator Settings	Each Function Setting (When IC-409 is not mounted)	Copy, PC print, Send Data, and Print others will be set to “ON”.	Copy, PC print, Send Data, and Print others will be set to “ON”.	—	Copy will be set to “ON”. PC print, Send Data, and Print others will be set to “OFF”.	Copy, PC print, Send Data, and Print others will be set to “ON”.
	Each Function Setting (When IC-409 is mounted)	Send Data will be set to “ON”.				
	Administrator Security Level	Prohibit		—	—	—
	Weekly Timer ON/ OFF Setting	OFF	—	—	—	—
	Reset Setting	—	Reset Data After Job will be set to “ON”.	—	—	—
	Application Key Settings	When Key 1 is set to My Panel, reset the setting and assign Key 1 to [FAX/ SCAN]. When Key 2 is set to My Panel, reset the setting and assign Key 2 to [Copy].		—	When Key 1 is set to My Panel, reset the setting and assign Key 1 to [FAX/ SCAN]. When Key 2 is set to My Panel, reset the setting and assign Key 2 to [Copy].	
	Restrict Access to Job Settings	Changing Job Priority, Deleting Other User’s Jobs, Registering and Changing Addresses, Changing Zoom Ratio will be set to “Restrict”.		—	—	—
	External Memory Function Settings	—	Save Document and Print Document will be set to “OFF”.		—	—
	ID & Print Settings	—	—	ID & Print will be set to “ON”.	—	—
	System Settings	—	—			
	Forward TX Setting	OFF		—	—	—
	OpenAPI Setting	Access Setting will be set to “Restrict” and Authentication will be changed to “OFF” setting.	Access Setting will be set to “Restrict”.	—	—	—

Setting Item		Vendor 2	Authentication Device 1	Authentication Device 2	Management Device 1	Management Device 2
Administrator Settings	IPP Setting	—	IPP Setting will be set to “OFF”, and Accept IPP job will be set to “OFF”.	—	—	—
	AppleTalk Setting	—	OFF	—	—	—
Administrator Settings	SMB Setting	—	Scan Setting, Print Setting will be set to “OFF”.	—	—	—
	E-mail TX (SMTP)	—	E-mail TX Setting, Scan to E-mail, E-mail Notification, Meter Count Notification will be set to “Restrict”.	—	—	—
	E-mail RX (POP)	—	E-mail RX Setting will be set to “OFF”.	—	—	—
	LDAP Settings	—	Enabling LDAP will be set to “OFF”.	—	—	—
	Prefix/Suffix Setting	—	Prefix/Suffix Setting will be set to “OFF”.	—	—	—
	WebDAV Client Settings	—	WebDAV Client Settings will be set to “OFF”.	—	—	—
	Web Service Settings Printer setting/ Scanner setting	Printer Setting and Scanner setting will be set to “OFF”.		—	Printer Setting and Scanner setting will be set to “OFF”.	
	Status Notification Setting Notification Item Setting	—	All setting items will be set to “OFF”.	—	—	—
	Image Log Transfer Settings	[No]	—	—	—	—
Service Mode	Software Switch Setting	SW No. 63 will be changed to 01 (HEX).	—	—	—	—
	Management function choice	Confirmation copy will be set to “Ban”.	—	—	—	—
	FAX	[System] → [Display Setting] → [Re-Transmission] will be set to “OFF”.	—	—	—	—

12.3.3 Coverage Rate Clear

Functions	• To clear the coverage rate.
Use	• Use to clear the coverage rate.
Setting/ Procedure	• The default setting is Unset. Set “Unset” • Touching [END] key will clear the coverage rate.

13. Procedure for resetting

13.1 Trouble resetting

Functions	• If the all troubles occur and the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door, clear the status of the machine.
Use	• To be used when the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door in case of a trouble.
Setting/ Procedure	*1.* Turn OFF the main power switch. *2.* Turn main power switch ON while pressing the Utility/Counter key. *3.* Touch [Trouble Reset]. *4.* Check to make sure that [OK] is displayed and the it has been reset. *5.* After turning off the main power switch, turn it on again more than 10 seconds after and check if the machine starts correctly.

13.2 Contents to be cleared by reset function

Items for clearing / Contents to be cleared			Front door open/close	Main power switch OFF/ON	Trouble resetting	Initialization	
						System Error Clear	Data Clear
Jam display			❍	—	—	❍	❍
Malfunction display	Rank A	Fusing	—	—	❍	❍	—
		Optical	—	—	❍	❍	❍
	Rank B		❍	—	❍	—	—
	Rank C		—	❍	❍	—	—
Erratic operation / display			—	❍	—	—	—
Utility Mode (Except items on Expert Adjustment.)			—	—	—	—	❍
Service Mode (System 1/2)			—	—	—	—	❒ *1
Billing Setting	Counter Setting		—	—	—	—	❍
	Management Function Choice		—	—	—	—	❍
Adjustment of the touch panel position			—	—	—	—	❍

❍: Will be cleared (initialized)

-: Will not be cleared

❒ *1: Items to be cleared	
System 1	Marketing Area (Fax Target only)
	Foolscap Size Setting
	Install Date
	Tel/Fax Number
	No Sleep
	Original Size Detection
System 2	HDD
	Image Controller Setting

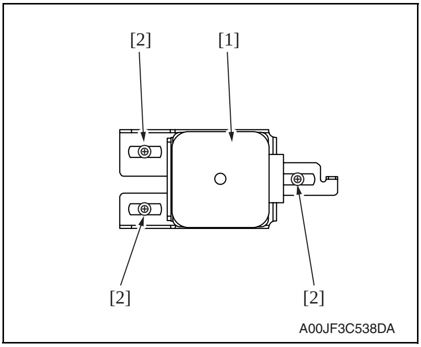
14. Mechanical adjustment

14.1 Mechanical adjustment of the scanner section

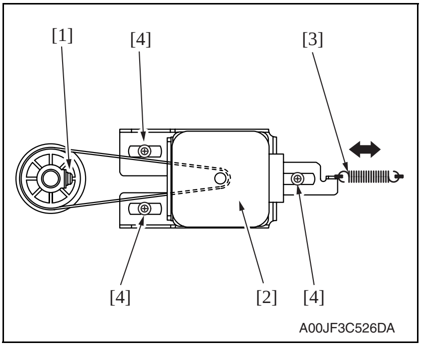
14.1.1 Adjustment of the scanner motor belt

This adjustment must be made in the following case:

- **The scanner motor assy has been removed.**
- **The scanner drive cables have been rewound.**



1. Temporarily secure the scanner motor assy [1] with three screws [2].

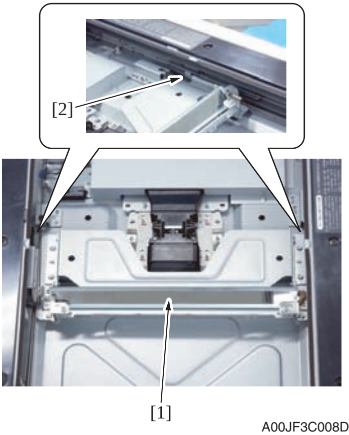


2. With the scanner drive gear set screw [1] located on the right-hand side as shown on the left, slide the scanner motor assy [2] to the left and check that it is returned to the original position by the tension of the spring [3].
   Perform this step three times.
3. Tighten the three screws [4] to fix the scanner motor assy into position.

14.1.2 Focus positioning of the scanner and mirrors unit

This adjustment must be made in the following case:

- **The scanner drive cables have been rewound**



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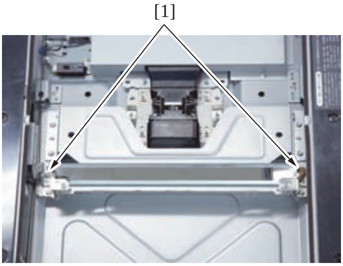
1. Move the mirror unit [1] to the center and push it against the notches [2] on the rail.



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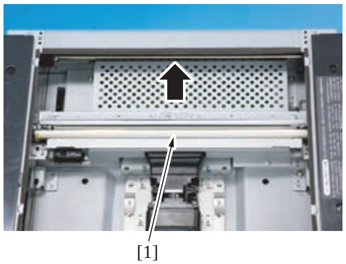
2. When the mirror unit do not push its both sides against the notches, loosen two mirror unit adjustment screws [1] and adjust the mirror unit position until it pushes its both sides against the notches.
   Tighten the adjustment screw.
3. Then conduct scanner positioning adjustment.

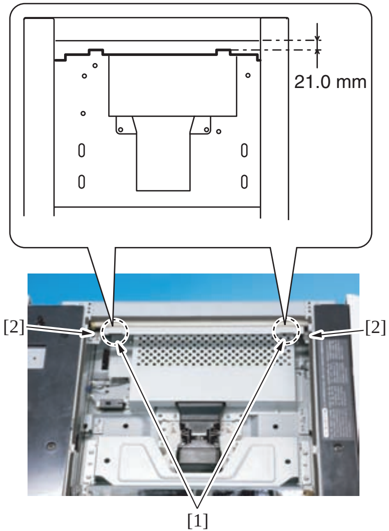
14.1.3 Scanner position adjustment

This adjustment must be made in the following case:

- **The scanner drive cables have been rewound.**
- **Focus positioning of the scanner and mirrors unit must be completed.**



1. Move the scanner assy [1] and the mirror unit to the end of the right.

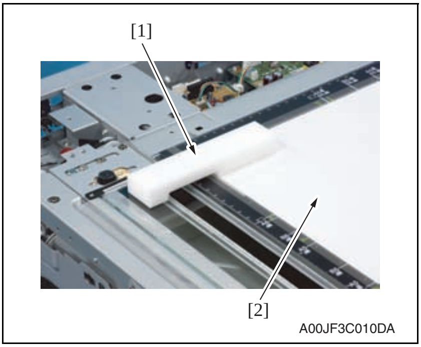


2. Slide the mirror unit until it hits the end of the IR right frame.
3. Provide the length of 21.0 mm between the end of the left indentation [1] on the scanner assy upper surface and the end of the IR right frame upper surface. When the length is ensured, tighten the two screws [2].
4. Mount the original glass moving unit, and adjust the height of the original glass moving unit.
   See P.564
5. Whenever the scanner drive cables have been removed, be sure to carry out the [Feed Direction Adjustment] procedure.
   See P.455
6. Perform the following setting.
   [Service Mode] → [ADF] → [Read Pos Adj]
   See P.32 of the DF-611/610 service manual.

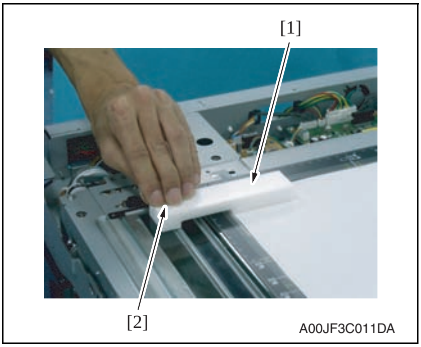
14.1.4 Adjusting the height of the original glass moving unit

This adjustment must be made in the following case:

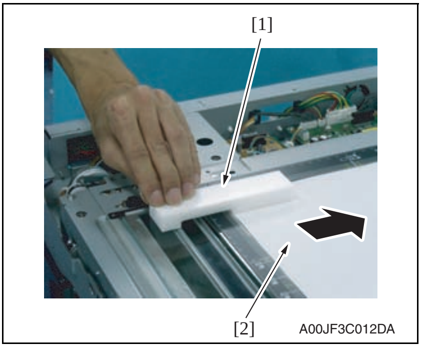
- **When replacing the original glass moving unit.**



1. Set the height adjustment jig for the original glass moving unit [1].
   Insert the paper [2] between the original glass and the height adjusting jig for the original glass moving unit.



2. Press the height adjusting jig for the original glass moving unit [1] on the original glass moving unit side [2].

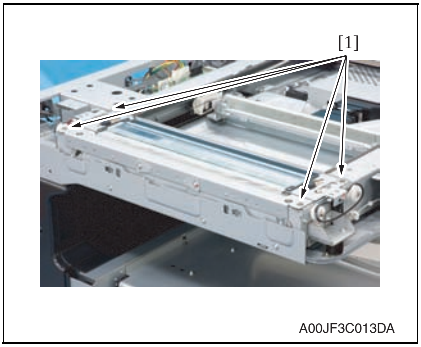


3. Pull the paper [2] while pressing the height adjusting jig for the original glass moving unit [1] and make sure that the paper will not come out.

NOTE

- **Pull the paper [2] while pressing the height adjusting jig for the original glass moving unit [1] and make sure that the paper will not come out.**

4. When the paper comes off, the adjustment of the height is necessary by the following procedure.



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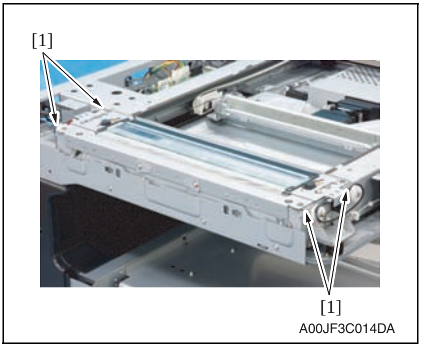
5. Remove four screws [1] from the original glass moving unit.



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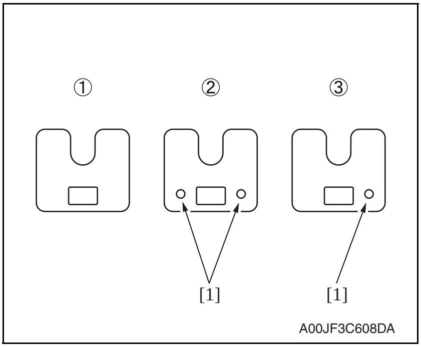
6. Install four spacers [1] and make a height adjustment.



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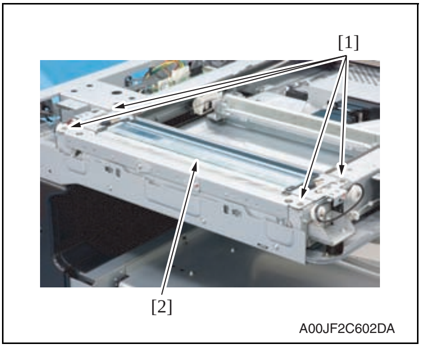
NOTE

- **Prepare and use the spacers described below as necessary.**
  ①A00J 2903 ##: 0.5 mm thickness
  ②A00J 2908 ##: 0.2 mm thickness
  ③A00J 2909 ##: 0.1 mm thickness
- **Each spacer can be identified by the number of holes [1] which are 1.5 mm in diameter.**

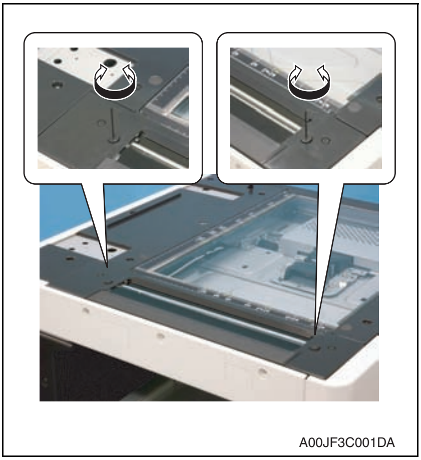


7. Temporarily secure the original glass moving unit [2] with four screws [1].
8. Check the height repeating step 1 to 3.
9. Secure the original glass moving unit with four screws [1].

14.1.5 Adjusting the height of the guide support for the original glass moving unit

This adjustment must be made in the following case:

- **Only when original jam, bend, or tilt occurred during original feeding by ADF.**



1. Adjust the guide support for the original glass moving unit by rotating the small screws (one on the near side and one on the far side) with the hexagon wrench (1.5 mm) to adjust the height.

Turning clockwise: Up
Turning counterclockwise: Down

NOTE

- **Feed a paper with ADF, and adjust so that no original jam, bending, or tilt will occur.**

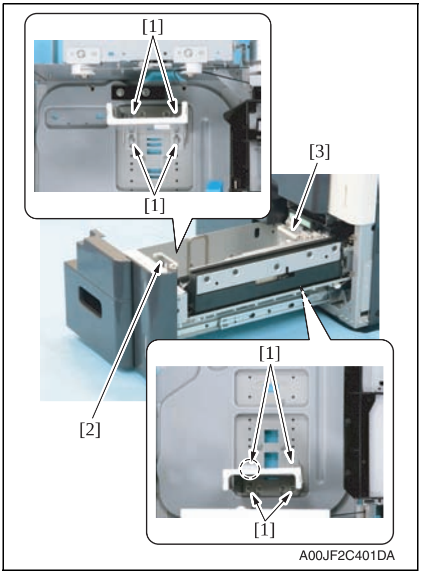
14.2 Mechanical adjustment of the paper feed section

14.2.1 Tray3/4 paper size change

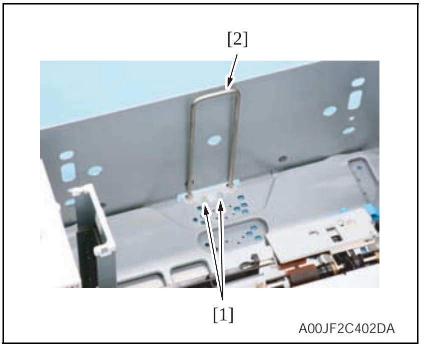
This adjustment must be made in the following case:

- **Upon user requests, the paper size used for the tray3/4 needs to be changed.**

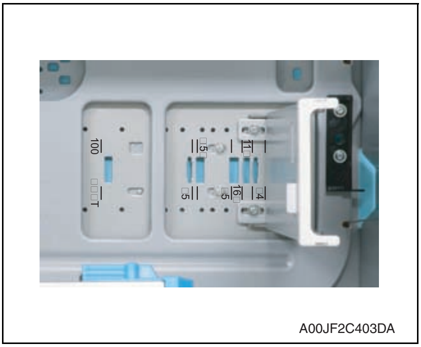
1. Pull out the tray where this adjustment is made.



2. Remove four screws [1] and remove the paper guide plates (front [2]/rear [3]).



3. Remove two screws [1] and remove the end guide plates [2].



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4. Align the paper guide plate (rear) with the marking on the bottom and secure it with four screws.

To set B5/8.5/16K sizes:

- **Insert the paper guide plate (rear) into the hole. Align it with the back marking and secure it.**

To set A5/Post card size:

- **Insert the paper guide plate (rear) into the hole. Align it with the front marking and secure it.**

5. Insert paper of the size to be placed in the tray, and set the paper guide plate (front) against the edge of the paper.

Gap between paper and the paper guide plate (front):0 < 1mm

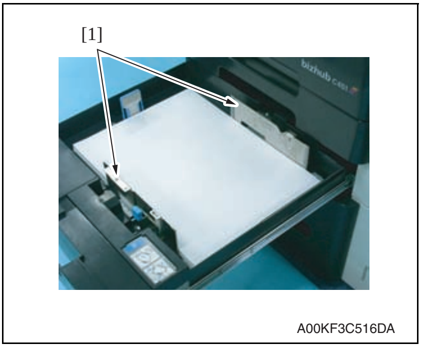
6. Secure the front side of the paper guide plate (front) with two screws, remove the paper and secure the back side with two screws.
7. Align the end guide plate with the marking on the bottom and secure it.
8. Select the tray where paper size needs to be changed and change paper size in the following screen.
   [Service Mode] → [System 2] → [LCC Size Setting]
   See P.498
9. Make a test print.

14.2.2 Skew adjustment of the tray 1/2

This adjustment must be made in the following case:

- **To reduce paper skew that cannot be corrected by the registration loop adjustment when the tray 1 or 2 is within the specifications.**

1. Pull out the tray where this adjustment is made.



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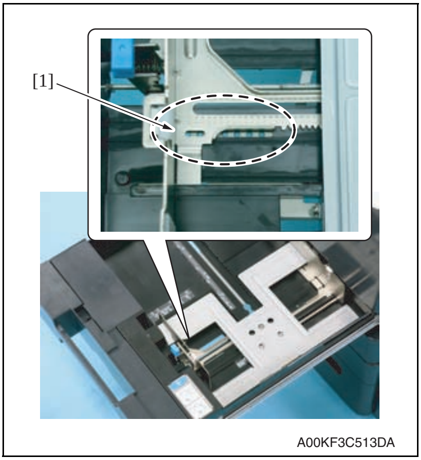
2. Load the tray with the paper.
3. Move the set of the paper guides [1] until no gap is produced between the both ends of paper and the paper guides.



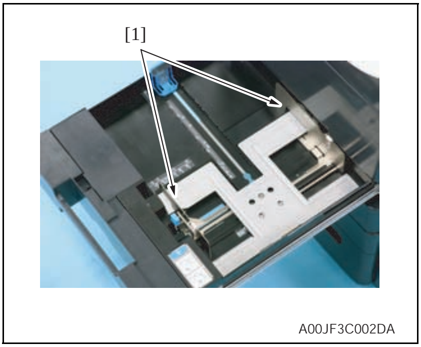
4. Remove the paper from the tray.
5. Secure the set of paper guides [1] on the tray using a screw (M3 x 8 mm: V121 0308 04).

14.2.3 Centering adjustment of the tray 1/2

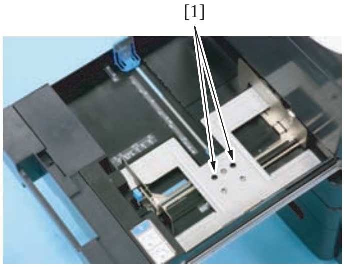
This adjustment must be made in the following case:

- **When an image printed on a copy is displaced from the correct position with the use of the tray1/2.**

1. Make a test print and check the amount of misalignment.
2. Pull out the tray where this adjustment is made.



3. Stretch the paper guide [1] to the maximum size position.



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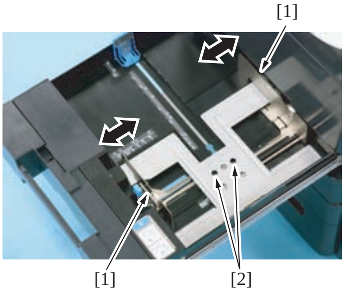
4. Loosen two screws [1].



A00JF3C004DA

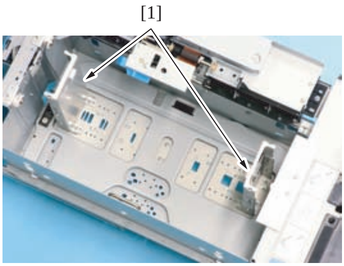
5. Move the paper guide [1] complete according to the amount of the mis-centering you checked in step 1 and adjust the center position of it.
6. Tighten two screws [2].
7. Make another test print and check the amount of misalignment.

14.2.4 Centering adjustment of the tray 3/4

This adjustment must be made in the following case:

- **When adjustment in the following screen does not resolve a problem.**
  [Service Mode] → [Machine] → [Centering]

1. Make a test print and check the amount of misalignment.
2. Pull out the tray where this adjustment is made.



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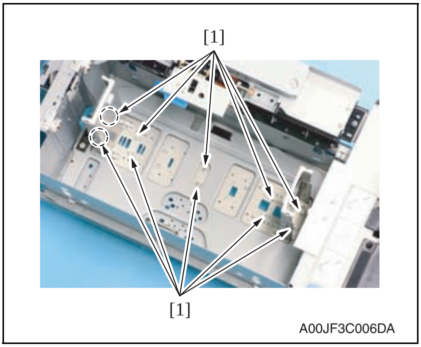
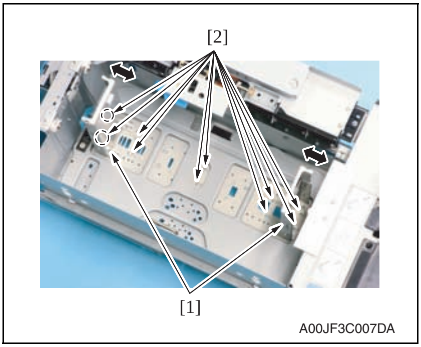
3. Stretch the paper guide [1] to the maximum size position.



4. Loosen ten screws [1].



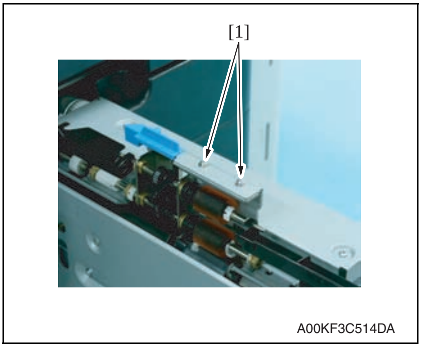
5. Move the paper guide [1] complete according to the amount of the mis-centering you checked in step 1 and adjust the center position of it.
6. Tighten ten screws [2].
7. Make another test print and check the amount of misalignment.

14.2.5 Pick-up roller load adjustment of the tray 3/4

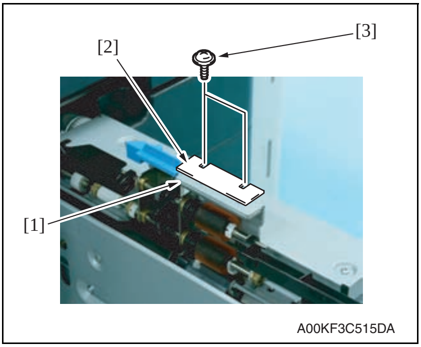
This adjustment must be made in the following case:

- **In case a no feed jam occurs frequently.**

1. Pull out the tray where this adjustment is made.



2. Remove two screws (M3 x 6 mm: V118 0306 03) [1].



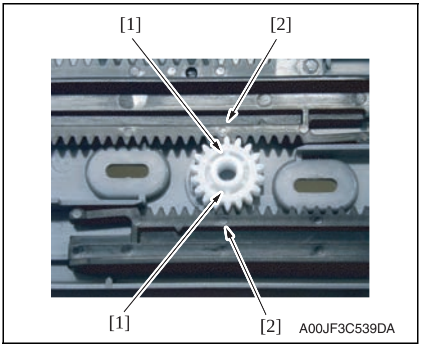
3. In the pick-up roller assy, put paper feed assist plate (A00J P001 ##) [2] on the paper feed assist plate holder [1], and fix them with two accompanying screws (M3 x 8 mm: V118 0308 03) [3].
4. Set the tray.
5. Perform test print to check whether the no feed or the double feed occurs or not.

14.3 Mechanical adjustment of the bypass tray section

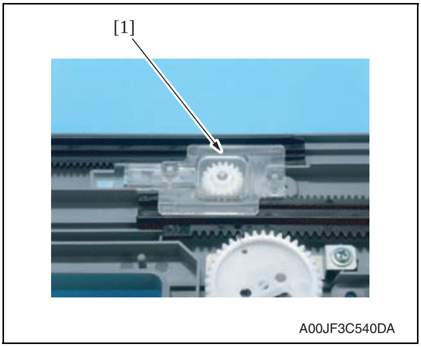
14.3.1 Adjustment of the bypass paper size unit

This adjustment must be made in the following case:

- **The bypass paper size unit has been removed.**

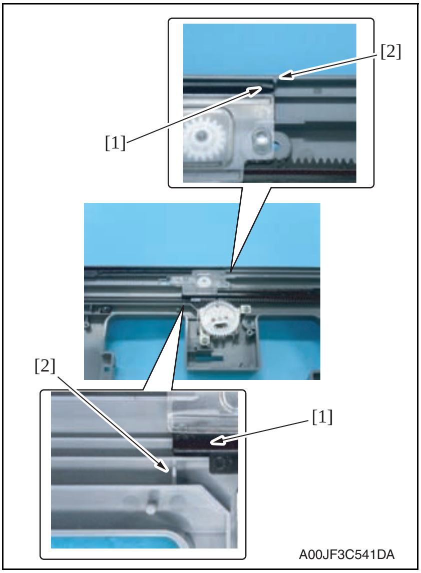


1. Align one of the six gear ribs [1] with the match mark [3] on the bypass guide rack gear [2].

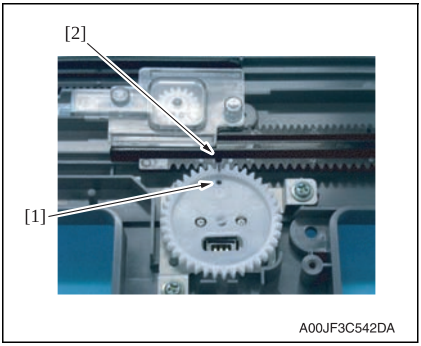


2. Attach the holder [1] with two screws.

6



3. Install the bypass unit cover so that part A (edge) [1] of the rack gear for the bypass paper size unit and part B [2] of the bypass unit cover are aligned in a straight line.



4. Align the mark of the gear [1] with the mark [2] on the rack gear so that those gears are engaged.
5. After the bypass paper size unit base has been mounted, check that the lever of the bypass paper size unit moves smoothly in a manner operatively connected to the bypass guide.
6. Call the Service Mode to the screen and select [Machine] → [Manual Bypass Tray Adjustment]. Then, carry out manual bypass tray adjustment.
   See P.460

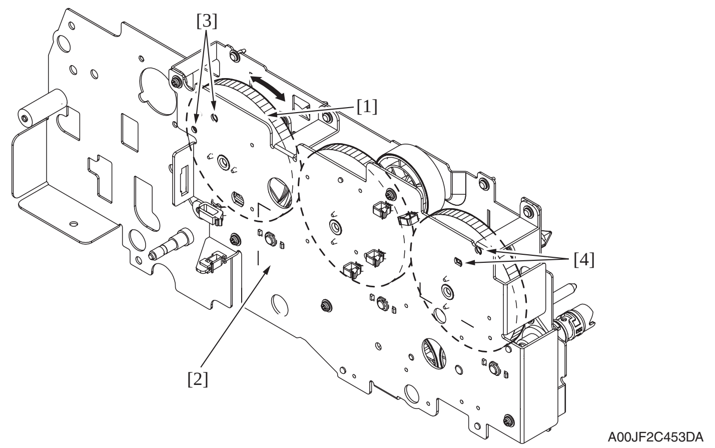
14.4 Mechanical adjustment of the main drive unit section

14.4.1 PC drive gear positioning adjustment

This adjustment must be made in the following case:

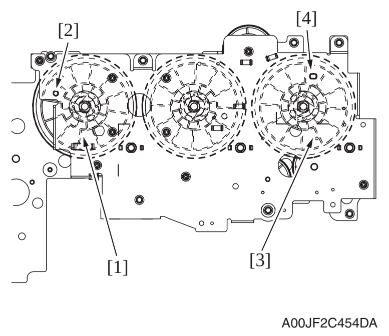
- **When the color PC drum motor was removed.**
  See P.207
- **When the main drive unit was removed.**
  See P.144

A. Checking method

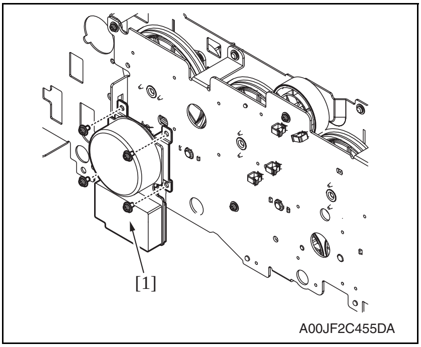


1. Slowly turn the PC drive gear/1 [1], and fit the hole A [3] and B [4] with the gear holes on the upper frame [2].
2. Visually check if the hole A [3] and B [4] are fit with each gear hole at the same time.

B. Adjusting method



1. Turn the PC drive gear/1 [1], and fit the hole A [2] with the PC Gear/1 [1] hole while visually checking.
2. Fix the PC drive gear/1 [1], and then fit the hole B [3] with the PC drive gear/2 [4] hole while visually checking.



3. Mount the color PC drum motor [1] while two hole positions are well set.

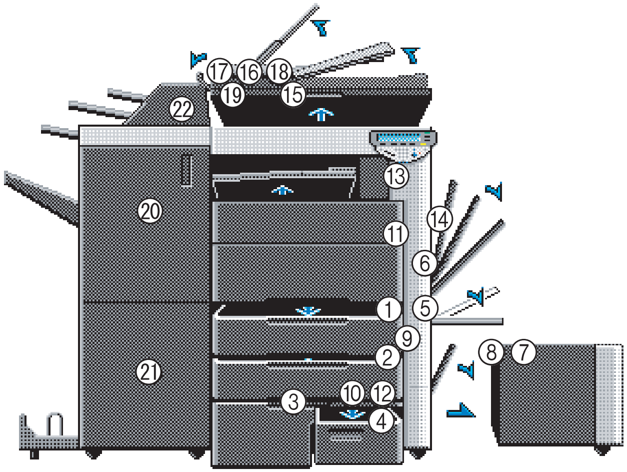
Troubleshooting

15. Jam display

15.1 Misfeed display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the control panel of the machine.

15.1.1 When the FS-517/518/608 is mounted



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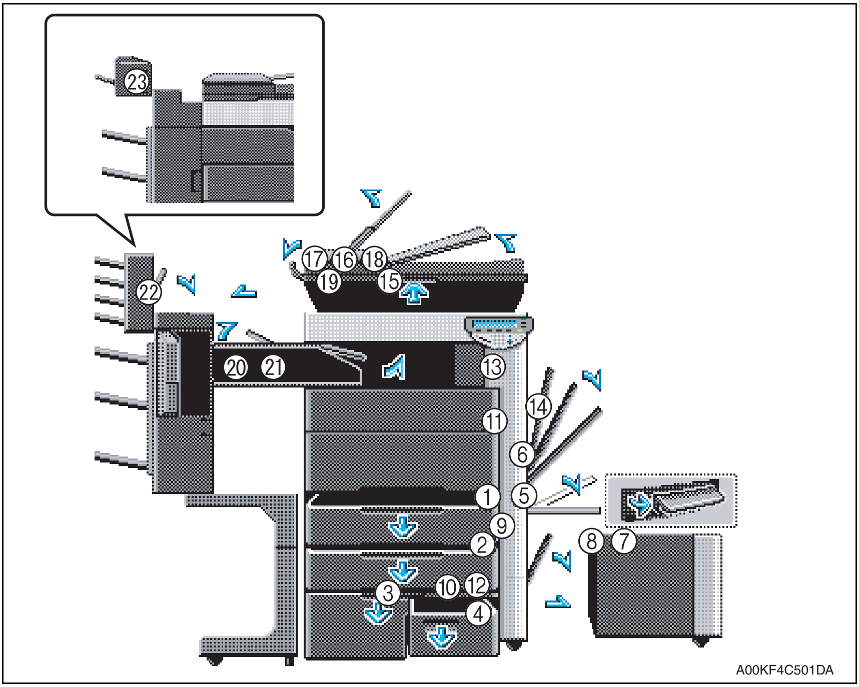
Display	Code *1	Jam type	Misfeed processing location	Action
[1]	1101	Misfeed at tray 1 feed section	Manual bypass tray door	P.585
[2]	1201	Misfeed at tray 2 feed section	Lower right door	P.586
[3]	1301	Misfeed at tray 3 feed section	Tray 3/4 horizontal transport unit	P.587
[4]	1401	Misfeed at tray 4 feed section	Lower right door	P.588
[5]	1001	Misfeed at manual bypass feed section	Manual bypass tray door	P.589
[6]	9201	Misfeed at duplex pre-registration section	Upper right door, Duplex door	P.590
[7]	1501	Misfeed at LCT feed section	See P.39 of the LU-301 service manual.	
[8]	1708	Misfeed at LCT transport section		
[9]	2001	Misfeed at vertical transport section	Manual bypass tray door, Lower right door	P.591

Display	Code *1	Jam type	Misfeed processing location	Action
[10]	1709	Misfeed at tray 3/4 horizontal transport section	Tray 3/4 horizontal transport unit	P.592
[11]	3001	2nd image transfer section	Upper right door	P.593
[12]	1710	Tray 3/4 intermediate transport roller section	Lower right door, Tray 3/4 horizontal transport unit	P.594
[13]	3201	Misfeed at exit section	Upper right door	P.595
[14]	9301	Misfeed at duplex transport section	Duplex door	P.596
—	9901	Controller jam	—	P.596-1
[15]	6601	See P.53 of the DF-611/610 service manual.		
[16]	6602			
[17]	6603			
[18]	6604			
[19]	6605			
[15],[16],[17],[18],[19]	6606			
	6607			
[20]	7216	See P.105 of the FS-517/518/608 service manual.		
	7217			
	7218			
	7219			
	7220			
	7221			
	7222			
	7223			
[21]	7224			
	7225			
	7226			
[20]	7228			
	7229			
	7230			
	7243	See P.17 of the PK-512/513 service manual.		
[21]	7248	See P.105 of the FS-517/518/608 service manual.		
	7281			
	7282			
	7283			
	7290			
[21]	7542			
	7543			
[22] *2	7235	See P.27 of the PI-503 service manual.		
	7249			
	7250			
	7251			

*1: JAM code is displayed at [Paper Jam History] under [Counter] available from Service Mode.
Regarding jam at paper exit options, jam codes are available by selecting [Service Mode] → [Counter] → [JAM]. To identify misfeed locations, use the jam codes and refer to the above list.

*2: bizhub C650/C550 only.

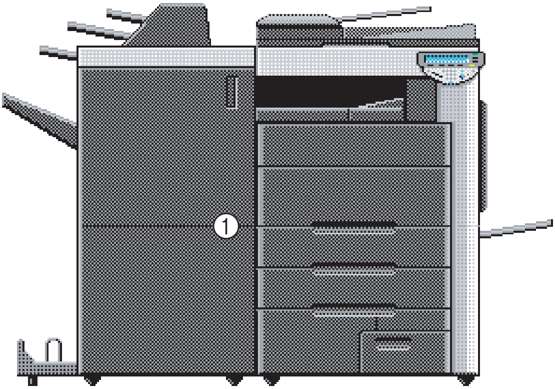
15.1.2 When the FS-519 is mounted



Display	Code *1	Jam type	Misfeed processing location	Action
[1]	1101	Misfeed at tray 1 feed section	Manual bypass tray door	P.585
[2]	1201	Misfeed at tray 2 feed section	Lower right door	P.586
[3]	1301	Misfeed at tray 3 feed section	Tray 3/4 horizontal transport unit	P.587
[4]	1401	Misfeed at tray 4 feed section	Lower right door	P.588
[5]	1001	Misfeed at manual bypass feed section	Manual bypass tray door	P.589
[6]	9201	Misfeed at duplex pre-registration section	Upper right door, Duplex door	P.590
[7]	1501	Misfeed at LCT feed section	See P.39 of the LU-301 service manual.	
[8]	1708	Misfeed at LCT transport section		

Display	Code *1	Jam type	Misfeed processing location	Action
[9]	2001	Misfeed at vertical transport section	Manual bypass tray door, Lower right door	P.591
[10]	1709	Misfeed at tray 3/4 horizontal transport section	Tray 3/4 horizontal transport unit	P.592
[11]	3001	2nd image transfer section	Upper right door	P.593
[12]	1710	Tray 3/4 intermediate transport roller section	Lower right door, Tray 3/4 horizontal transport unit	P.594
[13]	3201	Misfeed at exit section	Upper right door	P.595
[14]	9301	Misfeed at duplex transport section	Duplex door	P.596
—	9901	Controller jam	—	P.596-1
[15]	6601	See P.53 of the DF-611/610 service manual.		
[16]	6602			
[17]	6603			
[18]	6604			
[19]	6605			
[15],[16],[17], [18],[19]	6606			
	6607			
[20]	7221	See P.67 of the FS-519/PK-510/OT-602 service manual.		
	7281			
[21]	7216			
	7218			
	7243			
[22]	7290	See P.11 of the MT-502 service manual.		
[23]	7221	See P.37 of the SD-505 service manual.		
	7225			
	7284			
	7285			

15.1.3 When the ZU-603 is mounted



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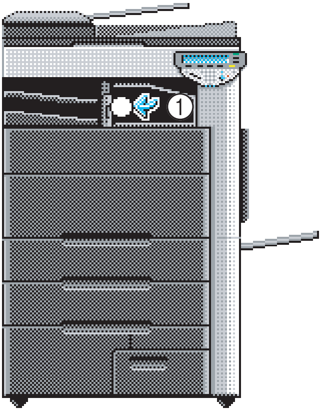
Display	Code *1	Jam type	Misfeed processing location	Action
[1]	7238	See P.45 of the ZU-603 service manual.		
	7239			
	7240			
	7241			
	7242			
	7244			
	7245			
	7246			
	7247			
	7260			
	7261			
	7262			
	7264			

3 15.1.4 When the JS-504 is mounted



A00JF4C520DA

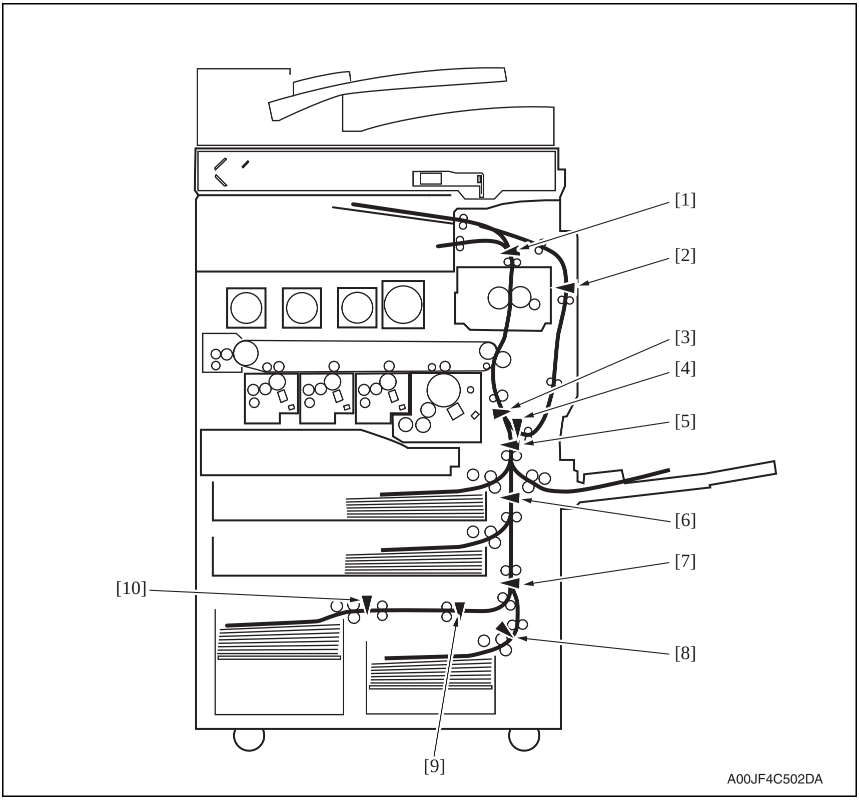
Display	Code *1	Jam type	Misfeed processing location	Action
[1]	7216	See P.19 of the JS-504 service manual.		

*1: JAM code is displayed at [Paper Jam History] under [Counter] available from Service Mode.
Regarding jam at paper exit options, jam codes are available by selecting [Service Mode] → [Counter] → [JAM]. To identify misfeed locations, use the jam codes and refer to the above list.

15.1.5 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

15.2 Sensor layout



[1]	Paper exit sensor	PS39	[6]	Tray 2 vertical transport sensor	PS12
[2]	ADU paper passage sensor/1	PS47	[7]	Intermediate roller sensor	PS28
[3]*1	Timing roller sensor	PS38	[8]	Tray 4 paper feed sensor	PS26
[3]*1	OHP detection sensor	PS40	[9]	Horizontal transport sensor	PS29
[4]	ADU paper passage sensor/2	PS48	[10]	Tray 3 paper feed sensor	PS21
[5]	Tray 1 vertical transport sensor	PS4			

*1: Two different types of sensors are located in the area near [3].

15.3 Solution

15.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

15.3.2 Misfeed at tray 1 feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 1 feed section	• The leading edge of the paper does not turn ON the tray1 vertical transport sensor (PS4) even after the lapse of a given period of time after the tray1 starts to feed paper.
Detection of paper left in tray 1 feed section	• The tray1 vertical transport sensor (PS4) is turned ON when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Tray 1 feed section loop registration reversing jam	• For paper fed from the tray1, due to a delay in paper arrival, loop forming in front of the timing roller is not complete before the rise timing of the registration motor.
Tray 1 feed section image write start signal permit waiting jam	• For paper fed from the tray1, the image write start signa permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
Take-up motor (M22) Tray 1 paper feed clutch (CL1) Tray1 vertical transport sensor (PS4)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS4 I/O check, sensor check	PFTDB CN4PFTDB-8 (ON)	P-5
3	CL1 operation check	PFTDB CN4PFTDB-14 (ON)	P-5
4	M22 operation check	PFTDB CN5PFTDB-5 to 8	P-3
5	Change PFTDB	—	—
6	Change PRCB	—	—

15.3.3 Misfeed at tray 2 feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 2 feed section	• The leading edge of the paper does not turn ON the tray2 vertical transport sensor (PS12) even after the lapse of a given period of time after the tray2 starts to feed paper.
Detection of paper left in tray 2	• Tray 2 vertical transport sensor (PS12) is turned ON when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
4 Tray 2 feed section image write start signal permit waiting jam	• For paper fed from the tray2, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
Take-up motor (M22) Tray 2 paper feed clutch (CL2) Tray 2 vertical transport sensor (PS12)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS12 I/O check, sensor check	PFTDB CN8BPFTDB-2 (ON)	P-6
3	CL2 operation check	PFTDB CN8APFTDB-1 (ON)	P-6
4	M22 operation check	PFTDB CN5PFTDB-5 to 8	P-3
5	Change PFTDB	—	—
6	Change PRCB	—	—

15.3.4 Misfeed at tray 3 feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 3 feed section	• The leading edge of the paper does not block the tray3 paper feed sensor (PS21) even after the lapse of a given period of time after the tray 3 starts to feed paper.
Detection of paper left in tray 3	• Tray3 paper feed sensor (PS21) is blocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
4 Tray 3 feed section image write start signal permit waiting jam	• For paper fed from the tray3, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
Transport motor (M25) Tray 3 paper feed clutch (CL5) Tray 3 paper feed sensor (PS21)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS21 I/O check, sensor check	PFTDB CN10PFTDB-6 (ON)	V-6
3	CL5 operation check	PFTDB CN25PFTDB-5 (ON)	V-5
4	M25 operation check	PFTDB CN12PFTDB-6 (LOCK)	V-12
5	Change PFTDB	—	—
6	Change PRCB	—	—

15.3.5 Misfeed at tray 4 feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 4 feed section	• The leading edge of the paper does not unblock the tray4 paper feed sensor (PS26) even after the lapse of a given period of time after the tray 4 starts to feed paper.
Detection of paper left in tray 4	• Tray 4 paper feed sensor (PS26) is unblocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
4 Tray 4 feed section image write start signal permit waiting jam	• For paper fed from the tray4, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
Transport motor (M25) Tray 4 paper feed clutch (CL7) Tray 4 paper feed sensor (PS26)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS26 I/O check, sensor check	PFTDB CN9PFTDB-3 (ON)	V-8
3	CL7 operation check	PFTDB CN24PFTDB-2 (ON)	V-7
4	M25 operation check	PFTDB CN12PFTDB-6 (LOCK)	V-12
5	Change PFTDB	—	—
6	Change PRCB	—	—

15.3.6 Misfeed at manual bypass feed section

A. Detection timing

Type	Description
Detection of misfeed at manual bypass feed section	• The leading edge of the paper does not turn ON the tray1 vertical transport sensor (PS4) even after the lapse of a given period of time after the manual bypass starts to feed paper. • The bypass paper limit sensor (PS35) is not blocked after the lapse of a predetermined period of time after the paper lifting plate is started to be raised from the standby position to the paper feed position. • For paper fed from the manual bypass tray, the bypass paper lower sensor (PS36) is not blocked after the lapse of a predetermined period of time after the paper lifting plate is started to be lowered from the paper feed position to the standby position.
Manual bypass feed section loop registration reversing jam	• For paper fed from the manual bypass, loop forming has not been complete before a sheet enters the timing roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
⚠4 Manual bypass feed section image write start signal permit waiting jam	• For paper fed from the manual bypass, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
Bypass paper feed motor (M27) Tray 1 vertical transport sensor (PS4) Bypass paper limit sensor (PS35) Bypass paper lower sensor (PS36)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS4 I/O check, sensor check	PFTDB CN4PFTDB-8 (ON)	P-5
3	PS35 I/O check, sensor check	PFTDB CN26PFTDB<B>-10 (ON)	P-12
4	PS36 I/O check, sensor check	PFTDB CN26PFTDB<A>-11 (ON)	P-11
5	M27 operation check	PFTDB CN26PFTDB<B>-1 to 4	P-12
6	Change PFTDB	—	—
7	Change PRCB	—	—

15.3.7 Misfeed at duplex pre-registration section

A. Detection timing

Type	Description
Detection of misfeed at duplex pre-registration section	• The timing roller sensor (PS38) is not unblocked even after the lapse of a given period of time after a duplex paper feed sequence has been started.
	• The OHP detection sensor (PS40) is not turned ON even after the lapse of a given period of time after a duplex paper feed sequence has been started.
Duplex pre-registration section loop registration reversing jam detection	• For the second-side feed of paper in the duplex mode, loop forming has not been complete before the second side of a sheet enters the timing roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
△4 Duplex pre-registration section image write start signal permit waiting jam	• For the second-side feed of paper in the duplex mode, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
ADU transport motor/1 (M31) ADU transport motor/2 (M32) Timing roller sensor (PS38) OHP detection sensor (PS40)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS38 I/O check, sensor check	PRCB CN36PRCB-6 (ON)	K-4
3	PS40 I/O check, sensor check	PRCB CN36PRCB -2 (ON)	K-4 to 5
4	M32 operation check	PFTDB CN17PFTDB-10 to 13	P-8
5	M31 operation check	PFTDB CN17PFTDB-14 to 17	P-9
6	Change PFTDB	—	—
7	Change PRCB	—	—

15.3.8 Misfeed at vertical transport section

A. Detection timing

Type	Description
Detection of misfeed at vertical transport section	• The tray 1 vertical transport sensor (PS4) is not turned ON even after the lapse of a given period of time after the paper has turned ON the tray2 vertical transport sensor (PS12).
	• The timing roller sensor (PS38) is not unblocked even after the lapse of a given period of time after the paper has turned ON the tray 1 vertical transport sensor (PS4).
	• The OHP detection sensor (PS40) is not turned ON even after the lapse of a given period of time after the paper has turned ON the tray 1 vertical transport sensor (PS4).
	• The tray 1 vertical transport sensor (PS4) is not turned OFF even after the lapse of a given period of time after the paper has turned ON the PS4.
	• The tray2 vertical transport sensor (PS12) is not turned OFF even after the lapse of a given period of time after the paper has turned ON the PS12.
	• The intermediate roller sensor (PS28) is not blocked even after the lapse of a given period of time after the paper has unblocked the PS12.
Vertical transport section loop registration reversing jam	• For paper fed from the tray 1/2/3/4 or LU-301, loop forming has not been complete before a sheet enters the timing roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.

B. Action

Relevant parts	
Tray 1 vertical transport motor (M5) Tray 2 vertical transport motor (M7) Vertical transport motor (M26) Tray 1 vertical transport sensor (PS4) Tray 2 vertical transport sensor (PS12) Intermediate roller sensor (PS28) Timing roller sensor (PS38) OHP detection sensor (PS40)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS4 I/O check, sensor check	PFTDB CN4PFTDB-8 (ON)	P-5
3	PS12 I/O check, sensor check	PFTDB CN8BPFTDB-2 (ON)	P-6
4	PS28 I/O check, sensor check	PFTDB CN11BPFTDB-18 (ON)	V-11
5	PS38 I/O check, sensor check	PRCB CN36PRCB-6 (ON)	K-4
6	PS40 I/O check, sensor check	PRCB CN36PRCB-2 (ON)	K-4 to 5
7	M5 operation check	PFTDB CN5PFTDB-1 to 4	P-3
8	M7 operation check	PFTDB CN5PFTDB-9 to 12	P-4
9	Change PFTDB	—	—
10	Change PRCB	—	—

15.3.9 Misfeed at tray 3/4 horizontal transport section

A. Detection timing

Type	Description
Detection of misfeed at tray 3/4 horizontal transport section	• The intermediate roller sensor (PS28) is not unblocked even after the lapse of a given period of time after the paper has blocked the horizontal transport sensor (PS29).
	• The horizontal transport sensor (PS29) is not blocked even after the lapse of a given period of time after the paper has blocked the tray 3 paper feed sensor (PS21).
	• The tray 3 paper feed sensor (PS21) is not unblocked even after the lapse of a given period of time after the paper has blocked the PS21.
Detection of paper left in tray 3/4 horizontal transport section	• Horizontal transport sensor (PS29) is blocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant parts	
Transport motor (M25) Tray 3 transport clutch (CL6) Horizontal transport clutch 1 (CL3) Horizontal transport clutch 2 (CL4) Tray 3 paper feed sensor (PS21) Horizontal transport sensor (PS29)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS21 I/O check, sensor check	PFTDB CN10PFTDB-6 (ON)	V-6
3	PS29 I/O check, sensor check	PFTDB CN11BPFTDB-15 (ON)	V-11
4	CL3 operation check	PFTDB CN11BPFTDB-8 (ON)	V-10
5	CL4 operation check	PFTDB CN11BPFTDB-6 (ON)	V-10
6	CL6 operation check	PFTDB CN10PFTDB-10 (ON)	V-7
7	M25 operation check	PFTDB CN12PFTDB-6 (LOCK)	V-12
8	Change PFTDB	—	—
9	Change PRCB	—	—

15.3.10 Misfeed at 2nd image transfer section

A. Detection timing

Type	Description
Detection of misfeed at 2nd image transfer section	• A sheet of paper does not turn OFF the OHP detection sensor (PS40) after a predetermined period of time has elapsed since the sheet turns ON the PS40.
	• A sheet of paper does not block the timing roller sensor (PS38) after a predetermined period of time has elapsed since the sheet unblocks PS38.
	• The leading edge of paper does not unblock the exhaust sensor (PS39) since the registration motor (M2) is activated.
Detection of paper left in 2nd image transfer section	• The timing roller sensor (PS38) is unblocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	• The OHP detection sensor (PS40) is turned ON when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant parts	
Registration motor (M2) Fusing motor (M30) Timing roller sensor (PS38) OHP detection sensor (PS40) 1 Paper exit sensor (PS39)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS38 check, sensor check	PRCB CN36PRCB-6 (ON)	K-4
3	PS40 I/O check, sensor check	PRCB CN36PRCB-2 (ON)	K-4 to 5
4	PS39 I/O check, sensor check	PRCB CN36PRCB-2 (ON)	K-4
5	M2 operation check	PFTDB CN23PFTDB-1 to 4	P-9
6	M30 operation check	PRCB CN7PRCB-3 (REM) PRCB CN7PRCB-6 (LOCK)	K-7
7	Change PFTDB	—	—
8	Change PRCB	—	—

15.3.11 Misfeed at tray 3/4 intermediate transport roller section

A. Detection timing

Type	Description
Detection of misfeed at tray 3/4 intermediate transport roller section	• A sheet of paper does not turn ON the tray2 vertical transport sensor (PS12) after a predetermined period of time has elapsed since the sheet turns ON the intermediate roller sensor (PS28).
	• A sheet of paper does not turn ON the intermediate roller sensor (PS28) after a predetermined period of time has elapsed since the sheet unblocks the tray4 paper feed sensor (PS26).
	• A sheet of paper does not block the tray4 paper feed sensor (PS26) after a predetermined period of time has elapsed since the sheet unblocks the PS26.
	• A sheet of paper does not unblock the horizontal transport sensor (PS29) after a predetermined period of time has elapsed since the sheet blocks the PS29.
Detection of paper left in tray 3/4 intermediate transport roller section	• The intermediate roller sensor (PS28) is turned ON when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant parts	
Transport motor (M25) Vertical transport motor (M26) Tray 2 vertical transport motor (M7) Horizontal transport clutch 1 (CL3) Horizontal transport clutch 2 (CL4) Tray 2 vertical transport sensor (PS12) Tray 4 paper feed sensor (PS26) Intermediate roller sensor (PS28) Horizontal Transport sensor (PS29)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS12 check, sensor check	PFTDB CN8BPFTDB-2 (ON)	P-6
3	PS26 check, sensor check	PFTDB CN9PFTDB-3 (ON)	V-8
4	PS28 I/O check, sensor check	PFTDB CN11BPFTDB-18 (ON)	V-11
5	PS29 I/O check, sensor check	PFTDB CN11BPFTDB-15 (ON)	V-11
6	CL3 operation check	PFTDB CN11BPFTDB-8 (ON)	V-10
7	CL4 operation check	PFTDB CN11BPFTDB-6 (ON)	V-10
8	M25 operation check	PFTDB CN12PFTDB-6 (LOCK)	V-12
9	M26 operation check	PFTDB CN19PFTDB-1 to 4	V-11
10	M7 operation check	PFTDB CN5PFTDB-9 to 12	P-4
11	Change PFTDB	—	—
12	Change PRCB	—	—

15.3.12 Misfeed at exit section

A. Detection timing

Type	Description
Detection of misfeed at exit section	• The exhaust sensor (PC39) is not blocked even after the lapse of a given period of time after the paper has unblocked PC39. • The ADU paper passage sensor/1 (PS47) is not blocked even after the lapse of a given period of time after the switchback sequence is started.
Detection of paper left in exit section	• The exhaust sensor (PC39) is unblocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant parts	
Exit motor (M4) Fusing motor (M30) Switchback motor (M33) Gate switch solenoid (SD1) Paper exit sensor (PS39) ADU paper passage sensor/1 (PS47)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS39 I/O check, sensor check	PRCB CN36PRCB-2 (ON)	K-4
3	PS47 I/O check, sensor check	PFTDB CN17BPFTDB-6 (ON)	P-8
4	M4 operation check	PFTDB CN14PFTDB-5 to 8	P-2
5	M30 operation check	PRCB CN7PRCB-3 (REM) PRCB CN7PRCB-6 (LOCK)	K-7
6	M33 operation check	PFTDB CN14PFTDB-1 to 4	P-2
7	SD1 operation check	PFTDB CN14BPFTDB-9 (ON)	C-20
8	Change PFTDB	—	—
9	Change PRCB	—	—

15.3.13 Misfeed at duplex transport section

A. Detection timing

Type	Description
Detection of misfeed at duplex transport section	• A sheet of paper does not unblock the ADU paper passage sensor/2 (PS48) after a predetermined period of time has elapsed since the sheet blocks the ADU paper passage sensor/1 (PS47).
	• A sheet of paper does not unblock the ADU paper passage sensor/1 (PS47) after a predetermined period of time has elapsed since the sheet blocks the PS47.
Detection of paper left in duplex transport section	• ADU paper passage sensor/1 (PS47) is blocked, or ADU paper passage sensor/2 (PS48) is unblocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant parts	
ADU transport motor/1 (M31) ADU transport motor/2 (M32) ADU paper passage sensor/1 (PS47) ADU paper passage sensor/2 (PS48)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS47 I/O check, sensor check	PFTDB CN17BPFTDB-6 (ON)	P-8
3	PS48 I/O check, sensor check	PFTDB CN17BPFTDB-3 (ON)	P-7
4	M31 operation check	PFTDB CN17PFTDB-14 to 17	P-9
5	M32 operation check	PFTDB CN17PFTDB-10 to 13	P-8
6	Change PFTDB	—	—
7	Change PRCB	—	—

15.3.14 Controller jam

A. Detection timing

Type	Description
Controller jam	• A control erratic operation as it relates to the duplex unit occurs.
	• A stop command (a command to effect a forced stop) is received.
	• A media error (wrong type or size of paper) occurs during a 2-sided print cycle.

B. Action

Relevant parts	
MFP board (MFPB)	Printer control board (PRCB)

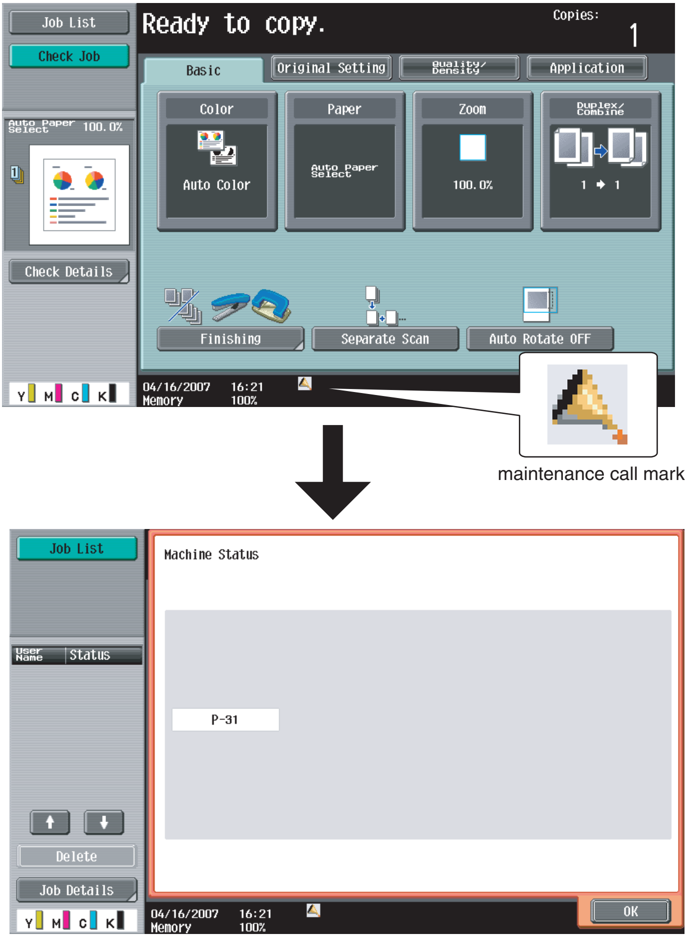
Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Check for the paper left in the machine.	—	—
3	Check to see if the size or type of the paper specified on the control panel or printer driver coincides with that of the paper actually loaded.	—	—
4	One possible cause is a control erratic operation. So, turn OFF and ON the main power switch and run the print cycle again.	—	—
5	Upgrade the firmware.	—	—
6	Change PRCB	—	—
7	Change MFPB	—	—

16. Malfunction code

16.1 Alert code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding warning code and maintenance call mark on the control panel.
- Touching the maintenance call mark will display the corresponding warning code on the state confirm screen.

△2



Ready to copy.

Machine Status

P-31

A00JF4E511DB

16.1.1 Alert code list

- If an image stabilization or scanner fault occurs, the corresponding warning code appears.

Code	Item	Description
S-1	CCD gain adjustment failure	• It is detected that the CCD clamp gain adjustment value is faulty.
D-1	Split line detect	• While recovering from the power save mode or when the main/sub power switch is ON, it detects whether or not stain exist at the original glass moving unit when the ADF is closed. This warning will be displayed if the original is set to ADF when stain exist. • The thin line detection level and the warning display can be changed by the following setting. [Service Mode] → [System 2] → [Thin line Detect. Setting]
D-2	Read guide trouble	• While recovering from the power save mode or when the main/sub power switch is ON, it detects whether or not stain exist at the scanning guide when the ADF is closed. This warning will be displayed if the original is set to ADF when stain exist. • This setting is valid only when the [Detection during Paper Passing] available from the following setting is set to one between 2 and 6. [Service Mode] → [System 2] → [This Line Detect. Setting]
P-5	IDC sensor (front) failure	• When adjusting the IDC sensor, output voltage detected for all eight sample patterns are 4.3 V or more. • When adjustment is complete, sensor's output voltage with selected light intensity is 1.0 V or under. • During image stabilization (gamma correction control), detected output value for IDC sensor did not go below threshold (half the value of what is detected by IDC sensor on the belt surface) for three consecutive times (position of the pattern end is not detected). • During image stabilization (gamma correction control), sensor's output value of each color for hyper 0 gradation after the primary approximation is half the detection level on the belt surface or under
P-28	IDC sensor (rear) failure	
P-6	Cyan imaging unit failure	• All density readings taken from the density pattern produced on the transfer belt are 1.0 g/m^2 (IDC sensor photo receiver output) or less during max. density adjustment (Vg/Vdc adjustment).
P-7	Magenta imaging unit failure	
P-8	Yellow imaging unit failure	
P-9	Black imaging unit failure	
P-14	Skew correction trouble	• The difference between the skew default position setting value and the cumulative amount of skew adjustment values goes over the predetermined value.
P-16	PC charge cleaning trouble 1	• Charging cleaner home sensor is not transmitted even after the specified time has passed while the wire cleaning material is moving forward.

Code	Item	Description
P-18	PC charge cleaning trouble 1	• Charging cleaner return sensor is not interrupted even after the specified time has passed when the wire cleaning material is moving forward. * Under the situation above occurs, control will be switched to the return operation after the warning is given. When the charging cleaner home sensor is not interrupted after the specified time has passed during the return operation, trouble code C-2101 will be given.
P-21	Color regist test pattern failure	• The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. • The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction.
P-22	Color regist adjust failure	• The color shift amount is greater than the specified range during main scan direction registration correction. • The color shift amount is greater than the specified range during sub scan direction registration correction. • On the color shift test pattern, the maximum and minimum deviations detected in the main and sub scan directions go over the predetermined value.
P-27	Secondary transfer ATVC failure	• An abnormal average value is detected during an adjustment of the second image transfer ATVC value.
P-31	K PC encoder sensor malfunction	• While the K PC drum motor is rotating at a stable pace and lock signals are in an active (LOW=0) condition, an abnormal encoder pulse width continues to be detected over the predetermined period of time.

16.2 Solution

16.2.1 S-1: CCD gain adjustment failure

Relevant parts	
Scanner assy	CCD sensor unit Image processing board (IPB)

Step	Action
1	Correct the harness connection between CCDB and IPB if faulty.
2	Check for possible extraneous light and correct as necessary.
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty.
4	Correct reflective mirror of the scanner if faulty, or change scanner.
5	Change CCD sensor unit.
6	Change IPB.

16.2.2 D-1: Split line detect

Relevant parts	
Original glass moving unit	Image processing board (IPB) Printer control board (PRCB)

Step	Action
1	Wipe clean the glass surface of the original glass moving unit.
2	Correct the harness connection between IPB and PRCB if faulty.
3	Change original glass moving unit.
4	Change IPB.
5	Change PRCB.

16.2.3 D-2: Read guide trouble

Relevant parts	
ADF scanning guide (DF-611/610)	

Step	Action
1	Wipe clean the surface of the ADF scanning guide with a soft cloth, if it is dirty. See P.13 of the DF-611/610 service manual.

16.2.4 P-5: IDC sensor (front) failure

16.2.5 P-28 IDC sensor (rear) failure

Relevant parts	
IDC registration sensor/F (IDCS/F) IDC registration sensor/R (IDCS/R)	Printer control board (PRCB) High voltage unit/1 (HV1) Transfer belt unit

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Reinstall or reconnect IDCS/F or IDCS/R, sensor shutter or connector, if it is installed or connected improperly.
4	Clean IDCS/For IDCS/R if it is dirty.
5	Check the HV1 connector for proper connection and correct as necessary.
6	Open/close the front door, run an image stabilization sequence, and select [State Confirmation] → [Level History 1] to check the IDC value. IDC1: IDCS/F, IDC2: IDCS/R If the value is 1.0 V or less, change IDCS/F or IDCS/R.
7	Change PRCB.

16.2.6 P-6: Cyan imaging unit failure

16.2.7 P-7: Magenta imaging unit failure

16.2.8 P-8: Yellow imaging unit failure

16.2.9 P-9: Black imaging unit failure

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Imaging unit /K	Transfer belt unit High voltage unit/1 (HV1) Printer control board (PRCB)

Step	Action
1	Select [Imaging Process Adjustment] → [D Max Density] and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the Imaging Unit and correct as necessary.
3	Clean the IDC/registration sensor/F (IDCS/F) or IDC/registration sensor/R (IDCS/R) window if dirty.
4	Clean the contact of the imaging unit connector if dirty.
5	Check the HV1 connector for proper connection and correct as necessary.
6	Change imaging unit.
7	Change the transfer belt unit.
8	Change PRCB.

16.2.10 P-14: Skew correction trouble

Relevant parts	
IDC registration sensor/F (IDCS/F) IDC registration sensor/R (IDCS/R)	PH relay board (REYB/PH) Printer control board (PRCB) PH unit Imaging unit

Step	Action
1	Check the drive transmission portion of the Imaging Unit and correct as necessary.
2	Clean the contact of the imaging unit connector if dirty.
3	Reinstall or reconnect IDCS/F or IDCS/R, sensor shutter or connector, if it is installed or connected improperly.
4	Clean IDCS/For IDCS/R if it is dirty.
5	Change IDCS/F or IDCS/R.
6	Change imaging unit.
7	Change PH unit.
8	Change REYB/PH.
9	Change PRCB.

NOTE

- **After the PH unit is replaced, reset the skew default position for each color. Touch keys as follows for this setting.**
  [Service Mode] → [Machine] → [Skew adjustment] → [Skew adjustment]
  See P.458
- **When this alert code is displayed, according to the list, take actions to address the problem. After the problem is resolved, select [Service Mode] → [Machine] → [Skew adjustment] → [Skew adjustment reset] and perform the skew adjustment reset.**
  See P.458

16.2.11 P-16: PC charge cleaning trouble 1

16.2.12 P-18: PC charge cleaning trouble 2

Relevant parts	
Imaging unit /K Charge cleaning motor/K (M15) Charging cleaner home sensor (PS43) Charging cleaner return sensor (PS44)	Printer control board (PRCB)

Step	Action
1	PS43 I/O check, sensor check.
2	PS44 I/O check, sensor check.
3	M15 operation check.
4	Change imaging unit /K.
5	Change M15.
6	Change PRCB.

16.2.13 P-21: Color regist test pattern failure

Relevant parts	
Transfer belt unit PH unit	Printer control board (PRCB)

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Change the PH unit.
4	Change PRCB.

16.2.14 P-22: Color regist adjust failure

Relevant parts	
IDC/registration sensor /F (IDCS/F) IDC/registration sensor/R (IDCS/R)	Printer control board (PRCB)

Step	Action
1	Slide out the imaging unit and reinstall it in position.
2	Reinstall or reconnect IDCS/F or IDCS/R if it is installed or connected improperly.
3	Check the vertical transport guide for installed position and correct as necessary.
4	Change PRCB.

16.2.15 P-27: Secondary transfer ATVC failure

Relevant parts	
High voltage unit/2 (HV2) Printer control board (PRCB)	Image transfer entrance guide 2nd image transfer assy Transfer belt unit

Step	Action
1	Check roller opposed to the 2nd image transfer roller is grounded. Clean the joint or correct if necessary.
2	Check the image transfer entrance guide for proper installation and correct if necessary.
3	Check that the spring does not come off during the pressure operation of the 2nd transfer roller and correct if necessary.
4	Check the contact at the joint of the 2nd image transfer assy and HV2. Clean the joint or correct if necessary.
5	Change the transfer belt unit.
6	Change HV2.
7	Change PRCB.

16.2.16 P-31: PC home sensor (K) malfunction

Relevant parts	
K PC encoder sensor/1 (PC45) K PC encoder sensor/2 (PC46)	Transport drive assy Printer control board (PRCB)

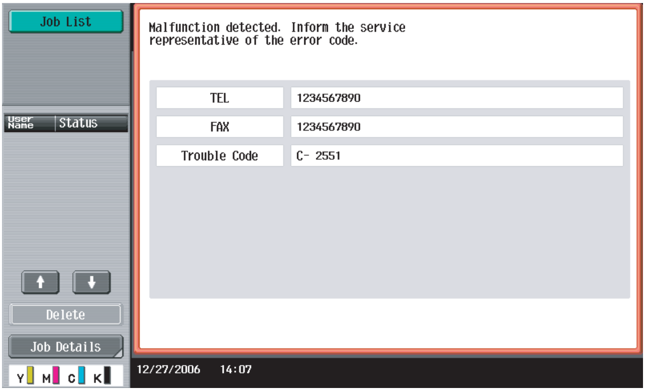
Step	Action
1	Perform the faulty sensor check procedure. *1
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-31 persists, change the transport drive assy.
5	Change PRCB.

*1: Faulty sensor check procedure

1. Open the front door and turn ON the main power switch of the machine.
2. Call the [Sensor Check] screen to the screen by way of Service Mode.
   For details how to display, see “Adjustment /Setting.”
   See P.511
3. Close the front door and start [Stabilizer].
4. During the stabilizer sequence, check to see if the values of the phase detection sensors (K PC encoder sensor/1 and K PC encoder sensor/2) change.
5. A sensor is faulty if its value does not change.

16.3 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the control panel.



Malfunction detected. Inform the service representative of the error code.

TEL	1234567890
FAX	1234567890
Trouble Code	C- 2551

12/27/2006 14:07

A00JF4E512DA

16.3.1 Trouble code list

* For the details of the malfunction codes of the options, see the Service Manual for the corresponding option.

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C0104	Tray 3/4 feeder transportation motor failure to turn	• The lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	Tray 3/4	B
C0105	Tray 3/4 feeder transportation motor turning at abnormal timing	• The lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.		B
C0202	Tray 1 feeder up/down abnormality	• The tray 1 upper limit sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.	Tray 1	B
C0204	Tray 2 feeder up/down abnormality	• The tray 2 upper limit sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.	Tray 2	B
C0206	Tray 3 feeder up/down abnormality	• The tray 3 upper limit sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.	Tray 3	B
C0208	Tray 4 feeder up/down abnormality	• The tray 4 upper limit sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.	Tray 4	B
C0211	Manual feed up/down abnormality	• The bypass paper limit sensor (PS35) or bypass paper lower sensor (PS36) is not blocked even after the lapse of a given period of time after the manual feed tray up-and-down motion has been started.	manual	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C0216	LCT up/down abnormality	See P.42 of the LU-301 service manual.	LCT	B
C0301	Suction fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C0351	Paper cooling fan trouble	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C1004	FNS communication error	See P.119 of the FS-517/518/608 service manual. See P.73 of the FS-519/PK-510/OT-602 service manual. See P.22 of the JS-504 service manual.	—	C
C1005	ZU communication error	See P.55 of the ZU-603 service manual.	—	C
C1008	RU communication error	See P.119 of the FS-517/518/608 service manual.	—	C
C1101	Shift roller motor drive failure		—	B
C1102	Tray ascent/descent drive failure		—	B
C1103	Aligning plate drive failure		staple	B
C1104	Paper exit roller drive failure		—	B
C1105	Paper exit drive failure		—	B
C1106	Stapler movement drive failure		staple	B
C1107	Stapler clincher rotation drive failure			B
C1108	Stapler rotation motor drive failure			B
C1109	Stapler F unit drive failure			B
C1110	Stapler R unit drive failure			B
C1111	Stapler F unit clincher drive failure			B
C1112	Stapler R unit clincher drive failure			B
C1113	Saddle stitching stopper motor drive failure			B
C1114	Stapler side guide motor drive failure		Half-Fold/ Tri-Fold Center Stapling	B
C1115	Folding knife motor drive failure			B
C1116	Folding transfer motor drive failure			B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C1124	Sheet feeder up/down drive (lower)	See P.31 of the PI-503 service manual.	Post Inserter	B
C1125	Sheet feeder up/down drive (upper)			B
C1126	Sheet feeder transportation drive			B
C1127	Punch kit movement motor drive failure	See P.19 of the PK-512/513 service manual.	Punch	B
C1130	1st stopper motor drive failure	See P.55 of the ZU-603 service manual.	Z fold	B
C1131	2nd stopper motor drive failure		Z fold, Punch	B
C1132	Output OP punch driving motor malfunction	See P.31 of the PI-503 service manual.	Post Inserter, Punch	B
C1133	Punch shift motor drive failure	See P.55 of the ZU-603 service manual.	Z fold	B
C1134	Main motor cooling fan drive failure		—	B
C1135	Punch motor drive failure		—	B
C1136	Punch switchover motor drive failure		Z fold	B
C1137	Gate motor drive failure	See P.119 of the FS-517/518/608 service manual.	—	B
C1182	Shift motor mechanism failure	See P.22 of the JS-504 service manual.	—	B
C1183	Finishing option elevator drive malfunction	See P.73 of the FS-519/PK-510/OT-602 service manual. See P.22 of the JS-504 service manual.	—	B
C1190	Finishing option aligning bar moving mechanism malfunction 1		—	B
C1191	Finishing option aligning bar moving mechanism malfunction 2		—	B
C11A0	Paper holding drive failure		—	B
C11A1	Finishing option exit roller pressure/retraction failure	See P.73 of the FS-519/PK-510/OT-602 service manual.	—	B
C11A2	Saddle exit roller pressure/retraction failure	See P.42 of the SD-505 service manual.	—	B
C11A3	Shutter drive failure	See P.73 of the FS-519/PK-510/OT-602 service manual.	—	B
C11A4	Saddle exit motor failure	See P.42 of the SD-505 service manual.	—	B
C11A5	Saddle in & out guide motor failure		—	B
C11A6	Saddle layable guide drive failure		—	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C11B0	Finishing option stapler unit CD drive failure	See P.73 of the FS-519/PK-510/OT-602 service manual.	—	B
C11B1	Undetectable			
C11B2	Finishing option stapling mechanism malfunction 1	See P.73 of the FS-519/PK-510/OT-602 service manual.	—	B
C11B2	Undetectable			
C11B3	Undetectable			
C11B5	Side staple 1 drive failure	See P.42 of the SD-505 service manual.	—	B
C11B6	Side staple 2 drive failure		—	B
C11C0	Punch motor malfunction	See P.73 of the FS-519/PK-510/OT-602 service manual.	—	B
C11D0	Crease motor drive failure	See P.42 of the SD-505 service manual.	—	B
△3 C11E0	Route switch malfunction	See P.22 of the JS-504 service manual.	—	B
C1301	Finishing option cooling fan motor failure	See P.73 of the FS-519/PK-510/OT-602 service manual.	—	B
C1402	FNS non-volatile memory failure		—	B
C2101	PC charge cleaning malfunction	• During backward movement of the cleaner, the charging cleaner home sensor is not blocked after a predetermined period of time has elapsed.	—	B
C2151	Secondary transfer roller pressure welding alienation	• The pressure welding alienation sensor doesn't turn OFF (retracting) even after the lapse of a given period of time after the 2nd image transfer pressure retraction motor has started rotating during the 2nd image transfer roller is retracting. • The pressure welding alienation sensor doesn't turn ON (pressuring) even after the lapse of a given period of time after the 2nd image transfer pressure retraction motor has started rotating during the 2nd image transfer roller is pressuring.	—	B

<table>
<tr><th>Code</th><th>Item</th><th>Detection timing</th><th>Trouble isolation compliant unit</th><th>Rank</th></tr>
<tr><td>C2152</td><td>Transfer belt pressure welding alienation</td><td>
<ul>
<li>At the completion of transfer belt pressure/retraction operations, the pressure welding alienation sensor/K or the pressure welding alienation sensor/color is not in the status corresponding to each of the transfer belt pressure/retraction operations. See the table below.</li>
<li>Even after a predetermined period of time has elapsed since the transfer belt starts pressure/retraction operation, the pressure welding alienation sensor/K or the pressure welding alienation sensor/color is not in the status corresponding to each of the transfer belt pressure/retraction operations. See the table below.</li>
</ul>
<table>
<tr><th>Operation</th><th>Position</th><th>Sensor status (K: Color)</th></tr>
<tr><td><ul><li>Color and K retraction → K pressure</li><li>Color and K pressure → K pressure</li></ul></td><td>K pressure</td><td>ON (not blocked) :OFF (blocked)</td></tr>
<tr><td><ul><li>Color and K retraction → Color and K pressure</li><li>K pressure → Color and K pressure</li></ul></td><td>Color and K pressure</td><td>ON (not blocked):ON (not blocked)</td></tr>
<tr><td><ul><li>K pressure → Color and K retraction</li><li>Color and K pressure →Color and K retraction</li></ul></td><td>Color and K retraction</td><td>OFF (blocked): OFF (blocked)</td></tr>
</table>
</td><td>—</td><td>B</td></tr>
<tr><td>C2160</td><td>PC charge (C) malfunction</td><td rowspan="5"><ul><li>When electrostatic charge output is ON, electrostatic charge leak detection system continues to detect leaks for a predetermined period of time.
In this case, C2164 is displayed at the first detection and then after the trouble is reset, a leak IU identification process is executed. Then the trouble code corresponding to the IU color is displayed.</li></ul></td><td>—</td><td>B</td></tr>
<tr><td>C2161</td><td>PC charge (M) malfunction</td><td>—</td><td>B</td></tr>
<tr><td>C2162</td><td>PC charge (Y) malfunction</td><td>—</td><td>B</td></tr>
<tr><td>C2163</td><td>PC charge (K) malfunction</td><td>—</td><td>B</td></tr>
<tr><td>C2164</td><td>PC charge malfunction</td><td>—</td><td>B</td></tr>
<tr><td>C2204</td><td>Waste toner agitating motor’s failure to turn</td><td><ul><li>The waste toner agitating motor lock sensor continues to be blocked or unblocked for a predetermined period of time when the motor is turning.</li></ul></td><td>—</td><td>B</td></tr>
<tr><td>C2253</td><td>Color PC drum motor’s failure to turn</td><td><ul><li>The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.</li></ul></td><td>—</td><td>B</td></tr>
</table>

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C2254	Color PC drum motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C2255	Color developing motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C2256	Color developing motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C2257	Cleaner motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C2258	Cleaner motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C2259	K developing motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C225A	K developing motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C225B	K PC drum motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C225C	K PC drum motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C2351	K toner suction fan motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C2352	Color toner suction fan motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C2353	IU cooling fan motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C2354	Rear side cooling fan motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	—	B
C2451	Release new transfer belt unit	• A new installation is not detected when a new transfer cleaner unit (image transfer belt unit) is installed.	—	B
C2551	Abnormally low toner density detected cyan TCR sensor	• When sampling data is determined in TC ratio calculation control, TCR sensor output is higher than a predetermined value for a predetermined number of times in a row even though there is toner in the sub hopper.	—	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C2552	Abnormally high toner density detected cyan TCR sensor	• TC ratio in the developing unit which is determined by Toner replenishing amount control mechanism, is a predetermined value or more for a given number of times consecutively.	—	B
C2553	Abnormally low toner density detected magenta TCR sensor	• When sampling data is determined in TC ratio calculation control, TCR sensor output is higher than a predetermined value for a predetermined number of times in a row even though there is toner in the sub hopper.	—	B
C2554	Abnormally high toner density detected magenta TCR sensor	• TC ratio in the developing unit, which is determined by toner replenishing amount control mechanism, is a predetermined value or more for a given number of times consecutively.	—	B
C2555	Abnormally low toner density detected yellow TCR sensor	• When sampling data is determined in TC ratio calculation control, TCR sensor output is higher than a predetermined value for a predetermined number of times in a row even though there is toner in the sub hopper.	—	B
C2556	Abnormally high toner density detected yellow TCR sensor	• TC ratio in the developing unit, which is determined by toner replenishing amount control mechanism, is a predetermined value or more for a given number of times consecutively.	—	B
C2557	Abnormally low toner density detected black TCR sensor	• When sampling data is determined in TC ratio calculation control, TCR sensor output is higher than a predetermined value for a predetermined number of times in a row even though there is toner in the sub hopper.	—	B
C2558	Abnormally high toner density detected black TCR sensor	• TC ratio in the developing unit, which is determined by toner replenishing amount control mechanism, is a predetermined value or more for a given number of times consecutively.	—	B
C2559	Cyan TCR sensor adjustment failure	• TCR sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.	—	B
C255A	Magenta TCR sensor adjustment failure		—	B
C255B	Yellow TCR sensor adjustment failure		—	B
C255C	Black TCR sensor adjustment failure		—	B
C2650	Main backup media access error	• Contact the responsible people of KMBT before taking some countermeasures.	—	—

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C2651	EEPROM access error (IU C)	• The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value.	—	C
C2652	EEPROM access error (IU M)		—	C
C2653	EEPROM access error (IU Y)		—	C
C2654	EEPROM access error (IU K)		—	C
C2A01	EEPROM access error (TC C)	• The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value.	—	C
C2A02	EEPROM access error (TC M)		—	C
C2A03	EEPROM access error (TC Y)		—	C
C2A04	EEPROM access error (TC K)		—	C
C3101	Fusing roller separation failure	• With the fusing roller being retracted, the pulse of the encoder sensor does not change even after the specified period of time has passed after the fusing pressure retraction motor started rotating. • With the fusing roller being pressed, the encoder pulse sensor does not change even after the specified period of time has passed after the fusing pressure retraction motor started rotating. • With the pressure roller being pressed, the pressure home sensor did not turn ON (pressed) even after the fusing retraction position sensor counted up the specified number of pulse after the fusing pressure retraction motor started rotating.	—	B
C3102	Fusing roller failure to turn	• When the IH power supply is turned ON, pulse signals are not input either of the heating roller rotation sensor/1 or the heating roller rotation sensor/2 within a predetermined period of time.	—	A
C3201	Fusing motor failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C3202	Fusing motor turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C3303	Fusing cooling fan motor/1 failure to turn	• The fan motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C3304	Fusing cooling fan motor/2 failure to turn	• The fan motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C3305	Fusing cooling fan motor/ 3 failure to turn	• The fan motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C3423	Fusing heaters trouble (pressurizing side)	• After warm-up operation starts, the fusing pressure roller thermistor does not detect a temperature as high as a predetermined one though a predetermined period of time has elapsed.	—	A
C3424	Fusing heaters trouble (soaking side)	• After warm-up operation starts, the soaking roller thermistor does not detect a temperature as high as a predetermined one though a predetermined period of time has elapsed.	—	A
C3425	Fusing heaters trouble (NC sensor)	• After warm-up operation starts, the NC sensor does not detect a temperature as high as a predetermined one though a predetermined period of time has elapsed.	—	A
C3461	Release new fusing unit	• A new installation is not detected when a new fusing Unit is installed.	—	B
C3721	Fusing abnormally high temperature detection (Center of the heating roller)	• The heating roller thermistor/3 continues to detect a temperature higher than a predetermined one for a predetermined period of time. • The signal is turned ON to activate the hard ratchet in the middle of the heating side.	—	A
C3722	Fusing abnormally high temperature detection (Edge of the heating roller)	• The heating roller thermistor/2 continues to detect a temperature higher than a predetermined one for a predetermined period of time. • The signal is turned ON to activate the hard ratchet at the edges of the heating side.	—	A
C3723	Fusing abnormally high temperature detection (pressurizing side)	• The fusing pressure roller thermistor continues to detect a temperature higher than a predetermined one for a predetermined period of time.	—	A
C3724	Fusing abnormally high temperature detection (soaking side)	• The soaking roller thermistor/1 continues to detect a temperature higher than a predetermined one for a predetermined period of time. • The signal is turned ON to activate the hard ratchet on the soaking side.	—	A
C3725	Fusing abnormally high temperature detection (NS sensor)	• The NC sensor continues to detect a temperature higher than a predetermined one for a predetermined period of time.	—	A
C3822	Fusing abnormally low temperature detection (Edge of the heating roller)	• The heating roller thermistor/2 continues to detect a temperature lower than a predetermined one for a predetermined period of time.	—	A
C3823	Fusing abnormally low temperature detection (pressurizing side)	• The fusing pressure roller thermistor continues to detect a temperature lower than a predetermined one for a predetermined period of time.	—	A

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C3824	Fusing abnormally low temperature detection (soaking side)	• The soaking roller thermistor/1 continues to detect a temperature lower than a predetermined one for a predetermined period of time.	—	A
C3825	Fusing abnormally low temperature detection (NC sensor)	• The NC sensor continues to detect a temperature lower than a predetermined one for a predetermined period of time.	—	A
C3921	Fusing sensor wire breaks detection (Center of the heating roller)	• At the warm-up stage, the heating roller thermistor/3 voltage does not decrease by predetermined steps (temperature rise) within a predetermined time.	—	A
C3922	Fusing sensor wire breaks detection (Edge of the heating roller)	• At the warm-up stage, the heating roller thermistor/2 voltage does not decrease by predetermined steps (temperature rise) within a predetermined period of time.	—	A
C3923	Fusing sensor wire breaks detection (pressurizing side)	• At the warm-up stage, the fusing pressure roller thermistor voltage does not decrease by predetermined steps (temperature rise) within a predetermined period of time.	—	A
C3924	Fusing sensor wire breaks detection (soaking side)	• At the warm-up stage, the soaking roller thermistor/1 voltage does not decrease by predetermined steps (temperature rise) within a predetermined period of time.	—	A
C3925	Fusing sensor wire breaks detection (NC sensor)	• At the warm-up stage, the NC sensor voltage does not increase by predetermined steps (temperature rise) within a predetermined period of time.	—	A
C3B02	IH malfunction (CPU)	• A failure in communication with the fusing CPU continues for a predetermined period of time.	—	A
C3B03	IH malfunction (monitor)	• Though the IH heater is ON, this status cannot be detected mechanically. (IH heater operation failure) • Though the IH heater is OFF, mechanically, the ON status is detected. (Malfunction of IH heater operation)	—	A
C3B04	IH malfunction	• Malfunction occurs in the fusing CPU.	—	A
C4101	Polygon motor rotation trouble	• The polygon motor fails to turn stably even after the lapse of a given period of time after activating the polygon motor. • Motor lock signal detects HIGH for a given period time consecutively during the polygon motor is rotating.	—	B
C4301	PH cooling fan motor failure to turn	• The fan motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C4501	Laser malfunction	• SOS signal is not detected even after the lapse of a given period of time after staring the laser output. • SOS signal is not detected for a given period of time during printing or IDC sensor adjustment.	—	B
C5104	Transfer belt motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5105	Transfer belt motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	—	B
C5304	IH cooling fan motor/1's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5305	IH cooling fan motor/2's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5306	IH cooling fan motor/3's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5351	Power supply cooling fan motor/1's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5354	Ozone ventilation fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5356	Cooling fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5370	MFP control board cooling fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B
C5371	MFP control board CPU cooling fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	—	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C6102	Drive system home sensor malfunction	• The scanner home sensor is unable to detect the scanner located at its home position. • The scanner home sensor is unable to detect a scanner even when the scanner motor has been driven to move the scanner over the maximum travelling distance. • The scanner home sensor detects the scanner when the scanner has moved the maximum travelling distance from the position, at which it blocks the scanner home sensor.	Scanner	B
C6103	Slider over running	• The scanner home sensor detects the scanner at its home position during a period of time that begins with the time when a prescan command and a scan preparation command are executed and ends when a home return command is executed.		B
C6301	Optical cooling fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.		B
C6704	Image input time out	• Image data is not input from the image processing board (IPB) to the printer control board (PRCB).		C
C6751	CCD clamp/gain adjustment failure	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.		B
C6F01	Scanner sequence trouble 1	• The original transport interval becomes shorter than the designed value due to an original transport control error in original reading in ADF.	Scanner	C
C6F02	Reserved			
C6F03	Reserved			
C6F04	Reserved			
C6F05	Reserved			
C6F06	Reserved			
C6F07	Reserved			
C6F08	Reserved			
C6F09	Reserved			
C6F10	Reserved			
C6FDC	Reserved			
C8101	Before reading pressure welding alienation mechanism	See P.62 of the DF-611/610 service manual.	—	B
C8102	Turn around pressure welding alienation trouble		—	B
C8103	Lift up mechanism trouble		—	B
C8104	Glass movement trouble		—	B

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C8105	Undetectable			
C8302	Read cooling fan trouble	See P.62 of the DF-611/610 service manual.	—	B
C9401	Exposure turning on the lamp trouble detection	• The output from the CCD sensor is a predetermined value or less during CCD sensor gain adjustment.	Scanner	A
C9402	Exposure turning on the lamp abnormally detection	• The average output value of the CCD sensor with the scanner at its standby position is a predetermined value or more at the end of a scan job.	Scanner	A
CA051	Standard controller configuration failure	• The controller of the printer control board (PRCB) is faulty.	—	C
CA052	Controller hardware error	• A controller hardware error is detected in the network I/F.	—	C
CA053	Controller start failure	• A controller start failure is detected in the controller interface.	—	C
CB001	FAX board error 1	See the FK-502 Service Manual.	—	C
CB002	FAX board error 2		—	C
CB003	FAX board error 3		—	C
CB051	FAX board mount failure line 1		—	C
CB052	FAX board mount failure line 2		—	C
CB110	FAX driver error: Instance generation error or observer registration error		—	C
CB111	FAX driver error: Configuration space initialization NG		—	C
CB112	FAX driver error: Semaphore acquisition, release error		—	C
CB113	FAX driver error: Sequence error among main body tasks		—	C
CB114	FAX driver error: Message queue control error		—	C
CB115	FAX driver error: Main body - sequence error among FAX boards		—	C

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
CB116	FAX driver error: FAX board nonresponse (Nonresponse after initialization)	See the FK-502 Service Manual.	—	C
CB117	FAX driver error: ACK waiting timeout error		—	C
CB118	FAX driver error: Receiving undefined frame		—	C
CB119	FAX driver error: DMA transfer error		—	C
CB120	JC soft error		—	C
CB122	Device error (GA LOCAL SRAM)		—	C
CB123	Device error (DRAM)		—	C
CB125	Device error (GA)		—	C
CB126	Timeout error due to nonresponse from DC during suspension process		—	C
CB127	Timeout error due to nonresponse from CC during suspension process		—	C
CB128	Timeout error due to nonresponse from LINE during suspension process		—	C
CB129	Timeout error due to nonresponse from file system/ file driver during suspension process		—	C
CB130	MIF driver error: Driver soft error		—	C
CB131	MIF driver error: Reception frame length error from main		—	C
CB132	MIF driver error: Reception frame header error from main		—	C
CB133	MIF driver error: 232C i/f sequence error		—	C
CB134	MIF driver error: DPRAM i/f sequence error		—	C
CB135	MIF driver error: DPRAM CTL/STL register error		—	C
CB136	MIF driver error: AKC waiting timeout		—	C

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
CB137	MIF driver error: DPRAM RESET reception	See the FK-502 Service Manual.	—	C
CB140	MSG I/F Error with JC		—	C
CB141	I/F error with main: I/F error with driver		—	C
CB142	I/F error with main: Undefined command reception		—	C
CB143	I/F error with main: Command frame length error		—	C
CB144	I/F error with main: Command parameter length error		—	C
CB145	I/F error with main: Undefined parameter		—	C
CB146	I/F error with main: Command/response sequence error		—	C
CB150	Line control: External class instance acquisition error		—	C
CB151	Line control: Job start error (Starting job parameter error/child job generation error)		—	C
CB152	Line control: Doc access error (Report buf access error)		—	C
CB153	Line control: Response wait timeout from external task		—	C
CB154	Line control: Internal que table control error (create/enque/deque)		—	C
CB160	1 destination control: Instance generation error		—	C
CB161	1 destination control: Timeout error		—	C
CB162	1 destination control: Interface error		—	C
CB163	1 destination control: Message que control error		—	C
CB164	1 destination control: Semaphore acquisition release error		—	C
CB165	1 destination control: Observer registration error		—	C

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
CB166	1 destination control: Reception resource check error	See the FK-502 Service Manual.	—	C
CB167	1 destination control: Deployment error of sending image information		—	C
CB168	1 destination control: Serialization error of receiving image		—	C
CB169	1 destination control: Access error to quick memory data		—	C
CB170	Page control: Internal que table control error (create/enque/deque)		—	C
CB171	Page control: Instance generation error		—	C
CB172	Page control: Timeout error		—	C
CB173	Page control: Interface error		—	C
CB174	Page control: Semaphore acquisition release error		—	C
CB175	Page control: Observer registration error		—	C
CB176	Page control: Unable to check TTI domain		—	C
CB177	Page control: Error return from TTI rasterizer		—	C
CB178	Page control: Receiving job generation error		—	C
CB185	Page control: Receiving data size logic error (Receiving data are not multiples of dotline)		—	C
CB186	Page control: Image buf acquisition (alloc) error		—	C
CB187	Page control: Error return from compressor		—	C
CB188	Page control: BandBuf control error (newInstance/get/free)		—	C
CCC00	Unexecuted Conversion UP	• When the firmware is upgraded to the enhanced version in bizhub C550/C451	—	C
CC001	Vendor connection failure	• It is detected that communications with the vendor are interrupted for a given period of time or more with “Installed” selected for the setting of vendor installation.	—	C

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
CC151	ROM contents error upon startup (MSC)	• A fault is detected in a sequence of ROM contents check of the MSC (PRCB) during starting	—	C
CC152	ROM contents error upon startup (scanner)	• A fault is detected in a sequence of ROM contents check of the IPB during starting.	—	C
CC153	ROM contents error upon startup (PRT)	• A fault is detected in a sequence of ROM contents check of the mechanical control board (MFPB) during starting.	—	C
CC155	Finisher ROM error	See P.119 of the FS-517/518/608 service manual. See P.73 of the FS-519/PK-510/OT-602 service manual. See P.22 of the JS-504 service manual.	—	C
CC156	ADF ROM error	See P.62 of the DF-611/610 service manual.	—	C
CC157	Finisher ROM error (RU)	See P.119 of the FS-517/518/608 service manual.	—	C
CC158	Finisher ROM error (ZU)	See P.55 of the ZU-603 service manual.	—	C
CC163	ROM contents error (PRT)	• The wrong model of firmware is detected in the engine during the initial connection to the engine is being checked.	—	C
CC164	ROM contents error (MSC)	• The wrong model of firmware is detected in the MFP board when the main power switch is turned ON.	—	C
CC170	Dynamic link error during starting (AP0)	• A dynamic link error occurs in the program on the MFP board due to an insufficient memory space available, a ROM fault, or other reason when the main power switch is turned ON.	—	C
CC171	Dynamic link error during starting (AP1)		—	C
CC172	Dynamic link error during starting (AP2)		—	C
CC173	Dynamic link error during starting (AP3)		—	C
CC174	Dynamic link error during starting (AP4)		—	C
CC180	Dynamic link error during starting (LDR)		—	C
CC181	Dynamic link error during starting (IBR)		—	C
CC182	Dynamic link error during starting (IID)		—	C
CC183	Dynamic link error during starting (IPF)		—	C
CC184	Dynamic link error during starting (IMY)		—	C
CC165	ROM contents error (ADF)	See P.62 of the DF-611/610 service manual.	—	C
CD002	JOB RAM save error	• The error in save of job data to the memory/hard disk and its read error are detected.	—	C

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
CD004	Hard disk access error	• Unable to communicate between the hard disk and printer control board (PRCB).	—	C
CD005	Hard disk error 1	• Hard disk is faulty.	—	C
CD006	Hard disk error 2		—	C
CD007	Hard disk error 3		—	C
CD008	Hard disk error 4		—	C
CD009	Hard disk error 5		—	C
CD00A	Hard disk error 6		—	C
CD00B	Hard disk error 7		—	C
CD00C	Hard disk error 8		—	C
CD00D	Hard disk error 9		—	C
CD00E	Hard disk error A		—	C
CD00F	Hard disk data transfer error	• Data transfer from the hard disk is faulty.	—	C
CD010	Hard disk unformat	• Unformatted hard disk is connected.	—	C
CD011	Hard disk out of specifications mounted	• A hard disk that falls outside the specifications is connected.	—	C
CD020	Hard disk verify error	• The data abnormality is detected by the HDD verify check.	—	C
CD030	Hard disk management information reading error	• The machine fails to read administrative information data saved in the hard disk.	—	C
CD201	File memory mounting error	• The file memory is not mounted. • The file has any abnormality.	—	C
CD202	Memory capacity discrepancy	• File memory capacity on the printer control board (PRCB) is not enough. • File memory capacity necessary for duplex printing is not enough during duplex unit mounting.	—	C
CD203	Memory capacity discrepancy 2	• File memory capacity on the printer control board (PRCB) is not enough.	—	C
CD211	PCI-SDRAM DMA operation failure	• Hardware related to the transfer of memory image of the printer control board (PRCB) fails to respond.	—	C
CD212	Compression/extraction timeout detection	• Hardware related to the BTC compression function of the printer control board (PRCB) fails to respond.	—	C
CD231	No Fax memory at FAX board mounting	• The DIMM for FAX is not mounted during the FAX board is mounting. • The FAX board is not mounted when the FAX board mounting is set ON at Service Mode.	—	C
CD241	Encryption board setting error	• Initialization error of the encrypted ASIC is detected during the machine is starting.	—	C
CD242	Encryption board mounting error	• The faulty of the installation of encrypted ASIC is detected during the machine is starting.	—	C

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
CD251	No JPEG board mounting at JPEG board mount setting	• JPEG board (Scan accelerator kit) is not mounted when the JPEG board mounting is set ON at Service Mode.	—	C
CD252	No relay circuit boards for IC-409 mounting at IC-409 mount setting	• Relay circuit boards (VI-504) are not mounted when the IC-409 is set to mount settting at Service Mode.	—	C
CD261	USB host board failure	• When a failure is detected in USB host board included in the local interface kit. • Non-standard USB device is connected.	—	C
CD271	i-Option activated and additional memory not installed	• While the i-Option is activated, the additional memory included in UK-201 is not installed.	—	C
CD3##	NVRAM data error	• Abnormality is detected by the abnormal check of each NVRAM data.	—	—
CD370	NVRAM data multiple errors	• Multiple errors (Over 5) are detected by the abnormal check of each NVRAM data.	—	—
CDC##	Trouble related to security	• Contact the responsible people of KMBT before taking some countermeasures.	—	—
CD401	NACK command incorrect	• When abnormality is found in the communication of controller.	—	C
CD402	ACK command incorrect		—	C
CD403	Checksum error		—	C
CD404	Receiving packet incorrect		—	C
CD405	Receiving packet analysis error		—	C
CD406	ACK receiving timeout		—	C
CD407	Retransmission timeout		—	C
CE001	Abnormal message queue	• Printer control board (PRCB) is faulty.	—	C
CE002	Message and method parameter failure		—	C
CE003	Task error		—	C
CE004	Event error		—	C
CE005	Memory access error		—	C
CE006	Header access error		—	C
CE007	DIMM initialize error		—	C
CEEE1	MFP board malfunction	• MFP board (MFPB) is faulty.	—	C
CEEE2	Scanner section malfunction	• A scanner part is faulty.	—	A
CEEE3	Printer control board malfunction	• Printer control board (PRCB) is faulty.	—	A

- The machine displays an abort code (CF###) on the control panel as it becomes unable to process tasks properly through its software control.
- When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

Code	Item		Relevant electrical components, units, and options	Rank
CF001	CT_singleList table abnormal	An exceptional instance occurred due to the unexpected parameter in the system F/W.	• MFP board (MFPB)	C
CF002	CT_doubleList table abnormal			C
CF003	CT_doubleList table abnormal			C
CF004	CT_queue full abnormal			C
CF011	Array link abnormal			C
CF012	FAT link abnormal			C
CF013	File size abnormal			C
CF021	setDelayMessage Table OverFlow			C
CF022	procSetBootParamTcpipAddress() injustice			C
CF023	MsgQue OverFlow			C
CF031	getJobPageToIPE() page number injustice			C
CF032	getJobHDDPageToIPE() page number injustice			C
CF033	setDivTbl() limitation over			C
CF034	HDDQUEUE Over Flow			C
CF041	getAPPPtrFromAPPID() abnormal			C
CF042	getAPPIndexFromAPPID() abnormal			C
CF051	CC_InputPageEntry:operator[] page injustice			C
CF061	IdeCommand_Set() status abnormal			C
CF062	IdeCommand_Set() parameter abnormal			C
CF091	PCI ASIC1 ERROR	ASIC1 error		C
CF092	PCI ASIC2 ERROR	ASIC2 error		C
CF093	PCI ASIC4 ERROR	ASIC3 error		C
CF101	SCAN TIME OUT	Image transfer malfunctions		C
CF111	Compress TIME OUT	Compression malfunctions		C
CF112	Compress table OverFlow			C
CF113	Compress table check	Compression malfunctions		C
CF121	Expand TIME OUT			C
CF122	Expand table OverFlow			C
CF123	Expand expandLine abnormal			C

Code	Item		Relevant electrical components, units, and options	Rank
CF131	Print TIME OUT	Image transfer malfunctions	• MFP board (MFPB)	C
CF201	startIRReadAnd Compress()Sequence	An exceptional instance occurred due to the unexpected parameter in the system F/W.		C
CF202	startWorkSave()Sequence abnormal			C
CF203	convAPItoIJCParameter()page abnormal			C
CF204	calcCompresserUse()CmpExpID Abnormal			C
CF211	setParameterBandColorPlane() Table OverFlow			C
CF212	convAPItoIJCParameter()page abnormal			C
CF213	calcExpandUse() CmpExpID abnormal			C
CF221	startPrintOutput outputsize zero			C
CF222	Next request comes during processing of startPrintOutput ()			C
CF223	Next request comes during processing of startWorkLoadOutput ()			C
CF300	IR Bus Check Timeout	Image transfer error on IR input bus		C
CF411	Parity error	Communication error (between IR-systems)		C
CF421	Overrun error			C
CF431	Parity error + Overrun error			C
CF441	Framing error			C
CF451	Parity error + Framing error			C
CF461	Overrun error + Framing error			C
CF471	Parity error + Overrun error + Framing error			C
CF412	Parity error			C
CF422	Overrun error			C
CF432	Parity error + Overrun error			C
CF442	Framing error			C
CF452	Parity error + Framing error			C
CF462	Overrun error + Framing error			C
CF472	Parity error + Overrun error + Framing error			C
CF510	Parity error			C

Code	Item		Relevant electrical components, units, and options	Rank
CF520	Framing error	Communication error (IR detected)	• MFP board (MFPB)	C
CF530	Parity error + Framing error			C
CF540	Overrun error			C
CF550	Parity error + Overrun error			C
CF560	Overrun error + Framing error			C
CF570	Parity error + Overrun error + Framing error			C
CF580	Frame distortion of ADF			C
CF600	Report receiving of print start that is out of sequence		• MFP board (MFPB)/ Engine	C
CF601	Report receiving of paper feeding that is out of sequence			C
CF604	Outside IF/Command queue		• MFP board (MFPB)	C
CF614	“Output sequence” queue	An exceptional instance occurred due to the unexpected parameter in the system F/W.		C
CF624	Panel LCD date queue			C
CF704	Common data “Delete-waiting HDD accumulated job ID” queue			C
CF714	IRC/Command queue			C
CF724	Engine/Command queue		• MFP board (MFPB)/ Engine	C
CF734	Panel/Command queue		• MFP board (MFPB)/ Control Panel	C
CF744	File memory transfer start-waiting command queue		• MFP board (MFPB)	C
CF754	File memory compression requesting command queue			C
CF764	Panel instruction delete job queue			C
CF774	Warning delete job queue			C
CF784	Application instruction delete job queue			C
CF794	Output page information for duplex back side queue			C
CF7A4	Paper feed completion output pate information queue			C
CF7B4	Exposure compaction output page information queue			C
CF7C4	Pre-discharge completion output page information queue			C
CF7D4	Touch panel coordinate data queue	An exceptional instance occurred due to the unexpected parameter in the system F/W.		C
CF7E4	Direct key data queue			C
CF7F4	Scan sequence queue			C

Code	Item		Relevant electrical components, units, and options	Rank
CF802	SIO sending port...ENG		• MFP board (MFPB)/ Engine	C
CF806	SIO sending port...IRC		• MFP board (MFPB)	C
CF807	SIO sending port...ADF			C
CF812	SIO sending port...Fiery		• External controller I/F board	C
CF815	SIO sending port...PIC/PIC terminal		• MFP board (MFPB)	C
CF8ED	SIO sending port...EPNet			C
CF902	SIO receiving port...ENG		• MFP board (MFPB)/ Engine	C
CF906	SIO receiving port...IRC		• MFP board (MFPB)	C
CF912	SIO receiving port...Fiery		• External controller I/F board	C
CF915	SIO receiving port...PIC/PIC terminal		• MFP board (MFPB)	C
CF9ED	SIO receiving port...EPNet			C
CFA01	getOneImgTransInfoFromTh() No applied thread	An exceptional instance occurred due to the unexpected parameter in the system F/W.		C
CFA02	chkEnableAllocExec() default error			C
CFA03	setTransBandAndRepeatNum() error			C
CFA04	Application ID error			C
CFA05	Thread selection image processing mode error			C
CFA06	getOneImgIndexNumFromTh() No applied thread			C
CFA07	setBufBandFromOut() No applied thread			C
CFA08	chkStartOutput() No applied thread			C
CFA09	rptReleaseMemResultACS() No applied thread			C
CFA10	rptEndBandTrans() No applied thread			C
CFA11	cancelTransExec() No applied thread			C
CFA12	CC_ImgTransInfo:allocTransIndex			C
CFA13	CC_MultiThreadProfile:rptBuf2 MemClrEnd			C
CFA14	Thread software error		• Whole electrical components, units, and options	C
CFA50	IGC control error	DB error	• MFP board (MFPB)	C
CFA51		IGC internal error		C

Code	Item	Relevant electrical components, units, and options	Rank
CFB00	ASIC117 first sheet DMA00	• MFP board (MFPB)	C
CFB01	ASIC117 first sheet DMA01		C
CFB02	ASIC117 first sheet DMA02		C
CFB03	ASIC117 first sheet DMA03		C
CFB04	ASIC117 first sheet DMA04	• MFP board (MFPB)	C
CFB05	ASIC117 first sheet DMA05		C
CFB06	ASIC117 first sheet DMA06		C
CFB07	ASIC117 first sheet DMA07		C
CFB08	ASIC117 first sheet DMA08		C
CFB09	ASIC117 first sheet DMA09		C
CFB0A	ASIC117 first sheet DMA10		C
CFB10	ASIC117 first sheet DMA16		C
CFB11	ASIC117 first sheet DMA17		C
CFB12	ASIC117 first sheet DMA18		C
CFB13	ASIC117 first sheet DMA19		C
CFB14	ASIC117 first sheet DMA20		C
CFB15	ASIC117 first sheet DMA21		C
CFB16	ASIC117 first sheet DMA22		C
CFB17	ASIC117 first sheet DMA23		C
CFB18	ASIC117 first sheet DMA24		C
CFB19	ASIC117 first sheet DMA25		C
CFB1A	ASIC117 first sheet DMA26		C
CFB1B	ASIC117 first sheet DMA27		C
CFB1C	ASIC117 first sheet DMA28		C
CFB1D	ASIC117 first sheet DMA29		C
CFB1E	ASIC117 first sheet DMA30		C
CFB20	ASIC117 second sheet DMA00	• External controller I/F board	C
CFB21	ASIC117 second sheet DMA01		C
CFB22	ASIC117 second sheet DMA02		C
CFB23	ASIC117 second sheet DMA03		C
CFB24	ASIC117 second sheet DMA04		C
CFB25	ASIC117 second sheet DMA05		C
CFB26	ASIC117 second sheet DMA06		C
CFB27	ASIC117 second sheet DMA07		C
CFB28	ASIC117 second sheet DMA08		C
CFB29	ASIC117 second sheet DMA09		C
CFB2A	ASIC117 second sheet DMA10		C
CFB30	ASIC117 second sheet DMA16		C
CFB31	ASIC117 second sheet DMA17		C
CFB32	ASIC117 second sheet DMA18		C
CFB33	ASIC117 second sheet DMA19		C

Code	Item	Relevant electrical components, units, and options	Rank
CFB34	ASIC117 second sheet DMA20	• External controller I/F board	C
CFB35	ASIC117 second sheet DMA21		C
CFB36	ASIC117 second sheet DMA22		C
CFB37	ASIC117 second sheet DMA23		C
CFB38	ASIC117 second sheet DMA24		C
CFB39	ASIC117 second sheet DMA25		C
CFB3A	ASIC117 second sheet DMA26		C
CFB3B	ASIC117 second sheet DMA27		C
CFB3C	ASIC117 second sheet DMA28		C
CFB3D	ASIC117 second sheet DMA29		C
CFB3E	ASIC117 second sheet DMA30		C
CFB40	ASIC7 DMA A	• JPEG board	C
CFB41	ASIC7 DMA C		C
CFB42	ASIC7 DMA D		C
CFB60	ASIC117 first sheet interruption	• MFP board (MFPB)	C
CFB61	ASIC117 second sheet interruption	• External controller I/F board	C
CFB62	ASIC7 interruption	• JPEG board	C
CFB70	ASIC117 first sheet common register setting	• MFP board (MFPB)	C
CFB71	ASIC117 second sheet common register setting	• External controller I/F board	C
CFB72	ASIC7 common register setting	• JPEG board	C
CFB80	ASIC117 first sheet PCIBridgeDMA	• MFP board (MFPB)	C
CFB81	ASIC117 second sheet PCIBridgeDMA	• External controller I/F board	C
CFB82	ASIC7 PCIBridgeDMA	• JPEG board	C
CFB90	ASIC117 first sheet BTC compander/expander	• MFP board (MFPB)	C
CFB91	ASIC117 second sheet BTC compander/expander	• External controller I/F board	C
CFB92	ASIC7 BTC compander/expander	• JPEG board	C
CFC00	ASIC117 first sheet DMA00 error interruption	• MFP board (MFPB)	C
CFC01	ASIC117 first sheet DMA01 error interruption		C
CFC02	ASIC117 first sheet DMA02 error interruption		C
CFC03	ASIC117 first sheet DMA03 error interruption		C
CFC04	ASIC117 first sheet DMA04 error interruption		C
CFC05	ASIC117 first sheet DMA05 error interruption		C
CFC06	ASIC117 first sheet DMA06 error interruption		C
CFC07	ASIC117 first sheet DMA07 error interruption		C
CFC08	ASIC117 first sheet DMA08 error interruption		C
CFC09	ASIC117 first sheet DMA09 error interruption		C
CFC0A	ASIC117 first sheet DMA10 error interruption		C
CFC10	ASIC117 first sheet DMA16 error interruption		C

Code	Item	Relevant electrical components, units, and options	Rank
CFC11	ASIC117 first sheet DMA17 error interruption	• MFP board (MFPB)	C
CFC12	ASIC117 first sheet DMA18 error interruption		C
CFC13	ASIC117 first sheet DMA19 error interruption		C
CFC14	ASIC117 first sheet DMA20 error interruption		C
CFC15	ASIC117 first sheet DMA21 error interruption		C
CFC16	ASIC117 first sheet DMA22 error interruption		C
CFC17	ASIC117 first sheet DMA23 error interruption		C
CFC18	ASIC117 first sheet DMA24 error interruption		C
CFC19	ASIC117 first sheet DMA25 error interruption		C
CFC1A	ASIC117 first sheet DMA26 error interruption		C
CFC1B	ASIC117 first sheet DMA27 error interruption		C
CFC1C	ASIC117 first sheet DMA28 error interruption		C
CFC1D	ASIC117 first sheet DMA29 error interruption		C
CFC1E	ASIC117 first sheet DMA30 error interruption		C
CFC20	ASIC117 first sheet SDC sleep illegal access error		C
CFC21	ASIC117 first sheet watchdog timer error interruption		C
CFC22	ASIC117 first sheet underrun at image output interface 1		C
CFC23	ASIC117 first sheet overflow at image input interface		C
CFC24	ASIC117 first sheet underrun at image output interface 1		C
CFC25	ASIC117 first sheet PCI master detects target abort		C
CFC26	ASIC117 first sheet master abort by PCI master		C
CFC27	ASIC117 first sheet PCI master detects illegal setting		C
CFC28	ASIC117 first sheet PCI master detects retry error		C
CFC29	ASIC117 first sheet PCI master detects split completion byte count malfunction		C
CFC2A	ASIC117 first sheet PCI master detects split completion error message		C
CFC2B	ASIC117 first sheet unknown marker detected at JBIG core		C
CFC2C	ASIC117 SC count overflow detected at JBIG core		C
CFC2D	ASIC117 first sheet master read data parity error		C
CFC2E	ASIC117 first sheet master write data parity error		C
CFC2F	ASIC117 first sheet system error		C
CFC30	ASIC117 first sheet sleep read data parity error		C
CFC31	ASIC117 first sheet sleep write data parity error		C
CFC32	ASIC117 first sheet address parity error		C
CFC50	ASIC117 second sheet DMA00 error interruption	• External controller I/F board	C
CFC51	ASIC117 second sheet DMA01 error interruption		C
CFC52	ASIC117 second sheet DMA02 error interruption		C
CFC53	ASIC117 second sheet DMA03 error interruption		C

Code	Item	Relevant electrical components, units, and options	Rank
CFC54	ASIC117 second sheet DMA04 error interruption	• External controller I/F board	C
CFC55	ASIC117 second sheet DMA05 error interruption		C
CFC56	ASIC117 second sheet DMA06 error interruption		C
CFC57	ASIC117 second sheet DMA07 error interruption		C
CFC58	ASIC117 second sheet DMA08 error interruption		C
CFC59	ASIC117 second sheet DMA09 error interruption		C
CFC5A	ASIC117 second sheet DMA10 error interruption		C
CFC60	ASIC117 second sheet DMA16 error interruption		C
CFC61	ASIC117 second sheet DMA17 error interruption		C
CFC62	ASIC117 second sheet DMA18 error interruption		C
CFC63	ASIC117 second sheet DMA19 error interruption		C
CFC64	ASIC117 second sheet DMA20 error interruption		C
CFC65	ASIC117 second sheet DMA21 error interruption		C
CFC66	ASIC117 second sheet DMA22 error interruption		C
CFC67	ASIC117 second sheet DMA23 error interruption		C
CFC68	ASIC117 second sheet DMA24 error interruption		C
CFC69	ASIC117 second sheet DMA25 error interruption		C
CFC6A	ASIC117 second sheet DMA26 error interruption		C
CFC6B	ASIC117 second sheet DMA27 error interruption		C
CFC6C	ASIC117 second sheet DMA28 error interruption		C
CFC6D	ASIC117 second sheet DMA29 error interruption		C
CFC6E	ASIC117 second sheet DMA30 error interruption		C
CFC70	ASIC117 second sheet SDC sleep illegal access error		C
CFC71	ASIC117 second sheet watchdog timer error interruption		C
CFC72	ASIC117 second sheet underrun at image output interface 1		C
CFC73	ASIC117 second sheet overflow at image input interface		C
CFC74	ASIC117 first sheet underrun at LCD output interface	• MFP board (MFPB)	C
CFC75	ASIC117 second sheet PCI master detects target abort	• External controller I/F board	C
CFC76	ASIC117 second sheet master abort by PCI master		C
CFC77	ASIC117 second sheet PCI master detects illegal setting		C
CFC78	ASIC117 second sheet PCI master detects retry error		C
CFC79	ASIC117 first sheet PCI master detects split completion byte count malfunctio	• MFP board (MFPB)	C
CFC7A	ASIC117 first sheet PCI master detects split completion error message		C
CFC7B	ASIC117 second unknown marker detected at JBIG core	• External controller I/F board	C
CFC7C	ASIC117 second SC count overflow detected at JBIG core		C

Code	Item	Relevant electrical components, units, and options	Rank
CFC7D	ASIC117 second sheet master read data parity error	• External controller I/F board	C
CFC7E	ASIC117 second sheet master write data parity error		C
CFC7F	ASIC117 second sheet system error		C
CFC80	ASIC117 second sheet sleep read data parity error		C
CFC81	ASIC117 second sheet sleep write data parity error		C
CFC82	ASIC117 second sheet address parity error		C
CFCA0	ASIC7 DMA_A error interruption	• JPEG board	C
CFCA1	ASIC7 DMA_C error interruption		C
CFCA2	ASIC7 DMA_D error interruption		C
CFCA3	ASIC7 watchdog timer error		C
CFCA4	ASIC7 PCI sleep error		C
CFCA5	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCA6	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCA7	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCA8	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCA9	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCAA	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCAB	ASIC7 JPEG related interruption during internal processing at DMA_A, error interruption		C
CFCAC	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCAD	ASIC7 JPEG related interruption during internal processing at DMA_A		C
CFCAE	ASIC7 JPEG related interruption with multiple statuses during internal processing at DMA_A		C
CFCAF	ASIC7 No EOI marker after the completion of transmitting the amount of codes set during expansion at DMA_A		C
CFCB0	ASIC7 compressed data go beyond the set value during compression at DMA_A		C
CFCB1	ASIC7 no EOI marker after the completion of transmitting the amount of codes set during compression at DMA_A		C
CFCB2	ASIC7 target abort		C
CFCB3	ASIC7 master abort		C
CFCB4	ASIC7 forced suspension		C
CFCB5	ASIC7 PCI master detects retry error		C
CFCB6	ASIC7 master read data parity error		C

Code	Item	Relevant electrical components, units, and options	Rank
CFCB7	ASIC7 master write data parity error	• JPEG board	C
CFCB8	ASIC7 system error		C
CFCB9	ASIC7 sleep read data parity error		C
CFCBA	ASIC7 sleep write data parity error		C
CFCBB	ASIC7 address parity error		C
CFCD0	CPS2300Great watchdog timer error	• MFP board (MFPB)	C
CFCD1	CPS2300Great local bus error		C
CFCD2	CPS2300Great sleep read data parity error		C
CFCD3	CPS2300Great sleep write data parity error		C
CFCD4	CPS2300Great address parity error		C
CFCF0	PIC3400Great watchdog timer error		C
CFCF1	PIC3400Great sleep read data parity error		C
CFCF2	PIC3400Great sleep write data parity error		C
CFCF3	PIC3400Great address parity error		C
CFD00	ASIC117 first sheet DMA00 time out		C
CFD01	ASIC117 first sheet DMA01 time out		C
CFD02	ASIC117 first sheet DMA02 time out		C
CFD03	ASIC117 first sheet DMA03 time out		C
CFD04	ASIC117 first sheet DMA04 time out		C
CFD05	ASIC117 first sheet DMA05 time out		C
CFD06	ASIC117 first sheet DMA06 time out		C
CFD07	ASIC117 first sheet DMA07 time out		C
CFD08	ASIC117 first sheet DMA08 time out		C
CFD09	ASIC117 first sheet DMA09 time out		C
CFD0A	ASIC117 first sheet DMA10 time out		C
CFD10	ASIC117 first sheet DMA16 time out		C
CFD11	ASIC117 first sheet DMA17 time out		C
CFD12	ASIC117 first sheet DMA18 time out		C
CFD13	ASIC117 first sheet DMA19 time out		C
CFD14	ASIC117 first sheet DMA20 time out		C
CFD15	ASIC117 first sheet DMA21 time out		C
CFD16	ASIC117 first sheet DMA22 time out		C
CFD17	ASIC117 first sheet DMA23 time out		C
CFD18	ASIC117 first sheet DMA24 time out		C
CFD19	ASIC117 first sheet DMA25 time out		C
CFD1A	ASIC117 first sheet DMA26 time out		C
CFD1B	ASIC117 first sheet DMA27 time out		C
CFD1C	ASIC117 first sheet DMA28 time out		C
CFD1D	ASIC117 first sheet DMA29 time out		C
CFD1E	ASIC117 first sheet DMA30 time out		C

Code	Item	Relevant electrical components, units, and options	Rank
CFD50	ASIC117 second sheet DMA00 time out	• External controller I/F board	C
CFD51	ASIC117 second sheet DMA01 time out		C
CFD52	ASIC117 second sheet DMA02 time out		C
CFD53	ASIC117 second sheet DMA03 time out		C
CFD54	ASIC117 second sheet DMA04 time out		C
CFD55	ASIC117 second sheet DMA05 time out		C
CFD56	ASIC117 second sheet DMA06 time out		C
CFD57	ASIC117 second sheet DMA07 time out		C
CFD58	ASIC117 second sheet DMA08 time out		C
CFD59	ASIC117 second sheet DMA09 time out		C
CFD5A	ASIC117 second sheet DMA10 time out		C
CFD60	ASIC117 second sheet DMA16 time out		C
CFD61	ASIC117 second sheet DMA17 time out		C
CFD62	ASIC117 second sheet DMA18 time out		C
CFD63	ASIC117 second sheet DMA19 time out		C
CFD64	ASIC117 second sheet DMA20 time out		C
CFD65	ASIC117 second sheet DMA21 time out		C
CFD66	ASIC117 second sheet DMA22 time out		C
CFD67	ASIC117 second sheet DMA23 time out		C
CFD68	ASIC117 second sheet DMA24 time out		C
CFD69	ASIC117 second sheet DMA25 time out		C
CFD6A	ASIC117 second sheet DMA26 time out		C
CFD6B	ASIC117 second sheet DMA27 time out		C
CFD6C	ASIC117 second sheet DMA28 time out		C
CFD6D	ASIC117 second sheet DMA29 time out		C
CFD6E	ASIC117 second sheet DMA30 time out		C
CFDA0	ASIC7 DMA_A time out	• JPEG board	C
CFDA1	ASIC7 DMA_C time out		C
CFDA2	ASIC7 DMA_D time out		C
CFE00	ASIC117 first sheet DMA00 time out	• MFP board (MFPB)	C
CFE01	ASIC117 first sheet DMA01 time out		C
CFE02	ASIC117 first sheet DMA02 time out		C
CFE03	ASIC117 first sheet DMA03 time out		C
CFE04	ASIC117 first sheet DMA04 time out		C
CFE05	ASIC117 first sheet DMA05 time out		C
CFE06	ASIC117 first sheet DMA06 time out		C
CFE07	ASIC117 first sheet DMA07 time out		C
CFE08	ASIC117 first sheet DMA08 time out		C
CFE09	ASIC117 first sheet DMA09 time out		C
CFE0A	ASIC117 first sheet DMA10 time out		C
CFE10	ASIC117 first sheet DMA16 time out		C

Code	Item	Relevant electrical components, units, and options	Rank
CFE11	ASIC117 first sheet DMA17 time out	• MFP board (MFPB)	C
CFE12	ASIC117 first sheet DMA18 time out		C
CFE13	ASIC117 first sheet DMA19 time out		C
CFE14	ASIC117 first sheet DMA20 time out		C
CFE15	ASIC117 first sheet DMA21 time out		C
CFE16	ASIC117 first sheet DMA22 time out		C
CFE17	ASIC117 first sheet DMA23 time out		C
CFE18	ASIC117 first sheet DMA24 time out		C
CFE19	ASIC117 first sheet DMA25 time out		C
CFE1A	ASIC117 first sheet DMA26 time out		C
CFE1B	ASIC117 first sheet DMA27 time out		C
CFE1C	ASIC117 first sheet DMA28 time out		C
CFE1D	ASIC117 first sheet DMA29 time out		C
CFE1E	ASIC117 first sheet DMA30 time out		C
CFE50	ASIC117 second sheet DMA00 time out	• External controller I/F board	C
CFE51	ASIC117 second sheet DMA01 time out		C
CFE52	ASIC117 second sheet DMA02 time out		C
CFE53	ASIC117 second sheet DMA03 time out		C
CFE54	ASIC117 second sheet DMA04 time out		C
CFE55	ASIC117 second sheet DMA05 time out		C
CFE56	ASIC117 second sheet DMA06 time out		C
CFE57	ASIC117 second sheet DMA07 time out		C
CFE58	ASIC117 second sheet DMA08 time out		C
CFE59	ASIC117 second sheet DMA09 time out		C
CFE5A	ASIC117 second sheet DMA10 time out		C
CFE60	ASIC117 second sheet DMA16 time out		C
CFE61	ASIC117 second sheet DMA17 time out		C
CFE62	ASIC117 second sheet DMA18 time out		C
CFE63	ASIC117 second sheet DMA19 time out		C
CFE64	ASIC117 second sheet DMA20 time out		C
CFE65	ASIC117 second sheet DMA21 time out		C
CFE66	ASIC117 second sheet DMA22 time out		C
CFE67	ASIC117 second sheet DMA23 time out		C
CFE68	ASIC117 second sheet DMA24 time out		C
CFE69	ASIC117 second sheet DMA25 time out		C
CFE6A	ASIC117 second sheet DMA26 time out		C
CFE6B	ASIC117 second sheet DMA27 time out		C
CFE6C	ASIC117 second sheet DMA28 time out		C
CFE6D	ASIC117 second sheet DMA29 time out		C
CFE6E	ASIC117 second sheet DMA30 time out		C
CFEA0	ASIC7 DMA_A time out	• JPEG board	C

Code	Item	Relevant electrical components, units, and options	Rank
CFEA1	ASIC7 DMA_C time out	• JPEG board	C
CFEA2	ASIC7 DMA_D time out		C
CFF00	ASIC117 first sheet DMA00 time out	• MFP board (MFPB)	C
CFF01	ASIC117 first sheet DMA01 time out		C
CFF02	ASIC117 first sheet DMA02 time out		C
CFF03	ASIC117 first sheet DMA03 time out		C
CFF04	ASIC117 first sheet DMA04 time out		C
CFF05	ASIC117 first sheet DMA05 time out		C
CFF06	ASIC117 first sheet DMA06 time out		C
CFF07	ASIC117 first sheet DMA07 time out		C
CFF08	ASIC117 first sheet DMA08 time out		C
CFF09	ASIC117 first sheet DMA09 time out		C
CFF0A	ASIC117 first sheet DMA10 time out		C
CFF10	ASIC117 first sheet DMA16 time out		C
CFF11	ASIC117 first sheet DMA17 time out		C
CFF12	ASIC117 first sheet DMA18 time out		C
CFF13	ASIC117 first sheet DMA19 time out		C
CFF14	ASIC117 first sheet DMA20 time out		C
CFF15	ASIC117 first sheet DMA21 time out		C
CFF16	ASIC117 first sheet DMA22 time out		C
CFF17	ASIC117 first sheet DMA23 time out		C
CFF18	ASIC117 first sheet DMA24 time out		C
CFF19	ASIC117 first sheet DMA25 time out		C
CFF1A	ASIC117 first sheet DMA26 time out		C
CFF1B	ASIC117 first sheet DMA27 time out		C
CFF1C	ASIC117 first sheet DMA28 time out		C
CFF1D	ASIC117 first sheet DMA29 time out		C
CFF1E	ASIC117 first sheet DMA30 time out		C
CFF50	ASIC117 second sheet DMA00 time out	• External controller I/F board	C
CFF51	ASIC117 second sheet DMA01 time out		C
CFF52	ASIC117 second sheet DMA02 time out		C
CFF53	ASIC117 second sheet DMA03 time out		C
CFF54	ASIC117 second sheet DMA04 time out		C
CFF55	ASIC117 second sheet DMA05 time out		C
CFF56	ASIC117 second sheet DMA06 time out		C
CFF57	ASIC117 second sheet DMA07 time out		C
CFF58	ASIC117 second sheet DMA08 time out		C
CFF59	ASIC117 second sheet DMA09 time out		C
CFF5A	ASIC117 second sheet DMA10 time out		C
CFF60	ASIC117 second sheet DMA16 time out		C
CFF61	ASIC117 second sheet DMA17 time out		C

Code	Item	Relevant electrical components, units, and options	Rank
CFF62	ASIC117 second sheet DMA18 time out	• External controller I/F board	C
CFF63	ASIC117 second sheet DMA19 time out		C
CFF64	ASIC117 second sheet DMA20 time out		C
CFF65	ASIC117 second sheet DMA21 time out		C
CFF66	ASIC117 second sheet DMA22 time out		C
CFF67	ASIC117 second sheet DMA23 time out		C
CFF68	ASIC117 second sheet DMA24 time out		C
CFF69	ASIC117 second sheet DMA25 time out		C
CFF6A	ASIC117 second sheet DMA26 time out		C
CFF6B	ASIC117 second sheet DMA27 time out		C
CFF6C	ASIC117 second sheet DMA28 time out		C
CFF6D	ASIC117 second sheet DMA29 time out		C
CFF6E	ASIC117 second sheet DMA30 time out		C
CFFA0	ASIC7 DMA_A time out	• JPEG board	C
CFFA1	ASIC7 DMA_C time out		C
CFFA2	ASIC7 DMA_D time out		C

16.4 How to reset

- Different malfunction resetting procedures apply depending on the rank of the trouble code.

* List of malfunction resetting procedures

Trouble code rank	Resetting procedures
Rank A	• Trouble reset For details of trouble reset, see Adjustment/Setting. See P.560
Rank B	• Opening/closing the front door
Rank C	• Turning main power switch OFF/ON

16.5 Solution

16.5.1 C0104: Tray 3/4 feeder transportation motor failure to turn

16.5.2 C0105: Tray 3/4 feeder transportation motor turning at abnormal timing

Relevant parts	
Transport motor (M25)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M25 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M25 for proper drive coupling and correct as necessary.	—	—
3	M25 operation check	PFTDB CN12PFTDB-6 (LOCK)	V-12
4	Change M25	—	—
5	Change PFTDB	—	—
6	Change PRCB	—	—

16.5.3 C0202: Tray 1 feeder up/down abnormality

Relevant parts	
Tray 1 upper limit sensor (PS6) Tray 1 lift-up motor (M6)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M6 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M6 for proper drive coupling and correct as necessary.	—	—
3	PS6 I/O check, sensor check	PFTDB CN4PFTDB-3 (ON)	P-4
4	M6 operation check	PFTDB CN18PFTDB-9 (ON)	V-3
5	Change M6	—	—
6	Change PFTDB	—	—
7	Change PRCB	—	—

16.5.4 C0204: Tray 2 feeder up/down abnormality

Relevant parts	
Tray 2 upper limit sensor (PS14) Tray 2 lift-up motor (M8)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M8 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M8 for proper drive coupling and correct as necessary.	—	—
3	PS14 I/O check, sensor check	PFTDB CN8BPFTDB-10 (ON)	P-7
4	M8 operation check	PFTDB CN6PFTDB-9 (ON)	V-4
5	Change M8	—	—
6	Change PFTDB	—	—
7	Change PRCB	—	—

16.5.5 C0206: Tray 3 feeder up/down abnormality

Relevant parts	
Tray 3 upper limit sensor (PS22) Tray 3 lift-up motor (M23)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M23 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M23 for proper drive coupling and correct as necessary.	—	—
3	PS22 I/O check, sensor check	PFTDB CN10BPFTDB-6 (ON)	V-6
4	M23 operation check	PFTDB CN11PFTDB-4 (ON)	V-9
5	Change M23	—	—
6	Change PFTDB	—	—
7	Change PRCB	—	—

16.5.6 C0208: Tray 4 feeder up/down abnormality

Relevant parts	
Tray 4 upper limit sensor (PS27) Tray 4 lift-up motor (M24)	Paper feed/transport drive board (PFTDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M24 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M24 for proper drive coupling and correct as necessary.	—	—
3	PS27 I/O check, sensor check	PFTDB CN9BPFTDB-6 (ON)	V-8
4	M24 operation check	PFTDB CN11PFTDB-2 (ON)	V-9
5	Change M23	—	—
6	Change PFTDB	—	—
7	Change PRCB	—	—

16.5.7 C0211: Manual feed up/down abnormality

Relevant parts	
Bypass tray up down motor (M28) Paper feed/transport drive board (PFTDB)	Bypass paper limit sensor (PS35) Bypass paper lower sensor (PS36)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M28 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M28 for proper drive coupling and correct as necessary.	—	—
3	PS35 I/O check, sensor check	PFTDB CN26BPFTDB<B>-10 (ON)	P-12
4	PS36 I/O check, sensor check	PFTDB CN9BPFTDB<A>-11 (ON)	P-11
5	M28 operation check	PFTDB CN26PFTDB<B>-11,12	P-12
6	Change M28	—	—
7	Change PFTDB	—	—

16.5.8 C0301: Suction fan motor's failure to turn

Relevant parts	
Suction fan motor (FM1)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM1 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM1 operation check	PRCB CN11PRCB-3 (REM) PRCB CN11PRCB-5 (LOCK)	K-3
4	Change FM1	—	—
5	Change PRCB	—	—

16.5.9 C0351: Paper cooling fan trouble

Relevant parts	
Paper cooling fan motor (FM13)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM13 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM13 operation check	PRCB CN10PRCB-4 (REM) PRCB CN10PRCB-6 (LOCK)	K-6
4	Change FM13	—	—
5	Change PRCB	—	—

16.5.10 C2101: PC charge cleaning malfunction

Relevant parts	
Imaging unit /K Charging cleaner home sensor (PS43) Charging cleaner return sensor (PS44) Charge cleaning motor/K (M15)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the imaging unit/K for proper connection and correct as necessary.	—	—
2	Check the M15 connector for proper connection and correct as necessary.	—	—
3	PS43 I/O check, sensor check	PRCB CN8PRCB-8 (ON)	C-12
4	PS44 I/O check, sensor check	PRCB CN8PRCB-11 (ON)	C-13
5	M15 operation check	PRCB CN8PRCB-3 to 4	C-12
6	Change imaging unit /K	—	—
7	Change M15	—	—
8	Change PRCB	—	—

16.5.11 C2151: Secondary transfer roller pressure welding alienation

Relevant parts	
Pressure welding alienation sensor (PS50) 2nd image transfer pressure retraction motor (M3)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M3 connector for proper connection and correct as necessary.	—	—
2	PS50 I/O check, sensor check	PRCB CN36PRCB-9 (ON)	K-4
3	M3 operation check	PRCB CN11PRCB-1 (REM)	K-3
4	Change M3	—	—
5	Change PRCB	—	—

16.5.12 C2152: Transfer belt pressure welding alienation

Relevant parts	
Pressure welding alienation sensor/K (PS51) Pressure welding alienation sensor/color (PS52) 1st image transfer pressure retraction motor (M21)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M21 connector for proper connection and correct as necessary.	—	—
2	PS51 I/O check, sensor check	PRCB CN11PRCB-12 (ON)	K-2
3	PS52 I/O check, sensor check	PRCB CN11PRCB-15 (ON)	K-2
4	M21 operation check	PRCB CN17PRCB-1 to 4	K-2
5	Change M21	—	—
6	Change MFPB	—	—

16.5.13 C2160: PC charge (C) malfunction

16.5.14 C2161: PC charge (M) malfunction

16.5.15 C2162: PC charge (Y) malfunction

16.5.16 C2163: PC charge (K) malfunction

16.5.17 C2164: PC charge malfunction

Relevant parts	
Imaging unit	High voltage unit/1 (HV1) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the imaging unit for proper connection and correct as necessary.	—	—
2	Check the HV1 connector for proper connection and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	Change IU	—	—
5	Change HV1	—	—
6	Change PRCB	—	—

16.5.18 C2204: Waste toner agitating motor's failure to turn

Relevant parts	
Waste toner agitating motor lock sensor (PS23) Waste toner agitating motor (M20)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Change the waste toner box.	—	—
2	Check the M20 connector for proper connection and correct as necessary.	—	—
3	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
4	M20 operation check	PRCB CN15PRCB-11 to 14	C-12
5	Change M20	—	—
6	Change PRCB	—	—

16.5.19 C2253: Color PC drum motor's failure to turn

16.5.20 C2254: Color PC drum motor's turning at abnormal timing

Relevant parts	
Color PC drum motor (M16)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M16 connector for proper connection and correct as necessary.	—	—
2	Check the M16 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M16 operation check	PRCB CN12PRCB-9 (REM) PRCB CN12PRCB-12 (LOCK)	K-9
5	Change M16	—	—
6	Change PRCB	—	—

16.5.21 C2255: Color developing motor's failure to turn

16.5.22 C2256: Color developing motor's turning at abnormal timing

Relevant parts	
Color developing motor (M17)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M17 connector for proper connection and correct as necessary.	—	—
2	Check the M17 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M17 operation check	PRCB CN12PRCB-14 (REM) PRCB CN12PRCB-17 (LOCK)	K-8
5	Change M17	—	—
6	Change PRCB	—	—

16.5.23 C2257: Cleaner motor's failure to turn

16.5.24 C2258: Cleaner motor's turning at abnormal timing

Relevant parts	
Cleaner motor (M38)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M38 connector for proper connection and correct as necessary.	—	—
2	Check the M38 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M38 operation check	PRCB CN13PRCB-11 (LOCK)	K-10 to 11
5	Change M38	—	—
6	Change PRCB	—	—

16.5.25 C2259: K developing motor’s failure to turn

16.5.26 C225A: K developing motor’s turning at abnormal timing

Relevant parts	
K developing motor (M19)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M19 connector for proper connection and correct as necessary.	—	—
2	Check the M19 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M19 operation check	PRCB CN12PRCB-2 (REM) PRCB CN12PRCB-5 (LOCK)	K-9
5	Change M19	—	—
6	Change PRCB	—	—

16.5.27 C225B: K PC drum motor’s failure to turn

16.5.28 C225C: K PC drum motor’s turning at abnormal timing

Relevant parts	
K PC drum motor (M18)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M18 connector for proper connection and correct as necessary.	—	—
2	Check the M18 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M18 operation check	PRCB CN13PRCB-15 (REM) PRCB CN13PRCB-18 (LOCK)	K-10
5	Change M18	—	—
6	Change PRCB	—	—

16.5.29 C2351: K toner suction fan motor's failure to turn

Relevant parts	
K toner suction fan motor (FM8)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM8 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM8 operation check	PRCB CN10PRCB-10 (REM) PRCB CN10PRCB-12 (LOCK)	K-5
4	Change FM8	—	—
5	Change PRCB	—	—

16.5.30 C2352: Color toner suction fan motor's failure to turn

Relevant parts	
Color toner suction fan motor (FM7)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM7 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM7 operation check	PRCB CN10PRCB-7 (REM) PRCB CN10PRCB-9 (LOCK)	K-5
4	Change FM7	—	—
5	Change PRCB	—	—

16.5.31 C2353: IU cooling fan motor's failure to turn

Relevant parts	
IU cooling fan motor (FM15)	PH relay board (REYB/PH) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM15 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM15 operation check	REYB PH CN5REYB PH-1 (REM) REYB PH CN5REYB PH-3 (LOCK)	B-7
4	Change FM15	—	—
5	Change REYB/PH	—	—
6	Change PRCB	—	—

16.5.32 C2354: Rear side cooling fan motor's failure to turn

Relevant parts	
Rear side cooling fan motor (FM16)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM16 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM16 operation check	PRCB CN26PRCB-2 (REM) PRCB CN26PRCB-3 (LOCK)	C-16
4	Change FM16	—	—
5	Change PRCB	—	—

16.5.33 C2451: Release new transfer belt unit

Relevant parts	
Transfer belt unit	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall unit	—	—
2	Check there is a short circuit in the fuse of the transfer belt unit.		
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	Change PRCB	—	—

16.5.34 C2551: Abnormally low toner density detected cyan TCR sensor

16.5.35 C2553: Abnormally low toner density detected magenta TCR sensor

16.5.36 C2555: Abnormally low toner density detected yellow TCR sensor

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Toner cartridge /C Toner cartridge /M Toner cartridge /Y Toner empty sensor/C (PZS/C) Toner empty sensor/M (PZS/M) Toner empty sensor/Y (PZS/Y)	Toner supply motor/Y (M9) Toner supply motor/M (M10) Toner supply motor/C (M11) Toner cartridge motor Y/M (M13) Toner cartridge motor C/K (M14) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	Clean the TCR sensor window on the underside of the imaging unit if dirty	—	—
3	Reinstall imaging unit	—	—
4	Reinstall toner cartridge	—	—
5	M9, M10, M11 operation check (At this time, IU must be non-installation.)	M9: PRCB CN16PRCB-1 to 4 M10: PRCB CN16PRCB-5 to 8 M11: PRCB CN16PRCB-9 to 12	C-22 to 23
6	M13, M14 operation check	M13: PRCB CN17PRCB-5 to 8 M14: PRCB CN17PRCB-9 to 12	K-1
7	If the toner empty sensor and its surroundings inside the sub hopper are dirtied with toner, clean them.	—	—
8	Change imaging unit	—	—
9	Change PRCB.	—	—

16.5.37 C2552: Abnormally high toner density detected cyan TCR sensor

16.5.38 C2554: Abnormally high toner density detected magenta TCR sensor

16.5.39 C2556: Abnormally high toner density detected yellow TCR sensor

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Toner cartridge /C Toner cartridge /M Toner cartridge /Y	Sub hopper unit Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean the TCR sensor window on the underside of the imaging unit if dirty	—	—
2	Reinstall imaging unit	—	—
3	Reinstall toner cartridge	—	—
4	Change imaging unit	—	—
5	Change PRCB	—	—
6	Change sub hopper unit	—	—

16.5.40 C2557: Abnormally low toner density detected black TCR sensor

Relevant parts	
Imaging unit /K Toner cartridge /K Toner empty sensor/K (PZS/K)	Toner supply motor/K (M12) Toner cartridge motor C/K (M14) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	Clean the TCR sensor window on the underside of the imaging unit if dirty	—	—
3	M12 operation check (At this time, IU must be non-installation.)	PRCB CN16PRCB-13 to 16	C-22
4	M14 operation check	PRCB CN17PRCB-9 to 12	K-1
5	Reinstall imaging unit	—	—
6	Reinstall toner cartridge	—	—
7	If the toner empty sensor and its surroundings inside the sub hopper are dirtied with toner, clean them.	—	—
8	Change imaging unit /K	—	—
9	Change PRCB.	—	—

16.5.41 C2558: Abnormally high toner density detected black TCR sensor

Relevant parts	
Imaging unit /K Toner cartridge /K	Sub hopper unit Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct the TCR connection on the underside of the imaging unit if faulty.	—	—
2	Reinstall imaging unit	—	—
3	Reinstall toner cartridge	—	—
4	Change imaging unit	—	—
5	Change PRCB	—	—
6	Change sub hopper unit	—	—

16.5.42 C2559: Cyan TCR sensor adjustment failure

16.5.43 C255A: Magenta TCR sensor adjustment failure

16.5.44 C255B: Yellow TCR sensor adjustment failure

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y	Toner supply motor/Y (M9) Toner supply motor/M (M10) Toner supply motor/C (M11) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean the TCR sensor window on the underside of the imaging unit if dirty	—	—
2	M9, M10, M11 operation check	M9: PRCB CN16PRCB-1 to 4 M10: PRCB CN16PRCB-5 to 8 M11: PRCB CN16PRCB-9 to 12	C-22 to 23
3	Reinstall imaging unit	—	—
4	Change imaging unit	—	—
5	Change PRCB	—	—

16.5.45 C255C: Black TCR sensor adjustment failure

Relevant parts	
Imaging unit /K Toner supply motor/K (M12)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean or correct each contact of the imaging unit if faulty.	—	—
2	M12 operation check	PRCB CN16PRCB-13 to 16	C-22
3	Reinstall imaging unit /K	—	—
4	Change imaging unit /K	—	—
5	Change PRCB	—	—

16.5.46 C2650: Main backup media access error

Relevant parts	
Service EEPROM board (SV ERB)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connector (CN23PRCB) on PRCB, the connector (CN1SV ERB) on SV ERB, and the harness between the boards for proper connection and correct as necessary.	—	—
2	Change PRCB *1.* Turn OFF the main power switch and replace the current PRCB with a new one. (When using a PRCB of another machine in service, be sure to use a PRCB installed in the same model.) See P.164 *2.* Update the PRCB firmware. *3.* After completing the firmware update, turn OFF and ON the main power switch and check to see that warm-up is started. Make sure that malfunction codes other than C2650 or improper IU/TC placement is not detected. *4.* When the trouble cannot be solved, reinstall the removed PRCB to the original board. **NOTE** • **When taking the above steps, check whether PRCB is defective or not without replacing the SV ERB.**	—	—
3	Change SV ERB *1.* Replace the current SV ERB with a new one. See P.175 *2.* Turn ON the main power switch and check to see that warm-up is started. (One minute is spent to prepare the new SV ERB for use. During the period, the control panel backlight stays off.) Make sure that malfunction codes other than C2650 or improper IU/TC placement is not detected. *3.* Make the specified readjustments. See P.175	—	—
4	If the above actions do not solve the problem, contact KMBT.	—	—

16.5.47 C2651: EEPROM access error (IU C)

16.5.48 C2652: EEPROM access error (IU M)

16.5.49 C2653: EEPROM access error (IU Y)

16.5.50 C2654: EEPROM access error (IU K)

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Imaging unit /K	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean the connection between the imaging unit and the machine if dirty	—	—
2	Reinstall imaging unit	—	—
3	Check the harness for proper connection and correct as necessary.	—	—
4	Change imaging unit	—	—
5	Change PRCB	—	—

16.5.51 C2A01: EEPROM access error (TC C)

16.5.52 C2A02: EEPROM access error (TC M)

16.5.53 C2A03: EEPROM access error (TC Y)

16.5.54 C2A04: EEPROM access error (TC K)

Relevant parts	
Toner cartridge /C Toner cartridge /M Toner cartridge /Y Toner cartridge /K	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean the connection between the toner cartridge and the machine if dirty.	—	—
2	Reinstall toner cartridge	—	—
3	Check the harness for proper connection and correct as necessary.	—	—
4	Change toner cartridge	—	—
5	Check that CN29 harness on PRCB has a ferrite core. If not, attach the ferrite core to the harness.	—	—
6	Change PRCB	—	—

16.5.55 C3101: Fusing roller separation failure

Relevant parts	
Roller pressure welding alienation sensor (PS55) Fusing pressure retraction motor (M29)	Printer control board (PRCB) Fusing unit

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M29 connector for proper connection and correct as necessary.	—	—
2	PS55 I/O check, sensor check	PRCB CN8PRCB-14 (ON)	C-13
3	M29 operation check	PRCB CN8PRCB-1 to 2 (ON)	C-12
4	Change M29	—	—
5	Change fusing unit	—	—
6	Change PRCB	—	—

16.5.56 C3102: Fusing roller failure to turn

Relevant parts	
Heating roller rotation sensor/1 (PS56) Heating roller rotation sensor/2 (PS57) Fusing motor (M30)	Printer control board (PRCB) Fusing unit

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for proper installation and correct as necessary.	—	—
2	Check the M30 connector for proper connection and correct as necessary.	—	—
3	PS56 I/O check, sensor check	PRCB CN25PRCB-11 (ON)	C-17
4	PS57 I/O check, sensor check	PRCB CN25PRCB-14 (ON)	C-17
5	M30 operation check	PRCB CN7PRCB-3 (REM) PRCB CN7PRCB-6 (LOCK)	K-7
6	Change M30	—	—
7	Change fusing unit	—	—
8	Change PRCB	—	—

16.5.57 C3201: Fusing motor failure to turn

16.5.58 C3202: Fusing motor turning at abnormal timing

Relevant parts	
Fusing motor (M30)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M30 connector for proper connection and correct as necessary.	—	—
2	Check the loading status of the fusing unit drive, and correct the error as necessary.	—	—
3	Check the fusing unit, PRCB for proper connection and correct or change as necessary.	—	—
4	M30 operation check	PRCB CN7PRCB-3 (REM) PRCB CN7PRCB-6 (LOCK)	K-7
5	Change M30	—	—
6	Change PRCB	—	—

16.5.59 C3303: Fusing cooling fan motor/ 1 failure to turn

Relevant parts	
Fusing cooling fan motor/1 (FM2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM2 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM2 operation check	PRCB CN6PRCB-4 (REM) PRCB CN6PRCB-6 (LOCK)	K-6
4	Change FM2	—	—
5	Change PRCB	—	—

16.5.60 C3304: Fusing cooling fan motor/ 2 failure to turn

Relevant parts	
Fusing cooling fan motor/2 (FM4)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM4 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM4 operation check	PRCB CN11PRCB-6 (REM) PRCB CN11PRCB-8 (LOCK)	K-3
4	Change FM4	—	—
5	Change PRCB	—	—

16.5.61 C3305: Fusing cooling fan motor/ 3 failure to turn

Relevant parts	
Fusing cooling fan motor/3 (FM5)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM5 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM5 operation check	PRCB CN11PRCB-9 (REM) PRCB CN11PRCB-11 (LOCK)	K-3
4	Change FM5	—	—
5	Change PRCB	—	—

16.5.62 C3423: Fusing heaters trouble (pressurizing side)

16.5.63 C3424: Fusing heaters trouble (soaking side)

Relevant parts	
Fusing unit	IH power supply (IHPU) DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, MFPB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change DCPU	—	—

16.5.64 C3425: Fusing heaters trouble (NC sensor)

Relevant parts	
Fusing unit	IH power supply (IHPU) Relay drive board (REDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, MFPB and REDB for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change REDB	—	—

16.5.65 C3461: Release new fusing unit

Relevant parts	
Fusing unit	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the fusing unit, PRCB for proper connection and correct or change as necessary.	—	—
3	Reinstall fusing unit	—	—
4	Change fusing unit	—	—
5	Change PRCB	—	—

16.5.66 C3721: Fusing abnormally high temperature detection (Center of the heating roller)

16.5.67 C3722: Fusing abnormally high temperature detection (Edge of the heating roller)

16.5.68 C3725: Fusing abnormally high temperature detection (NC sensor)

Relevant parts	
Fusing unit	IH power supply (IHPU) Relay drive board (REDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, MFPB and REDB for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change REDB	—	—

16.5.69 C3723: Fusing abnormally high temperature detection (pressurizing side)

16.5.70 C3724: Fusing abnormally high temperature detection (soaking side)

Relevant parts	
Fusing unit	IH power supply (IHPU) DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, MFPB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change DCPU	—	—

16.5.71 C3822: Fusing abnormally low temperature detection (Edge of the heating roller)

16.5.72 C3825: Fusing abnormally low temperature detection (NC sensor)

Relevant parts	
Fusing unit	IH power supply (IHPU) Relay drive board (REDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, PRCB and REDB for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change REDB	—	—

16.5.73 C3823: Fusing abnormally low temperature detection (pressurizing side)

16.5.74 C3824: Fusing abnormally low temperature detection (soaking side)

Relevant parts	
Fusing unit	IH power supply (IHPU) DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, PRCB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change DCPU	—	—

16.5.75 C3921: Fusing sensor wire breaks detection (Center of the heating roller)

16.5.76 C3922: Fusing sensor wire breaks detection (Edge of the heating roller)

16.5.77 C3925: Fusing sensor wire breaks detection (NC sensor)

Relevant parts	
Fusing unit	IH power supply (IHPU) Relay drive board (REDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, PRCB and REDB for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change REDB	—	—

16.5.78 C3923: Fusing sensor wire breaks detection (pressurizing side)

16.5.79 C3924: Fusing sensor wire breaks detection (soaking side)

Relevant parts	
Fusing unit	IH power supply (IHPU) DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, IHPU, PRCB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change IHPU	—	—
6	Change PRCB	—	—
7	Change DCPU	—	—

16.5.80 C3B02: IH malfunction (CPU)

16.5.81 C3B03: IH malfunction (monitor)

16.5.82 C3B04: IH malfunction

Relevant parts	
Fusing unit Degaussing coil unit	IH power supply (IHPU) Relay drive board (REDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, degaussing coil unit, IHPU, PRCB and REDB for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change degaussing coil unit	—	—
6	Change IHPU	—	—
7	Change PRCB	—	—
8	Change REDB	—	—

16.5.83 C4101: Polygon motor rotation trouble

Relevant parts	
PH unit	PH relay board (REYB/PH) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connector for proper connection and correct as necessary.	—	—
2	Change PH unit	—	—
3	Change REYB/PH	—	—
4	Change PRCB	—	—

16.5.84 C4301: PH cooling fan motor failure to turn

Relevant parts	
PH cooling fan motor (FM14)	PH relay board (REYB/PH) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM14 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM14 operation check	REYB PH CN4REYB PH-1 (REM) REYB PH CN4REYB PH-3 (LOCK)	B-7
4	Change FM14	—	—
5	Change REYB/PH	—	—
6	Change DCPU	—	—

16.5.85 C4501: Laser malfunction

Relevant parts	
PH unit	PH relay board (REYB/PH) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connector for proper connection and correct as necessary.	—	—
2	Change PH unit	—	—
3	Change REYB/PH	—	—
4	Change PRCB	—	—

16.5.86 C5104: Transfer belt motor’s failure to turn

16.5.87 C5105: Transfer belt motor’s turning at abnormal timing

Relevant parts	
Transfer belt motor (M1)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check M1 for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M1 operation check	PRCB CN13PRCB-3 (REM) PRCB CN13PRCB-6 (LOCK)	K-11
5	Change M1	—	—
6	Change PRCB	—	—

16.5.88 C5304: IH cooling fan motor/1's failure to turn

Relevant parts	
IH cooling fan motor/1 (FM10)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM10 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM10 operation check	PRCB CN26PRCB-4 (REM) PRCB CN26PRCB-6 (LOCK)	C-16
4	Change FM10	—	—
5	Change PRCB	—	—

16.5.89 C5305: IH cooling fan motor/2's failure to turn

Relevant parts	
IH cooling fan motor/2 (FM11)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM11 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM11 operation check	PRCB CN26PRCB-7 (REM) PRCB CN26PRCB-9 (LOCK)	C-16
4	Change FM11	—	—
5	Change PRCB	—	—

16.5.90 C5306: IH cooling fan motor/3's failure to turn

Relevant parts	
IH cooling fan motor/3 (FM12)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM12 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM12 operation check	PRCB CN26PRCB-10 (REM) PRCB CN26PRCB-12 (LOCK)	C-15 to 16
4	Change FM12	—	—
5	Change PRCB	—	—

16.5.91 C5351: Power supply cooling fan motor/1's failure to turn

Relevant parts	
Power supply cooling fan motor/1 (FM9)	DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM9 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM9 operation check	DCPU PJ8DCPU-3 (LOCK)	R to S-28
4	Change FM9	—	—
5	Change DCPU	—	—
6	Change PRCB	—	—

16.5.92 C5354: Ozone ventilation fan motor’s failure to turn

Relevant parts	
Ozone ventilation fan motor (FM6)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM6 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM6 operation check	PRCB CN6PRCB-1 (REM) PRCB CN6PRCB-3 (LOCK)	K-6 to 7
4	Change FM6	—	—
5	Change MFPB	—	—

16.5.93 C5356: Cooling fan motor’s failure to turn

Relevant parts	
Cooling fan motor (FM3)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM3 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM3 operation check	PRCB CN10PRCB-1 (REM) PRCB CN10PRCB-3 (LOCK)	K-6
4	Change FM3	—	—
5	Change MFPB	—	—

16.5.94 C5370: MFP control board cooling fan motor’s failure to turn

Relevant parts	
MFP control board cooling fan motor (FM17)	Slide Interface board (REYB/SL) MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM17 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM17 operation check	REYB/SL PJ3REYB/SL-3 (LOCK)	L-25
4	Change FM17	—	—
5	Change REYB/SL	—	—
6	Change MFPB	—	—

16.5.95 C5371: MFP control board CPU cooling fan motor’s failure to turn

Relevant parts	
CPU cooling fan motor	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fan connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	Fan motor operation check	MFPB PJ20MFPB-3 (LOCK)	T-26
4	Change MFPB	—	—

16.5.96 C6102: Drive system home sensor malfunction

16.5.97 C6103: Slider over running

Relevant parts	
Scanner home sensor (PS201) Scanner motor (M201)	Scanner relay board (REYB/SCAN) Image processing board (IPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct or change the scanner drive (cable, pulley, gear, belt) if it is faulty.	—	—
2	Correct the scanner motor set screw if loose.	—	—
3	Adjust [Image Position Leading Edge] and [Feed Direction Adjustment].	—	—
4	Check the PS201, M201, REYB/SCAN and IPB connector for proper connection and correct as necessary.	—	—
5	PS201 I/O check, sensor check	IPB CN11IPB-3 (ON)	T-15
6	M201 operation check	REYB/SCAN CN5REYB/SCAN-4 to 7	Q to R-18
7	Change REYB/SCAN.	—	—
8	Change IPB.	—	—

16.5.98 C6301: Optical cooling fan motor’s failure to turn

Relevant parts	
Optical cooling fan motor (M202)	Scanner relay board (REYB/SCAN) Image processing board (IPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM201 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M202 operation check	REYB/SCAN CN2REYB/SCAN-3 (LOCK)	Q to R-18
4	Change REYB/SCAN	—	—
5	Change IPB	—	—

16.5.99 C6704: Image input time out

Relevant parts	
MFP board (MFPB)	Image processing board (IPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Select [Service Mode] → [State Confirmation] → [Memory/HDD Adj.] → [Memory Bus Check] → [Scanner→Memory], and conduct the memory bus function.	—	—
2	Check the connectors between IPB and MFPB for proper connection and correct as necessary.	—	—
3	Change MFPB	—	—
4	Change IPB	—	—

16.5.100 C6751: CCD clamp/gain adjustment failure

Relevant parts	
Scanner assy	CCD sensor unit Image processing board (IPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct the harness connection between CCDB and IPB if faulty.	—	—
2	Check for possible extraneous light and correct as necessary.	—	—
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty	—	—
4	Correct reflective mirror of the scanner if faulty, or change scanner.	—	—
5	Change CCD sensor unit	—	—
6	Change IPB	—	—

16.5.101 C6F01: Scanner sequence trouble 1

Relevant parts	
MFP board (MFPB)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct the harness connection between main body and ADF if faulty.	—	—
2	Change DFCB	—	—
3	Change MFPB	—	—

16.5.102 C9401: Exposure turning on the lamp trouble detection

16.5.103 C9402: Exposure turning on the lamp abnormally detection

Relevant parts	
Scanner assy Flat cable	Inverter board (INVB) CCD board (CCDB) Scanner relay board (REYB/SCAN) Image processing board (IPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connection between the lamp harness and the inverter board, and correct if necessary.	—	—
2	Check the connection between REYB/SCAN and the inverter board, and correct if necessary.	—	—
3	Check the connection between REYB/SCAN and IPB, and correct if necessary.	—	—
4	Check that the connection between CCDB and IPB, and correct if necessary.	—	—
5	Change INVB	—	—
6	Change scanner assy	—	—
7	Change IPB	—	—
8	Change CCDB	—	—
9	Change REYB/SCAN	—	—

16.5.104 CA051: Standard controller configuration failure

16.5.105 CA052: Controller hardware error

16.5.106 CA053: Controller start failure

Relevant parts	
MFP board (MFPB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check to see if the following setting has been correctly made: [Service Mode] → [System 2] → [Image Controller Setting]. If changing the setting, turn OFF the main power switch and turn it ON again after 10 seconds or more.	—	—
2	Check the connectors of the MFP board (MFPB) for proper connection and correct as necessary.	—	—
3	Change MFPB	—	—

16.5.107 CC001: Vendor connection failure

Relevant parts	
Printer control board (PRCB)	Coin vendor (Japan) Coin vendor kit (North America, Europe)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the vendor connector for proper connection and correct as necessary. Check the vendor connector for proper connection and correct as necessary	—	—
2	Check the PRCB connector for proper connection and correct as necessary.	—	—
3	Change PRCB	—	—

16.5.108 CC151: ROM contents error upon startup (MSC)

16.5.109 CC152: ROM contents error upon startup (Scanner)

16.5.110 CC153: ROM contents error upon startup (PRT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the ROM version.	—	—
2	Rewrite the firmware.	—	—
3	Replace the appropriate board.	—	—

2 16.5.111 CC163: ROM contents error (PRT)

Relevant parts	
Service EEPROM board (SV ERB)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Rewrite the firmware.	—	—
2	Change PRCB 1. Turn OFF the main power switch and replace the current PRCB with a new one. (When using a PRCB of another machine in service, be sure to use a PRCB installed in the same model.) See P.164 2. Update the PRCB firmware. 3. After completing the firmware update, turn OFF and ON the main power switch and check to see that warm-up is started. 4. When the trouble cannot be solved, reinstall the removed PRCB to the original board. **NOTE** • **When taking the above steps, check whether PRCB is defective or not without replacing the SV ERB.**	—	—
3	Change SV ERB 1. Replace the current SV ERB with a new one. See P.175 2. Turn ON the main power switch and check to see that warm-up is started. (One minute is spent to prepare the new SV ERB for use. During the period, the control panel backlight stays off.) 3. Make the specified readjustments. See P.175	—	—
4	If the above actions do not solve the problem, contact KMBT.	—	—

16.5.112 CC164: ROM contents error (MSC)

Relevant parts	
Printer control board (PRCB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the ROM version.	—	—
2	Rewrite the firmware.	—	—
3	Replace the corresponding board.	—	—
4	When not reviving even if the above-mentioned procedure is done, contact the responsible people of KMBT.	—	—

4 16.5.113 CC170: Dynamic link error during starting (AP0)

16.5.114 CC171: Dynamic link error during starting (AP1)

16.5.115 CC172: Dynamic link error during starting (AP2)

16.5.116 CC173: Dynamic link error during starting (AP3)

16.5.117 CC174: Dynamic link error during starting (AP4)

16.5.118 CC180: Dynamic link error during starting (LDR)

16.5.119 CC181: Dynamic link error during starting (IBR)

16.5.120 CC182: Dynamic link error during starting (IID)

16.5.121 CC183: Dynamic link error during starting (IPF)

16.5.122 CC184: Dynamic link error during starting (IMY)

Relevant parts	
MFP board (MFPB)	NVRAM board (NRB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	If the malfunction code “C-C172” has occurred, access [Service Mode] → [System 2] → [Image Controller Setting] and check to see if “Controller 2,” “Controller 3,” or “Others” is set for [Image Controller Setting]. If any of these is set, according to the kind of controller, select “Controller 0” or “Controller 1.”	—	—
2	Change MFPB.	—	—
3	When not reviving even if the above-mentioned procedure is done, contact the responsible people of KMBT.	—	—

16.5.123 CD002: JOB RAM save error

Relevant parts	
MFP board (MFPB)	Hard disk

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the hard disk connector for proper connection and correct as necessary.	—	—
2	Format hard disk.	—	—
3	Change hard disk.	—	—
4	Change MFPB.	—	—

16.5.124 CD004: Hard disk access error

16.5.125 CD005: Hard disk error 1

16.5.126 CD006: Hard disk error 2

16.5.127 CD007: Hard disk error 3

16.5.128 CD008: Hard disk error 4

16.5.129 CD009: Hard disk error 5

16.5.130 CD00A: Hard disk error 6

16.5.131 CD00B: Hard disk error 7

16.5.132 CD00C: Hard disk error 8

16.5.133 CD00D: Hard disk error 9

16.5.134 CD00E: Hard disk error A

16.5.135 CD00F: Hard disk data transfer error

16.5.136 CD020: Hard disk verify error

Relevant parts	
MFP board (MFPB)	Hard disk

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the hard disk connector for proper connection and correct as necessary.	—	—
2	Reinstall the hard disk.	—	—
3	Change hard disk.	—	—
4	Change MFPB.	—	—

16.5.137 CD010: Hard disk unformat

Relevant parts	
MFP board (MFPB)	Hard disk

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Select [Service Mode] → [State Confirmation] → [Memory/HDD Adj.] → [HDD Format], and conduct the HDD format function.	—	—
2	Change hard disk.	—	—
3	Change MFPB	—	—

16.5.138 CD011: Hard disk out of specifications mounted

Relevant parts	
Hard disk	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the hard disk specifications.	—	—
2	Change the hard disk.	—	—

16.5.139 CD201: File memory mounting error

16.5.140 CD202: Memory capacity discrepancy

16.5.141 CD203: Memory capacity discrepancy 2

Relevant parts	
MFP board (MFPB)	Memory

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the memory on MFPB is installed correctly.	—	—
2	Change the memory on MFPB.	—	—
3	Change MFPB.	—	—

16.5.142 CD211: PCI-SDRAM DMA operation failure

16.5.143 CD212: Compression/extraction timeout detection

Relevant parts	
MFP board (MFPB)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Change MFPB.	—	—

16.5.144 CD231: No Fax memory at FAX board mounting

Relevant parts	
MFP board (MFPB)	FAX board FAX memory

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the FAX memory is installed correctly.	—	—
2	Check to see if the FAX board is installed correctly.	—	—
3	Change FAX memory.	—	—
4	Change PRCB.	—	—

16.5.145 CD241: Encryption board setting error

16.5.146 CD242: Encryption board mounting error

Relevant parts	
Encryption board (SC-503)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the encryption board connector for proper connection and correct as necessary.	—	—
2	Change encryption board.	—	—

16.5.147 CD251: No JPEG board mounting at JPEG board mount setting

Relevant parts	
MFP board (MFPB)	JPEG board (SA-501)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the JPEG board connector for proper connection and correct as necessary.	—	—
2	Change JPEG board.	—	—
3	Change MFPB.	—	—

16.5.148 CD252: No relay circuit boards for IC-409 mounting at IC-409 mount setting

Relevant parts	
MFP board (MFPB)	Relay circuit boards (VI-504)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	If the IC-409 is not mounted, access [Service Mode] → [System 2] → [Image Controller Setting] and check to see if “Controller 0” is set for [Image Controller Setting].	—	—
2	Check the relay circuit boards connector for proper connection and correct as necessary.	—	—
3	Change relay circuit board(s).	—	—
4	Change MFPB.	—	—

16.5.149 CD261: USB host board failure

Relevant parts	
MFP board (MFPB)	USB host board (EK-602/603)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the operation with another USB device.	—	—
2	Check the USB host board connector for proper connection and correct as necessary.	—	—
3	Change USB host board.	—	—
4	Change MFPB.	—	—

4 16.5.150 CD271: i-Option activated and additional memory not installed

Relevant parts	
MFP board (MFPB)	Memory for i-Option

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the memory for proper connection and correct as necessary.	—	—
2	Change memory.	—	—
3	Change MFPB.	—	—

16.5.151 CD401: NACK command incorrect

16.5.152 CD402: ACK command incorrect

16.5.153 CD403: Checksum error

16.5.154 CD404: Receiving packet incorrect

16.5.155 CD405: Receiving packet analysis error

16.5.156 CD406: ACK receiving timeout

16.5.157 CD407: Retransmission timeout

Relevant parts	
MFP board (PRCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check whether there is an strong electromagnetic noise source near the main body.	—	—
2	Check the connectors on MFPB for proper connection and correct as necessary.	—	—
3	Change MFPB.	—	—

16.5.158 CE001: Abnormal message queue

16.5.159 CE003: Task error

16.5.160 CE004: Event error

16.5.161 CE005: Memory access error

16.5.162 CE006: Header access error

16.5.163 CE007: DIMM initialize error

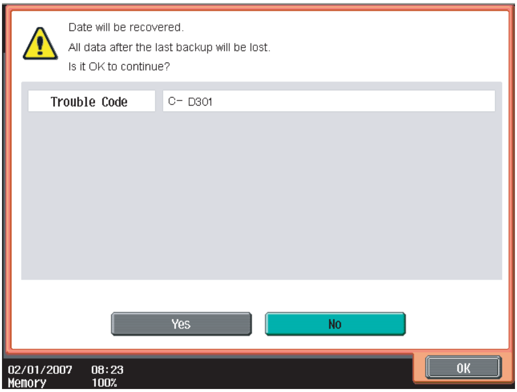
Relevant parts	
Printer control board (PRCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connectors on PRCB for proper connection and correct as necessary.	—	—
2	Change PRCB.	—	—

16.5.164 CD3##: NVRAM data error

- When the data stored due to the NVRAM trouble is lost, backup data can be used for restoration.
- Trouble code [C-D370] will be displayed when multiple errors (over 5) of NVRAM data are detected, which can be restored with one restoration command.
- Data backup will be automatically performed every hour. Backup can also be performed manually with the following setting.
  [Service Mode] → [Enhanced Security] → [NVRAM Data Back Up]
  See P.549

1. When a trouble caused by NVRAM data error occurs, the screen below appears.



Date will be recovered.
All data after the last backup will be lost.
Is it OK to continue?

Trouble Code: C- D301

A00JF4E517DA

2. Select [Yes] and touch [OK].

3. The screen will be shifted to the data restoration screen to perform data restoration.

NOTE

- **When the restoration is performed in a short time, data restoration screen may not be displayed.**

4. Check the message which indicates that the data restoration was successfully conducted. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

NOTE

- **In case it failed to restore data, return to the trouble code screen.**

16.5.165 CE002: Message and method parameter failure

Relevant parts	
MFP board (MFPB)	Hard disk

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	If it occurred after upgrading the firmware, conduct the following setting. [Service Mode] → [Sate Confirmation] → [Memory/HDD Adj.] → [Up Ver.] See P.532	—	—
2	Turn OFF the main power switch and turn it ON again, and conduct the following setting. [Service Mode] → [System 1] → [Initialization] → [Data Clear]. See P.491	—	—
3	Format hard disk.	—	—
4	Change hard disk.	—	—
5	Change MFPB.	—	—

16.5.166 CEEE1: MFP board malfunction

Relevant parts	
MFP board (MFPB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connectors on MFPB for proper connection and correct as necessary.	—	—
2	Change MFPB	—	—

16.5.167 CEEE2: Scanner section malfunction

Relevant parts	
Scanner assy	CCD board (CCDB) Image processing board (IPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct the connector connection between CCDB and IPB if faulty.	—	—
2	Change IPB	—	—
3	Change CCDB	—	—

5 16.5.168 CEEE3: Printer control board malfunction

Relevant parts	
Printer control board (PRCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the PRCB connector for proper connection and correct as necessary.	—	—
2	Change PRCB	—	—

17. Power supply trouble

17.1 Machine is not energized at all (DCPU operation check)

Relevant parts	
Main switch (SW1) Printer control board (MFPB)	DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Check that the fusing unit is securely plugged in. (Only for bizhub C650)	—	NO	Reconnect.
2	Is a power voltage supplied across PJ1DCPU-1 and 2 on DCPU?	K-20	NO	Check the WIRING from the wall outlet to SW1 PJ1.
3	Are the fuses on DCPU conducting?	—	NO	Change DCPU.
4	Is DC24 V being output from PJ10DCPU-3, 4 on DCPU?	I to J-22	NO	Change DCPU.
5	Is DC5 V being input to PJ11DCPU-5 to 7 on DCPU?	I to J-22 to 23	NO	Change DCPU.
6	Is DC5 V being input to CN3PRCB-3 on the printer control board? (LED on PRCB does not blink.)	G to H-22	NO	Change DCPU.
			YES	Change PRCB.

17.2 Control panel indicators do not light.

Relevant parts	
Image processing board (IPB) Scanner relay board (REYB/SCAN) Control panel	JMP board (JMPB) DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is the I/F cable between the scanner and engine connected properly?	—	NO	Reconnect or change the I/F cable.
2	After the main or sub main power switch is turned ON, the blue and orange status indicator lights continue to be on while the control panel is not being displayed. Is JMPB (PJ17) securely set on the MFPB?	R to S-26	NO	Reconnect.
3	Is a power voltage being applied across PJ1DCPU-1 and 2 on DCPU?	K-20	NO	Check the WIRING from the wall outlet to SW1 PJ1.
4	Is the fuse on DCPU conducting?	—	NO	Change DCPU.
5	Is DC24 V being output from PJ13DCPU-1 on DCPU and DC5 V from PJ12DCPU-4?	J to K-21 to 22	NO	Change DCPU.
6	Is CN1IPB on IPB securely connected?	S-16	NO	Reconnect.
7	Is CN6REYB/SCAN on REYB/SCAN securely connected?	T-17	NO	Reconnect.

17.3 Fusing heaters do not operate

Relevant parts	
Right door switch (MS1) Fusing unit	DC power supply (DCPU) IH power supply (IHPU) Relay drive board (REDB)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across PJ4DCPU-1 to 4 on DCPU? During this time, the right door should be closed.	K-21	NO	Check wiring from power outlet to MS1 to REDB to PJ4.
2	Is the power source voltage applied across CN1IHPU-1 to 4 on IHPU?	R to S-27	NO	Check wiring from power outlet to REDB to CN1.
3	Is the power source voltage applied across CN150-3 and 4?	C-19	YES	Fusing unit
			NO	Change DCPU.

17.4 Power is not supplied to DF-611/610

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN139 on DF-611/610?	V to W-18	YES	Malfunction in DF-611
2	Is DC24 V being output from PJ13-2 on DCPU?	J-22	NO	Check wiring from DCPU to ADF.
3	Is the fuse on DCPU conducting?	—	YES	Change DCPU.
			NO	Malfunction in DF-611

17.5 Power is not supplied to option

17.5.1 LU-301

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being applied to hookup connector CN136?	U-12	NO	Malfunction in LU-301
2	Is DC24 V being output from CN13 on PFTDB?	S to T-12	NO	Check wiring from PFTDB to CN13 to LU-301.
3	Is the fuse on DCPU conducting?	—	YES	Change DCPU.
			NO	Malfunction in LU-301

17.5.2 Finisher

A. FS-517/518/608

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Are DC24 V being applied to CN85?	L-23	NO	Malfunction in finisher.
2	Are DC24 V being applied to PJ6-3 on DCPU?	J to K-23	NO	Check wiring from DCPU to finisher.
3	Is the fuse on DCPU conducting?	—	YES	Change DCPU.
			NO	Malfunction in finisher.

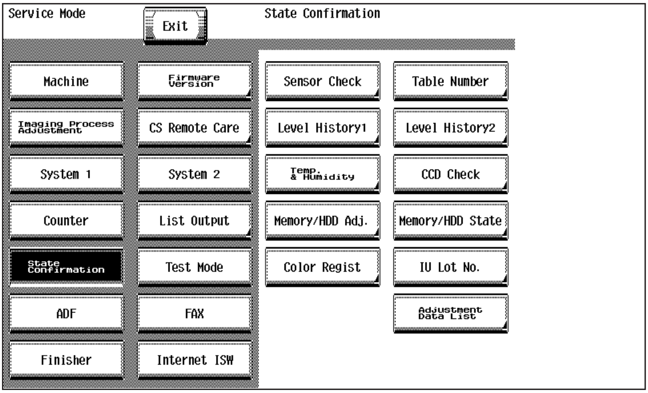
B. FS-519/JS-504

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Are DC24 V being applied to CN65-1?	I-12 (FS-519) B-4 (JS-504)	NO	Malfunction in FS-519/JS-504.
2	Are DC24 V being applied to PJ6-3 on DCPU?	J to K-23	NO	Check wiring from DCPU to FS-519/JS-504.
3	Is the fuse on DCPU conducting?	—	YES	Change DCPU.
			NO	Malfunction in FS-519/JS-504.

18. Image quality problem

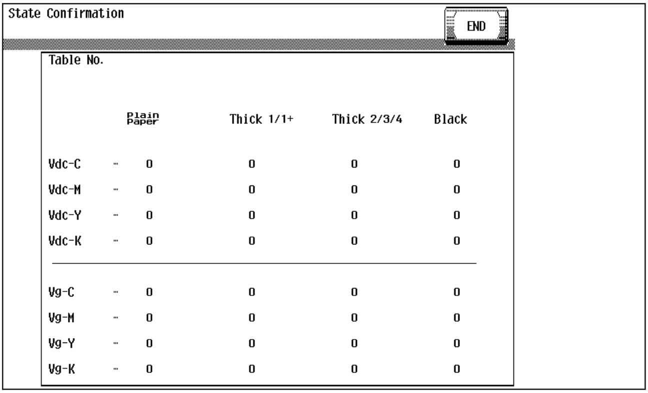
18.1 How to read element date

- As part of troubleshooting procedures, the numeric values set for “State Confirmation” available from “Service Mode” can be used to isolate the cause of the image problem.



A00JF4E513DA

18.1.1 Table number



State Confirmation

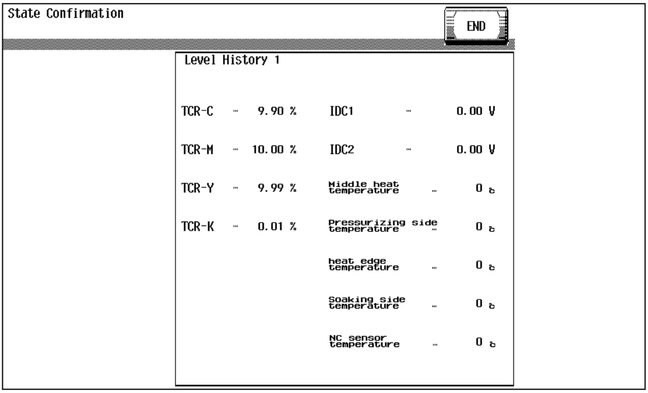
Table No.

		Plain Paper	Thick 1/1+	Thick 2/3/4	Black
Vdc-C	··	0	0	0	0
Vdc-M	··	0	0	0	0
Vdc-Y	··	0	0	0	0
Vdc-K	··	0	0	0	0
Vg-C	··	0	0	0	0
Vg-M	··	0	0	0	0
Vg-Y	··	0	0	0	0
Vg-K	··	0	0	0	0

A00JF4E514DA

Vdc-C Vdc-M Vdc-Y Vdc-K	• Shows the developing bias value of each color of toner when an image is produced. • Standard values: around 400 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant components: Imaging unit, high voltage unit/1 (HV1)
Vg-C Vg-M Vg-Y Vg-K	• Shows the grid voltage value of each color of toner when an image is produced. • Standard values: around 500 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant components: Imaging unit, high voltage unit/1 (HV1)

18.1.2 Level history 1

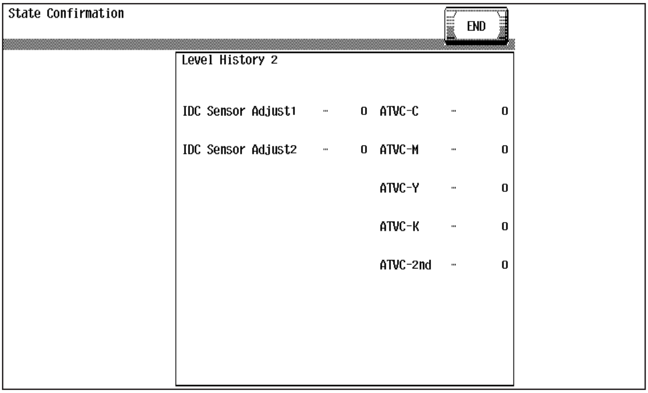


TCR-C … 9.90 %
TCR-M … 10.00 %
TCR-Y … 9.99 %
TCR-K … 0.01 %
IDC1 … 0.00 V
IDC2 … 0.00 V
Middle heat temperature … 0 ℃
Pressurizing side temperature … 0 ℃
heat edge temperature … 0 ℃
Soaking side temperature … 0 ℃
NC sensor temperature … 0 ℃

A00JF4E515DA

TCR-C TCR-M TCR-Y TCR-K	• Shows the T/C ratio (in 0.01 % increments). • Standard value: 6 to 8 % • Relevant components: TCR sensor
IDC1 IDC2	• Shows the IDC bare surface output reading taken last (in 0.01 V increments). • It should normally be around 4.3 V. • The output range is 0 V to 5 V. • “Reading taken last” means: Latest value When the Start key is pressed, the output value is displayed while a test print is being produced. • Relevant components: IDC sensor, transfer belt unit
Middle heat temperature Pressurizing side temperature Heat edge temperature Soaking side temperature NC sensor temperature	• Shows the temperature of the each part of the fusing unit (in 1 °C increments). • Relevant components: Fusing unit

18.1.3 Level history 2



```
IDC Sensor Adjust1  ‥  0  ATVC-C    ‥  0
IDC Sensor Adjust2  ‥  0  ATVC-M    ‥  0
                          ATVC-Y    ‥  0
                          ATVC-K    ‥  0
                          ATVC-2nd  ‥  0
```

A00JF4E516DA

IDC Sensor Adjust 1 IDC Sensor Adjust 2	• Shows the IDC intensity adjustment value. • It should normally be around 40 and can range from 0 to 255. • The value becomes greater as the transfer belt unit has been used more. • Relevant components: IDC sensor, transfer belt unit
ATVC -C ATVC -M ATVC -Y ATVC -K ATVC -2nd	• Shows the latest ATVC level (which varies according to the paper type). • 10 µA to 100 µA (ATVC-C/-M/-Y/-K) • 300 V to 5000 V (ATVC-2nd) • Relevant components: Transfer belt unit, High voltage unit/2 (HV2), 2nd transfer assy

18.2 How to identify problematic part

- This chapter is divided into two parts: “Initial check items” and “Troubleshooting procedure by a particular image quality problem.”
- When an image quality problem occurs, first go through the “Initial check items” and, if the cause is yet to be identified, go to “Troubleshooting procedure by a particular image quality problem.”

18.2.1 Initial check items

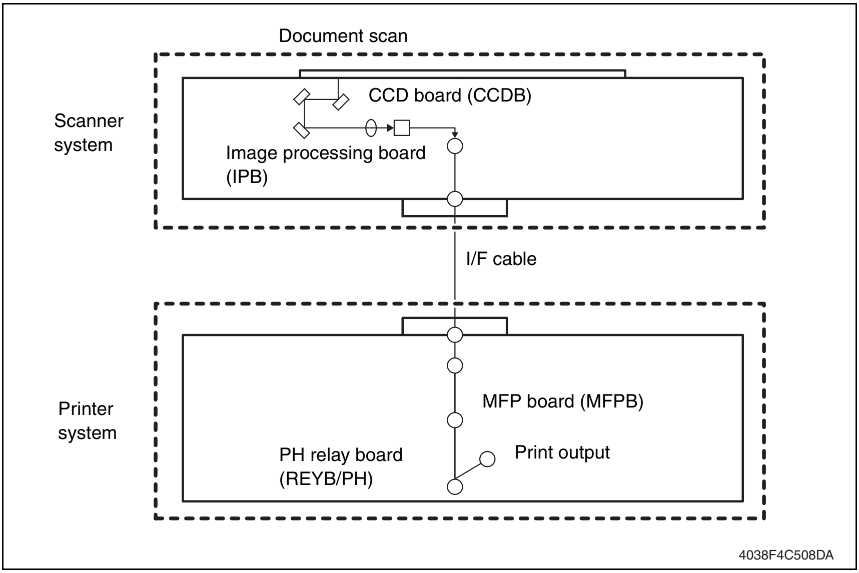
A. Initial check items 1

- Check first to see if image data is properly transmitted between scanner and memory, and between memory and printer.

Action	Result	Next Step
Enter the Service Mode, select [State Confirmation] → [Memory/HDD Adj.] → [Memory Bus Check], and select and carry out [Scanner→Memory] and [Memory→PRT] checks.	OK	Initial check items 2
	NG	P.670 (action as instructed)

B. Initial check items 2

- Let the machine produce a test print and determine whether the image problem is attributable to the scanner or printer system.

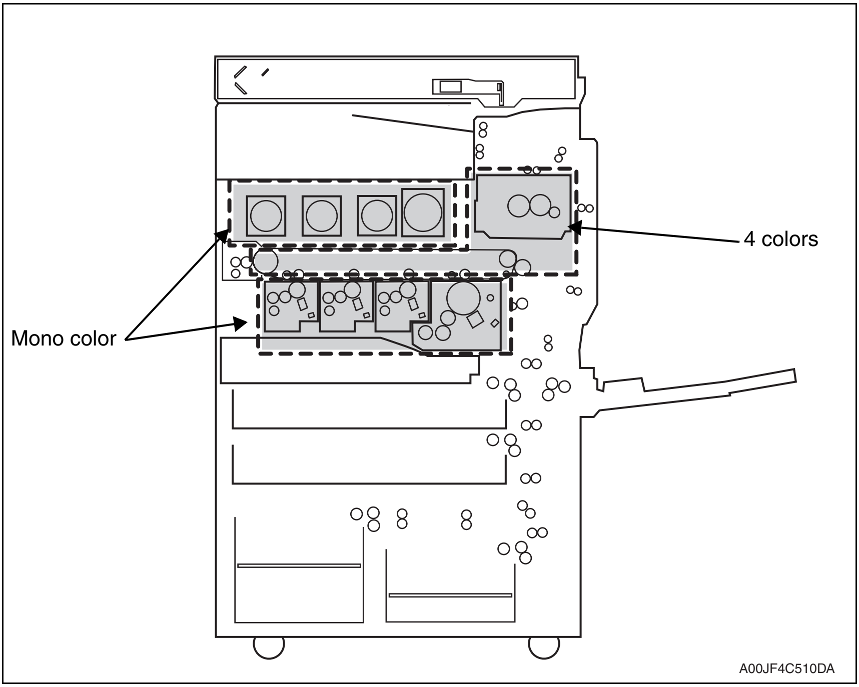


- Evaluation procedure

Image problem	Action	Result	Cause	Next step
Lines, bands	From [Service Mode], select [Test Mode] → [Halftone Pattern] → [SINGLE] → [HYPER] → [Gradation] → [C→M→Y→K] → [Density 64], and produce a test print. Is image problem evident?	YES	Printer	Initial check items 3
		NO	Scanner	P.693

C. Initial check items 3

- If the printer is responsible for the image problem, let the machine produce a test print and determine whether the image problem occurs in a specific single color or four colors



- Evaluation procedure

Image problem	Action	Result	Cause	Next step
Lines, bands	From [Service Mode], select [Test Mode] → [Halftone Pattern] → [SINGLE] → [HYPER] → [Gradation] → [C→M→Y→K] → [Density 64], and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	P.722
		NO	Printer, single color	P.708

18.3 Solution

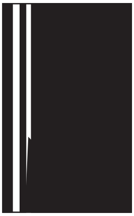
NOTE

- **Typical faulty image samples shown in the following are all printed with A4S setting.**

18.3.1 Scanner system: white lines in sub scan direction, white bands in sub scan direction, colored lines in sub scan direction, and colored bands in sub scan direction

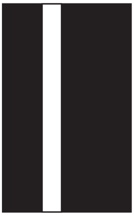
A. Typical faulty images

White lines in sub scan direction



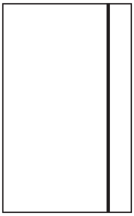
4036fs4021c0

White bands in sub scan direction



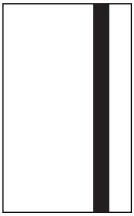
4036fs4022c0

Color lines in sub scan direction



4036fs4023c0

Color bands in sub scan direction



4036fs4024c0

B. Troubleshooting procedure

(1) When the original glass is used

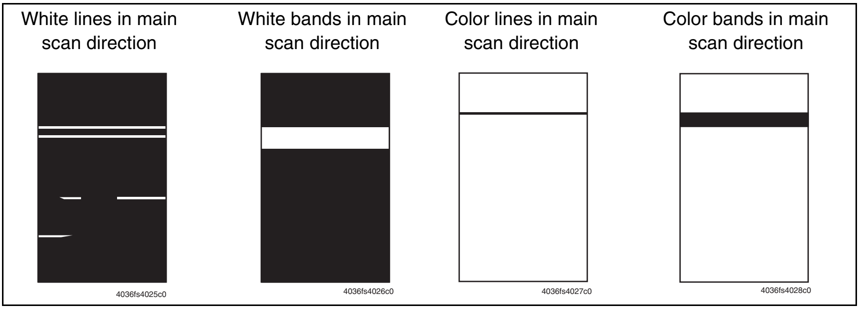
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Mirror, lens, exposure Lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
6	Machine → Scan Area → Image Position: Side Edge (Service Mode)	The adjustment value for [Image Position: Side Edge] falls within the specified range.	NO	Readjust.
7		The white lines/bands or colored lines/bands are blurry.	YES	Change scanner assy. Change CCD unit.

(2) When the ADF is used

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF reading section	Glass is dirty.	YES	Clean.
3	ADF scanning guide	ADF scanning guide is damaged or dirty.	YES	Clean.
4	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
6	ADF → Original Stop Position (Service Mode)	The adjustment value for [Main Scanning Direction] falls within the specified range.	NO	Readjust.
7	Glass step sheet for the original glass moving unit	The glass step sheet is tilted.	YES	Readjust.
8	ADF read position	The white lines/bands or colored lines/bands occurs when reading the original from ADF.	YES	Readjust.
9		The white lines/bands or colored lines/bands are blurry.	YES	Change scanner assy. Change CCD unit.

18.3.2 Scanner system: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, and colored bands in main scan direction

A. Typical faulty images

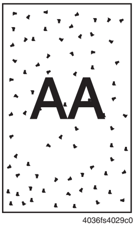

White lines in main scan direction
White bands in main scan direction
Color lines in main scan direction
Color bands in main scan direction
4036fs4025c0
4036fs4026c0
4036fs4027c0
4036fs4028c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Machine → Scan Area → Image Position: Top Edge (Service Mode)	The adjustment value for [Image Position: Leading Edge] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change scanner assy. Change CCD unit.

18.3.3 Scanner system: color spots

A. Typical faulty images

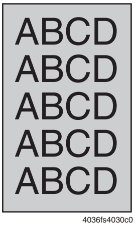


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change scanner assy. Change CCD unit.

18.3.4 Scanner system: fog

A. Typical faulty images

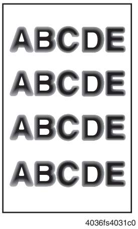


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3		ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
4	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
6	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty.	YES	Clean.
7		Lens is dirty.	YES	Clean.
8		Exposure lamp is dirty.	YES	Clean.
9		Reflectors are dirty.	YES	Clean.
10	Basic screen Quality/Density	The problem is eliminated when the image is produced in the manual exposure setting.	NO	Try another exposure level in manual.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change scanner assy. Change CCD unit.

18.3.5 Scanner system: blurred image, blotchy image

A. Typical faulty images

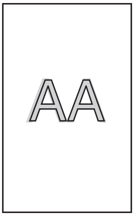


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	ADF	ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
3	Original glass	Original glass tilts.	YES	Position original glass correctly. Check original loading position.
4	2nd/3rd mirrors carriage	Scanner is not aligned with the 2nd/3rd mirrors carriage.	YES	Perform “Focus Positioning of the scanner and 2nd/3rd mirrors carriage” and “Scanner Position Adjustment.”
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change scanner assy. Change CCD unit.

18.3.6 Scanner system: incorrect color image registration, sync shift (lines in main scan direction)

A. Typical faulty images

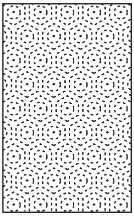


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	ADF	ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
3	Scanner rails	Foreign matter on rails.	YES	Clean and apply lubricant.
4	Drive cables	Cable kinks or is damaged.	YES	Correct or change.
5	Scanner assy	Scanner moves smoothly.	NO	Adjust the scanner motor timing belt. → Change bushing. → Change scanner motor. → Change scanner relay board.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change CCD unit.

18.3.7 Scanner system: moire

A. Typical faulty images

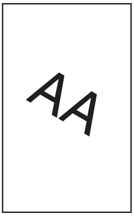


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original mode (select one other than that resulted in moire).
2	Basic screen Quality/Density	Moire distortions recur even after the original mode has been changed.	YES	Select “Text Mode” or “Photo Mode”.
3	Basic screen Zoom	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

18.3.8 Scanner system: skewed image

A. Typical faulty images

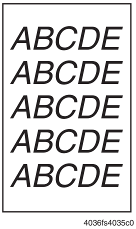


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original glass	Original glass is in positive contact with the flat spring without being tilt.	NO	Reinstall the glass. Check the original loading position.
3	2nd/3rd mirrors carriage	Scanner assy is not properly aligned with 2nd/3rd mirrors carriage.	YES	Perform “Focus Positioning of the scanner and 2nd/3rd mirrors carriage” and “Scanner Position Adjustment.”
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change scanner assy. Change CCD unit.

18.3.9 Scanner system: distorted image

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2	2nd/3rd mirrors carriage	Scanner assy is not properly aligned with 2nd/3rd mirrors carriage.	YES	Perform “Focus positioning of the scanner and 2nd/3rd mirrors carriage” and “Scanner Position Adjustment.”
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change scanner assy. Change CCD unit.

18.3.10 Scanner system: low image density, rough image

A. Typical faulty images

ABCDE
ABCDE
ABCDE
ABCDE
ABCDE

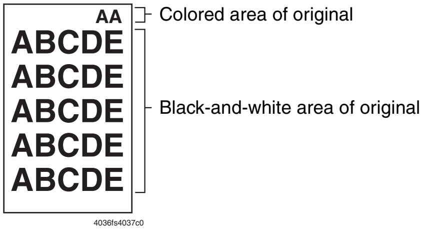
4036fs4036c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
2	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
3	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty.	YES	Clean.
4		Lens is dirty.	YES	Clean.
5		Exposure lamp is dirty.	YES	Clean.
6		Reflectors are dirty.	YES	Clean.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Clean exposure lamp. → Change scanner assy. → Change CCD unit.

18.3.11 Scanner system: defective ACS

A. Typical faulty images



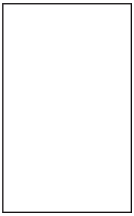
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Auto Color Level Adjustment [User Setting]	The problem persists even after the ACS determination level adjust function has been changed.	YES	Change the original loading direction. Make manual settings according to the type of original. (If the original contains a colored area in one of its corners, the machine may fail to properly detect the colored area.)

18.3.12 Scanner system: blank copy, black copy

A. Typical faulty images

Blank copy



4036fs4038c0

Black copy

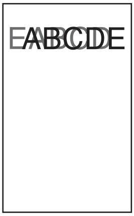
4036fs4039c0

B. Troubleshooting procedure

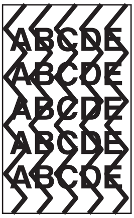
Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image processing board (IPB)	Connectors on the image processing board are connected properly.	NO	Reconnect.
3	CCD Unit	Connectors of the CCD unit are connected properly.	NO	Reconnect.
4	Test Mode [Service Mode]	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change I/F connection cable.
5	Image processing board (IPB)	The problem is eliminated after the I/F connection cable has been changed.	NO	Change image processing board.

18.3.13 Scanner system: abnormal image

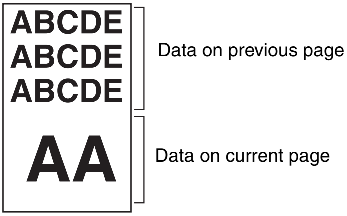
A. Typical faulty images



4036fs4040c0



4036fs4041c0



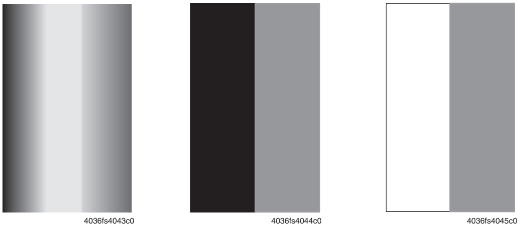
4036fs4042c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image processing board (IPB)	Connectors on the image processing board are connected properly.	NO	Reconnect.
3	MFP board (MFPB)	Data on previous page is mixed with data on current page.	NO	Reinstall the memory.
4	Test Mode [Service Mode]	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change interface connection cable.
5	Image processing board (IPB)	The problem is eliminated after the interface connection cable has been changed.	NO	Change image processing board.
6	Printer control board (PRCB) PH relay board (REYB/PH)	Check the connection of connectors, harness, and flat cables between PRCB and REYB/PH, and correct if necessary.	NO	Change printer control board. Change PH relay board.
7	MFP board (MFPB)	The problem has been eliminated through the checks of steps up to 6.	NO	Change MFP board.

18.3.14 Scanner system: uneven density

A. Typical faulty images



B. Troubleshooting procedure

(1) When the original glass is used

Step	Section	Check item	Result	Action
1	2nd/3rd mirrors carriage	Scanner assy is not properly aligned with 2nd/3rd mirrors carriage.	YES	Perform “Focus positioning of the scanner and 2nd/3rd mirrors carriage” and “Scanner Position Adjustment.”
2	Scanner motor	Scanner motor turns smoothly.	NO	Change belt. Change scanner motor.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change scanner assy. Change CCD unit.

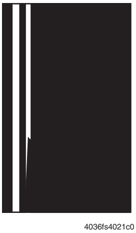
(2) When the ADF is used

Step	Section	Check item	Result	Action
1	ADF read position	The uneven density occurs when reading the original from ADF.	YES	Readjust.
2	Guide support for the original glass moving unit	Guide support is tilted.	YES	Readjust.
3	Original glass moving unit	The original glass moving unit is tilted.	YES	Readjust.

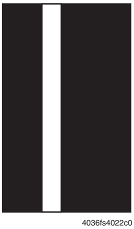
18.3.15 Printer monocolor: white lines in sub scan direction, white bands in sub scan direction, colored lines colored bands in sub scan direction

A. Typical faulty images

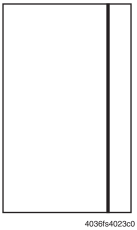
White lines in sub scan direction



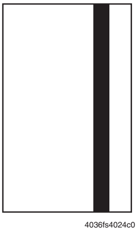
White bands in sub scan direction



Colored lines in sub scan direction



Colored bands in sub scan direction



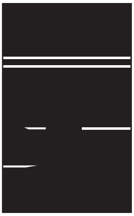
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Clean the electrostatic charger wire.
2		When printing thick paper, black lines appear.	YES	Select [Service Mode] → [Machine] → [Thick Paper Mode] and set [Image Quality].
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
4		Dirty on the outside.	YES	Clean.
5		Contact terminals make good connection between each IU and machine.	NO	Clean contact terminals.
6		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
7	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change imaging unit. → Change image transfer belt unit. → Change PH unit.

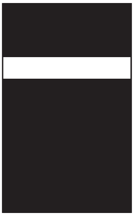
18.3.16 Printer monocolor: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, colored bands in main scan direction

A. Typical faulty images

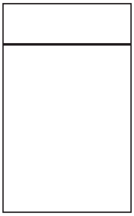
White lines in main scan direction



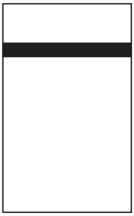
White bands in main scan direction



Colored lines in main scan direction



Colored bands in main scan direction

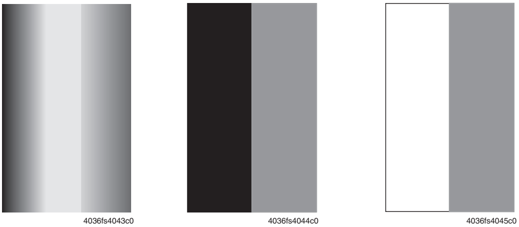


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or black line in main scan direction is sharp.	NO	Clean the electrostatic charger wire.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each IU and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change imaging unit. → Change image transfer belt unit. → Change PH unit.

18.3.17 Printer monocolor: uneven density in sub scan direction

A. Typical faulty images

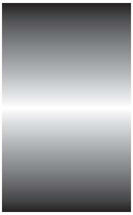


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	High image density original	Uneven density in sub scan direction occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50% or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the IU fails to keep up with a high demand for toner.
2	Machine → LD adjustment → LD lightness balance adjust. (Service Mode)	The problem has been eliminated through the LD lightness balance adjust.	NO	Go to next step.
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
4		Dirty on the outside.	YES	Clean.
5	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
6	Transfer belt unit	Is abnormality found in the cam gear?	YES	Change transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change IU. → Change PH unit. → Change High voltage unit/2.

18.3.18 Printer monocolor: uneven density in main scan direction

A. Typical faulty images



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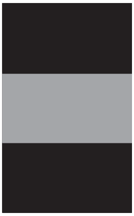


4036fs4047c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Machine → LD adjustment → LD lightness balance adjust. (Service Mode)	The problem has been eliminated through the LD lightness balance adjust.	NO	Go to next step.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
3		Dirty on the outside.	YES	Clean.
4	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
5	Transfer roller	Check that the spring does not come off during the pressure operation of the transfer roller.	NO	Correct. Change transfer roller unit.
6	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
7		Is abnormality found in the cam gear?	YES	Change image transfer belt unit.
8		The problem has been eliminated through the checks of steps up to 6.	NO	Change imaging unit. → Change PH unit. → Change high voltage unit/2.

18.3.19 Printer monocolor: low image density

A. Typical faulty images

ABCDE
ABCDE
ABCDE
ABCDE
ABCDE

4036fs4036c0

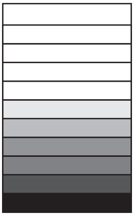
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	State Confirm → Table Number (Service Mode)	Check data for Vg and Vdc. Color Vdc: around 400 V Vg : around 500 V Black Vdc: around 400 V Vg : around 500 V	—	Go to next step.
3	State Confirmation → Level History 1 (Service Mode)	Check TCR data. (specified rang: 6 to 8 %)	NO	Go to next step.
4		IDC output value is around 4.3 V.	NO	Clean IDC sensor and execute the image stabilization. Check image transfer belt for damage and correct as necessary.
5	Level history data check results	Low TCR and low Vg and Vdc	YES	Go to step 10.
6		Low TCR and high Vg and Vdc	YES	Go to step 14.
7		TCR falling within specified range and low Vg and Vdc	YES	Go to step 10.
8		TCR falling within specified range and high Vg and Vdc	YES	Go to step 14.
9		The situations other than the above-mentioned.	YES	Go to step 10.
10	Imaging unit	Dirty on the outside.	YES	Clean.
11	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
12	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
13		Is abnormality found in the cam gear?	YES	Change image transfer belt unit.
14	Hopper unit	Connectors are loose.	YES	Reconnect.
15		Gear is cracked.	YES	Change gear.

Step	Section	Check item	Result	Action
16	Image Process Adjustment → TCR Toner Supply (Service Mode)	Toner is properly supplied when TCR toner supply is run.	NO	Go to next step.
17	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 20.
18	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
19	Image Process Adjustment → Stabilizer → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
20		The problem has been eliminated through the checks of steps up to 19.	NO	Change imaging unit. → Change printer control board →Change PH unit. →Change high voltage unit/2.

18.3.20 Printer monocolor: gradation reproduction failure

A. Typical faulty images



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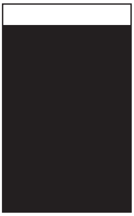


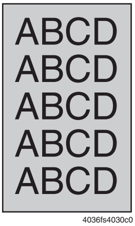
4036fs4049c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	Photo/density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
3	Imaging unit	Dirty on the outside.	YES	Clean.
4	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
5	State Confirmation → Level History 1 (Service Mode)	IDC output value is around 4.3 V.	NO	Clean IDC sensor and execute the image stabilization. Check image transfer belt for damage and correct as necessary.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	“Conv. Value” falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust;	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change imaging unit. → Change printer control board → Change PH unit. → Change high voltage unit/2.

18.3.21 Printer monocolor: foggy background

A. Typical faulty images



B. Troubleshooting procedure

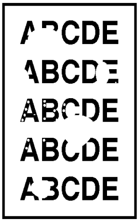
Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	State Confirmation → Table Number (Service Mode)	Check data for Vg and Vdc. Color Vdc: around 400 V Vg : around 500 V Black Vdc: around 400 V Vg : around 500 V	NO	Go to next step.
3	State Confirmation → Level History 1 (Service Mode)	Check TCR data. (specified rang: 6 to 8 %)	NO	Go to next step.
4		IDC output value is around 4.3 V.	NO	Clean IDC sensor and execute the image stabilization. Check image transfer belt for damage and correct as necessary.
5	Level history data check results	Low TCR and low Vg and Vdc	YES	Go to step 10.
6		Low TCR and high Vg and Vdc	YES	Go to step 12.
7		TCR falling within specified range and low Vg and Vdc	YES	Go to step 10.
8		TCR falling within specified range and high Vg and Vdc	YES	Go to step 12.
9		The situations other than the above-mentioned.	YES	Go to step 10.
10	Imaging unit	Dirty on the outside.	YES	Clean.
11	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
12	Image Process Adjustment → Background Voltage Margin (Service Mode)	The problem is eliminated after background voltage margin has been adjusted.	NO	Go to next step.

Step	Section	Check item	Result	Action
13	Image Process Adjustment →Gradation Adjust (Service Mode)	“Conv. Value” falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 17.
14	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
15	Image Process Adjustment → Stabilizer → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
16	Printer control board (PRCB) PH relay board (REYB/PH)	Check the connection of connectors, harness, and flat cables between PRCB and REYB/PH, and correct if necessary.	NO	Change printer control board. Change PH relay board.
17		The problem has been eliminated through the checks of steps up to 16.	NO	Change imaging unit. → Change PH unit. → Change high voltage unit/2.

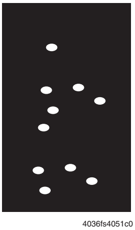
18.3.22 Printer monocolor: void areas, white spots

A. Typical faulty images

Void areas



White spots



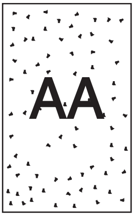
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	See P.712
2		There is void area at the rear side section.	YES	Perform [Transfer Adjust] of [Image Process Adjustment] under Service Mode.
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
4		Dirty on the outside.	YES	Clean.
5	Toner cartridge	Foreign matter or caked toner in the toner cartridge.	YES	Remove foreign matter.
6	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [Service Mode] → [Image Process Adjustment] → [Dev. Bias Choice].

18.3.23 Printer monocolor: colored spots

A. Typical faulty images

Colored spots



4036fs4052c0

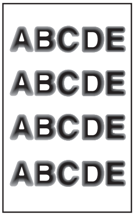
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC drum is scratched.	YES	Change imaging unit.
3		Dirty on the outside.	YES	Clean.

18.3.24 Printer monocolor: blurred image

A. Typical faulty images

Blurred image



4036fs4031c0

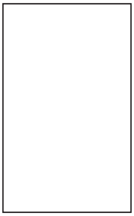
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change imaging unit. → Change PH unit.

18.3.25 Printer monocolor: blank copy, black copy

A. Typical faulty images

Blank copy



4036fs4038c0

Black copy

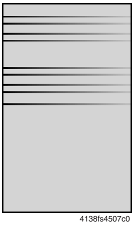
4036fs4039c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A blank copy occurs.	YES	Check PH unit connector for proper connection.
2	Imaging unit	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
3		The PC drum charge corona voltage contact or PC drum ground contact of the imaging unit is connected properly.	NO	Check, clean, or correct the contact.
4	High voltage unit/ 1, 2	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step 4.	NO	Change high voltage unit/1 or high voltage unit/2. → Change printer control board → Change PH unit.

18.3.26 Printer monocolor: uneven image

A. Typical faulty images



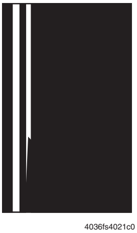
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.	YES	Replace the imaging unit.
5	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller.
6	Fusing unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fusing unit.	YES	Replace the fusing unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the image transfer belt unit.

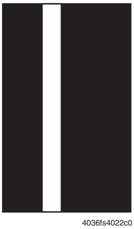
18.3.27 Printer 4-color: white lines in sub scan direction, white bands in sub scan direction, colored lines in sub scan direction, and colored bands in sub scan direction

A. Typical faulty images

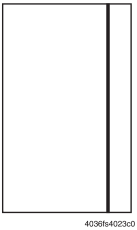
White lines in sub scan direction



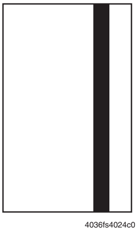
White bands in sub scan direction



Colored lines in sub scan direction



Colored bands in sub scan direction

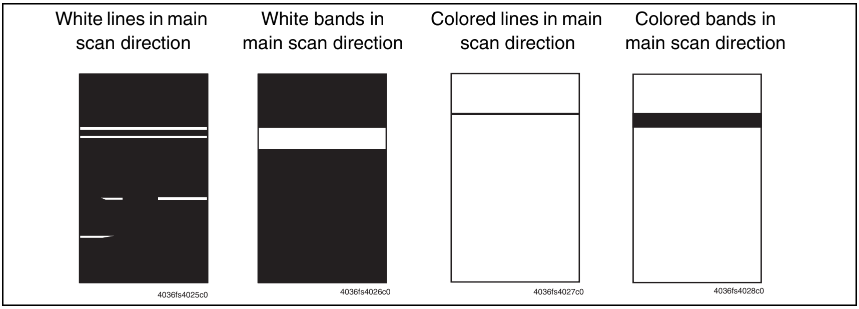


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or colored line in sub scan direction.	YES	Clean the comb electrode by moving the comb electrode cleaning lever.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4		Cleaning blade is not effective in removing toner completely.	YES	Clean cleaning blade. Change transfer belt unit.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
8	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fusing unit.
9		Fusing paper separator fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change printer control board

18.3.28 Printer 4-color: white lines in main scan direction, white bands in main scan direction, colored lines in main scan direction, and colored bands in main scan direction

A. Typical faulty images

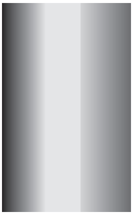

White lines in main scan direction
White bands in main scan direction
Colored lines in main scan direction
Colored bands in main scan direction
4036fs4025c0
4036fs4026c0
4036fs4027c0
4036fs4028c0

B. Troubleshooting procedure

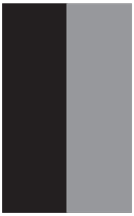
Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Cleaning brush is not effective in removing toner completely.	YES	Clean cleaning brush. Change transfer belt unit.
4	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
7	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fusing unit.
8		Fusing paper separator fingers are dirty.	YES	Clean.
9	Neutralizing brush	The resistance values between the neutralizing brush and the ground terminal is not ∞.	NO	Check the contact. Change neutralizing brush.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change printer control board

18.3.29 Printer 4-color: uneven density in sub scan direction

A. Typical faulty images



4036fs4043c0



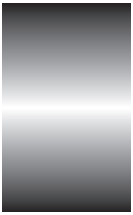
4036fs4044c0

B. Troubleshooting procedure

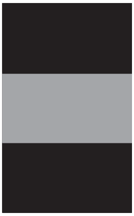
Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.

18.3.30 Printer 4-color: uneven density in main scan direction

A. Typical faulty images



4036fs4046c0



4036fs4047c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit/2.

18.3.31 Printer 4-color: low image density

A. Typical faulty images

ABCDE
ABCDE
ABCDE
ABCDE
ABCDE
4036fs4036c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Transfer roller is dirty or scratched.	NO	Change transfer roller unit.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	“Conv. Value” falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change image transfer belt unit. → Change printer control board → Change high voltage unit/2.

18.3.32 Printer 4-color: poor color reproduction

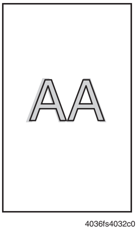
A. Typical faulty images

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Transfer roller is dirty or scratched.	NO	Change transfer roller unit.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6	Image Process Adjustment → Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment →D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Stabilizer → Reset + Stabilizer (Service Mode)	After the Reset + Stabilizer sequence has been completed, run gradation adjust.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change transfer belt unit. → Change printer control board → Change high voltage unit/2.

18.3.33 Printer 4-color: incorrect color image registration

A. Typical faulty images



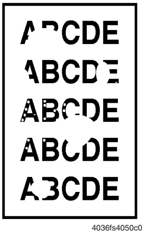
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	Machine condition	Vibration is given to the machine after main power switch has been turned ON.	YES	Turn off the main power switch and turn it on again more than 10 seconds after.
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
5		Drive coupling to the machine is dirty.	YES	Clean.
6	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
7	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
8		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
9	Machine → Fusing Transport Speed (Service Mode)	Brush effect or blurred image occurs.	YES	Readjust fusing transport speed.
10	Machine → Color registration Adjustment (Service Mode)	Check the specific color in which color shift occurs.	YES	Perform “Color registration Adjustment.” If color shift is not corrected even with a correction of ± 1 dot, go to next step.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change transfer belt unit. → Change printer control board

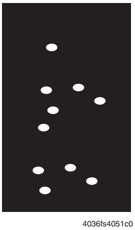
18.3.34 Printer 4-color: void areas, white spots

A. Typical faulty images

Void areas



White spots

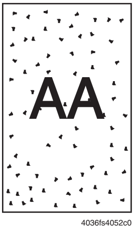


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	There are void areas at the front side or high density section.	YES	See P.727
2		There are void areas in the trailing edge.	YES	Perform [Transfer Adjust] of [Image Process Adjustment] under Service Mode.
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change 2nd image transfer roller unit.
6		Charge neutralizing cloth is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-image transfer guide plate is damaged or dirty.	YES	Clean or change.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change transfer belt unit.

18.3.35 Printer 4-color: colored spots

A. Typical faulty images



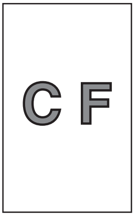
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the image transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Fusing unit	Fusing belt is dirty or scratched.	YES	Change fusing unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit.

18.3.36 Printer 4-color: poor fusing performance, offset

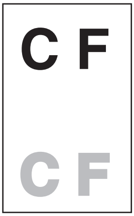
A. Typical faulty images

Poor fusing performance



4036fs4059c0

Offset



4036fs4060c0

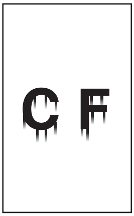
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Machine→ Fusing Temperature (Service Mode)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust fusing temperature.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change fusing unit.

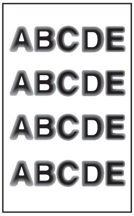
18.3.37 Printer 4-color: brush effect, blurred image

A. Typical faulty images

Brush effect



Blurred image

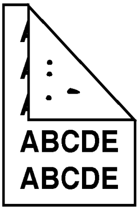


B. Troubleshooting procedure

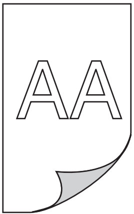
Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2		Paper type does not match.	YES	Change the setting.
3	Fusing unit	Fusing unit is installed properly.	NO	Reinstall.
4		Fusing entrance guide plate is dirty.	YES	Clean.
5		Fusing belt is dirty or scratched.	YES	Change fusing unit.
6	Machine → Fusing Transport Speed (Service Mode)	Changing fusing speed eliminates the problem of brush effect and blurred image.	YES	Readjust fusing transport speed.

18.3.38 Printer 4-color: back marking

A. Typical faulty images



4036fs4062c0



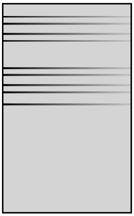
4036fs4063c0

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	2nd image transfer roller unit	Image transfer roller is scratched or dirty.	YES	Change transfer roller unit.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fusing unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Lower fusing roller is scratched or dirty.	YES	Change fusing unit.
5	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit/2.

18.3.39 Printer 4-color: uneven image

A. Typical faulty images



B. Troubleshooting procedure

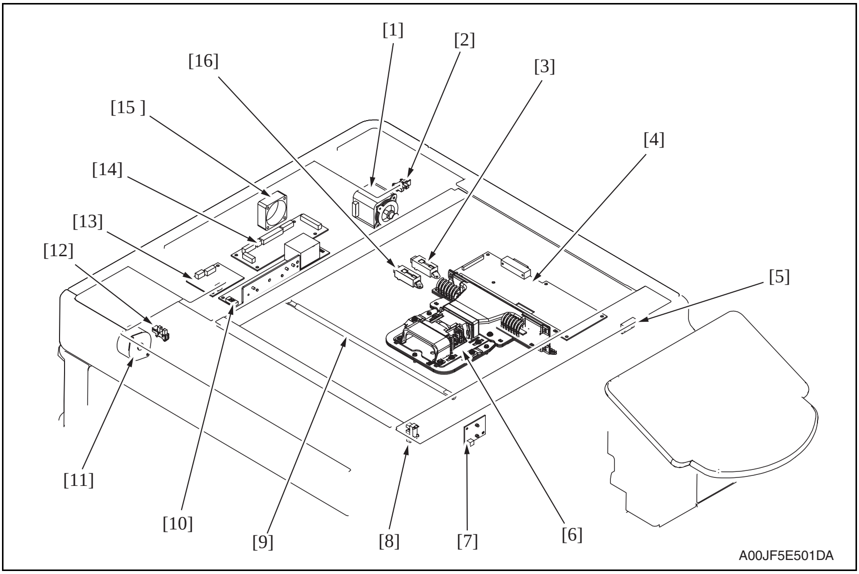
Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.	YES	Replace the imaging unit.
5	Transfer roller unit	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller unit.
6	Fusing unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fusing unit.	YES	Replace the fusing unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the transfer belt unit.

Appendix

19. Parts layout drawing

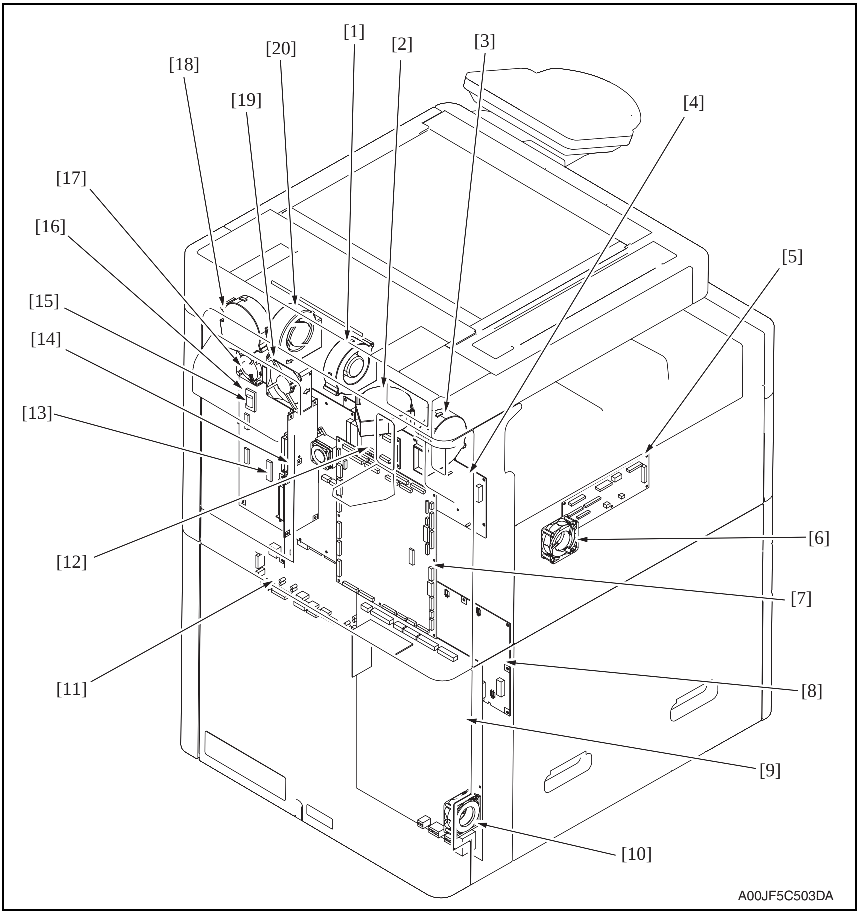
19.1 Main body

19.1.1 IR section

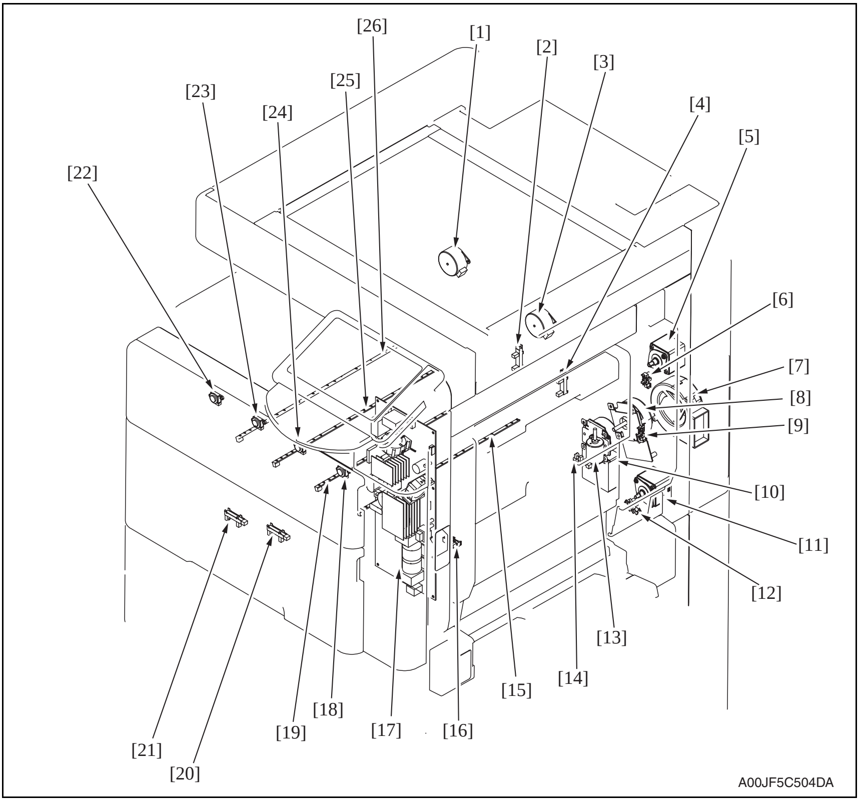


[1]	Scanner motor (M201)	[9]	Exposure lamp (FL201)
[2]	20 degree sensor (PS202)	[10]	Inverter board (INVB)
[3]	Original size detection 1 sensor (PS204)	[11]	Original glass moving motor (M202)
[4]	Image processing board (IPB)	[12]	Glass home sensor (PS203)
[5]	Original cover sensor (RS201)	[13]	Original glass position control board (OGPCB)
[6]	CCD board (CCDB)	[14]	Scanner relay board (REYB/SCAN)
[7]	Machine condition monitor board (MCMB)	[15]	Optical cooling fan motor (FM201)
[8]	Scanner home sensor (PS201)	[16]	Original size detection 2 sensor (PS205)

19.1.2 Engine section

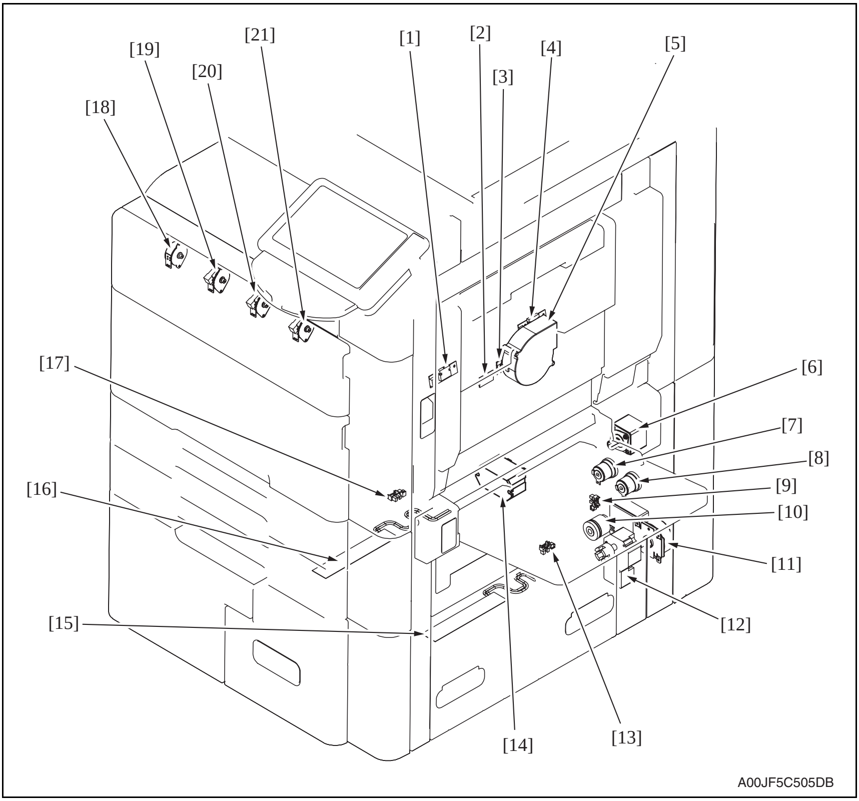


[1]	Cooling fan motor (FM3)	[11]	Paper feed transport drive board (PFTDB)
[2]	K toner suction fan motor (FM8)	[12]	Slide Interface board (REYB/SL)
[3]	Color toner suction fan motor (FM7)	[13]	JMP board (JMPB)
[4]	High voltage unit/2 (HV2)	[14]	PCI board (PCIB)
[5]	PH relay board (REYB/PH)	[15]	NVRAM board (NRB)
[6]	IU cooling fan motor (FM15)	[16]	MFP board (MFPB)
[7]	Printer control board (PRCB)	[17]	MFP control board cooling fan motor (FM17)
[8]	High voltage unit/1 (HV1)	[18]	Fusing cooling fan motor/1 (FM2)
[9]	DC power supply (DCPU)	[19]	Rear side cooling fan motor (FM16)
[10]	Power supply cooling fan motor (FM9)	[20]	Paper cooling fan motor (FM13)



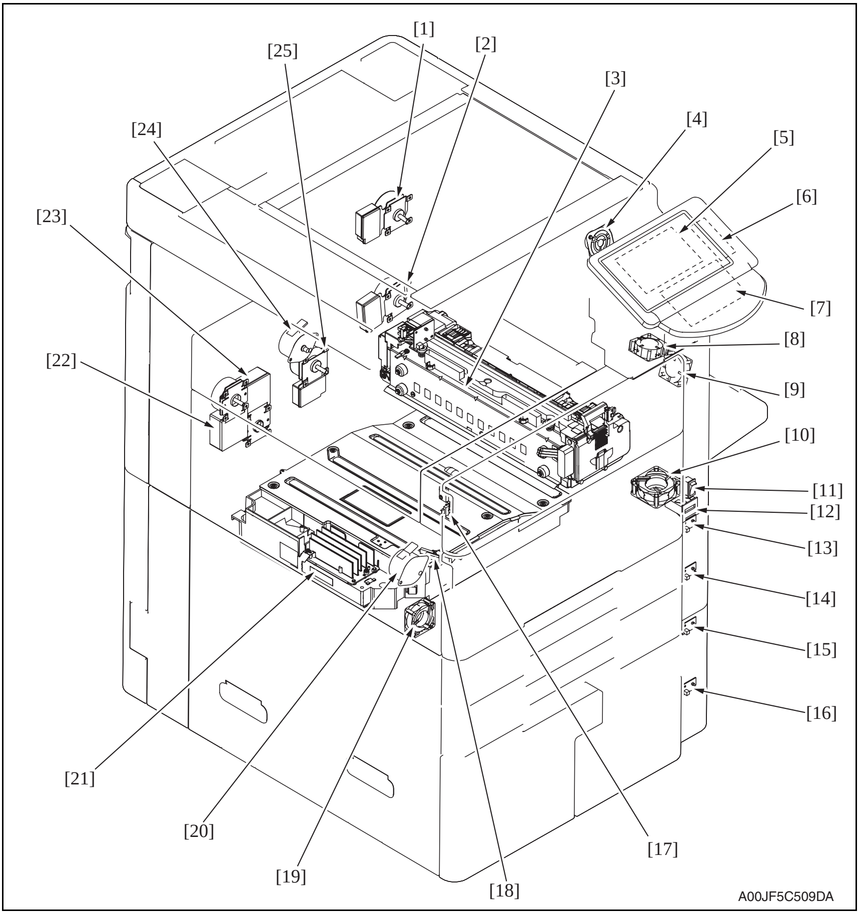
[1]	Toner cartridge motor Y/M (M13)	[14]	Charging cleaner home sensor (PS43)
[2]	Pressure welding alienation sensor/color (PS52)	[15]	Main erase lamp/K (EL/K)
[3]	Toner cartridge motor C/K (M14)	[16]	Charging cleaner return sensor (PS44)
[4]	Pressure welding alienation sensor/K (PS51)	[17]	IH power supply (IHPU)
[5]	ADU transport motor/1 (M31)	[18]	Toner empty sensor/K (PZS/K)
[6]	ADU paper passage sensor/1 (PS47)	[19]	Main erase lamp/C (EL/C)
[7]	Ozone ventilation fan motor (FM6)	[20]	Waste toner agitating motor lock sensor (PS23)
[8]	K PC drum motor (M18)	[21]	Waste toner full sensor (PS54)
[9]	ADU door sensor (PS49)	[22]	Toner empty sensor/Y (PZS/Y)
[10]	K developing motor (M19)	[23]	Toner empty sensor/M (PZS/M)
[11]	ADU transport motor/2 (M32)	[24]	Toner empty sensor/C (PZS/C)
[12]	ADU paper passage sensor/2 (PS48)	[25]	Main erase lamp/Y (EL/Y)
[13]	Charge cleaning motor/K (M15)	[26]	Main erase lamp/M (EL/M)

2

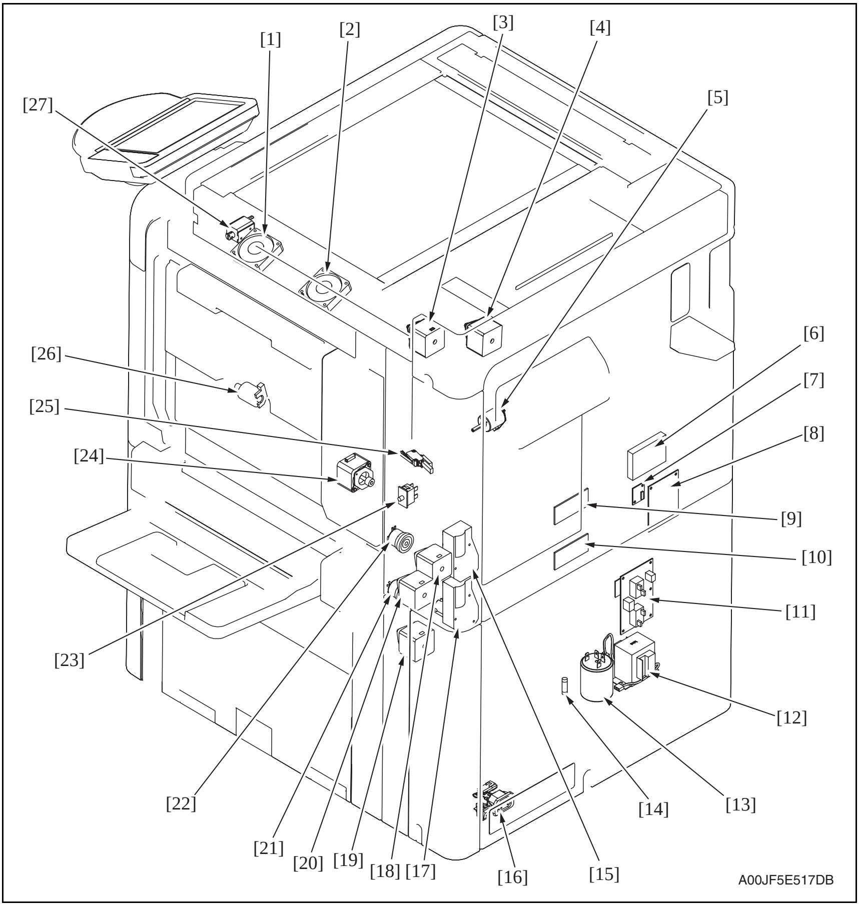


[1] IDC registration sensor/F (IDCS/F)
[2] OHP detection sensor (PS40)
2 [3] Temperature/humidity sensor (TEM/HUMS)
[4] IDC registration sensor/R (IDCS/R)
[5] Suction fan motor (FM1)
[6] Vertical transport motor (M26)
[7] Horizontal Transport clutch 1 (CL3)
[8] Horizontal Transport clutch 2 (CL4)
[9] Horizontal transport set sensor (PS58)
[10] Tray4 paper feed clutch (CL7)
[11] Transport motor (M25)
[12] Tray4 lift-up motor (M24)
[13] Horizontal transport sensor (PS29)
[14] Fusing power relay (RL1) *
[15] Tray4 dehumidifier heater (DH2)
[16] Tray3 dehumidifier heater (DH1)
[17] Waste toner box set sensor (PS53)
[18] Toner supply motor/Y (M9)
[19] Toner supply motor/M (M10)
[20] Toner supply motor/C (M11)
[21] Toner supply motor/K (M12)

2 *: bizhub C650 only

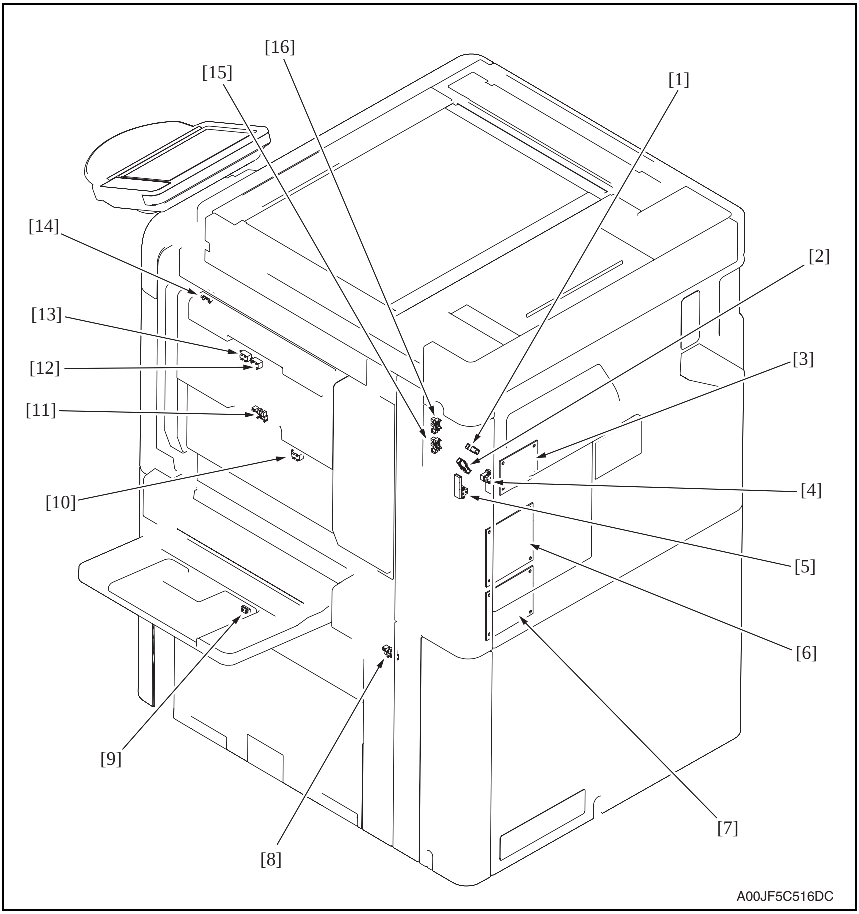


[1]	Fusing motor (M30)	[14]	Tray2 paper empty indicator board (PEIB/2)
[2]	Transfer belt motor (M1)	[15]	Tray3 paper empty indicator board (PEIB/3)
[3]	IH coil (FH1)	[16]	Tray4 paper empty indicator board (PEIB/4)
△1 [4]	Fax speaker	[17]	Toner cartridge cover switch (RS1)
[5]	Operation panel control board (OPCB)	[18]	Front door switch (MS3)
[6]	Operation panel inverter board (OPINVB)	[19]	PH cooling fan motor (FM14)
[7]	Operation panel I/O board (OPIOB)	[20]	Waste toner agitating motor (M20)
[8]	IH cooling fan motor/3 (FM12)	[21]	PH unit
[9]	IH cooling fan motor/2 (FM11)	[22]	Cleaner motor (M38)
[10]	IH cooling fan motor/1 (FM10)	[23]	Color developing motor (M17)
[11]	Power switch (SW1)	[24]	1st image transfer pressure retraction motor (M21)
[12]	Total counter (TCT)	[25]	Color PC drum motor (M16)
[13]	Tray1 paper empty indicator board (PEIB/1)		



[1]	Fusing cooling fan motor/2 (FM4)
[2]	Fusing cooling fan motor/3 (FM5)
[3]	Switchback Motor (M33)
[4]	Exit motor (M4)
[5]	Fusing pressure retraction motor (M29)
[6]	HDD
[7]	Service EEPROM board (SVERB)
[8]	Fan motor relay board (REYB/FAN)
[9]	Paper size detect board/1 (PSDTB/1)
[10]	Paper size detect board/2 (PSDTB/2)
[11]	Relay drive board (REDB)
[12]	Dehumidifier heater transformer (T1)
[13]	Noise filter (NF1) 200 V areas only
[14]	Fuse (F2)*
[15]	Tray1 lift-up motor (M6)
[16]	Dehumidification heater switch (SW2)
[17]	Tray2 lift-up motor (M8)
[18]	Take-up motor (M22)
[19]	Tray2 vertical transport motor (M7)
[20]	Tray1 vertical transport motor (M5)
[21]	Tray2 paper feed clutch (CL2)
[22]	Tray1 paper feed clutch (CL1)
[23]	Upper right door switch (MS2)
[24]	Transfer belt motor (M2)
[25]	Right door switch (MS1)
[26]	2nd image transfer pressure retraction motor (M3)
[27]	Gate switch solenoid (SD1)

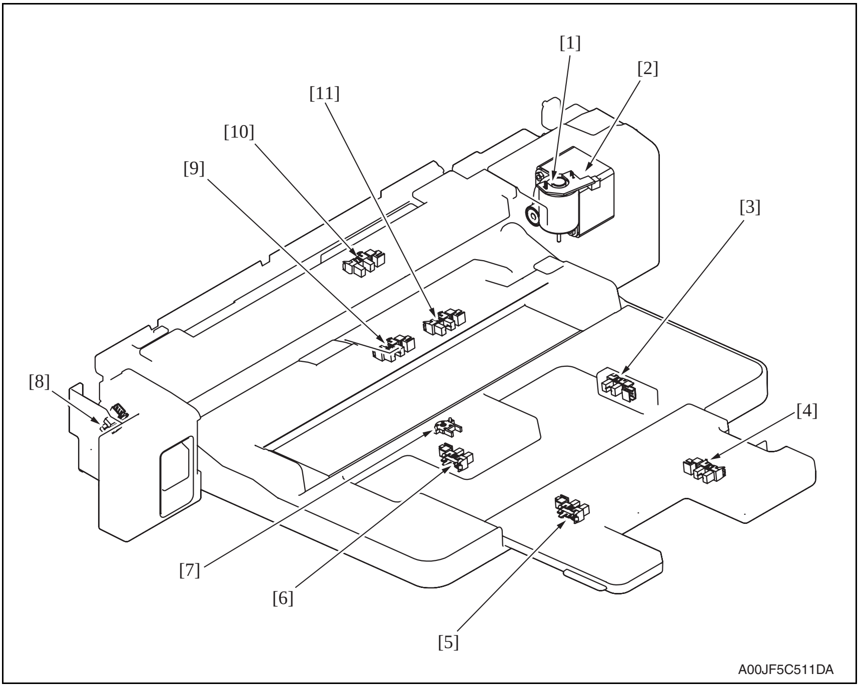
*: bizhub C650 only



[1] Fusing retraction position sensor (PS59)
[2] K PC drum position sensor (PS18)
[3] JPEG board (JPEGB) *
[4] K PC encoder sensor/1 (PS45)
[5] K PC encoder sensor/2 (PS46)
[6] SIF board (SIFB) *
[7] EIF board (EIFB) *
[8] Tray2 door set sensor (PS17)
[9] Intermediate roller sensor (PS28)
[10] Timing roller sensor (PS38)
[11] Pressure welding alienation sensor (PS50)
[12] Loop amount detection sensor/2 (PS42)
[13] Loop amount detection sensor/1 (PS41)
[14] Paper exit sensor (PS39)
[15] Heating roller rotation sensor/2 (PS57)
[16] Heating roller rotation sensor/1 (PS56)

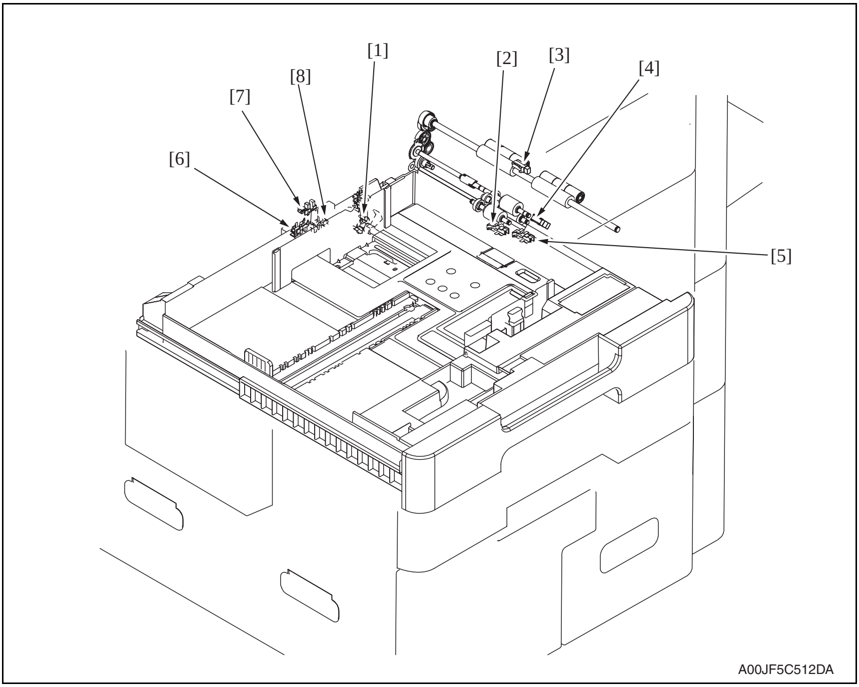
*: bizhub C650 only

19.1.3 Bypass tray section



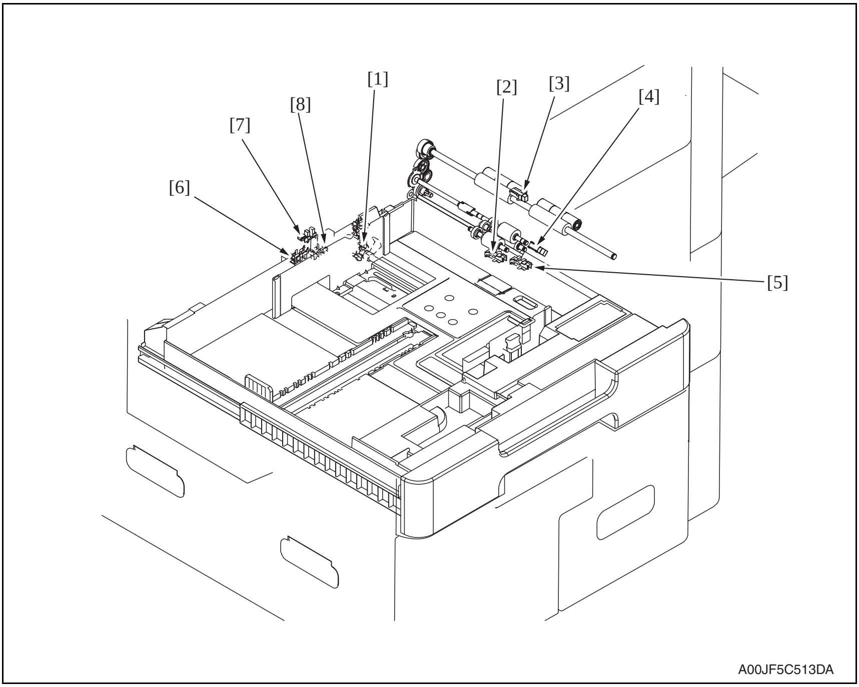
[1]	Bypass tray up down motor (M28)	[7]	Bypass paper width detection resistor (VR1)
[2]	Bypass paper feed motor (M27)	[8]	Bypass set sensor (PS30)
[3]	Bypass sub tray set sensor (PS37)	[9]	Bypass paper empty sensor (PS34)
[4]	Multi FD size sensor/3 (PS33)	[10]	Bypass paper limit sensor (PS35)
[5]	Multi FD size sensor/2 (PS32)	[11]	Bypass paper lower sensor (PS36)
[6]	Multi FD size sensor/1 (PS31)		

19.1.4 Tray1



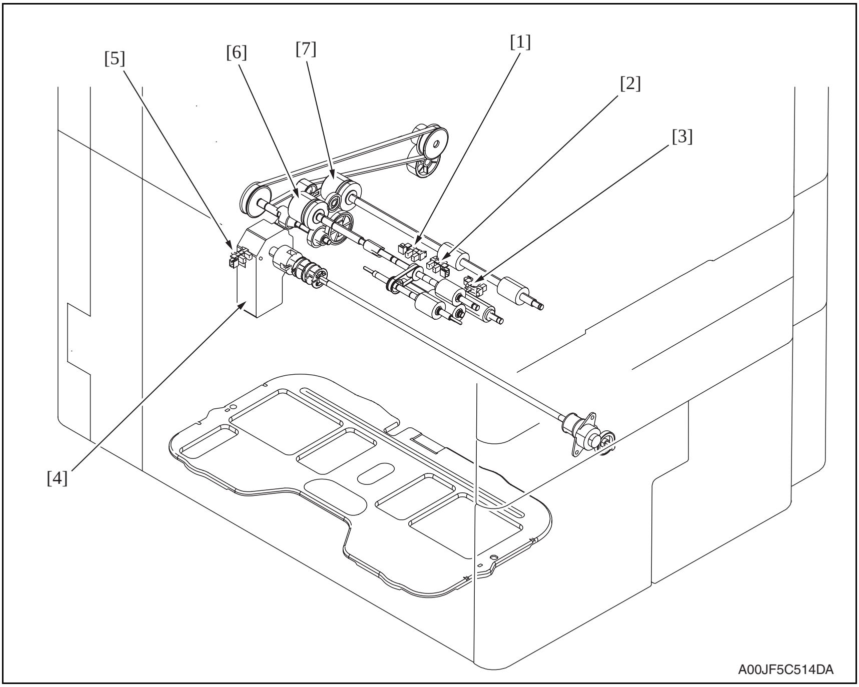
- [1] Tray1 near empty sensor (PS3)
- [2] Tray1 upper limit sensor (PS6)
- [3] Tray1 vertical transport sensor (PS4)
- [4] Tray1 paper feed sensor (PS5)
- [5] Tray1 paper empty sensor (PS2)
- [6] Tray1 CD paper size sensor/2 (PS8)
- [7] Tray1 device detection sensor (PS1)
- [8] Tray1 CD paper size sensor/1 (PS7)

19.1.5 Tray2



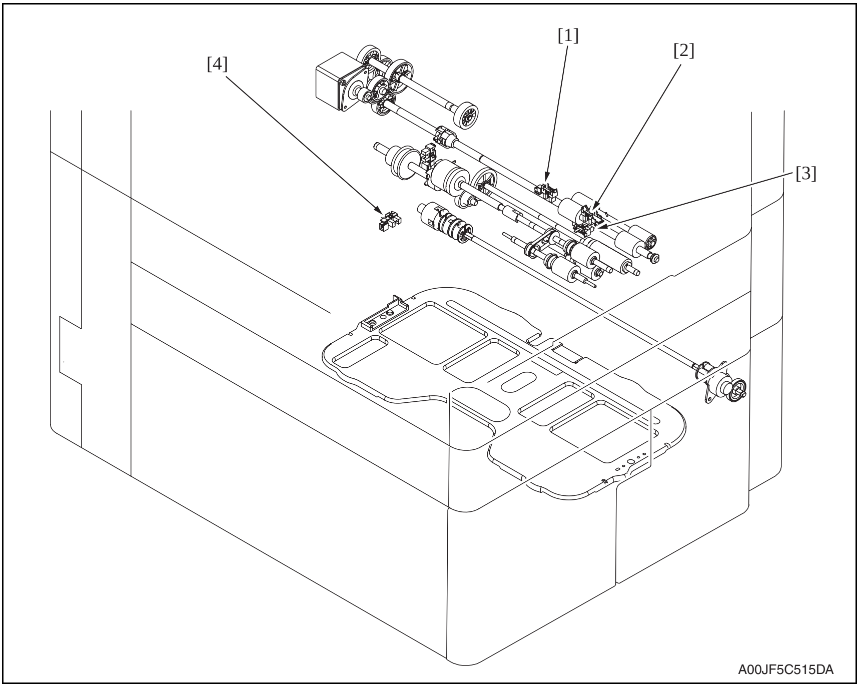
[1]	Tray2 near empty sensor (PS11)	[5]	Tray2 paper empty sensor (PS10)
[2]	Tray2 upper limit sensor (PS14)	[6]	Tray2 CD Paper size sensor/2 (PS16)
[3]	Tray2 vertical transport sensor (PS12)	[7]	Tray2 device detection sensor (PS9)
[4]	Tray2 paper feed sensor (PS13)	[8]	Tray2 CD Paper size sensor/1 (PS15)

19.1.6 Tray3



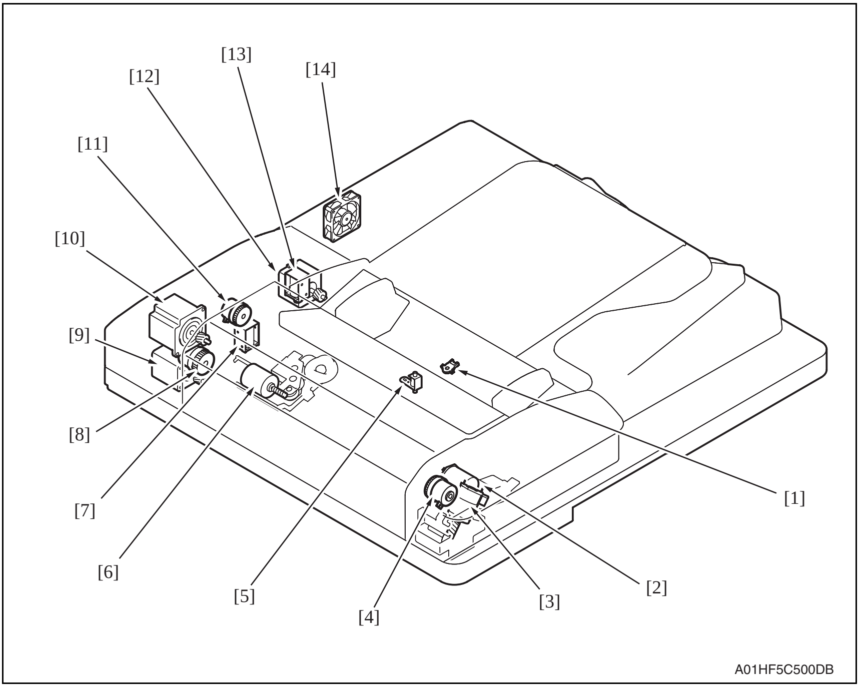
[1] Tray3 upper limit sensor (PS20)
[2] Tray3 paper empty sensor (PS19)
[3] Tray3 paper feed sensor (PS21)
[4] Tray3 lift-up motor (M23)
[5] Tray3 near empty sensor (PS22)
[6] Tray3 paper feed clutch (CL5)
[7] Tray3 transport clutch (CL6)

19.1.7 Tray4



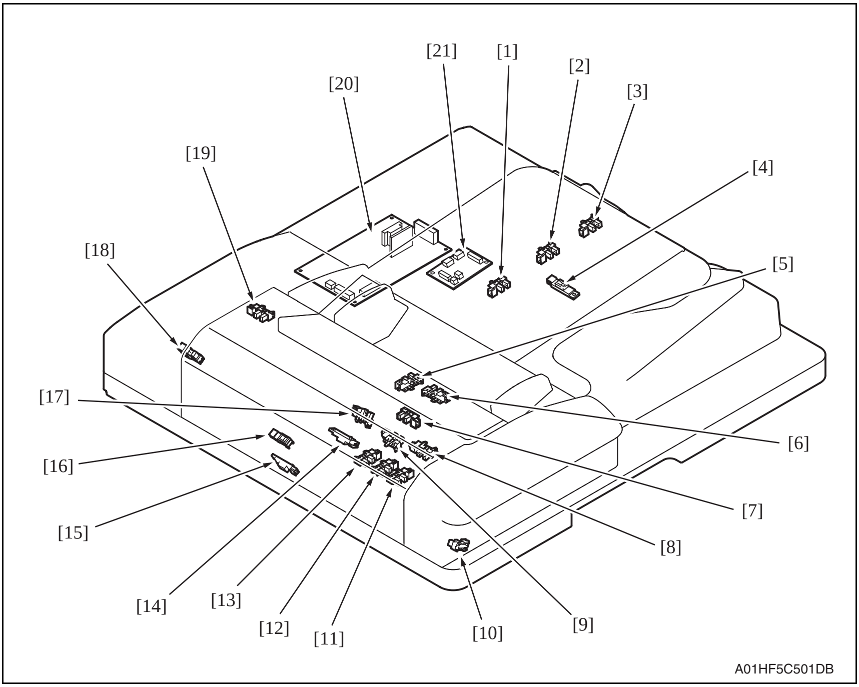
[1]	Tray4 upper limit sensor (PS25)	[3]	Tray4 paper feed sensor (PS26)
[2]	Tray4 paper empty sensor (PS24)	[4]	Tray4 near empty sensor (PS27)

19.2 DF-611



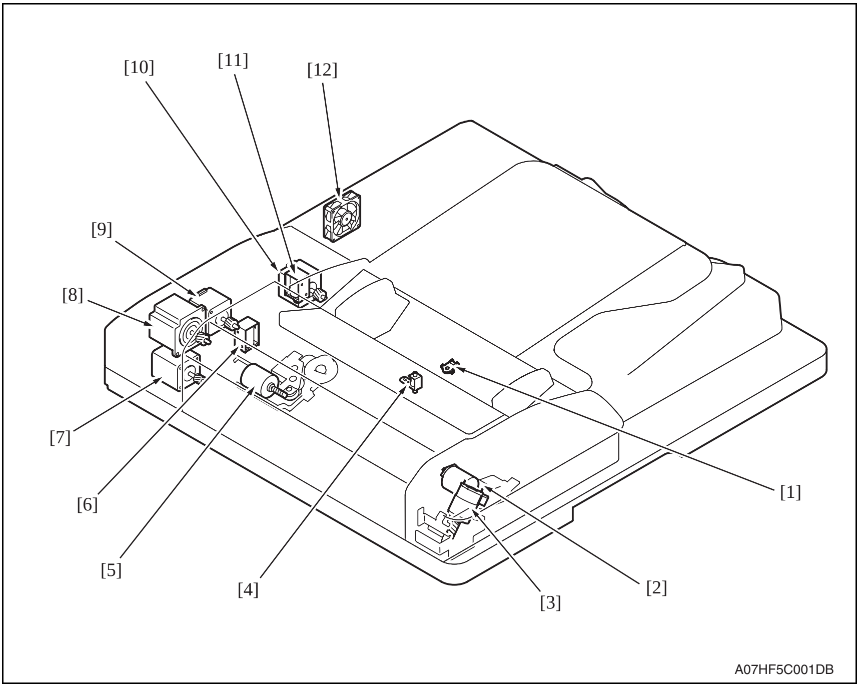
[1]	Document width detection variable resistor (VR1)	[8]	Regist clutch (CL1)
[2]	Switchback roller pressure/retraction motor (M5)	[9]	Reading motor (M1)
[3]	Reading roller pressure/retraction motor (M4)	[10]	Take-up motor (M2)
[4]	Brake clutch (CL3)	[11]	Take-up clutch (CL2)
[5]	Stamp solenoid (SD3) *	[12]	Exit motor (M3)
[6]	Lift-up motor (M6)	[13]	Switch back solenoid (SD1)
[7]	Exit switch back solenoid (SD2)	[14]	Cooling fan (FM1)

* : option



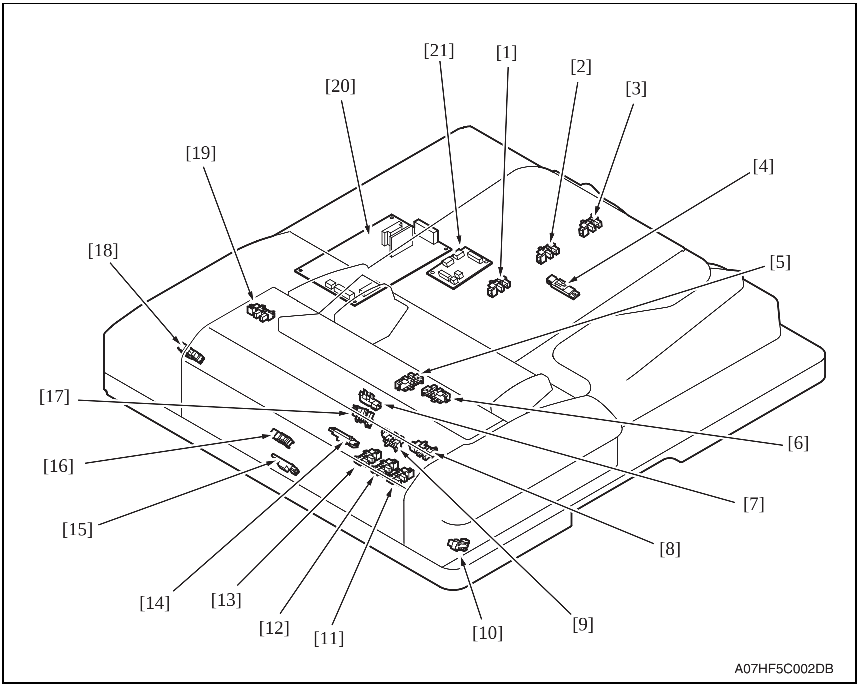
[1] Length sensor/1 (PS10)
[2] Length sensor/3 (PS12)
[3] Length sensor/4 (PS13)
[4] Length sensor/2 (PS11)
[5] Lift up upper sensor (PS16)
[6] Empty sensor (PS14)
[7] After separate sensor (PS4)
[8] Reverse roller sensor (PS7)
[9] Lift up lower sensor (PS15)
[10] Read roller sensor (PS6)
[11] Consolidation/3 (PS17)
[12] Consolidation/2 (PS18)
[13] Consolidation/1 (PS19)
[14] Reverse regist sensor (PS8)
[15] Before read sensor (PS9)
[16] Regist sensor (PS3)
[17] Exit sensor (PS5)
[18] Read open/close sensor (PS2)
[19] Feed open/close sensor (PS1)
[20] DF control board (DFCB)
[21] Relay board (REYB)

2 19.3 DF-610



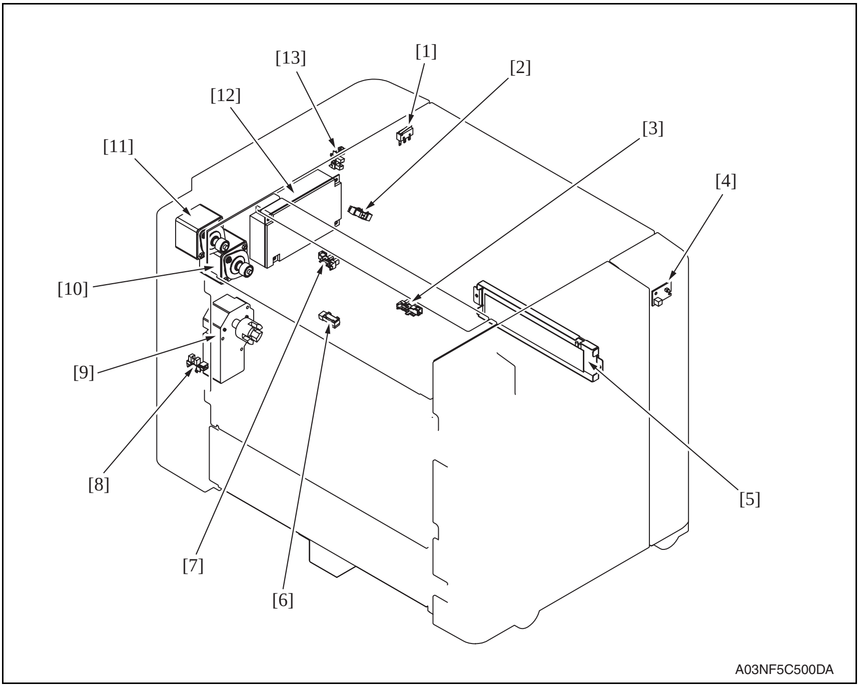
[1] Document width detection variable resistor (VR1)
[2] Switchback roller pressure/retraction motor (M5)
[3] Reading roller pressure/retraction motor (M4)
[4] Stamp solenoid (SD3) *
[5] Lift-up motor (M6)
[6] Exit switch back solenoid (SD2)
[7] Reading motor (M1)
[8] Take-up motor (M2)
[9] Regist motor (M7)
[10] Exit motor (M3)
[11] Switch back solenoid (SD1)
[12] Cooling fan (FM1)

* : option



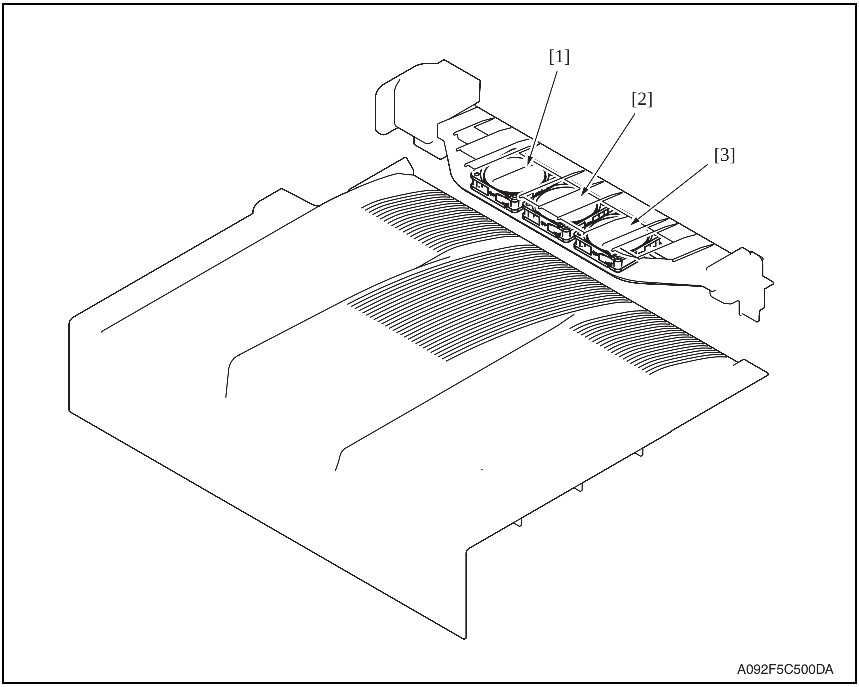
[1]	Length sensor/1 (PS10)
[2]	Length sensor/3 (PS12)
[3]	Length sensor/4 (PS13)
[4]	Length sensor/2 (PS11)
[5]	Lift up upper sensor (PS16)
[6]	Empty sensor (PS14)
[7]	After separate sensor (PS4)
[8]	Reverse roller sensor (PS7)
[9]	Lift up lower sensor (PS15)
[10]	Read roller sensor (PS6)
[11]	Consolidation/3 (PS17)
[12]	Consolidation/2 (PS18)
[13]	Consolidation/1 (PS19)
[14]	Reverse regist sensor (PS8)
[15]	Before read sensor (PS9)
[16]	Regist sensor (PS3)
[17]	Exit sensor (PS5)
[18]	Read open/close sensor (PS2)
[19]	Feed open/close sensor (PS1)
[20]	DF control board (DFCB)
[21]	Relay board (REYB)

19.4 LU-301 (option)



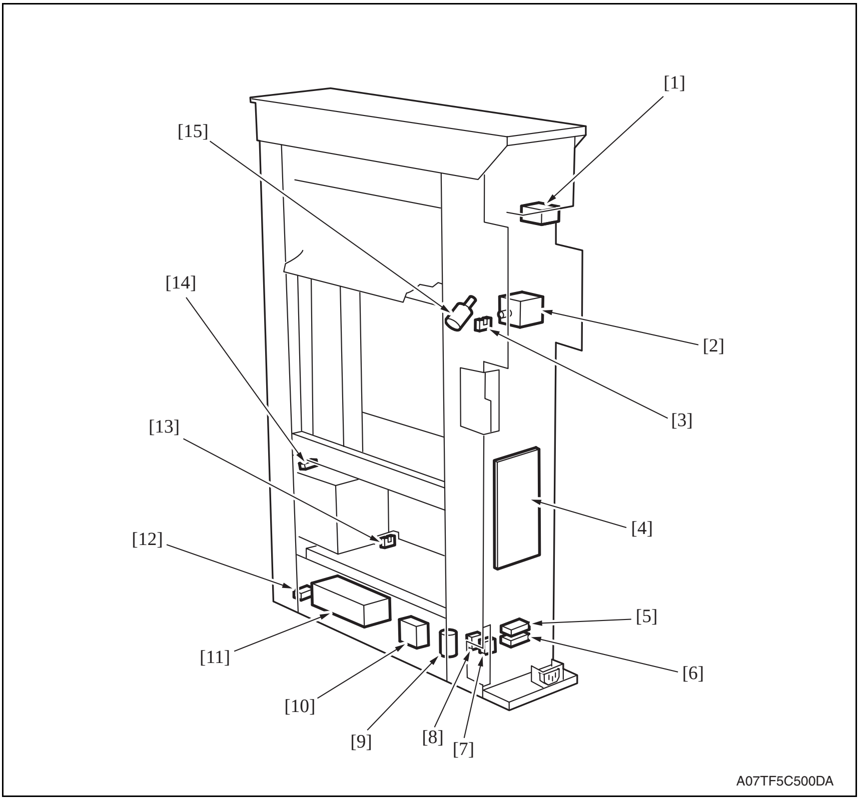
[1] LU door switch (MS1)
[2] Near empty sensor /2 (PS6)
[3] Paper empty sensor (PS4)
[4] Tray LED (LED)
[5] Dehumidification heater (DH)
[6] Paper feed sensor (PS3)
[7] Upper limit sensor (PS2)
[8] Tray set sensor (PS1)
[9] Lift-up motor (M1)
[10] Paper feed motor (M2)
[11] Transport motor (M3)
[12] LU drive board (LUDB)
[13] Near empty sensor /1 (PS5)

19.5 OT-503 (option)

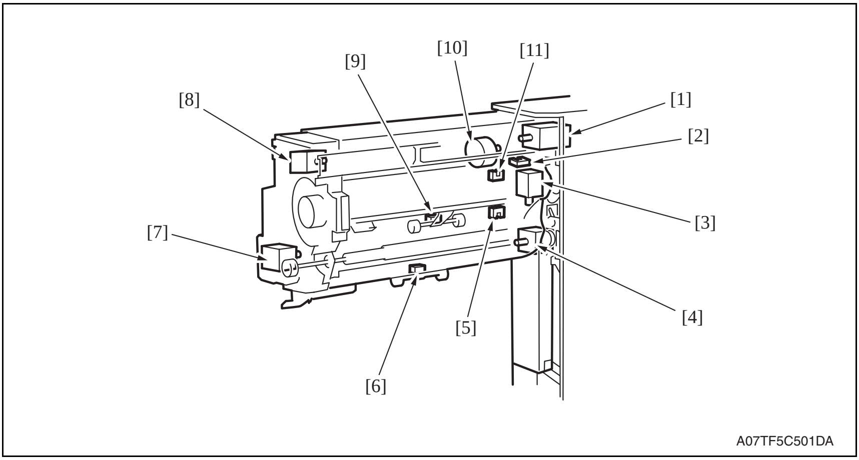


[1]	Exit paper cooling fun motor/2 (FM102)	[3]	Exit paper cooling fun motor/1 (FM101)
[2]	Exit paper cooling fun motor/3 (FM103)		

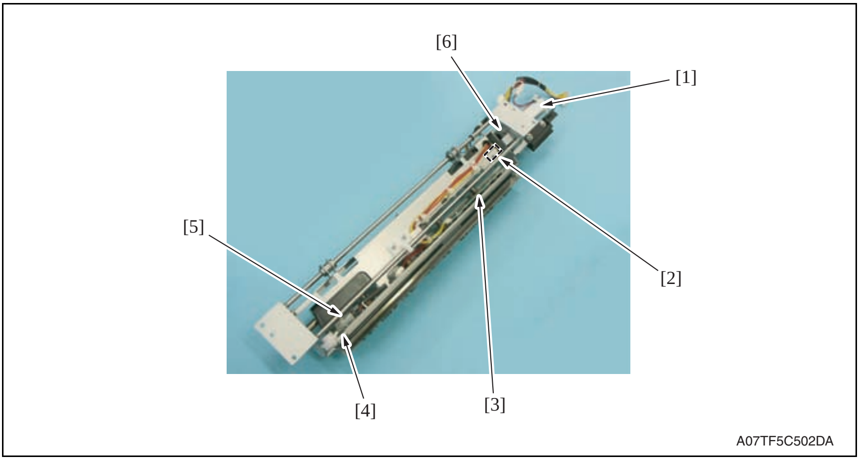
19.6 ZU-603 (option)



[1] Main motor cooling fan (FM1)
[2] Punch shift motor (M5)
[3] Punch shift home sensor (PS5)
[4] ZU control board (ZUCB)
[5] Circuit breaker/2 (CBR2)
[6] Circuit breaker/1 (CBR1)
[7] Power relay/1 (RY/1)
[8] Power relay/2 (RY/2)
[9] Noise filter (NF1)
[10] Coil (COIL)
[11] DC power supply (DCPU)
[12] Punch switchover switch (MS1)
[13] Punch scraps box set sensor (PS7)
[14] Punch scraps full sensor (PS8)
[15] Punch scraps conveyance motor (M7)

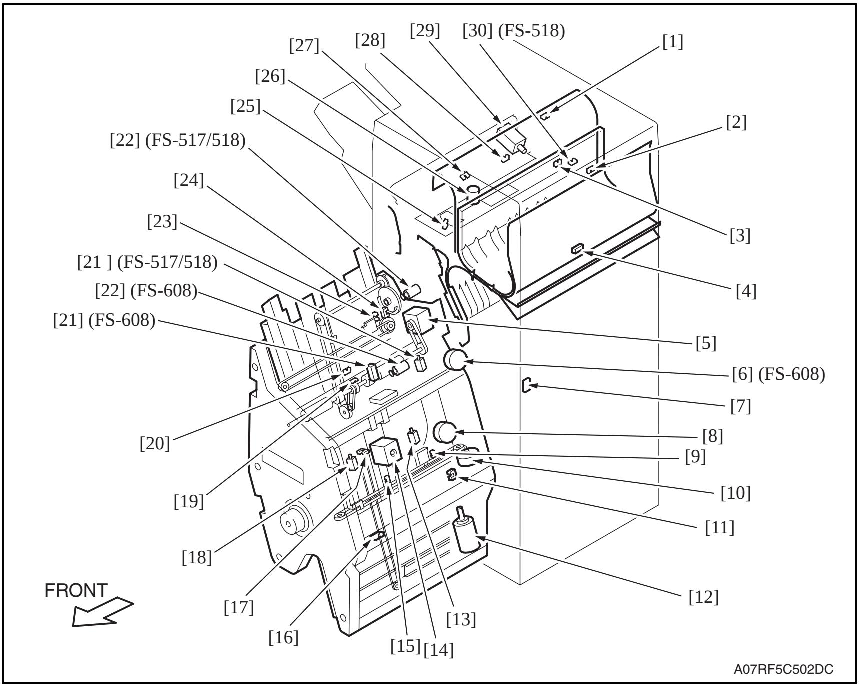


[1] Main motor (M6)
[2] Conveyance encoder sensor (PS10)
[3] Gate solenoid/Lw (SD1)
[4] Registration motor (M1)
[5] 2nd stopper home sensor (PS4)
[6] Exit sensor (PS9)
[7] 2nd stopper motor (M3)
[8] Gate solenoid/Up (SD2)
[9] Conveyance sensor (PS1)
[10] 1st stopper motor (M2)
[11] 1st stopper home sensor (PS3)



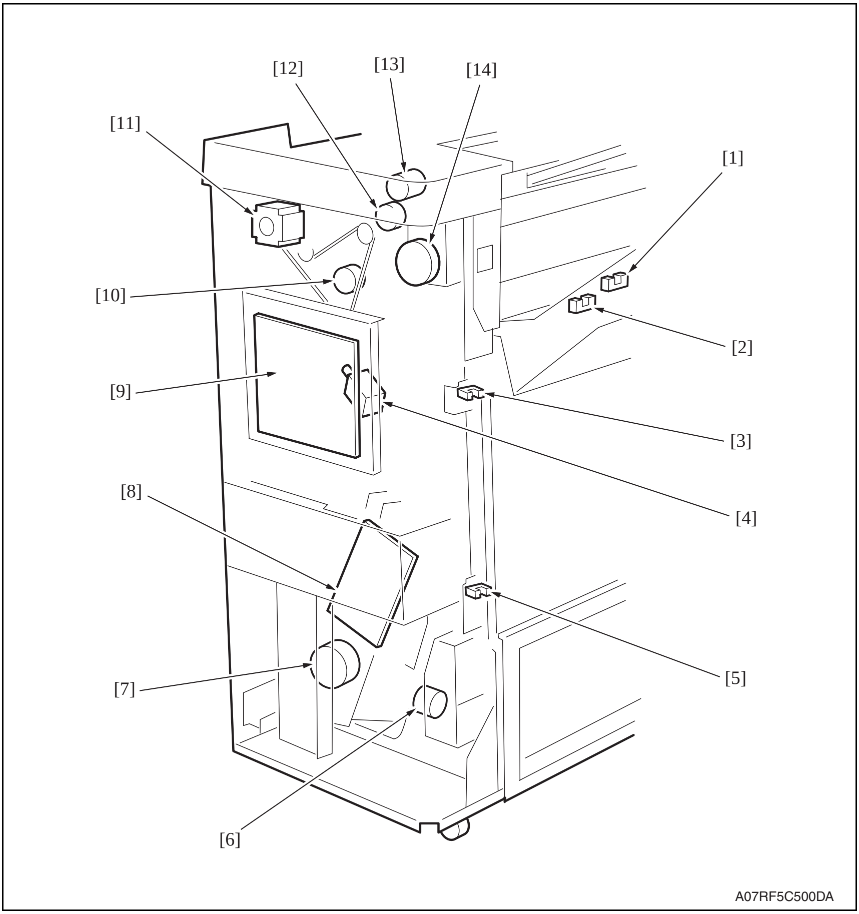
[1] Punch motor (M4)
[2] Punch home sensor (PS6)
[3] Paper size detect board (PSDTB)
[4] Punch switchover switch (MS2)
[5] Punch switchover motor (M8)
[6] Punch clutch (CL1)

19.7 FS-517/518/608 (option)



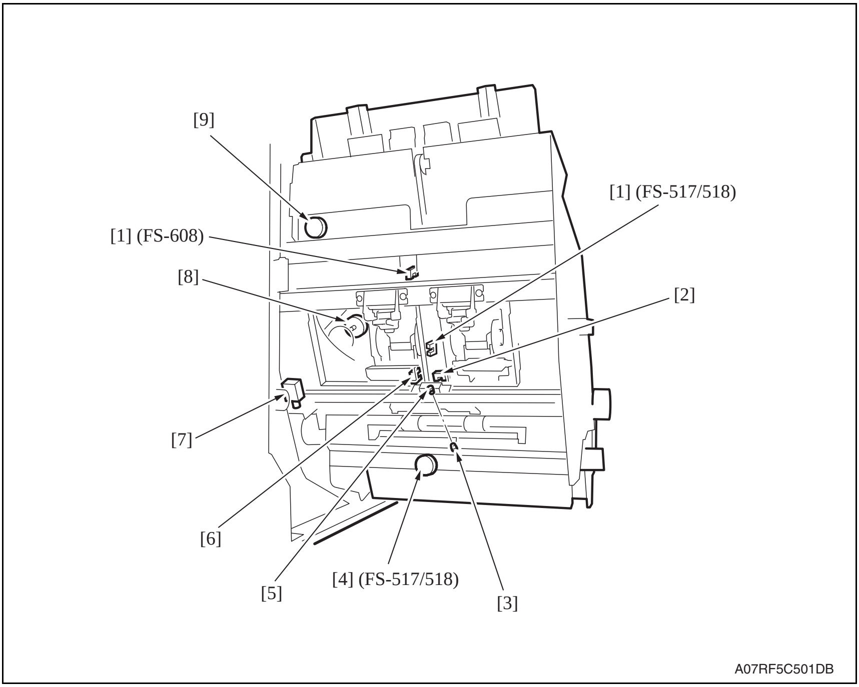
[1] Tray2 paper exit sensor (PS1)
[2] Gate home sensor (PS16)
[3] Paper exit home sensor (PS12)
[4] FNS entrance sensor (PS4)
[5] Stacker entrance motor (M13)
[6] Stapler movement motor (M11)
[7] Door switch (MS1)
[8] Clincher rotation motor (M4)*
[9] Alignment home sensor /Lw (PS24)*
[10] Alignment motor /Lw (M16)*
[11] Folding knife home sensor (PS22)*
[12] Folding knife motor (M19)*
[13] Fat stitching stopper release solenoid/Rr (SD8)*
[14] Saddle stitching stopper motor (M18)*
[15] Clincher rotation home sensor (PS14)*
[16] Folding pass-through sensor (PS26)*
[17] Saddle stitching stopper home sensor (PS23)*
[18] Flat stitching stopper release solenoid/Fr (SD7)*
[19] Stacker entrance sensor (PS5)
[20] Stacker empty sensor (PS20)
[21] Paper assist solenoid (SD51)
[22] Paper assist motor (M51)
[23] Alignment home sensor /Up (PS8)
[24] Paper exit belt home sensor (PS9)
[25] Shift roller home sensor (PS18)
[26] Shift roller motor (M2)
[27] Tray1 paper exit sensor (PS6)
[28] Tray2 paper full sensor (PS19)
[29] Paper exit opening solenoid (SD4)
[30] 100 pcs paper exit home sensor (PS32) **

*: FS-608 only
**: FS-518 only



[1]	Stapler paper exit upper limit sensor (PS7)
[2]	Tray1 upper limit sensor (PS2)
[3]	Counter reset sensor (PS15)
[4]	Bypass gate solenoid (SD5)
[5]	Tray1 lower limit sensor (PS3)
[6]	Tray1 lift motor (M3)
[7]	Folding transfer motor (M20)*
[8]	FNS drive board (FSDB)
[9]	FNS control board (FSCB)
[10]	Gate motor (M12)
[11]	FNS transfer motor (M1)
[12]	Paper exit motor (M8)
[13]	Sub tray paper exit motor (M21)
[14]	Paper exit roller motor (M7)

6



[1] Stapler movement home sensor (PS11)
[2] Folding paper exit sensor (PS25)*
[3] Folding full LED (PS30)*
[4] Stapler movement motor (M11)
[5] Folding full sensor (PS29)*
[6] Stapler rotation home sensor (PS13)*
[7] Tri-folding gate solenoid (SD6)*
[8] Stapler rotation motor (M6)*
[9] Alignment motor /Up (M5)

*: FS-608 only

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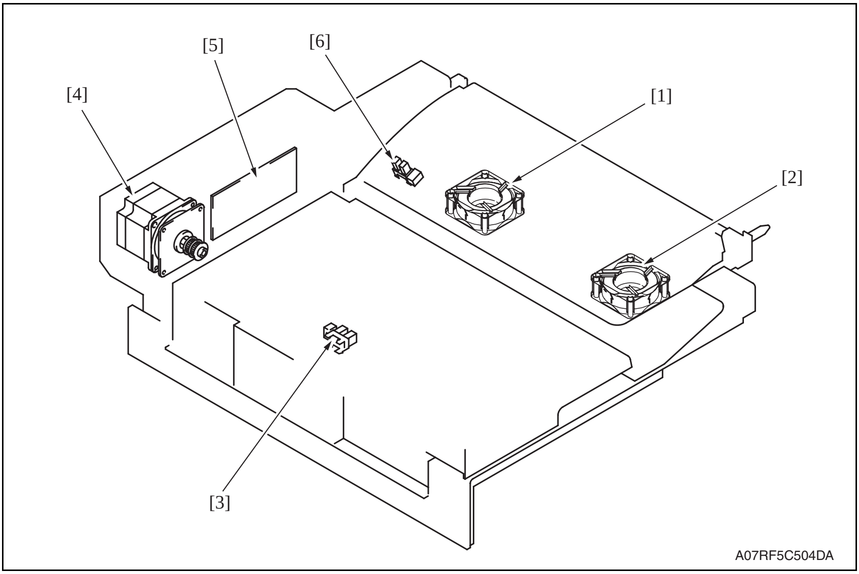
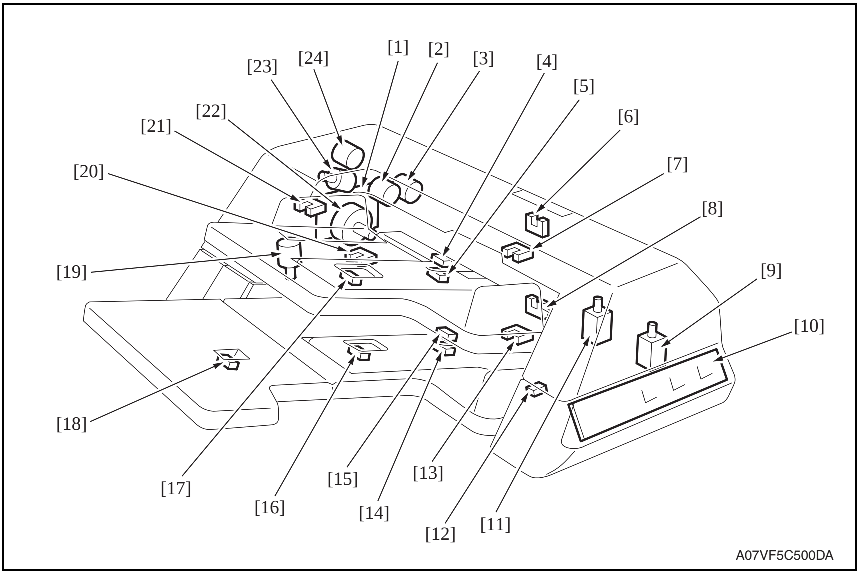


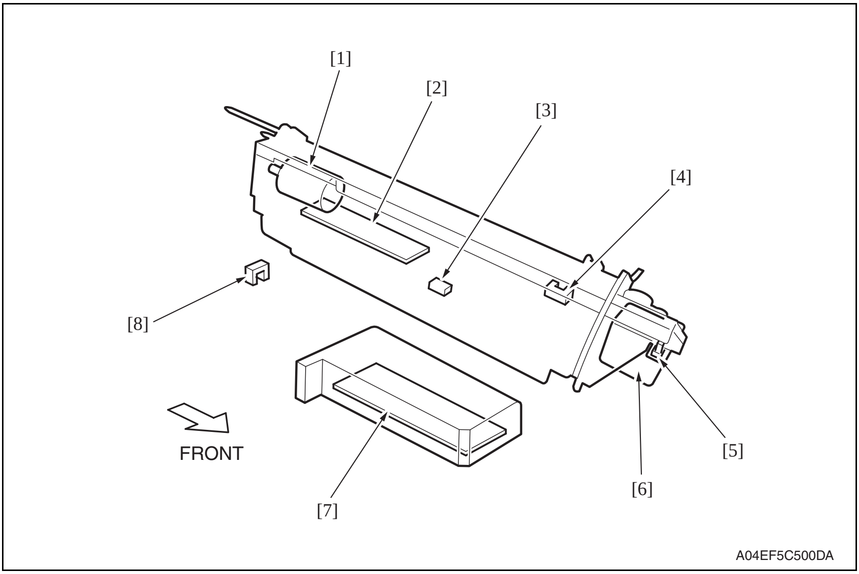
[1]	Fan motor /Rr (FM2)	[4]	Transfer motor (M201)
[2]	Fan motor /Fr (FM1)	[5]	Transfer control board (TRCB)
[3]	Paper pass sensor (PS202)	[6]	Door open/close sensor (PS201)

19.8 PI-503 (option)



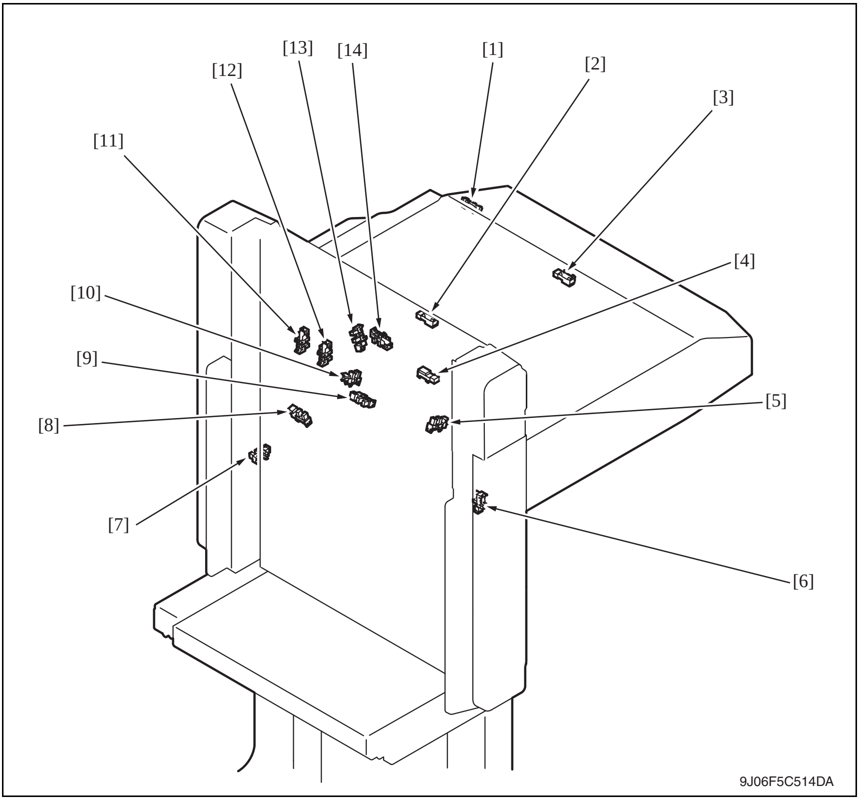
[1]	PI drive board (PIDB)
[2]	Transfer clutch /Lw (CL202)
[3]	Registration clutch (CL203)
[4]	Paper empty sensor /Up (PS202)
[5]	Paper size VR /Up (VR201)
[6]	Paper entrance sensor /Up (PS201)
[7]	Tray upper limit sensor /Up (PS204)
[8]	Paper entrance sensor /Lw (PS206)
[9]	Pick-up solenoid /Lw (SD202)
[10]	PI control board (PIOB)
[11]	Pick-up solenoid /Up (SD201)
[12]	Upper door open/close switch (MS201)
[13]	Tray upper limit sensor /Lw (PS209)
[14]	Paper size VR /Lw (VR202)
[15]	Paper empty sensor /Lw (PS207)
[16]	Paper set sensor /Lw (PS208)
[17]	Paper set sensor /Up (PS203)
[18]	L size sensor /Lw (PS212)
[19]	Tray lift motor /Lw (M202)
[20]	Tray lower limit sensor /Lw (PS210)
[21]	Tray lower limit sensor /Up (PS205)
[22]	Transfer motor (M203)
[23]	Tray lift motor /Up (M201)
[24]	Transfer clutch /Up (CL201)

19.9 PK-512/513 (option)

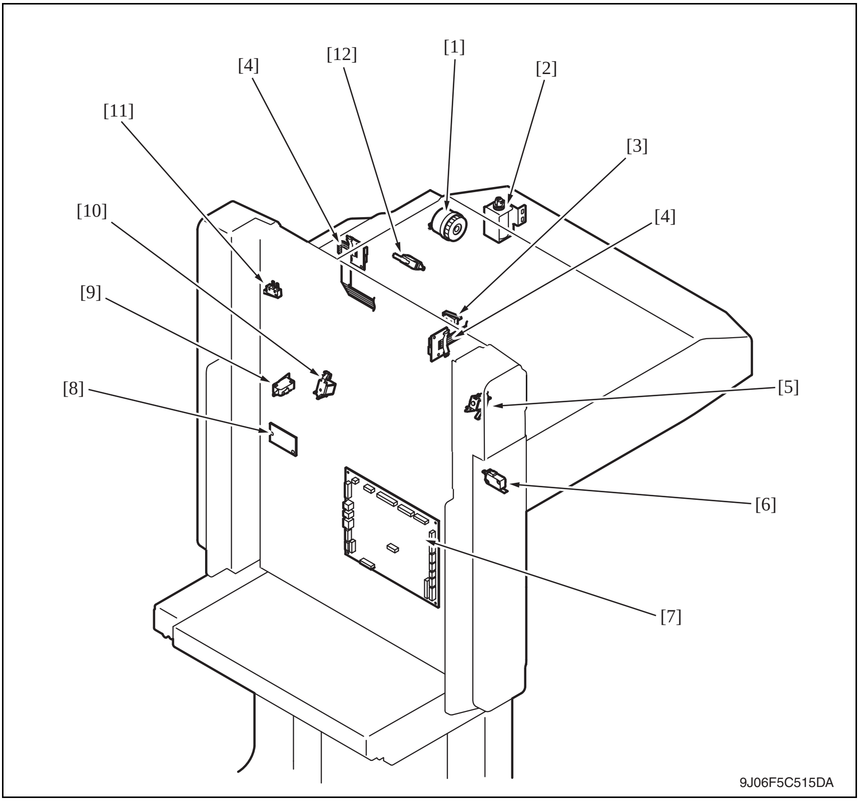


[1]	Punch motor (M301)	[5]	Punch shift home sensor (PS303)
[2]	Paper size detect board (PSDTB)	[6]	Punch shift motor (M302)
[3]	Scraps box full sensor (PS302)	[7]	Punch drive board (PDB)
[4]	Punch home sensor (PS301)	[8]	Scraps box set sensor (PS304)

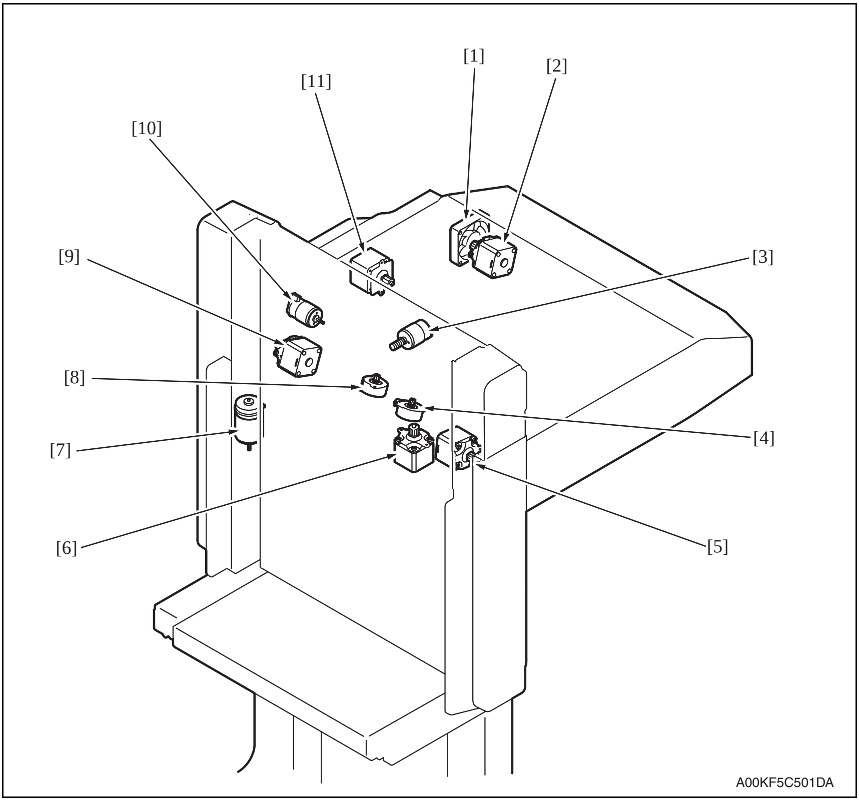
1 19.10 FS-519 (option)



[1]	Entrance switch back sensor (PS4)
[2]	Transport sensor (PS2)
[3]	Entrance sensor (PS1)
[4]	Storage tray detect sensor (PS3)
[5]	Alignment home position sensor /2 (PS8)
[6]	Elevator tray home position sensor (PS11)
[7]	Elevator tray lower limit sensor (PS13)
[8]	Elevator top face detection sensor (PS12)
[9]	Exit paddle home position sensor (PS6)
[10]	Alignment home position sensor /1 (PS7)
[11]	Stapler save position sensor (PS10)
[12]	Staple home position sensor (PS9)
[13]	Shutter home position sensor (PS14)
[14]	Exit roller home position sensor (PS5)

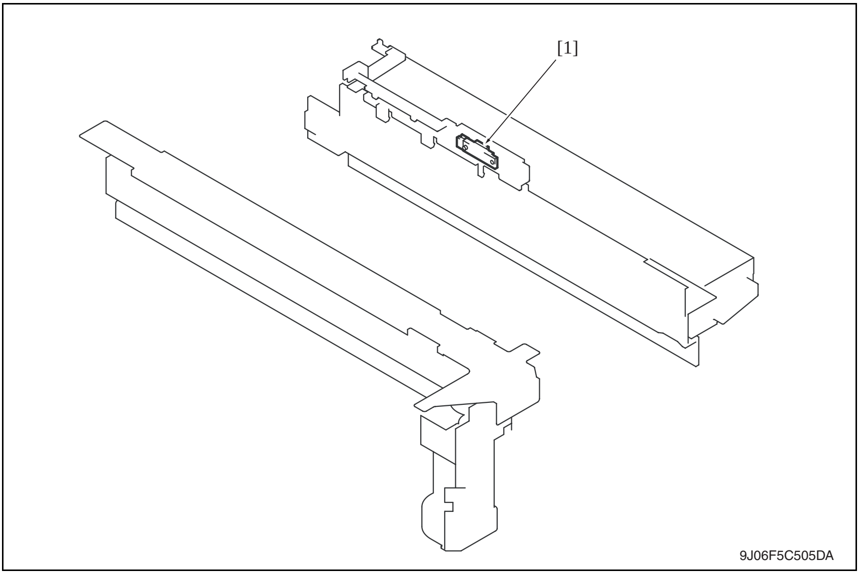


[1]	Skew registration clutch (CL1)	[7]	FS control board (FSCB)
[2]	Duplex guide solenoid (SD3)	[8]	Relay board/1 (REYB/1)
[3]	Shutter detect switch (SW2)	[9]	Slide switch (SW4)
[4]	Relay board/2 (REYB/2)	[10]	Exit paddle solenoid (SD2)
[5]	Storage paddle solenoid (SD1)	[11]	Elevator tray switch (SW3)
[6]	Front door switch (SW1)	[12]	Middle guide switch (SW5)



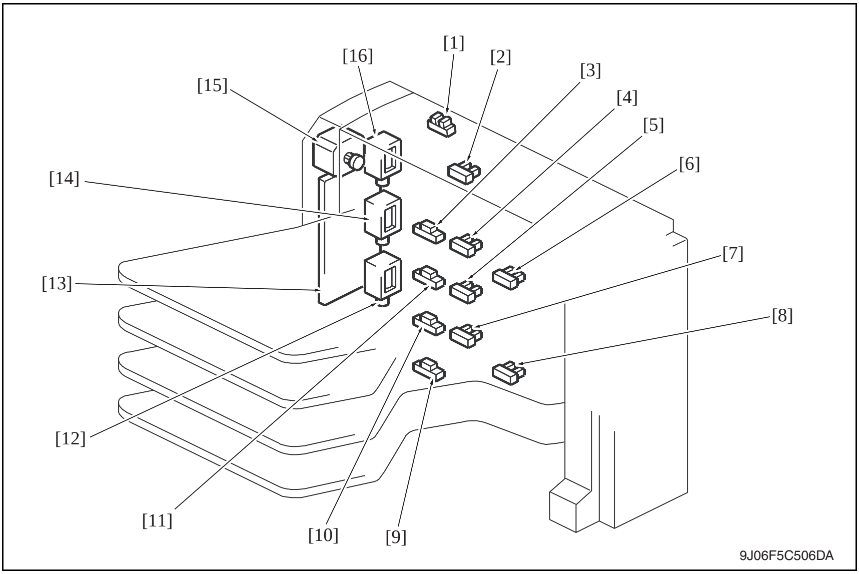
[1]	Cooling fan motor (M9)	[7]	Elevator motor (M11)
[2]	Entrance motor (M1)	[8]	Align motor/1 (M5)
[3]	Exit roller motor (M10)	[9]	Transport motor/2 (M3)
[4]	Align motor/2 (M6)	[10]	Shutter motor (M8)
[5]	Exit motor (M4)	[11]	Transport motor/1 (M2)
[6]	Stapling unit moving motor (M7)		

19.11 PK-510 (option)



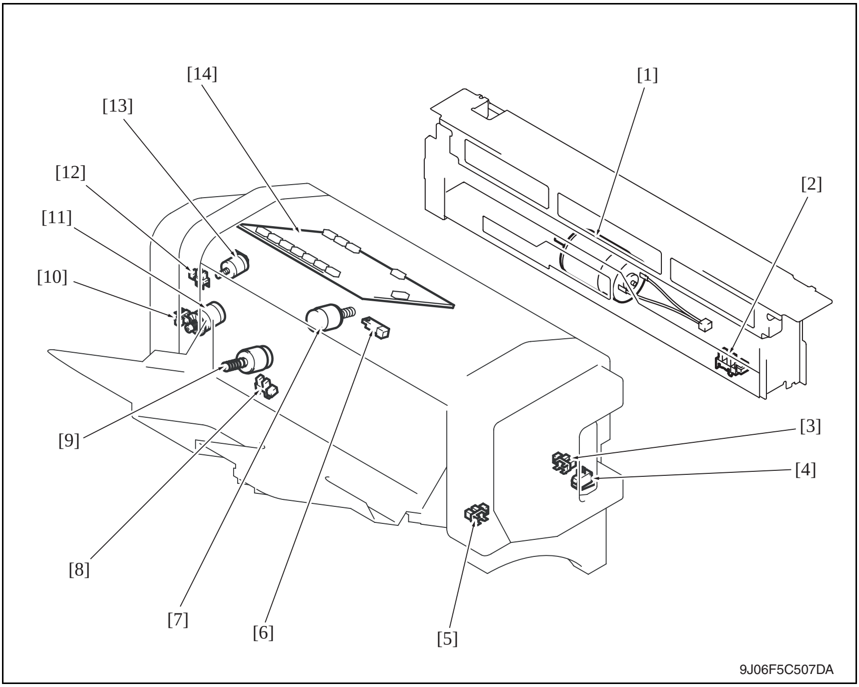
[1] Punch Trash full sensor (PS30)

19.12 MT-502 (option)



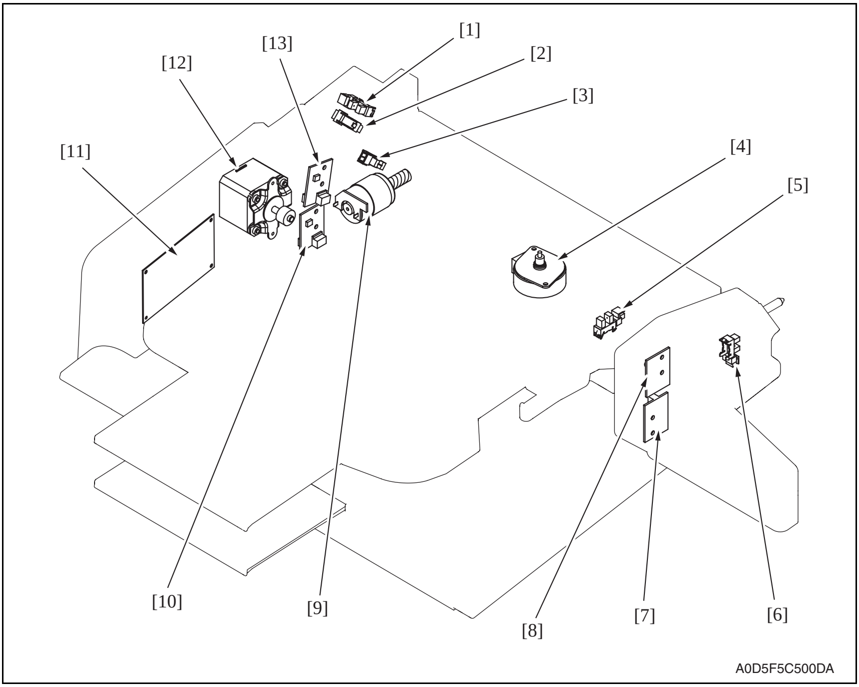
[1]	Cover open/close sensor (PS11)
[2]	Paper full detection sensor 4 (PS8)
[3]	Paper detection sensor 4 (PS4)
[4]	Paper full detection sensor 3 (PS7)
[5]	Paper full detection sensor 2 (PS6)
[6]	Upper transport sensor (PS9)
[7]	Paper full detection sensor 1 (PS5)
[8]	Lower transport sensor (PS10)
[9]	Paper detection sensor 1 (PS1)
[10]	Paper detection sensor 2 (PS2)
[11]	Paper detection sensor 3 (PS3)
[12]	Bin entrance switching solenoid 1 (SD1)
[13]	MT control board (MTCB)
[14]	Bin entrance switching solenoid 2 (SD2)
[15]	Transport motor (M1)
[16]	Bin entrance switching solenoid 3 (SD3)

1 19.13 SD-503 (option)



[1]	Crease motor (M10)	[8]	Saddle tray empty sensor (PS21)
[2]	Crease roller home position sensor (PS22)	[9]	In & out guide motor (M13)
[3]	Layable guide home sensor (PS24)	[10]	Transport pulse sensor (PS25)
[4]	Saddle interlock switch (SW4)	[11]	Saddle exit motor (M8)
[5]	In & out guide home sensor (PS23)	[12]	Saddle exit roller home position sensor (PS18)
[6]	Saddle exit sensor (PS20)	[13]	Saddle exit open/close motor (M9)
[7]	Layable guide motor (M14)	[14]	SD control board (SDCB)

3 19.14 JS-504 (option)



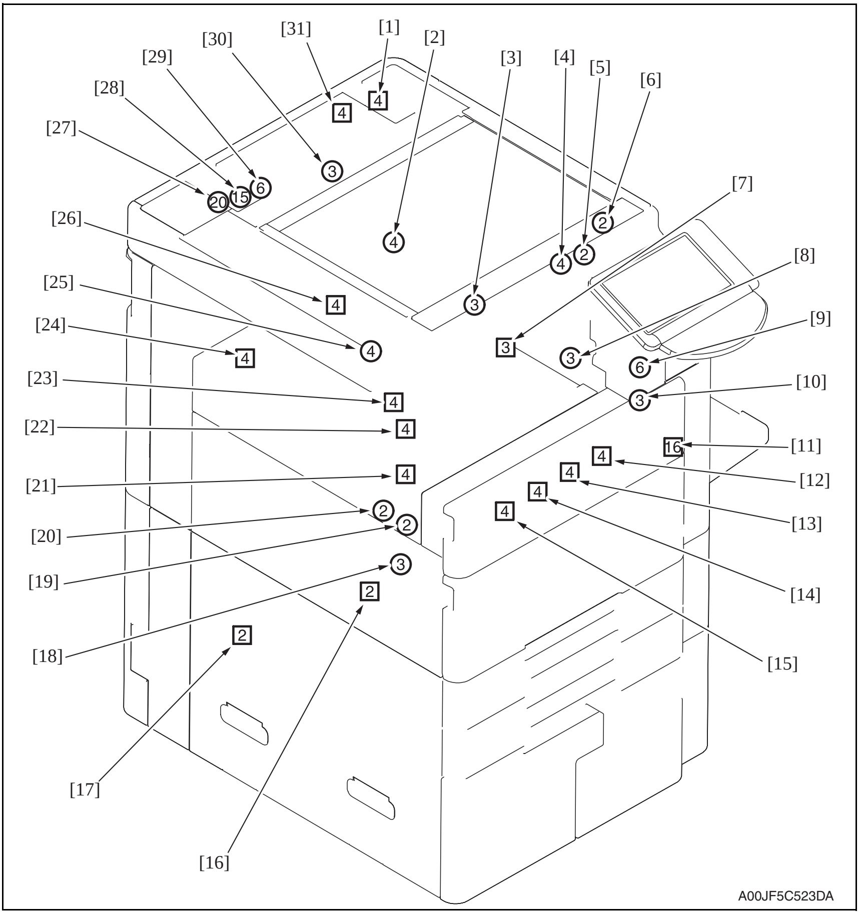
[1]	Upper tray exit sensor (PS2)
[2]	Lower tray exit sensor (PS1)
[3]	Route change home sensor (PS4)
[4]	Shift motor (M2)
[5]	Shift home sensor (PS6)
[6]	Front door sensor (PS3)
[7]	Lower tray paper full detect board/LED (T1FDTB/LED)
[8]	Upper tray paper full detect board/LED (T2FDTB/LED)
[9]	Route change motor (M3)
[10]	Lower tray paper full detect board/PR (T1FDTB/PR)
[11]	JS control board (JSCB)
[12]	Transport motor (M1)
[13]	Upper tray paper full detect board/PR (T2FDTB/PR)

20. Connector layout drawing

Description

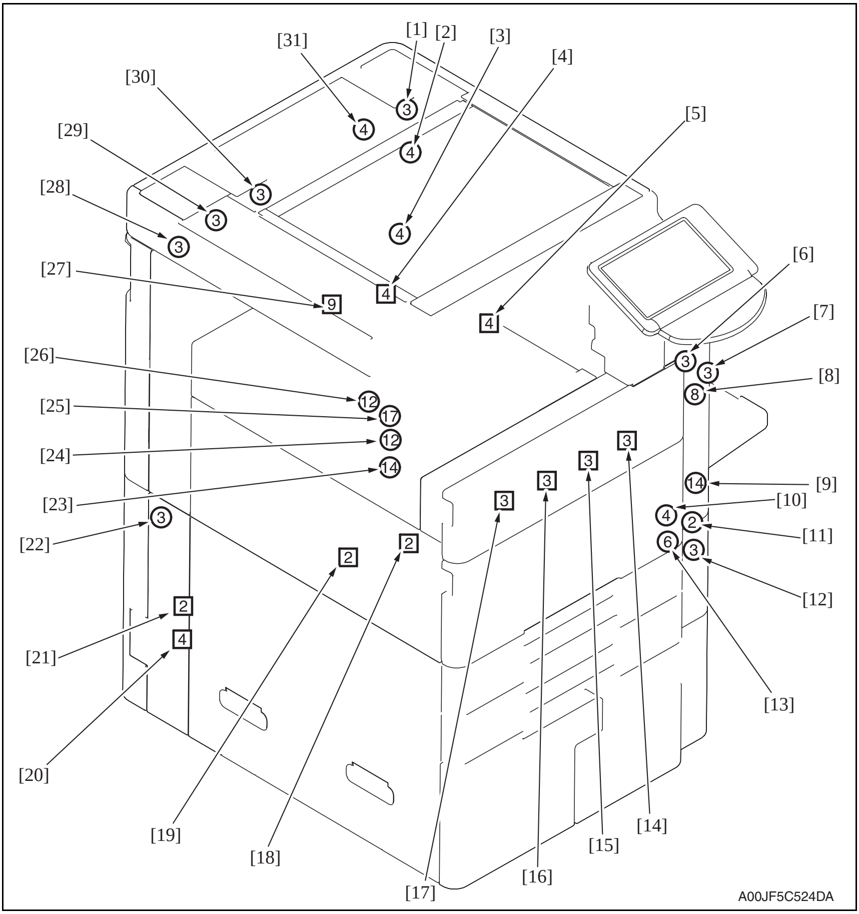
Number of pin → ① Possible to confirm by removing external cover.

→ $\boxed{1}$ Not possible to confirm by removing external cover.



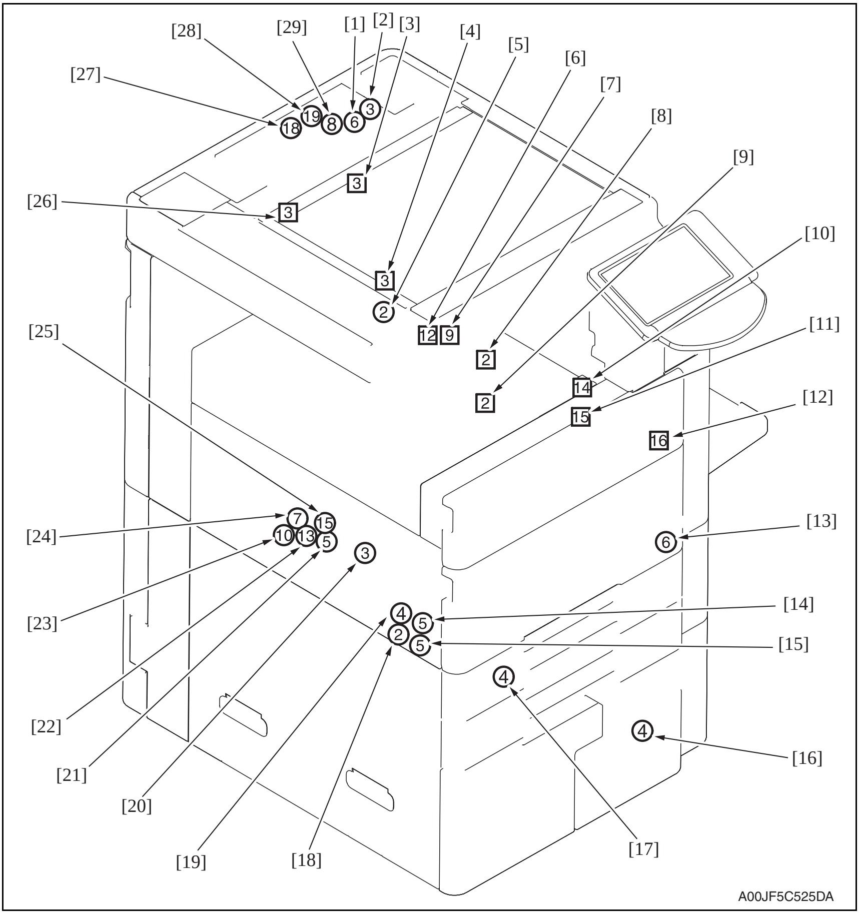
No.	CN No.	Location	No.	CN No.	Location
[1]	CN108	Q-8 to 9	[17]	CN158	U-21
[2]	CN109	Q-9	[18]	CN5	B-7
[3]	CN69	J-2 to 3	[19]	CN56	E to F-27
[4]	CN90	L-25	[20]	CN52	E-25
[5]	CN89	L-24	[21]	CN100	Q-4
[6]	CN138	T-15	[22]	CN98	Q-3
[7]	CN71	J-3	[23]	CN99	Q-3 to 4

No.	CN No.	Location	No.	CN No.	Location
[8]	CN70	J-3	[24]	CN63	J-1
[9]	CN68	J-2 to 3	[25]	CN108	Q-8
[10]	CN73	J-4	[26]	CN61	J-1
[11]	CN40	E-21 to 22	[27]	CN53	F-26
[12]	CN41	D-21 to 22	[28]	CN26	E to F-15 to 16
[13]	CN42	D-22	[29]	CN88	K to L-25
[14]	CN43	D-22	[30]	CN30	E to F-16
[15]	CN44	D-22 to 23	[31]	CN97	Q-2 to 3
[16]	CN159	U-21			



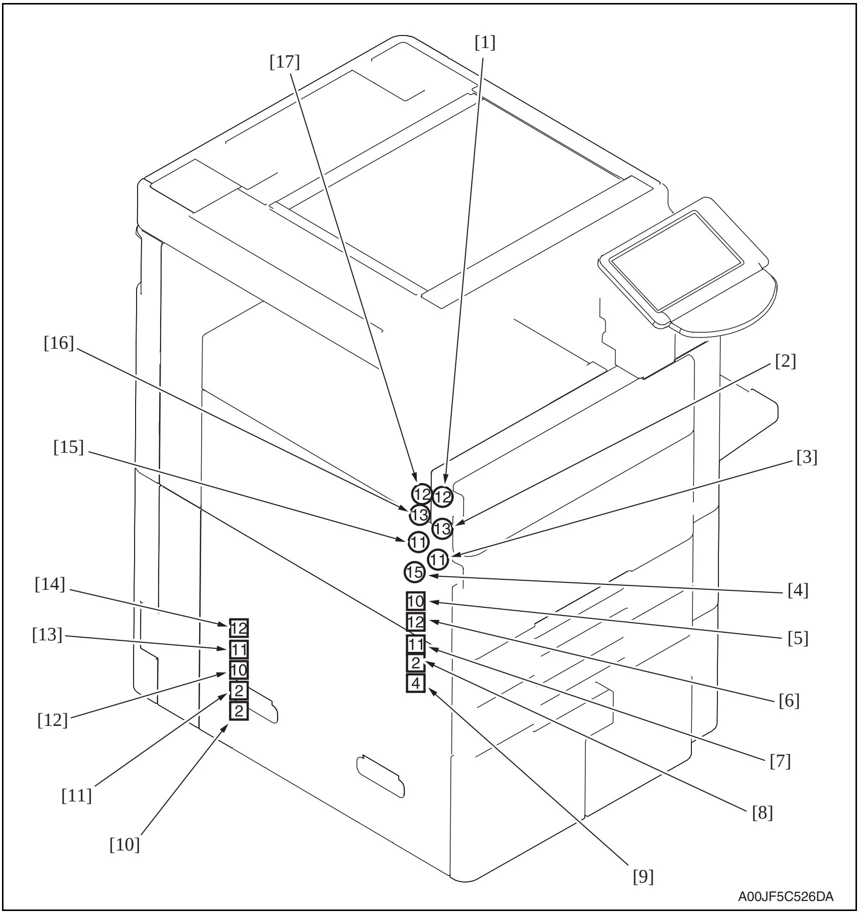
No.	CN No.	Location	No.	CN No.	Location
[1]	CN78	J-6	[17]	CN50	D-24
[2]	CN79	J-6	[18]	CN132	U-10
[3]	CN135	U-11	[19]	CN131	U-10
[4]	CN117	Q-12	[20]	CN157	U to V-20 to 21
[5]	CN111	Q-9	[21]	CN156	U-20
[6]	CN27	D-15 to 16	[22]	CN155	R-28
[7]	CN28	D-16	[23]	CN110	Q to R-9
[8]	CN54	E-25	[24]	CN113	Q to R-10
[9]	CN55	E-26	[25]	CN107	Q to R-8 to 9
[10]	CN147	D-20	[26]	CN67	I-2 to 3
[11]	CN148	D-19	[27]	CN80	I-7 to 8
[12]	CN29	D-16	[28]	CN75	J-5
[13]	CN51	D-E to 24	[29]	CN74	J-5

No.	CN No.	Location	No.	CN No.	Location
[14]	CN47	D-23	[30]	CN77	J-6
[15]	CN48	D-23	[31]	CN76	J-5 to 6
[16]	CN49	D-23			



No.	CN No.	Location	No.	CN No.	Location
[1]	CN64	I-2	[16]	CN27	D-16
[2]	CN91	K to L-25	[17]	CN26	E-15 to 16
[3]	CN66	J-2	[18]	CN58	E-1
[4]	CN32	D to E-17	[19]	CN59	E-1
[5]	CN19	D-11	[20]	CN4	C-7
[6]	CN113	Q to R-10	[21]	CN9	E to F-9
[7]	CN115	Q-11	[22]	CN12	E to F-9 to 10
[8]	CN102	Q-5	[23]	CN18	E to F-11
[9]	CN104	Q-6	[24]	CN15	E to F-10
[10]	CN35	E to F-18 to 19	[25]	CN6	E to F-8
[11]	CN31	E to F-17 to 18	[26]	CN66	J-2
[12]	CN48	D-23	[27]	CN45	F-23 to 24
[13]	CN51	D to E-24	[28]	CN39	E to F-21 to 22

No.	CN No.	Location	No.	CN No.	Location
[14]	CN1	B-2	[29]	CN62	I-1 to 2
[15]	CN2	B-2			



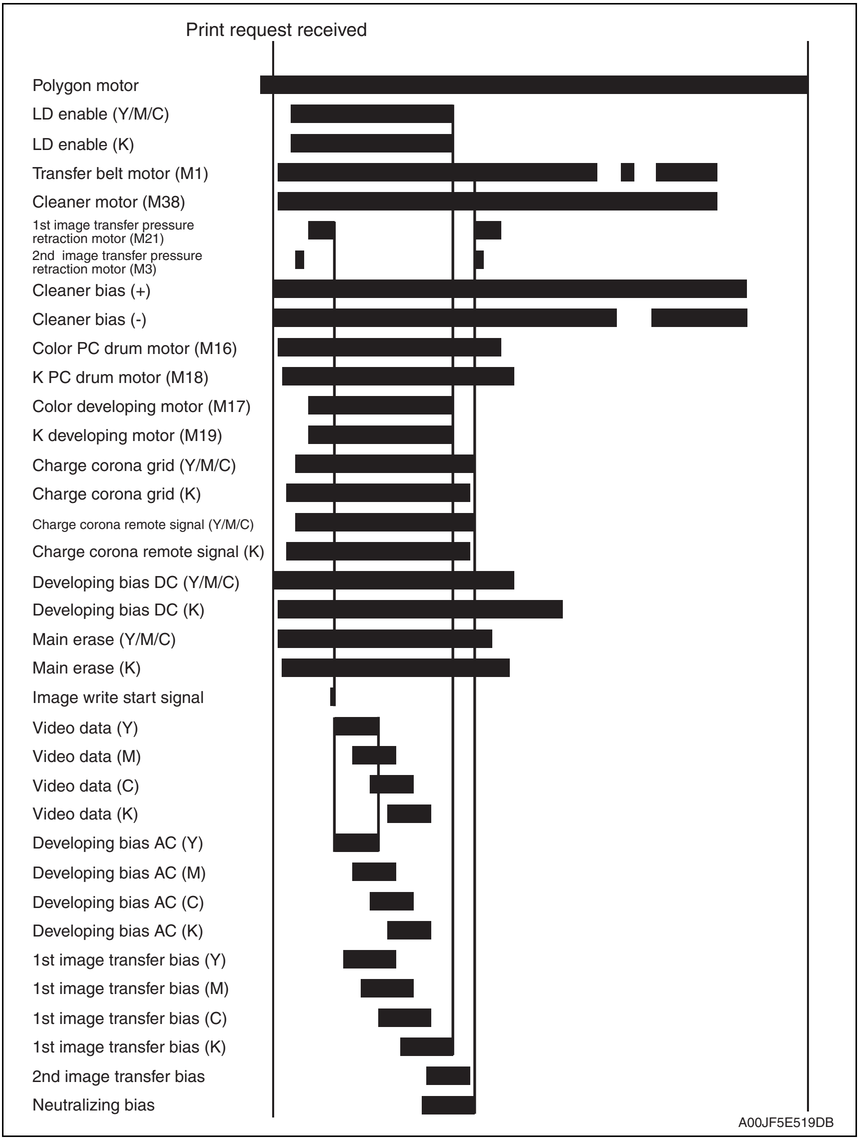
No.	CN No.	Location	No.	CN No.	Location
[1]	CN112	R-10	[10]	CN122	U-7
[2]	CN114	R-11	[11]	CN119	U-5 to 6
[3]	CN105	Q to R-7	[12]	CN118	U-5 to 6
[4]	CN101	Q to R-4 to 5	[13]	CN121	U-6 to 7
[5]	CN123	T-7 to 8	[14]	CN120	T-6 to 7
[6]	CN128	T-8 to 9	[15]	CN103	Q to R-6
[7]	CN129	U-8	[16]	CN116	R-12
[8]	CN124	U-7	[17]	CN72	I-4
[9]	CN125	U to V-8			

21. Timing chart

21.1 Main body

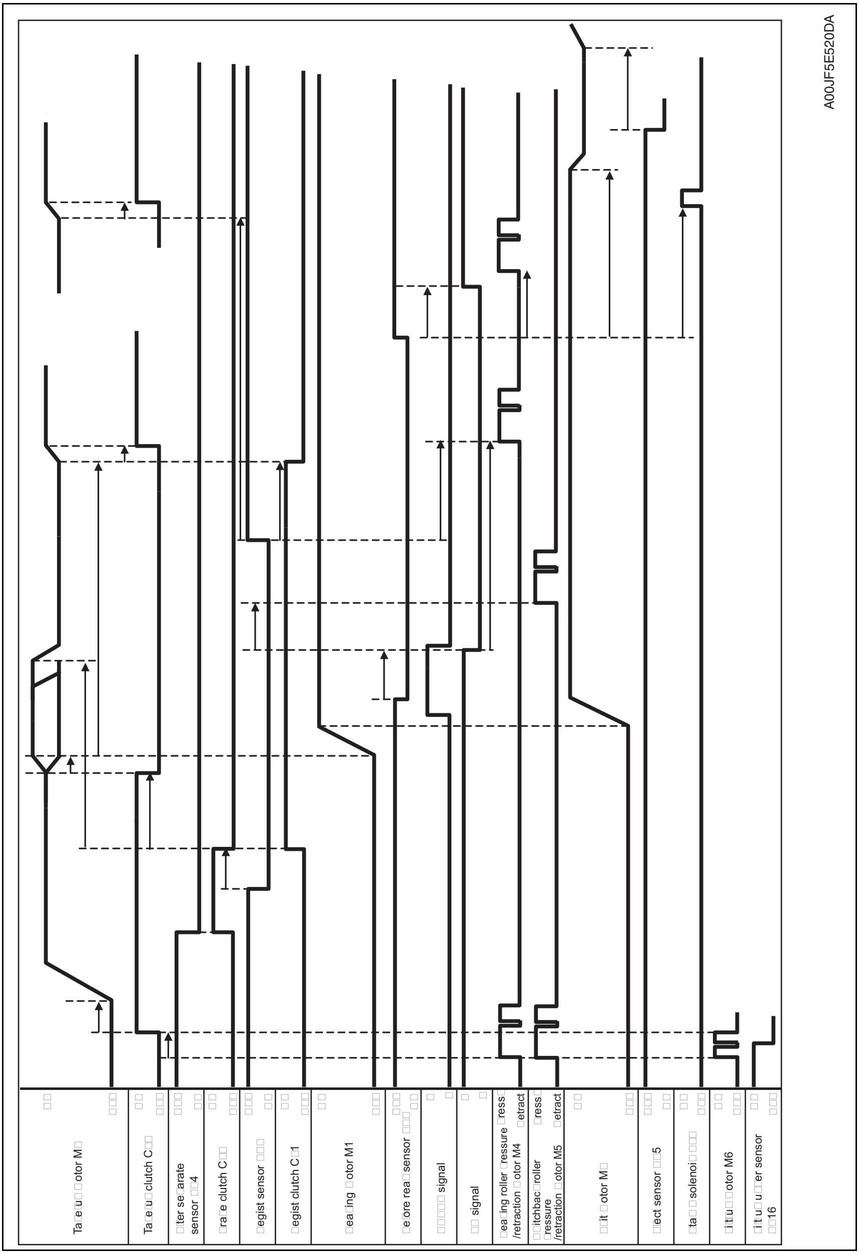
Color mode/A4 or 8 $^1/_2$ x 11/tray1

4

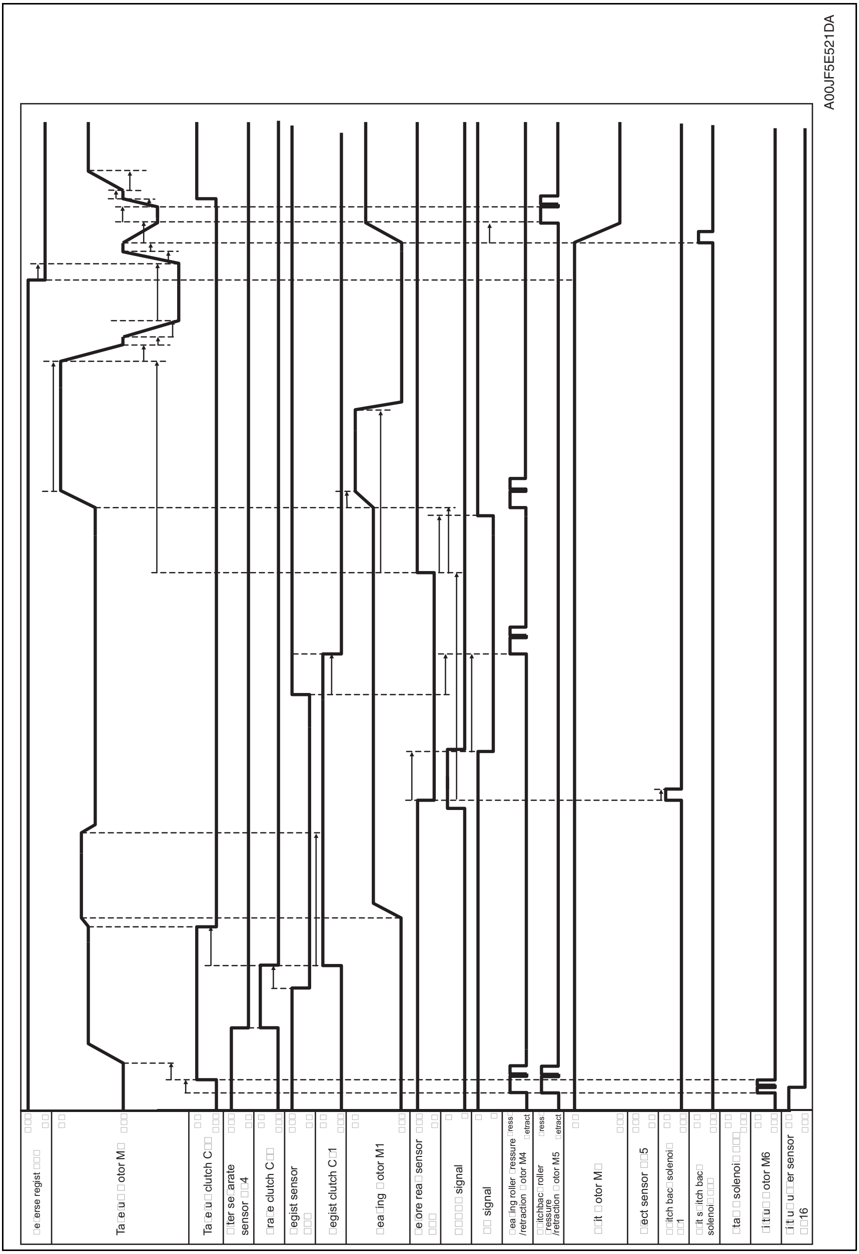


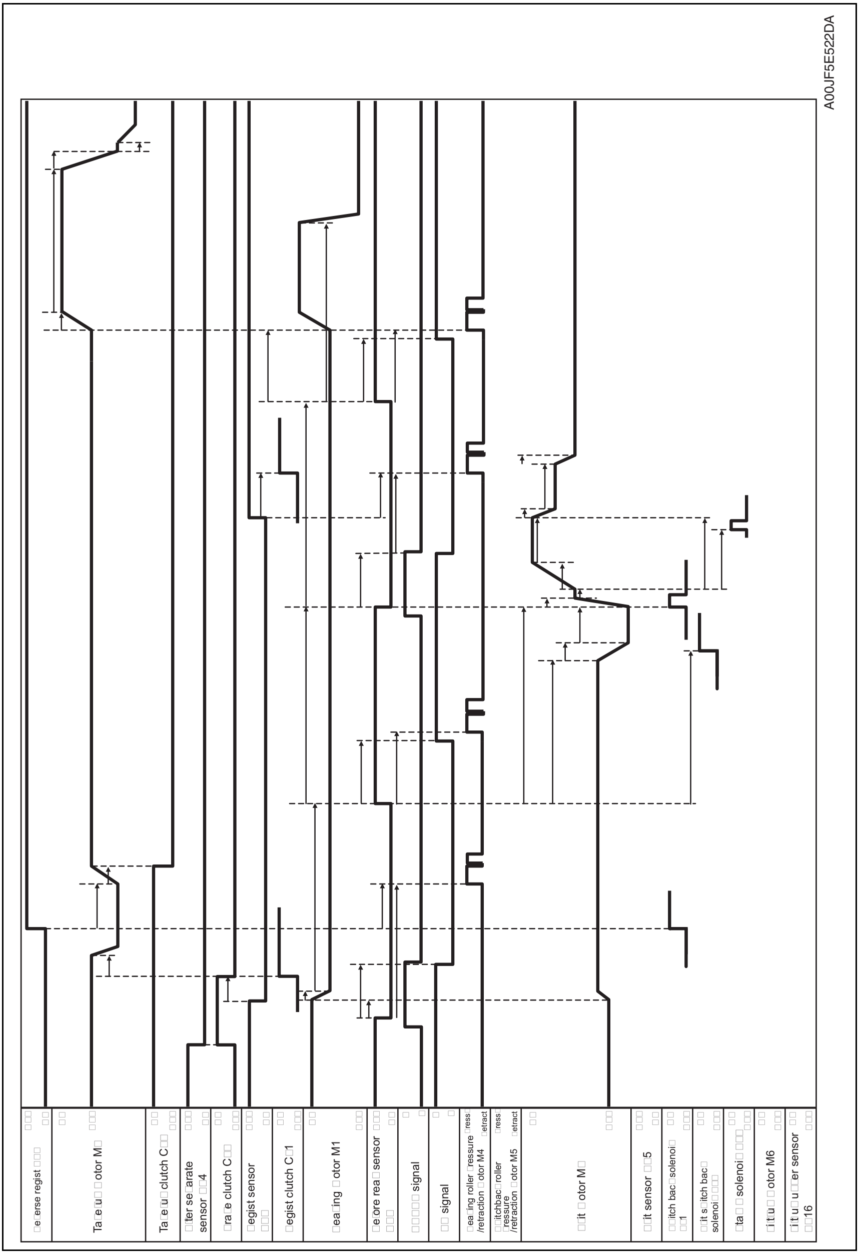
21.2 DF-611/610

21.2.1 1-sided mode



21.2.2 2-sided mode




□e□erse regist □□□
Ta□e□u□ □ □otor M□
Ta□e□u□ clutch C□□
□□ter se□arate sensor □□4
□ra□e clutch C□□
□egist sensor □□□
□egist clutch C□1
□ea□ing □otor M1
□e□ore rea□ sensor □□□
□□□□□ signal
□□ signal
□ea□ing roller □ressure /retraction □otor M4
□□itchbac□roller □ressure /retraction □otor M5
□ress
□etract
□□it □otor M□
□□it sensor □□5
□□itch bac□solenoi□ □□1
□□it s□itch bac□ solenoi□□□□
□ta□ □solenoi□ □□□
□i□t□u□ □ □otor M6
□i□t□u□ u□□er sensor □□16
A00JF5E522DA

KONICA MINOLTA

SERVICE MANUAL FIELD SERVICE

bizhub
C650/C550/C451
Standard controller

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 8.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2008/06	8.0	△7	Description addition of function enhanced version 4 firmware (Card Ver. J8)
2008/05	7.0	△6	Description addition of optional finisher FS-518
2008/03	6.0	△5	Description addition of optional Z-folding unit ZU-603
2008/01	5.0	△4	Description addition of function enhanced version 3 firmware (Card Ver. 88)/Error corrections
2007/08	4.0	△3	Description addition of function enhanced version 2 firmware/Error corrections
2007/05	3.0	△2	Error corrections / Description addition of bizhub C650
2007/04	2.0	△1	Error corrections / Description addition of bizhub C451
2007/02	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

Standard controller

Outline

Maintenance

Troubleshooting

Outline

1. Controller specifications

1.1 Type

Type	Built-in type controller		
△2 Print speed	bizhub C650	Monochrome print	1-sided: 65 prints/min, 2-sided: 65 prints/min
		Color print	1-sided: 50 prints/min, 2-sided: 50 prints/min
	bizhub C550	Monochrome print	1-sided: 55 prints/min, 2-sided: 55 prints/min
		Color print	1-sided: 45 prints/min, 2-sided: 45 prints/min
	bizhub C451	Monochrome print	1-sided: 45 prints/min, 2-sided: 45 prints/min
		Color print	1-sided: 45 prints/min, 2-sided: 45 prints/min
Printer language	PCL5c emulation PCL6 (XL Ver. 3) emulation PostScript 3 emulation (3016)		
Program ROM	64 MB		
RAM	1024 MB		
Hard Disk	60 GB		
Host interface	Ethernet (10Base-T or 100Base-TX) USB 2.0/1.1		
Network protocol	IPX/SPX (Auto, Ethernet II, 802.2, 802.3, 802.3 SNAP) NetBEUI, TCP/IP SMTP. POP3, FTP, SNMP, HTTP 1.1 DHCP, ARP/ICMP, BOOTP, SLP Apple Talk, Bonjour		
Network print service	Pserver (NDS) ... NetWare 4.x, 5.x, 6.x Pserver (Bindery) ... NetWare 4.x NDPS ... NetWare 5.x, 6.x SMB, RAW port printing IPP 1.1, LPD		
Network scan functions	Scan to E-Mail Scan to FTP Scan to SMB Save in User BOX		
Driver	PCL6 printer driver	• Windows 2000 SP3/XP/NT4.0 Server SP6/2003 Server printer driver • Windows NT4.0 SP6 printer driver • Windows XP 64 bit, Windows 2003 Server 64 bit printer driver	
	PS3 printer driver	• Windows 2000 SP3/XP/2003 Server printer driver • Windows XP 64 bit, Windows 2003 Server 64 bit printer driver • MacOS 9.2 PPD file • MacOS X 10.2,3,4 printer driver • MacOS X 10.4 Intel printer driver • Linux PPD file	
Utility	PageScope Web Connection		
Compatible paper size	Max. standard paper size A3 Wide		
Resolution	Equivalent to 1800 dpi in main scanning direction × 600 dpi in sub scanning direction		

Power requirements	Shared with Main body	
Operating environmental requirements	10 to 30 °C (50 to 86 °F) 15 to 85 %	
Fonts	PCL	Latin 80 fonts
	PS	Latin 137 fonts
Options	Not available	

1.2 Supporting client specifications

PC	IBM PC and its compatible, Macintosh		
OS	Server	Windows NT4.0 SP6/2000 SP3/2003 Server/2003 Server 64 bit/XP 64 bit	
	Client	Windows NT4.0 SP6/2000 SP3/XP/XP 64 bit Macintosh OS 9.2 or later, OS X 10.2, 10.3, 10.4 Macintosh OS 10.4 Intel	
Interface	With a network connection	Connection method	Ethernet 10Base-T/100Base-TX
		Protocols	TCP/IP, NetBEUI, IPX/SPX (NetWare 4.x, 5.x, 6.x)
	With a local connection	USB 2.0/1.1	
Browser	PageScope Web Connection Web browsers: Microsoft Internet Explorer 6 or later recommended (JavaScript enabled, Cookies enabled) Microsoft XML Parser MSXML3.X must be installed when using Internet Explorer 5.5. Netscape Navigator 7.02 or later (JavaScript enabled, Cookies enabled) Mozilla Firefox 1.0 or later (JavaScript enabled, Cookies enabled) Macromedia® Flash® (If “Flash” is selected in View Mode, version 7.0 or later plugin is required.)		

NOTE

- **These specifications are subject to change without notice.**

Maintenance

2. Checking the controller firmware version

- The version of the controller firmware can be checked on the Control panel of the machine.

1. Call the Service Mode to the screen.
2. Touch [Firmware Version].
3. Check the firmware versions.

3. Firmware upgrade

3.1 Notes about firmware rewrite

3.1.1 Types of firmware

- Two types of firmware are released for bizhub C650/C550/C451. They are a maintenance release version and an enhanced version.

  Maintenance release version : Addresses remaining problems
  Function enhanced version : Adds new features and includes the contents of the maintenance release version available at the same time
- The function enhanced version firmware is available in four types:
  "Function Enhancement 1", "Function Enhancement 2", "Function Enhancement 3" and "Function Enhancement 4."

- Before rewriting a firmware, check the current firmware version of the machine and confirm the type of the current firmware using CSES.
  Select an appropriate firmware and rewrite the current firmware.

3.1.2 Rewrite to/from a function enhanced version of firmware

- The processing that ensures compatibility is required when upgrading the firmware from the early mass-production one to the function enhanced version or downgrading the firmware from the function enhanced version to the early mass-production firmware.
- Four types of processing to ensure compatibility

  Conversion Up/Conversion Down : Converts and updates management information data to make them compatible with the rewritten firmware. (Necessary processing)
  XPS Enable Format/XPS Disable Format : Performs a logical format of HDD to let the HDD support the printing of XPS files or returns HDD to its original format. (Necessary only for XPS file printing)
  Up Version/Down Version : Expands mode information in order to respond to Scan To WebDAV and Scan To USB (only for Function Enhancement 2/3).
  HDD Version Up (LK) : To maintain the compatibility of management information data and documents stored in HDD after the firmware upgrade. (only for Function Enhancement 3).

NOTE

- **Firmware can be rewritten only through the menu operation on the control panel and cannot be rewritten with the CS Remote Care system.**
- **When XPS Enable Format/XPS Disable Format is performed, HDD is logical formatted. Therefore, font data, macro data, and others that have been installed by users will disappear.**

- Take the following steps to perform processing that ensures compatibility.

A. Upgrade to the function enhancement 1 from the early mass-production firmware (only for bizhub C550/C451)

(1) Conversion Up

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-CC00 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Up].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up.
6. When Conversion Up is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

(2) XPS Enable Format

- After completing Conversion Up, take the following steps if XPS Enable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Enable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Enable Format.
4. When XPS Enable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

B. Upgrade to the function enhancement 2 from the early mass-production firmware

(1) Up Version

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [Up Ver.].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate UP Version.
6. When Up Version is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

(2) Conversion Up (bizhub C550/C451 only)

1. Trouble code C-CC00 is displayed.
2. Call the Service Mode to the screen.
3. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Up].
4. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up.
5. When Conversion Up is completed, the result is displayed on the screen.
6. Turn OFF and ON the main power switch and sub power switch.

(3) XPS Enable Format (bizhub C550/C451 only)

- After completing Conversion Up, take the following steps if XPS Enable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Enable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Enable Format.
4. When XPS Enable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

C. Upgrade to the function enhancement 2 from the function enhancement 1

(1) Up Version

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [Up Ver.].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate UP Version.
6. When Up Version is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

D. Downgrade from the function enhancement 1 to the early mass-production firmware (only for bizhub C550/C451)

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Conversion Down

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Down].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Down.
4. When Conversion Down is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

(2) XPS Disable Format

- After completing Conversion Down, take the following steps if XPS Disable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Disable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Disable Format.
4. When XPS Disable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.

E. Downgrade from the function enhancement 2 to the early mass-production firmware

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Conversion Down (bizhub C550/C451 only)

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Down].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Down.
4. When Conversion Down is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

(2) XPS Disable Format (bizhub C550/C451 only)

- After completing Conversion Down, take the following steps if XPS Disable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Disable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Disable Format.
4. When XPS Disable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

(3) Down Version

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [Down Version].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Down Version.
4. When Down Version is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.
7. Trouble code C-E002 is displayed.
8. Call the Service Mode to the screen.
9. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] → [Logical Format].
10. Check to see that the Start key is lit in blue. Touch the Start key to initiate Logical Format.
11. Turn OFF and ON the main power switch and sub power switch.

F. Downgrade from the function enhancement 2 to the function enhancement 1

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Down Version

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [Down Version].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Down Version.
4. When Done Version is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.
7. Trouble code C-E002 is displayed.
8. Call the Service Mode to the screen.

9. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] → [Logical Format].
10. Check to see that the Start key is lit in blue. Touch the Start key to initiate Logical Format.
11. Turn OFF and ON the main power switch and sub power switch.

G. Upgrade to the function enhancement 3 from the early mass-production firmware

(1) HDD Version Up (LK)

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Version Up (LK)].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate version up.
6. When version up is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

(2) Conversion Up (bizhub C550/C451 only)

1. Trouble code C-CC00 is displayed.
2. Call the Service Mode to the screen.
3. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [Conversion Up].
4. Check to see that the Start key is lit in blue. Touch the Start key to initiate Conversion Up.
5. When Conversion Up is completed, the result is displayed on the screen.
6. Turn OFF and ON the main power switch and sub power switch.

(3) XPS Enable Format (bizhub C550/C451 only)

- After completing Conversion Up, take the following steps if XPS Enable Format needs to be performed.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [↓] → [XPS Enable Format].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate XPS Enable Format.
4. When XPS Enable Format is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.

H. Upgrade to the function enhancement 3 from the function enhancement 1 or 2

(1) HDD Version Up (LK)

1. After rewriting the firmware, turn OFF and ON the main power switch and sub power switch.
2. Trouble code C-E002 is displayed.
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Version Up (LK)].
5. Check to see that the Start key is lit in blue. Touch the Start key to initiate version up.
6. When version up is completed, the result is displayed on the screen.
7. Turn OFF and ON the main power switch and sub power switch.

I. Downgrade from the function enhancement 4 to the function enhancement 3

NOTE

- **Before downgrading the firmware, the following steps are required to be taken.**

(1) Down Ver.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] → [Memory/HDD Adj.] → [Down Ver.].
3. Check to see that the Start key is lit in blue. Touch the Start key to initiate Down Ver.
4. When Done Ver. is completed, the result is displayed on the screen.
5. Turn OFF and ON the main power switch and sub power switch.
6. Rewrite the firmware.
7. Trouble code C-E002 is displayed.
8. Call the Service Mode to the screen.
9. Touch [State Confirmation] → [Memory/HDD Adj.] → [HDD Format] → [Logical Format].
10. Check to see that the Start key is lit in blue. Touch the Start key to initiate Logical Format.
11. Turn OFF and ON the main power switch and sub power switch.

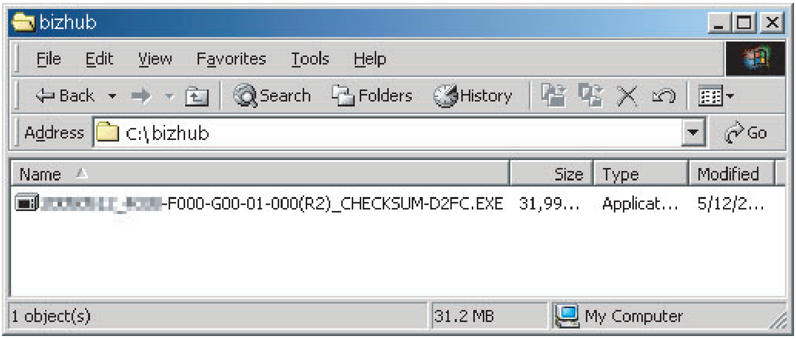
3.2 Preparations for firmware rewriting by Windows Command Prompt

3.2.1 Service environment

- OS: Windows 2000/XP
- Drive which enables writing/reading of compact flash
- Compact flash (service tool)

3.2.2 Writing into the compact flash

1. Put the data of firmware in the optional directory. (C:\bizhub in the below figure)



Address: C:\bizhub

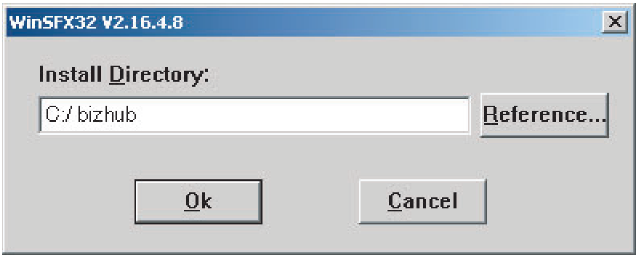
[redacted]-F000-G00-01-000(R2)_CHECKSUM-D2FC.EXE 31,99... Applicat... 5/12/2...

4038F2E562DB

NOTE

- **The file name of firmware data consists of the “Release Date_Version_CHECKSUM-****.exe.”**

2. Double-click the firmware data, and specify the directory to be uncompressed, and then uncompress it.



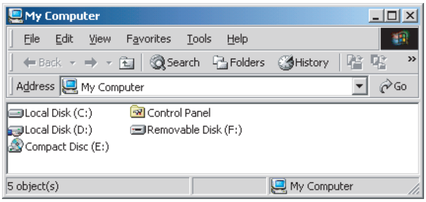
Install Directory: C:/ bizhub

4038F2E563DB

NOTE

- **When old firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**
- **When the firmware data is decompressed, “card_work” folder is created in the selected directory and the data is decompressed in this folder.**

3. Mount the compact flash on the PC, and check the drive name, which was recognized in the Windows. (F-drive in the following figure)



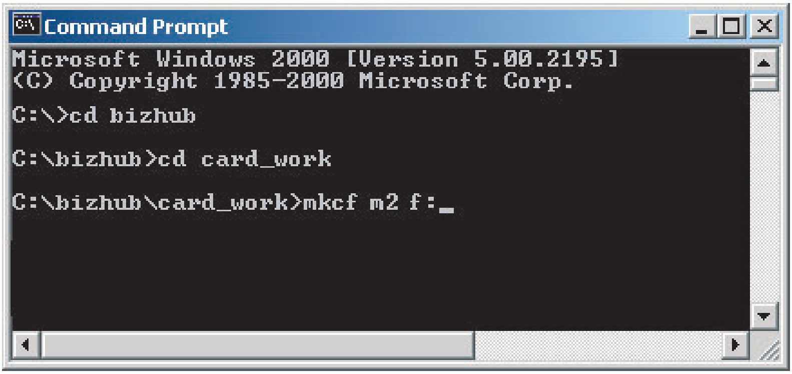
4036fs2623e0

4. Click [Start] → [Program] → [Accessories] → [Command Prompt] to open the command prompt.
5. Use the command prompt to move into the uncompressed directory.
6. Specify the drive of compact flash, which was recognized through the procedure 3, and execute the “mksf.bat.” (Input the C: \bizhub\card_work>mkcf ## f (drive number): in the below figure, and push the “Enter”.)

NOTE

- **For ## within the above mkcf command, type two characters that correspond to the machine model on which firmware upgrading is made.**
  Take a look at the following list to find right characters for a correct command.

Model and command list	
bizhub C650	m1
bizhub C550	m2
bizhub C451	m3

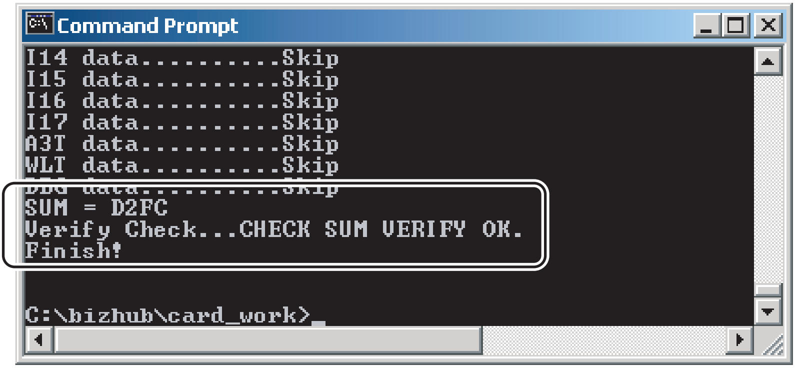


```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.
C:\>cd bizhub

C:\bizhub>cd card_work

C:\bizhub\card_work>mkcf m2 f:_
```

A00JF2E568DA

7. Once the “mkcf.bat” is executed, data writing into the compact flash is started.

8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.



```
I14 data..........Skip
I15 data..........Skip
I16 data..........Skip
I17 data..........Skip
A3T data..........Skip
WLT data..........Skip
DBG data..........Skip
SUM = D2FC
Verify Check...CHECK SUM VERIFY OK.
Finish!

C:\bizhub\card_work>_
```

4038F2E565DB

9. Remove the compact flash from PC.

NOTE

- **When removing the compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

3.3 Preparations for firmware rewriting by Firmware Imaging Toolkit 2006

- This software is designed as the tool to write firmware data of MFP/printer released by KMBT into the compact flash card.

3.3.1 Correspond model

- Correspond models of the software is as follows.

Color machine	• bizhub C650/C550/C451/C450/C353/C352/C351/C350/C300/C253/C250/C203 • bizhub C450P/C353P/C352P/C250P
B/W machine	• bizhub 350/250/200 • Di3510/3510f/3010/3010f/2510/2510f

3.3.2 Function outline

- The following functions are available with this software.

Function type	Function name	Description
Basic functions	Write Firmware to a card	• Write firmware data into the compact flash card. See P.18
	Compare Firmware with a card	• Compare the firmware data written into the compact flash card with the one saved in PC. See P.18
Advanced functions	Create a Firmware Image from a card	• Create the firmware image form using the firmware data written into the compact flash card. See P.19
	Format a card	• Format the compact flash card by the FAT or vxWorks form. **NOTE** • **vxWorks form is not applicable** See P.19
	Display information about a card	• Acquisition the information of firmware data written into the compact flash card. See P.19

3.3.3 System environment

- The following system environments are required or recommended to use the software.

Computer	• IBM PC/AT compatible machine
CPU	• Pentium III / 500 MHz or higher is recommended.
Correspond OS	• Windows 2000, Windows XP or Windows Server 2003
Required memory	• More than 128 MB (Windows 2000), 256MB (Windows XP/2003) is recommended.
Others	• Drive that is able to Read/Write compact flash.

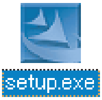
3.3.4 Installation of software

- Follow the procedures shown below to install the software.

NOTE

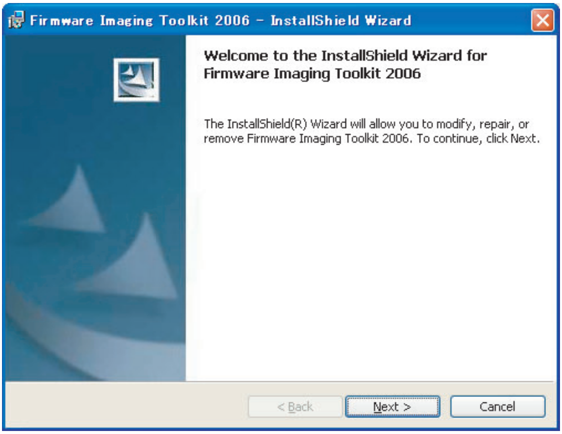
- **Install the software to the PC with the administration authentication.**
- **When any anti-virus program is activated, quite the program before the installation.**

1. Double click [setup.exe] to start the installation of the software.



9J06F2C673DA

2. Click [Next >].

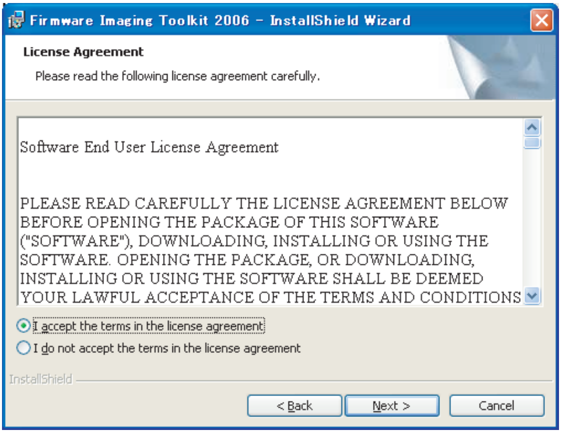

Firmware Imaging Toolkit 2006 – InstallShield Wizard

Welcome to the InstallShield Wizard for Firmware Imaging Toolkit 2006

The InstallShield(R) Wizard will allow you to modify, repair, or remove Firmware Imaging Toolkit 2006. To continue, click Next.

9J06F2E700DA

3. After checking the contents of license agreement, select [I accept the terms in the license agreement] and click [Next >].



Firmware Imaging Toolkit 2006 - InstallShield Wizard

License Agreement

Please read the following license agreement carefully.

Software End User License Agreement

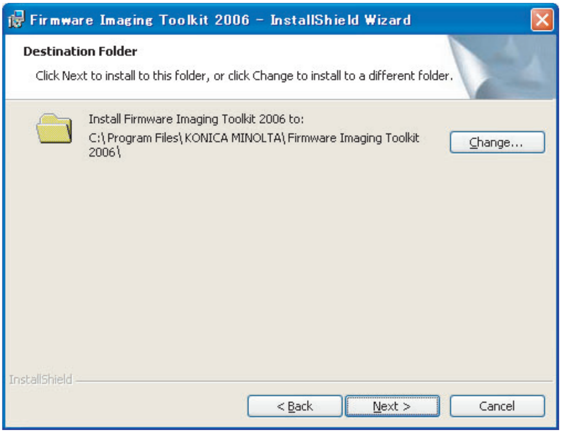
PLEASE READ CAREFULLY THE LICENSE AGREEMENT BELOW BEFORE OPENING THE PACKAGE OF THIS SOFTWARE ("SOFTWARE"), DOWNLOADING, INSTALLING OR USING THE SOFTWARE. OPENING THE PACKAGE, OR DOWNLOADING, INSTALLING OR USING THE SOFTWARE SHALL BE DEEMED YOUR LAWFUL ACCEPTANCE OF THE TERMS AND CONDITIONS

● I accept the terms in the license agreement

○ I do not accept the terms in the license agreement

9J06F2E701DA

4. Select the installed destination folder of Firmware Imaging Toolkit 2006, and click [Next>].



Firmware Imaging Toolkit 2006 - InstallShield Wizard

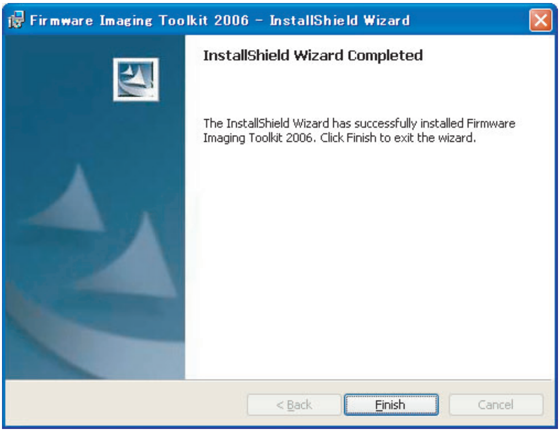
Destination Folder

Click Next to install to this folder, or click Change to install to a different folder.

Install Firmware Imaging Toolkit 2006 to:
C:\Program Files\KONICA MINOLTA\Firmware Imaging Toolkit 2006\

9J06F2E702DA

5. Click [Install] to start installation.
6. Click [Finish] to complete the installation.

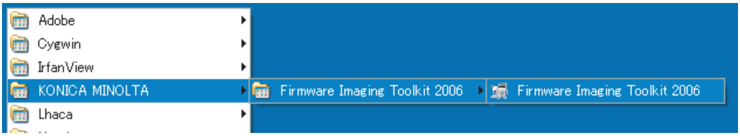


InstallShield Wizard Completed

The InstallShield Wizard has successfully installed Firmware Imaging Toolkit 2006. Click Finish to exit the wizard.

9J06F2E703DA

7. Shortcut file will be created inside Windows Start menu ([Program] → [KONICA MINOLTA] → [Firmware Imaging Toolkit 2006]).



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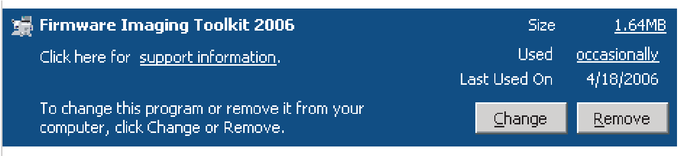
3.3.5 Update of software

- To update the software version, delete (uninstall) the currently installed program and install the new version.
- Follow the procedures shown below to delete (uninstall) the program.

1. Quite the program if the software is activated.
2. Select [Firmware Imaging Toolkit 2006] of [Add/Remove Programs] in Windows Control Panel menu to delete the program.



Firmware Imaging Toolkit 2006

Size 1.64MB

Click here for support information.

Used occasionally

Last Used On 4/18/2006

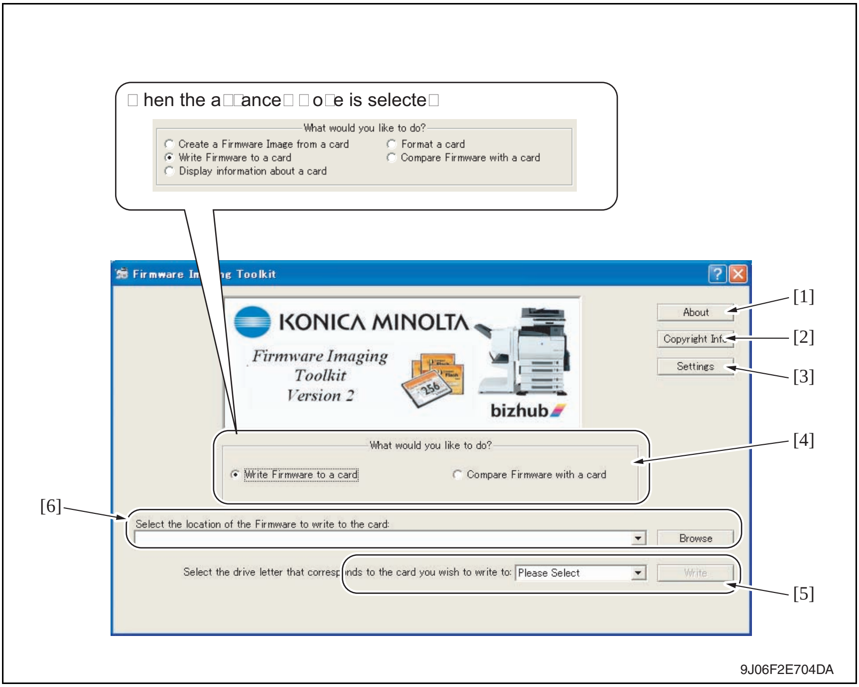
To change this program or remove it from your computer, click Change or Remove.

9J06F2E709DA

3.3.6 Screen

A. Main window

- The main window will be displayed after activating the software.
- Main window consists of 2 patterns: Basic mode, Advanced mode

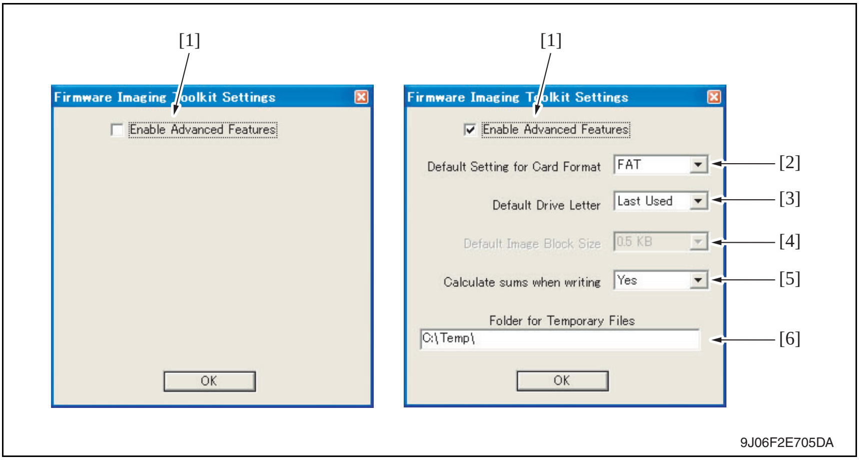

When the advanced mode is selected
What would you like to do?
○ Create a Firmware Image from a card
● Write Firmware to a card
○ Display information about a card
○ Format a card
○ Compare Firmware with a card
Firmware Imaging Toolkit
KONICA MINOLTA
Firmware Imaging Toolkit Version 2
bizhub
About
Copyright Info
Settings
What would you like to do?
● Write Firmware to a card
○ Compare Firmware with a card
Select the location of the Firmware to write to the card:
Browse
Select the drive letter that corresponds to the card you wish to write to: Please Select
Write
[1]
[2]
[3]
[4]
[5]
[6]

9J06F2E704DA

[1]	About	• To display the outline of the tool.
[2]	Copyright Info	• To display the license agreement and version information of the tool.
[3]	Settings	• To display the dialog to enable the advanced functions. • Select the check box of [Enabled Advanced Features] to enable advanced functions at main window. See P.17
[4]	What would you like to do?	• To select the function to be used. • Displayed screen is different between Basic mode and Advanced mode. See P.18
[5]	Select the location of the Firmware to write to the card:	• To select the compact flash drive to which the data to write.
[6]	Select the drive letter that corresponds to the card you wish to write to:	• To select the location where the firmware is stored in PC.

B. Settings dialog

- It will be displayed by clicking [Settings] at main window.
- Other settings will be enabled by selecting the check box of [Enabled Advanced Features].



Firmware Imaging Toolkit Settings

☐ Enable Advanced Features

Firmware Imaging Toolkit Settings

☑ Enable Advanced Features

Default Setting for Card Format: FAT

Default Drive Letter: Last Used

Default Image Block Size: 0.5 KB

Calculate sums when writing: Yes

Folder for Temporary Files: C:\Temp\

[1]	Enable Advanced Features	• Enable the setting of advanced functions at the dialog by selecting the check box. Also advanced functions can be selected at the main window.
[2]	Default Setting for Card Format	• Select the default card format during software starting. FAT : The format to be used by all models that the software supports. vxWorks : Not available yet.
[3]	Default Drive Letter	• Select how to set default of compact flash drive during software starting. LastUsed : The drive used at previous time is selected. None : [Please Select] is displayed on the screen every starting and the drive should be selected every time.
[4]	Default Image Block Size	• Not available yet.
[5]	Calculate sums when writing	• Set whether to calculate check sums during data writing. • If [YES] is selected, data consistency can be ensured by data verification of check sums during data writing. However, it takes more time for data writing compared to the case without sums calculation. (Basically this mode shall be selected.) • If [No] is selected, check sums calculation is skipped during data writing. Although it take less time for data writing compared to the case with sums calculation, it fails to ensure the reliability of the written data.
[6]	Folder for Temporary Files	• Set the folder for saving temporary files during the tool is activating. The temporary file is automatically deleted after the operation completes normally.

3.3.7 Details of each function

A. Basic functions

(1) Write Firmware to a card

- To write FW data into the compact flash. The FW data of the models shown below can be written.
- To write FW data into the compact flash. The FW data of the models shown below can be written.

<Corresponding models and firmware file type>

File type Models	Indexed firmware type	Compressed firmware type	Uncompressed firmware type	Di3510/350/250/ 200 firmware type
C650	Mosel1_cf.tar.gz	*.img.gz	*.img	—
C550	Mosel2_cf.tar.gz			—
C451	Mosel3_cf.tar.gz			—
C353/C353P	Thames1_cf.tar.gz			—
C253	Thames2_cf.tar.gz			—
C203	Thames25_cf.tar.gz			—
C450/C450P/C351	rhein1_cf.tar.gz			—
C352/C352P/C300	rhein2_cf.tar.gz			—
C350	tss2_cf.tar.gz			—
C250/C250P	rhein3_cf.tar.gz			—
Di3510/3510f/3010/ 3010f/2510/2510f	—	—	—	ma001
350/250/200	—	—	—	ma001a

NOTE

- **The above-mentioned [Indexed firmware type] and [Di3510/350/250/200 firmware type] shall be comprised of multiple files and one of the files shall be named as above.**
- **[Compressed firmware type] means the compressed formed image file that is created using the tool's function of the [Create a Firmware Image from a card].**
- **[Uncompressed firmware type] means the image file that is uncompressed the compressed firmware file.**
- **To write the image file data (*.img.gz or *.img) into the compact flash, use the compact flash with the same capacity as the one used for the original image file. Although the compact flash with larger capacity than the original one can be used, it is not covered under warranty.**
- **C350 firmware requires the compact flash over 64 MB.**
- **Firmware of C650/C550/C451/C450/C450P/C353/C353P/C351/C352/C352P/C300/ C253/C250/C250P/C203 requires the compact flash over 128 MB.**

(2) Compare Firmware with a card

- Compare the firmware data written into the compact flash and the one (file) saved in PC.
- After the comparison, display the check sum information (comparison result dialog) of the firmware data of the compact flush and the file.
- The firmware data (file) format saved in PC shall consistent with the one written into the compact flash.

B. Advanced functions

(1) Create a Firmware Image from a card

- Create the image file from the firmware data written into the compact flash.
  Create the image file by dumping directly the data in the card. This function allows us to save the various type of firmware data in the compact flash as the image file and hold as copy data.
- The created FW image file is automatically compressed and created as the Compressed firmware file (*.img.gz).
  The image file is written into the compact flash in the uncompressed form, however, the uncompressed data would occupy too much capacity, which makes file control difficult. Therefore this tool doesn't create uncompressed firmware file (*.img).

(2) Format a card

- Make format of the compact flash in FAT or vxWork form.
- To write the firmware data into the compact flash, the card should be formatted in FAT form to clear (initialize) the description of the compact flash.

NOTE

- **In current version, only FAT format is available but not vxWork format.**
- **After the firmware data is written into the compact flash, it becomes the own file style that is different from the FAT, and the compact flash that the firmware data is written cannot be browsed on the Windows OS.**

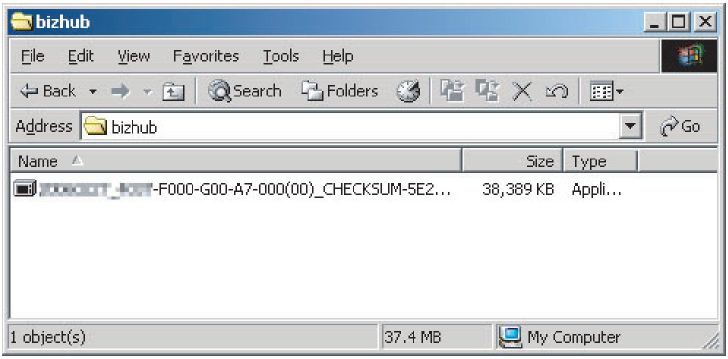
(3) Display information about a card

- Display the information of the firmware data written into the compact flash.
  The information to be displayed is according to the type of written FW data.
- For the series of Di3510/200/250/350 series, MSC version is displayed.
- For the series of C650/C550/C451/C450/C450P/C353/C353P/C351/C352/C352P/C300/C253/C250/C250P/C203, check sums of each firmware data is displayed.

3.3.8 How to write firmware data

4 A. In the case of C650/C550/C451/C450/C450P/C353/C353P/C351/C352/C352P/C300/C253/C250/C250P/C203 series

1. Put the firmware data in the optional directory. (C:\bizhub in the below figure)



Address: bizhub

Name	Size	Type
[redacted]-F000-G00-A7-000(00)_CHECKSUM-5E2...	38,389 KB	Appli...

1 object(s) 37.4 MB My Computer

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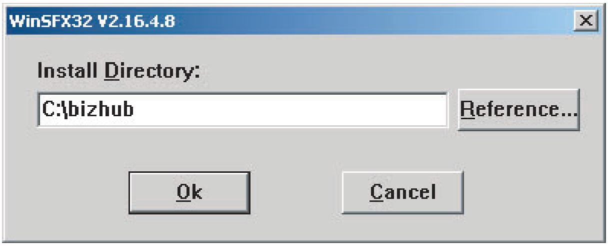
NOTE

- **The file name of firmware data consists of the “Release Date_Version_CHECKSUM-****.exe.”**

2. Double-click the firmware data, and specify the directory to be uncompressed, and then uncompress it.



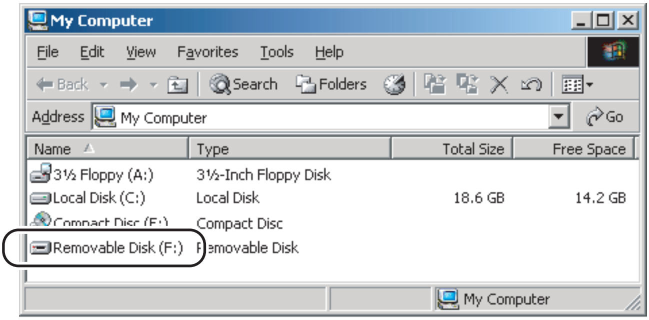
Install Directory: C:\bizhub

9J06F2E711DA

NOTE

- **When old firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

3. Mount the compact flash on the PC, and check the drive name, which was recognized in the Windows. (F-drive in the following figure)



Name	Type	Total Size	Free Space
3½ Floppy (A:)	3½-Inch Floppy Disk		
Local Disk (C:)	Local Disk	18.6 GB	14.2 GB
Compact Disc (E:)	Compact Disc		
Removable Disk (F:)	Removable Disk		

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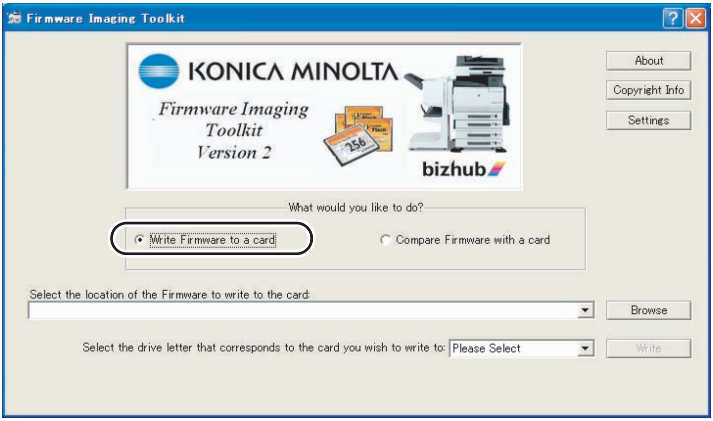
4. Start Firmware Imaging Toolkit 2006.

NOTE

- **When using the external compact flash drive such as USB be sure to connect them before starting this tool.**

5. Select the check box of [Write Firmware to a card].



What would you like to do?

● Write Firmware to a card ○ Compare Firmware with a card

Select the location of the Firmware to write to the card:

Select the drive letter that corresponds to the card you wish to write to: Please Select

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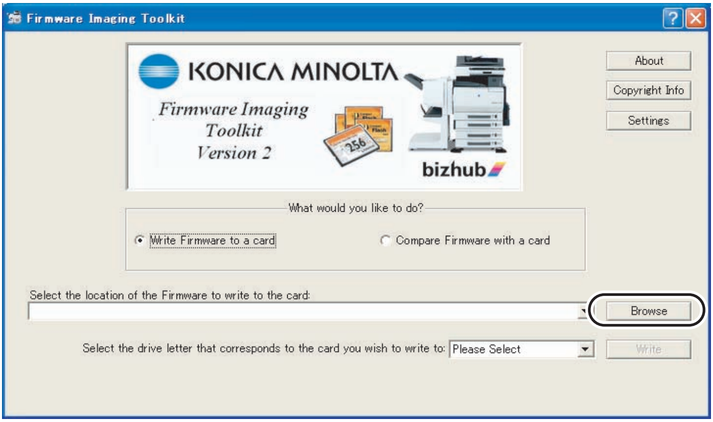
6. Click [Browse].


Firmware Imaging Toolkit
KONICA MINOLTA
Firmware Imaging Toolkit Version 2
bizhub
About
Copyright Info
Settings
What would you like to do?
Compare Firmware with a card
Select the location of the Firmware to write to the card:
Browse
Write

● Write Firmware to a card

Select the drive letter that corresponds to the card you wish to write to: Please Select

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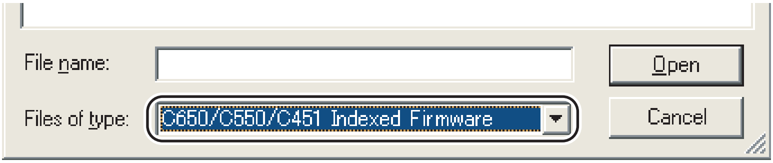
7. Select the file type [C650/C550/C451 Indexed Firmware].



File name:

Files of type: C650/C550/C451 Indexed Firmware

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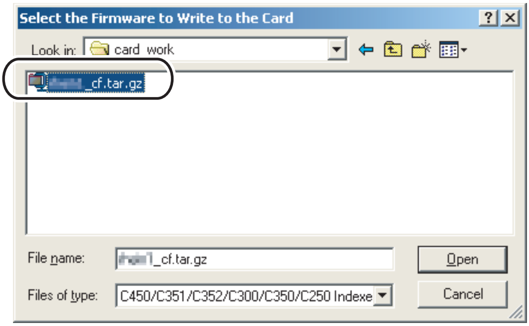
8. Move to the folder decompressed at step 2, confirm that only "###_cf.tar.gz" (### is for model name) is displayed, and select.

NOTE

- **If the file extension is set to be not displayed in Windows, the file name ".gz" will not be displayed.**

9. Click [Open].



Look in: card work

[redacted]_cf.tar.gz

File name: [redacted]_cf.tar.gz

Files of type: C450/C351/C352/C300/C350/C250 Indexe

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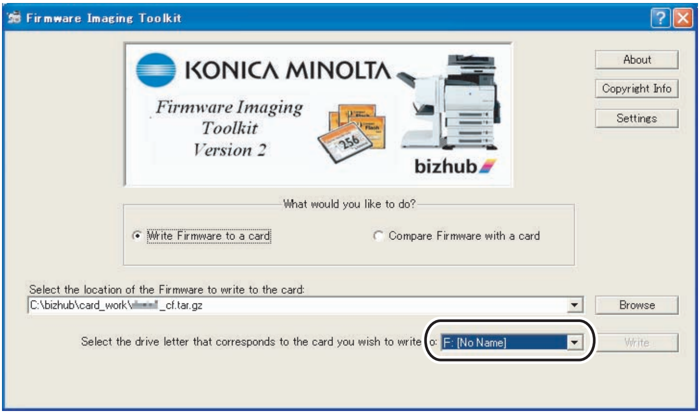
10. Select the drive that the compact flash is inserted, which is confirmed at step 3.

NOTE

- **The drives other than the compact flash that is recognized as "Removable Disk" can be selected for the writing destination. If these drives are selected mistakenly to make the writing, it may give fatal damage on Windows system or delete the saved data. Therefore pay close attention when selecting the drive.**



What would you like to do?

● Write Firmware to a card ○ Compare Firmware with a card

Select the location of the Firmware to write to the card:
C:\bizhub\card_work\[redacted]_cf.tar.gz

Select the drive letter that corresponds to the card you wish to write to: F: [No Name]

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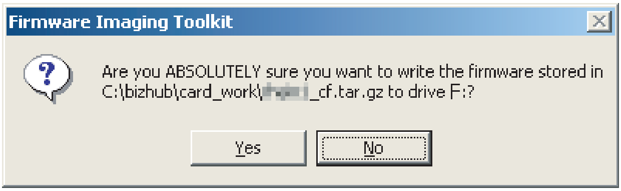
11. [Write] button is changed form gray into active status.
When clicking [Write] button, the following dialog is displayed.
12. In the dialog, re-confirm the firmware data and the written destination drive, and click [YES].
(If [NO] is clicked, the screen goes back of the main window.)



Are you ABSOLUTELY sure you want to write the firmware stored in C:\bizhub\card_work\[redacted]_cf.tar.gz to drive F:?

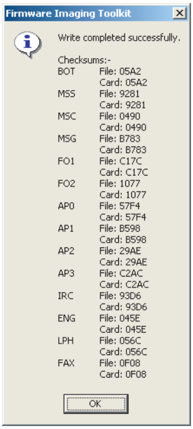
9J06F2E716DA

13. Click [Yes], and data writing starts.

NOTE

- **Writing a card is a resource intensive operation for your computer - do not attempt to multitask (use the computer for anything else) during the writing procedure.**

14. When the writing is completed, the following screen appears.
In this screen, check sums will be compared between the firmware data and one written into the compact flash.



```
Write completed successfully.

Checksums:-
BOT      File: 05A2
         Card: 05A2
MSS      File: 9281
         Card: 9281
MSC      File: 0490
         Card: 0490
MSG      File: B783
         Card: B783
FO1      File: C17C
         Card: C17C
FO2      File: 1077
         Card: 1077
AP0      File: 57F4
         Card: 57F4
AP1      File: B598
         Card: B598
AP2      File: 29AE
         Card: 29AE
AP3      File: C2AC
         Card: C2AC
IRC      File: 93D6
         Card: 93D6
ENG      File: 045E
         Card: 045E
LPH      File: 056C
         Card: 056C
FAX      File: 0F08
         Card: 0F08
```

NOTE

- **The contents displayed on the screen may different according to the model type. The above is the screen displayed for firmware data writing of bizhub C450.**

15. Confirm each check sums are identical and quit Firmware Imaging Toolkit 2006.
16. Take out the compact flash from the PC.

NOTE

- **When removing the compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

3.4 Firmware rewriting by compact flash

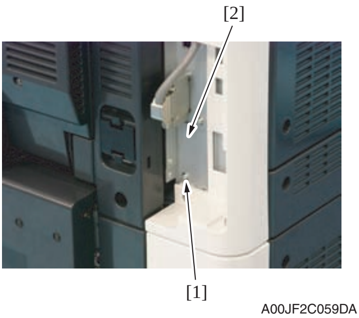
- The firmware is updated using the compact flash.

3.4.1 Updating method

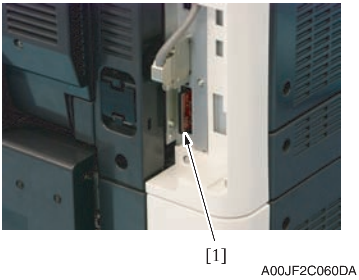
NOTE

- **NEVER remove or insert the compact flash card with the machine power turned ON.**

1. Turn OFF the main power switch.
2. Remove the interface cover.
   See P.115 of the main body service manual.

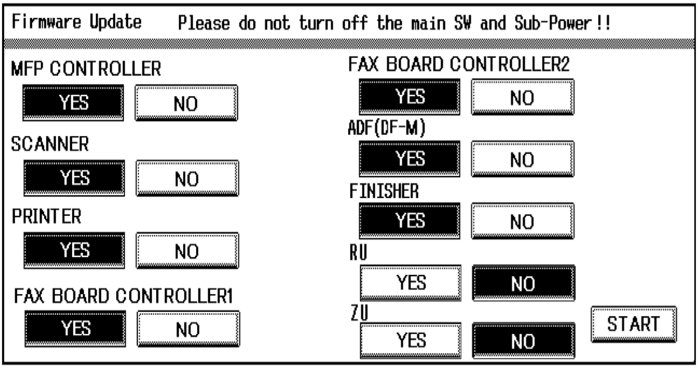


3. Remove the screw [1] and the metal blanking plate [2].



4. Insert the compact flash card [1] into the slot.
5. Turn ON the main power switch and the sub power switch.
6. Control panel shows F/W items to be updated.

7. Select the particular type of F/W to be updated. (Select [YES].)



Firmware Update Please do not turn off the main SW and Sub-Power !!

MFP CONTROLLER: ● YES ○ NO

SCANNER: ● YES ○ NO

PRINTER: ● YES ○ NO

FAX BOARD CONTROLLER1: ● YES ○ NO

FAX BOARD CONTROLLER2: ● YES ○ NO

ADF(DF-M): ● YES ○ NO

FINISHER: ● YES ○ NO

RU: ○ YES ● NO

ZU: ○ YES ● NO

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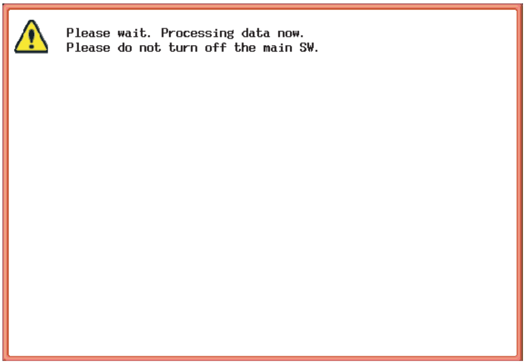
F/W to be updated	Appropriate board
MFP CONTROLLER	MFP board (MFPB)
SCANNER	Image processing board (IPB)
PRINTER	Printer control board (PRCB)
FAX BOARD CONTROLLER1	Fax board (Main) *1
FAX BOARD CONTROLLER2	Fax board (Sub) *2
ADF (DF-M)	DF control board (DFCB)
FINISHER	FNS control board (FSCB) *3 FS control board (FSCB) *4
RU	Transfer control board (TRCB) *3
ZU	ZU control board (ZUCB) *5

*1: The optional fax kit is necessary for the above procedure.
*2: The optional fax multi line ML-501 is necessary for the above procedure.
*3: The optional finisher FS-517/518/608 is necessary for the above procedure.
*4: The optional finisher FS-519 is necessary for the above procedure.
*5: The optional Z-folding unit ZU-603 is necessary for the above procedure.

8. Press the [START]. (At this time, the Start key starts blinking red.)
9. Check that the control panel shows the message indicating that the data has been rewritten correctly ([Downloading Completed]). Check also the check sum value ([Check Sum ####]) shown on the control panel. (The Start key blinks blue.)
10. Turn OFF the main power switch.
11. Remove the compact flash card from the slot.
12. Turn ON the main power switch, and close the front door.

NOTE

- **When turning the main power switch ON for the first time after the firmware is updated, data may sometimes be internally updated.**
  In that case, the following message will be displayed. Never turn the main power switch OFF until either the serial number input screen or the trouble code screen is displayed.



Please wait. Processing data now.
Please do not turn off the main SW.

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13. Call the Service Mode to the screen.

14. Select [Firmware Version].

15. Make sure if the version of firmware is updated.

3.4.2 Action when data transfer fails

- If “NG” appears on the control panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the compact flash for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

MFP CONTROLLER	MFP board (MFPB)
SCANNER	Image processing board (IPB)
PRINTER	Printer control board (PRCB)
FAX BOARD CONTROLLER1	Fax board (Main) *1
FAX BOARD CONTROLLER2	Fax board (Sub) *2
ADF (DF-M)	DF control board (DFCB)
FINISHER	FNS control board (FSCB) *3 FS control board (FSCB) *4
RU	Transfer control board (TRCB) *3
ZU	ZU control board (ZUCB) *5

*1: The optional fax kit is necessary for the above procedure.
*2: The optional fax multi line ML-501 is necessary for the above procedure.
6 *3: The optional finisher FS-517/518/608 is necessary for the above procedure.
*4: The optional finisher FS-519 is necessary for the above procedure.
*5: The optional Z-folding unit ZU-603 is necessary for the above procedure.

3.5 Updating the firmware with the Internet ISW

3.5.1 Outline

- [Internet ISW] is the system which gives the instruction for updating the firmware with the control panel of the main body, so the main body will automatically receive the firmware from the program server over a network for updating. With the Internet ISW, the firmware can be updated when the CE is at the user's without firmware data.

3.5.2 Service environment

The following conditions are necessary for using the Internet ISW function.

- The main body is connected to such a network environment that the firmware can be downloaded on the internet using the ftp or http protocol.

The "Internet ISW" will not operate under the following conditions.

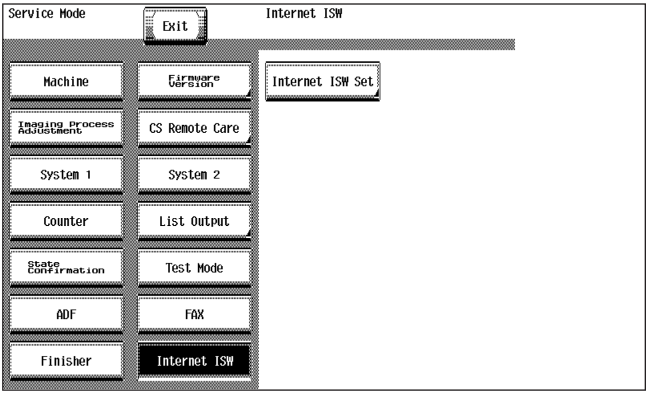
- Main power switch is set to OFF.
- Sub power switch is set to OFF.
- When the following setting is set to "ON":
  [Administrator Setting] → [Security Setting] → [Enhanced Security Mode]
- The main body has the job currently performing.

3.5.3 Preparations for firmware rewriting

- For using the Internet ISW, the network parameter, program server address as well as firewall address need to be set to the main body.
- For details of each setting item, refer to Adjustment/Setting "Internet ISW".
  See P.542 of the main body service manual.

A. Internet ISW Set

1. Call the Service Mode to the screen.
2. Touch [Internet ISW Set] which is available from [Internet ISW].



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3. Touch [ON], and touch [END].

NOTE

- **Settings such as server setting, etc. will be available by selecting "ON" on this setting.**
- **When the following setting is set to "ON", "ON" cannot be selected on this setting. [Administrator Setting] → [Security Setting] → [Enhanced Security Mode]**

B. Protocol setting

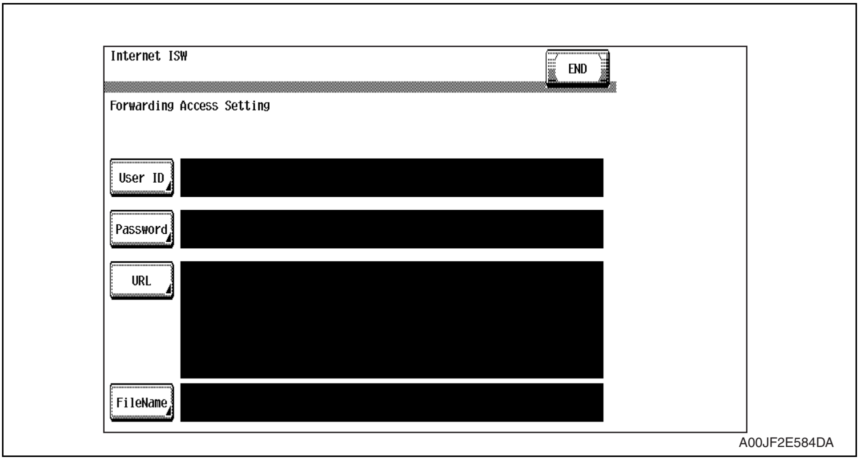
- **It performs the setting concerning the protocol (ftp or http) for connecting to the Internet ISW.**
- **When connecting to the program server using a proxy server, perform the setting for a proxy server.**

Step	Connecting by http	Connecting by ftp
0	Select [Internet ISW] which is available from [Service Mode].	
1	Data Input Setting • Touch [HTTP Setting], and select [ON].	Data Input Setting • Touch [FTP Setting], and select [ON].
2	Connect Proxy • For connecting via proxy server, select [ON].	
3	Proxy Server • For connecting via proxy server, set the proxy server address and the port number. *1.* Select the [Server Address], and set the proxy server address by IP addressing scheme or FQDN scheme. *2.* Select [Port Number], and set the port number for the proxy server from 1 through 65535.	
4	Proxy Authentication • Set the login name and the password which may be necessary for authentication when accessing to the proxy server. *1.* When Authentication is necessary for accessing to the proxy server, select [Authentication], and select [ON]. *2.* Select [Log-in Name], and enter the login name on the on-screen keyboard. *3.* Select [Password], and enter the password on the on-screen keyboard.	Connection Setting • Perform the setting for accessing FTP server. *1.* Select [Port Number], and set the port number for FTP server from 1 through 65535. *2.* Select [Connection Time Out], and set the time for the connection time out from 1 through 60. *3.* When connecting in PASV mode, select [PASV Mode], and select [ON]. *PASV Mode: This mode is for transferring the file with FTP under the condition where communication is restricted such as inside the firewall. Since with PASV mode, the client with restriction sets the port number, data transmission port can be secured to enable the file transmission.
5	Connection Time-Out • Select [Connection Time-Out], and set the time for the connection time out between 30 and 300 seconds.	—

C. Forwarding access setting

- To make the access setting for the program server which stores the firmware data.

1. Select [Internet ISW] which is available from [Service Mode].
2. Touch [Forwarding Access Setting].



3. Select [User ID], and enter the user ID which is necessary for connecting to the program server on the on-screen keyboard, and touch [END].
4. Select [Password], and enter the password which is necessary for connecting to the program server on the on-screen keyboard, and touch [END].
5. Select [URL], and enter the directory which stores the program server address and the firmware on the on-screen keyboard by URL method, and touch [END].

NOTE

- **Enter the URL which matches to the protocol to be used.**
  When connecting to http http://(host name or IP address)/directory name
  or https://(host name or IP address)/directory name
  When connecting to ftp ftp://(host name or IP address)/directory name

6. Select [File Name], and enter the file name of the firmware data to be downloaded on the on-screen keyboard, and touch [END].
7. Touch [END] to finish setting.

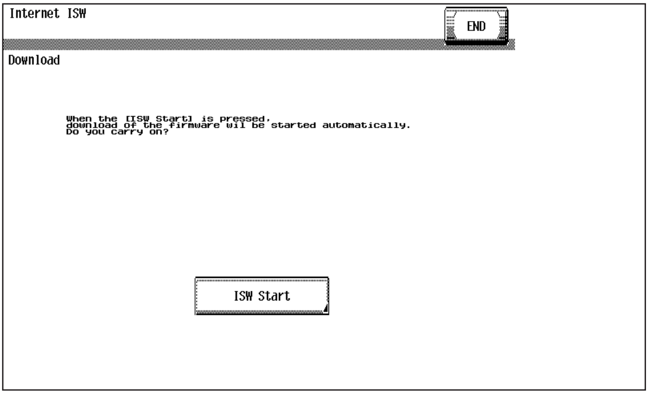
3.5.4 Firmware rewriting

NOTE

- **When performing the Internet ISW, ask the administrator for permission beforehand.**
- **DO NOT turn OFF the main/sub power switch while downloading.**

A. Conducting rewriting on the control panel.

1. Perform the following setting.
   [Service Mode] → [Internet ISW] → [Download]
2. Touch [ISW Start].



When the [ISW Start] is pressed,
download of the firmware wil be started automatically.
Do you carry on?

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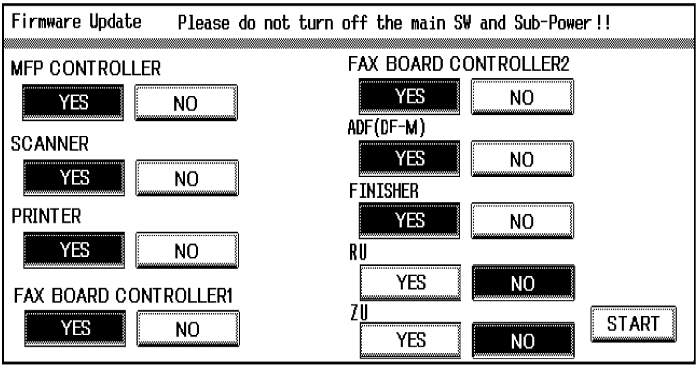
3. The main body will automatically start running, and it starts accessing the server.
4. Select the F/W to be updated, and start downloading.



Please do not turn off the main SW and Sub-Power !!

MFP CONTROLLER: [✓ YES] NO
SCANNER: [✓ YES] NO
PRINTER: [✓ YES] NO
FAX BOARD CONTROLLER1: [✓ YES] NO
FAX BOARD CONTROLLER2: [✓ YES] NO
ADF(DF-M): [✓ YES] NO
FINISHER: [✓ YES] NO
RU: YES [✓ NO]
ZU: YES [✓ NO]

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B. During firmware updating

1. The message to indicate the status will be displayed on the screen while connecting or transferring data.

C. Completed or failed

(1) Firmware updated normally

1. When the Firmware is normally updated, restart the main body in auto or manual mode to display the outcome, and touch [OK] to return to the main screen.

(2) Failing to update the firmware due to the network trouble

1. When updating failed to complete due to the trouble on connecting to the network, an error code and the message will be displayed.
2. Restart the main body in auto or manual mode, and touch [OK]. It can be used with the firmware version before conducting updating.
3. Check the settings for the network by error codes, and try updating again.

NOTE

- **For error codes, refer to “Error code list for the Internet ISW”.**

See P.34

(3) Failing to update the firmware after downloading has started

1. Once firmware updating has started, the ROM in the main body will be deleted.
   When it failed right after updating has started, restart the main body, and shift to the standby screen to retry downloading.
2. When updating on the control panel, touch [settings] on the standby screen, and check the Network settings again.
   Touch [Download], and restart the Internet ISW.

NOTE

- **Return to the standby screen without fail after turning the main power switch OFF/ON if the firmware is not updated.**
- **Firmware can be updated with the Compact flash with the main power switch OFF.**

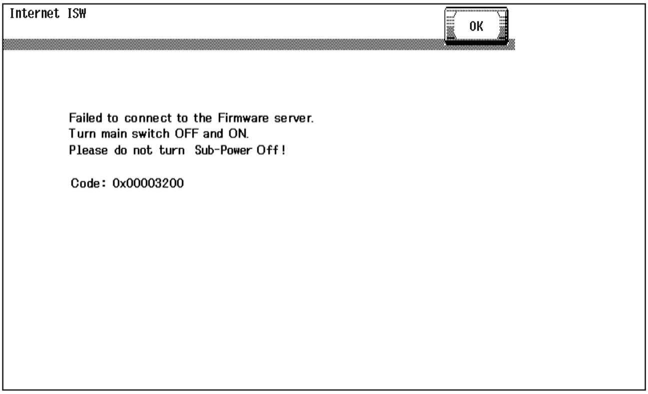
D. Confirming the firmware version

1. Call the Service Mode to the screen.
2. Select the [Firmware Version].
3. Check if the firmware version is updated.

3.5.5 Error code list for the Internet ISW

- When a trouble occurred while conducting the Internet ISW and it was not normally connected, the message on the status and the error code will be displayed on the control panel.
  When updating with CS Remote Care, the error code will be sent to the CS Remote Care center.

<Sample display>



Failed to connect to the Firmware server.
Turn main switch OFF and ON.
Please do not turn Sub-Power Off !

Code: 0x00003200

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Error code	Description	Countermeasure
Control panel		
0x00000001	Illegal error on the control	• Check if the following setting is set to "Valid". [Service Mode] → [Internet ISW] → [Internet ISW setting] • Check the status of the following setting. [Service Mode] → [Internet ISW] → [Transfer access setting] • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x00000010	Parameter error	• Check if the following setting is set to "Valid". [Service Mode] → [Internet ISW] → [Internet ISW setting] • If the above process does not solve the problem, inform the corresponding error code to KONICA MINOLTA.

Error code Control panel	Description	Countermeasure
0x00111000	Error concerning the network • Connection has been completed.	• Check the User's network environment. (LAN cable's connection) • Check the status of the following setting. [Service Mode] → [Internet ISW] → [Transfer access setting] • Check to see if the FTP server operates normally.
0x00111001	Error concerning the network • It cannot be connected to the server.	• Check the network environment of the User. • Check to see if the FTP server operates normally.
0x00111100	Error concerning the network • Communication timeout.	
0x00111101	Error concerning the network • Disconnection occurred	• Check the network environment of the User. • Check to see if the FTP server operates normally.
0x00111110	Error concerning the network • The network is not connected.	
0x00110010	Error concerning the network • Others	
0x00001###	FTP error • Reply code when it failed to be connected	• Check to see if FTP server normally operates. • Check the IP address, user's name, etc.
0x00002###	FTP error • Error reply code for the user command or pass command	• Check to see if FTP server operates normally.
0x00003###	FTP error • Error reply code for CWD command	
0x00004###	FTP error • Error reply code for the TYPE command.	• Check to see if FTP server operates normally.
0x00005###	FTP error • Error reply code for the PORT command.	
0x00006###	FTP error • Error reply code for the PASV command.	• Check to see if FTP server operates normally. • Set the PASV mode to "Invalid", and try it again.
0x00007###	FTP error • Error reply code for the RETR command.	• Check to see if FTP server operates normally. • Wait for about 30 minutes and try it again.
0x1000 0100	• It cannot be accepted because of the job currently being executed. • ISW being executed by other method.	• Wait for the current job to be completed and try it again.
0x10000101	• It cannot be accepted because the sub power switch is OFF.	• Turn sub power switch ON and try it again.
0x10000102	• The Internet ISW is already being executed.	• Wait for the current Internet ISW to be completed.

Error code Control panel	Description	Countermeasure
0x10000103	• It failed to prohibit the job. (It failed to lock the operation.) → It failed to lock the job because the operation is already locked with PSWC, etc.	• Check if the following setting is set to “Valid”. [Service Mode] → [Internet ISW] → [Internet ISW setting] • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x10000104	• There is no space for F/W data to be downloaded.	
0x10000106	• Check sum error	
0x10000107	File access error • The file downloaded has an error. • The header of the file which has been read has an error. • The size of the file to be downloaded is too large. • When it is identified to be the different type of F/W.	• Check to see if the downloaded F/W is of the correct type.
0x10000108	• The area F/W is stored is destroyed, and another ISW is necessary.	• Wait until ISW is automatically executed on MFP side.
0x20000000	The temporary error when running the subset • When starting the Internet ISW in a normal program, the rebooting will start and the Internet ISW will be executed with the subset program. During the process by the subset program, it has to be in the “Failed” status unless the Internet ISW is successfully conducted. This code is used temporarily to make it in error status.	

Troubleshooting

4. Checking the system configuration

- When a malfunction occurs, let the printer print a configuration page to check for system configuration.

1. Press the Utility/Counter key.
2. Touch [User Setting] → [Printer Setting] → [Print Reports].
3. Touch [Configuration Page] and press the Start key.

5. Status codes

Code	Description	Action
CA051	Standard controller configuration failure	Change the MFP board (MFPB).
CA052	Faulty controller hardware	Change the MFP board (MFPB).
CA053	Controller start failure	Change the MFP board (MFPB) if the problem occurs again when turning OFF the main power switch and turn it ON again more than 10 seconds after.

See P.605 of the main body service manual.

6. Troubleshooting procedures

6.1 Unable to print over the network.

	Check		Possible Cause	Action	Remark
1	Is the print job displayed on the machine control panel?	Yes	An error on machine side (paper running out, toner running out, etc.)	Correct the error.	See “User’s Guide [Copy Operations]” of the machine.
			Waiting its turn	Check the machine control panel for jobs in print queue. Priority may be changed as necessary.	
			The job is locked.	Enter the password to unlock the job.	See “User’s Guide [Print Operations].”
			The correct division ID has not been entered.	Enter the correct division ID in the printer driver and try re-transmitting the job again. (access code)	
		No	Data is yet to be received.	Go to item 2.	

	Check		Possible Cause	Action	Remark
2	Is the response of Ping sent from the PC to the machine?	Yes	The print destination port setting is wrong.	Set the correct port.	See “User’s Guide [Print Operations].”
			PC operates erratically temporarily.	Restart the PC.	
			Printer driver incorrectly installed	Uninstall the printer driver through the proper steps and then reinstall it properly.	See “User’s Guide [Print Operations].”
		No	Controller board (MFP Control Board) operates erratically temporarily.	Restart the controller board.	Turn OFF the Main Power Switch and turn it ON again more than 10 seconds after.
			Network cable is disconnected or a relay device is faulty.	Reconnect the cable and restart or change the faulty relay device.	Check with the controller network LED.
			IP address and/or subnet mask incorrectly set.	Set the correct IP address and subnet mask.	See “TCP/IP Setting” in Installation Guide.

6.2 Unable to transmit data through Scan to FTP.

	Check	Possible Cause	Action	Remark
1	The message "Failed to connect to the destination" appears.	The FTP server is not in service.	Check with the network administrator.	
		IP address of the FTP server is wrong.	Check with the network administrator and enter the correct IP address.	See "User's Guide [Network Scanner Operations]."
		Proxy setting is wrong.	Check with the network administrator and make the correct proxy setting.	
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A directory not existing in the FTP server is specified.	Check with the network administrator and enter the correct directory.	
		Failed to log on to the FTP server because of the wrong user account.	Check with the network administrator and enter the correct user name and password.	
		A timeout condition occurs.	Set a longer value for "FTP Connection Timeout." The timeout value depends on the network's traffic conditions and load on the FTP server.	
2	The message "Server Connect error" appears.	The network is disconnected during file transfer.	Send Ping from PC to the controller and FTP server to check to see if both parties are connected to the network or not.	
		The FTP server hard disk becomes full during file transfer.	Check with the network administrator.	
		The FTP server stops during file transfer.	Check with the network administrator.	

6.3 Unable to transmit data through Scan to E-Mail.

	Check	Possible Cause	Action	Remark
1	The message “Server Connect error” appears.	The SMTP server is not in service.	Check with the network administrator.	
		IP address of the SMTP server is wrong.	Check with the network administrator and enter the correct IP address.	See “User’s Guide [Network Scanner Operations].”
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A timeout condition occurs.	Set a longer value for “SMTP Connection Timeout.” The timeout value depends on the network’s traffic conditions and load on the FTP server.	
		The network is disconnected during file transfer.	Send Ping from PC to the controller and SMTP server to check to see if both parties are connected to the network or not.	
2	The message “E-mail Size Over” appears.	The size of the scan data exceeds the upper limit value set for maximum e-mail size.	Decrease resolution to make small the data size or change the setting for scanned file separation and binary division as necessary so that the scan data does not exceed the maximum e-mail size.	See “User’s Guide [Network Scanner Operations].”

6.4 E-mail does not reach the destination when transmission through Scan to E-Mail is completed.

	Check		Possible Cause	Action	Remark
1	An error message is returned from the mail server.	Yes	The destination mail address is wrong.	Enter the correct mail address.	See “User’s Guide [Network Scanner Operations].”
		No	The receiving end is being unable to receive, or is not receiving, mail stored in the POP3 server.		

KONICA MINOLTA

SERVICE MANUAL FIELD SERVICE

i-Option
LK-101/102/103

2008.06
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 3.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2008/06	3.0	△2	Description addition of function enhanced version 4 firmware (Card Ver. J8)
2008/03	2.0	△1	Error corrections
2008/01	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

i-Option LK-101/102/103

Outline

Adjustment/Setting

Troubleshooting

Blank Page

Outline

1. Product outline

1.1 Available function for i-Option

- The functions available for i-Option LK-101/102/103 are as follows.

Function	Overview	Application		
		LK-101	LK-102	LK-103
Web browser	• From the control panel, access content on the Internet or Intranet, in order to display or print this content. Additionally, you can operate PageScope Web Connection to use documents saved in user boxes.	✓		✓
Image panel	• This is a new control panel user interface. It enables the whole operation workflow to be easily grasped.	✓		✓
Photo registration	• You can add photo data to a registered address book entry. Registered photos are reflected in the Destination List of the Image Panel.	✓		✓
Assignment of application keys	• Enhanced function can be assigned to the application key.	✓	✓	✓
PDF process	• When transmitting documents in PDF format, you can encrypt PDF file with password or digital ID, add a digital signature, and specify properties.		✓	✓

△2

1.2 Product specification

1.2.1 Web browser function

- Main specifications of the web browser installed are as follows.

Browser engine	NetFront
Supported protocols	HTTP, HTTPS, TCP/IP
Supported markup/script languages	HTML, CSS, JavaSrcript
Supported image formats	JPEG, BMP, PNG, GIF, Animation GIF, PDF, Flash
Supported SSL/TLS versions	SSL2.0, SSL3.0, TLS1.0
Supported character codes	Western (ISO-8859-1), Unicode (UTF-8), Simplified Chinese (GB2312), Traditional Chinese (Big5), Japanese (Shift-JIS), Japanese (ISO-2022-JP), Japanese (EUC-JP)
Display modes	Normal, Just-Fit Rendering, Smart-Fit Rendering
PDF viewer	Adobe® Reader® LE
Flash player	Adobe® Flash® Player 7

NOTE
The Flash player installed on the MFP does not support the following:

- **The function to trigger an event caused by a key operation.**
- **The function to paste or acquire data such as character strings from the clipboard.**
- **The context menu.**
- **The Flash printing function.**
- **The function to execute JavaScript from Flash or to operate Flash by JavaScript.**
- **A screen that has no window (pop-up).**
- **The Flash bookmark function.**
- **The function to send/receive data in real time using the Flash Media Server.**
- **The function to communicate via the XMLSocket.**

1.2.2 Photo registration function

- Specifications of the photo data to be registered are as follows.

File type	BMP format, 24-bit color, uncompressed
Image size	48 x 48 pixels
Data size	6,966 Byte

Adjustment/Setting

2. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks
Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**
- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

3. Service Mode

- When using i-Option LK-101/102/103, license management is done with the following procedures. [Service Mode] → [Billing Setting] → [License Management]
- [License Management] can set Activation/Deactivation of each i-Option functions, Repair/Initialize of functions for troubleshooting, or etc.

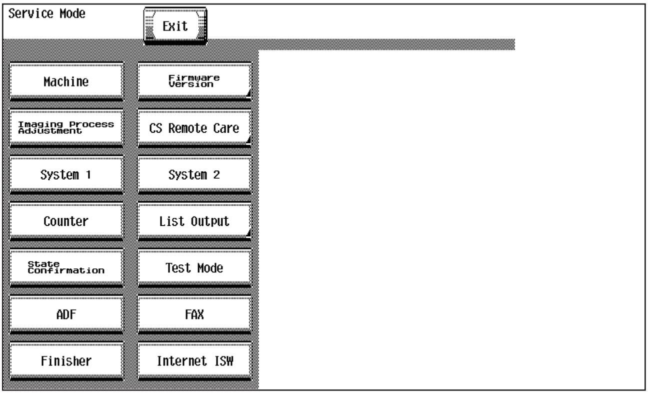
3.1 Billing Setting function setting procedure

1. Press the Utility/Counter key.
2. Touch [Check Details] on meter count display.
3. Press the following keys in this order.; Stop → 0 → 0 → Stop → 0 → 1

NOTE

- **When selecting [CE Authentication] under [Enhanced Security] available from Service Mode, authentication by CE password is necessary.**
  Enter the 8 digits CE password, and touch [END].
  (The initial setting for CE password is "92729272.")
- **When the following setting is set to "ON", CE password authentication is necessary.**
  [Administrator Settings] → [Security Settings] → [Enhanced Security Mode]
- **If a wrong CE password is entered, re-enter the right password. The machine will not enter Service Mode unless the CE password is entered correctly. To return to the Basic screen, turn OFF the sub power switch and turn it ON again.**
  When the following setting is set to "Mode 2", operation will be prohibited since it indicates authentication failure by failing to enter the correct CE password within the specified number of times.
  if the access lock is activated, the lock release timer starts to operate by input the Stop → 0 → 9 → 3 → 1 → 7 in [Meter Count] → [Check Details] → [Coverage Rate] after the main power switch is turned OFF and On. When the timer reaches the time specified in this setting, the access lock is released.
- **The service code entered is displayed as "*."**

4. The Service Mode menu will appear.



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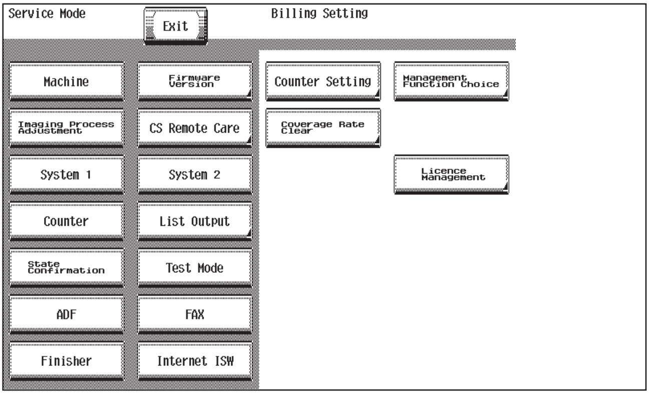
5. Press the following keys in this order.
   Stop → 9
6. Billing Setting menu will appear.



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3.2 Billing Setting function tree

Service Mode			Ref. Page
Billing Setting	Counter Setting		*1
	Management Function Choice		
	Coverage Rate Clear		
	License Management *2	Activation *2	P.6
		Deactivation *2	P.6
		Repair *2, 3	P.6
		Initialize *2	P.6
		Request Code *2	P.6
		List *2	P.7

*1: For details, see the main body service manual.

*2: It is displayed only when the expanded memory furnished with the optional upgrade kit UK-201 is mounted.

*3: It is displayed only when “license management error” occurs.
See P.22

3.3 Settings in the License management

3.3.1 Activation

Functions	• To activate i-Option functions.
Use	• To activate i-Option functions with CE. • The functions can be activated by selecting the desired function and enter the appropriate license code. • Administrators also can activate i-Option functions through Administrator Settings.
Setting/ Procedure	See P.8

3.3.2 Deactivation

Functions	• To deactivate i-Option functions.
Use	• To deactivate i-Option functions due to registration error, expiration of lease term, change to other MFP or etc. • The functions can be deactivated by selecting the desired function and enter the appropriate deactivation code.
Setting/ Procedure	See P.12

3.3.3 Repair

Functions	• To repair license management information.
Use	• To be used when license management information is lost due to replacement of NVRAM board or service EEPROM board or any other trouble. • License management information can be repaired by acquiring repair code with repair request code, and entering the repair code.
Setting/ Procedure	See P.17

3.3.4 Initialize

Functions	• To initialize license management information.
Use	• To be used when license management information cannot be repaired. • License management information should be initialized when the machine fails to generate request code or repair request code due to any trouble and the information cannot be repaired.
Setting/ Procedure	See P.20

3.3.5 Request Code

- When the license management error is occured, it will not be displayed until the repair code is input.

Functions	• To display and print request code and serial number.
Use	• To check the request code and serial number.
Setting/ Procedure	• Set A4S or 8 $^1/_2$ x 11S paper to the tray, and press start key at request code screen to print.

3.3.6 List

Functions	• To display activated functions. • To display and print deactivation complete code and serial number.
Use	• To display activated functions. • To display and print deactivation complete code and serial number.
Setting/ Procedure	• Set A4S or 8 $^1/_2$ x 11S paper to the tray, and press start key at deactivation complete code screen to print.

3.4 License Management function setting procedure

- Each setting procedure of License Management function is as follows.
- You need to access License Management System (LMS) to implement each function setting.

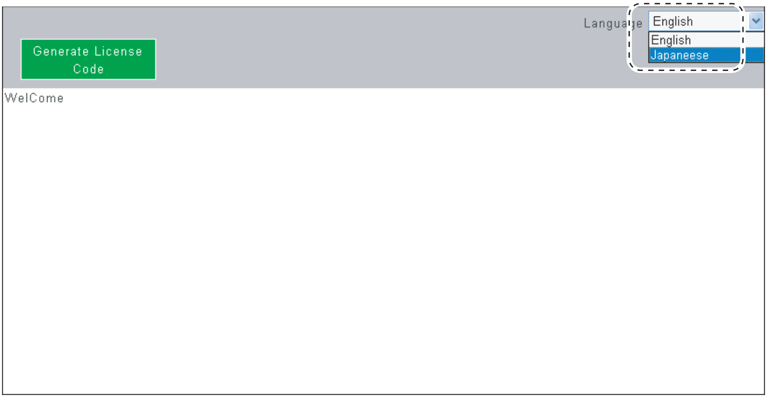
3.4.1 Activation

1. Prepare "token certification."
2. Call the Billing Setting to the screen.
   See P.4
3. Display and confirm the serial number and request code with the following procedure.
   [License Management] → [Request code]
   See P.6

NOTE

- **The function enhanced version firmware for i-Option is set at the factory before shipping, this procedure is not needed.**

4. Access to LMS web site (for service).
5. Click [License Registration].
6. Select the language.



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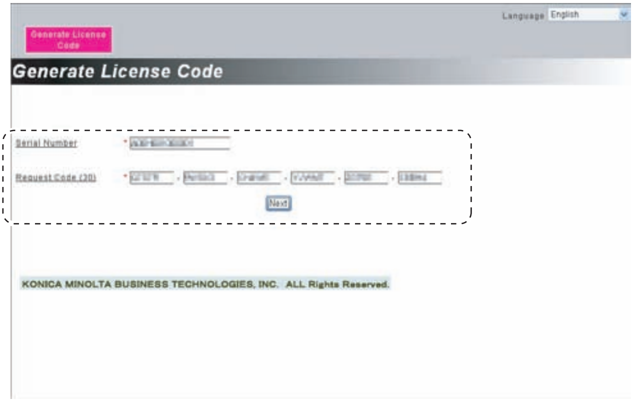
7. Enter request code and serial number, and click [Next].



Generate License Code

Serial Number *

Request Code (20) *

Language English
Generate License Code
Next
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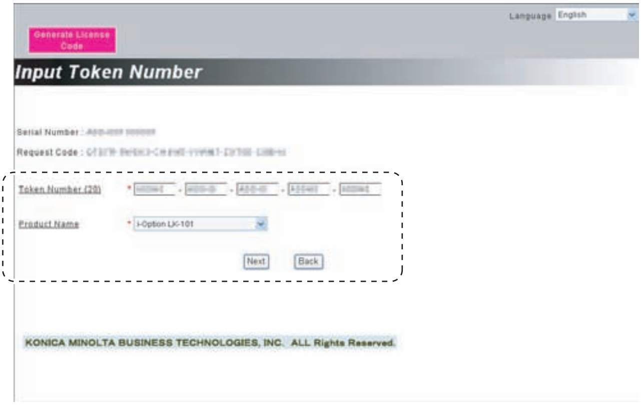
8. Enter “token number” described in the “token certificate”, and select the product name.
9. Click [Next].



Input Token Number

Serial Number :

Request Code :

Token Number (20) *

Product Name * i-Option LK-101

Language English
Generate License Code
Next
Back
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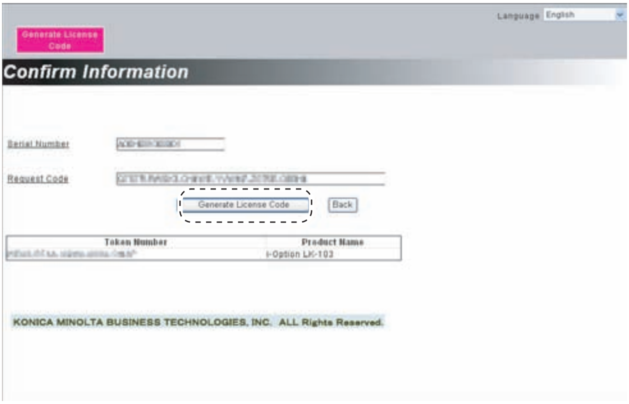
10. Confirm the registered information, and click [Generate License Code].



Confirm Information

Serial Number [illegible]

Request Code [illegible]

Token Number	Product Name
[illegible]	i-Option LK-103

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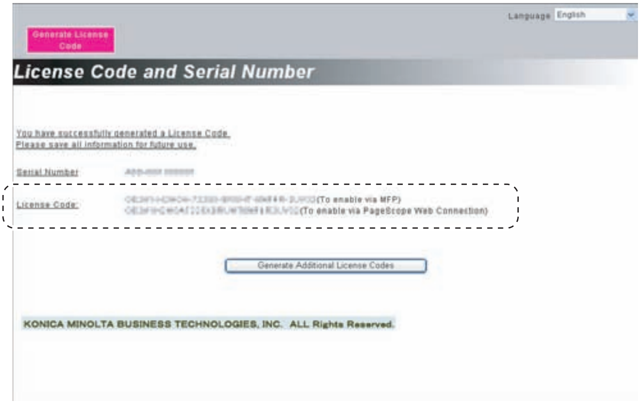
11. LMS issues license code.



License Code and Serial Number

You have successfully generated a License Code.
Please save all information for future use.

Serial Number [illegible]

License Code [illegible](To enable via MFP)
[illegible](To enable via PageScope Web Connection)

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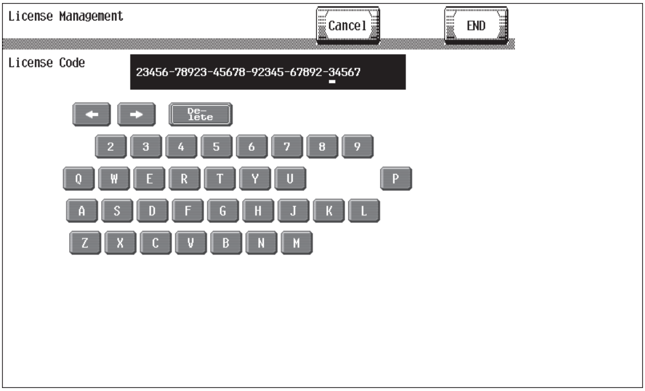
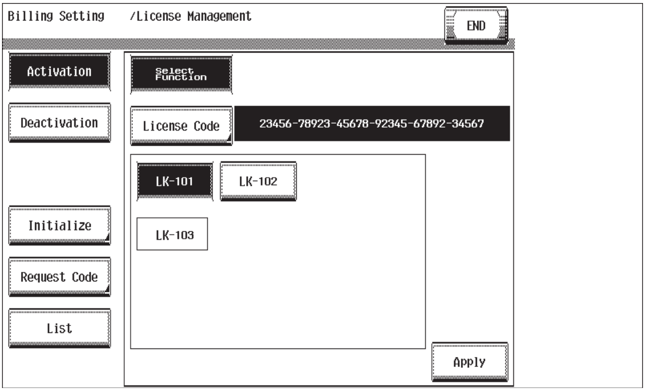
12. Select [Activation] → [License code] at the MFP.
13. Enter the license code issued by LMS using the keyboard on the screen, and touch [END].



License Code 23456-78923-45678-92345-67892-34567

A0PDF3E537DA

14. Select i-Option to be activated, and touch [Apply].



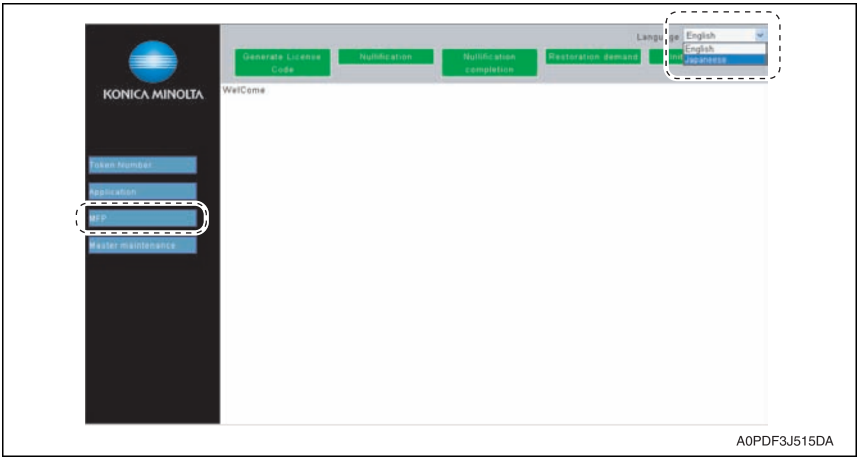
License Code 23456-78923-45678-92345-67892-34567

A0PDF3E538DA

15. Follow the massage appearing on the screen and turn OFF and ON the main power switch.

3.4.2 Deactivation

1. Call the Billing Setting to the screen.
   See P.4
2. Display and confirm the serial number with the following procedure.
   [License Management] → [Request code]
   See P.6
3. Access to LMS web site (for service).
4. Click [MFP] and select the language.



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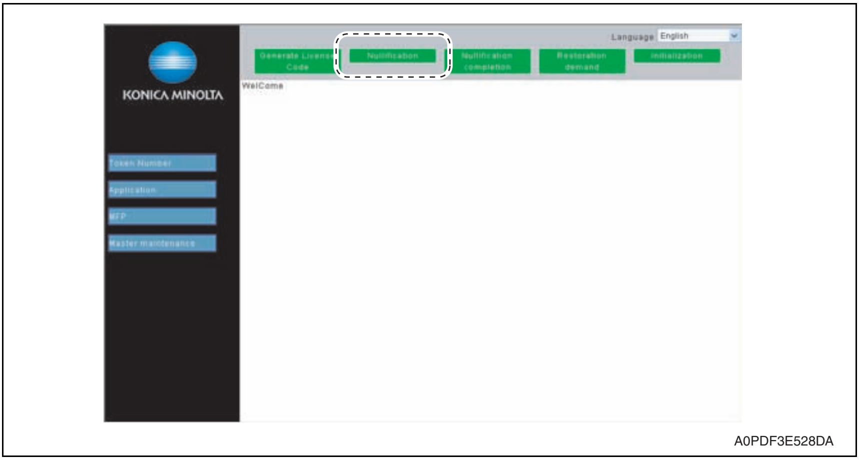
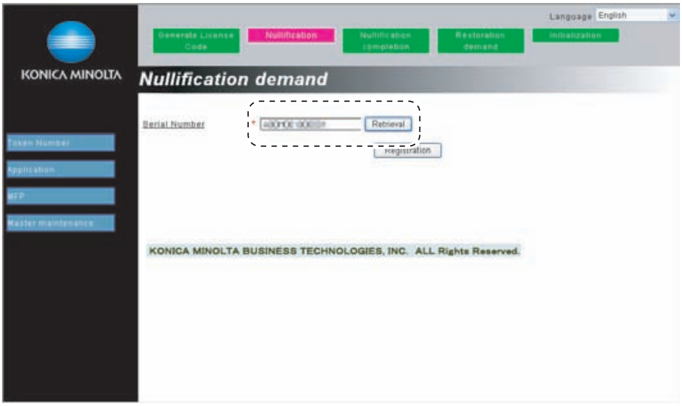
5. Click [Nullification].



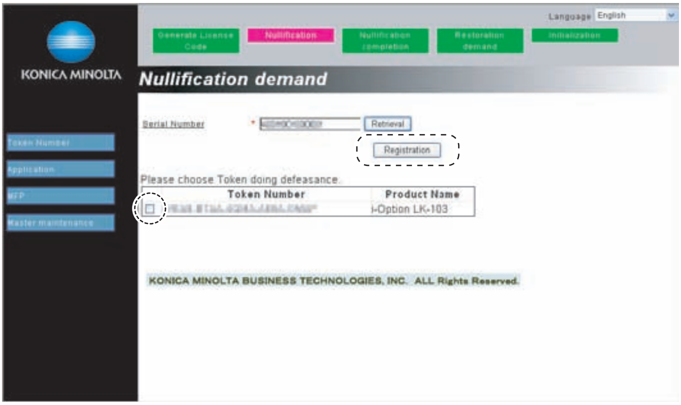
A0PDF3E528DA

6. Enter serial number, and click [Retrieval].



A0PDF3E529DA

7. Select i-Option to be deactivated, and click [Registration].

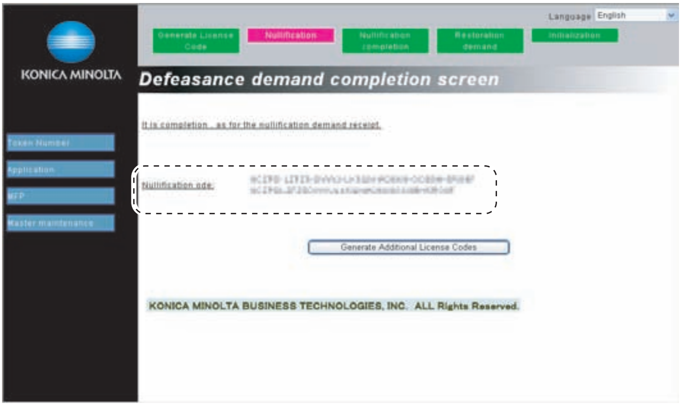


Please choose Token doing defeasance.

	Token Number	Product Name
☐		i-Option LK-103

A0PDF3E530DA

8. Nullification code is issued.



Defeasance demand completion screen

It is completion , as for the nullification demand receipt.

Nullification ode: [illegible]

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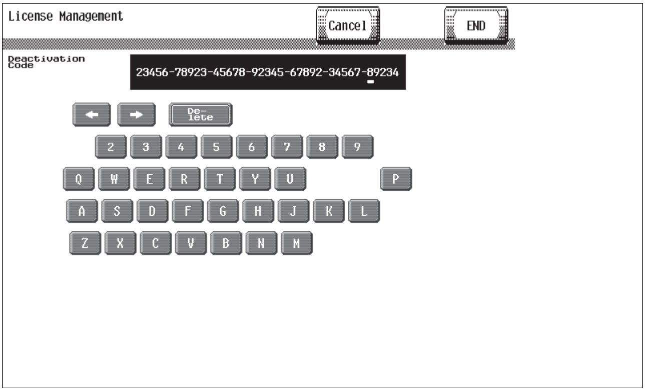
9. Select [Deactivation] → [Deactivation code] at the MFP.

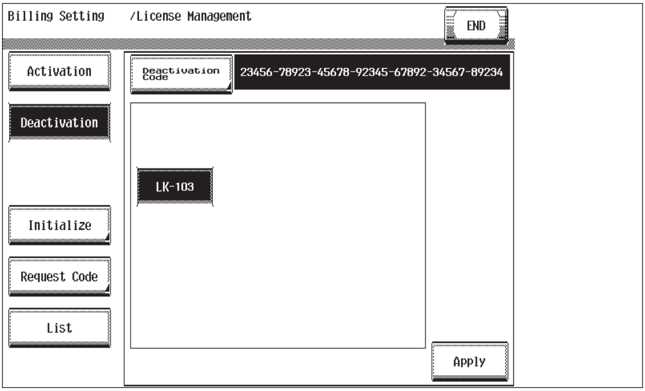
10. Enter the nullification code issued by LMS using the keyboard on the screen, and touch [END].



Deactivation Code 23456-78923-45678-92345-67892-34567-89234

A0PDF3E539DA

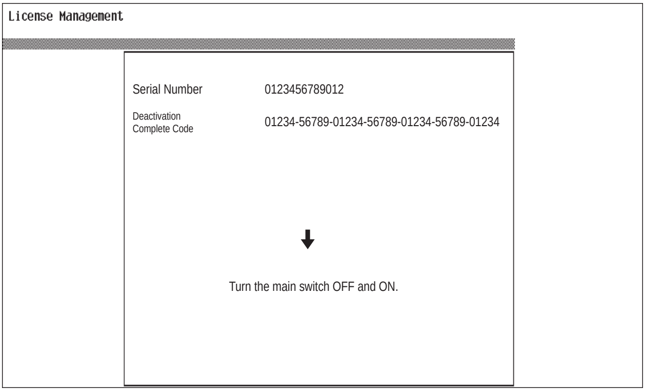
11. Select i-Option to be deactivated, and touch [Apply].



Deactivation Code 23456-78923-45678-92345-67892-34567-89234

A0PDF3E540DA

12. When the deactivation is done appropriately, serial number and deactivation complete code are issued.



Serial Number 0123456789012

Deactivation Complete Code 01234-56789-01234-56789-01234-56789-01234

Turn the main switch OFF and ON.

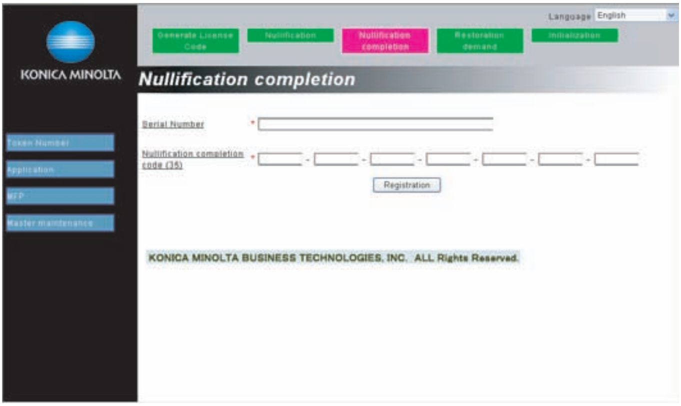
A0PDF3E542DA

NOTE

- **When A4S or 8 $^1/_2$ x 11S is set to the paper feed tray, the above-mentioned serial number and deactivation complete code can be printed out by pressing the start key.**
- **Serial number and deactivation complete code can be confirmed in [List] available from [License Management].**

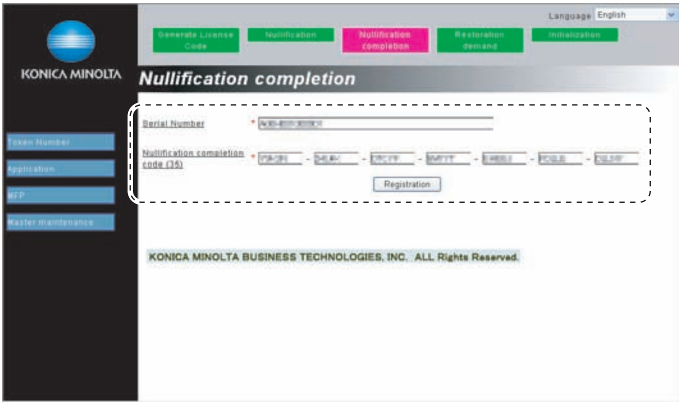
13. Follow the message appearing on the screen and turn OFF and ON the main power switch.

14. Click [Nullification completion] at LMS web site (for service).



A0PDF3E532DA

15. Enter serial number and nullification code, and click [Registration].



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16. Message for nullification completion appears.

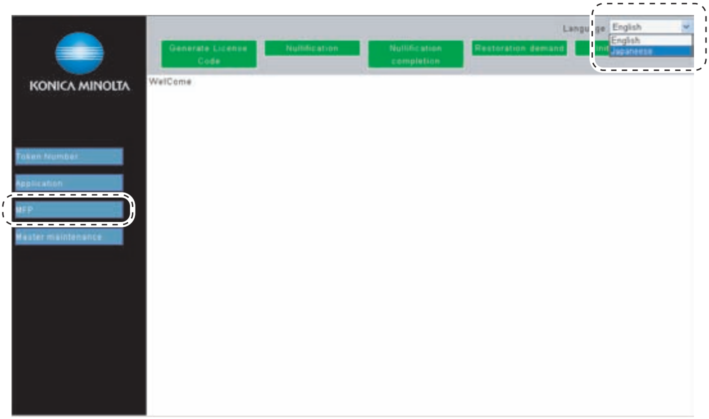
3.4.3 Repair

1. Call the Billing Setting to the screen.
   See P.4
2. Display and confirm serial number, repair request code and request code with the following procedure.
   [License Management] → [Repair] → [Repair Request Code]
   See P.6

NOTE

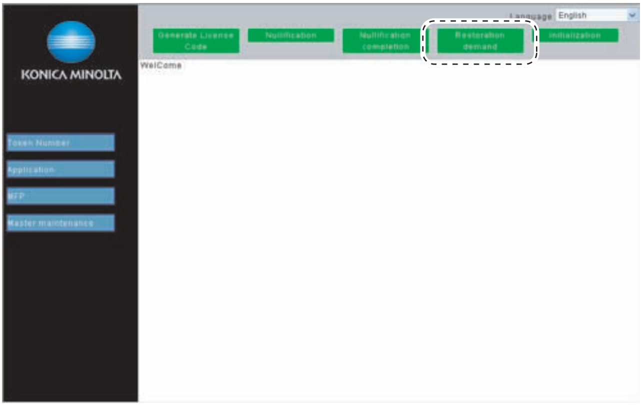
- **Do not turn OFF/ON the main power switch until the repair code is input after this procedure.**

3. Access to LMS web site (for service).
4. Click [MFP] and select the language.



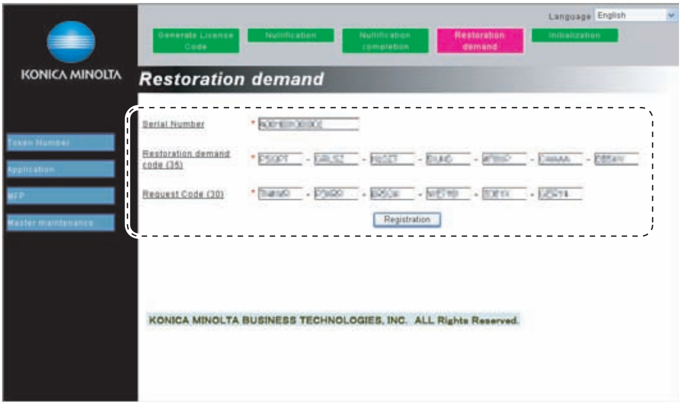
A0PDF3J515DA

5. Click [Restoration demand].



A0PDF3E534DA

6. Enter serial number, restoration demand code and request code, and click [Registration].



Restoration demand

Serial Number

Restoration demand code (35)

Request Code (30)

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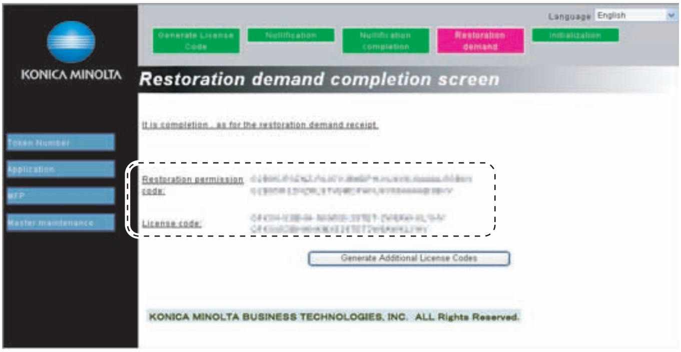
A0PDF3E535DA

7. Request permission code is issued.
If any function needs to be activated, appropriate license code is also issued.



Restoration demand completion screen

It is completion . as for the restoration demand receipt.

Restoration permission code:

License code:

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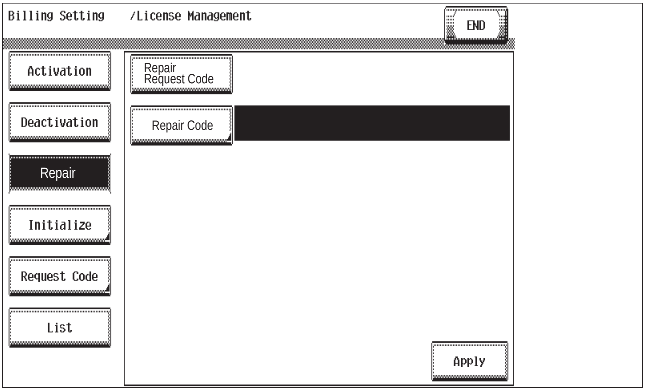
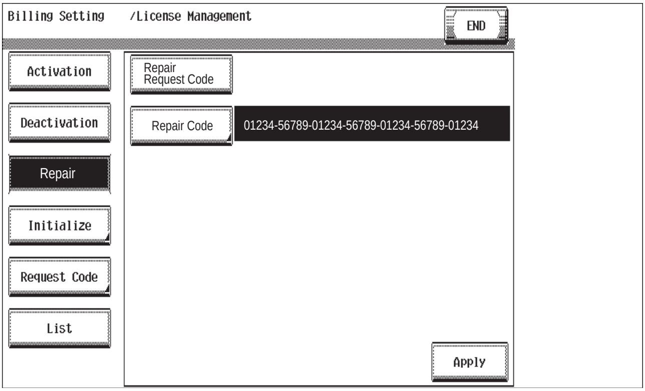
A0PDF3E536DA

8. Select [Repair] → [Repair Code] at the MFP.
9. Enter the request permission code issued by LMS using the keyboard on the screen, and touch [END].



A0PDF3E543DA

10. Touch [Apply].



Repair Code 01234-56789-01234-56789-01234-56789-01234

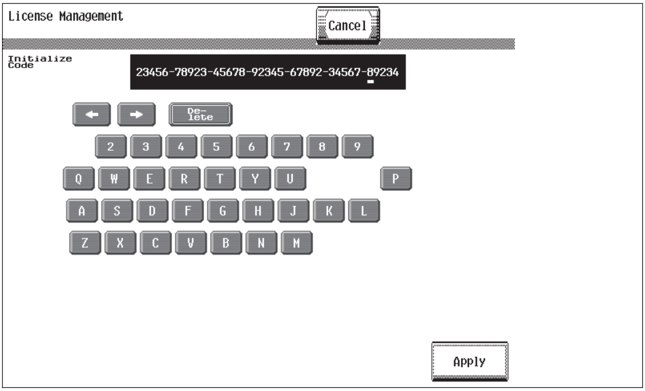
A0PDF3E544DA

11. Close Service Mode, confirm that the functions work correctly.

3.4.4 Initialize

- When license management information cannot be repaired, initialize the information with the following procedure.

1. Contact the license management section of sales company to report the information necessary to issue the initialize code.
2. The license management section of sales company supplies the initialize code.
3. Call the Billing Setting to the screen.
   See P.4
4. Touch [License Management] → [Initialize].
5. Enter the initialize code issued by call center using the keyboard on the screen, and touch [Apply].



Initialize Code 23456-78923-45678-92345-67892-34567-89234

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6. After completing the initialization, follow the message appearing on the screen and turn OFF and ON the main power switch.

Troubleshooting

4. Troubleshooting of i-Option

4.1 Outline

4.1.1 Structure of license management

- The functions available with i-Option can be activated by entering “License code” to the MFP.
- License code is issued and controlled by License Management System (LMS).
  To prevent unauthorized use of the license code, each MFP is identified individually so that the license code cannot be activated unless it matches with the authorized MFP.

4.1.2 License management information

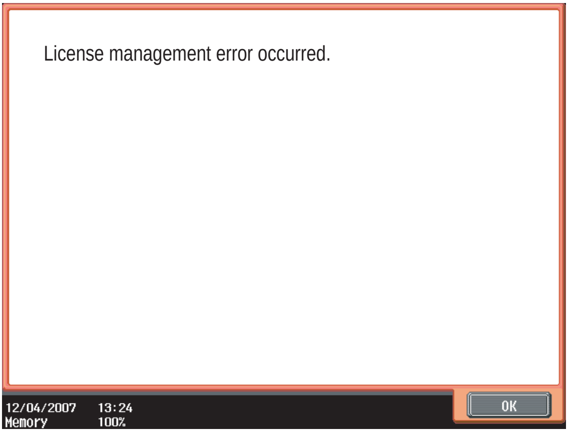
- Since license code needs to identify each MPF, it is issued using the serial number of MFP and “unique value” that is generated inside MFP.
- The “unique value” is stored to the NVRAM board on the MFP board and at the same time some parts of it are memorized by service EEPROM board. The activated function cannot be used unless the both figures conform.
  Since these figures are out of target of NVRAM data back, when any trouble occurs at either nonvolatile memory or either of them is replaced with new one, “license management error” is generated due to discordance of the figures.

4.2 Error message

4.2.1 License management error

- When abnormal value is detected in the license management information that is stored to the NVRAM board or service EEPROM board, or some values are detected cleared, warning is issued to let the user know the abnormality.
- The abnormality is detected at the timing of start-up or restart due to any condition.
- When the abnormality is detected, the corresponding i-Option function cannot be used, other ordinal functions, however, such as copy, scanning, print or etc, can be used without interruption.

A. Example of error message



License management error occurred.

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B. Main reasons of trouble

- The following shows the possible trouble factors and their countermeasure.

Board replacement	Countermeasure
• When NVRAM board on MFP board is replaced with new one.	Repair ⇒ Activation
• When service EEPROM board is replaced with new one.	Repair
• When NVRAM board and service EEPROM board are replaced with the new ones at the same time.	Initialize ⇒ Activation
• When mounting the NVRAM board of the machine whose function(s) have already been activated.	Initialize ⇒ Activation
• When mounting the service EEPROM board of the machine whose function(s) have already been activated.	Initialize ⇒ Activation
• When mounting the NVRAM board and the service EEPROM board of the machine whose function(s) have already been activated.	Initialize ⇒ Activation

C. List of processing performed when boards of another machine are remounted during board replacement procedure

- Remounting boards of machine B on machine A

Machine A	Machine B						Remarks: Specific cases of machine A
	Request code is not generated in machine B (same as new board)			Request code is generated in machine B			
	EEPROM	NVRAM	both	NVRAM	EEPROM	both	
Firmware of a version earlier than function enhanced version 3/4	no action	no action	no action	no action	no action	no action	• Firmware of a version earlier than function enhanced version 3/4
Request code is not generated.	no action	no action	no action	Initialize	Initialize	Initialize *1	• The function enhanced version 3/4 is mounted on a non i-Option machine and the request code is not generated.
Request code is generated. Request code is not registered in LMS.	Initialize	Initialize	no action	Initialize	Initialize	Initialize *1	• The function enhanced version 3/4 is mounted on a machine shipped as a non i-Option machine and the request code is generated.
Request code is generated. Request code is registered in LMS.	Restore	Restore	Initialize	Initialize	Initialize	Initialize *1	• The machine is shipped as an i-Option machine.

*1: The following are the prerequisites;
The settings (serial number, etc.) of the i-Option machine, on which the boards are remounted, differ from those of the i-Option machine, from which the boards are removed.

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

DF-611/610

2008.01
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 5.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/01	5.0	△4	Content additions
2007/08	4.0	△3	Content additions and changes
2007/05	3.0	△2	Content additions and changes
2007/04	2.0	△1	Error correction
2007/02	1.0	—	Issue of the first edition

CONTENTS

DF-611/610

Outline

Maintenance

Adjustment/Setting

Troubleshooting

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Outline

1. Product specifications

A. Type

Name	Reverse automatic document feeder	
Type	Paper feed section	Paper feed from top of stack
	Image reading section	Sheet-through system
	Turnover section	Switchback system
	Exit section	Straight exit system
Installation	Screw cramp to the main body	
Document alignment	Center	
Document loading	Face up	

B. Functions

Modes	Standard mode / Mixed original detection mode / FAX mode

C. Paper type

Type of document	Standard mode Plain paper	1-sided mode 35 to 210 g/m^2 (9.25 to 55.75 lb)
		2-sided mode 50 to 128 g/m^2 (13.25 to 34 lb)
	Mixed original detection mode Plain paper	1-sided / 2-sided mode 50 to 128 g/m^2 (13.25 to 34 lb)
	FAX mode Plain paper	1-sided mode 35 to 210 g/m^2 (9.25 to 55.75 lb)
		2-Sided Mode 50 to 128 g/m^2 (13.25 to 34 lb)
Detectable document size*1	Standard mode/FAX mode	Metric area: B6S to A3 Inch area: 5 $^1/_2$ x 8 $^1/_2$ to 11 x 17
Capacity	100 sheets (80 g/m^2) or stack of 14 mm and below	

*1: For the combined original detection mode, refer to the mixed original detection enabled size combination table.

D. Paper feed prohibited originals

- If fed, trouble occurrence will be highly possible.

Type of original	Possible trouble
Sheets stapled or clipped together	Paper feed failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Sheets glued together	Paper feed failure, damaged sheet
Book original	Paper feed failure, damaged sheet
Original weighing less than 35 g/m^2 (9.25 lb) or 210 g/m^2 (55.75 lb) or more	Paper feed failure, transport failure
Sheets folded, torn or wrinkled	Paper feed failure, damaged sheet, transport failure
Sheets severely curled	Sheets misfed due to being dog-eared or fed in askew
OHP film (Transparency film)	Paper feed failure, transport failure
Label paper	Paper feed failure, transport failure
Offset master paper	Paper feed failure, transport failure
Glossy photographic paper or glossy enamel paper	Transport failure, damaged sheet
Sheets clipped or notched	Damaged sheet, transport failure
Sheets patched	Patched part folded or torn sheet

E. Paper feed not guaranteed originals

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of Original	Possible Trouble
Sheets lightly curled (Curled amount: 10 to 15 mm)	Dog-eared, exit failure, transport failure
Heat sensitive paper	Edge folded, exit failure, transport failure
Ink jet paper	Paper feed failure, transport failure
Sheets with smooth surface (Coated paper)	Paper feed failure, transport failure
Intermediate paper	Paper feed failure, transport failure
Paper immediately after paper exit from the main unit	Paper feed failure, transport failure
Paper with many punched holes (e.g., loose leaf) limited to vertical feeding	Multi-page feed due to flashes from holes
Sheets with 2 to 4 holes	Transport failure
Sheets two-folded or Z-folded	Transport failure, image deformation
Sheets with rough surface (e.g., letterhead)	Paper feed failure

F. Mixed original feed chart

For metric

	Max. original size	297 mm		257 mm		210 mm		182 mm	148 mm	128 mm
Mixed original size		A3	A4	B4	B5	A4S	A5	B5S	A5S	B6S
297 mm	A3	OK	OK	-	-	-	-	-	-	-
	A4	OK	OK	-	-	-	-	-	-	-
257 mm	B4	OK	OK	OK	OK	-	-	-	-	-
	B5	OK	OK	OK	OK	-	-	-	-	-
210 mm	A4S	OK	OK	OK	OK	OK	OK	-	-	-
	A5	NG	NG	OK	OK	OK	OK	-	-	-
182 mm	B5S	NG	NG	OK	OK	OK	OK	OK	-	-
148 mm	A5S	NG	NG	NG	NG	NG	NG	NG	OK	-
128 mm	B6S	NG	NG	NG	NG	NG	NG	NG	OK	OK

For inch

	Max. original size	11		8 $^{1}/_{2}$			5 $^{1}/_{2}$
Mixed original size		11 x 17	8 $^{1}/_{2}$ x 11	8 $^{1}/_{2}$ x 14	8 $^{1}/_{2}$ x 11S	5 $^{1}/_{2}$ x 8 $^{1}/_{2}$	5 $^{1}/_{2}$ x 8 $^{1}/_{2}$S
11	11 x 17	OK	OK	-	-	-	-
	8 $^{1}/_{2}$ x 11	OK	OK	-	-	-	-
8 $^{1}/_{2}$	8 $^{1}/_{2}$ x 14	OK	OK	OK	OK	OK	-
	8 $^{1}/_{2}$ x 11S	OK	OK	OK	OK	OK	-
	5 $^{1}/_{2}$ x 8 $^{1}/_{2}$	NG	NG	OK	OK	OK	-
5 $^{1}/_{2}$	5 $^{1}/_{2}$ x 8 $^{1}/_{2}$S	NG	NG	NG	NG	NG	OK

OK	Mixed original feed available (Tilted with in 1.5% or less)
NG	No. mixed original feed
-	Can not set original

G. Machine specifications

Power requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated within the DF-611/DF-610)
Max. power consumption	60 W or less
Dimensions	618 mm (W) x 575 mm (D) x 130 mm (H) 24.25 inch (W) x 22.75 inch (D) x 5 inch (H)
Weight	DF-611: 16.1 kg (35.5 lb) DF-610: 16.2 kg (35.75 lb)

H. Operating environment

Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

2.1.1 Pick-up roller/feed roller

A. Periodically cleaning parts/cycle

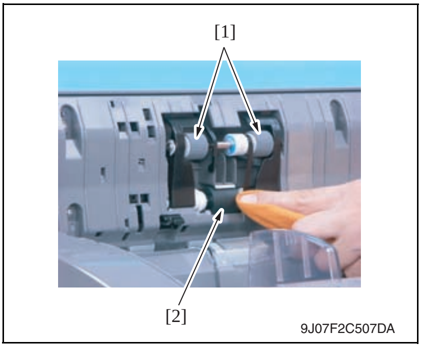
- Pick-up roller: Every 50,000 prints
- Feed roller: Every 50,000 prints

B. Periodically replaced parts/cycle

- Pick-up roller: Every 200,000 prints
- Feed roller: Every 200,000 prints

C. Cleaning procedure

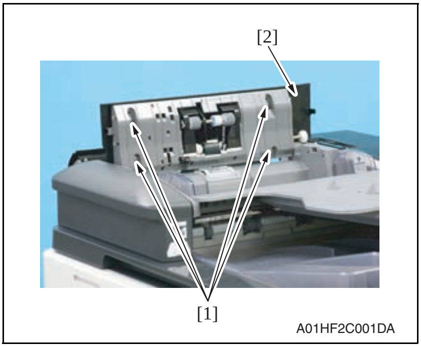
1. Open the feed cover.
See P.16



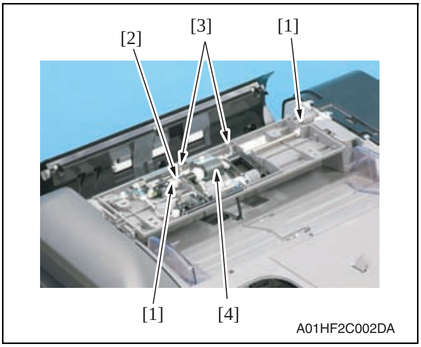
2. Wet a cloth with alcohol, and use it to wipe up the pick-up roller [1] and feed roller [2].

D. Replacing procedure

1. Open the feed cover.
See P.16

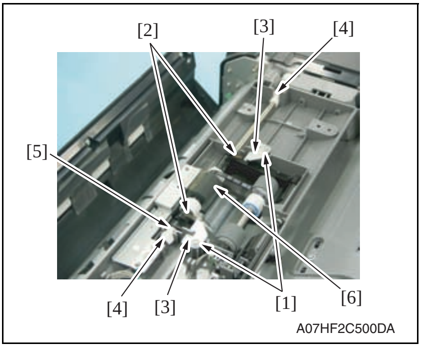


2. Remove four screws [1] and remove the cover [2].



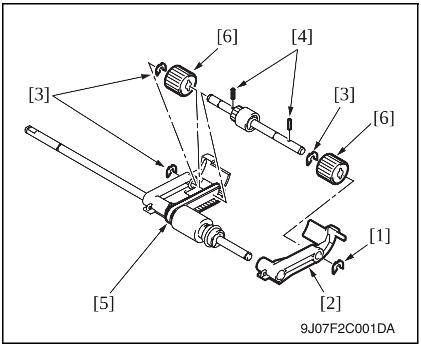
(1) In the DF-611 case

3. Remove two C-clips [1], the bearing [2] and two springs [3] and remove the pick-up/feed roller assy [4].



(2) In the DF-610 case

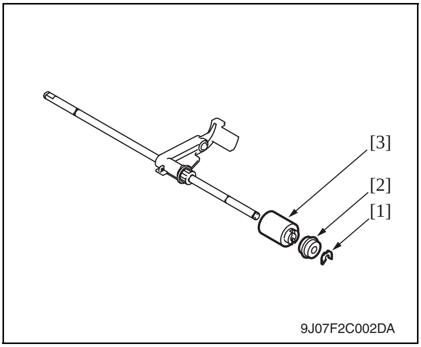
3. Remove two screws [1], two springs [2], and two pieces of fixation metal [3].
   Remove two C-clips [4], the bearing [5], and the pick-up/feed roller assy [6].



4. Remove the C-ring [1] and the lever [2].
5. Remove three C-rings [3].
6. Remove two pins [4].
7. Remove the belt [5].
8. Remove two pick-up rollers [6].

NOTE

- **Be careful not to lose the pin.**



9. Remove the C-ring [1] and the bushing [2].
10. Remove the feed roller [3].

2.1.2 Separation roller

A. Periodically cleaning parts/cycle

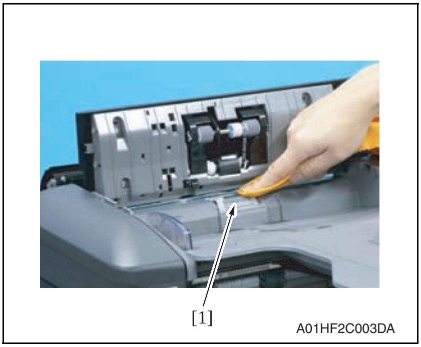
- Separation roller: Every 50,000 prints

B. Periodically replaced parts/cycle

- Separation roller: Every 200,000 prints

C. Cleaning procedure

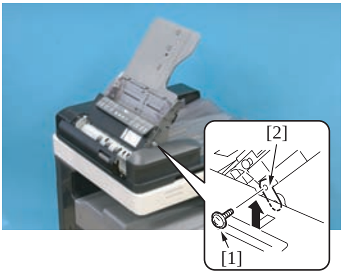
1. Open the feed cover.
   See P.16



2. Wet a cloth with alcohol, and use it to wipe up the separation roller [1].

D. Replacing procedure

1. Open the transportation cover.
2. Lift up the document feed tray.



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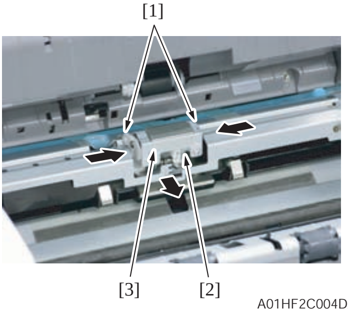
3. Remove the screw [1] and the mounting plate [2].

NOTE

- **Be sure to hold the document feed tray to prevent the tray from falling down while removing the mounting plate.**



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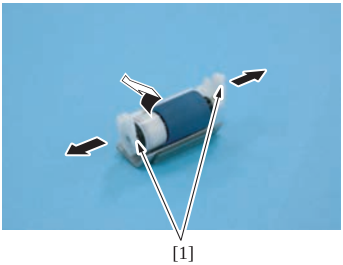
4. Hold the two sides [1] between your fingertips to unhook the spring [2] and remove the separation roller assy [3].

NOTE

- **When reinstalling the separation roller assy, be sure to hook the spring onto the assy.**



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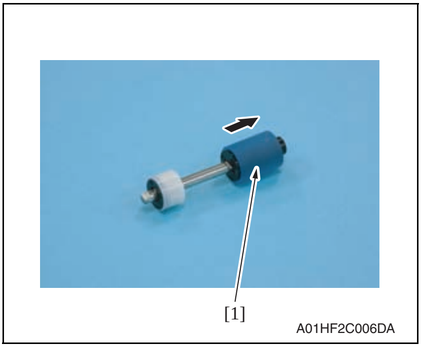
5. While opening up the holder [1], remove the shaft.

NOTE

- **Opening the holder too much can break the holder.**



6. Remove the separation roller [1] from the shaft.

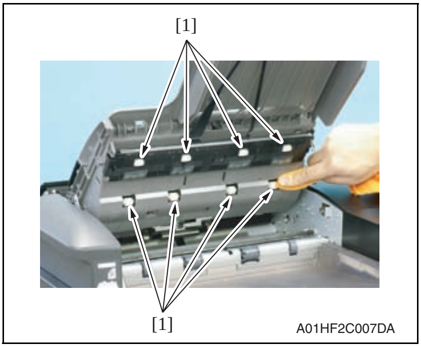
2.1.3 Cleaning of the miscellaneous rolls

A. Periodically cleaning parts/cycle

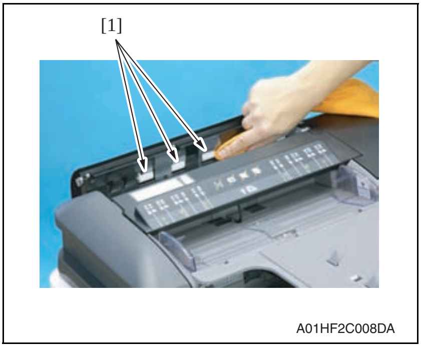
- Miscellaneous rolls: Every 50,000 prints

B. Cleaning procedure

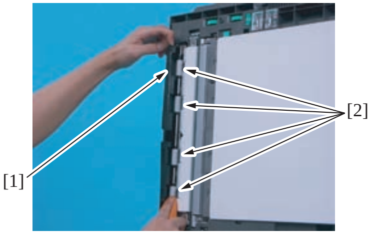
1. Lift up the document feed tray.



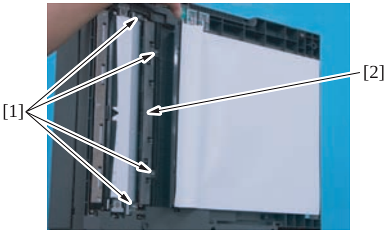
2. Using a soft cloth dampened with alcohol, wipe the roll [1].



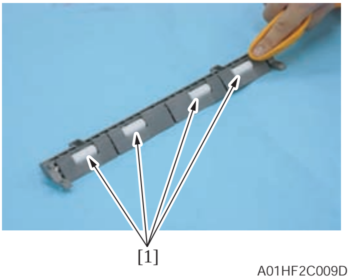
3. Open the transportation cover.
4. Using a soft cloth dampened with alcohol, wipe the roll [1].



5. Open the reverse automatic document feeder.
6. While opening the before scanning mylar assy [1], wipe the roll [2] using a soft cloth dampened with alcohol.



7. While opening the processing guide, remove four screws [1] and remove the transport roll assy [2].



8. Using a soft cloth dampened with alcohol, wipe the roll [1].

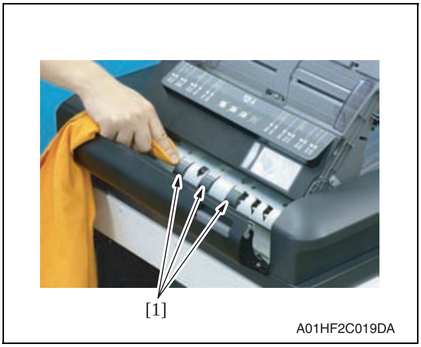
2.1.4 Cleaning of the miscellaneous rollers

A. Periodically cleaning parts/cycle

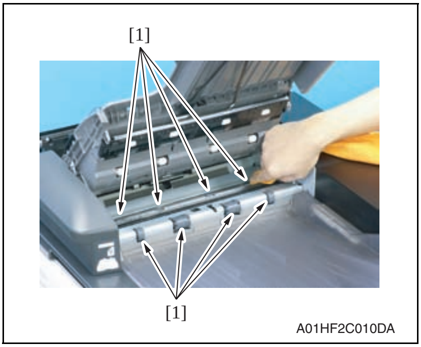
- Miscellaneous rollers: Every 50,000 prints

B. Cleaning procedure

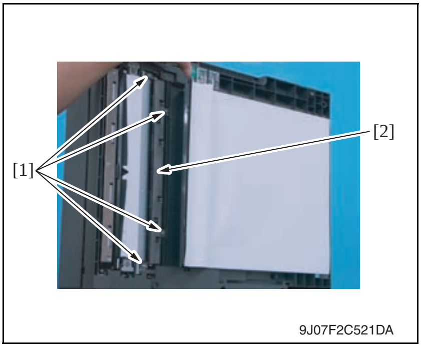
1. Open the transportation cover.



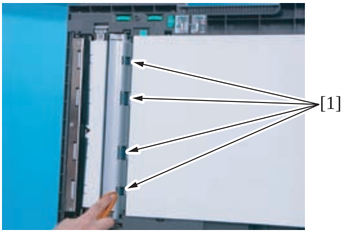
2. Using a soft cloth dampened with alcohol, wipe the roller [1].



3. Lift up the document feed tray.
4. Using a soft cloth dampened with alcohol, wipe the roller [1].



5. While opening the processing guide, remove four screws [1] and remove the transport roll assy [2].



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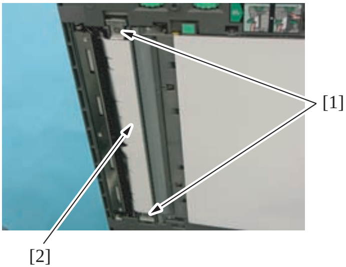
6. Using a soft cloth dampened with alcohol, wipe the roller [1].



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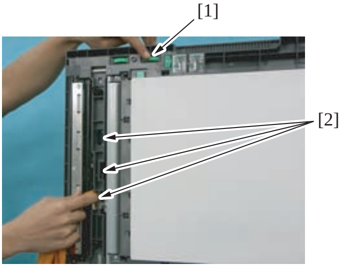
7. Remove two shoulder screws [1] and remove the scanning guide [2].



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8. While turning processing knob [1], wipe the roller [2] using a soft cloth dampened with alcohol.

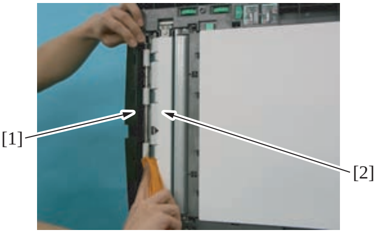
2.1.5 Cleaning of the scanning guide

A. Periodically cleaning parts/cycle

- Scanning guide: Every 50,000 prints

B. Cleaning procedure

1. Open the reverse automatic document feeder.



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2. Open the before scanning mylar assy [1].
3. Using a soft cloth dampened with alcohol, wipe the scanning guide [2] clean of dirt.

NOTE

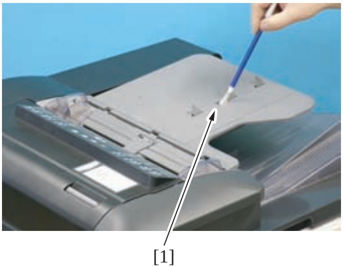
- **Be careful not to damage the mylar.**

2.1.6 Cleaning of the reflective sensor section

A. Periodically cleaning parts/cycle

- Reflective sensor section: Every 50,000 prints

B. Cleaning procedure



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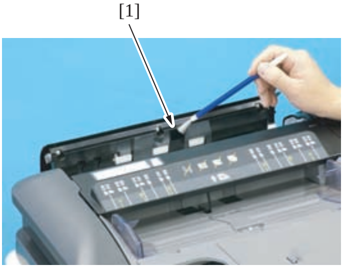
1. Clean the sensor [1] using a brush or other similar tools.



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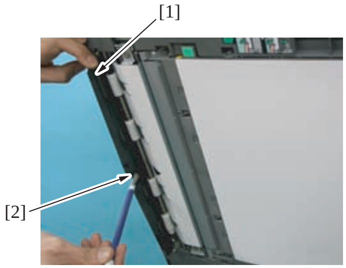
2. Open the transportation cover.
3. Clean the cloth [1] using a brush or other similar tools.



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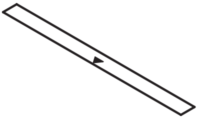
4. Open the reverse automatic document feeder.
5. While opening the before scanning mylar assy [1], clean the cloth [2] using a brush or other similar tools.

3. Service tool

3.1 CE tool list

Tool name	Shape	Personnel	Parts No.	Remarks
ADF reading chart	 9J07F2C003DA	1	9J06 PJG1 XX	

4. Other

4.1 Disassembly/Adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

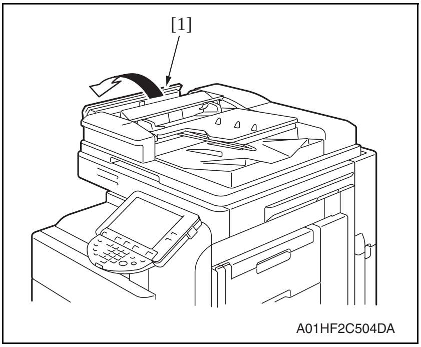
4.2 Disassembly/Assembly/Cleaning list (Other parts)

4.2.1 Disassembly/Assembly parts list

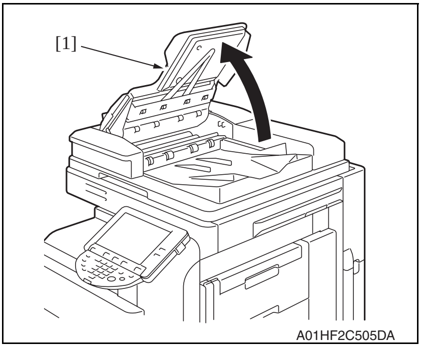
No.	Section	Part name	Ref. page
1	Exterior parts	Feed cover	P.16
2		Front cover	P.17
3		Rear cover	P.18
4		Document feed tray front cover	P.19
5	Unit	Reverse automatic document feeder	P.19
6	Board and etc.	DF control board	P.21
7		Document width detection variable resistor	P.21
8	Others	Stamp unit	P.24
9		Stamp	P.25

4.3 Disassembly/Assembly procedure

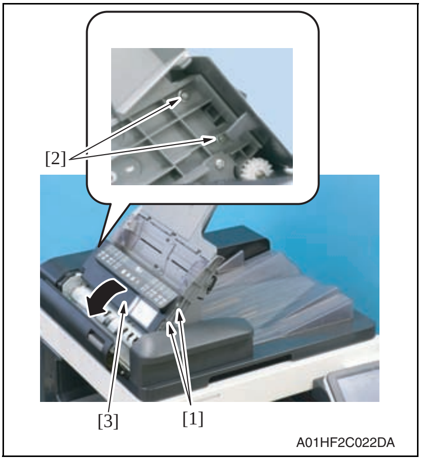
4.3.1 Feed cover



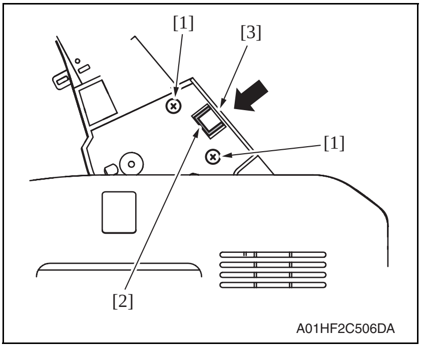
1. Open the transportation cover [1].



2. Lift up the document feed tray [1].



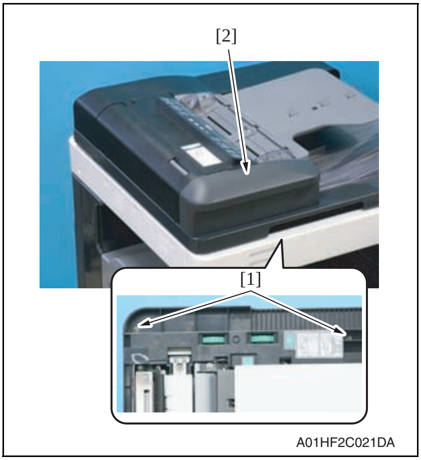
3. Remove two shoulder screws [1] and two screws [2].
4. Open the feed cover [3].



NOTE

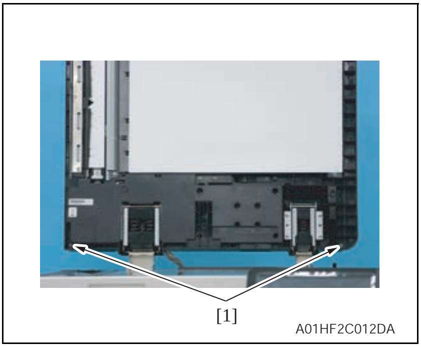
- **In the reinstallation steps, when tightening two screws [1], press the feed cover [3] in the direction of the arrow so as not to leave a clearance between the top of the protrusion from the surface of the feed cover and the bottom of the indentation [2].**

4.3.2 Front cover



1. Open the reverse automatic document feeder.
2. Remove two screws [1] and remove the front cover [2].

4.3.3 Rear cover

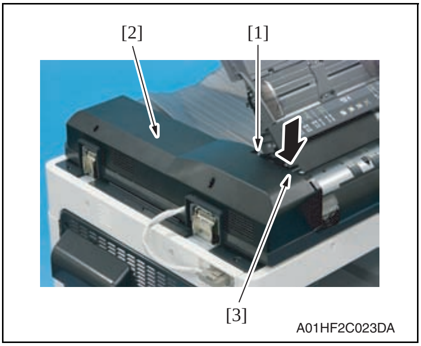


1. Open the reverse automatic document feeder.

NOTE

- **If the reverse automatic document feeder is set to be lifted up at angles up to 60 degrees due to the set position of the stopper for the hinge, change the set position to the lower side so that the reverse automatic document feeder can be opened completely.**

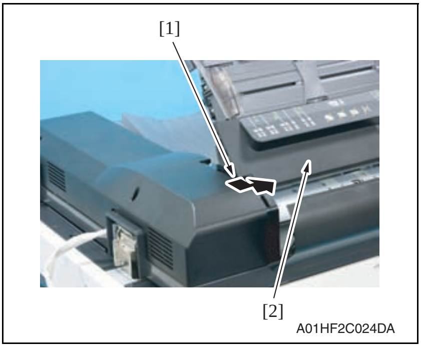
2. Remove two screws [1].



3. Open the transportation cover.
4. Lift up the document feed tray.
5. Remove the screw [1] and remove the rear cover [2].

NOTE

- **Be sure to press down part [3] in the picture to prevent any damage when removing the rear cover.**



A. Reinstallation procedure

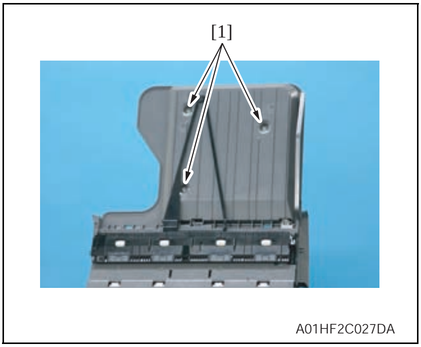
1. Open the transportation cover.
2. Lift up the document feed tray.
3. Press down part [1] in the picture until it slides under the feed cover [2].

NOTE

- **Be careful not to damage the rear cover.**

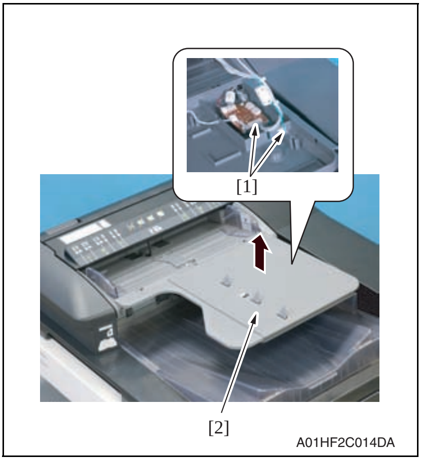
4. Install the rear cover tightening three screws.

4.3.4 Document feed tray front cover



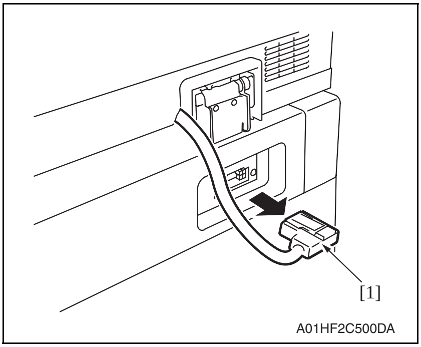
1. Lift up the document feed tray.
2. Remove three screws [1].

2

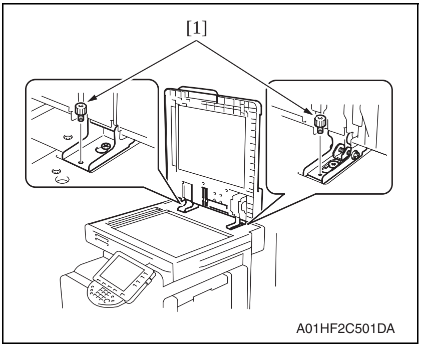


3. Disconnect two connectors [1] and remove the document feed tray front cover [2].

4.3.5 Reverse automatic document feeder



1. Disconnect the connector [1] of the reverse automatic document feeder from the main unit.

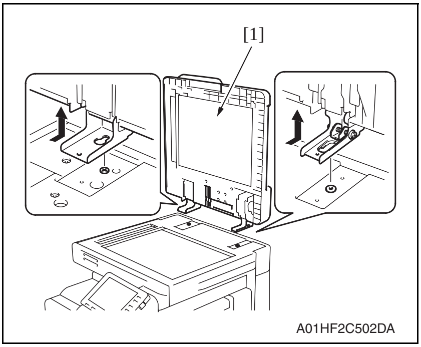


2. Open the reverse automatic document feeder.

NOTE

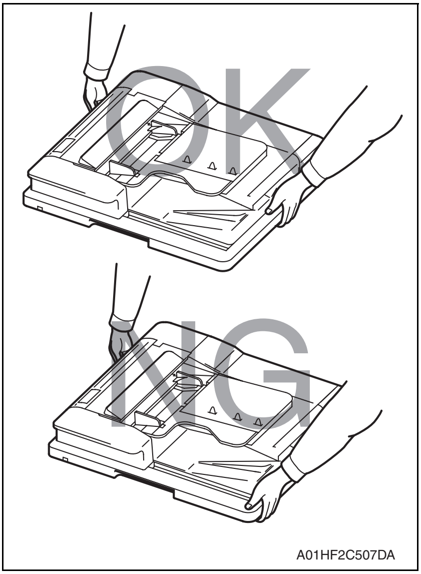
- **If the reverse automatic document feeder is set to be lifted up at angles up to 60 degrees due to the set position of the stopper for the hinge, change the set position to the lower side so that the reverse automatic document feeder can be opened completely.**

3. Remove two screws [1].



4. Remove the reverse automatic document feeder [1].

4

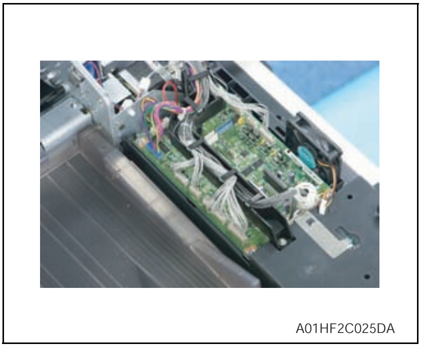


NOTE

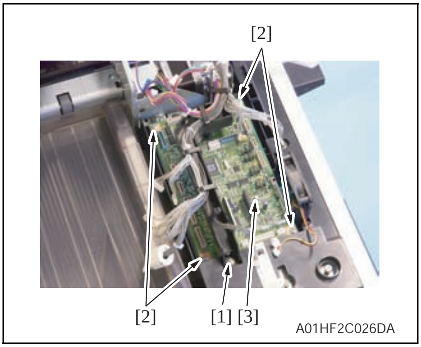
- **When carrying the reverse automatic document feeder, be sure to hold onto the specified positions. The feeder main body can be distorted if held at inappropriate positions.**

4.3.6 DF control board

1. Remove the rear cover.
   See P.18



2. Disconnect all the fifteen connectors from the DF control board.



3. Remove the screw [1].
4. Remove four screws [2] and remove the DF control board [3].

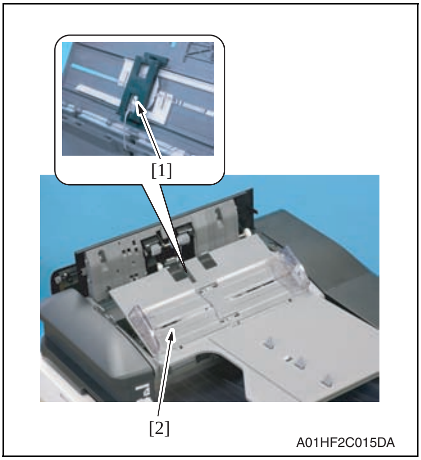
NOTE

- **Be sure to perform the following operation when the DF control board is replaced.**

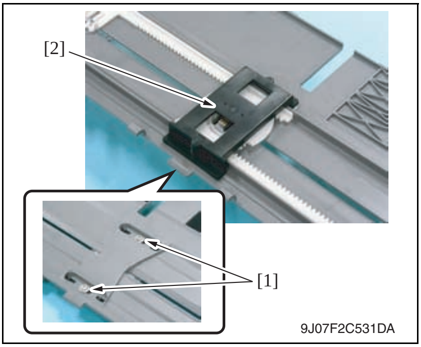
5. Replace the EEPROM.
6. Upgrade the firmware.
   See P.65 of the main body service manual.

4.3.7 Document width detection variable resistor

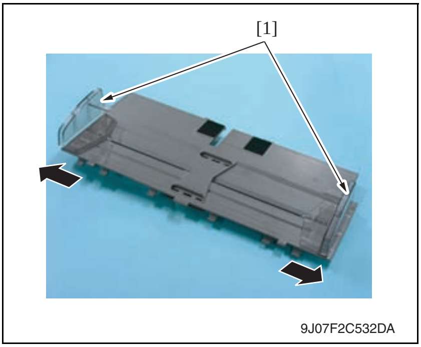
1. Open the feed cover.
   See P.16



2. Disconnect the connector [1] and remove the document width detection variable resistor cover [2].

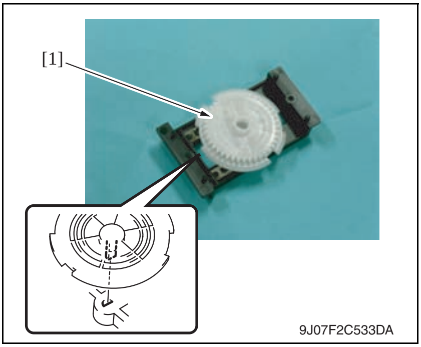


3. Remove two screws [1] and remove the document width detection variable resistor [2].



A. Reinstallation procedure

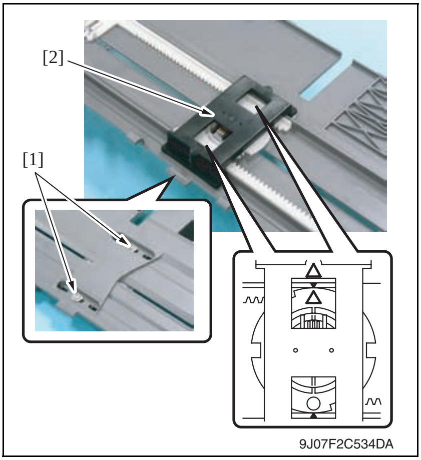
1. Open the side edge stop [1] of the original feed tray.



2. Reinstall the gear [1].

NOTE

- **Note the mounting position of the gear and the document width detection variable resistor.**



3. Use two screws [1] to install the document width detection variable resistor [2].

NOTE

- **Install the gear and rack gear by aligning the arrows.**

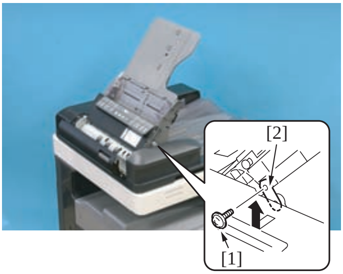
4. Connect the connector.
5. Install the document width detection variable resistor cover and turn on the main power switch.

NOTE

- **Be sure to perform the following operation when the document width detection variable resistor is replaced.**

6. Perform document width detection adjustment.
   See P.32
7. Turn OFF the main power switch and turn it ON again and check whether size detection operates normally.

4.3.8 Replacing the stamp unit



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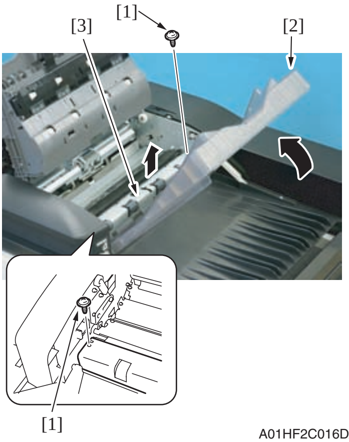
1. Open the transportation cover.
2. Lift up the document feed tray.
3. Remove the screw [1] and the mounting plate [2].

NOTE

- **Be sure to hold the document feed tray to prevent the tray from falling down while removing the mounting plate.**



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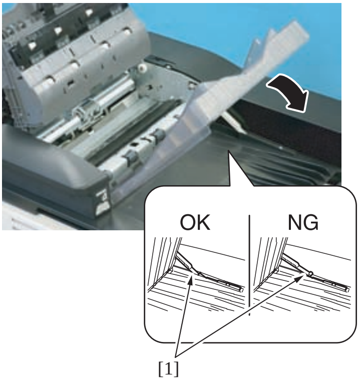
4. Remove two screws [1] and remove the plate cover [3] while holding up the exit tray [2].

NOTE

- **Take care not to raise the exit tray too much. The stopper may come off.**



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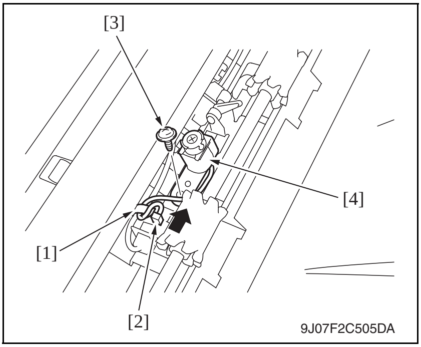
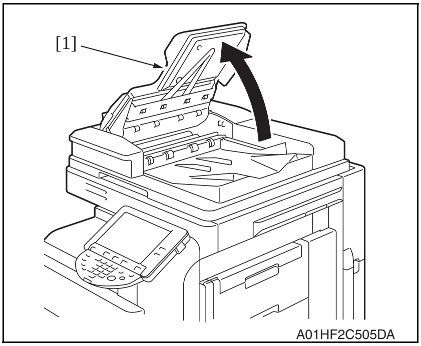
NOTE

- **When lowering the exit tray, check that the stopper [1] fits under the plate spring.**

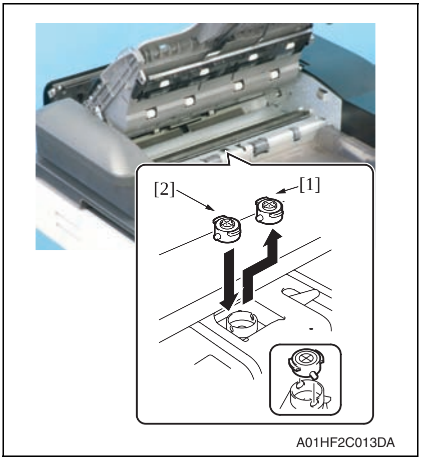


5. Remove the cord clamp [1] and disconnect the connector [2].
6. Remove the screw [3] and remove the stamp unit [4].

4.3.9 Replacing the stamp



1. Lift up the document feed tray [1].



2. Remove the used stamp [1] and install the new stamp of replacement [2].

NOTE

- **Align the round pin of the stamp with the slit in the stamp unit side.**

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Adjustment/Setting

5. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

6. Service Mode

6.1 Service Mode setting procedure

See P.434 of the main body service manual.

6.2 ADF setting procedure

6.2.1 Original Stop Position

Functions	• To manually adjust the original stop position and the read position in each of the ADF modes.
Use	• When the result is Unable in the automatic adjustment of the original stop position.
Setting/ procedure	P.40

6.2.2 Registration Loop Adj.

Functions	• To adjust the length of the loop to be formed in paper before the registration rollers.
Use	• When an original misfeed or skew occurs.
Adjustment instructions	• The loop value increases by the entered + value and decreases by the entered - value.
Adjustment range	• The default setting is 0. • Adjustable range: -5 mm to + 5 mm (in 1-mm increments)
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [ADF]. *3.* Touch [Registration Loop Adj]. *4.* Select either [1-Side] or [Second Side] for the adjustment. *5.* Press the clear key and change the setting value using the 10-key pad. (Press the [+/-] key to change the +/- code.) *6.* Touch [END]. *7.* Touch [Exit] on the Service Mode screen. *8.* Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

6.2.3 Auto Stop Position Adjustment

A. Sub Scanning Direction 1-Side

Functions	• To automatically adjust the read position for the Sub Scanning Direction 1-Side. • To check skew feed.
Use	• When ADF has been replaced.
Setting/ procedure	P.36

B. Sub Scanning Direction 2-Side

Functions	• To automatically adjust the read position for the Sub Scanning Direction 2-Side.
Use	• When ADF has been replaced.
Setting/ procedure	P.38

C. Main Scanning Direction

Functions	• To automatically adjust the read position in the Main Scanning Direction.
Use	• When ADF has been replaced.
Setting/ procedure	P.39

6.2.4 Paper Passage

Functions	• To check for paper passage through the ADF in each of the ADF modes.
Use	• Used for checking the document path for any abnormal condition when a document misfeed occurs.
Setting/ procedure	<Procedure> *1.* Call the Service Mode to the screen. *2.* Touch [ADF]. *3.* Touch [Paper Passage]. *4.* Select a paper passage mode to be tested from [1-Sided No Detect], [1-Sided Mixed Org.], [2-Sided], or [AMS Mixed Org.]. *5.* Set the original in the feed tray. *6.* The Start key color changes from orange to blue. *7.* Press the Start key. The operation starts. **NOTE** • **After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.** • **If the Stop key is pressed during the test operation, the test will be forced to end.** • **If there is no Original set in the feed Tray, the Start key will not work.** • **All Originals set in the feed Tray are passed through. Upon the completion of all Originals passed through, the Paper Through Test ends.**

6.2.5 Sensor Check

Functions	• To check sensors on the paper path.
Use	• When a document misfeed occurs.

A. Check procedure

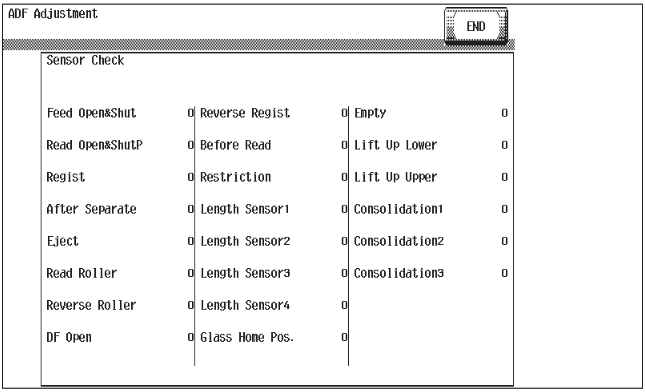
- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

B. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Sensor Check].
4. Operate the sensor to check by using paper or the like, and check the screen display.
   (Paper detected: 1, No paper detected: 0)

C. Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



Sensor Check

Feed Open&Shut	0	Reverse Regist	0	Empty	0
Read Open&ShutP	0	Before Read	0	Lift Up Lower	0
Regist	0	Restriction	0	Lift Up Upper	0
After Separate	0	Length Sensor1	0	Consolidation1	0
Eject	0	Length Sensor2	0	Consolidation2	0
Read Roller	0	Length Sensor3	0	Consolidation3	0
Reverse Roller	0	Length Sensor4	0		
DF Open	0	Glass Home Pos.	0		

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D. Sensor check list

Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PS1	Feed Open&Close	Feed open/close sensor	Open	Close
PS2	Read Open&Close	Read open/close sensor	Open	Close
PS3	Registration	Registration sensor	Paper present (Blocked)	Paper not present (Unblocked)
PS4	After Separate	After separate sensor	Paper present (Unblocked)	Paper not present (Blocked)
PS5	Eject	Exit sensor	Paper present (Unblocked)	Paper not present (Blocked)
PS6	Read Roller	Read roller sensor	Pressure (Blocked)	Retraction (Unblocked)
PS7	Reverse Roller	Reverse roller sensor	Pressure (Blocked)	Retraction (Unblocked)
RS201	DF Open	Original cover sensor	Open	Close
PS8	Reverse Regist	Reverse regist sensor	Paper present (Blocked)	Paper not present (Unblocked)
PS9	Before Read	Before read sensor	Paper present (Blocked)	Paper not present (Unblocked)
VR1	Restriction Board Position	Document width detection variable resistor	Analog value	
PS10	Length Sensor1	Length sensor1	Paper present	Paper not present
PS11	Length Sensor2	Length sensor2	Blocked	Unblocked
PS12	Length Sensor3	Length sensor3	Paper present	Paper not present
PS13	Length Sensor4	Length sensor4	Paper present	Paper not present
PS203	Glass Home Pos.	Glass home sensor	At home (Unblocked)	Out of home (Blocked)
PS14	Empty	Empty sensor	Paper present	Paper not present
PS16	Lift Up Lower	Lift up lower sensor	Unblocked	Blocked
PS15	Lift Up Upper	Lift up upper sensor	Blocked	Unblocked
PS19	Mixed Sensor1	Mixed sensor1	Paper present	Paper not present
PS18	Mixed Sensor2	Mixed sensor2	Paper present	Paper not present
PS17	Mixed Sensor3	Mixed sensor3	Paper present	Paper not present

6.2.6 Original Tray Width

Functions	• To set the values of maximum (A3 position) and minimum (B6 position) widths on the document width detection variable resistor.
Use	• When an original misfeed occurs. • When an original size detection error occurs.
Setting/ procedure	P.44

6.2.7 Read Pos Adj

Functions	• To adjust the original read position.
Use	• When the first/second carriage, the scanner wire, the scanner assy, the original glass moving unit, and/or the glass step sheet have been replaced.
Setting/ procedure	P.46

6.2.8 Feed Zoom

Functions	• To adjust the feed zoom of ADF in the feeding direction.
Use	• When ADF has been replaced.
Setting/ procedure	P.49

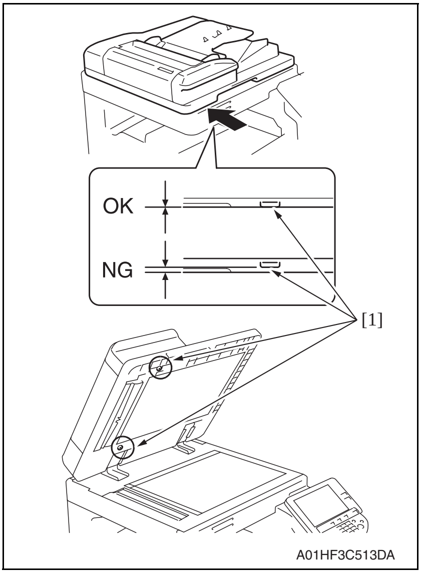
6.2.9 Scanning Light Adjustment

Functions	• To adjust the scanning light of ADF.
Use	• When the original glass moving unit has been replaced. • Used for adjusting the difference in the scanning lights between scanning from the original glass and scanning from the ADF original glass.
Setting/ procedure	• Adjustable range: -2 to + 2 (1 step) *1.* Call the Service Mode to the screen. *2.* Touch [ADF]. *3.* Touch [Scanning Light Adjustment]. *4.* Select a color by pressing [Red], [Green], or [Blue]. *5.* Press the value using the [+]/[-] key. **NOTE** • **It is recommended that the scanning light adjustment should be made by the same steps for all the three colors of red, green, and blue.** *6.* Touch [END]. *7.* Touch [Exit] on the Service Mode screen. *8.* Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

7. Mechanical adjustment

7.1 Adjusting the height

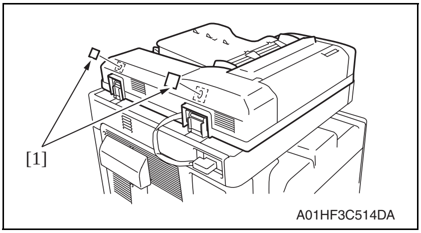
NOTE
Make this adjustment after any of the following procedures has been performed.
- **When the reverse automatic document feeder has been reinstalled.**



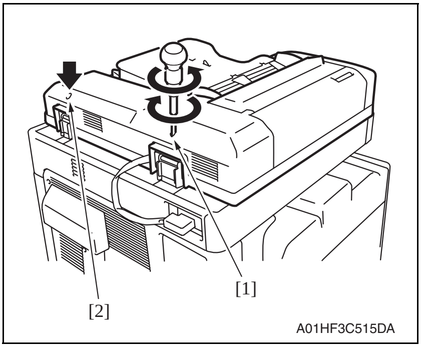
1. Check the clearance between the upper face of scanner and the protrusion [1] on the reverse automatic document feeder side (2 spots, front/back).

NOTE
- **There must be no clearance between the protrusion [1] on the reverse automatic document feeder and the upper face of scanner.**

2. If there is any clearance, the following adjustment is needed.

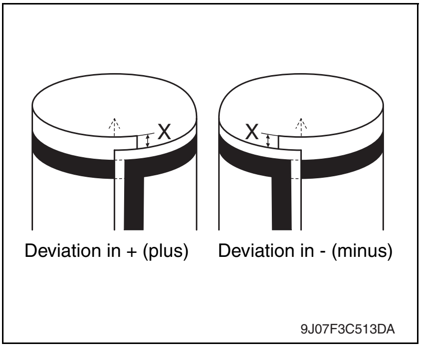


3. Remove the label [1].

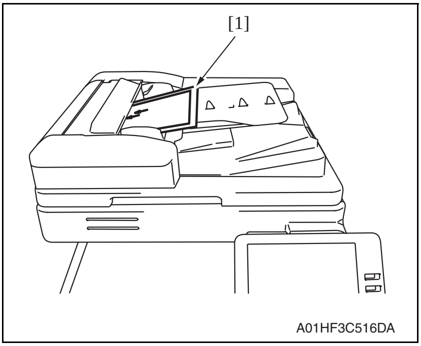


4. Remove the clearance by turning the adjusting screw [1].
   Clockwise rotation:
   Lifting up the rear side
   Counterclockwise rotation:
   Lowering the rear side
5. Use the adjusting screw [2] when further adjustment is needed.
   Clockwise rotation:
   Lifting up the rear side
   Counterclockwise rotation:
   Lowering the rear side
6. Affix again the labels removed in step 3.

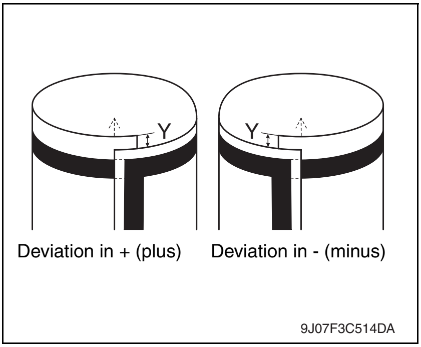
7.2 Adjusting skew feed



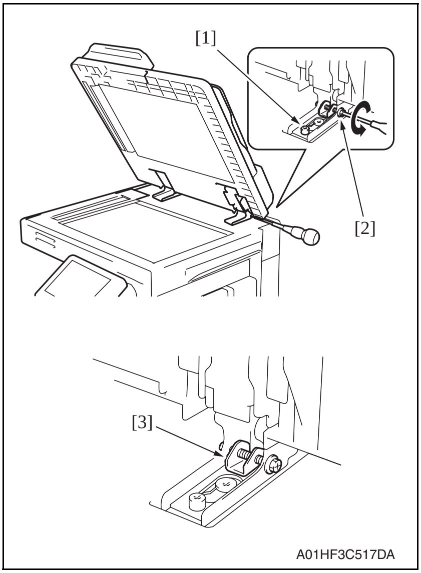
1. Check how the edges of the chart are misaligned.
   The amount of the deviation of the chart will be X.



2. Place the chart [1] in the document feed tray (with the side having an arrow facing up).



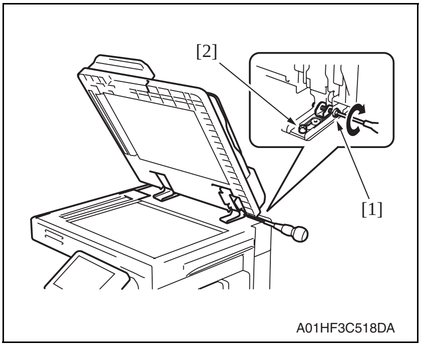
3. Make copies 5 times repeatedly in single side mode.
4. Fold all 5 sample copies as illustrated and check for any deviation.
   Deviation on the sample will be Y.
5. Obtain the difference between the deviation of the chart and the deviation of the sample.
   Difference of the deviation = Y - X
   Specifications: 0 ± 2 mm
6. If the difference of the deviation does not fall within the specified range, perform the following adjustment.



7. Loosen the mounting screw [1] on the right hinge viewed from the front.
8. When the difference of the deviation is + (plus), turn the screw [2] counterclockwise to adjust.

NOTE

- **When turning the screw, be sure not to raise the reverse automatic document feeder until in an upright position.**
- **When the adjusting plate [3] is set far left, do not tighten any further.**
- **To prevent the adjustment screw [2] breakage, be sure to follow the above instructions.**



9. When the difference of the deviation is - (minus), turn the screw [1] clockwise to adjust.
10. After the adjustment is completed, tighten the mounting screw [2] on right side hinge securely with screwdriver.

7.3 Original Stop Position

- Adjustment of the document stop position is made automatically and manually (by entering numbers). The following adjustment is made in the Service Mode.

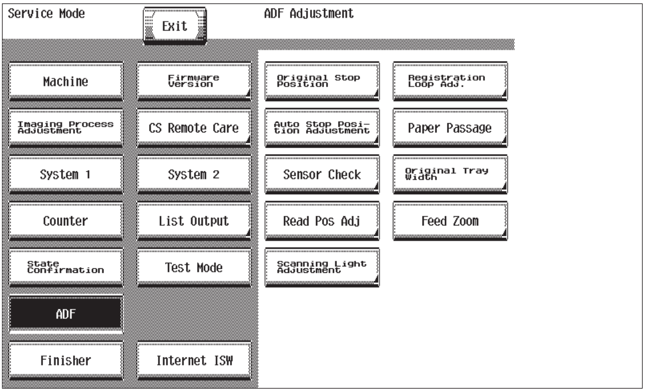
NOTE

- **Before performing this adjustment, the feed zoom adjustment needs to be complete.**

  See P.49

A. Auto adjust: Sub Scanning Direction 1-Side Stop Position

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].



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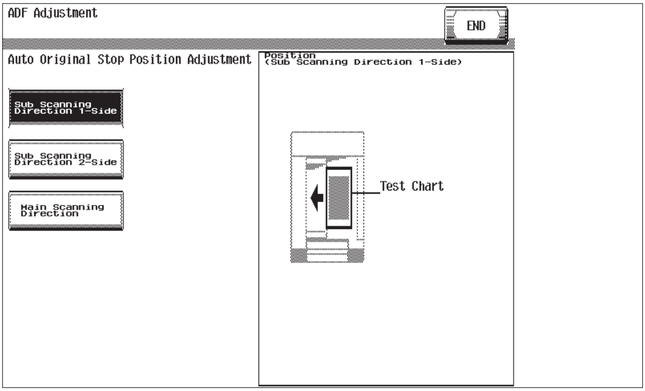
4. Touch [Sub Scanning Direction 1-Side].


ADF Adjustment
END
Auto Original Stop Position Adjustment
Position
<Sub Scanning Direction 1-Side>
Sub Scanning Direction 1-Side
Sub Scanning Direction 2-Side
Main Scanning Direction
Test Chart

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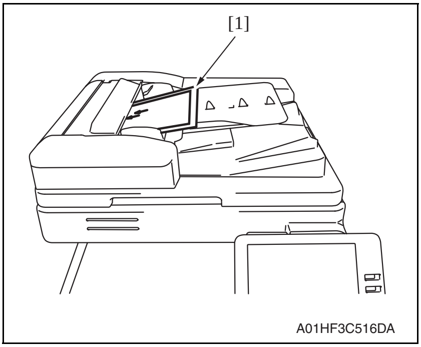
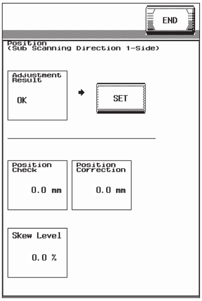


5. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
6. Press the Start key.



Position
(Sub Scanning Direction 1-Side)

Adjustment Result
OK

Position Check
0.0 mm

Position Correction
0.0 mm

Skew Level
0.0 %

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7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

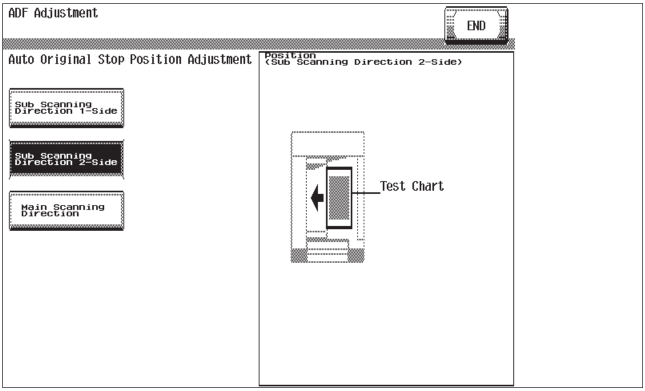
NOTE

If the result is Unable:

- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  See P.40

B. Auto adjust: Sub Scanning Direction 2-Side Stop Position

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Sub Scanning Direction 2-Side].



ADF Adjustment

Auto Original Stop Position Adjustment

Position
<Sub Scanning Direction 2-Side>

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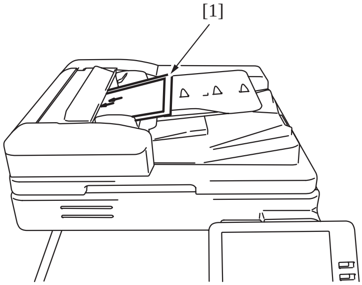

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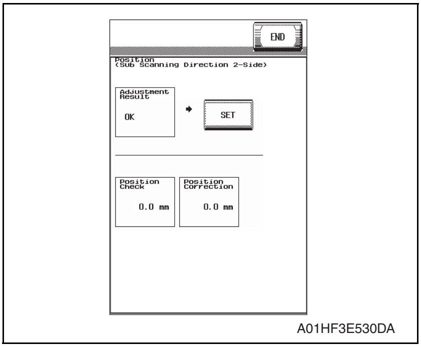
5. Place the chart furnished with the ADF [1] in the document feed tray.

NOTE

- **Make sure that the blank surface of the chart faces up.**

6. Press the Start key.



Adjustment Result
OK

Position Check
0.0 mm

Position Correction
0.0 mm

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7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

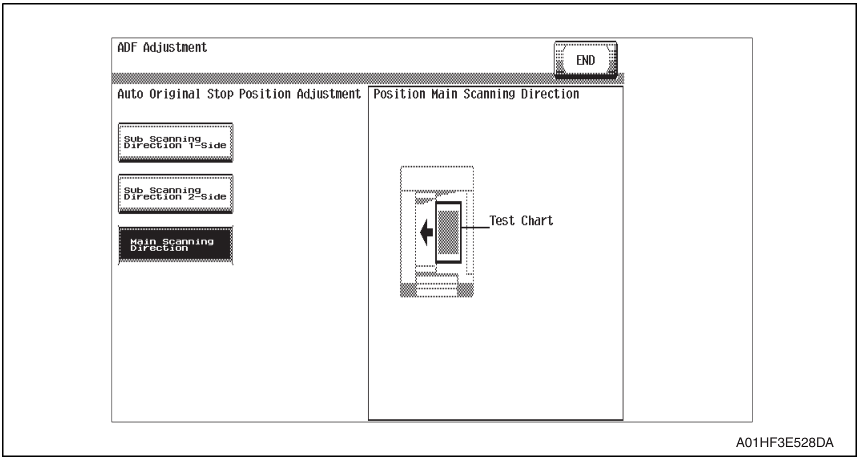
NOTE

If the result is Unable:

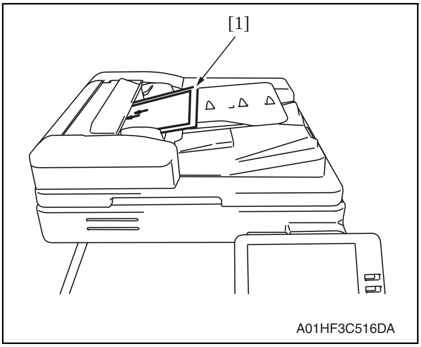
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  See P.40

C. Auto adjust: Main Scanning Direction Image scan start position

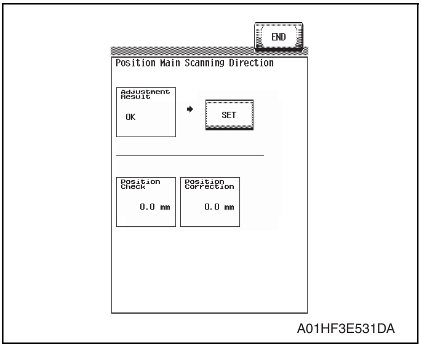
1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Main Scanning Direction].


ADF Adjustment
END
Auto Original Stop Position Adjustment
Position Main Scanning Direction
Sub Scanning Direction 1-Side
Sub Scanning Direction 2-Side
Main Scanning Direction
Test Chart

A01HF3E528DA



5. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
6. Press the Start key.



Position Main Scanning Direction

Adjustment Result: OK

Position Check: 0.0 mm

Position Correction: 0.0 mm

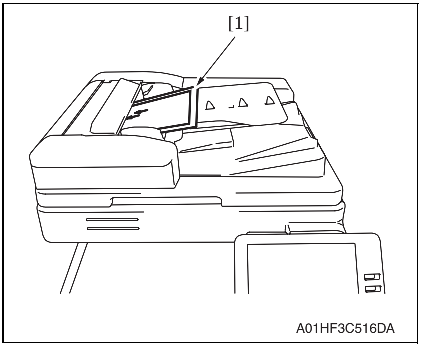
7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE

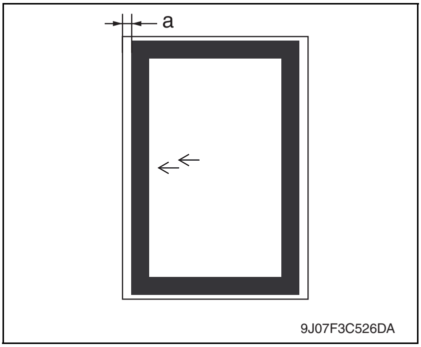
If the result is Unable:

- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  See P.42

D. Manual adjust: Sub Scanning Direction 1-Sided/2-Sided document stop position adjustment



1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.



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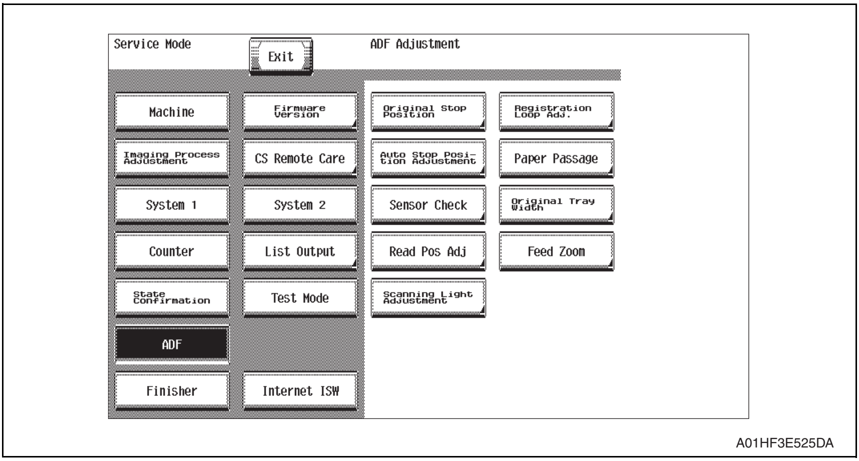
3. Check that the difference in the widths of a between the chart and the copy sample falls within the specified range.
   Specifications: 0 ± 2 mm

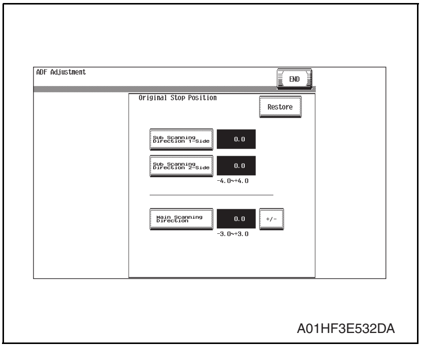
NOTE

- **In the same way place the chart with the blank side facing up in the document feed tray in the duplex mode and make a copy. Check the difference in the widths of a between the chart and the second sided surface of the copy sample.**

4. If the difference in the width of a falls outside the specified range, make the following adjustment.
5. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
6. Touch [ADF].
7. Touch [Original Stop Position].



A01HF3E525DA



Sub Scanning Direction 1-Side 0.0
Sub Scanning Direction 2-Side 0.0
-4.0~+4.0
Main Scanning Direction 0.0
-3.0~+3.0

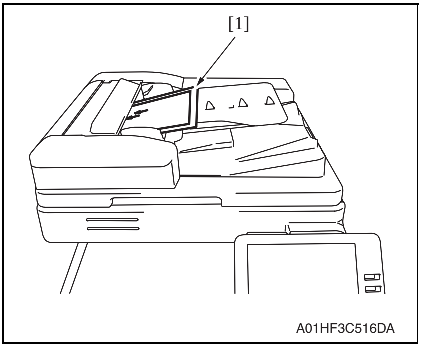
A01HF3E532DA

8. Touch [Sub Scanning Direction 1-Side] or [Sub Scanning Direction 2-Side].
9. Enter the value from the ten-key pad. (Press the [+/-] key to change the +/- code.)

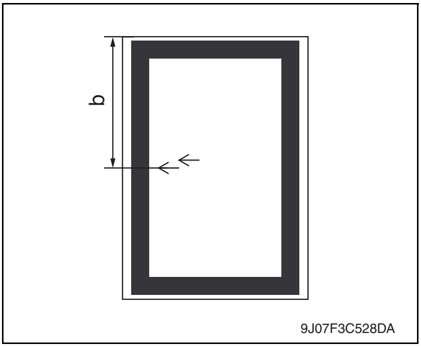
- Adjustable range: -4.0 mm to + 4.0 mm (in 1-mm increments)
- If the difference in the widths of a is greater than the specifications, enter the + value.
- If the difference in the widths of a is smaller than the specifications, enter the - value.

10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Make a copy of the chart again and check that the difference in the widths of a falls within the specified range.

E. Manual adjust: Main Scanning Direction stop position adjustment

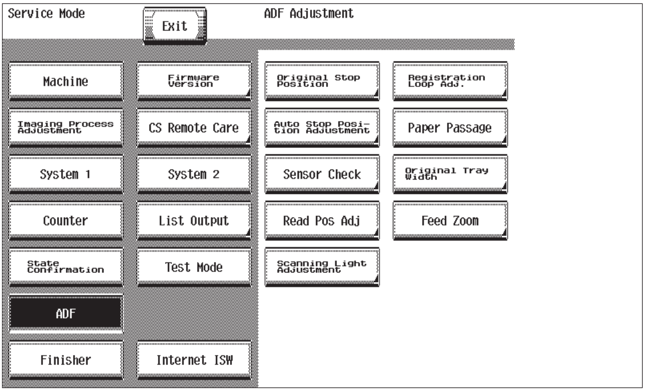


1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.

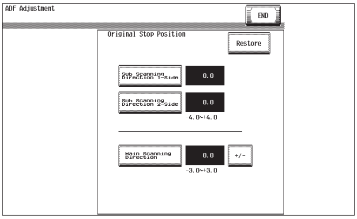


3. Check that the difference in the widths of b between the chart and the copy sample falls within the specified range.
   Specifications: 0 ± 2 mm
4. If the difference in the width of b falls outside the specified range, make the following adjustment.

5. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
6. Touch [ADF].
7. Touch [Original Stop Position].



A01HF3E525DA



Sub Scanning Direction 1-Side 0.0

Sub Scanning Direction 2-Side 0.0

-4.0~+4.0

Main Scanning Direction 0.0

-3.0~+3.0

A01HF3E532DA

8. Touch [Main Scanning Direction].
9. Enter the value from the ten-key pad. (Press the [+/-] key to change the +/- code.)

- Adjustable range: -3.0 mm to + 3.0 mm (in 1-mm increments)
- If the difference in the widths of b is greater than the specifications, enter the + value.
- If the difference in the widths of b is smaller than the specifications, enter the - value.

10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Make a copy of the chart again and check that the difference in the widths of b falls within the specified range.

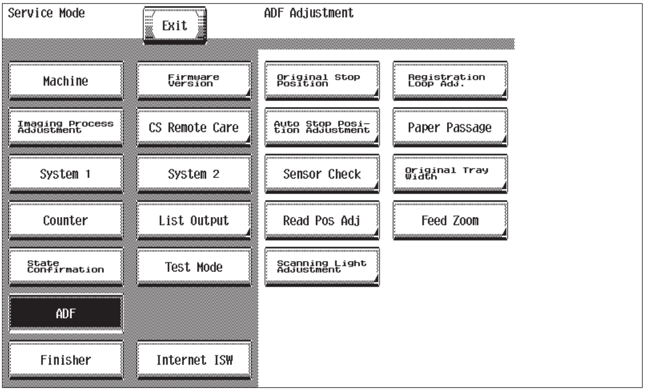
7.4 Original Tray Width

NOTE

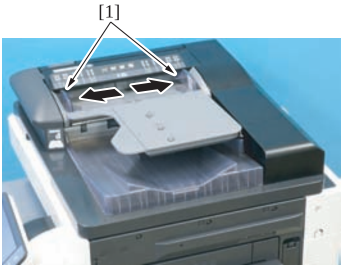
Make this adjustment after any of the following procedures has been performed.

- **When the document width detection variable resistor has been replaced.**
- **When the EEPROM has been replaced.**

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Original Tray Width].

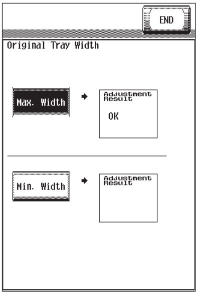


A01HF3E525DA



A01HF3C001DA

4. Widen the width across the edge guides [1] by sliding them to the “A3” position.



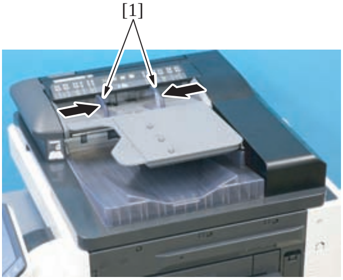
Original Tray Width

Max. Width → Adjustment Result OK

Min. Width → Adjustment Result

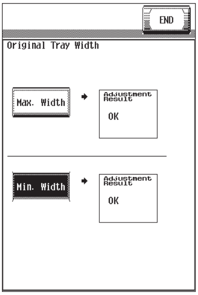
A01HF3E534DA

5. Touch [Max. Width].
6. Press the Start key.
7. OK is displayed when the adjustment has been completed.



A01HF3C002DA

8. Narrow the width across the edge guides [1] by sliding them to the “B6” position.



Original Tray Width

Max. Width → Adjustment Result OK

Min. Width → Adjustment Result OK

A01HF3E535DA

9. Touch [Min. Width].
10. Press the Start key.
11. OK is displayed when the adjustment has been completed.
12. Touch [END].
13. Touch [Exit] on the Service Mode screen.
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

* If the result is NG:

- Possible causes includes failure of the document width detection variable resistor, wrong wiring to the volume and failure of the DFCB.

7.5 Read Pos Adj

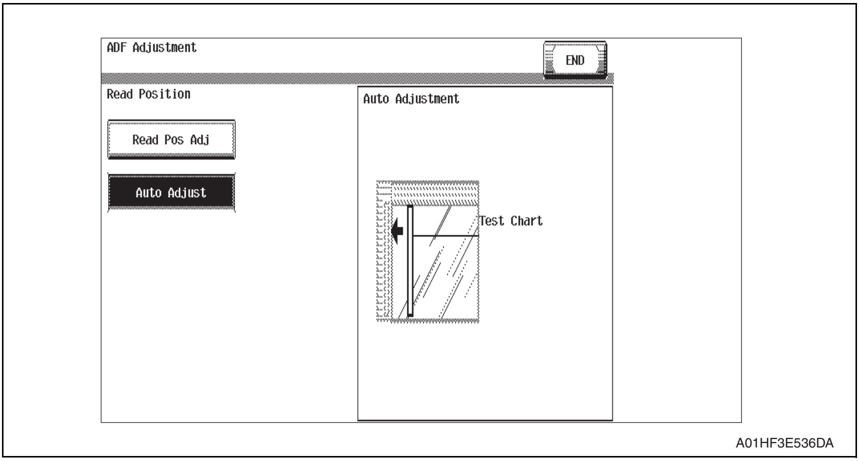
NOTE

Make this adjustment after any of the following procedures has been performed.

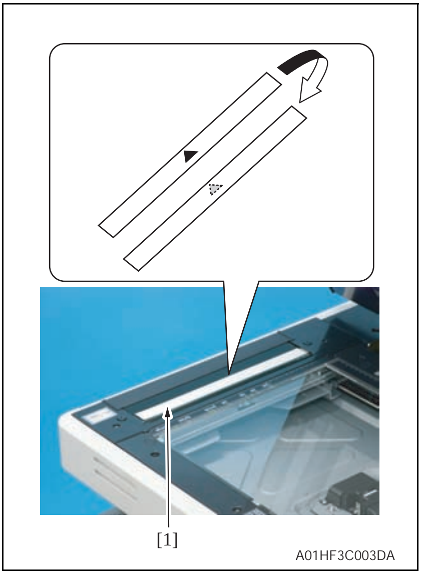
- **When the first/second carriage, the scanner wire, the scanner assy, the original glass moving unit, and/or the glass step sheet have been replaced.**

A. Auto adjust

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Read Pos Adj].
4. Touch [Auto Adjust].



A01HF3E536DA

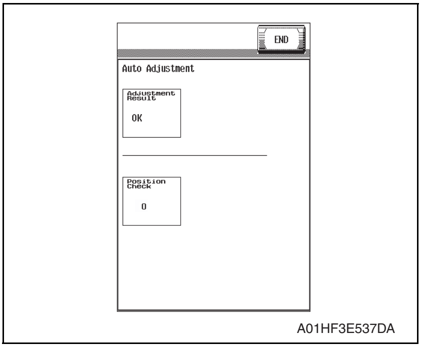


A01HF3C003DA

5. Open the ADF.
6. Place the ADF reading chart [1] so that a triangular mark may become the original glass side (downward) and the pointed tip of the triangle points toward the black sheet on the left side.
7. Press the Start key.

NOTE

- **Be sure that the ADF reading chart is in position.**
- **Keep the automatic document feeder open while making the adjustment.**



Auto Adjustment

Adjustment Result

OK

Position Check

0

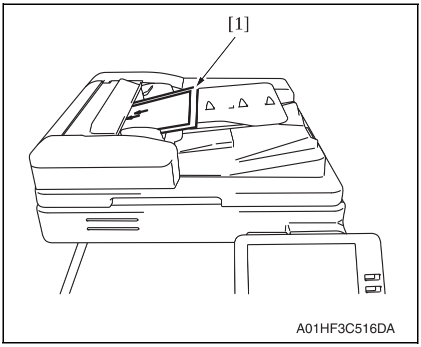
8. Make sure that the result is OK.
9. Touch [END].
10. Touch [Exit] on the Service Mode screen.
11. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE

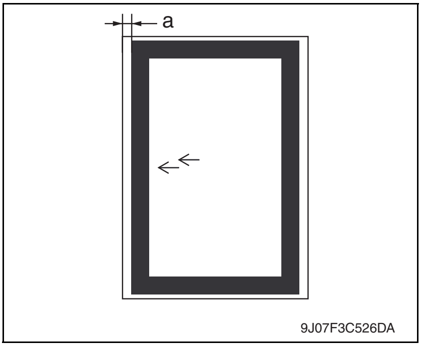
If the result is Unable:

- **Check that the chart is in the correct place.**
- **Make the manual adjustment on the [Read Pos Adj] screen.**
  See P.47

B. Manual adjust: Read Pos Adj

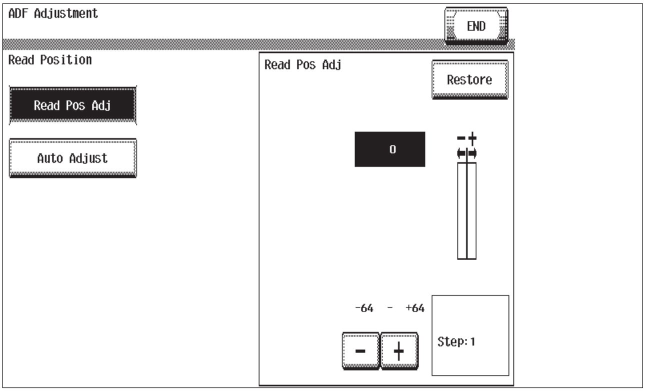


1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.



3. Check that the difference in the widths of a between the chart and the copy sample falls within the specified range.
   Specifications: 0 ± 1.0 mm
4. If the difference in the width of a falls outside the specified range, make the following adjustment.
5. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
6. Touch [ADF].

7. Touch [Read Pos Adj].



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8. Enter the value using the [-]/[+] keys.

- If the difference in the widths of a is greater than the specifications, enter the - value.
- If the difference in the widths of a is smaller than the specifications, enter the + value.

9. Touch [END].

10. Touch [Exit] on the Service Mode screen.

11. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

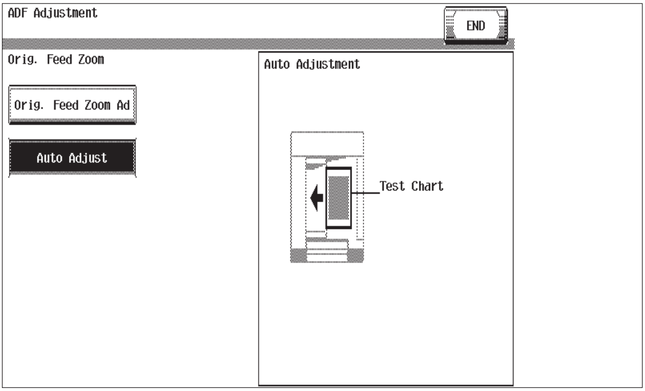
12. Make a copy of the chart again and check that the difference in the widths of a falls within the specified range.

7.6 Feed Zoom

- Adjustment of the feed zoom is made automatically and manually (by entering numbers). The following adjustment is made in the Service Mode.

A. Auto adjust

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [ADF].
3. Touch [Feed Zoom].
4. Touch [Auto Adjust].

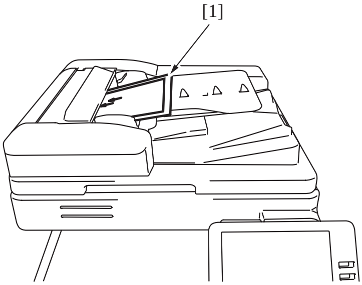


ADF Adjustment

Orig. Feed Zoom

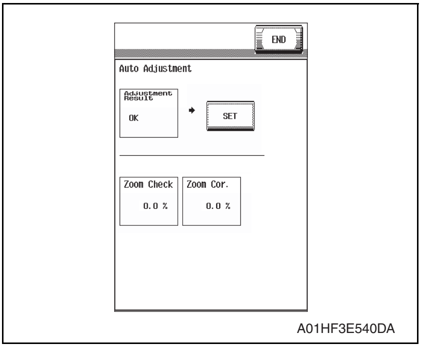
Auto Adjustment

A01HF3E539DA



A01HF3C516DA

5. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
6. Press the Start key.



Auto Adjustment

Adjustment Result: OK

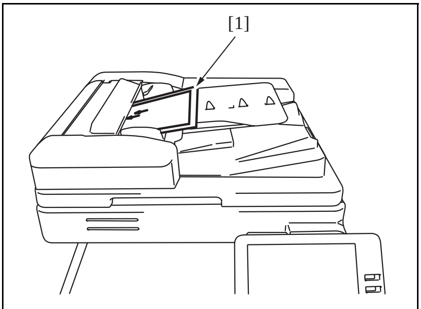
Zoom Check: 0.0 %

Zoom Cor.: 0.0 %

A01HF3E540DA

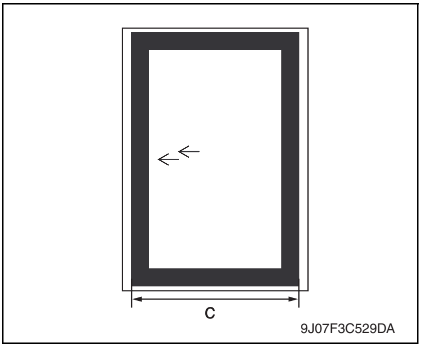
7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

B. Manual adjust: Orig. Feed Zoom Adjustment



A01HF3C516DA

1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.



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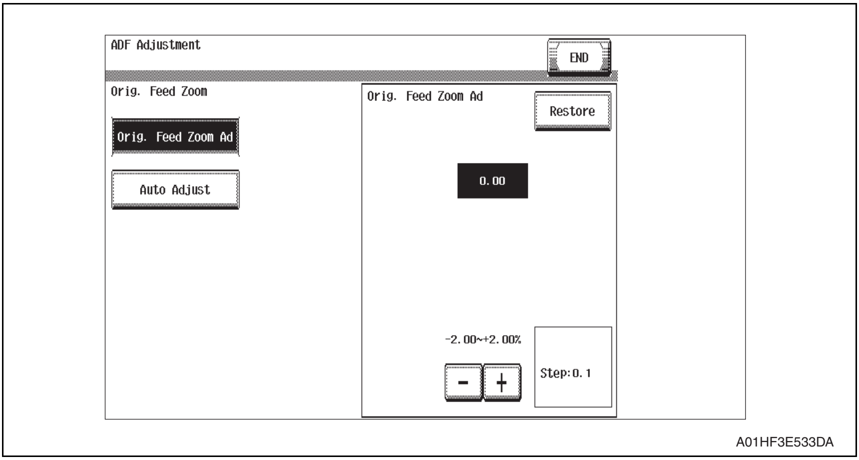
3. Check that the difference in the widths of c between the chart and the copy sample falls within the specified range.
   Specifications: 0 ± 1.0 mm
4. If the difference in the width of c falls outside the specified range, make the following adjustment.

5. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
6. Touch [ADF].
7. Touch [Feed Zoom].
8. Touch [Orig. Feed Zoom Ad].



9. Enter the value using the [-]/[+] keys.
- If the difference in the widths of c is greater than the specifications, enter the - value.
- If the difference in the widths of c is smaller than the specifications, enter the + value.
10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Make a copy of the chart again and check that the difference in the widths of a falls within the specified range.

Blank Page

Troubleshooting

8. Jam display

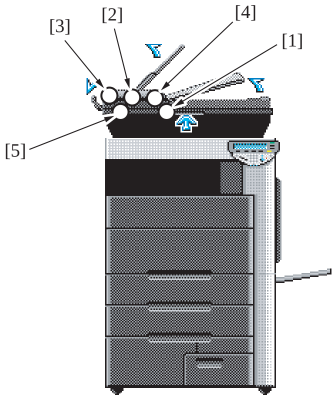
8.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

8.2 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main unit.



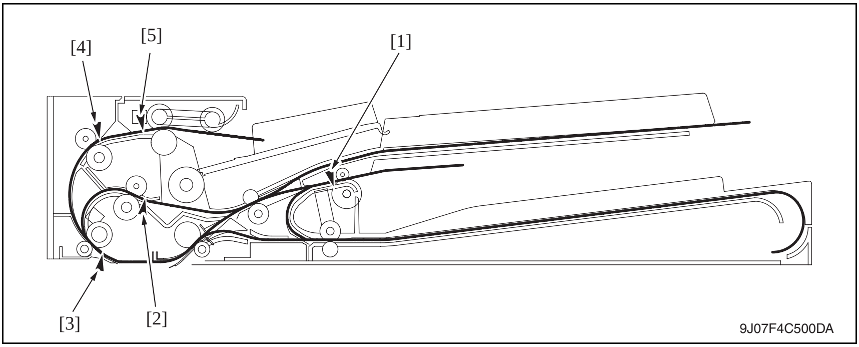
A01HF4C501DA

Display	Code	Jam type	Misfeed access location	Action
[1]	6601	Turnover section misfeed	Transportation cover	P.55
[2]	6602	Paper feed section misfeed		P.56
[3]	6603	Transport section misfeed		P.57
[4]	6604	Paper exit section misfeed		P.58
[5]	6605	Image reading section misfeed		P.59
[1][2][3][4][5]	6606	Original feeding interval misfeed		P.60
[1][2][3][4][5]	6607	Remaining paper misfeed		P.61

8.2.1 Misfeed display resetting procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

8.3 Sensor layout



[1]	Exit sensor	PS5	[4]	Regist sensor	PS3
[2]	Reverse regist sensor	PS8	[5]	After separate sensor	PS4
[3]	Before read sensor	PS9			

8.4 Solution

8.4.1 Turnover section misfeed

A. Detection timing

Type	Description
Detection of misfeed at turnover section	The before read sensor (PS9) is not turned ON after a lapse of a given time after the reverse regist motion is performed.
	The reverse regist sensor (PS8) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned OFF.
Detection of paper left in turnover section	The reverse regist sensor (PS8) is not turned OFF after a lapse of a given time after the reverse regist motion is performed.

B. Action

Relevant electrical parts	
Switchback roller pressure/retraction motor (M5) Before read sensor (PS9) Reverse regist sensor (PS8)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611/610 C-5
3	PS8 I/O, sensor check	DFCB PJ12DFCB-2 (ON)	DF-611/610 I-2
4	M5 operation check	REYB PJ3REYB-7 to 8	DF-611/610 K to L-10
5	DFCB replacement	—	—

8.4.2 Paper feed section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper feed section	The after separate sensor (PS4) is not turned ON after a lapse of a given time after the take-up motor (M2) is turned ON.

B. Action

Relevant electrical parts	
Take-up motor (M2) After separate sensor (PS4)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS4 I/O, sensor check	DFCB PJ11DFCB-6 (ON)	DF-611/610 C-4
3	M2 operation check	DFCB PJ8DFCB-5 to 10	DF-611/610 I-6
4	DFCB replacement	—	—

8.4.3 Transport section misfeed

A. Detection timing

Type	Description
Detection of misfeed at transport section	The regist sensor (PS3) is not turned ON after a lapse of a given time after the after separate sensor (PS4) is turned ON.
	The before read sensor (PS9) is not turned ON after a lapse of a given time after the regist sensor (PS3) is turned ON.
Detection of paper left in transport section	The after separate sensor (PS4) is not turn OFF after a lapse of a given time after the after separate sensor (PS4) is turned ON.
	The regist sensor (PS3) is not turned OFF after a lapse of given time after the after separate sensor (PS4) is turned OFF.

B. Action

Relevant electrical parts	
Regist motor (M7) (Only DF-610) Take-up motor (M2) Regist sensor (PS3) After separate sensor (PS4) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Adjust the height of the guide support for the original glass moving unit. See P.566 of the main body service manual.	—	—
3	PS3 I/O, sensor check	DFCB PJ10DFCB-11 (ON)	DF-611/610 C-2 to 3
4	PS4 I/O, sensor check	DFCB PJ11DFCB-6 (ON)	DF-611/610 C-4
5	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611/610 C-5
6	M7 operation check (Only DF-610)	DFCB PJ9DFCB-4 to 7	DF-611/610 I-7
7	M2 operation check	DFCB PJ8DFCB-5 to 10	DF-611/610 I-6
8	DFCB replacement	—	—

8.4.4 Paper exit section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper exit section	The exit sensor (PS5) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned ON.
	• The exit sensor (PS5) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned OFF. • The exit sensor (PS5) is not turned OFF after a lapse of a given time after the turnover and paper exit motion is performed.
Detection of paper left in paper exit section	The exit sensor (PS5) is not turned OFF after a lapse of a given time after the before read sensor (PS9) is turned OFF.

B. Action

Relevant electrical parts	
Exit motor (M3) Before read sensor (PS9) Exit sensor (PS5)	DF control board (DFCB)

2

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611/610 C-5
3	PS5 I/O, sensor check	DFCB PJ3DFCB-3 (ON)	DF-611/610 I-5 to 6
4	M3 operation check	DFCB PJ8DFCB-1 to 4	DF-611/610 I-6
5	DFCB replacement	—	—

8.4.5 Image reading section misfeed

A. Detection timing

Type	Description
Detection of paper left in image reading section	The before read sensor (PS9) is not turned OFF after a lapse of a given time after the regist sensor (PS3) is turned OFF.
	The before read sensor (PS9) is not turned OFF after a lapse of a given time after the reverse regist sensor (PS8) is turned OFF.

B. Action

Relevant electrical parts	
Reading motor (M1) Reading roller pressure/retraction motor (M4) Regist sensor (PS3) Reverse regist sensor (PS8) Before read sensor (PS9)	DF control board (DFCB)

2

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Make the adjustment of original stop position. P.36	—	—
3	PS3 I/O, sensor check	DFCB PJ10DFCB-11 (ON)	DF-611/610 C-2 to 3
4	PS8 I/O, sensor check	DFCB PJ12DFCB-2 (ON)	DF-611/610 I-2
5	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611/610 C-5
6	M1 operation check	DFCB PJ9DFCB-1 to 3	<DF-611> DF-611/610 I-7 <DF-610> DF-611/610 I-8
7	M4 operation check	DFCB PJ6DFCB-4 to 5	<DF-611> DF-611/610 I-3 <DF-610> DF-611/610 I-4
8	DFCB replacement	—	—

8.4.6 Original feeding interval misfeed

A. Detection timing

Type	Description
Original feeding interval misfeed	The before read sensor (PS9) is turned ON earlier than a given time after the before read sensor (PS9) is turned OFF during original transportation.

Relevant electrical parts	
Take-up motor (M2) Before read sensor (PS9)	DF control board (DFCB)

2

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611/610 C-5
3	M4 operation check	DFCB PJ8DFCB-5 to 10	DF-611/610 I-6
4	DFCB replacement	—	—

8.4.7 Remaining paper misfeed

A. Detection timing

Type	Description
Remaining paper misfeed	Due to a remaining sheet of paper that has not been detected by sensors, before the start of a job, a sensor detects the sheet at an unexpected timing.

B. Action

Relevant electrical parts	
Regist sensor (PS3) After separate sensor (PS4) Exit sensor (PS5) Reverse regist sensor (PS8) Before read sensor (PS9)	DF control board (DFCB)

2

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Remove the remaining paper.	—	—
2	Initial check items	—	—
3	PS3 I/O, sensor check	DFCB PJ10DFCB-11 (ON)	DF-611/610 C-2 to 3
4	PS4 I/O, sensor check	DFCB PJ11DFCB-6 (ON)	DF-611/610 C-4
5	PS5 I/O, sensor check	DFCB PJ3DFCB-3 (ON)	DF-611/610 I-5 to 6
6	PS8 I/O, sensor check	DFCB PJ12DFCB-2 (ON)	DF-611/610 I-2
7	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611/610 C-5
8	DFCB replacement	—	—

9. Trouble code

9.1 Trouble code list

- The main unit's cpu performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Description	Detection timing	Rank
C8101	Pressure/retraction mechanism failure before image reading	• During a pressure motion being performed, the read roller sensor (PS6) output does not change from H to L. • During a retraction motion being performed, the read roller sensor (PS6) output does not change from L to H.	B
C8102	Pressure/retraction mechanism failure at the turnover section	• During a pressure motion being performed, the reverse roller sensor (PS7) output does not change from H to L. • During a retraction motion being performed, the reverse roller sensor (PS7) output does not change from L to H.	B
C8103	Lift up mechanism failure	• The lift up upper sensor (PS16) is not turned ON after a lapse of a given time after the lift-up motor (M6) moves up (is turned forward). • The lift up lower sensor (PS15) is not turned ON after a lapse of a given time after the lift-up motor (M6) goes down (is turned backward).	B
C8104	Original glass travel failure	• The glass home sensor (PS203) output does not change from H to L after a lapse of a given time while the original glass moving motor (M202) is working. • The glass home sensor (PS203) output does not change from L to H after a lapse of a given time while the original glass moving motor (M202) is working.	B
C8302	Cooling fan failure	• The lock signal continues to detect H during a given time while the cooling fan (FM1) is spinning • The lock signal continues to detect L during a given time while the cooling fan (FM1) is during halts.	B
CC156	ADF ROM malfunction	• Upgrade of the firmware has not been successful.	B
CC165	Incorrect ROM content	• When the power is turned ON, DF control board or firmware error is detected.	B

9.2 Solution

9.2.1 C8101: Pressure/retraction mechanism failure before image reading

Relevant electrical parts	
Reading roller pressure/retraction motor (M4) Read roller sensor (PS6)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M4 for proper drive coupling, and correct as necessary.	—	—
3	M4 operation check	DFCB PJ6DFCB-4 to 5	<DF-611> DF-611/610 I-3 <DF-610> DF-611/610 I-4
4	PS6 I/O, sensor check	DFCB PJ6DFCB-3 (ON)	<DF-611> DF-611/610 I-4 <DF-610> DF-611/610 I-5
5	DFCB replacement	—	—

9.2.2 C8102: Pressure/retraction mechanism failure at the turnover section

Relevant electrical parts	
Switchback roller pressure/retraction motor (M5) Reverse roller sensor (PS7)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M5 for proper drive coupling, and correct as necessary.	—	—
3	M5 operation check	REYB PJ3REYB-7 to 8	DF-611/610 K to L-10
4	PS7 I/O, sensor check	REYB PJ3REYB-3 (ON)	DF-611/610 K to L-11
5	DFCB replacement	—	—

9.2.3 C8103: Lift up mechanism failure

Relevant electrical parts	
Lift-up motor (M6) Lift up lower sensor (PS16) Lift up upper sensor (PS15)	DF control board (DFCB)

2

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M6 for proper drive coupling, and correct as necessary.	—	—
3	M6 operation check	REYB PJ6REYB-1 to 2	DF-611/610 K to L-12
4	PS16 I/O, sensor check	DFCB PJ11DFCB-3 (ON)	DF-611/610 C-4 to 5
5	PS15 I/O, sensor check	REYB PJ3REYBB-6 (ON)	DF-611/610 K to L-11
6	DFCB replacement	—	—

9.2.4 C8104: Original glass travel failure

Relevant electrical parts	
Original glass moving unit Original glass moving motor (M202)	Original glass position control board (OGPCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M202 for proper drive coupling, and correct as necessary.	—	—
3	Original glass moving unit replacement	—	—
4	OGPCB replacement	—	—

9.2.5 C8302: Cooling fan failure

Relevant electrical parts	
Cooling fan (FM1)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the connector of FM1 for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM1 operation check	DFCB PJ7DFCB-1 (ON) DFCB PJ7DFCB-3 (LOCK)	DF-611/610 I-8
4	DFCB replacement	—	—

9.2.6 CC156: ADF ROM malfunction

Relevant electrical parts	
DF control board (DFCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	DFCB replacement	—	—

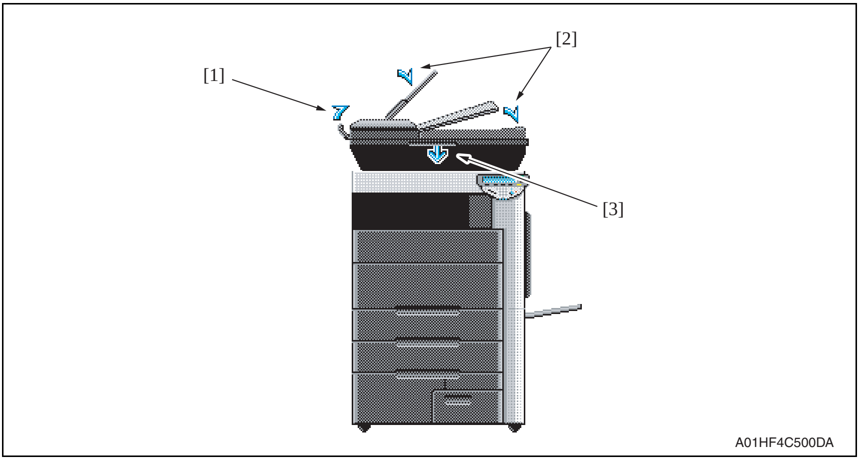
9.2.7 Incorrect ROM content

Relevant electrical parts	
DF control board (DFCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Rewrite firmware using the compact flash card.	—	—
2	DFCB replacement	—	—

10. Set error detection

- When the ADF or cover set error for some reason is detected, the panel of the main unit will have the following display.



<Panel display and detection timing for each>

Panel display	Description of error	Detection start	Detection timing
[1]	Transportation cover set error	When the main power switch turn ON.	Read open & close sensor (when light-blocked)
[2]	Document feed tray set error	When the main power switch turn ON.	Feed open & close sensor (when light-blocked)
[3]	ADF set error	When the document is set in the ADF	Original cover sensor (ON)

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

LU-301

2007.05
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 3.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2007/05	3.0	△2	Display change / Error corrections
2007/04	2.0	△1	Addition of adjustment item / Error corrections
2007/02	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

LU-301

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Name	3,000 sheets Large Capacity Unit
Type	External option attached to the right side of the main body
Document alignment	Center

B. Paper type

Type	Size	Weight	Capacity
Plain paper	A4, 8 $^1/_2$ x 11	64 g/m^2 to 90 g/m^2	3,000 sheets
Thick paper 1		91 g/m^2 to 120 g/m^2	2,500 sheets *2
Thick paper 1+		121 g/m^2 to 157 g/m^2	1,750 sheets *2
Thick paper 2		158 g/m^2 to 209 g/m^2	1,550 sheets *2
Thick paper 3		210 g/m^2 to 256 g/m^2	1,300 sheets *1 *2

*1: Images are out of guarantee.

*2: Excluding damp paper, curled paper, and recycled paper.

C. Machine specifications

Power requirements	DC 24 V, DC 5 V, DC 3.3 V (supplied from the main body)
Max. power consumption	23 W or less
Dimensions	367 mm (W) x 528 mm (D) x 405 mm (H) 14.5 inch (W) x 20.75 inch (D) x 16 inch (H)
Weight	18.0 kg (39.75 lb)

D. Operating environment

- Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

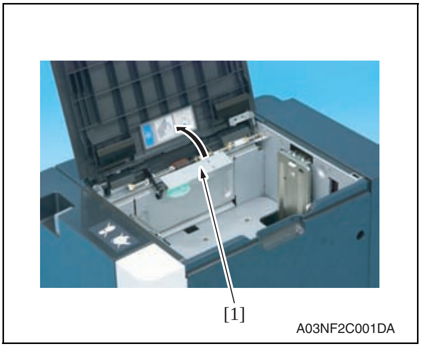
2.1.1 Replacing the pick-up roller

A. Periodically replaced parts/cycle

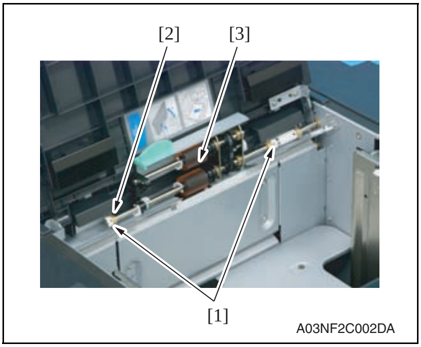
- Pick-up roller: Every 300,000 prints

B. Replacing procedure

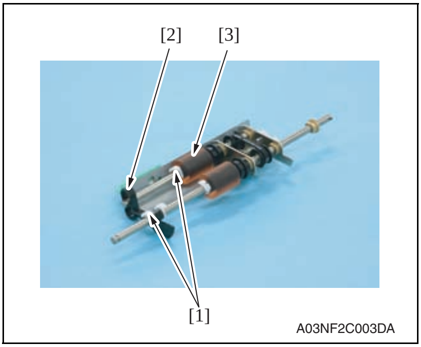
1. Open the upper door.



2. Move the feed roller [1] up.



3. Remove two C-clips [1], the bushing [2] and remove the feed roller assy [3].



4. Remove two C-clips [1], the actuator [2] and remove the pick-up roller [3].

2.1.2 Replacing the feed roller

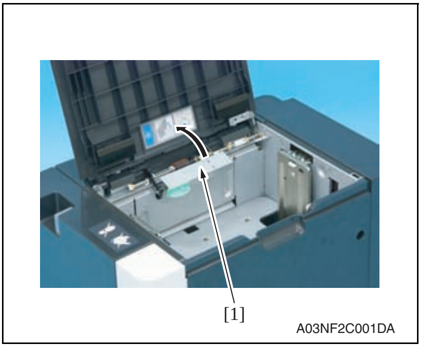
A. Periodically replaced parts/cycle

- Feed roller: Every 300,000 prints

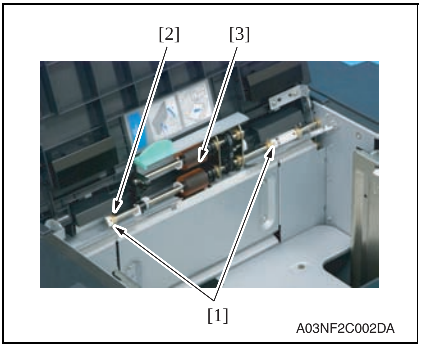
B. Replacing procedure

1. Open the upper door.

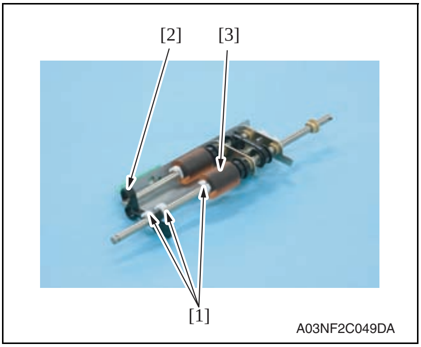
2. Move the feed roller [1] up.



3. Remove two C-clips [1], the bushing [2] and remove the feed roller assy [3].



4. Remove three C-clips [1], the actuator [2] and remove the feed roller [3].



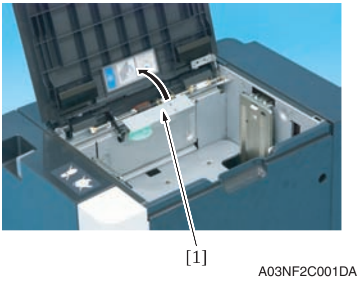
2.1.3 Replacing the separation roller

A. Periodically replaced parts/cycle

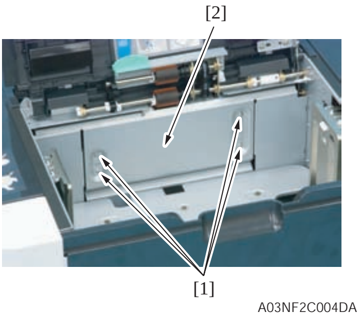
- Separation roller: Every 300,000 prints

B. Replacing procedure

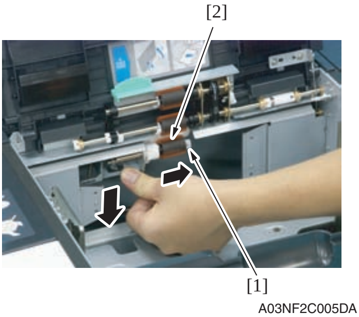
1. Open the upper door.



2. Move the feed roller [1] up.



3. Remove four screws [1] and remove the sheet metal [2].



4. Remove the C-clip [1] while pressing the separation roller down to remove the separation roller [2].

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

3.2.1 Disassembly/Assembly parts list

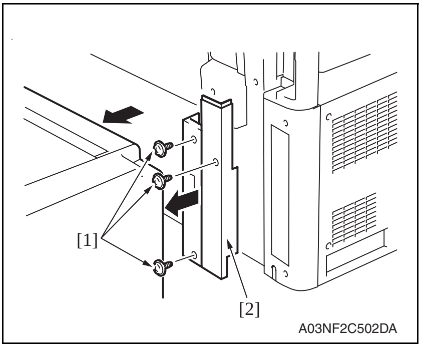
No	Section	Part name	Ref. page
1	Unit	Large capacity unit	P.8
2	Exterior parts	Upper door	P.10
3		Right cover	P.10
4		Front cover	P.11
5		Rear cover	P.12
6		Feed cover	P.13
7	Up/down section	Lift wire	P.13
8	Board and etc.	LU drive board	P.26
9	Others	Lift-up motor	P.27
10		Dehumidification heater	P.27

3.2.2 Cleaning parts list

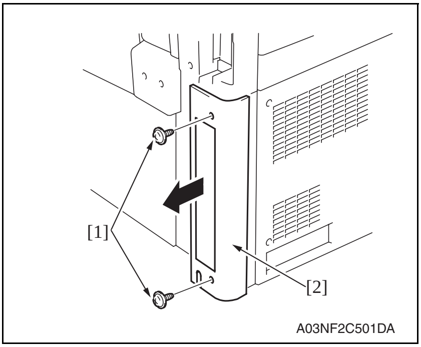
No	Section	Part name	Ref. page
1	Feed section	Pick-up roller	P.28
2		Feed roller	P.28
3		Separation roller	P.29
4	Transport section	Transport roller	P.29

3.3 Disassembly/Assembly procedure

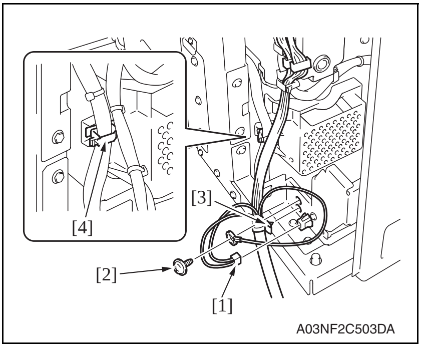
3.3.1 Large capacity unit



1. Remove the LCT from the main body to remove three screws [1]. Remove the lower right cover/4 [2] from the main body.



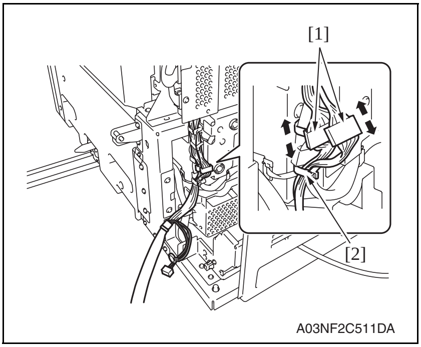
2. Remove two screws [1] to remove the lower right cover/2 [2] from the main body.



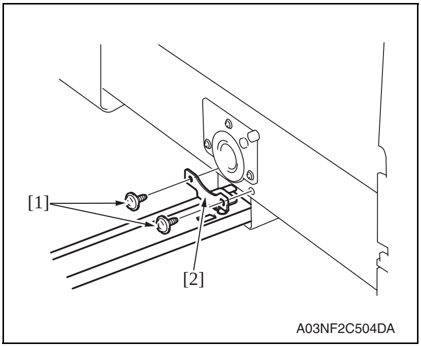
3. Disconnect the connector [1], the screw on the earth wire [2], and the cord clamp [3].

NOTE

- **When reinstalling the harness, be sure not to let the harness be inserted in the wire saddle [4].**



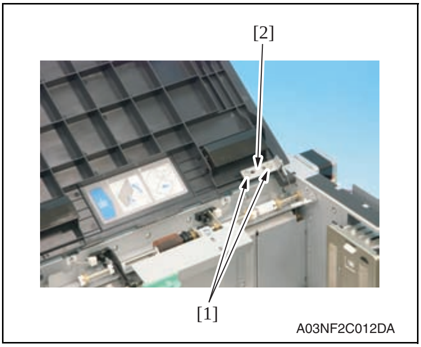
4. Disconnect each of the two connectors [1] and remove the harness from the wire saddle [2].



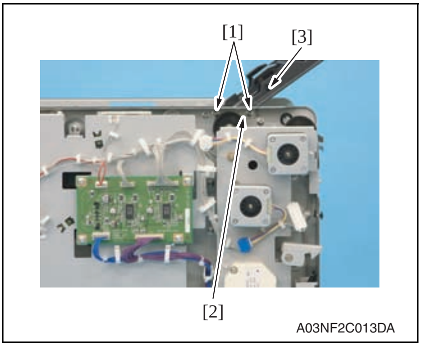
5. Remove two screws [1] and remove the mounting plate [2].

3.3.2 Upper door

1. Remove the right cover.
   See P.10
2. Remove the front cover.
   See P.11
3. Remove the rear cover.
   See P.12
4. Remove the feed cover.
   See P.13
5. Open the upper door.

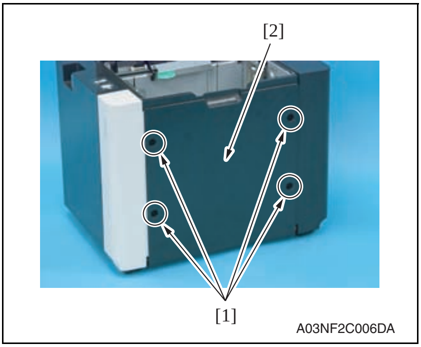


6. Remove two screws [1] and remove the fixed sheet metal [2].



7. Remove two screws [1], the sheet metal [2] and remove the upper door [3].

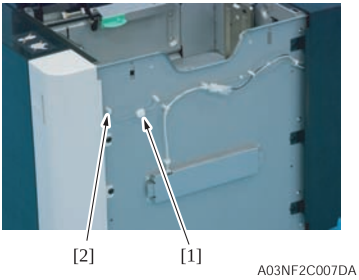
3.3.3 Right cover



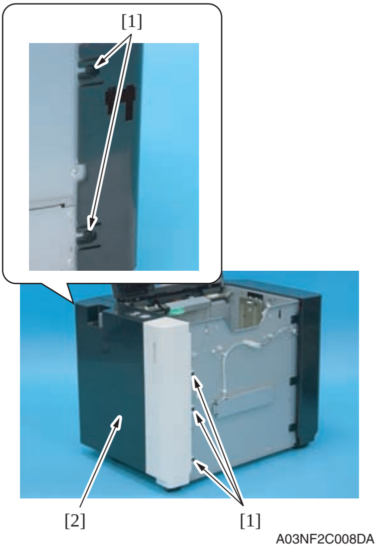
1. Open the upper door.
2. Remove four screws [1] and remove the right cover [2].

3.3.4 Front cover

1. Remove the right cover.
   See P.10



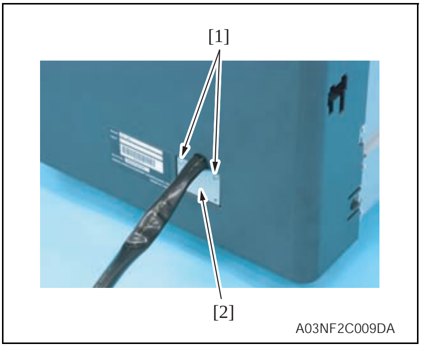
2. Remove the harness from the connector [1] and the wire saddle [2].



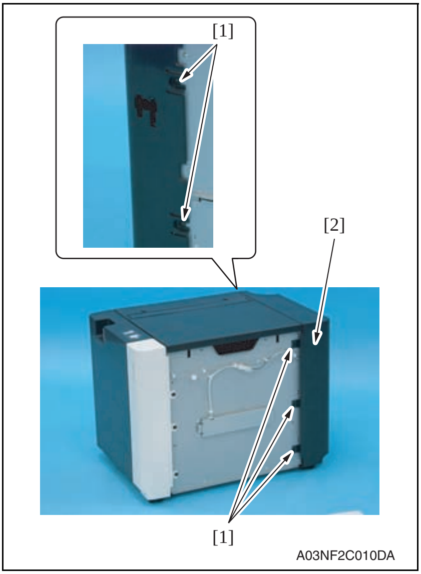
3. Loosen five screws [1] and remove the front cover [2].

3.3.5 Rear cover

1. Remove the right cover.
   See P.10



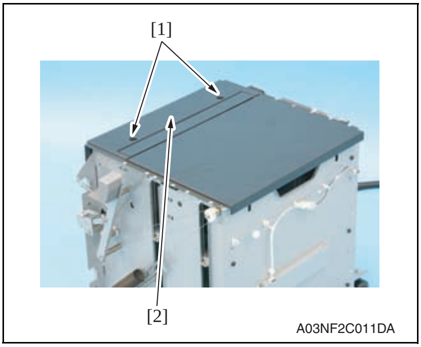
2. Remove two screws [1] and remove the sheet metal [2].



3. Loosen five screws [1] and remove the rear cover [2].

3.3.6 Feed cover

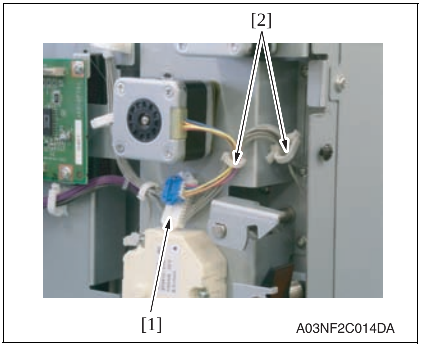
1. Remove the right cover.
   See P.10
2. Remove the front cover.
   See P.11
3. Remove the rear cover.
   See P.12



4. Remove two screws [1] and remove the feed cover [2].

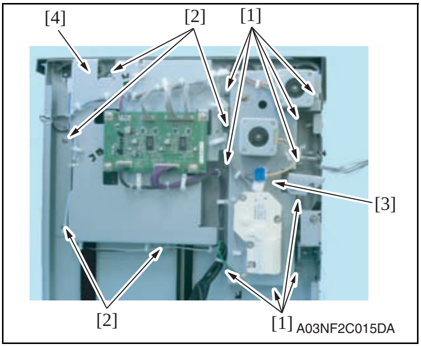
3.3.7 Lift wire

1. Remove the right cover.
   See P.10
2. Remove the front cover.
   See P.11
3. Remove the rear cover.
   See P.12

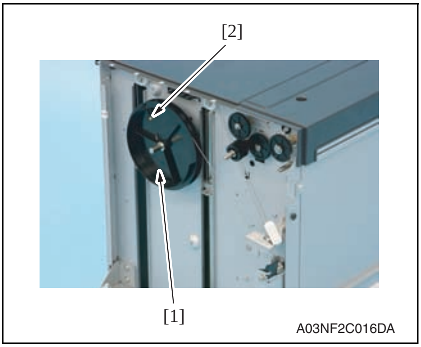


A. Removing the lift wire

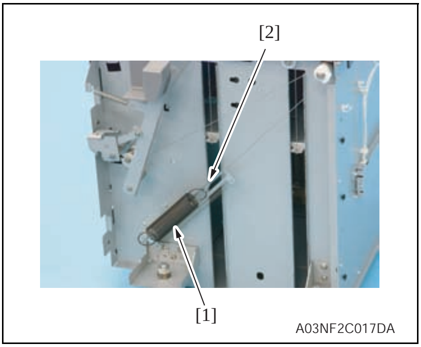
1. Remove the harness from the connector [1] and two wire saddles [2] on the rear side.



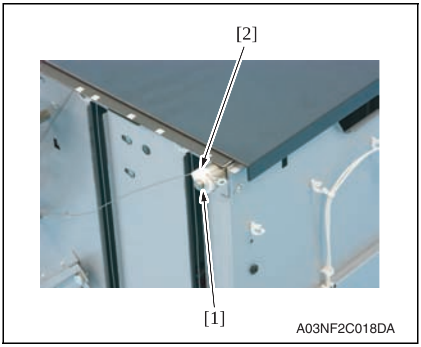
2. Remove nine screws [1] and five screws [2] to remove the motor assy [3] and the drive board assy [4].



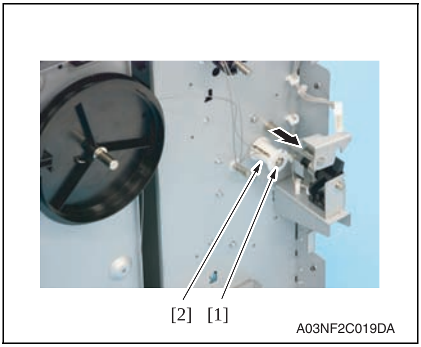
3. Remove the lift wire/L [2] from the rotation plate [1].



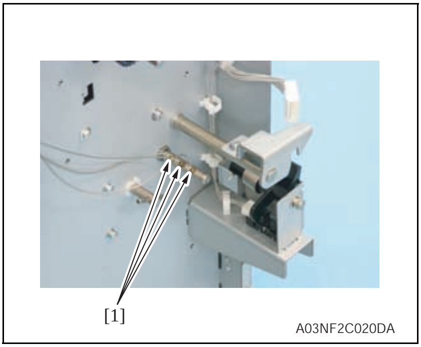
4. Remove the auxiliary wire [2] from the spring [1] on the front side.



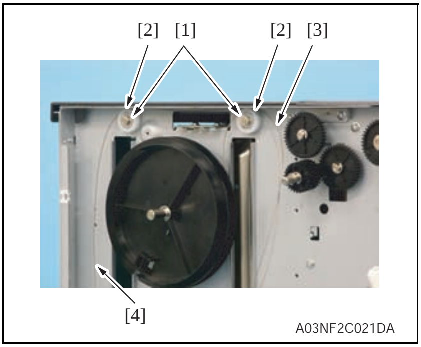
5. Remove the E-ring [1] on the front side to remove the wire holding jig [2].



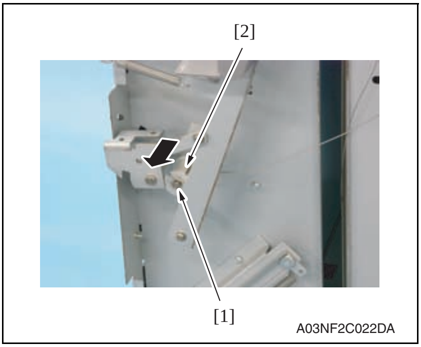
6. Remove the E-ring [1] on the rear side to remove the driving pulley [2].



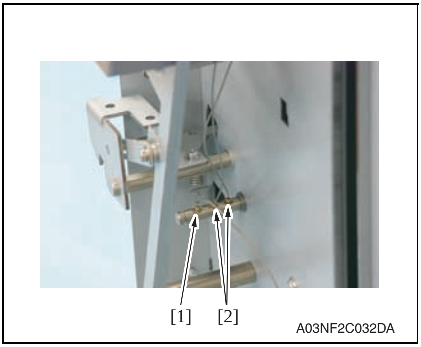
7. Pull out three lift wires [1].



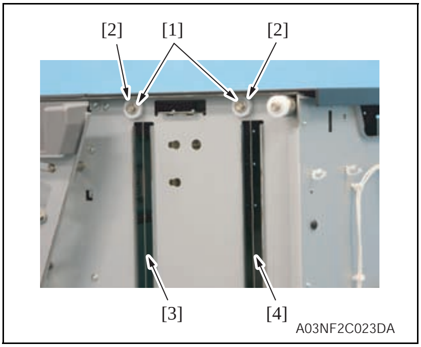
8. Remove two E-rings [1] and two wire pulleys [2] to remove the lift wire/S [3] and the lift wire/L [4].



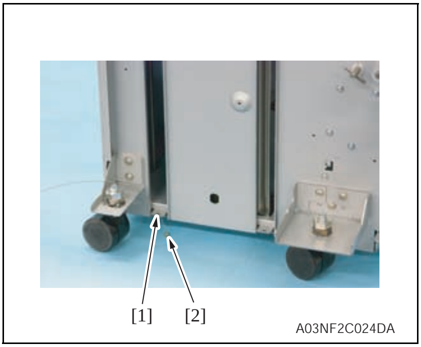
9. Remove the E-ring [1] on the front side to remove the driving pulley [2].



10. Pull out the auxiliary wire [1] and two lift wires [2].

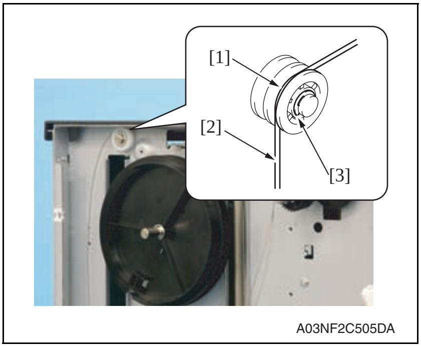


11. Remove two E-rings [1] and two wire pulleys [2] to remove the lift wire/S [3] and the lift wire/L [4].

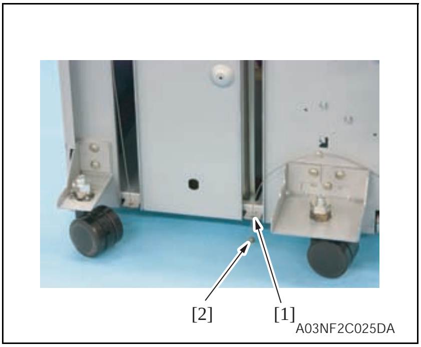


B. Installation of the lift wire

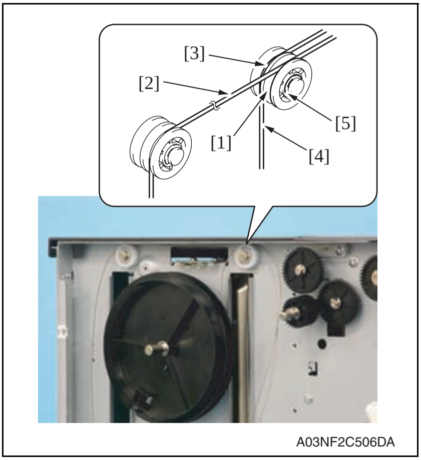
1. Insert the lift wire/L [2] to the left hole [1] on the rear face.



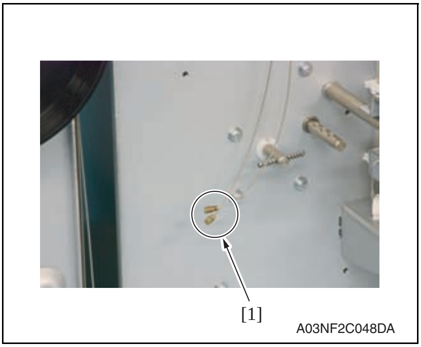
2. Set the lift wire/L [2] to the near side groove [1] on the wire pulley, and secure it with the E-ring [3].



3. Insert the lift wire/S [2] to the right hole [1] on the rear face.

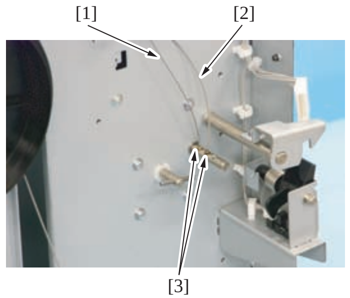


4. Set the lift wire/L [2] to the near side groove [1] on the wire pulley, and set the lift wire/S [4] to the far side groove [3] and secure them with the E-ring [5].



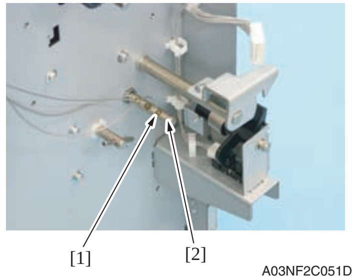
NOTE

- **They are properly fixed if both edges of the wire [1] are at the same position.**



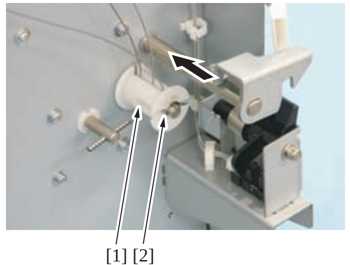
A03NF2C026DA

5. Take the edges of the lift wire/S [1] and the lift wire/L [2] and set them to the holes on the shaft [3].



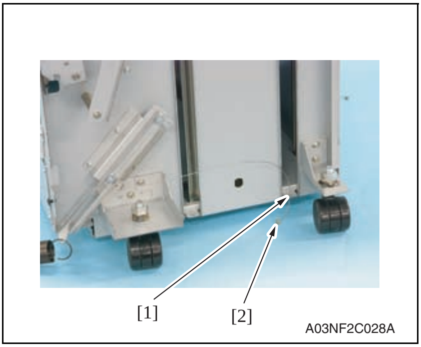
A03NF2C051DA

6. Take the edge of the lift wire/L [1] and set it to the hole on the shaft [2].

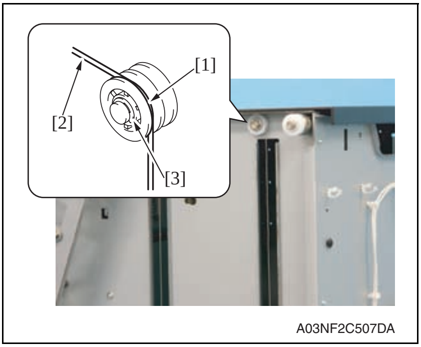


A03NF2C027DA

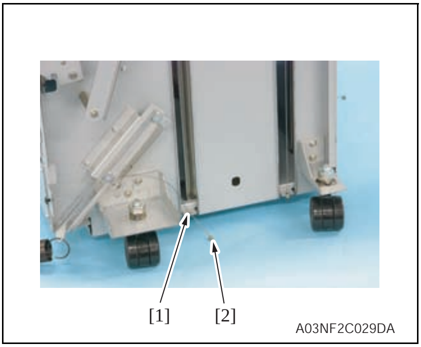
7. Mount the driving pulley [1] and secure it with the E-ring [2].



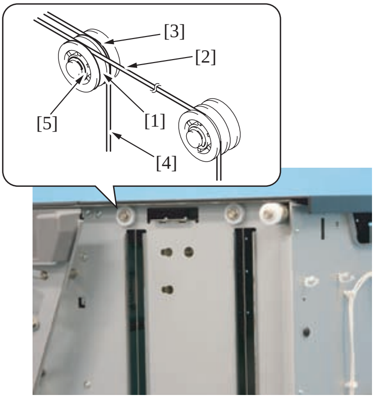
8. Insert the lift wire/L [2] to the right hole [1] on the front face.



9. Set the lift wire/L [2] to the near side groove [1] on the wire pulley and secure it with the E-ring [3].

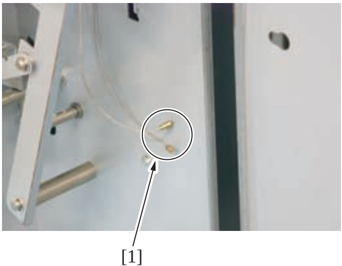


10. Insert the lift wire/S [2] to the left hole [1] on the front face.



A03NF2C508DA

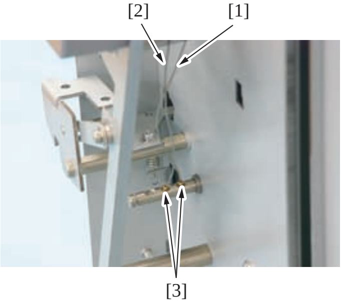
11. Set the lift wire/L [2] to the near side groove [1] on the wire pulley, and set the lift wire/S [4] to the far side groove [3] and secure them with the E-ring [5].



A03NF2C030DA

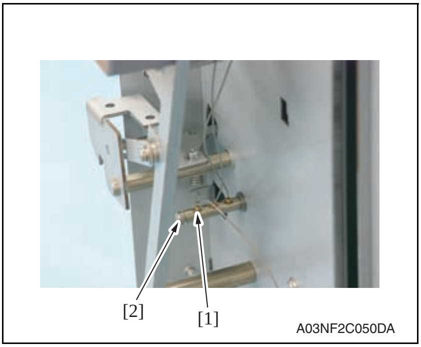
NOTE

- **They are properly fixed if both edges of the wire [1] are placed at the same position.**

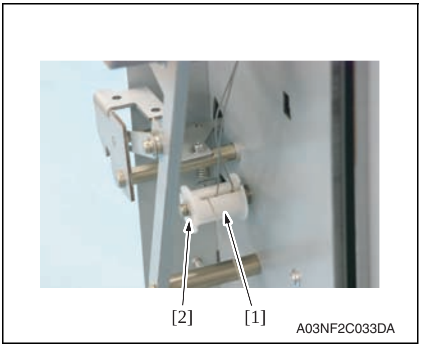


A03NF2C031DA

12. Take the edges of the lift wire/S [1] and the lift wire/L [2] to set them to the holes on the shaft [3].

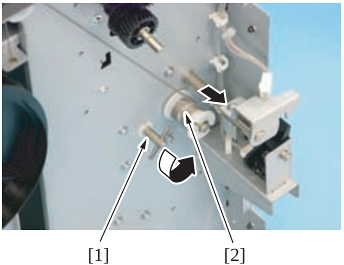


13. Take the edge of the auxiliary wire [1] and set it to the hole on the shaft [2].



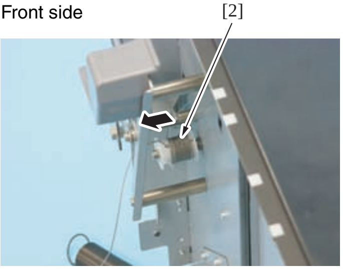
14. Mount the driving pulley [1] and secure it with the E-ring [2].

Rear side



A03NF2C035DA

Front side

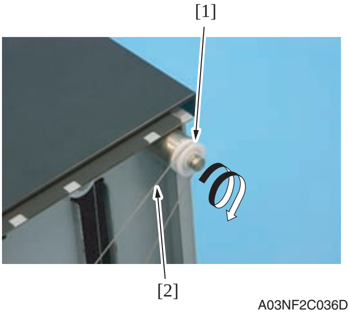


A03NF2C034DA

15. Wind the wire to the pulley [2] as rotating the lift up shaft [1] on the rear face counterclockwise and moving the tray assy to the upper end.

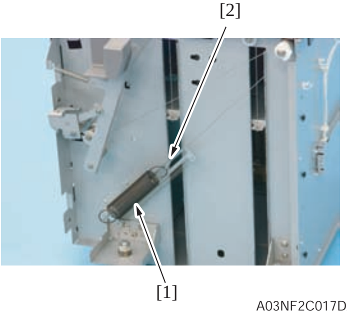
NOTE

- **Wind the wire to the direction shown by the arrow.**



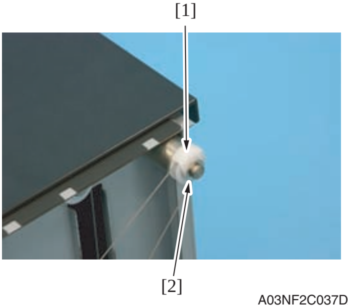
A03NF2C036DA

16. When the wire is wound with the tray assy being at the up end, wind the auxiliary wire [2] to the wire pulley [1] clockwise once.



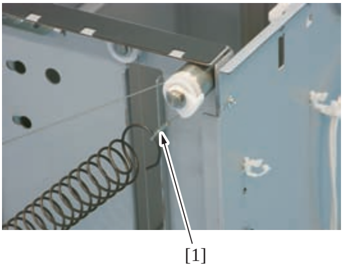
A03NF2C017DA

17. Set the auxiliary wire [1] on the front face to the hook of the slide spring [2].



A03NF2C037DA

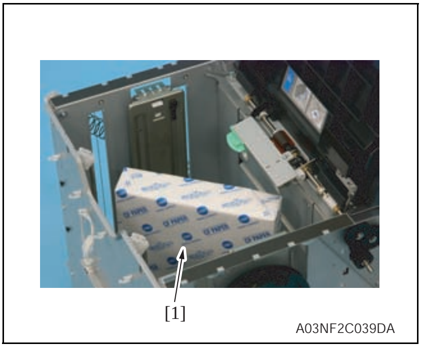
18. Mount the wire holding jig [1] and secure it with the E-ring [2].



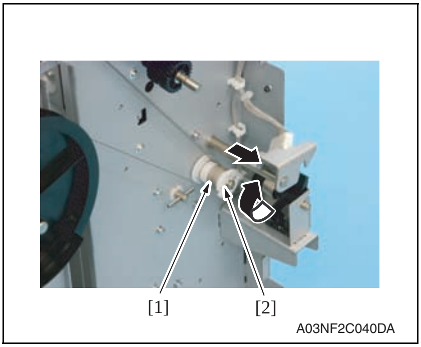
A03NF2C038DA

NOTE

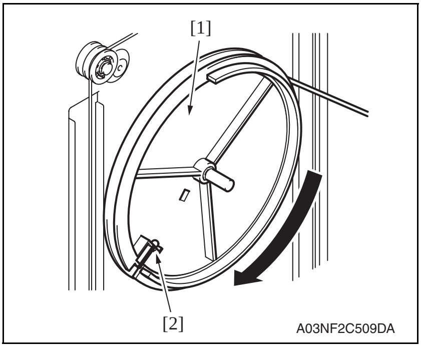
- **Check to make sure that the wire hook [1] is at the position shown on the picture when the tray assy is at the lower end.**



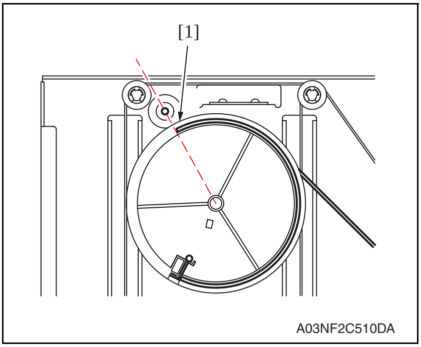
19. Place a weight such as a package of paper, etc. [1] to move the tray assy down to the lower end.



20. Wrap the lift wire/L [2] on the driving pulley [1] on the rear face clockwise seven times.



21. Turn the rotation plate [1] one and a half times clockwise from the position where the plate holds the tension, to set the lift wire/L [2].



NOTE

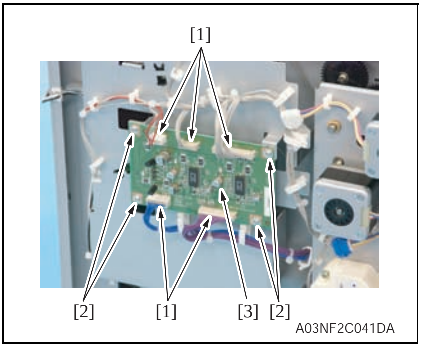
- **The rib edge [1] of the rotation plate must be around the dotted lines as shown in the picture when the tray Assy is at the lowest level.**

22. For the rest of the procedure for mounting, take the reverse steps from disassembling.

3.3.8 LU drive board

1. Remove the right cover.
See P.10

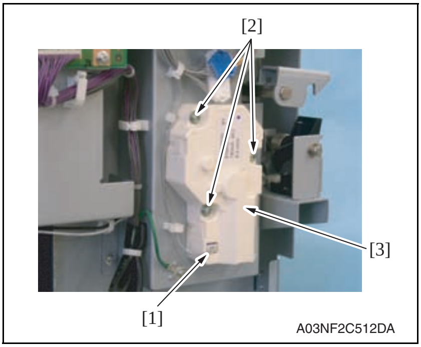
2. Remove the rear cover.
See P.12



3. Disconnect five connectors [1], remove four screws [2] and remove the LU drive board [3].

3.3.9 Lift-up motor

1. Remove the right cover.
   See P.10
2. Remove the rear cover.
   See P.12

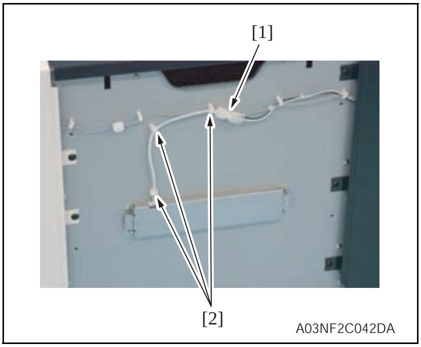


A03NF2C512DA

3. Disconnect the connector [1], remove three screws [2] and remove the lift-up motor [3].

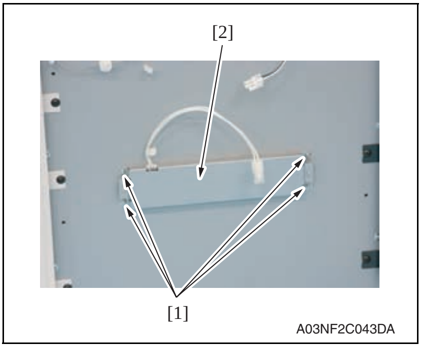
3.3.10 Dehumidification heater

1. Remove the right cover.
   See P.10



A03NF2C042DA

2. Remove the harness from the connector [1] and three wire saddles [2].



A03NF2C043DA

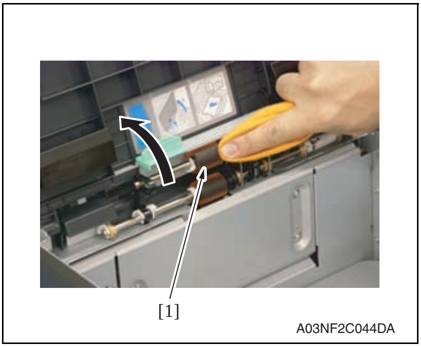
3. Remove four screws [1] and remove the dehumidification heater [2].

3.4 Cleaning procedure

NOTE

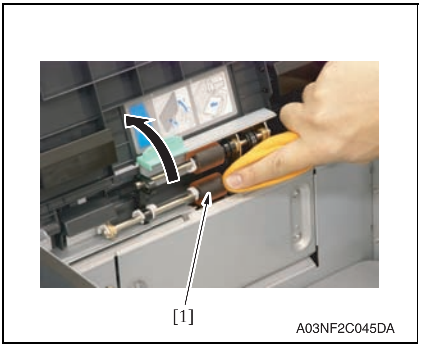
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

3.4.1 Pick-up roller



1. Open the upper door.
2. Move the feed roller up.
3. Using a soft cloth dampened with alcohol, wipe the pick-up roller [1] clean of dirt.

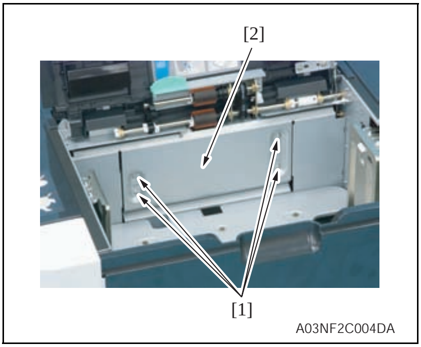
3.4.2 Feed roller



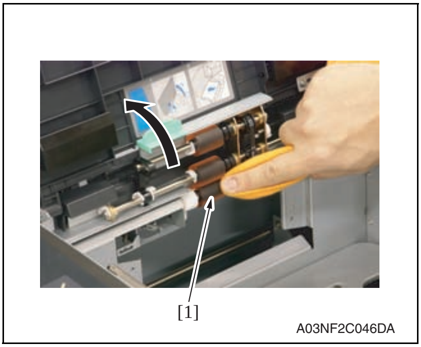
1. Open the upper door.
2. Move the feed roller up.
3. Using a soft cloth dampened with alcohol, wipe the feed roller [1] clean of dirt.

3.4.3 Separation roller

1. Open the upper door.
2. Move the feed roller up.



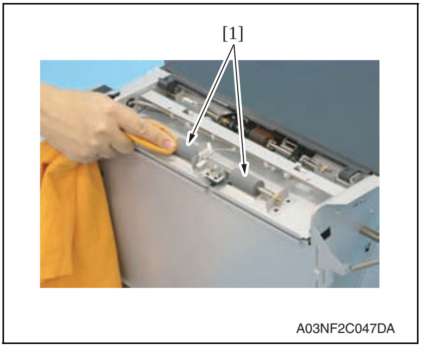
3. Remove four screws [1] and remove the sheet metal [2].



4. Using a soft cloth dampened with alcohol, wipe the separation roller [1] clean of dirt.

3.4.4 Transport roller

1. Remove the feed cover.
   See P.13



2. Using a soft cloth dampened with alcohol, wipe the transport roller [1] clean of dirt.

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Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

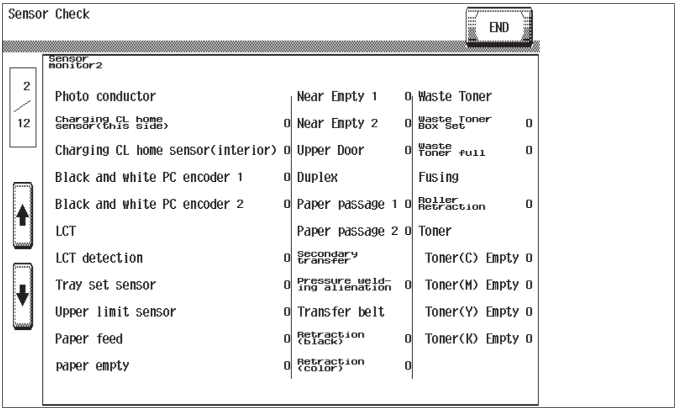
A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch [↓].

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



```
Sensor
monitor2

Photo conductor                           Near Empty 1        0  Waste Toner
Charging CL home sensor(this side)     0  Near Empty 2        0  Waste Toner Box Set    0
Charging CL home sensor(interior)      0  Upper Door          0  Waste Toner full       0
Black and white PC encoder 1           0  Duplex                 Fusing
Black and white PC encoder 2           0  Paper passage 1     0  Roller Retraction      0
LCT                                       Paper passage 2     0  Toner
LCT detection                          0  Secondary transfer      Toner(C) Empty 0
Tray set sensor                        0  Pressure welding alienation 0  Toner(M) Empty 0
Upper limit sensor                     0  Transfer belt           Toner(Y) Empty 0
Paper feed                             0  Retraction (black)  0   Toner(K) Empty 0
paper empty                            0  Retraction (color)  0
```

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5.2.2 Sensor check list

A. Sensor monitor 2

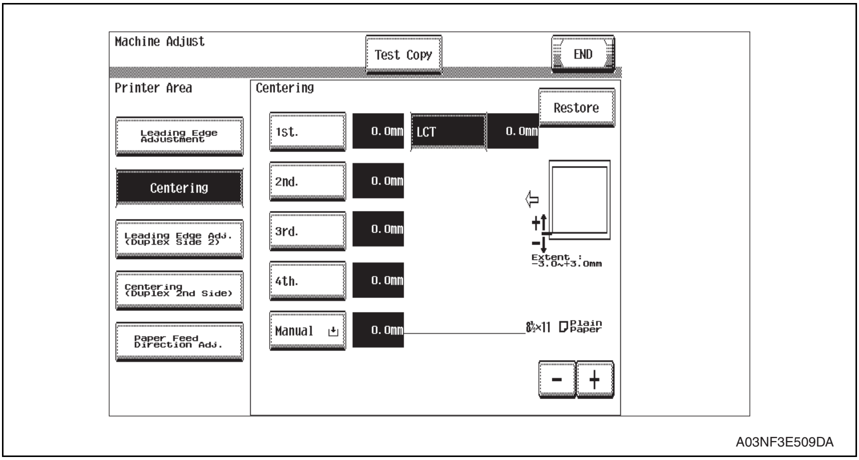
Symbol	Panel display		Part/Signal name	Operation characteristics/ Panel display	
				1	0
-	LCT	LCT detection	LCT identification signal	Connection	No connection
PS1		Tray set sensor	Tray set sensor	In position	Out of position
PS2		upper limit sensor	upper limit sensor	At raised position (Blocked)	Not at raised position (Unblocked)
PS3		Paper feed	Paper feed sensor	Paper present	Paper not present
PS4		paper empty	Paper empty sensor	Paper not present	Paper present
PS5		Near empty 1	Near empty sensor /1	Blocked	Unblocked
PS6		Near empty 2	Near empty sensor /2	Blocked	Unblocked
MS1		Upper Door	LU door switch	Close	Open

6. Mechanical adjustment

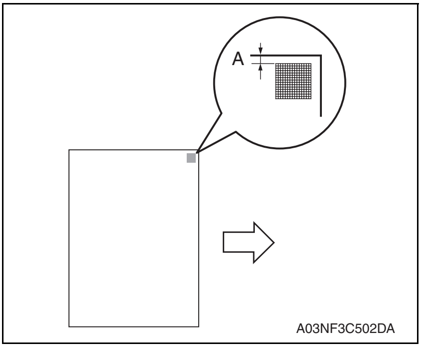
6.1 Adjusting the paper reference position

6.1.1 Centering

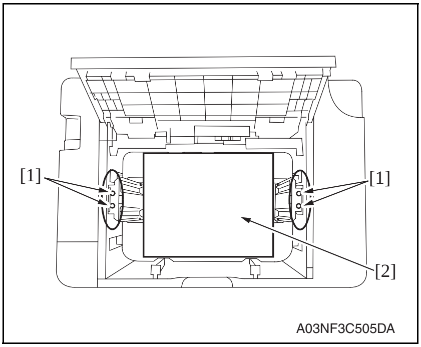
1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Machine].
3. Touch [Printer Area].
4. Touch [Centering].
5. Touch [LCT].



6. Press the Start key to let the machine produce a test print.



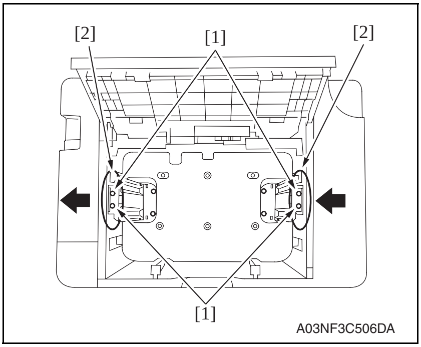
7. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
8. If the measured width A falls outside the specified range, enter the correction value using the [-] or [+] key.
9. Produce another test print and check to see if width A falls within the specified range.
10. If the use of the [-] or [+] key does not allow the measurement to fall within the specified range, perform the following steps.



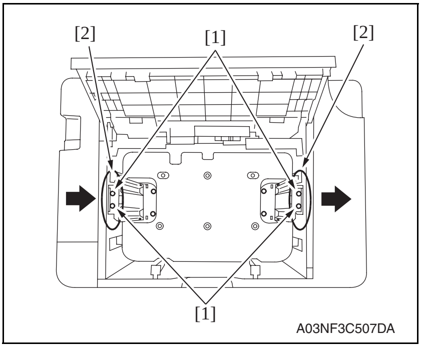
11. Open the upper door on LCT to loosen four screws [1].

NOTE

- **During adjustment, in order to keep the same distance between the paper guide side plates, place a sheet of paper [2] between the paper guide side plates with 1.0 mm apart from each of the plates.**



- When the width A is larger than the standard value
  Move the paper guide side plates [2] leftward and tighten four loosened screws [1].

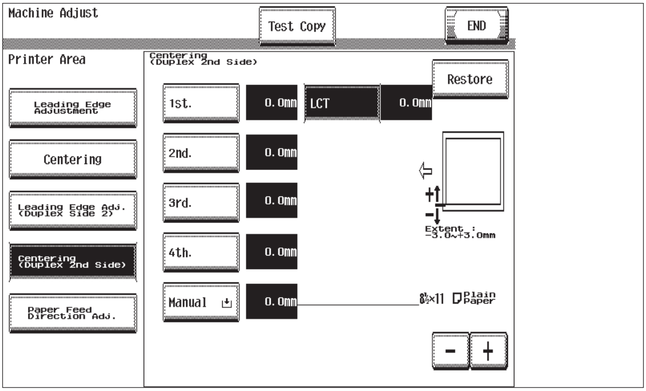


- When the width A is smaller than the standard value.
  Move the paper guide side plates [2] rightward and tighten four loosened screws [1].

12. Load paper and let the machine produce another test print. Then, check width A.
13. Make the adjustment until width A falls within the specified range.

6.1.2 Centering (Duplex 2nd Side)

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Machine].
3. Touch [Printer Area].
4. Touch [Centering (Duplex 2nd Side)].
5. Touch [LCT].



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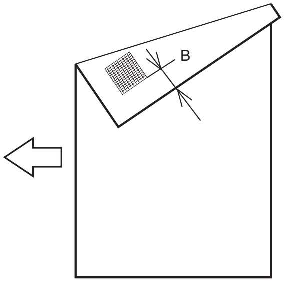
6. Press the Start key to let the machine produce a test print.



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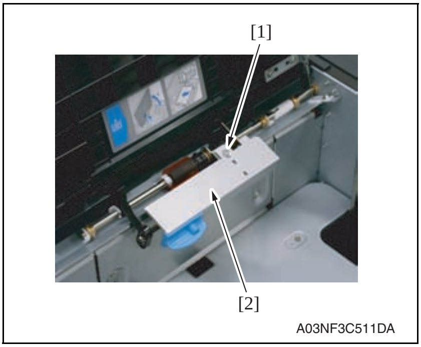
7. Measure the width of printed reference line B.
   Specification: 3.0 mm ± 2.0 mm

8. If the measured width B falls outside the specified range, enter the correction value using the [-] or [+] key.
9. Produce another test print and check to see if width B falls within the specified range.
10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

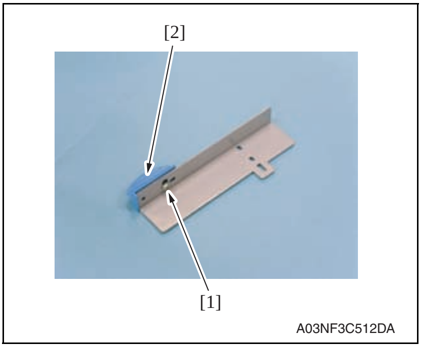
6.2 Pick-up roller load adjustment

- Incase a no feed jam occurs frequently, perform the pick-up roller load adjustment.

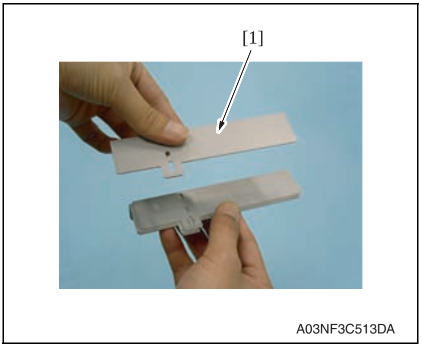
1. Open the upper door.



2. Remove the screw (M3 x 8 mm: V116 0308 03) [1] and remove the paper assist plate assy [2].



3. Remove the screw [1] and remove the assist handle [2].



4. Add one more paper assist plate (A03N 5604 ##) [1] to the original ones.

NOTE

- **Adding only one paper assist plate is allowed and the total needs to be up to four.**

5. Reinstall the assist handle that was removed in step 3, securing it with the screw.
6. Reinstall the paper assist plate assy with a new screw (M3 X 10 mm: V118 0310 03). The screw removed in step 2 (M3 X 8 mm: V116 0308 03) cannot be used to reinstall the assy.
7. Close the upper door.
8. Perform copying/printing to check whether the no feed or the double feed occurs or not.

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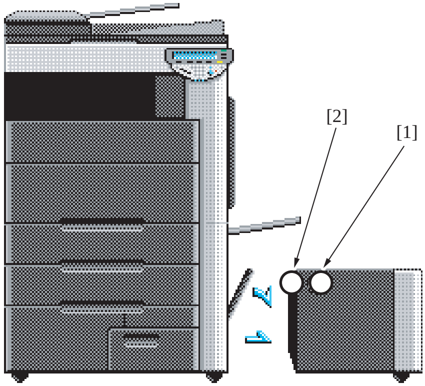
Troubleshooting

7. Jam display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main unit.

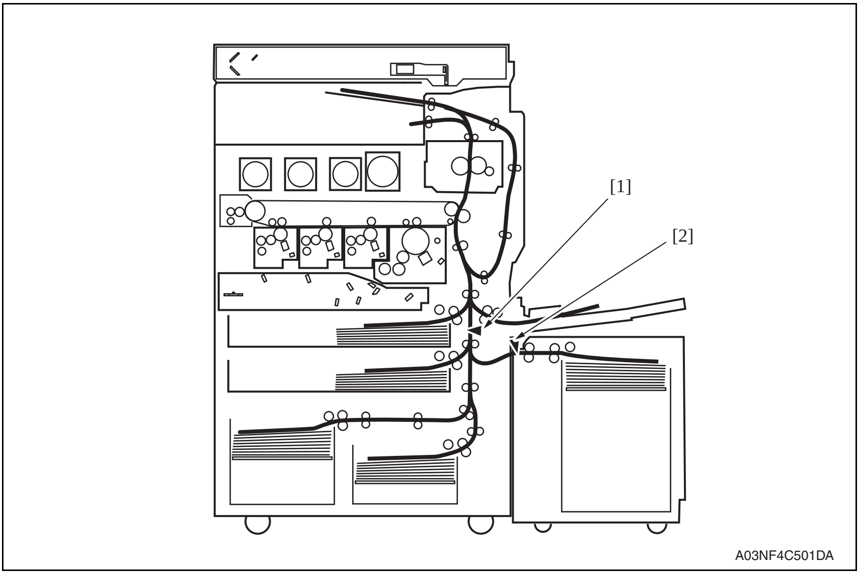


No.	Code	Misfeed type	Misfeed access location	Action
[1]	1501	LCT feed section misfeed	Upper door	P.41
[2]	1708	LCT transport section misfeed	LCT	P.41

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

7.2 Sensor layout



[1]	Tray2 vertical transport sensor	PS12
[2]	Paper feed sensor	PS3

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

7.3.2 LCT paper feed section misfeed

A. Detection timing

Type	Description
LCT paper feed section misfeed detection	The leading edge of the paper does not block the paper feed sensor (PS3) even after the set period of time has elapsed after the tray 1 paper feed motor (M2) is energized.
LCT detection of paper remaining	The paper feed sensor (PS3) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Paper feed motor (M2) Paper feed sensor (PS3)	LU drive board (LUDB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS3 I/O, sensor check	LUDB CN5LUDB-8 (ON)	LU-301 F to G-4
3	M2 operation check	LUDB CN4LUDB-5 to 8	LU-301 F to G-3
4	LUDB replacement	—	—

7.3.3 LCT transport section misfeed

A. Detection timing

Type	Description
LCT transport section misfeed detection	The tray2 vertical transport sensor (PS12) is blocked even after the lapse of a given period of time after the paper feed sensor (PS3) has been unblocked by a paper.

B. Action

Relevant electrical parts	
Paper feed sensor (PS3) Tray2 vertical transport sensor (PS12)	LU drive board (LUDB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS3 I/O, sensor check	LUDB CN5LUDB-8 (ON)	LU-301 F to G-4
3	PS12 I/O, sensor check	PFTDB CN8BPFTDB-2	bizhub C650/ C550/C451 P-6 to 7
4	LUDB replacement	—	—

8. Trouble code

8.1 Trouble code list

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Description	Detection timing	Trouble isolation compliant unit	Rank
C0216	LCT lift failure	The Upper limit sensor (PS2) is not blocked even after the set period of time has elapsed after the paper lift-up operation began.	LCT	B

8.2 Solution

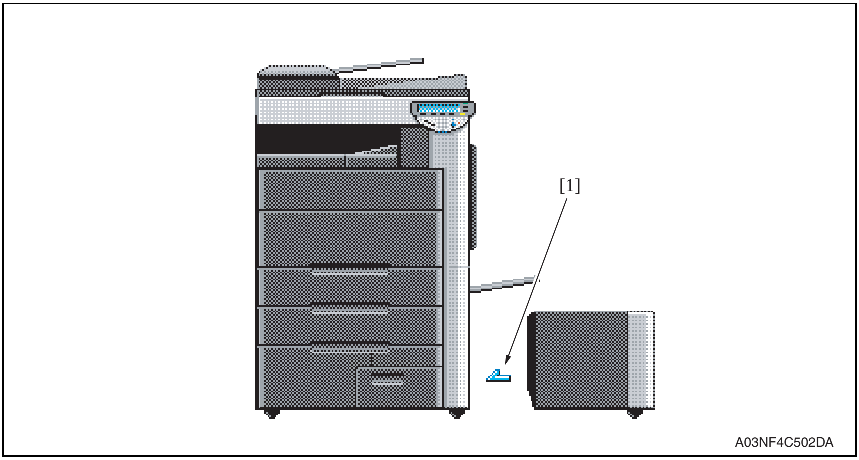
8.2.1 C0216: LCT lift failure

Relevant electrical parts	
Upper limit sensor (PS2) Lift-up motor (M1)	LU drive board (LUDB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the M1 connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M1 for proper drive coupling, and correct as necessary.	—	—
3	PS2 I/O, sensor check	LUDB CN5LUDB-3 (ON)	LU-301 F to G-4
4	M1 operation check	LUDB CN3LUDB-4 (ON)	LU-301 F to G-3
5	M1 replacement	LUDB CN3LUDB-4 (ON)	LU-301 F to G-3
6	LUDB replacement	—	—

9. Set error detection

- If a LCT or cover set error is detected for some reason while a job is being processed, the main body panel will display the following screen.



<Panel display and detection timing for each>

Panel display	Description of error	Detection start	Detection timing
[1]	LCT set error	When the main power switch turn ON.	Tray set sensor (when light-blocked)

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

ZU-603

2008.05

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2008/05	2.0	△1	Error correction
2008/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

ZU-603

Outline

Maintenance

Adjustment/Setting

Troubleshooting

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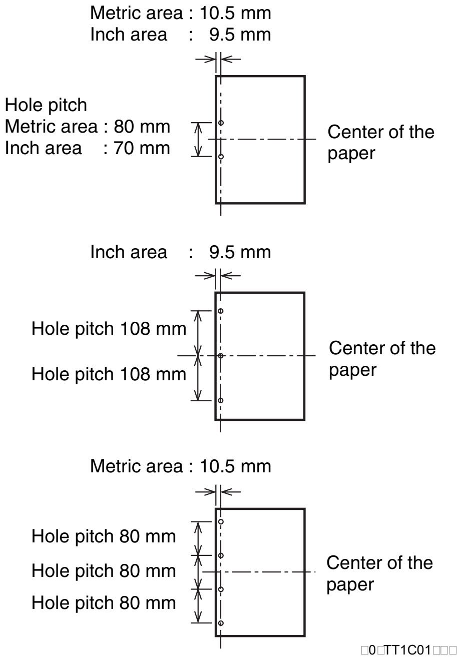
Outline

1. Product specification

A. Type

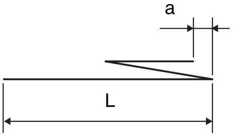
Type	Z-folding multi punching device

B. Functions

Punch	Punching method	Reciprocal punching method (punching each paper)
	No. of holes	Metric area : 2 holes/4 holes (switched automatically) Inch area : 2 holes/3 holes (switched automatically)
	Hole diameter	Metric area : 6.5 mm Inch area : 8.0 mm
	Hole position	 Metric area : 10.5 mm Inch area : 9.5 mm Hole pitch Metric area : 80 mm Inch area : 70 mm Center of the paper Inch area : 9.5 mm Hole pitch 108 mm Hole pitch 108 mm Center of the paper Metric area : 10.5 mm Hole pitch 80 mm Hole pitch 80 mm Hole pitch 80 mm Center of the paper □0□TT1C01□□□
Folding method		Buckle folding method with the roller pair

Z-folding

Folding length

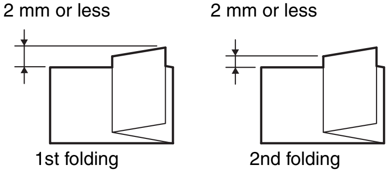


□0□TT1C010□□

Paper size	L (mm)	a (mm)
A3	209 or less	4 ± 2
B4	181 or less	
11 x 17	215 or less	
8K *1	194 or less	

1

Folding precision

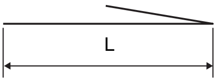


1st folding 2nd folding

□0□TT1C011□□

Folding

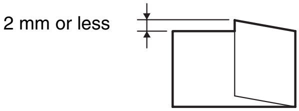
Folding length



□0□TT1C00□□□

Paper size	L (mm)
8-$^1/_2$ x 14	241.7 or less

Folding precision



□0□TT1C004□□

Maximum tray capacity (80 g/m²)

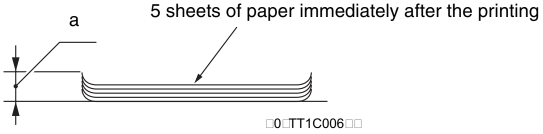
The maximum number of sheets for the FS main tray at the Z-folding operation

- Z-folding continuous: Max. 30 sheets
- Z-folding/stapling: See the table below

No. of sheets per staple		No. of set on the main tray
No. of fold sheets	No. of unfold sheets	
1 sheet	1 to 40 sheets	20 set
2 sheets	0 to 30 sheets	10 set
3 sheets	0 to 20 sheets	4 set
4 sheets	0 to 10 sheets	3 set
5 sheets	0 sheet	2 set
6 to 30 sheets	Stapling not available	

△1 *1: Only for the Taiwan market

C. Type of paper

No punch mode	Same as the main body.	
Punch mode	Paper size • Combination with the folding/saddle stitching mode is not available.	
	Metric area	2holes: A3, B4, A4, A4S, B5, B5S, A5, A5S, 8K *1, 16K *1, 16KS *1, 8 x 13, 8-$^{1}/_{2}$ x 13, 8-$^{1}/_{4}$ x 13, 8-$^{1}/_{8}$ x 13-$^{1}/_{4}$ 4holes: A3, B4, A4, B5, 8K *1, 16K *1
	Inch area	2holes: 11 x 17, 8-$^{1}/_{2}$ x 14, 8-$^{1}/_{2}$ x 11, 8-$^{1}/_{2}$ x 11S, 5-$^{1}/_{2}$ x 8-$^{1}/_{2}$, 5-$^{1}/_{2}$ x 8-$^{1}/_{2}$S, 7-$^{1}/_{4}$ x 10-$^{1}/_{2}$, 7-$^{1}/_{4}$ x 10-$^{1}/_{2}$S 3holes: 11 x 17, 8-$^{1}/_{2}$ x 11
	Type of paper	64 to 90 g/m^2 of the high-quality paper and the plain paper • Special paper is not guaranteed. The punching of label paper, tab paper, OHP paper, blueprint master and binding-holed paper are not allowed.
Z-folding mode	Paper size	A3, B4, 11 x 7, 8K • For B4 paper (including the mix of the paper), the combination with the stapling mode is not available.
	Type of paper	64 to 90 g/m^2 of the high-quality paper and the plain paper • Special paper is not supported. Label paper, tab paper, transparency film, paper, holed paper, and low stiffness paper are not supported in Z-folding mode.
Folding mode	Paper size	8-$^{1}/_{2}$ x 14
	Type of paper	64 to 90 g/m^2 of the high-quality paper and the plain paper • Special paper is not supported. Label paper, tab paper, transparency film, paper, holed paper, and low stiffness paper are not supported in folding mode.
Paper curling	 a 5 sheets of paper immediately after the printing 0TT1C006 a : Excluding the OHP paper : Amount of curl: 15 mm or less OHP paper : Amount of curl: 10 mm or less	

*1: Only for the Taiwan market

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine specifications

Power requirements	100 to 240 VAC (automatic switching)
	DC5 V (supplied from the main body)
Max. power consumption	120 W or less
Dimensions	169 mm (W) x 660 mm (D) x 1027.5 mm (H) 6.75 inch (W) x 26 inch (D) x 40.5 inch (H)
Weight	45 kg (99 lb)

F. Operating environment

Temperature	10 to 30 °C
Humidity	15 to 85 % RH (with no condensation)

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

2. Other

2.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

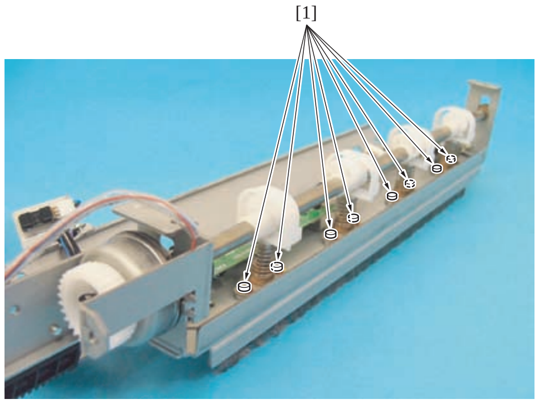
⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

E. Parts not allowed to be removed

(1) Punch section

- The precision of the punch edges is ensured in the punch unit. The normal punch operation may be affected if it is disassembled. Never loosen or remove these screws and retaining rings.



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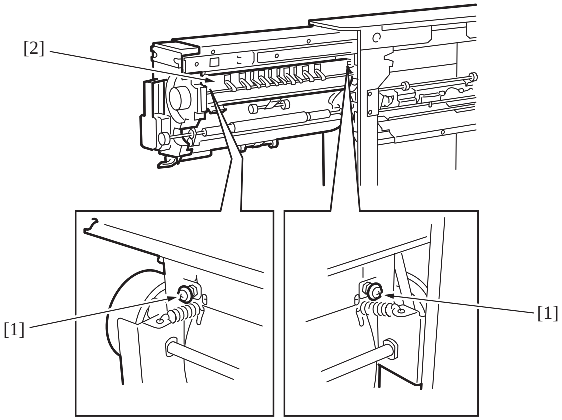
[1] Screws not allowed to be removed

(2) Z-folding section

- The screws position the clearance of the conveyance guide plate. The precision of the Z-folding may be affected if it is disassembled. Never loosen or remove these screws.



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[1]	Screws not allowed to be removed	[2]	Conveyance guide plate

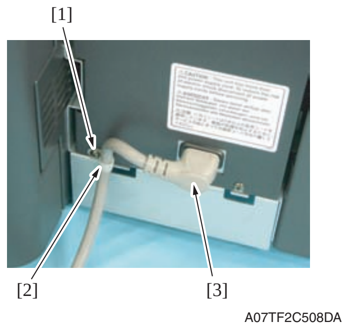
2.2 Disassembly/Assembly list (Other parts)

2.2.1 Disassembly/Assembly parts list

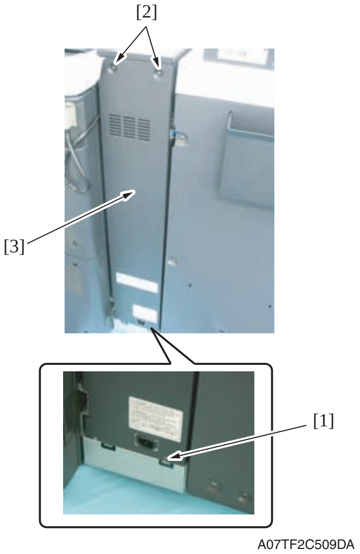
No.	Section	Part name	Ref. page
1	Exterior parts	Rear cover	P.10
2		Upper cover	P.11
3		Right cover	P.11
4		Front cover	P.12
5	Units	Z folding unit	P.13
6		Punch unit	P.16
7		Z folding/conveyance unit	P.17
8	Electrical parts	Punch scraps conveyance motor (M7)	P.19
9		Punch motor (M4)	P.20
10		Main motor (M6)	P.21
11		Registration motor (M1)	P.23
12		Punch shift motor (M5)	P.24
13		Punch clutch (CL1)	P.25
14		Main motor cooling fan (FM1)	P.26

2.3 Disassembly/Assembly procedure

2.3.1 Rear cover



1. Remove the screw [1] and the clamp [2], and remove the power cord [3].

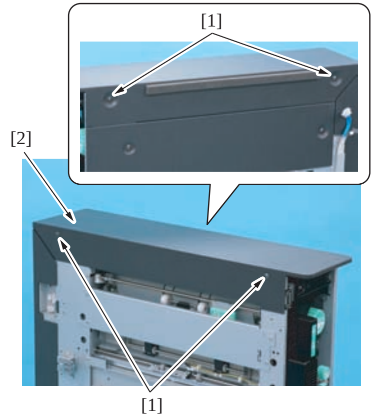


2. Loosen the screw [1], and remove two screws [2], and remove the rear cover [3].

3. To reinstall, reverse the order of removal.

2.3.2 Upper cover

1. Remove the Z folding unit.
   See P.13



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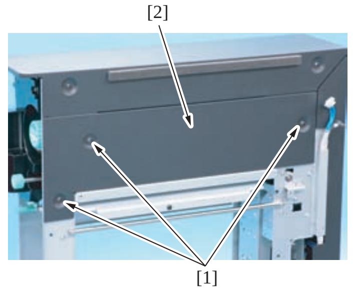
2. Remove four screws [1], and remove the upper cover [2].

2.3.3 Right cover

1. Remove the Z folding unit.
   See P.13



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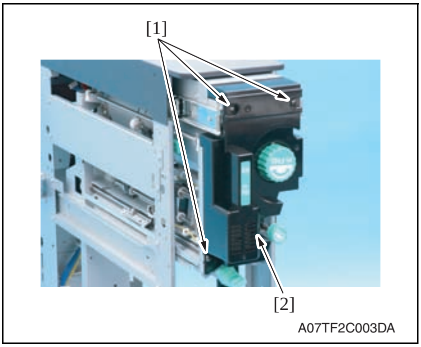
2. Remove three screws [1], and remove the right cover [2].

2.3.4 Front cover

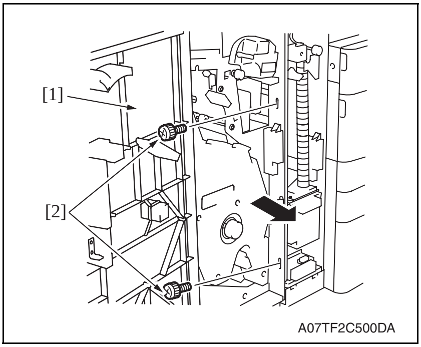
1. Remove the Z folding unit.
   See P.13



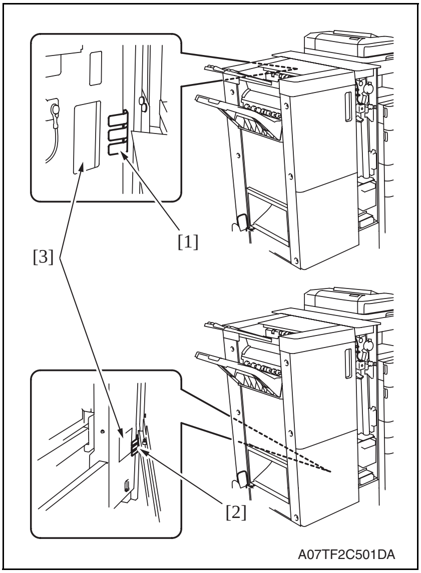
2. Remove three screws [1], and remove the front cover [2].

2.3.5 Z folding unit

A. Removal from the finisher

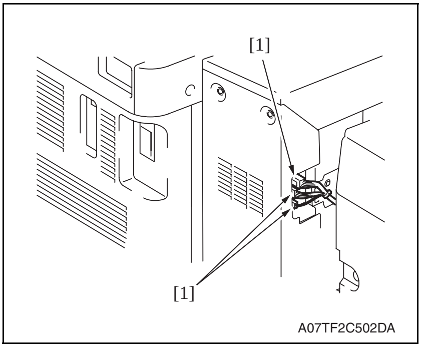


1. Open the front door of finisher [1].
2. Remove two screws [2] and slide the finisher as shown in the illustration.



NOTE

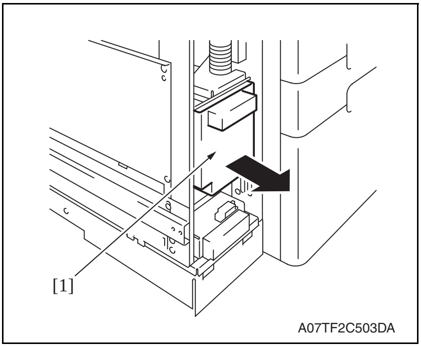
- **To mount the finisher, align the hook portions of the mounting bracket [1] and [2] with the upper and lower holes [3] in the finisher. Then, push the finisher toward the rear.**



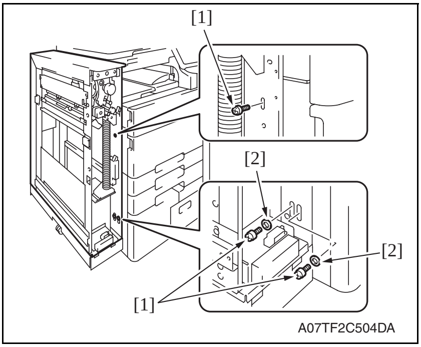
3. Disconnect three connectors [1] and remove the finisher.

B. Removal from the main body

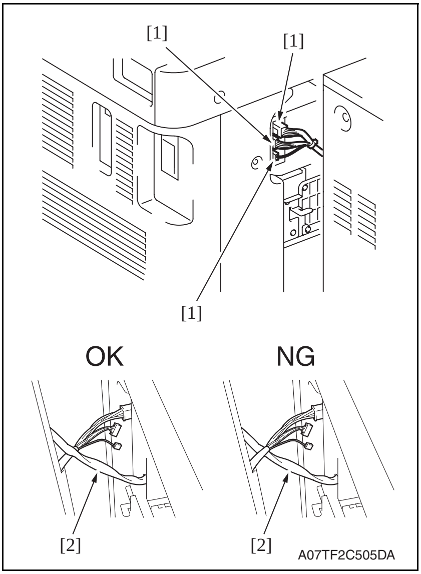
1. Remove the finisher.
   See P.13



2. Remove the punch waste box [1].



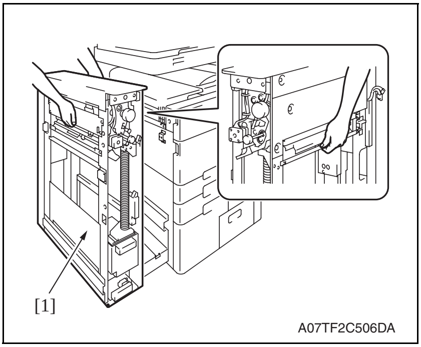
3. Remove three screws [1] and two washers [2].



4. Disconnect three connectors [1].

NOTE

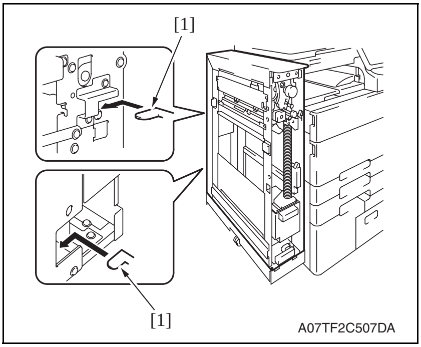
- **When reconnecting the connectors, make sure that the harness of the Z folding unit is placed below the cable [2] of the horizontal transport unit.**



5. Remove the Z folding unit [1].

⚠ **CAUTION**

- **Make available collective manpower of an appropriate size for transporting the machine.**

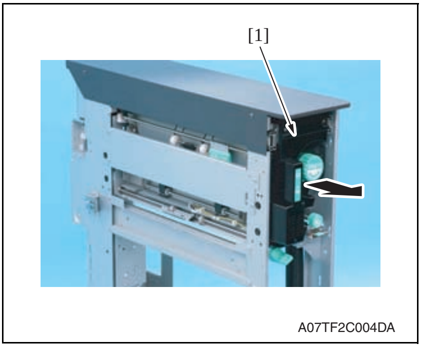


NOTE

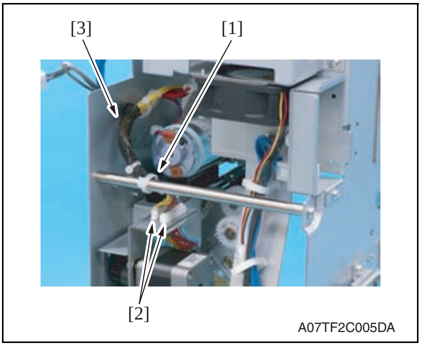
- **When reinstalling the Z folding unit, use the upper/lower brackets [1] as a guide for positioning the Z folding unit.**

2.3.6 Punch unit

1. Remove the Z folding unit.
   See P.13
2. Remove the rear cover.
   See P.10
3. Remove the right cover.
   See P.11



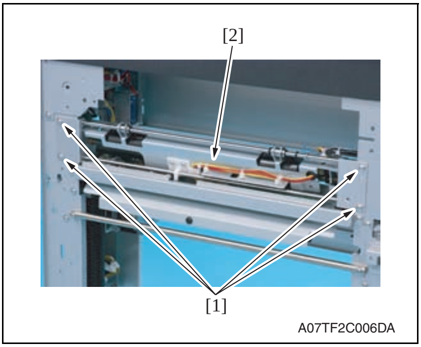
4. Pull out the Z folding/conveyance unit [1].



5. Cut the wiring harness band [1], and disconnect two connectors [2].

NOTE

- **When bind the wiring harness band [1], be sure to bind it so that the wiring harness [3] passes the wiring harness band [1] from left to right from the view of the rear.**
- **Be sure to bind the wiring harness band [1] with sufficient length of the wiring harness [3] when the punch unit move to forward.**

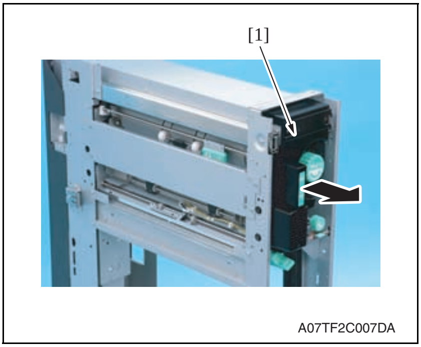


6. Remove four screws [1], and remove the punch unit [2].

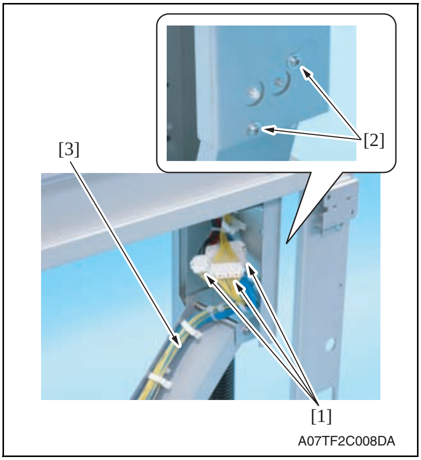
7. To reinstall, reverse the order of removal.

2.3.7 Z folding/conveyance unit

1. Remove the Z folding unit.
   See P.13
2. Remove the upper cover.
   See P.11

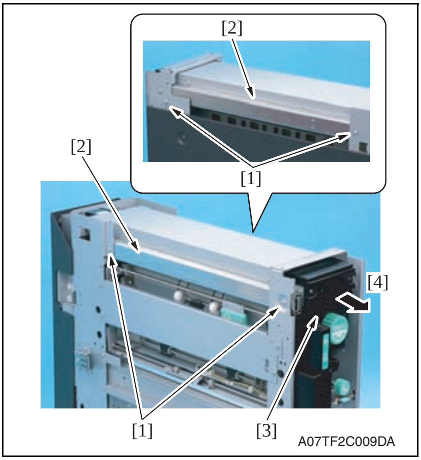


3. Pull out the Z folding/conveyance unit [1].

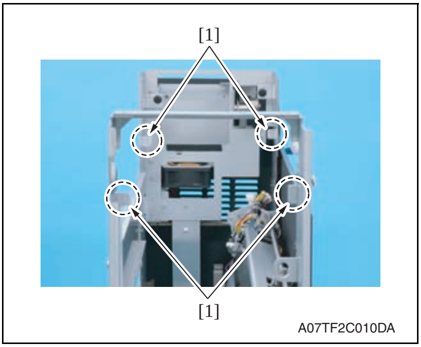


4. Disconnect three connectors [1]and remove two screws [2], and remove the arm [3].

5. Reinstall the Z folding/conveyance unit back again.



6. Remove four screws [1], and remove Z-folding/conveyance unit [3] to the front [4] by holding the rails [2] at the both sides.



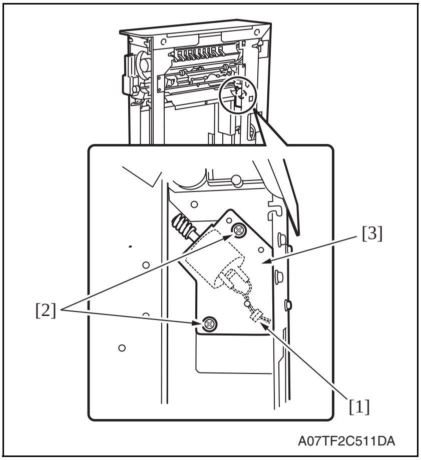
NOTE

- **When placing the Z-folding/conveyance unit, place it on the flat surface with its top or left side down.**
- **When reinstalling the Z-folding/conveyance unit, be sure to place the rails on the rail holders [1] at four positions.**

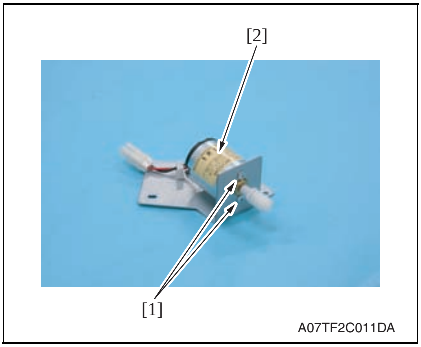
7. To reinstall, reverse the order of removal.

2.3.8 Punch scraps conveyance motor (M7)

1. Remove the Z folding unit.
   See P.13



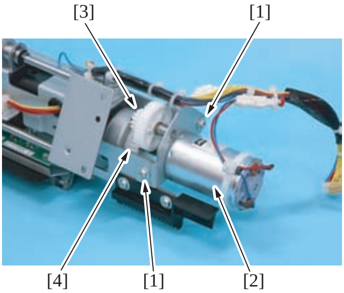
2. Disconnect the connector [1] and remove two screws [2], and remove the punch scraps conveyance motor assy [3].



3. Remove two screws [1], and remove the punch scraps conveyance motor [2].

2.3.9 Punch motor (M4)

1. Remove the Z folding unit.
   See P.13
2. Remove the punch unit.
   See P.16



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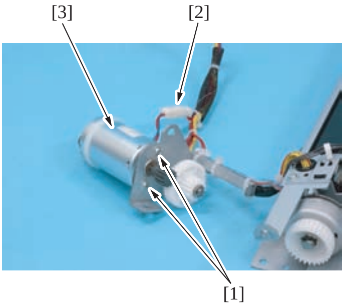
3. Remove two screws [1], and remove the punch motor assy [2].

NOTE

- **When reinstalling the punch motor assy [2], press the punch motor gear [3] to the gear [4]. Be sure to check that the gears rotate smoothly and there is appropriate backlash.**



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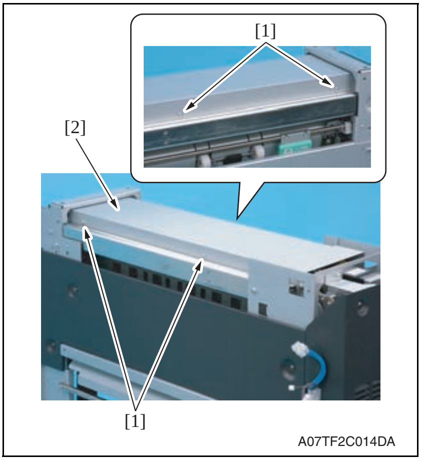
4. Remove two screws [1] and disconnect the connector [2], and remove the punch motor [3].

5. To reinstall, reverse the order of removal.

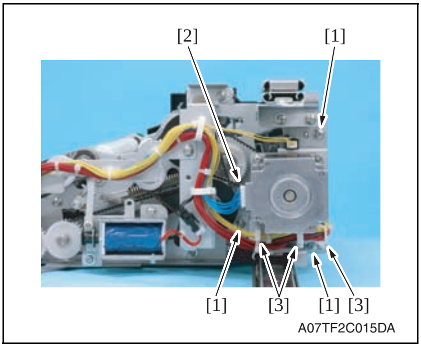
2.3.10 Main motor (M6)

1. Remove the Z folding unit.
   See P.13
2. Remove the upper cover.
   See P.11

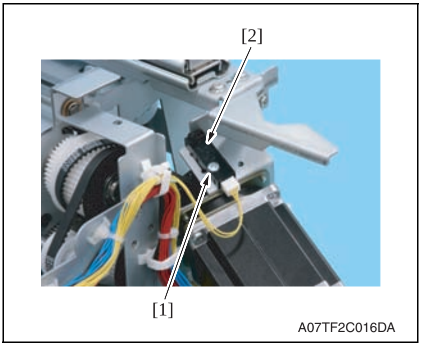


3. Remove four screws [1], and remove the conveyance upper cover [2].

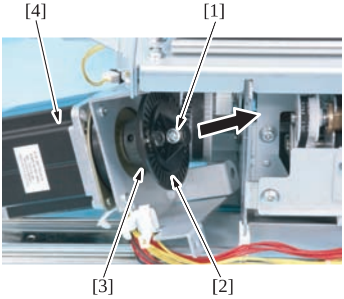
4. Remove the Z folding/conveyance unit.
   See P.17



5. Remove three screws [1], and disconnect the connector [2], and remove the harness from three wire saddles [3].



6. Remove the screw [1], and remove the conveyance encoder sensor (PS10) [2].



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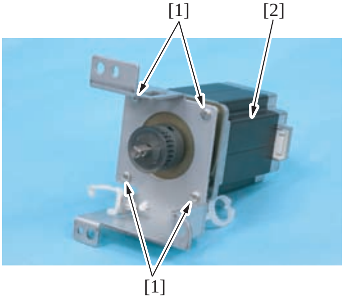
7. Remove the screw [1], the slit circular disc [2] and the belt [3], and remove the main motor assy [4]



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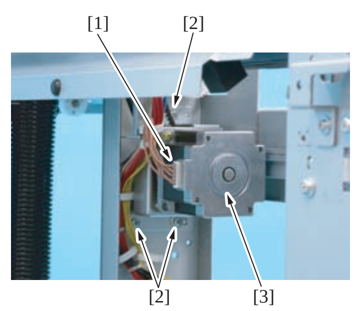
8. Remove four screws [1], and remove the main motor [2].

2.3.11 Registration motor (M1)

1. Remove the Z folding unit.
   See P.13



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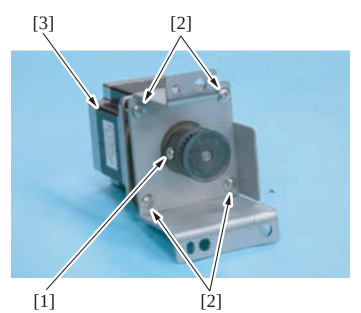
2. Disconnect the connector [1], and remove three screws [2], and remove the registration motor assy [3].



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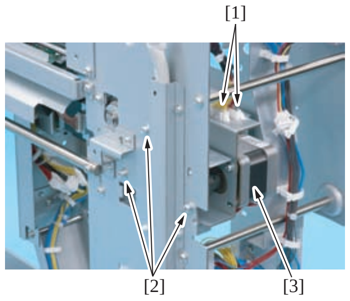
3. Remove the screw [1].
4. Remove four screws [2], and remove the registration motor [3].

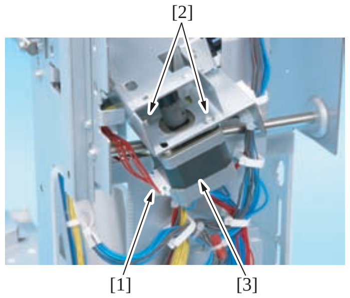
5. To reinstall, reverse the order of removal.

2.3.12 Punch shift motor (M5)

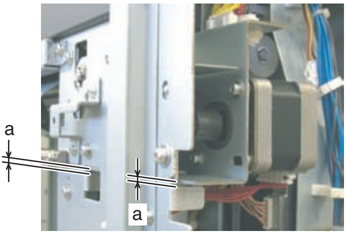
1. Remove the Z folding unit.
   See P.13
2. Remove the rear cover.
   See P.10



3. Disconnect two connectors [1] and remove three screws [2], and remove the punch shift motor assy [3].



4. Disconnect the connector [1] and remove two screws [2], and remove the punch shift motor [3].



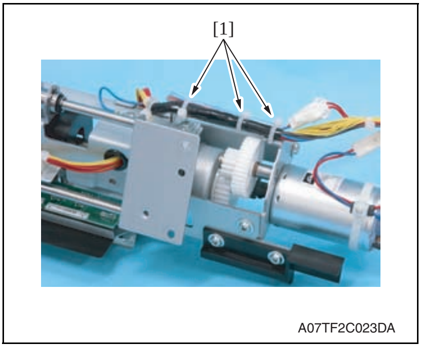
NOTE

- **When installing the punch shift motor assy, adjust its position so that there is a clearance of "a", as specified below, at the front and rear sides and make sure that the motor assy is horizontal.**
  Adjustment value: "a" = 2 mm

5. To reinstall, reverse the order of removal.

2.3.13 Punch clutch (CL1)

1. Remove the Z folding unit.
   See P.13
2. Remove the punch unit.
   See P.16



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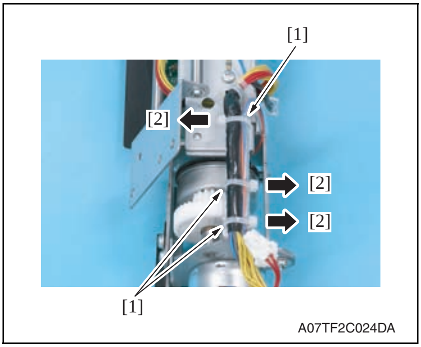
3. Cut three wiring harness bands [1].



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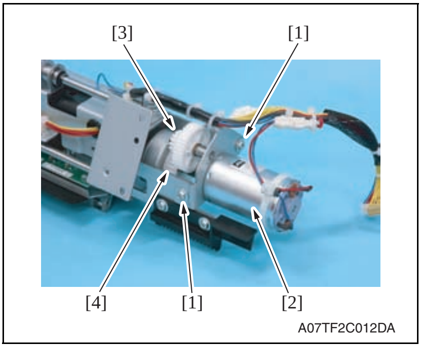
NOTE

- **When bind the wiring harness band [1], face them to the arrow-marked direction [2] to avoid the contact with the conveyance section of the main body.**



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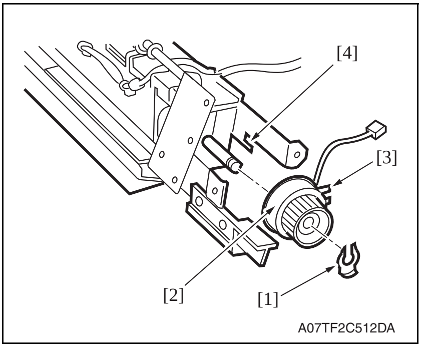
4. Remove two screws [1], and remove the punch motor assy [2].

NOTE

- **When reinstalling the punch motor assy [2], press the punch motor gear [3] to the gear [4]. Be sure to check that the gears rotate smoothly and there is appropriate backlash.**



5. Remove the C-clip [1], and remove the punch clutch [2].

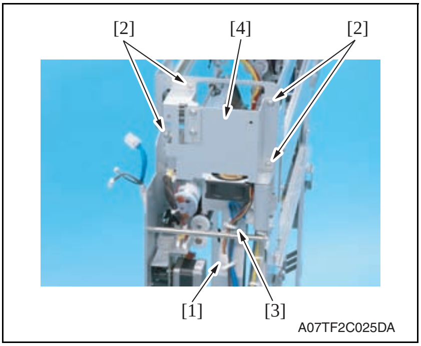
NOTE

- **When reinstalling punch clutch [2], be sure to check the stopper [3] is engaged with a projection [4] of metal plate.**

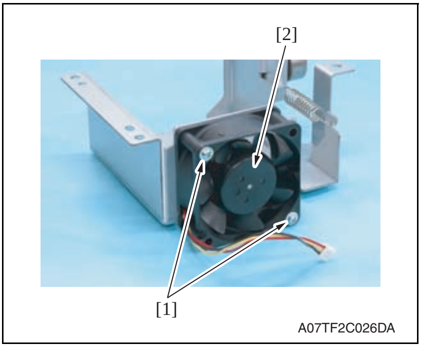
6. To reinstall, reverse the order of removal.

2.3.14 Main motor cooling fan (FM1)

1. Remove the Z folding unit.
   See P.13
2. Remove the rear cover.
   See P.10
3. Remove the upper cover.
   See P.11



4. Disconnect the connector [1], and remove four screws [2], and remove the harness from wire saddle [3], and remove the main motor cooling fan assy [4].

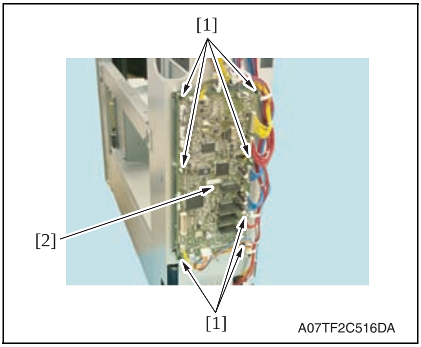


5. Remove two screws [1], and remove the main motor cooling fan [2].

6. To reinstall, reverse the order of removal.

2.3.15 ZU control board (ZUCB)

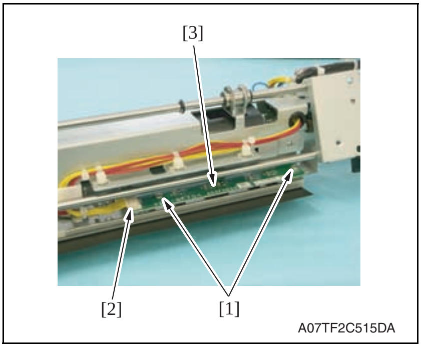
1. Remove the Z folding unit.
   See P.13
2. Remove the punch unit.
   See P.16



3. Disconnect all thirteen connectors from the ZU control board.
4. Remove seven board supports [1], and remove the ZU control board [2].

2.3.16 Paper size detect board (PSDTB)

1. Remove the Z folding unit.
   See P.13
2. Remove the punch unit.
   See P.16



3. Remove two screws [1], and disconnect the connector [2], and remove the paper size detect board [3].

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Adjustment/Setting

3. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

4. Sensor check

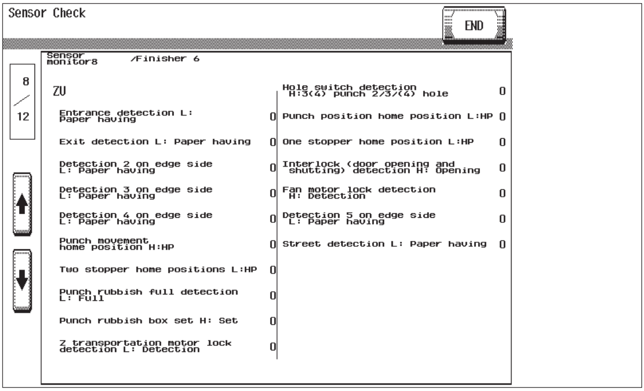
4.1 Check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch seven times [↓].

4.1.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



Sensor monitor8 /Finisher 6

ZU

Entrance detection L: Paper having	0	Hole switch detection H:3(4) punch 2/3/(4) hole	0
Exit detection L: Paper having	0	Punch position home position L:HP	0
Detection 2 on edge side L: Paper having	0	One stopper home position L:HP	0
Detection 3 on edge side L: Paper having	0	Interlock (door opening and shutting) detection H: Opening	0
Detection 4 on edge side L: Paper having	0	Fan motor lock detection H: Detection	0
Punch movement home position H:HP	0	Detection 5 on edge side L: Paper having	0
Two stopper home positions L:HP	0	Street detection L: Paper having	0
Punch rubbish full detection L: Full	0		
Punch rubbish box set H: Set	0		
Z transportation motor lock detection L: Detection	0		

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4.1.2 Sensor check list

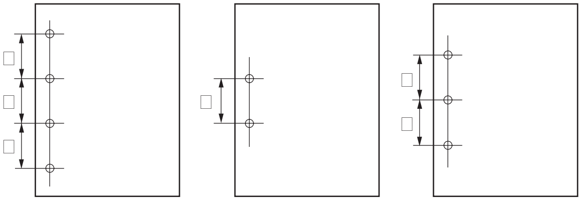
Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PSDTB	Entrance detection L: Paper having	Paper size detect board	Paper not present	Paper present
PS9	Exit detection L: Paper having	Exit sensor	Paper not present	Paper present
PSDTB	Detection 2 on edge side L: paper having	Paper size detect board	Paper not present	Paper present
PSDTB	Detection 3 on edge side L: paper having	Paper size detect board	Paper not present	Paper present
PSDTB	Detection 4 on edge side L: paper having	Paper size detect board	Paper not present	Paper present
PS5	Punch movement home position H: HP	Punch shift home sensor	At home	Not at home
PS4	Two stopper home positions L: HP	2nd stopper home sensor	Not at home	At home

Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PS8	Punch rubbish full detection L: Full	Punch scraps full sensor	Other than full	Full
PS7	Punch rubbing box set H: Set	Punch scraps box set sensor	Set	Other than set
PS10	Z transportation motor lock detection L: Detection	Conveyance encoder sensor	Other than lock	Lock
MS2	Hole switch detection H: 3(4) punch 2/3/(4) hole	Punch switchover switch	3(/4) holes	2 holes
PS6	Punch position home position L: HP	Punch home sensor	Not at home	At home
PS3	One stopper home position L: HP	1st stopper home sensor	Not at home	At home
MS1	Interlock (door opening and shutting) detection H: opening	Door switch	Open	Close
FM1	Fan motor lock detection H: Detection	Main motor cooling fan	Detection	Other than detection
PSDTB	Detection 5 on edge side L: Paper having	Paper size detect board	Paper not present	Paper present
PS1	Street detection L: Paper having	Conveyance sensor	Paper not present	Paper present

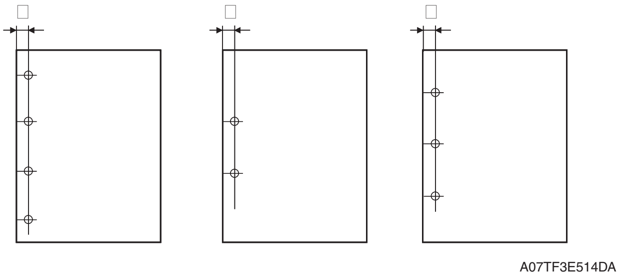
5. Finisher

5.1 FS-FN adjustment

5.1.1 Punch Unit Vert. Position

<table>
<tr><td>Functions</td><td>• To adjust the position of the punch hole in the sub-scanning direction when ZU is in use.</td></tr>
<tr><td>Use</td><td>• Make the adjustment upon setup of ZU-603.</td></tr>
<tr><td>Adjustment Specification</td><td>• Make copies in the punch mode and adjust so that width A falls within the range of the following specifications.

A07TF3E513DA
Standard value
• It is possible to adjust the A dimension of half of the top and bottom by ± 5 mm from the standard value.
• It is not possible to adjust the A value of the distance between holes.
<table>
<tr><th></th><th></th><th>A</th><th>Top and bottom center gap</th></tr>
<tr><td>2-4 hole</td><td></td><td>80 ± 0.5</td><td rowspan="3">Top and bottom A dimension 1/2 ± 1</td></tr>
<tr><td rowspan="2">2-3 hole</td><td>(2 hole)</td><td>70 ± 0.5</td></tr>
<tr><td>(3 hole)</td><td>108 ± 0.5</td></tr>
</table>
• Setting range: -10.0 to +10.0 mm (1step = 0.1 mm)</td></tr>
<tr><td>Adjustment Instructions</td><td>• To make width A greater: Enter the Value of [+]
• To make width A smaller: Enter the Value of [-]</td></tr>
<tr><td>Setting/ Procedure</td><td>1. Call the Service Mode to the screen.
See P.434 of the main body service manual.
2. Touch [Finisher] → [FS-FN adjustment].
3. Touch [Punch Unit Vert. Position].
4. Select [ALL] and make the setting using [+] or [-].
NOTE
• The adjustment setting value used for each paper size is the value set with [ALL] plus the value set for each paper size.
5. Touch [OK] twice.
6. Touch [Exit] on the Service Mode screen.
7. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.
8. Make copies in the punch mode again and check that the punch hole positions have been adjusted properly.</td></tr>
</table>

5.1.2 Punch Unit Hor. Position

Functions	• To adjust the position of the punch hole in the main scanning direction when ZU is in use.
Use	• Make the adjustment upon setup of ZU-603.
Adjustment Specification	• Make copies in the punch mode and adjust so that width B falls within the range of the following specifications.  • Standard value: B = 10.5 mm • Setting range: -10.0 mm to +10.0 mm (Step = 0.1 mm)
Adjustment Instructions	• To make width B greater: Enter the Value of [+] • To make width B smaller: Enter the Value of [-]
Setting/ Procedure	1. Call the Service Mode to the screen. See P.434 of the main body service manual. 2. Touch [Finisher] → [FS-FN adjustment]. 3. Touch [Punch Unit Hor. Position]. 4. Make the setting using [+] or [-]. 5. Touch [OK] twice. 6. Touch [Exit] on the Service Mode screen. 7. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch. 8. Make copies in the punch mode again and check that the punch hole positions have been adjusted properly.

5.1.3 Punch unit edge detection

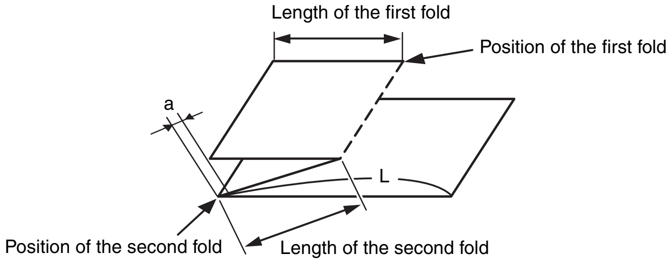
Functions	• To adjust sensitivity (intensity) of the paper size detect board (PSDTB) of the punch unit of ZU.
Use	• Make the adjustment upon setup of ZU-603.
Setting/ Procedure	1. Call the Service Mode to the screen. See P.434 of the main body service manual. 2. Touch [Finisher] → [FS-FN adjustment]. 3. Touch [Punch unit edge detection]. 4. Press the start key. 5. Check whether the result is [OK]. **NOTE** **• If the [NG] appears, check the install condition again.** 6. Touch [OK] twice. 7. Touch [Exit] on the Service Mode screen. 8. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

5.1.4 1st Z-fold Position/2nd Z-fold Position

Functions	• To adjust the positions of the 1st Z-fold and 2nd Z-fold for the Z-fold mode.
Use	• Make the adjustment upon setup of ZU-603.

Adjustment Specification

- Make copies in the Z-fold mode and adjust so that length a falls within the range of the following specifications.


Length of the first fold
Position of the first fold
a
L
Position of the second fold
Length of the second fold

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	Length of 1st fold	Length a	Length L
11 X 17	108 mm	4.0 ± 2.0 mm	Less than 215 mm
A3	105 mm	4.0 ± 2.0 mm	Less than 209 mm
B4	91 mm	4.0 ± 2.0 mm	Less than 181 mm
8.5 X 14	—	—	Less than 241.7 mm
8K	98 mm	4.0 ± 2.0 mm	Less than 194 mm

- Setting range: -12.8 mm to +12.7 mm (Step = 0.1 mm)

NOTE

- **Length of the 1st fold is for standard value.**
- **The adjustable range for B4 size is only between -2.0 mm and +2.0 mm.**
- **8.5 X 14 is available for only an half fold.**

Adjustment Instructions

- To increase the length of the 1st fold, enter a negative value with [-] key.
- To decrease the length of the 1st fold, enter a positive value with [+] key.

Setting/ Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher] Æ [FS-FN adjustment].
3. Touch [1st Z-fold Position] or [1nd Z-fold Position].
4. Select [ALL] and make the setting using [+] or [-].

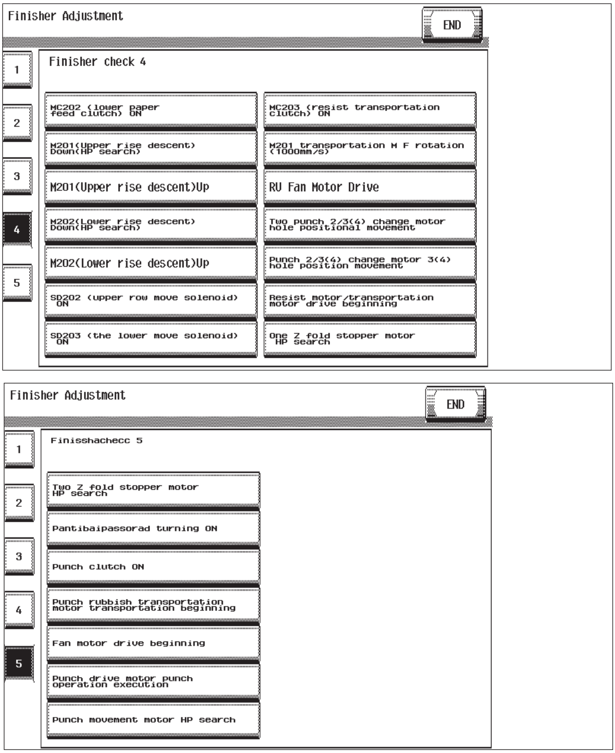
NOTE

- **The adjustment setting value used for each paper size is the value set with [ALL] plus the value set for each paper size.**

5. Touch [OK] twice.
6. Touch [Exit] on the Service Mode screen.
7. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.
8. Make copies in the Z-fold mode and check for possible deviation from the specified 1st and 2nd Z-fold positions.

5.1.5 Finisher check

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [FS-FN adjustment].
4. Touch [finisher check].
5. Touch [4] or [5] and select the specific function.


Finisher Adjustment
END
1
2
3
4
5
Finisher check 4
MC202 (lower paper feed clutch) ON
MC203 (resist transportation clutch) ON
M201(Upper rise descent) Down(HP search)
M201 transportation M F rotation (1000mm/s)
M201(Upper rise descent)Up
RU Fan Motor Drive
M202(Lower rise descent) Down(HP search)
Two punch 2/3(4) change motor hole positional movement
M202(Lower rise descent)Up
Punch 2/3(4) change motor 3(4) hole position movement
SD202 (upper row move solenoid) ON
Resist motor/transportation motor drive beginning
SD203 (the lower move solenoid) ON
One Z fold stopper motor HP search
Finisher Adjustment
END
1
2
3
4
5
Finisshachecc 5
Two Z fold stopper motor HP search
Pantibaipassorad turning ON
Punch clutch ON
Punch rubbish transportation motor transportation beginning
Fan motor drive beginning
Punch drive motor punch operation execution
Punch movement motor HP search

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6. Press the Start key to start Z-folding operation.
7. Press the Stop key to stop ongoing Z-folding operation.

A. Finisher check mode list

Mode	
Finisher check 4	Two punch 2/3(4) change motor hole positional movement
	Punch 2/3(4) change motor 3(4) hole position movement
	Resist motor/transportation motor drive beginning
	One Z fold stopper motor HP search
Finisher check 5	Two Z fold stopper motor HP search
	Pantibaipassorad turning ON
	Punch clutch ON
	Punch rubbish transportation motor transportation beginning
	Fan motor drive beginning
	Punch drive motor punch operation execution
	Punch movement motor HP search

5.2 Punch option setting

Functions	• To make each of the various settings for the punch option.
Use	• This setting is necessary when ZU-603 is mounted. • An individual punch setting needs to be made according to the type of the punch option.
Setting/ Procedure	• The default setting is Non-installat. 1. Call the Service Mode to the screen. See P.434 of the main body service manual. 2. Touch [Finisher] → [Punch option setting]. 3. Touch [ZU603]. 4. Select the number of holes and touch [decision]. 5. Touch [END]. 6. Touch [Exit] on the Service Mode screen. 7. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

5.3 Fold power of pages restrict.

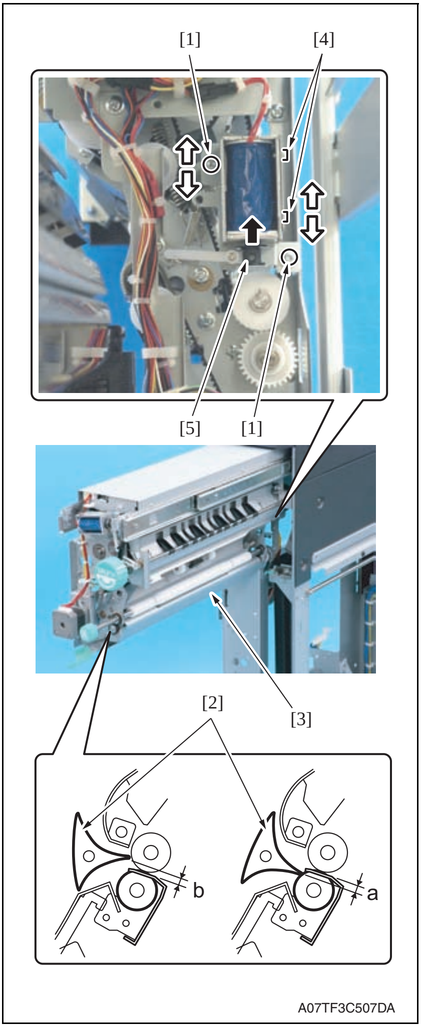
Functions	• Set the maximum number of sheets that can be folded together in each folding mode. • This function is available only when FS517/FS-518/FS-608 + ZU-603 is installed.
Use	• To change the maximum number of sheets that can be folded together in each folding mode.
Setting/ Procedure	[Center Fold], [Center Staple], [three fold] See P.74 of the FS-517/518/608 service manual. [Z fold/staple using together] • Default setting: [5 Piece]. • Setting range: 2 to 10 Piece *1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [fold power of pages restrict.]. *4.* Select [Z fold/staple using together] and set the number of pages from the 10-key pad. *5.* Touch [END]. *6.* Touch [Exit] on the Service Mode screen. *7.* Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch. [Z fold] • Default setting: [50 pieces]. • Setting range: [50 pieces], [40 pieces], [30 pieces], [20 pieces] *1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [fold power of pages restrict.]. *4.* Touch the desired number of pieces in the Z fold section. *5.* Touch [END]. *6.* Touch [Exit] on the Service Mode screen. *7.* Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

6. Mechanical adjustment

6.1 Gate solenoid/Lw adjustment

- Make this adjustment when the gate solenoid/Lw (SD1) is replaced with a new one.

1. Remove the Z folding unit.
   See P.13
2. Remove the front cover.
   See P.12
3. Pull out the Z folding/conveyance unit.



4. Loosen two screws [1] and then visually adjust so that the gate/Lw [2] maintains the standard value a relative to the guide plate [3]. Then, tighten the two screws [1].
   Standard value: a = 3 mm to 5 mm
5. Loosen two screws [4] and adjust the gate /Lw [2] so that the clearance between the gate /Lw [2] and the guide plate [3] gets to the standard value “b” while gate solenoid/Lw turns ON and the plunger [5] is pulled, and then tighten two screws [4].
   Standard value: b = 2 mm to 4.6 mm

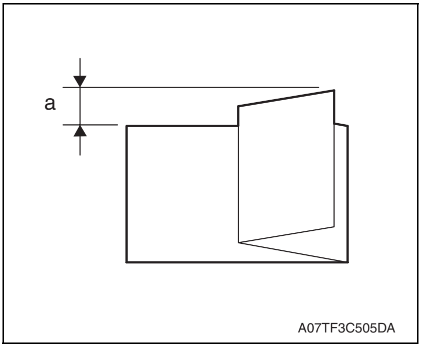
6.2 1st folding skew adjustment

- Conduct the 1st folding skew adjustment when the skew of the 1st folding is not within the standard value.

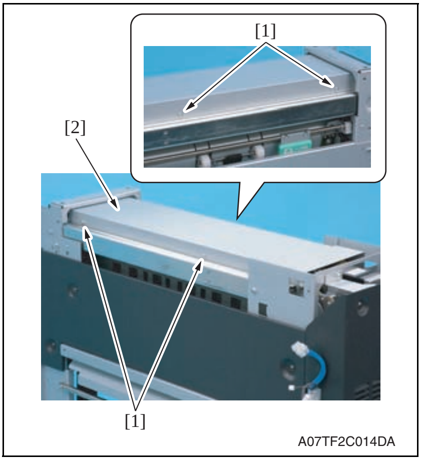
NOTE

- **This adjustment affects the 1st Z-fold position. Be sure therefore to perform [1st Z-fold Position] of the service mode whenever this adjustment has been completed.**
  See P.34

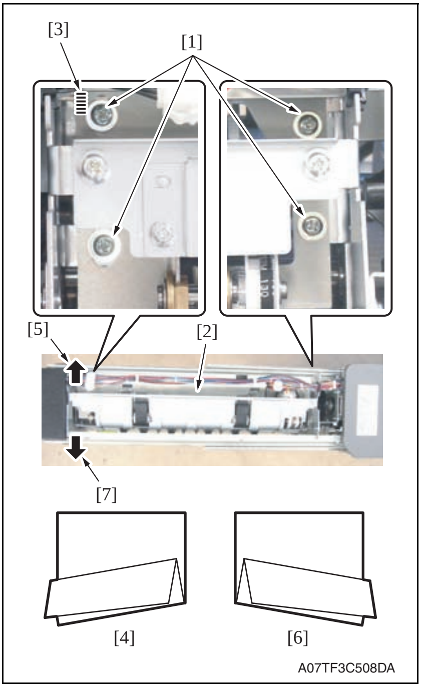
1. Remove the upper cover.
   See P.11



2. Perform the Z-folding printing operation on A3 or 11 x 17 paper and check to see if the skew of the 1st folding is within the standard value “a”.
   Standard value: a = 2 mm or less
   When the value is not within the standard value, perform the following procedure.
3. Open the front door, and pull out the Z folding/conveyance unit.



4. Remove four screws [1], and remove the conveyance upper cover [2].



5. Loosen four screws [1].
6. Adjust the 1st stopper assembly [2] by moving the front side of the assembly to right and left by referring to the markings [3], and then tighten the four screws [1].

- **When the skew pattern is [4], move the front side of the 1st stopper assembly [2] to the left [5].**
- **When the skew pattern is [6], move the front side of the 1st stopper assembly [2] to the right [7].**

7. Replace the Z folding/conveyance unit, and then perform the Z-folding printing operation and check to see if the skew of the 1st folding is within the standard value.
8. Repeat steps 5 to 7 until the standard value can be obtained.

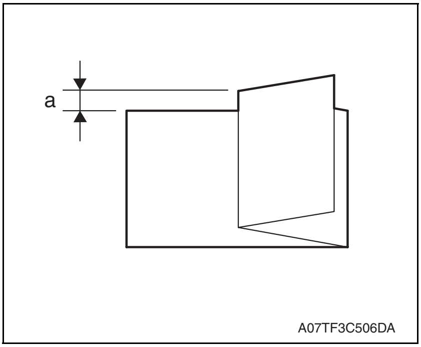
6.3 2nd folding skew adjustment

- Conduct the 2nd folding skew adjustment when the skew of the 2nd folding is not within the standard value.

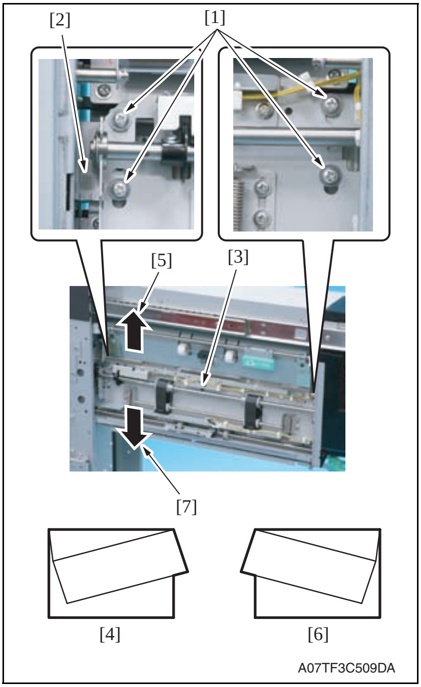
NOTE

- **This adjustment affects the 2nd Z-fold position. Be sure therefore to perform [2nd Z-fold Position] of the service mode whenever this adjustment has been completed.**

  See P.34



1. Perform the Z-folding printing operation on A3 or 11 x 17 paper and check to see if the skew of the 2nd folding is within the standard value "a".
   Standard value: a = 2 mm or less
   When the value is not within the standard value, perform the following procedure.
2. Open the front door, and pull out the Z folding/conveyance unit.



3. Loosen four screws [1].
4. Adjust the 2nd stopper assembly [3] by moving it vertically by referring to the markings [2], and then tighten the four screws [1].
   - When the skew pattern is [4], move the back side of the 2nd stopper assembly [3] upward [5].
   - When the skew pattern is [6], move the back side of the 2nd stopper assembly [3] downward [7].
5. Replace the Z-folding/conveyance unit, and then perform the Z-folding printing operation and check to see if the skew of the 2nd folding is within the standard value.
6. Repeat steps 4 to 6 until the standard value can be obtained.

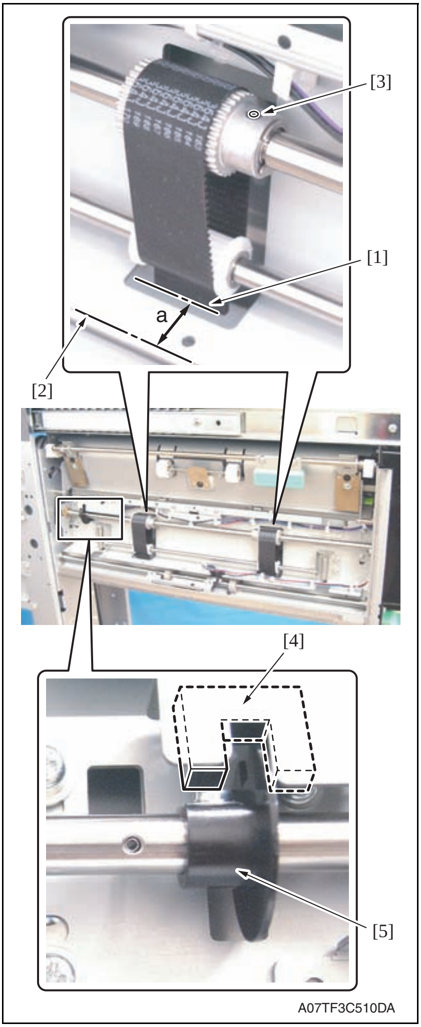
6.4 2nd stopper position adjustment

- Conduct this adjustment when the 2nd folding position cannot be adjusted from the service mode or the skew of the 2nd folding cannot be adjusted by the procedure in “6.3 2nd folding skew adjustment.”

NOTE

This adjustment affects the 2nd Z-fold amount and 2nd Z-fold position. Be sure therefore to perform the following adjustment procedure whenever this adjustment has been completed.

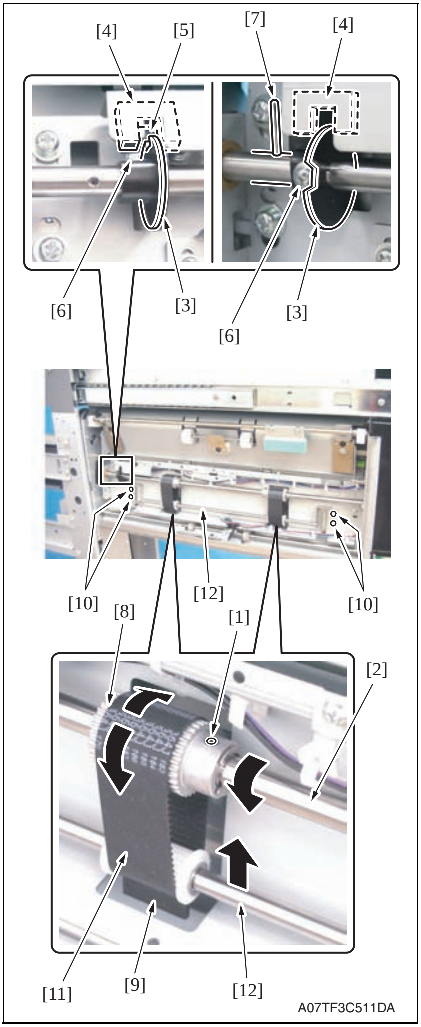
- **2nd folding skew adjustment**
  See P.41
- **[2nd Z-fold Position] of the service mode**
  See P.34



1. Conduct the Z-folding printing operation to move the 2nd stopper [1] to the home position, and then turn OFF the main power switch of the main body.
2. Open the front door, and pull out the Z folding/conveyance unit.
3. Check to see if the distance between the 2nd stopper [1] and inside edge of the guide plate [2] is within a standard value.
   Standard value: a = 20 ± 0.5 mm
4. When the value is not within the standard value, perform the following procedure.
5. Loosen two screws [3] with the hex wrench, and then adjust the distance between the 2nd stopper [1] and the inside of the guide plate [2] so that it gets to the standard value a.

NOTE

- **Be sure not to rotate the actuator [5] of the 2nd stopper home sensor [4] during the adjustment. It may be moved from the home position.**
- **Conduct the following steps 6 to 14 only if you cannot reach to the screws [3] with the hex wrench when they are located in side of the 2nd stopper assembly.**



6. Rotate the shaft [2] so that you can reach to two screws [1] with the hex wrench.
7. Loosen two screws [1].
8. Rotate the shaft [2] so that the actuator [3] is roughly positioned to the home position [5] of the 2nd stopper home sensor [4].

NOTE

- **Never remove the screw [6] from the actuator [3].**
- **At the appropriate position, the anti-rotation pin [7] points upward when the actuator [3] faces to the left.**

9. Rotate the pulley [8] to move the 2nd stopper [9] to the position within the standard value.
10. Loosen four screws [10].
11. Lift up the shaft [12] upward enough to remove the belt [11] from the pulley [8], and then rotate the pulley [8] without moving the shaft [2] and the 2nd stopper [9] so that the screw [1] faces outside.
12. Tighten two screws [1].
13. Tighten four screws [10].

NOTE

- **Before tightening the screws [10], be sure to check the tension is exerted on two belts [11].**

14. Repeat the steps 3 to 5 to adjust the 2nd stopper to the position within the standard value.

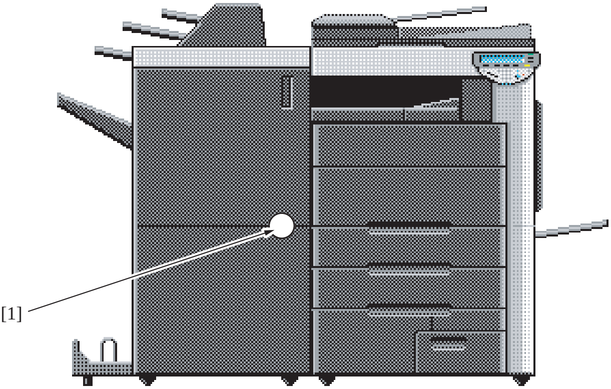
Blank Page

Troubleshooting

7. Jam display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.



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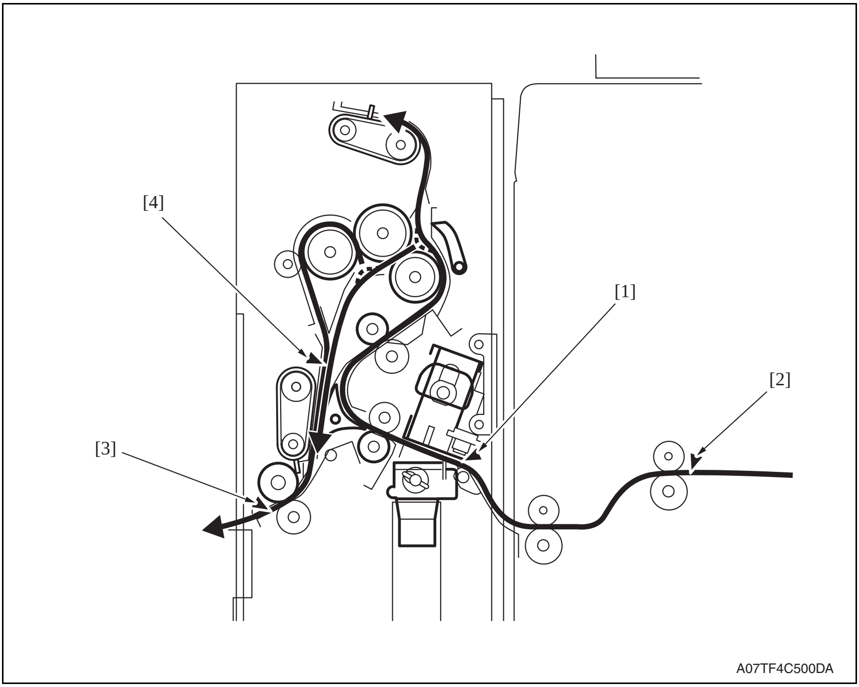
Display	Code	Misfeed access location	Action
[1]	7238	Front door	P.48
	7239	Front door	P.48
	7240	Front door	P.49
	7241	Front door or Z folding/conveyance unit	P.49
	7242	Front door	P.50
	7244	Front door	P.50
	7245	Front door	P.51
	7246	Front door	P.51
	7247	Front door or Z folding/conveyance unit	P.52
	7260	Front door or Z folding/conveyance unit	P.52
	7261	Front door	P.53
	7262	Front door	P.53
	7264	Front door or Z folding/conveyance unit	P.54

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

7.2 Sensor layout



[1] Paper size detect board (PSDTB)

[2] Paper pass sensor (SP202)

[3] Exit sensor (PS9)

[4] Conveyance sensor (PS1)

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

7.3.2 Code: 7238

A. Detection timing

Description
The leading, trailing, and side edge sensors on the paper size detect board (PSDTB) are not turned ON even after the set period of time has elapsed after the paper pass sensor (PS202) of the horizontal transport unit is turned ON by the paper.

B. Action

Relevant electrical parts	
Paper pass sensor (SP202)	Paper size detect board (PSDTB) ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS202 I/O check, sensor check	TRCB CN206-2 (ON)	FS-517/608 O-18
3	PSDTB I/O check, sensor check	—	—
4	ZUCB replacement	—	—

7.3.3 Code: 7239

A. Detection timing

Description
The leading, trailing, and side edge sensors on the paper size detect board (PSDTB) are not turned OFF even after the set period of time has elapsed after they are turned ON by the paper.

B. Action

Relevant electrical parts	
Paper size detect board (PSDTB)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PSDTB I/O check, sensor check	—	—
3	ZUCB replacement	—	—

7.3.4 Code: 7240

A. Detection timing

Description
The conveyance sensor (PS1) is not turned ON even after the set period of time has elapsed after the leading, trailing, and side edge sensors on the paper size detect board (PSDTB) are turned ON by the paper.

B. Action

Relevant electrical parts	
Paper size detect board (PSDTB) Conveyance sensor (PS1)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PSDTB I/O check, sensor check	—	—
3	PS1 I/O check, sensor check	ZUCB CN4-2 (ON)	C-4
4	ZUCB replacement	—	—

7.3.5 Code: 7241

A. Detection timing

Description
The conveyance sensor (PS1) is not turned OFF from the ON state by the paper even after the set period of time has elapsed at the start of the 2nd folding in the Z-fold mode.

B. Action

Relevant electrical parts	
Conveyance sensor (PS1)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS1 I/O check, sensor check	ZUCB CN4-2 (ON)	C-4
3	ZUCB replacement	—	—

7.3.6 Code: 7242

A. Detection timing

Description
The conveyance sensor (PS1) is not turned OFF from the ON state by the paper even after the set period of time has elapsed at the end of the 2nd folding in the Z-fold mode.

B. Action

Relevant electrical parts	
Conveyance sensor (PS1)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS1 I/O check, sensor check	ZUCB CN4-2 (ON)	C-4
3	ZUCB replacement	—	—

7.3.7 Code: 7244

A. Detection timing

Description
The exit sensor (PS9) is not turned ON even after the set period of time has elapsed after the leading, trailing, and side edge sensors on the ZU control board (ZUCB) are turned ON by the paper.

B. Action

Relevant electrical parts	
Exit sensor (PS9)	Paper size detect board (PSDTB) ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS9 I/O check, sensor check	ZUCB CN4-8 (ON)	C-5
3	PSDTB I/O check, sensor check	—	—
4	ZUCB replacement	—	—

7.3.8 Code: 7245

A. Detection timing

Description
The exit sensor (PS9) is not turned ON even after the set period of time has elapsed after the paper pass sensor (PS202) of the horizontal transport unit is turned ON by the paper.

B. Action

Relevant electrical parts	
Paper pass sensor (PS202) Exit sensor (PS9)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS202 I/O check, sensor check	TRCB CN206-2 (ON)	FS-517/608 O-18
3	PS9 I/O check, sensor check	ZUCB CN4-8 (ON)	C-5
4	ZUCB replacement	—	—

7.3.9 Code: 7246

A. Detection timing

Description
The exit sensor (PS9) is not turned OFF even after the set period of time has elapsed after the exit sensor (PS9) is turned ON by the paper.

B. Action

Relevant electrical parts	
Exit sensor (PS9)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS9 I/O check, sensor check	ZUCB CN4-8 (ON)	C-5
3	ZUCB replacement	—	—

7.3.10 Code: 7247

A. Detection timing

Description
Paper is left in the Z-folding unit even after the set period of time has elapsed after the main body transmits an operation stop signal to the Z-folding unit.

B. Action

Relevant electrical parts	
ZU control board (ZUCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	ZUCB replacement	—	—

7.3.11 Code: 7260

A. Detection timing

Description
The side edge sensor on the paper size detect board (PSDTB) is not turned ON even after the set period of time has elapsed after the leading, trailing, and side edge sensors on the paper size detect board (PSDTB) are turned OFF by the paper; or, the punch home sensor (PS6) is not turned ON by the paper even after the set period of time has elapsed after the punch clutch (CL1) is turned OFF.

B. Action

Relevant electrical parts	
Punch clutch (CL1) Punch home sensor (PS6)	Paper size detect board (PSDTB) ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS6 I/O check, sensor check	ZUCB CN3-5 (ON)	C-7
3	CL1 operation check	ZUCB CN11-4 (DRV)	C-7
4	PSDTB I/O check, sensor check	—	—
5	ZUCB replacement	—	—

7.3.12 Code: 7261

A. Detection timing

Description
The conveyance sensor (PS1) is not turned ON even after the set period of time has elapsed after the leading, trailing, and side edge sensors on the paper size detect board (PSDTB) are turned ON by the paper.

B. Action

Relevant electrical parts	
Conveyance sensor (PS1)	Paper size detect board (PSDTB) ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS1 I/O check, sensor check	ZUCB CN4-2 (ON)	C-4
3	PSDTB I/O check, sensor check	—	—
4	ZUCB replacement	—	—

7.3.13 Code: 7262

A. Detection timing

Description
The exit sensor (PS9) is not turned ON even after the set period of time has elapsed after the conveyance sensor (PS1) is turned ON by the paper.

B. Action

Relevant electrical parts	
Conveyance sensor (PS1) Exit sensor (PS9)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS1 I/O check, sensor check	ZUCB CN4-2 (ON)	C-4
3	PS9 I/O check, sensor check	ZUCB CN4-8 (ON)	C-5
4	ZUCB replacement	—	—

7.3.14 Code: 7264

A. Detection timing

Description
The conveyance encoder sensor (PS10) is not turned OFF from the ON position, or not turned ON from the OFF position, even after the set period of time has elapsed after the main motor (M6) is turned ON.

B. Action

Relevant electrical parts	
Main motor (M6) Conveyance encoder sensor (PS10)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	M6 operation check	ZUCB CN8-1 to 6	C-2
3	PS10 I/O check, sensor check	ZUCB CN4-14 (ON)	C-5 to 6
4	ZUCB replacement	—	—

8. Malfunction code

8.1 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Item	Detection timing	Trouble isolation compliant unit	Rank
C1005	ZU communication error	When the ZU control board (ZUCB) is receiving data, a communication error is detected.	—	C
C1130	1st stopper motor drive failure	The 1st stopper home sensor (PS3) is not turned ON even after the set period of time has elapsed after the 1st stopper motor (M2) starts searching home position.	Z fold	B
C1131	2nd stopper motor drive failure	The 2nd stopper home sensor (PS4) is not turned ON even after the set period of time has elapsed after the 2nd stopper motor (M3) starts searching home position.	Z fold/Punch	B
C1133	Punch shift motor drive failure	The punch shift home sensor (PS5) is not turned ON, or is not turned OFF after it is turned ON, even after the set period of time has elapsed after the punch shift motor (M5) starts searching its home position.	Z fold	B
C1134	Main motor cooling fan drive failure	Even after the set period of time has elapsed after the main motor cooling fan (FM1) is turned ON, the FM1 EM signal is faulty and the fan is turned OFF; the signal is faulty after each of the following three trials.	—	B
C1135	Punch motor drive failure	The punch motor (M4) is not turned OFF even after the set period of time has elapsed after it is turned ON.	—	B
C1136	Punch switchover motor drive failure	The punch switchover switch (MS2) is not turned OFF from the ON position, or not turned ON from the OFF position, even after the set period of time has elapsed after the punch switchover motor (M8) is turned ON.	Z fold	B
CC158	Finisher ROM failure (ZU)	Data of flash ROM of the Z folding unit is determined to be faulty when the power is turned ON.	—	C

8.2 Solution

8.2.1 C1005: ZU communication error

Relevant electrical parts	
ZU control board (ZUCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change ZUCB	—	—

8.2.2 C1130: 1st stopper motor drive failure

Relevant electrical parts	
1st stopper motor (M2) 1st stopper home sensor (PS3)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS3 I/O check, sensor check	ZUCB CN4-11 (ON)	C-5
4	M2 operation check	ZUCB CN15-1 to 6	C-3
5	Change M2	—	—
6	Change ZUCB	—	—

8.2.3 C1131: 2nd stopper motor drive failure

Relevant electrical parts	
2nd stopper motor (M3) 2nd stopper home sensor (PS4)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS4 I/O check, sensor check	ZUCB CN4-5 (ON)	C-4 to 5
4	M3 operation check	ZUCB CN4-7 to 12	C-4
5	Change M3	—	—
6	Change ZUCB	—	—

8.2.4 C1133: Punch shift motor drive failure

Relevant electrical parts	
Punch shift motor (M5) Punch shift home sensor (PS5)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS5 I/O check, sensor check	ZUCB CN3-2 (ON)	C-6
4	M5 operation check	ZUCB CN5-1 to 6	C-1 to 2
5	Change M5	—	—
6	Change ZUCB	—	—

8.2.5 C1134: Main motor cooling fan drive failure

Relevant electrical parts	
Main motor cooling fan (FM1)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM1 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM1 operation check	ZUCB CN11-11 (DRV) ZUCB CN11-12 (EN)	C-8
4	Change FM1	—	—
5	Change ZUCB	—	—

8.2.6 C1135: Punch motor drive failure

Relevant electrical parts	
Punch motor (M4)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M4 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M4 for proper drive coupling and correct as necessary.	—	—
4	M5 operation check	ZUCB CN5-1 to 6	C-1 to 2
5	Change M5	—	—
6	Change ZUCB	—	—

8.2.7 C1136: Punch switchover motor drive failure

Relevant electrical parts	
Punch switchover motor (M8) Punch switchover switch (MS2)	ZU control board (ZUCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and switch connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	MS2 I/O check, sensor check	ZUCB CN11-9	C-8
4	M8 operation check	ZUCB CN11-8	C-7 to 8
5	Change M8	—	—
6	Change ZUCB	—	—

8.2.8 CC158: Finisher ROM failure (ZU)

Relevant electrical parts	
JS control board (JSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change JSCB	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-517/518/608

2008.06
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 7.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2008/06	7.0	△6	Content additions and changes
2008/05	6.0	△5	Additions of FS-518 and error correction
2008/03	5.0	△4	Content additions and changes
2007/08	4.0	△3	Content additions and changes
2007/05	3.0	△2	Content additions and changes
2007/04	2.0	△1	Error correction
2007/02	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

FS-517/518/608

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specifications

A. Type

Name	FS-517	Flat-stapling finisher: 50 sheets staple
	FS-518	Flat-stapling finisher: 100 sheets staple
	FS-608	Multi folding multi stapling finisher
Type	Staple finisher attached to the side of the main body	
Installation	Including horizontal transport unit (Built-in finisher that is mounted from the left of the main body)	
Document alignment	Center	
Consumables	Staples	

B. Functions

Modes	FS-517 /FS-518	Non-sort, sort, offset, group offset, sort stable
	FS-608	Non-sort, sort, offset, group offset, sort stable, folding, saddle stitching, tri-folding

C. Stapling

Max. flat-stapling capacity	FS-517	64 to 90 g/m²: 50 sheets or 48 sheets + 2 sheets (209 g/m²) *1
		91 to 120 g/m²: 30 sheets
		121 to 209 g/m²: 22 sheets
	FS-518	64 to 80 g/m²: 100 sheets or 94 sheets + 2 sheets (209 g/m²) *1, *3, *4, *5
		81 to 90 g/m²: 30 sheets or 28 sheets + 2 sheets (209 g/m²)
		91 g/m² or more: 2 sheets of thick paper or more not guaranteed
	FS-608	64 to 80 g/m²: 50 sheets or 48 sheets + 2 sheets (209 g/m²) *1, *2
		81 to 90 g/m²: 16 sheets or 14 sheets + 2 sheets (209 g/m²)
		91 g/m² or more: 2 sheets of thick paper or more not guaranteed
Max. saddle stitching capacity	FS-608	64 to 80 g/m²: 20 sheets or 19 sheets + 1 sheet (209 g/m²)
		81 to 90 g/m²: 16 sheets or 15 sheets + 1 sheet (209 g/m²)
		91 g/m² or more: 1 sheet of thick paper or more not guaranteed
Stapling position	FS-517 /FS-518	Back of the corner (0 to 45 degrees, Adjustable depending on paper size) Front of the corner (0 to 45 degrees, Adjustable depending on paper size) Center staple two points (Staple interval is fixed to 162 mm.)
	FS-608	Back of the corner (45 degrees, Paper width 297 mm or less), Back of the corner (0 degree, Paper width over 297 mm), Front of the corner (0 degree), Center staple two points (Staple interval is adjustable between 128 mm and 160 mm.)

*1: The stapling capacity for the following types of paper is 30 sheets.

- A3 paper stored in environment with a temperature exceeding 30 °C and humidity exceeding 85%
- Invoice paper

*2: The stapling capacity for colored paper and enamel paper is 30 sheets (recommended paper).

*3: The stapling capacity for colored paper and enamel paper is 35 sheets (recommended paper).

*4: And the stapling thickness is 10 mm or less and the stack thickness including curl is 25 mm or less.

6 *5: The stapling capacity for A3 or 11 x 17 paper is 50 sheets maximum.

D. Max. paper capacity

Tray 1 (80 g/m^2)	FS-517/ FS-518	Non-sort, sort, group	3,000 sheets :A4/A4S, B5/B5S, 8 1/2 x 11/ 8 1/2 x 11S, 16K/16KS, 7 1/4 x 10 1/2 /7 1/4 x 10 1/2 S 1,500 sheets :A3, B4, 8 x 13, 8 1/4 x 13, 8 1/2 x 13, 8 1/2 x 13 1/4, 12 1/4 x 18, 11 x 17, 8 1/2 x 14, 8K 500 sheets :A5/A5S, B6S, A6S, 5 1/2 x 8 1/2 / 5 1/2 x 8 1/2 S 10 sheets :Envelope, OHP		
		Stapling	No. of sheets per stapling	Size in the sub scan direction is 418 mm or longer	The others
			2 to 9	50 copies	100 copies
			10 to 20	50 copies	50 copies
			21 to 30	30 copies	30 copies
			31 to 40	25 copies	25 copies
			41 to 50	20 copies	20 copies
			51 to 60 (FS-518 only)	—	15 copies
			61 to 100 (FS-518 only)	—	10 copies
	FS-608	Non-sort, sort, group	2,500 sheets :A4/A4S, B5/B5S, 8 1/2 x 11/ 8 1/2 x 11S, 16K/16KS, 7 1/4 x 10 1/2 /7 1/4 x 10 1/2 S 1,500 sheets :A3, B4, 8 x 13, 8 1/4 x 13, 8 1/2 x 13, 8 1/2 x 13 1/4, 12 1/4 x 18, 11 x 17, 8 1/2 x 14, 8K 500 sheets :A5/A5S, B6S, A6S, 5 1/2 x 8 1/2 / 5 1/2 x 8 1/2 S 10 sheets :Envelope, OHP		
		Stapling	No. of sheets per stapling	Size in the sub scan direction is 418 mm or longer	The others
			2 to 9	50 copies	100 copies
			10 to 20	50 copies	50 copies
			21 to 30	30 copies	30 copies
			31 to 40	25 copies	25 copies
			41 to 50	20 copies	20 copies
Tray 2 (80 g/m^2)	100 sheets				

Tray 3	FS-608	Folding	A3, B4, A4S, 12 1/4 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11S, 8K Min. : 210 mm x 280 mm (8.25 inch x 11 inch) Max. : 311.1 mm x 457.2 mm (12.25 inch x 18 inch) 3 sheets folding: 25 to 33 sets
		Saddle stitching	A3, B4, A4S, 8 1/2 x 11S, 8K Min. : 210 mm x 280 mm (8.25 inch x 11 inch) Max. : 311.1 mm x 457.2 mm (12.25 inch x 18 inch) 5 sheets stitching: 15 to 20 sets
		Tri-folding	A4S, 8 1/2 x 11S, 16KS 1 sheet folding: 50 sets or less

E. Type of paper

Size	A3, B4, A4/A4S, B5/B5S, A5/A5S, B6S, A6S, postcardS, 5 1/2 x 8 1/2 S, 8 x 13, 8 1/4 x 13, 8 1/2 x 13, 8 1/8 x 13 1/4, 12 1/4 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11/8 1/2 x 11S, 7 1/4 x 10 1/2 /7 1/4 x 10 1/2 S, 8K, 16K/16KS Min. : 100 mm x 139 mm (4 inch x 5.5 inch) Max. : 311.1 mm x 457.2 mm (12.25 inch x 18 inch)
Type	Plain paper, thick paper 1/1+/2/3/4, OHP transparencies, postcard, envelope, label, letterhead
Weight	64 to 300 g/m^2

F. Machine specifications

Power requirements	DC 24 V (supplied from the main body)	
	DC 5 V (supplied from the main body)	
Max. power consumption	80 W or less	
Dimensions	680 (W) x 656 (D) x 1027.5 (H) mm 26.75 (W) x 25.75 (D) x 40.5 (H) inch 800 (W) x 656 (D) x 1027.5 (H) mm * 31.5 (W) x 25.75 (D) x 40.5 (H) inch *	
Weight	FS-517	63 kg (138.75 lb)
	FS-518	65 kg (143.3 lb)
	FS-608	68 kg (150 lb)
	Horizontal transport unit	6 kg (13.25 lb)

*: Size when the paper output tray is pulled out

G. Operating environment

- Conforms to the operating environment of the main body.

NOTE

How product names appear in the document

- **FS-517, FS-518, FS-608: Finisher**

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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

2.1.1 Replacing the paper exit roller

A. Periodically replaced parts/cycle

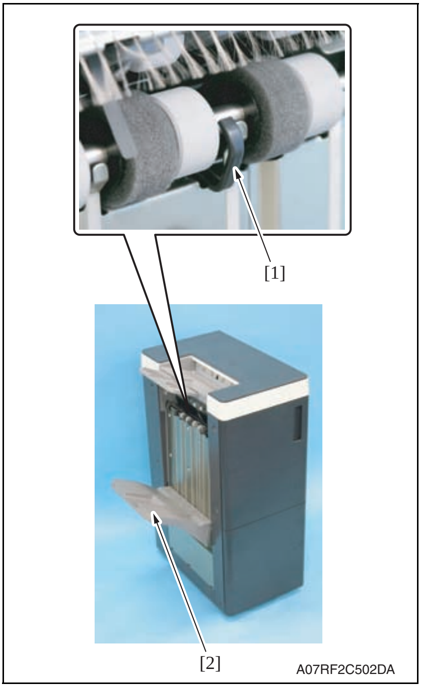
- Paper exit roller: Every 100,000 prints

NOTE

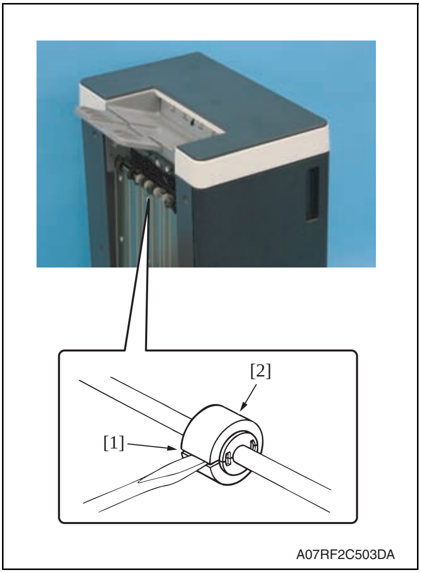
- **When replacing the paper exit rollers, be sure to replace all 5 pairs of rollers (10 rollers in all).**

B. Replacing procedure

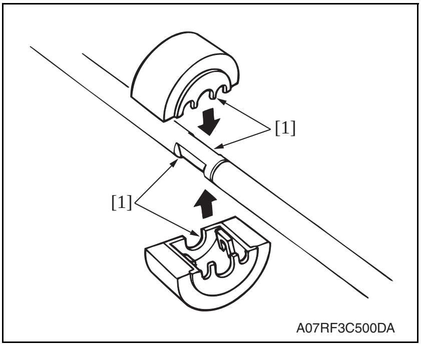
1. Turn ON the main power switch and the power switch of the main body.



2. Push up the actuator [1] of the tray1 upper limit sensor (PS2) with your finger, and then lower the finishing tray 1 [2].
3. In the state of the finishing tray 1 being lowered, turn OFF the main and sub power switches and unplug the power cord from the power outlet.



4. Insert a driver into the groove [1] of the paper exit roller and remove the paper exit roller [2] by prizing it open.



5. With each of the depressions [1] of a new paper exit roller and the shaft brought together, press the paper exit roller until it clicks to fit it in securely.

2.1.2 Replacing the intermediate transfer roller

A. Periodically replaced parts/cycle

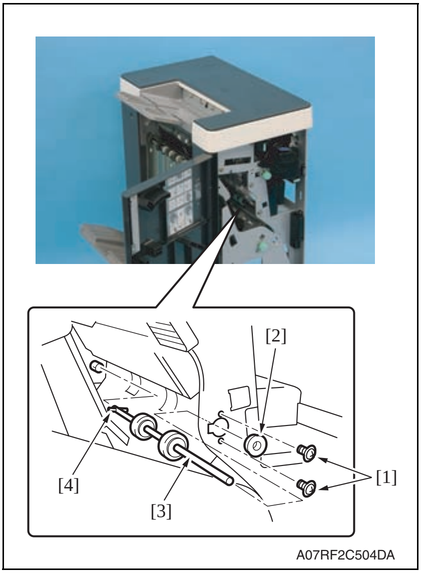
- Intermediate transfer roller: Every 100,000 prints

NOTE

- **When replacing the intermediate transfer rollers, be sure to replace all 2 pairs of rollers (4 rollers in all).**

B. Replacing procedure

1. Open the front door.



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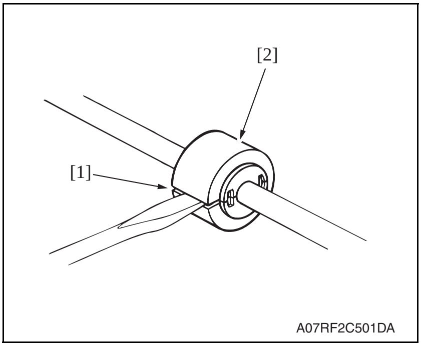
2. Remove two screws [1], the bearing [2] and remove the intermediate transfer roller assy [3].

NOTE

- **When installing the intermediate transfer roller, be sure to insert the pin [4] at the rear of the shaft of the intermediate transfer roller into the groove.**



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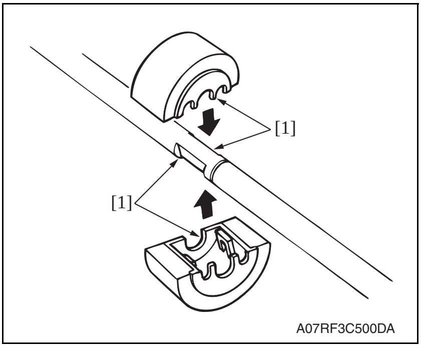
3. Insert a driver into the groove [1] of the intermediate transfer roller and remove the intermediate transfer roller [2] by prizing it open.



4. With each of the depressions [1] of a new intermediate transfer roller and the shaft brought together, press the intermediate transfer roller until it clicks to fit it in securely.

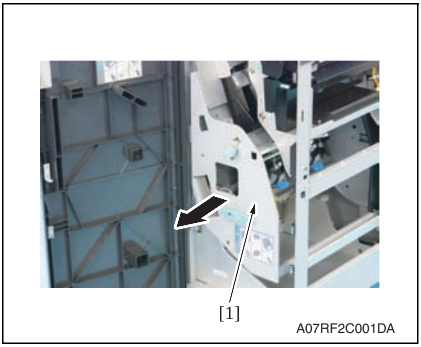
2.1.3 Replacing the paper assist roller

A. Periodically replaced parts/cycle

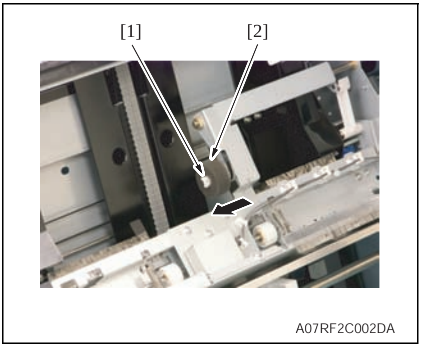
- Paper assist roller: Every 200,000 prints

5 B. Replacing procedure (For FS-517/FS-518)

1. Open the front door.



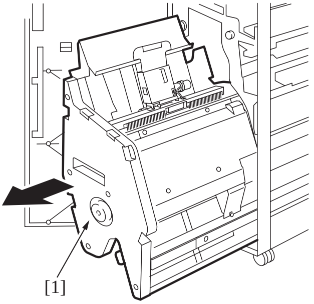
2. Pull out the stacker unit [1].



3. Remove the C-clip [1] and remove the paper assist roller [2].

C. Replacing procedure (For FS-608)

1. Open the front door.



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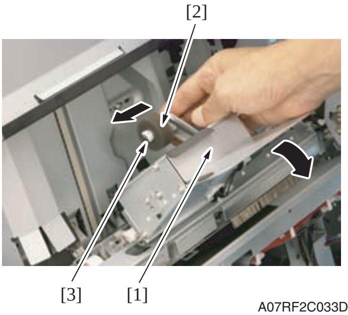
2. Pull out the stacker unit [1].



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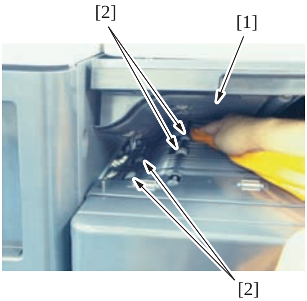
3. Open the paper assist section [1], and then lift up the paper assist roller [2].
4. Remove the C-clip [3] and remove the paper assist roller [2].

2.1.4 Cleaning of the horizontal transport roller

A. Periodically cleaning parts/cycle

- **Horizontal transport roller: Every 100,000 prints (upon each call)**

B. Cleaning procedure



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1. Raise the horizontal transport cover [1].
2. Using a soft cloth dampended with alcohol, wipe four horizontal transport rollers [2].

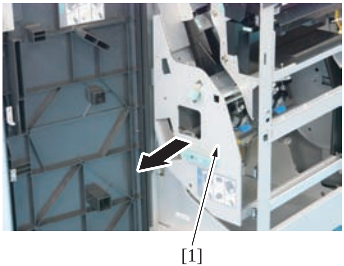
2.1.5 Cleaning of the swing belt /Up (only FS-517/FS-518)

A. Periodically cleaning parts/cycle

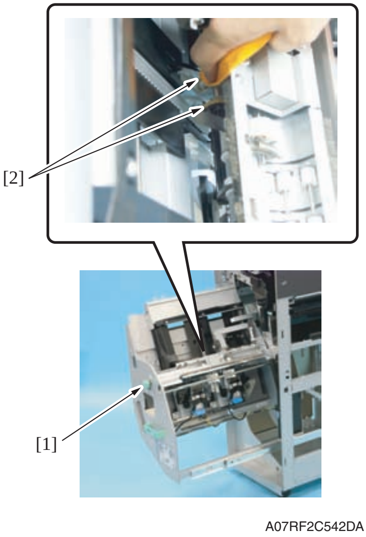
- **Swing belt /Up: Every 100,000 prints (upon each call)**

B. Cleaning procedure

1. Open the front door.



2. Pull out the stacker unit [1].



3. While turning processing knob FN6 [1], wipe the swing belt /Up [2] using a soft cloth dampended with alcohol.

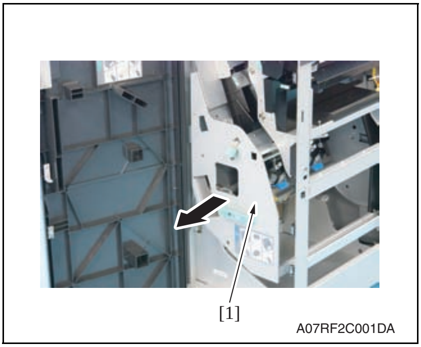
2.1.6 Replacing the stapler unit

A. Periodically replaced parts/cycle

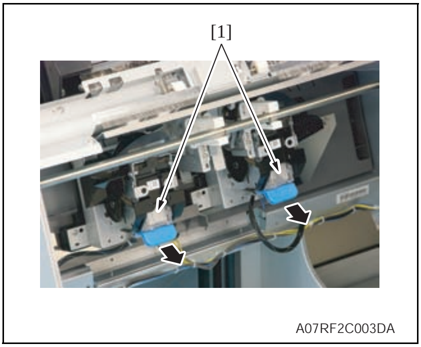
- Stapler unit (FS-517): Every 300,000 prints
- Stapler unit (FS-518): Every 500,000 prints
- Stapler unit (FS-608): Every 200,000 prints

B. Replacing procedure (For FS-517)

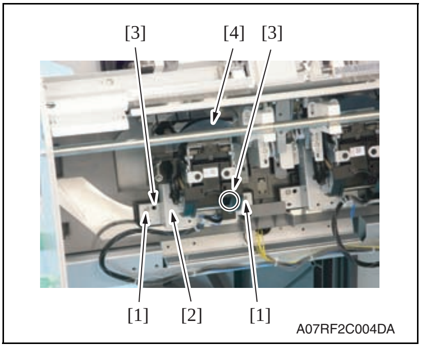
1. Remove the finisher.
   See P.31
2. Open the front door.



3. Pull out the stacker unit [1].



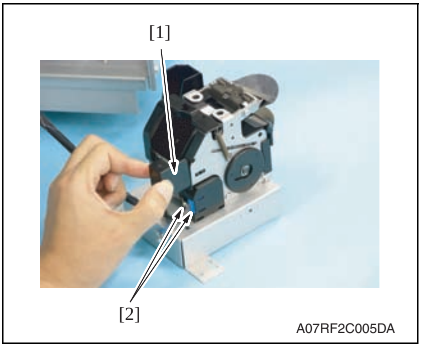
4. Remove both stapler cartridges [1].



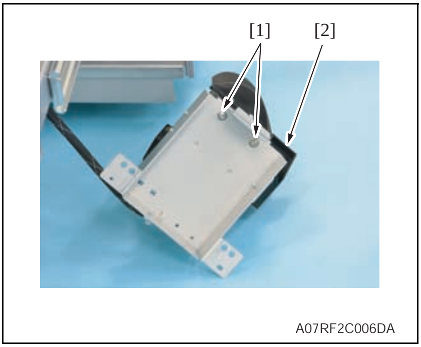
5. Remove two screws [1] and remove the stapler platform/Fr [2].

NOTE

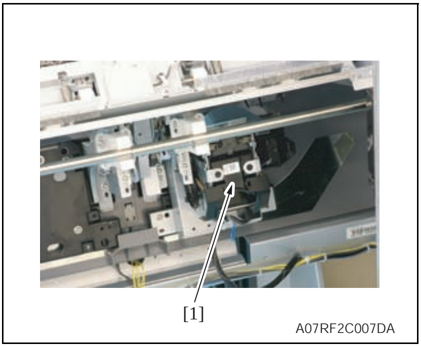
- **The spare screw holes [3] can be used if the thread of the screw holes is stripped at the time of reinstallation.**
- **While reinstallation, take care not to damage the pet [4].**



6. Remove the connector cover [1], and disconnect two connectors [2].



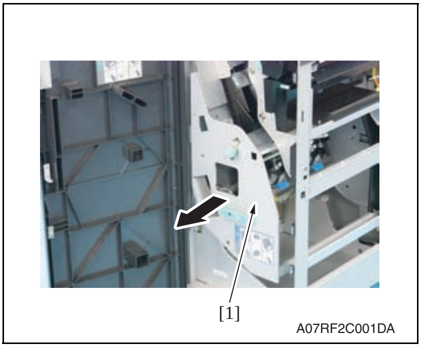
7. Remove two screws [1] and remove the stapler unit/Fr [2].



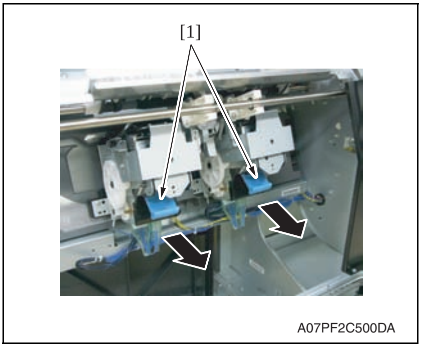
8. Remove the stapler unit/Rr [1] by repeating the procedure from steps 4 to 7.

C. Replacing procedure (For FS-518)

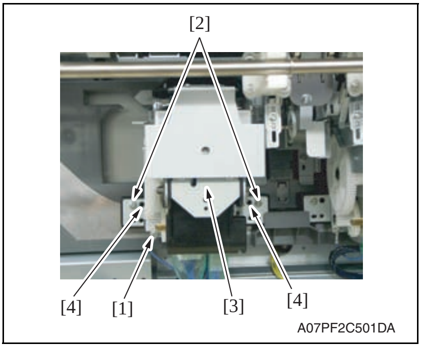
1. Remove the finisher.
   See P.31
2. Open the front door.



3. Pull out the stacker unit [1].



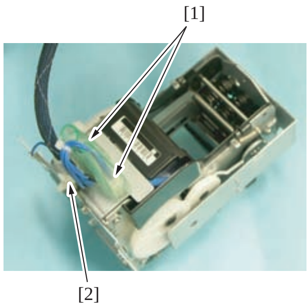
4. Remove both stapler cartridges [1].



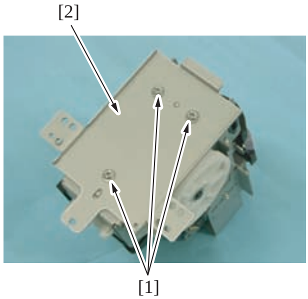
5. Remove the screw [1] that secures the ground wire.
6. Remove two screws [2], and remove the stapler unit/Fr [3].

NOTE

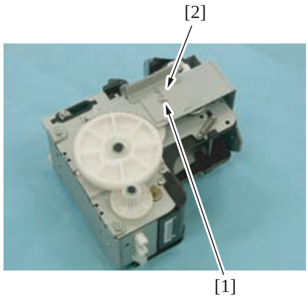
- **The spare screw holes [4] can be used if the thread of the screw holes is stripped at the time of reinstallation.**



7. Disconnect two connectors [1], and remove the wire saddle [2].



8. Remove three screws [1], and remove the stapler platform/Fr [2].



9. Remove the screw [1], and remove the stopper plate [2].

10. Remove the stapler unit/Rr by repeating the procedure from steps 4 to 9.

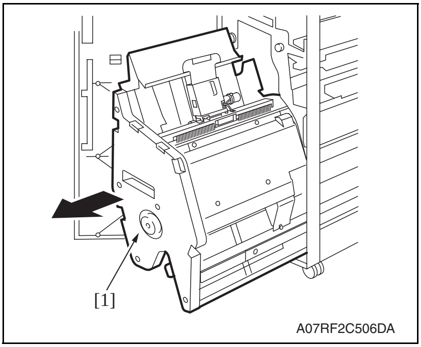
D. Replacing procedure (For FS-608)

⚠ CAUTION
- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

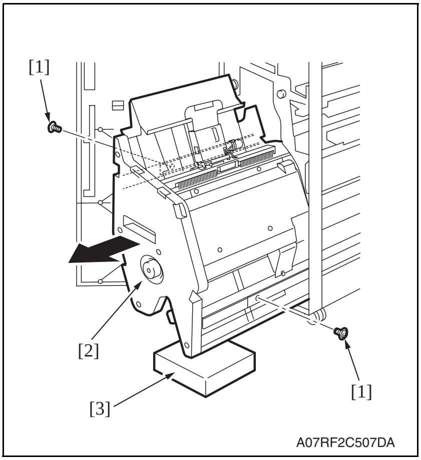
NOTE

- **After the reinstallation, be sure to adjust the stapler position in the vertical direction.**
  See P.97

1. Remove the finisher.
   See P.31
2. Open the front door.



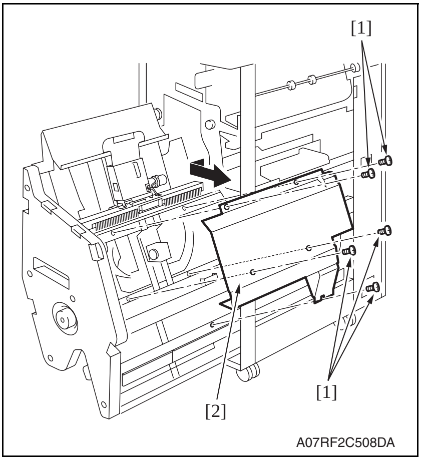
3. Pull out the stacker unit [1].



4. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



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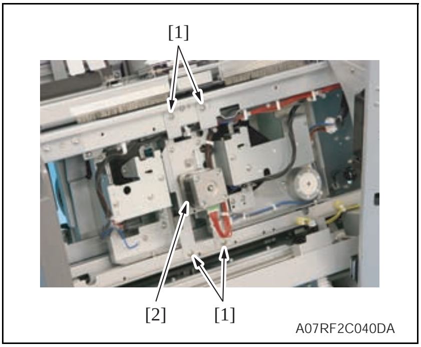
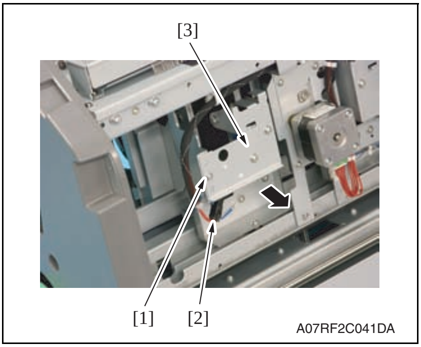
5. Remove five screws [1], and remove the stapler unit cover [2].



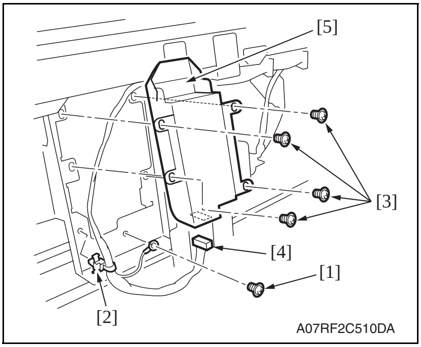
A07RF2C040DA

6. Remove four screws [1] that secure the mounting plate [2] of the saddle stitching stopper motor.

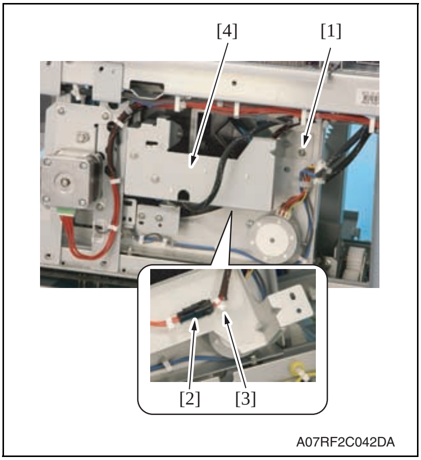


A07RF2C041DA

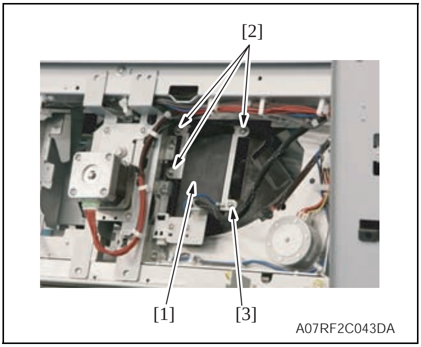
7. Remove the screw [1] and disconnect the connector [2], and remove the flat-stapling stopper release unit / Fr [3].



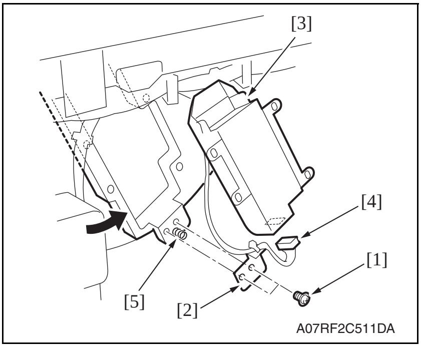
8. Remove the screw [1] that secures the ground wire and remove the clamp [2].
9. Remove four screws [3], the connector [4], and the clincher /Fr [5].



10. Remove the screw [1], the connector [2], and the clamp [3] and remove the flat-stapling stopper release unit / Rr [4].



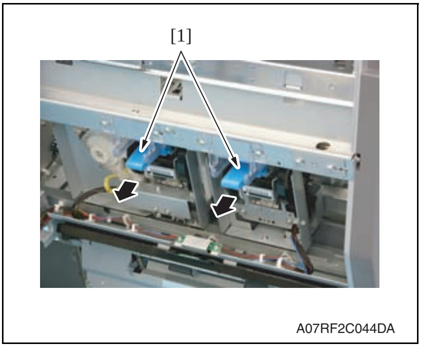
11. Remove three screws [2] that secure the clincher /Rr [1] and remove the screw [3] that secures the ground wire.



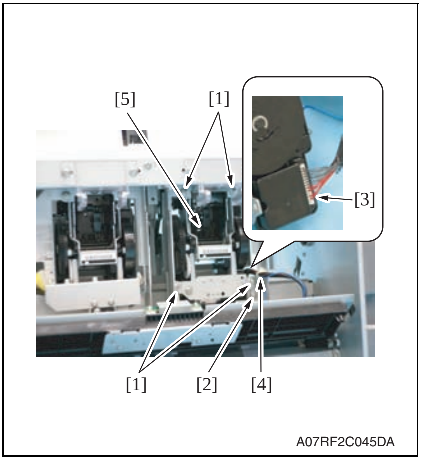
12. Remove two screws [1] and remove the ball bearing mounting plate [2].
13. Rotate and remove the clincher /Rr [3] and disconnect the connector [4].

NOTE

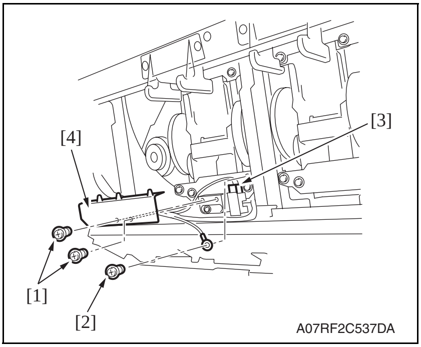
- **Be careful not to lose the ball bearing stopper spring [5] and the ball.**



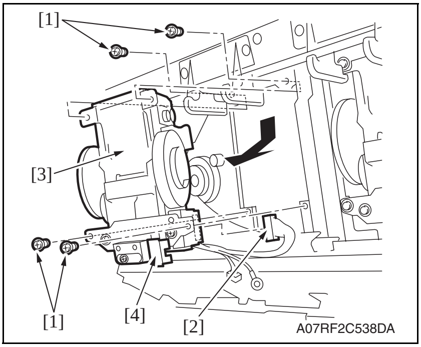
14. Remove both stapler cartridges [1].



15. Remove four screws [1], the screw [2] that secures the ground wire, the connector [3] and the clamp [4]. Remove the stapler /Fr [5].



16. Remove two screws [1], the screw that secures the ground wire [2], and the connector [3]. Remove the stapler /Rr sensor cover [4].



17. Remove four screws [1], disconnect the connector [2] and remove the stapler /Rr [3].

NOTE

- **When removing the stapler /Rr [3], be sure not to damage stapler rotation home sensor [4].**

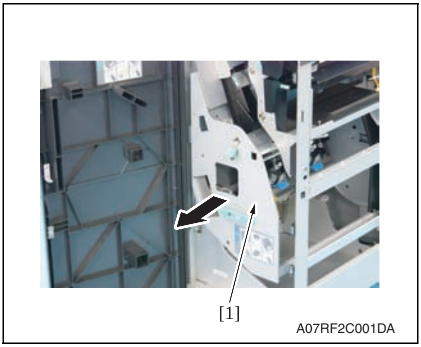
2.1.7 Replacing the cleaning plate assy

A. Periodically replaced parts/cycle

- Cleaning plate assy: Every 300,000 prints

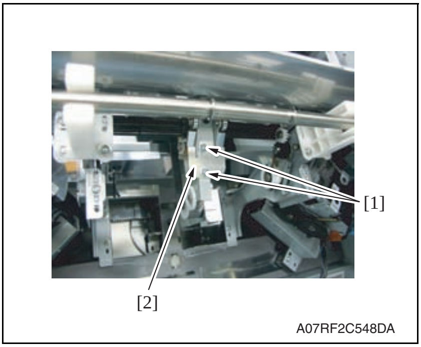
B. Replacing procedure (For FS-517/FS-518)

1. Open the front door.



2. Pull out the stacker unit [1].

5



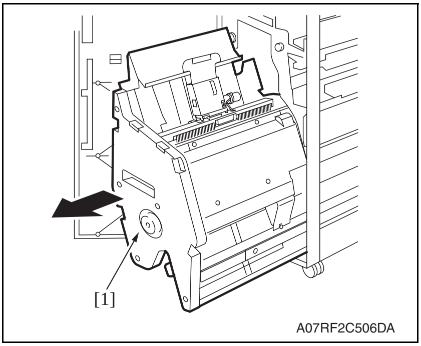
3. Remove two screws [1] and remove the cleaning plate assy [2].

NOTE

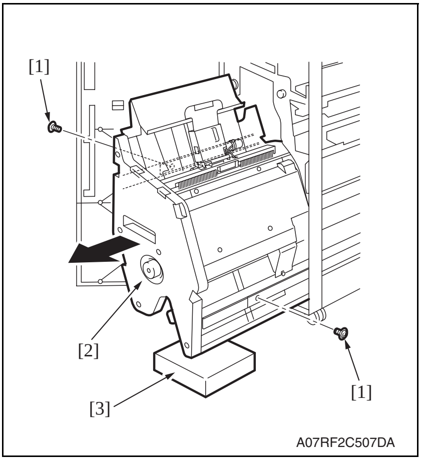
- **The left illustration shows the FNS control board installed in FS-517.**

C. Replacing procedure (For FS-608)

1. Open the front door.



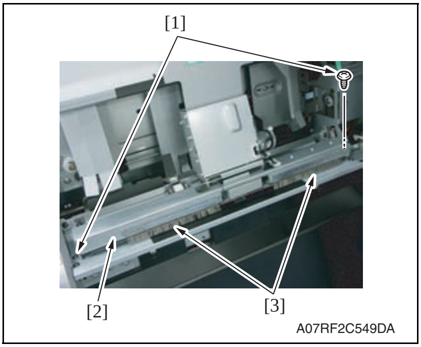
2. Pull out the stacker unit [1].



3. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**

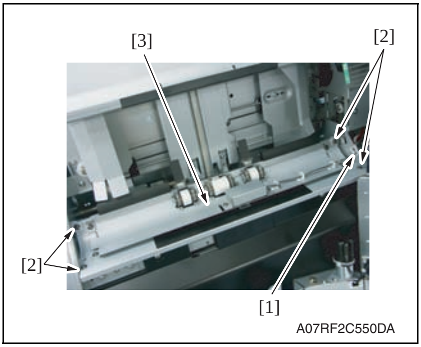


4. Remove two screws [1] and remove the rewinding assy [2].

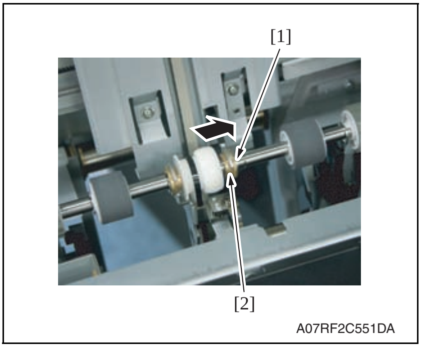
NOTE

- **When reinstalling the rewinding assy, use care not to allow the charge neutralizing brush [3] to be wedged inside other nearby metal brackets.**

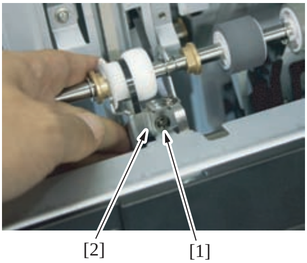
5



5. Remove the harness from the wire saddle [1].
6. Remove four screws [2] and remove the guide plate unit [3].



7. Remove the E-ring [1] and sliding the bearing [2].



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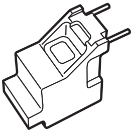
8. Remove the screw [1] and remove the cleaning assy [2].

3. Service tool

3.1 CE tool list

Tool name	Shape	Personnel	Parts No.	Remarks
Stapler positioning jig	 A07RF2C513DA	1	13QEJG010	Only FS-608 is used

4. Other

4.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

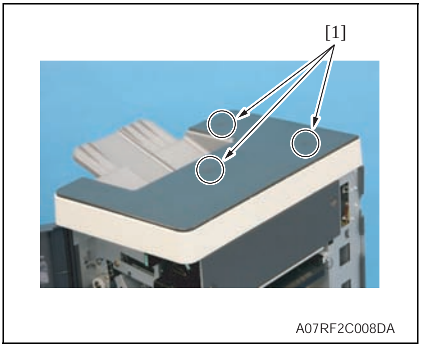
4.2 Disassembly/Assembly/Cleaning list (Other parts)

4.2.1 Disassembly/Assembly parts list

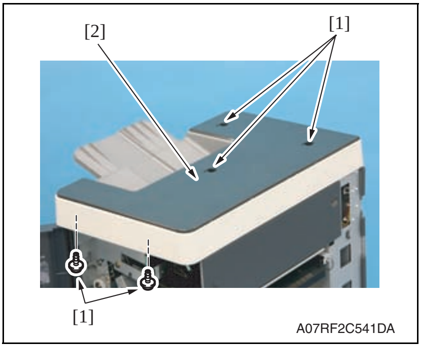
No.	Section	Part name	Ref. page
1	Exterior parts	Upper cover /1	P.25
2		Upper cover /2	P.25
3		Front door	P.26
4		Rear cover	P.26
5		Left cover	P.27
6		Right cover	P.27
7		Lower left cover	P.28
8		Finishing tray 1	P.29
9		Finishing tray 3 (only FS-608)	P.30
10		Stacker unit cover (only FS-608)	P.30
11	Unit	Finisher	P.31
12		Horizontal transport unit	P.32
13		Stacker unit	P.33
14		Paper exit unit	P.37
15	Board and etc.	FNS control board	P.38
16		FNS drive board	P.39
17		Transfer control board	P.40
18	Electrical parts	Fan motor /Fr	P.40
19		Fan motor /Rr	P.41
20		Shift roller motor	P.41
21		Tray 1 lift motor	P.42
22		Folding knife motor (only FS-608)	P.44
23		Bypass gate solenoid	P.44
24		Tri-folding gate solenoid (only FS-608)	P.46
25	Others	Lift wire	P.47

4.3 Disassembly/Assembly procedure

4.3.1 Upper cover /1



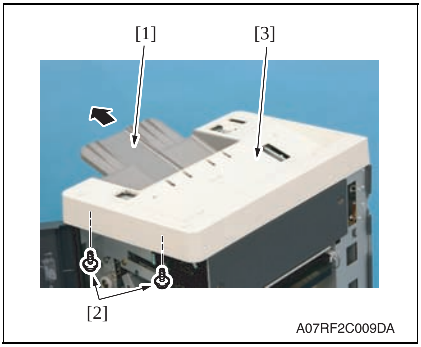
1. Open the front door.
2. Remove three caps [1].



3. Remove five screws [1] and remove the upper cover /1 [2].

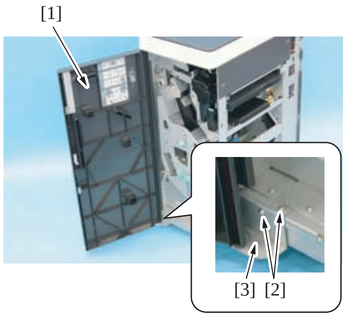
4.3.2 Upper cover /2

1. Remove the upper cover /1.
   See P.25



2. Pull out the tray 2 [1].
3. Remove two screws [2] and remove the upper cover /2 [3].

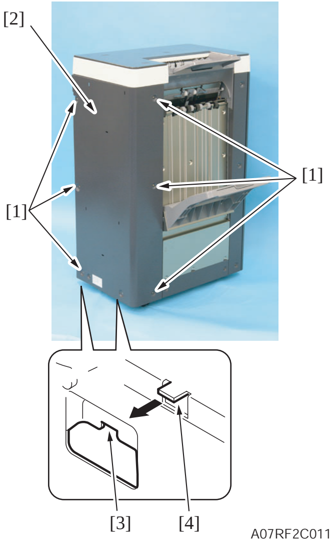
4.3.3 Front door



A07RF2C010DA

1. Open the front door [1].
2. Remove two screws [2] and the hinge plate [3] and remove the front door [1].

4.3.4 Rear cover



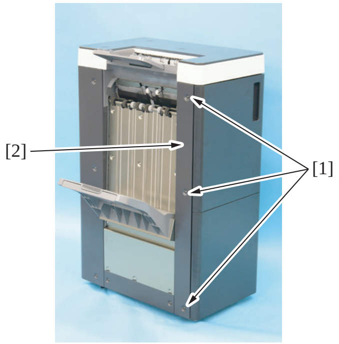
A07RF2C011DA

1. Remove six screws [1] and remove the rear cover [2].

NOTE

- **To reinstall the rear cover, align the protrusion [4] (two places) on the frame with the notch [3] (two places) on the rear cover and mate them.**

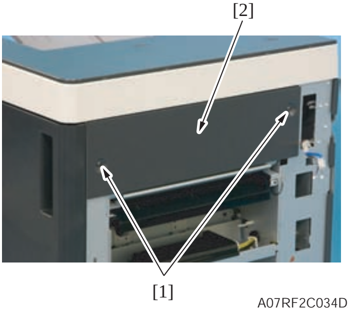
4.3.5 Left cover



A07RF2C012DA

1. Remove three screws [1] and remove the left cover [2].

4.3.6 Right cover



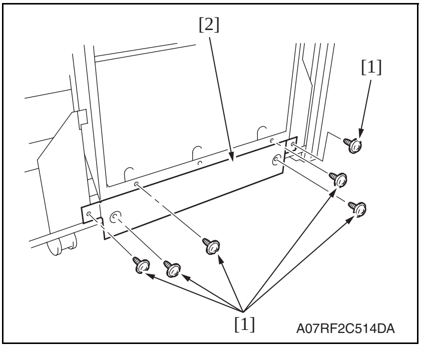
A07RF2C034DA

1. Remove two screws [1] and remove the right cover [2].

4.3.7 Lower left cover

A. For FS-517/FS-518

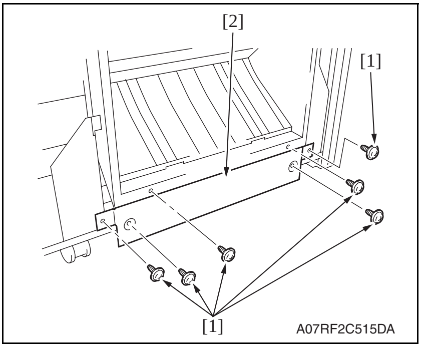
1. Remove the rear cover.
   See P.26
2. Remove the left cover.
   See P.27



3. Remove six screws [1] and remove the lower left cover [2].

B. For FS-608

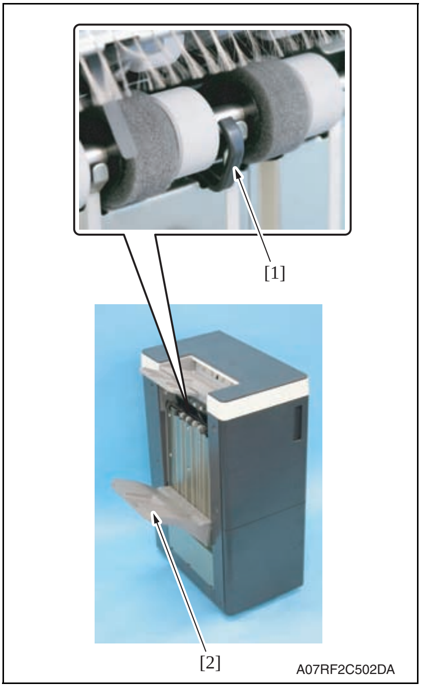
1. Remove the finishing tray 3.
   See P.30
2. Remove the rear cover.
   See P.26
3. Remove the left cover.
   See P.27



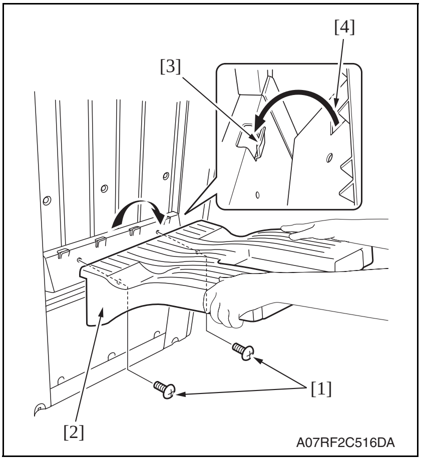
4. Remove six screws [1] and remove the lower left cover [2].

4.3.8 Finishing tray 1

1. Turn ON the main power switch and the power switch of the main body.



2. Push up the actuator [1] of the tray1 upper limit sensor with your finger, and then lower the finishing tray 1 [2].
3. In the state of the finishing tray 1 being lowered, turn OFF the main and sub power switches.

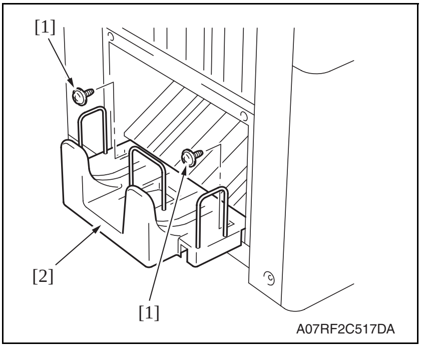


4. Remove two screws [1] and remove the finishing tray 1 [2].

NOTE

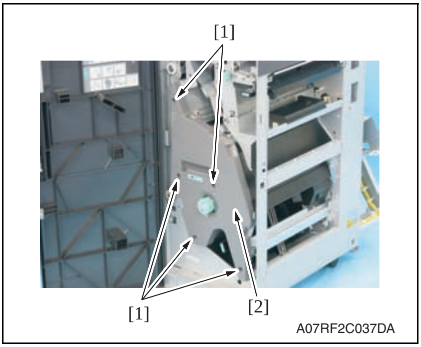
- **To reinstall the finishing tray 1, align the four fittings [3] with the corresponding four guide holes [4] on the finishing tray and fix the tray.**

4.3.9 Finishing tray 3 (only FS-608)



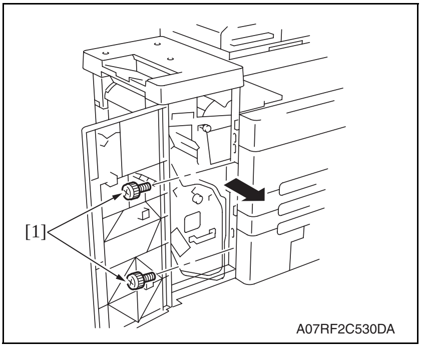
1. Remove two screws [1] and remove the finishing tray 3 [2].

4.3.10 Stacker unit cover (only FS-608)

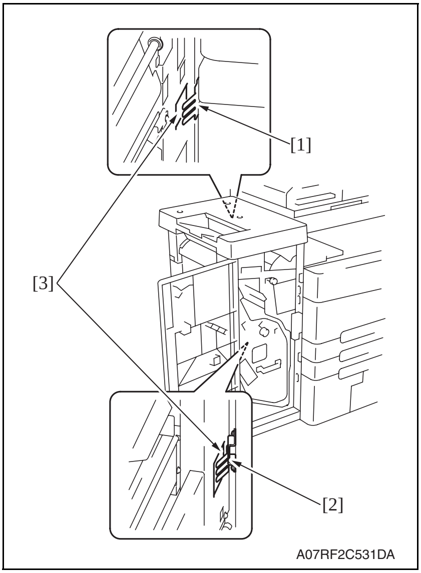


1. Open the front door.
2. Remove five screws [1] and remove the stacker unit cover [2].

4.3.11 Finisher

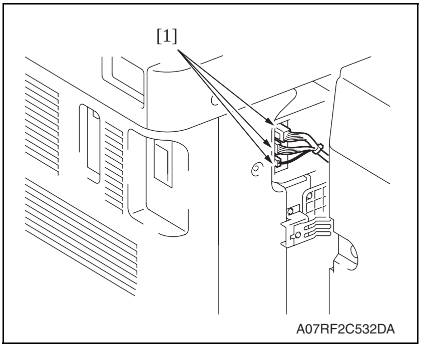


1. Open the front door.
2. Remove two screws [1] and slide the finisher as shown in the illustration.



NOTE

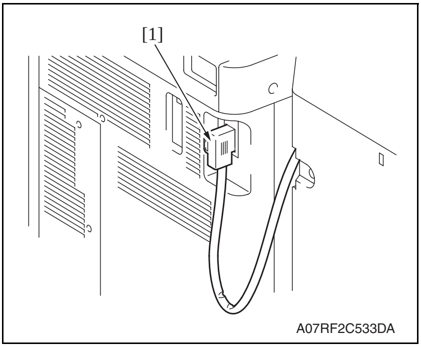
- **To mount the finisher, align the hook portions of the mounting bracket [1] and [2] with the upper and lower holes [3] in the finisher. Then, push the finisher toward the rear.**



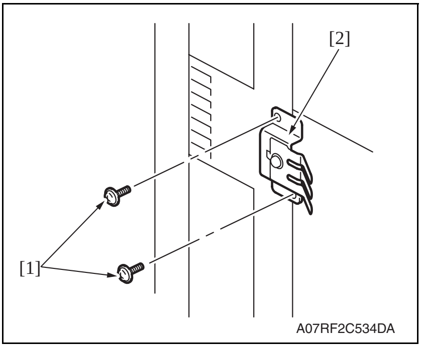
3. Disconnect three connectors [1] and remove the finisher.

4.3.12 Horizontal transport unit

1. Remove the finisher.
   See P.31

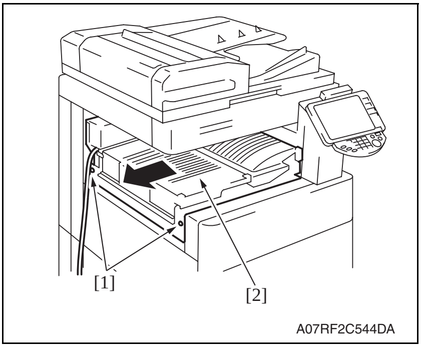


2. Remove the relay connector [1] that comes from the horizontal transport unit.



3. Remove two screws [1] and remove the mounting bracket [2].

2



4. Remove two screws [1] and remove the horizontal transport unit [2].

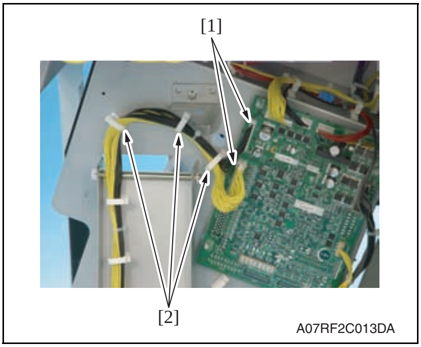
4.3.13 Stacker unit

⚠ CAUTION

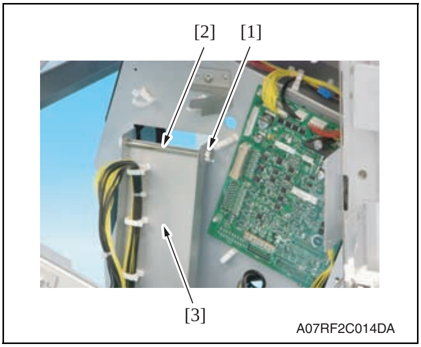
- **Be sure to conduct this operation with 2 personnel.**
- **Be careful not to let finisher fall down when removing finisher from the main body and pulling out the stacker unit from finisher. It may cause the injury.**

⚠5 A. For FS-517/FS-518

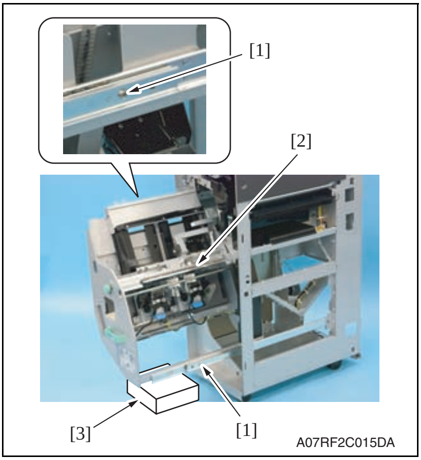
1. Remove the finisher.
   See P.31
2. Remove the front door.
   See P.26
3. Remove the rear cover.
   See P.26
4. Remove the left cover.
   See P.27
5. Pull out the stacker unit.



6. Remove two connectors (CN22 and CN23) [1] from the FNS drive board.
7. Remove the harness from the three wire saddles [2].



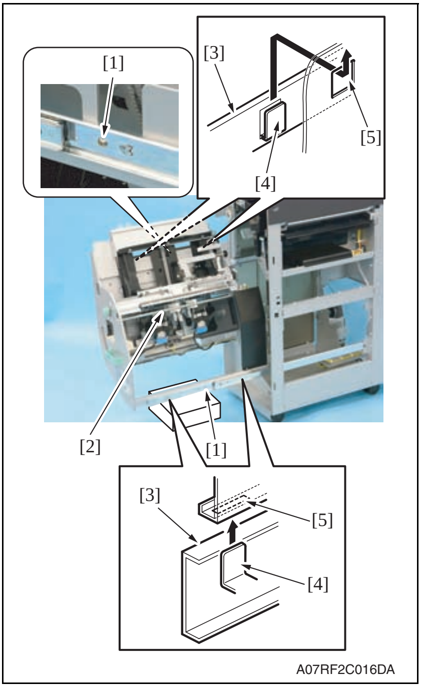
8. Remove the C-clip [1] and the shaft [2] and separate the coupling arm [3].



9. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



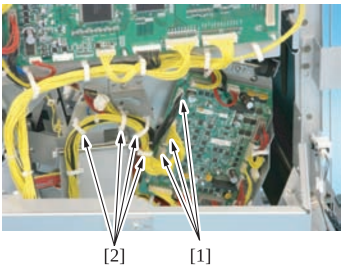
10. Remove two screws [1], and then lift up the stacker unit [2] and remove it from the guide rails [3].

NOTE

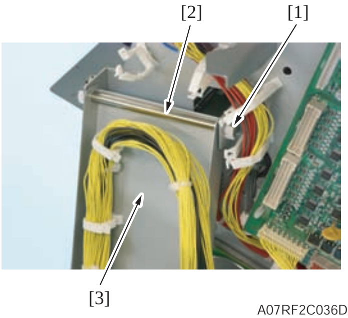
- **When installing the stacker unit [2] to the guide rail [3], be sure to check to see if the hooks [4] are set securely into the installation holes [5].**

B. For FS-608

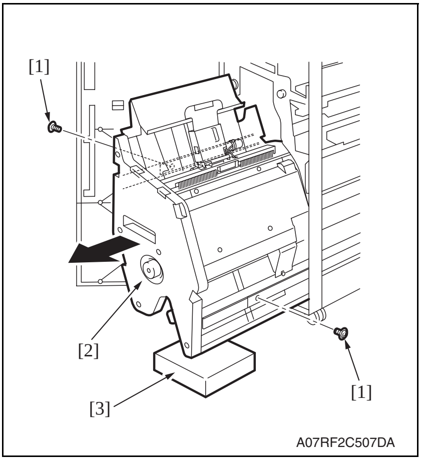
1. Remove the finisher.
   See P.31
2. Remove the front door.
   See P.26
3. Remove the rear cover.
   See P.26
4. Remove the left cover.
   See P.27
5. Pull out the stacker unit.



6. Remove three connectors (CN22, CN23, and CN24) [1] from the FNS drive board.
7. Remove the harness from the four wire saddles [2].



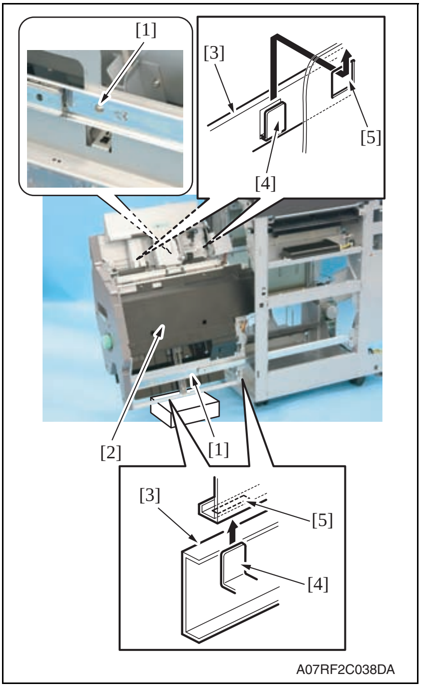
8. Remove the C-clip [1] and the shaft [2] and separate the coupling arm [3].



9. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



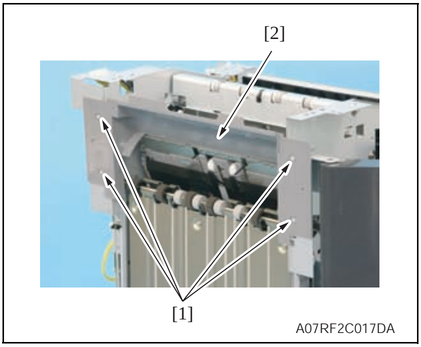
10. Remove two screws [1], and then lift up the stacker unit [2] and remove it from the guide rails [3].

NOTE

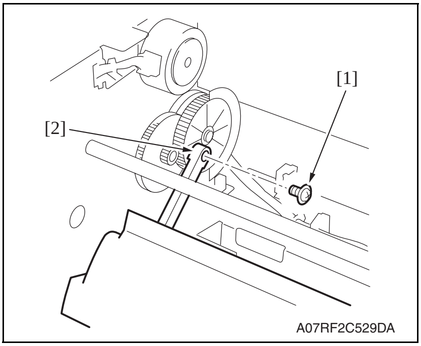
- **When installing the stacker unit [2] to the guide rail [3], be sure to check to see if the hooks [4] are set securely into the installation holes [5].**

4.3.14 Paper exit unit

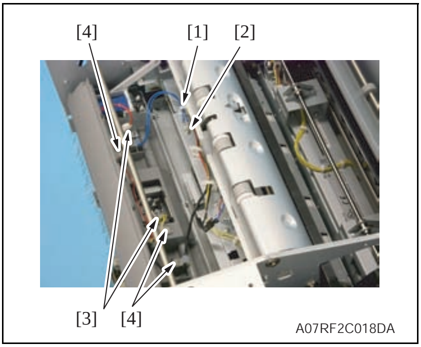
1. Remove the upper cover /1.
   See P.25
2. Remove the upper cover /2.
   See P.25
3. Remove the left cover.
   See P.27
4. Remove the rear cover.
   See P.26
5. Remove the right cover.
   See P.27
6. Remove finishing tray 1.
   See P.29



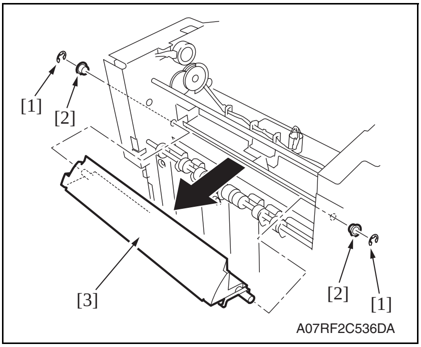
7. Remove four screws [1], and remove the main paper exit cover [2].



8. Remove the screw [1] and remove the paper exit open/close link [2].



9. Remove the wire saddle [1], the screw that secures the ground wire [2], two connectors [3], and three screws that secure the wire clamp [4].

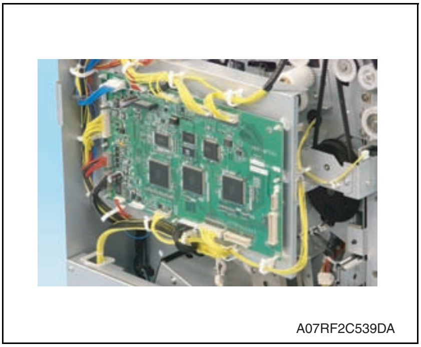


10. Remove two E-rings [1] and two bearings [2] from both the front and the rear, and remove the paper exit unit [3].

4.3.15 FNS control board

1. Remove the finisher.
   See P.31
2. Remove the rear cover.
   See P.26

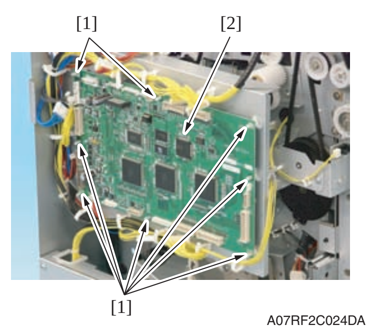
5



3. Remove all sixteen connectors (For FS-517/FS-518) or all seventeen connectors (For FS-608) from the FNS control board.

NOTE

- **The left illustration shows the FNS control board installed in FS-517.**

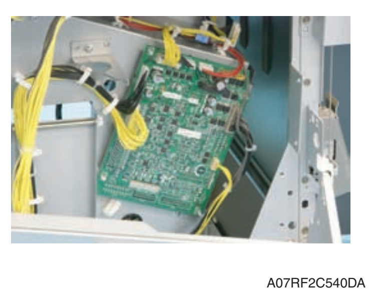


4. Remove eight board supports [1] and remove the FNS control board [2].

4.3.16 FNS drive board

1. Remove the finisher.
   See P.31
2. Remove the rear cover.
   See P.26
3. Pull out the stacker unit.

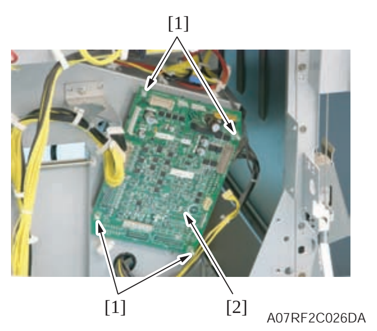
5



4. Remove all seven connectors (For FS-517/FS-518) or all thirteen connectors (For FS-608) from the FNS drive board.

NOTE

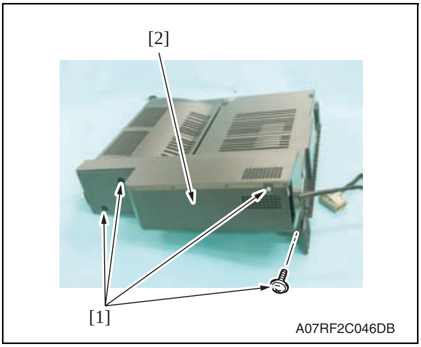
- **The left illustration shows the FNS drive board installed in FS-517.**



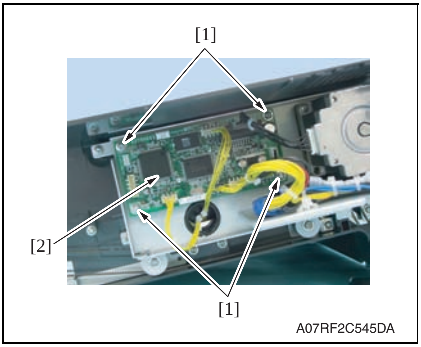
5. Remove four board supports [1] and remove the FNS drive board [2].

4.3.17 Transfer control board

1. Remove the horizontal transport unit.
   See P.32



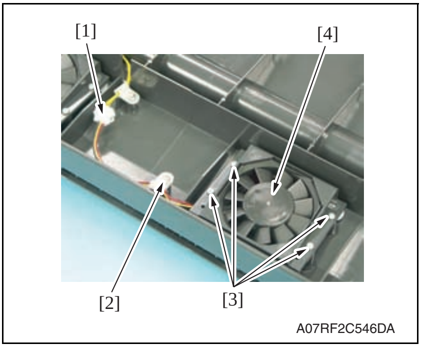
2. Remove four screws [1] and remove the horizontal transport unit rear cover [2].



3. Remove seven connectors from the transfer control board.
4. Remove four screws [1] and remove the transfer control board [2].

4.3.18 Fan motor /Fr

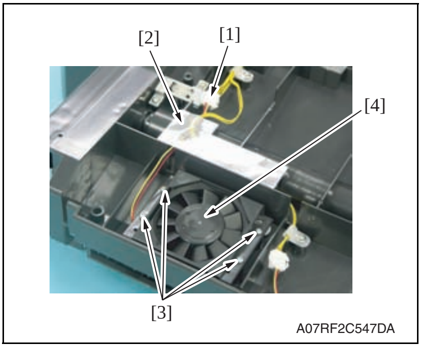
1. Remove the horizontal transport unit.
   See P.32



2. Disconnect the connector [1] and remove the screw [2].
3. Remove four screws [3] and remove the fan motor /Fr [4].

4.3.19 Fan motor /Rr

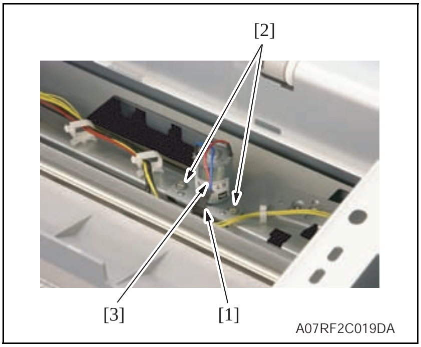
1. Remove the horizontal transport unit.
   See P.32



2. Disconnect the connector [1].
3. Remove the tape [2] and take out the harness.
4. Remove four screws [3] and remove the fan motor /Rr [4].

4.3.20 Shift roller motor

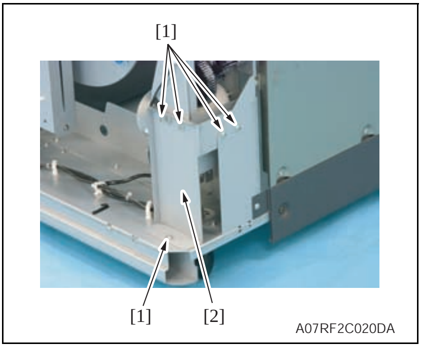
1. Remove the upper cover /1.
   See P.25
2. Remove the upper cover /2.
   See P.25



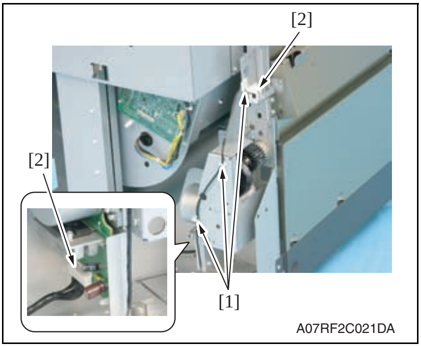
3. Disconnect the connector [1] and remove two screws [2] and remove the shift roller motor [3].

4.3.21 Tray1 lift motor

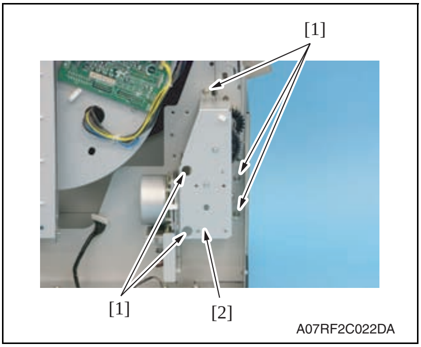
1. Remove the rear cover.
   See P.26



2. Remove five screws [1] and remove the reinforcing metal [2].



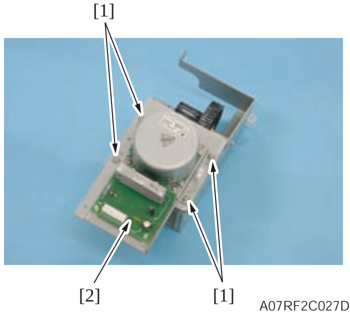
3. Remove the harness from the three wire saddles [1] and disconnect two connectors [2].



4. Remove five screws [1] and remove the tray 1 lift motor unit [2].

NOTE

- **When the tray 1 lift motor unit [2] is removed, the finishing tray 1 may fall down. When removing the tray1 lift motor unit, be sure to support the finishing tray 1 with your hand.**



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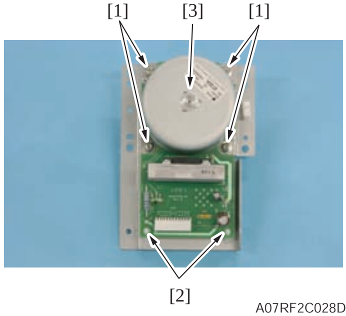
5. Remove four screws [1] and remove the tray1 lift motor assy [2].



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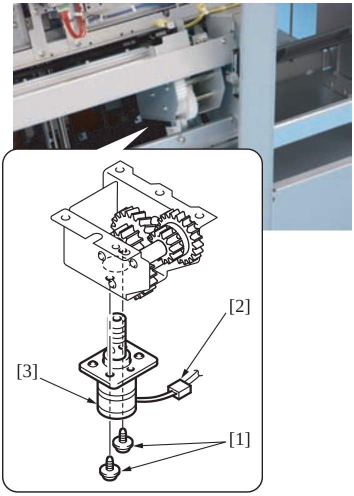
6. Remove four screws [1] and two board supports [2] and remove the tray 1 lift motor [3].

4.3.22 Folding knife motor (only FS-608)

1. Remove the finisher.
   See P.31
2. Open the front door.
3. Pull out the stacker unit.



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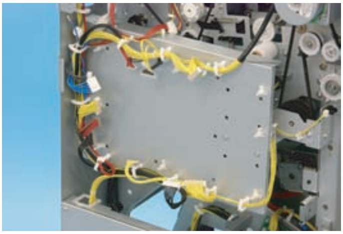
4. Remove two screws [1] and disconnect the connector [2] and remove the folding knife motor [3].

4.3.23 Bypass gate solenoid

1. Remove the FNS drive board.
   See P.38



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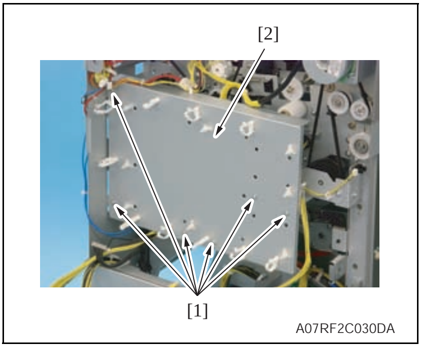
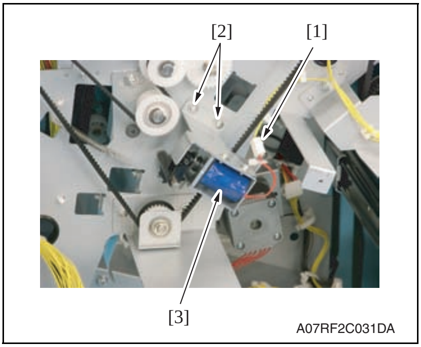
2. Remove the harness from all wire saddles.



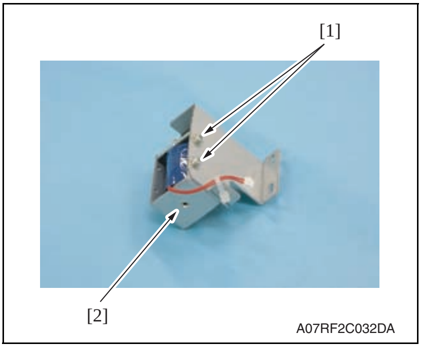
3. Remove six screws [1] and remove the FNS control board mounting plate [2].



4. Disconnect the connector [1] and remove two screws [2] and remove the bypass gate solenoid assy [3].

NOTE

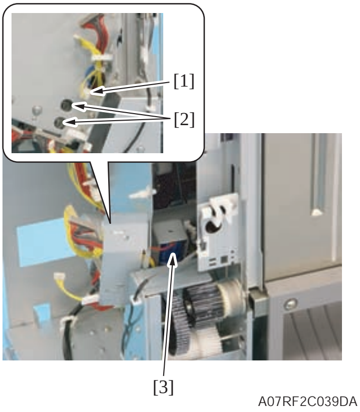
- **After reinstalling the bypass gate solenoid assy, make the bypass gate adjustment.**
  See P.75



5. Remove two screws [1] and remove the bypass gate solenoid [2].

4.3.24 Tri-folding gate solenoid (only FS-608)

1. Pull out the stacker unit.
2. Remove the FNS drive board.
   See P.39



3. Remove the connector [1] and remove two screws [2] from the access holes. Remove the tri-folding gate solenoid [3] from the front.

4.3.25 Lift wire

⚠ CAUTION

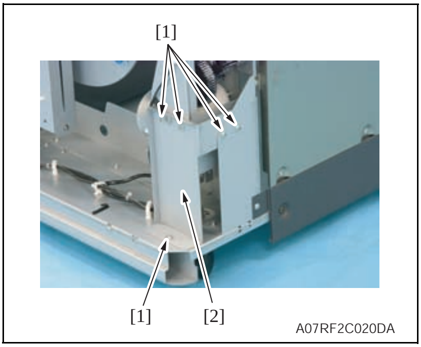
- **When the tray 1 lift motor is removed, the finishing tray 1 may fall down. When removing the tray 1 lift motor, be sure to support the finishing tray 1 with your hand.**

NOTE

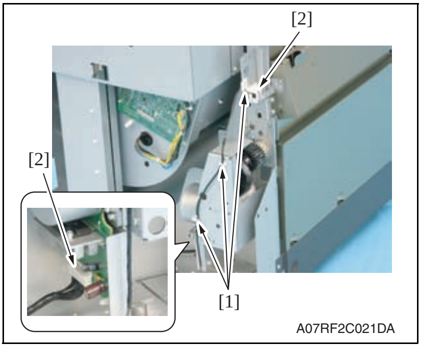
- **The following procedure for replacing the lift wire shows the examples on the rear side. The front and rear lift wires are marked as “F” and “R” on their mounting plates respectively. Be sure to check it when reinstalling the lift wires.**

A. Disassembly procedure

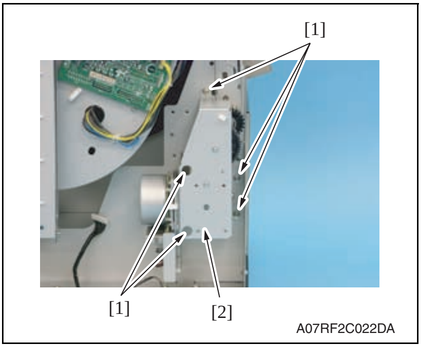
1. Remove the left cover.
   See P.27
2. Remove the front door.
   See P.26
3. Remove the rear cover.
   See P.26
4. Remove the finishing tray 1.
   See P.29



5. Remove five screws [1] and remove the reinforcing metal [2].



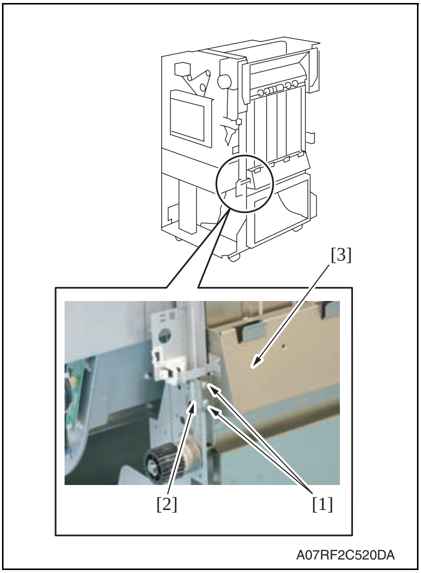
6. Remove the harness from three wire saddles [1] and remove two connectors [2].



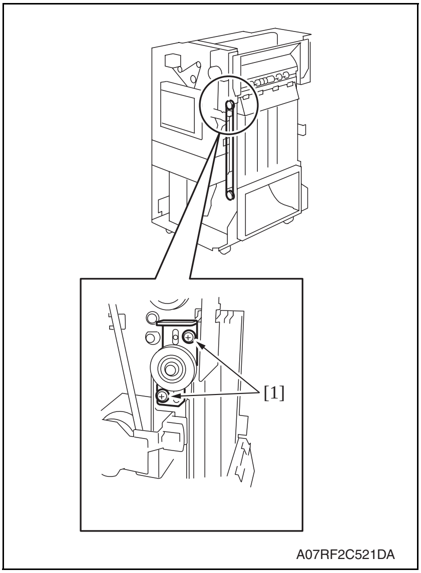
7. Remove five screws [1] and remove the tray 1 lift motor unit [2].

NOTE

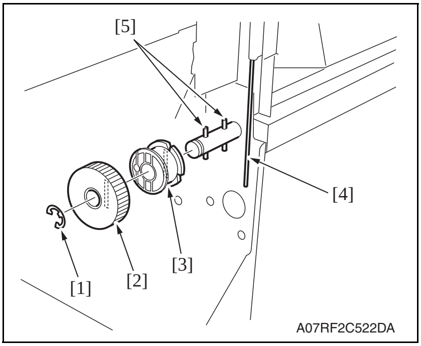
- **When the tray 1 lift motor unit [2] is removed, the finishing tray 1 may fall down. When removing the tray1 lift motor unit, be sure to support the finishing tray 1 with your hand.**



8. Remove two screws [1], and remove the wire mounting plate [2] of the rear lift wire from the lift stay [3].



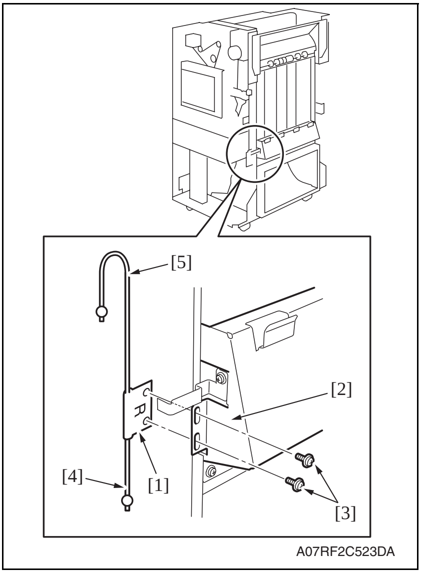
9. Loosen two screws [1] on the belt tensioner.



10. Remove the E-ring [1], the gear [2], and the lift pulley /Lw [3], and remove the lift wire [4].

NOTE

- **When removing the lift pulley /Lw, be sure not to let two pins [5] fall down.**

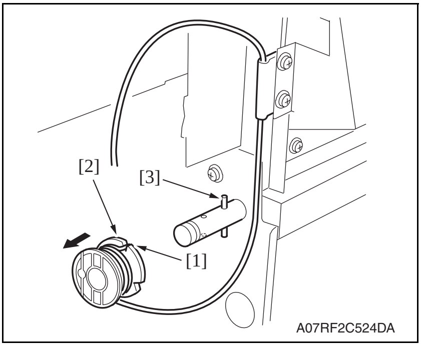


B. Installation procedure

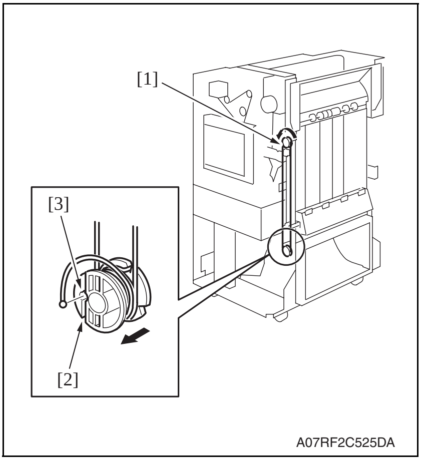
1. Tighten the wire mounting plate [1] of the new lift wire on the lift stay [2] with two screws [3] temporarily.

NOTE

- **The lift wire should be placed with the short side [4] to the bottom and the long side [5] to the top.**



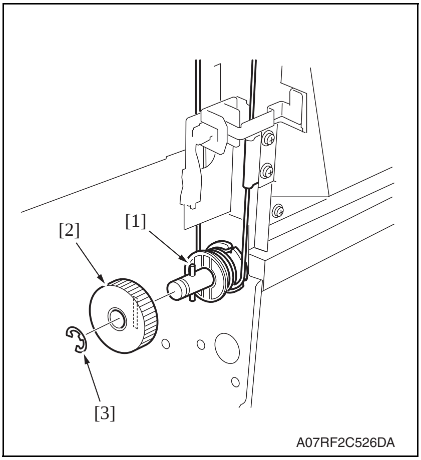
2. Fasten the wire end of the lift wire with the inner wire end hole of the lift pulley /Lw [1]. Then, draw the lift wire through the notch [2] and wind it 5.5 turns (for FS-517/FS-518) / a little less than 5 turns (for FS-608) from inside to outside around the lift pulley with no slack, and then insert the lift pulley /Lw [1] into the shaft so that it coincides with the pin [3].



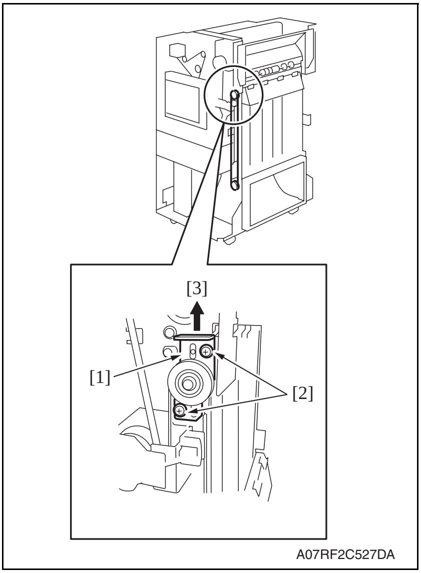
3. Hook the lift wire on the lift pulley /Up [1]. Then, wind the lift wire 1.5 turns (for FS-517/FS-518) / 2 turns (for FS-608) from inside to outside around the lift pulley /Lw [2] with no slack, draw the lift wire through the notch and fasten it with the wire end hole [3].

NOTE

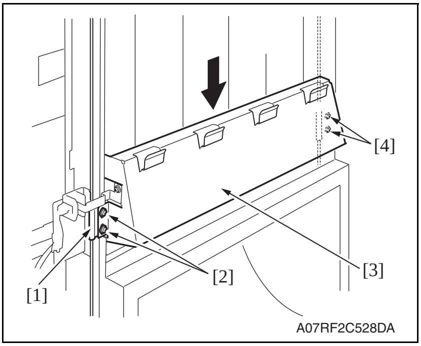
- **Be sure to wind the lift wire on the lift pulley /UP without the short side (the side wound in advance) and the long side (the side wound subsequently) are overlapped.**



4. Insert the pin [1] and the gear [2], and then fasten it with E-ring [3].



5. Use a tension gauge or spring balance to pull up the belt tensioner [1] with a standard force “A” [3] and fasten it with the two screws [2].
   Standard value [3]: A = 2.5 ± 0.25 kg



6. Loosen the two screws [2] on the wire mounting plate [1] at the front to push down the lift stay [3] to the horizontal position, and then remove four screws [2] and [4] from both the front and the rear.

NOTE

- **Be sure to check the lift stay [3] is in the horizontal position.**

Adjustment/Setting

5. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

6. Sensor Check

6.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

A. Procedure

1. Call the Service Mode to the screen.
See P.434 of the main body service manual.

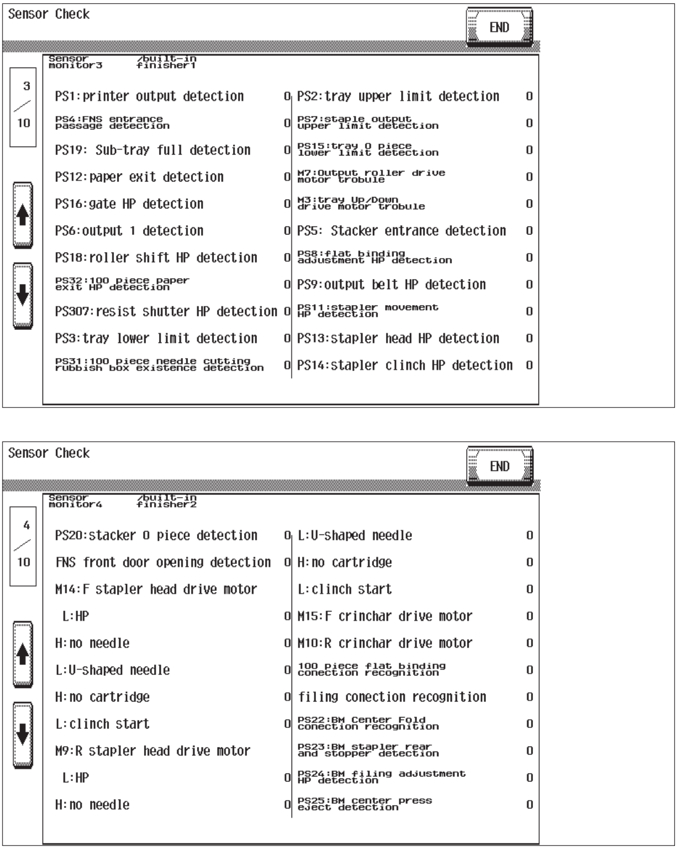
2. Touch [State confirmation].

3. Touch [Sensor Check].

4. Touch [↓].

B. Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.


Sensor Check
END
Sensor monitor3 /built-in finisher1
3/10
Sensor Check
END
Sensor monitor4 /built-in finisher2
4/10

PS1:printer output detection	0	PS2:tray upper limit detection	0
PS4:FNS entrance passage detection	0	PS7:staple output upper limit detection	0
PS19: Sub-tray full detection	0	PS15:tray 0 piece lower limit detection	0
PS12:paper exit detection	0	M7:Output roller drive motor trobule	0
PS16:gate HP detection	0	M3:tray Up/Down drive motor trobule	0
PS6:output 1 detection	0	PS5: Stacker entrance detection	0
PS18:roller shift HP detection	0	PS8:flat binding adjustment HP detection	0
PS32:100 piece paper exit HP detection	0	PS9:output belt HP detection	0
PS307:resist shutter HP detection	0	PS11:stapler movement HP detection	0
PS3:tray lower limit detection	0	PS13:stapler head HP detection	0
PS31:100 piece needle cutting rubbish box existence detection	0	PS14:stapler clinch HP detection	0

PS20:stacker 0 piece detection	0	L:U-shaped needle	0
FNS front door opening detection	0	H:no cartridge	0
M14:F stapler head drive motor		L:clinch start	0
L:HP	0	M15:F crinchar drive motor	0
H:no needle	0	M10:R crinchar drive motor	0
L:U-shaped needle	0	100 piece flat binding conection recognition	0
H:no cartridge	0	filing conection recognition	0
L:clinch start	0	PS22:BM Center Fold conection recognition	0
M9:R stapler head drive motor		PS23:BM stapler rear and stopper detection	0
L:HP	0	PS24:BM filing adjustment HP detection	0
H:no needle	0	PS25:BM center press eject detection	0

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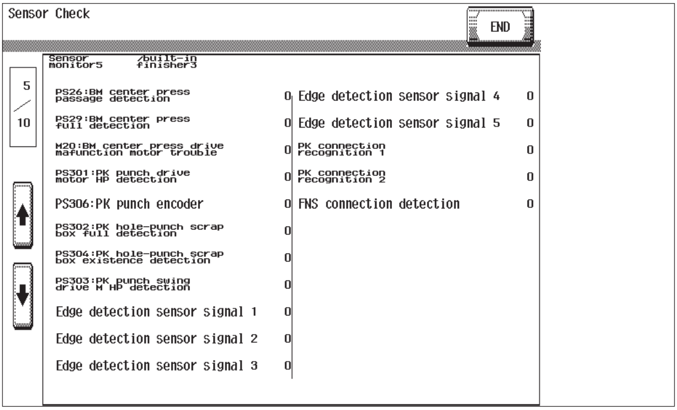

Sensor monitor5 /built-in finisher3

- PS26:BM center press passage detection 0
- PS29:BM center press full detection 0
- M20:BM center press drive mafunction motor trouble 0
- PS301:PK punch drive motor HP detection 0
- PS306:PK punch encoder 0
- PS302:PK hole-punch scrap box full detection 0
- PS304:PK hole-punch scrap box existence detection 0
- PS303:PK punch swing drive M HP detection 0
- Edge detection sensor signal 1 0
- Edge detection sensor signal 2 0
- Edge detection sensor signal 3 0
- Edge detection sensor signal 4 0
- Edge detection sensor signal 5 0
- PK connection recognition 1 0
- PK connection recognition 2 0
- FNS connection detection 0

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C. Sensor check list

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS1	Sensor monitor3/built -in finisher1	printer output detection	Tray2 paper exit sensor	Paper present	Paper not present
PS4		FNS entrance passage detection	FNS entrance sensor	Paper not present	Paper present
PS19		SUb-tray full detection	Tray2 paper full sensor	Full	Other than full
PS12		paper exit detection	Paper exit home sensor	Other than the closed position	Closed position
PS16		gate HP detection	Gate home sensor	Not at home	At home
PS6		output 1 detection	Tray1 paper exit sensor	Paper present	Paper not present
PS18		roller shift HP detection	Shift roller home sensor	Not at home	At home
PS32		100 piece paper exit HP detection	100pcs paper exit home sensor	At home	Not at home
PS307		resist shutter HP detection	Registration shutter home sensor	At home	Not at home
PS3		tray lower limit detection	Tray1 lower limit sensor	Lower limit	Not at lower limit
—		100 piece needle cutting rubbish box existence detection	—	—	—
PS2		tray upper limit detection	Tray1 upper limit sensor	Upper limit	Not at upper limit
PS7		staple output upper limit detection	Stapler paper exit upper limit sensor	Upper limit	Not at upper limit

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
PS15	Sensor monitor3/built -in finisher1	tray 0 piece lower limit detection	Counter reset sensor	Paper present	Paper not present
M7		Output roller drive motor trouble	Paper exit roller motor	When turning	When stopped
M3		tray Up/Down drive motor trouble	Tray1 lift motor	When turning	When stopped
PS5		Stacker entrance detection	Stacker entrance sensor	Paper present	Paper not present
PS8		flat binding adjustment HP detection	Alignment home sensor /Up	At home	Not at home
PS9		output belt HP detection	Paper exit belt home sensor	At home	Not at home
PS11		stapler movement HP detection	Stapler movement home sensor	At home	Not at home
PS13		Stapler head HP detection	Stapler rotation home sensor	At home	Not at home
PS14		stapler clinch HP detection	Clincher rotation home sensor	At home	Not at home
PS20	Sensor monitor4/built -in finisher2	stacker 0 piece detection	Stacker empty sensor	Paper present	Paper not present
MS1		FNS front door opening detection	Door switch	Open	Close
M14		F stapler head drive motor	Stapler motor /Fr	-	
		HP		Not at home	At home
		no needle		No staple	Staple
		U-shaped needle		No detected	Detected
		no cartridge		No detected	Detected
		clinch start		Other than start	Start
M9		R stapler head drive motor	Stapler motor /Rr	-	
		HP		Not at home	At home
		no needle		No staple	Staple
		U-shaped needle		No detected	Detected
		no cartridge		No detected	Detected
		clinch start		Other than start	Start
M15		F clincher drive motor	Clincher motor /Fr	Not at home	At home

Symbol	Panel display		Part/signal name	Operation characteristics/panel display	
				1	0
M10	Sensor monitor4/built -in finisher2	R clincher drive motor	Clincher motor /Rr	Not at home	At home
—		100 piece flat binding connection recognition	FS-518 set detection signal	Connection	Non-connection
—		filing connection recognition	FS-608 set detection signal	Connection	Non-connection
PS22		BM Center Fold connection recognition	Folding knife home sensor	Not at home	At home
PS23		BM stapler rear and stopper detection	Saddle stitching stopper home sensor	At home	Not at home
PS24		BM filing adjustment HP detection	Alignment home sensor /Lw	At home	Not at home
PS25		BM center press eject detection	Folding paper exit sensor	Paper present	Paper not present
PS26	Sensor monitor5/built -in finisher3	BM center press passage detection	Folding pass-through sensor	Paper present	Paper not present
PS29		BM center press full detection	Folding full sensor	Full	Other than full
M20		BM center press drive malfunction motor trouble	Folding transfer motor	When stopped	When turning
PS301		PK punch drive motor HP detection	See P.11 of the PK-512/513 service manual.		
PS306		PK punch encoder			
PS302		PK hole-punch scrap box existence detection			
PS304		PK hole-punch scrap box existence detection			
PS303		PK punch swing drive M HP detection			
SP305		Edge detection sensor signal 1			
		Edge detection sensor signal 2			
		Edge detection sensor signal 3			
		Edge detection sensor signal 4			
		Edge detection sensor signal 5			
—		PK connection recognition 1			
—		PK connection recognition 2			
—		FNS connection detection	FNS connection signal	Connection	Non-connection

7. Finisher

7.1 FS-FN adjustment

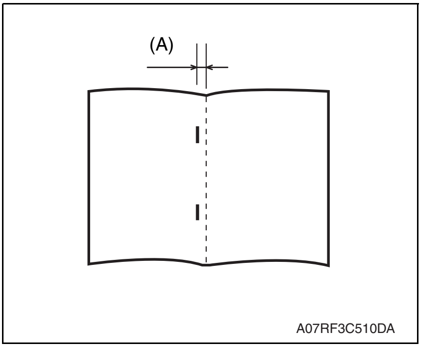
7.1.1 Center staple position (only FS-608)

- Conduct this adjustment by aligning the staple position with the half-fold position.

NOTE

- **After half-fold position adjustment, make this center staple position adjustment.**

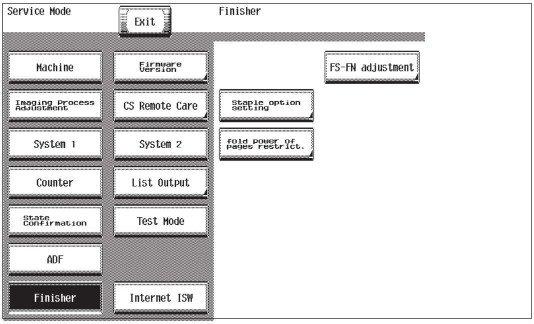
1. Place five sheets of originals on the ADF.
2. Make a set of copy in the saddle stitching mode.



A07RF3C510DA

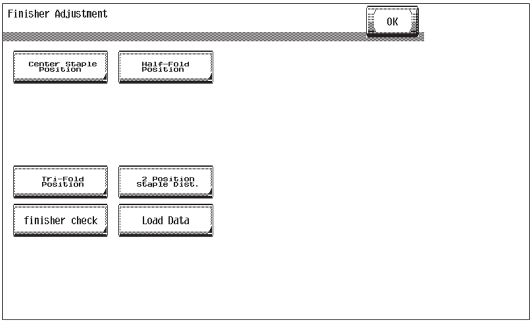
3. Check the amount of horizontal deviation (A) between the staple and the half fold positions on the set of copy.
   Specification A: 0 ± 1.0 mm
4. If (A) is out of the specified range, make the following adjustment.

5. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
6. Touch [Finisher].
7. Touch [FS-FN adjustment].



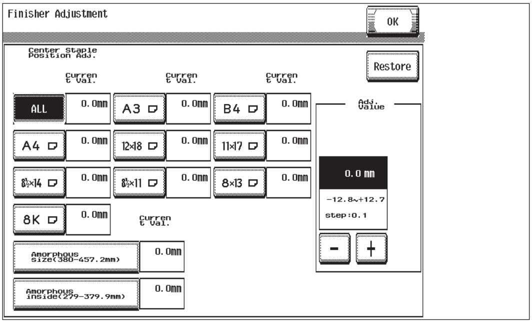
A07RF3E560DA

8. Touch [Center staple position].



A07RF3E561DA

9. Touch the paper size where staple position is adjusted.

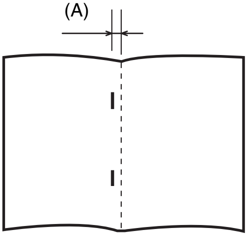


	Curren t Val.		Curren t Val.		Curren t Val.
ALL	0.0mm	A3 ▭	0.0mm	B4 ▭	0.0mm
A4 ▭	0.0mm	12×18 ▭	0.0mm	11×17 ▭	0.0mm
8½×14 ▭	0.0mm	8½×11 ▭	0.0mm	8×13 ▭	0.0mm
8K ▭	0.0mm				

	Curren t Val.
Amorphous size(380-457.2mm)	0.0mm
Amorphous inside(279-379.9mm)	0.0mm

Adj. Value: 0.0 mm
-12.8~+12.7
step:0.1

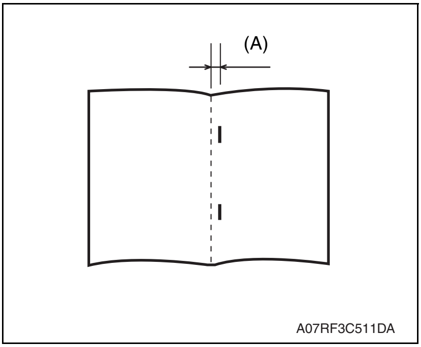
A07RF3E562DA



A07RF3C510DA

- When the staple position is misaligned as shown in the illustration on the left.

10. Using the [-] key, set the numeric value and touch [OK].
    Adjustment range:
    -12.8 mm to +12.7 mm (1 step: 0.1 mm)



- When the staple position is misaligned as shown in the illustration on the left.

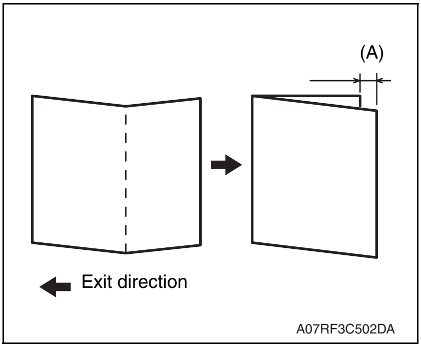
11. Using the [+] key, set the numeric value and touch [OK].
Adjustment range:
-12.8 mm to +12.7 mm (1 step: 0.1 mm)

12. Touch [OK].
13. Touch [Exit] on the Service Mode screen.
14. Make another set of copy and check the amount of deviation (A).
15. Until (A) is within the specified range, repeat step 5 to step 14.
16. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

7.1.2 Half-Fold Position (Only FS-608)

- Use this adjustment to adjust the half-fold position in half-fold printing.

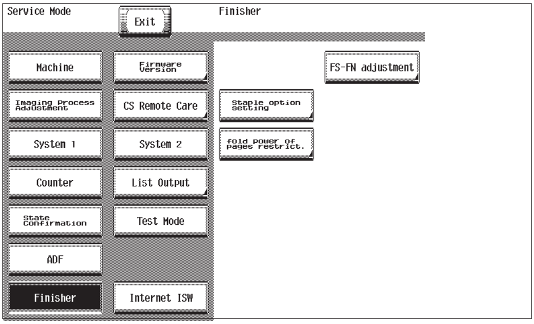
1. Place two sheets of originals on the ADF.
2. Make a copy in the folding mode.



A07RF3C502DA

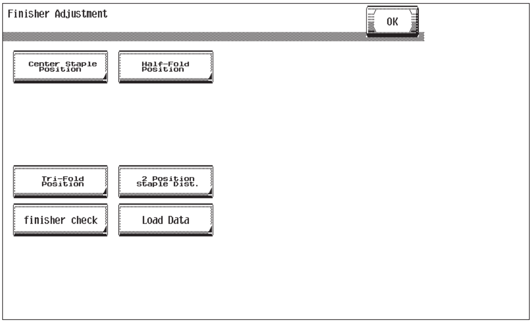
3. Fold the copies along the crease.
4. Measure the amount of deviation (A).
   Specification: 0 ± 1.0 mm
5. If (A) is out of the specified range, make the following adjustment.

6. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
7. Touch [Finisher].
8. Touch [FS-FN adjustment].



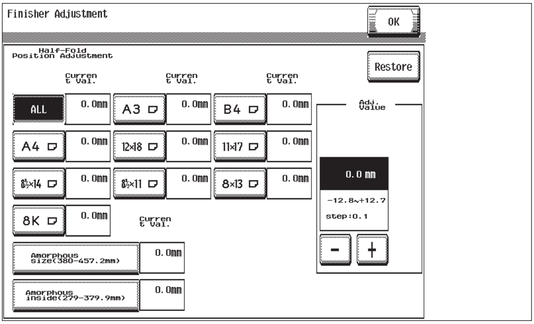
A07RF3E560DA

9. Touch [Half-Fold Position].



A07RF3E561DA

10. Touch the paper size where staple position is adjusted.



Finisher Adjustment

OK

Half-Fold Position Adjustment

Restore

	Curren t Val.		Curren t Val.		Curren t Val.
ALL	0.0mm	A3	0.0mm	B4	0.0mm
A4	0.0mm	12×18	0.0mm	11×17	0.0mm
8½×14	0.0mm	8½×11	0.0mm	8×13	0.0mm
8K	0.0mm				

	Curren t Val.
Amorphous size(380-457.2mm)	0.0mm
Amorphous inside(279-379.9mm)	0.0mm

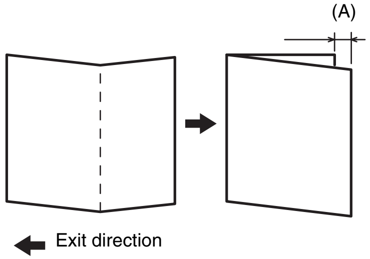
Adj. Value

0.0 mm

-12.8~+12.7

step:0.1

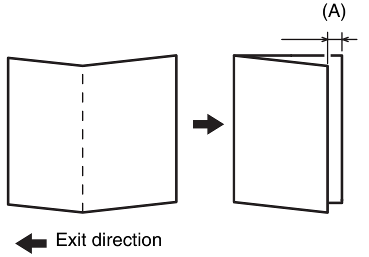
A07RF3E563DA



A07RF3C502DA

- When the fold is misaligned as shown in the illustration on the left.

11. Using the [+] key, set the numeric value and touch [OK].
    Adjustment range:
    -12.8 mm to +12.7 mm (1 step: 0.1 mm)



A07RF3C507DA

- When the fold is misaligned as shown in the illustration on the left.

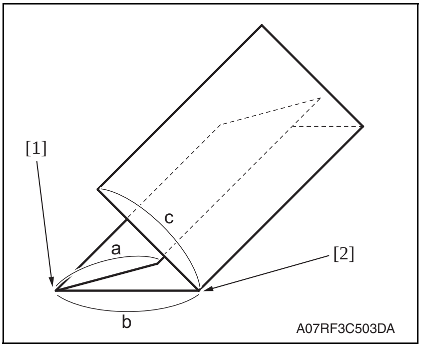
12. Using the [-] key, set the numeric value and touch [OK].
    Adjustment range:
    -12.8 mm to +12.7 mm (1 step: 0.1 mm)

13. Touch [OK].
14. Touch [Exit] on the Service Mode screen.
15. Make another copy and check the amount of deviation.
16. Until (A) is within the specified range, repeat step 6 to step 15.
17. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

7.1.3 Tri-Fold Position (Only FS-608)

- Use this adjustment to adjust tri-fold position in tri-folding printing.

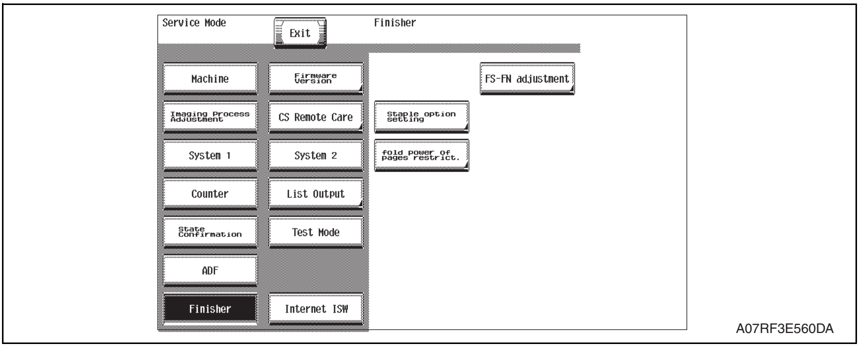
1. Make a copy in the tri-folding mode.



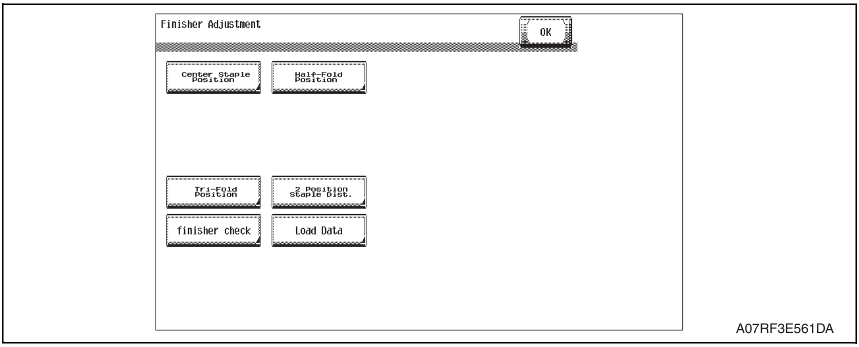
2. Check that the tri-fold positions (a, b, c) on the copy are within the specified range.

Folding position	Standard value		Standard
	A4S	8.5 x 11S	
a	95 mm	89.4 mm	± 2 mm
b	101 mm	95 mm	
c	101 mm	95 mm	

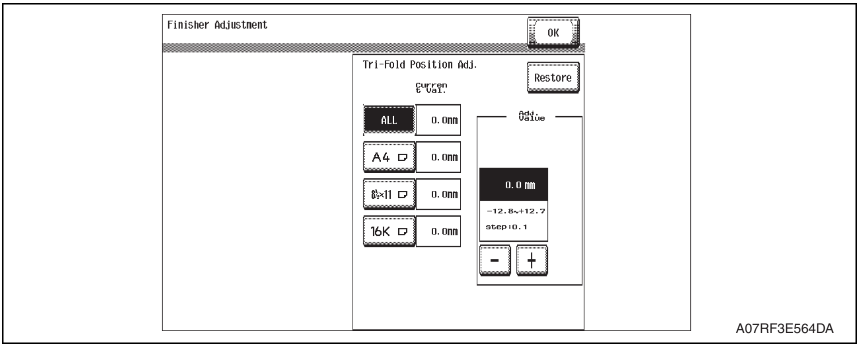
3. If the tri-folding positions (a, b, c) are out of the specified range, adjust the first [1] and the second [2] folding positions as follows.
4. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
5. Touch [Finisher].
6. Touch [FS-FN adjustment].



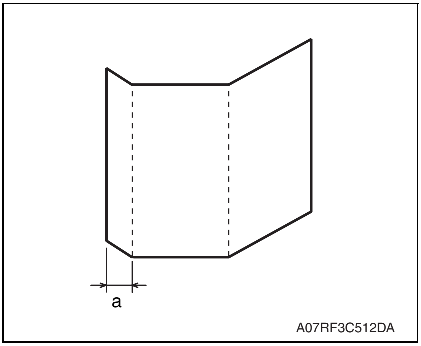
7. Touch [Tri-Fold Position].



8. Touch the paper size where tri-fold position is adjusted.



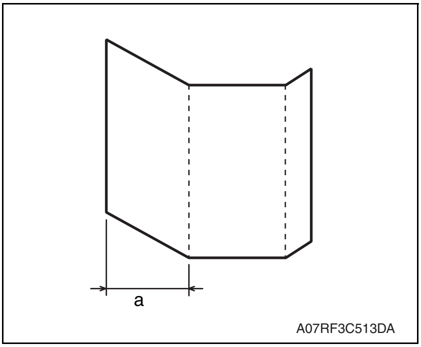
A07RF3E564DA



A07RF3C512DA

- When the fold is misaligned as shown in the illustration on the left and “a” needs to be increased.

9. Using the [-] key, set the numeric value and touch [OK].
   Adjustment range:
   -12.8 mm to +12.7 mm (1 step: 0.1 mm)

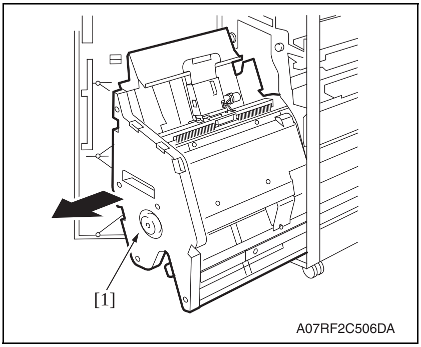


A07RF3C513DA

- When the fold is misaligned as shown in the illustration on the left and “a” needs to be decreased.

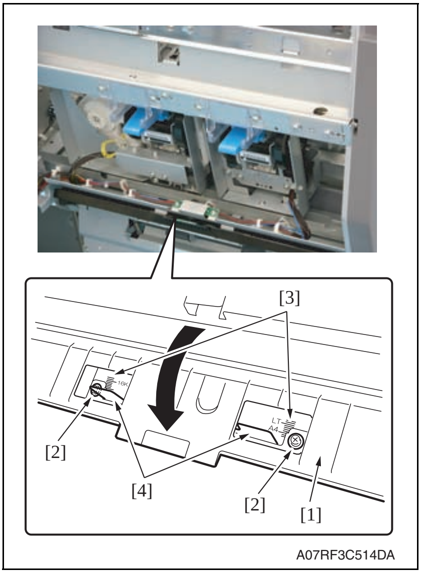
10. Using the [+] key, set the numeric value and touch [OK].
    Adjustment range:
    -12.8 mm to +12.7 mm (1 step: 0.1 mm)

11. Touch [OK].
12. Touch [Exit] on the Service Mode screen.
13. Make another copy and measure “a” to check the first folding position.
14. If the first folding position “a” is within the specified range, measure “b” to check the second folding position.
15. If the second folding position “b” is not within the specified range, make the following adjustment.



16. Open the front door.

17. Pull out the stacker unit [1].



18. Open the tri-folding guide plate [1] and loosen two screws [2] from the tri-folding stopper, and then adjust the positions of the tri-folding stoppers [4] by referring to the markings [3].

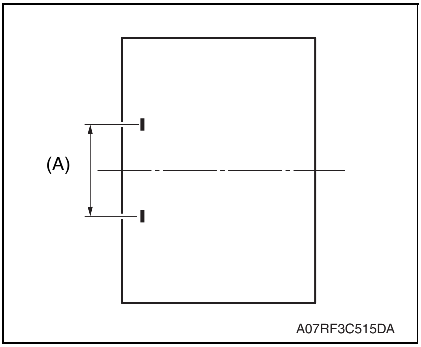
- To make width “b” greater:
  Lower the three-fold stopper.
- To make width “b” smaller:
  Raise the three-fold stopper.

19. Tighten two screws [2], and then perform the tri-folding operation and check to see if the 2nd folding position “b” is within the standard.

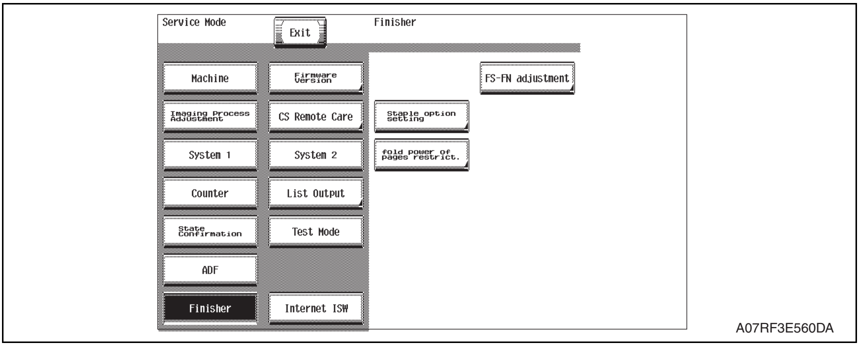
7.1.4 2 Position Staple Dist. (Only FS-608)

- Adjust the interval between two staples in flat folding and saddle stitching.

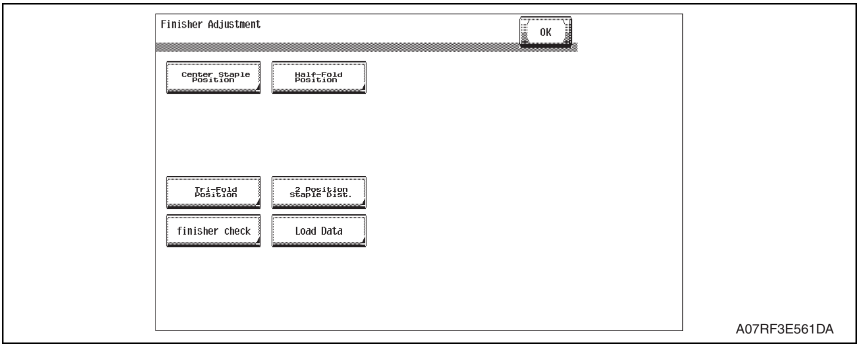
1. Place two sheets of originals on the ADF.
2. Make a set of copy in the two position staple mode.



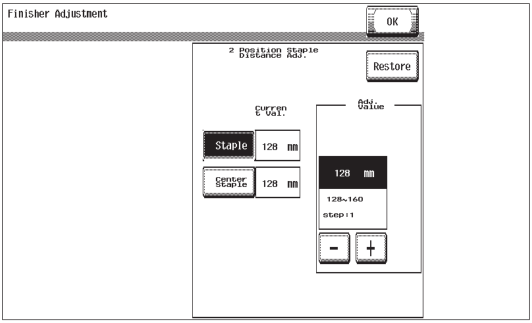
3. Measure the interval (A) between the two staples on the copy.
   Specification: 128 mm ± 3 mm
4. If A is out of the specification, make the following adjustment.
5. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
6. Touch [Finisher].
7. Touch [FS-FN adjustment].



8. Touch [2 Position Staple Dist.].



9. Touch [Staple] or [Center Staple].



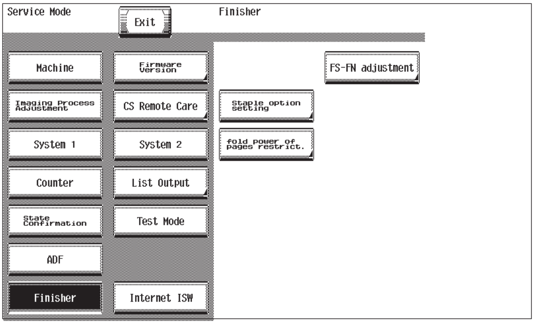
A07RF3E565DA

10. Enter a value with [-] or [+] key and touch [OK].
    Adjustment range: 128 mm to 160 mm (1 step: 1 mm)
11. Touch [OK].
12. Touch [Exit] on the Service Mode screen.
13. Make another copy and check the interval (A) between staples.
14. Until (A) is within the specified range, repeat step 5 to step 13.
15. Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

7.1.5 finisher check

- Use this adjustment to check finisher's operation.

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [FS-FN adjustment].



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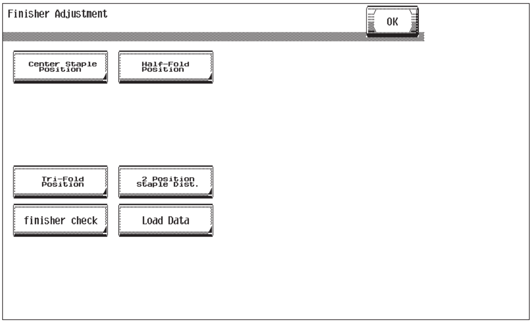
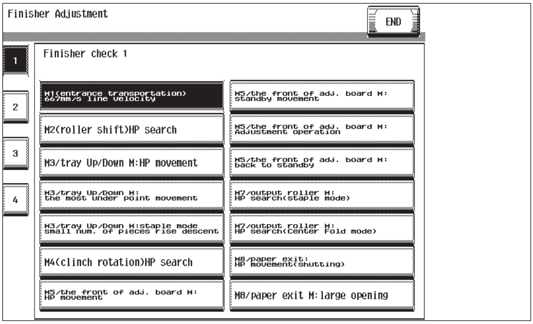
4. Touch [finisher check].



A07RF3E561DA

5. Touch [1], [2], [3], or [4] to select a mode.


Finisher Adjustment
END
1
2
3
4
Finisher check 1
M1(entrance transportation) 667mm/s line velocity
M5/the front of adj. board M: standby movement
M2(roller shift)HP search
M5/the front of adj. board M: Adjustment operation
M3/tray Up/Down M:HP movement
M5/the front of adj. board M: back to standby
M3/tray Up/Down M: the most under point movement
M7/output roller M: HP search(staple mode)
M3/tray Up/Down M:staple mode small num. of pieces rise descent
M7/output roller M: HP search(Center Fold mode)
M4(clinch rotation)HP search
M8/paper exit: HP movement(shutting)
M5/the front of adj. board M: HP movement
M8/paper exit M:large opening

A07RF3E566DA

6. Press the Start key to start finisher operation.
7. Press the Stop key to stop ongoing finisher operation.

A. Finisher check list

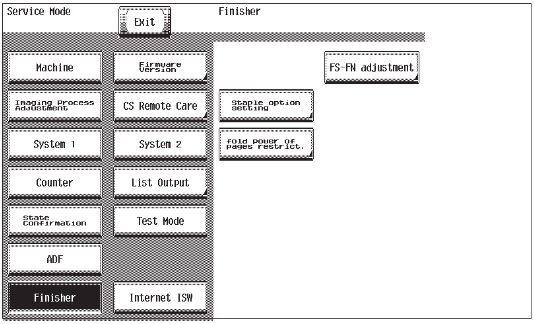
Mode	
Finisher check 1	M1 (entrance transportation) 667mm/s line velocity
	M2(roller shift)HP search
	M3/tray Up/Down M:HP movement
	M3/tray up/Down M: the most under point movement
	M3/tray up/Down M: staple mode small num. of Pieces rise descent
	M4(clinch rotation)HP search
	M5/the front of adj. board M: HP movement
	M5/the front of adj. board M: standby movement
	M5/the front of adj. board M: Adjustment operation
	M5/the front of adj. board M: back to standby
	M7/output roller M: HP search (staple mode)
	M7/output roller M: HP search (Center Fold mode)
	M8/paper exit: HP movement (shutting)
	M8/paper exit M: large opening
Finisher check 2	stapler unit F: initial
	stapler unit F: staple operation implementation
	stapler unit R: initial
	stapler unit R: staple operation implementation
	M11/stapler move M M4/stapler rotate drive1
	M11/stapler move M M4/stapler rotate drive2
	M13/stacker entrance transportation M:670mm/s
	M6(driver rotation)HP search
	M16(Center staple adjustment drive)HP search
	M18/stapler rear end stopper M: HP movement
	M18/stapler rear end stopper M: stopper release
	M19(Center press knife) 1cycle performance
	M20(Center press transportation) high speed normal rotation
	SD4(paper exit solenoid):ON

Mode	
Finisher check 3	SD5/bypass solenoid: ON
	SD6(DN solenoid)
	SD51(rewinding solenoid)
	SD7/8 (flat shutting stopper release solenoid) ON
	M21 (sub-tray output) line velocity
	M12 (gate drive)HP search
	M51 (rewinding drive) normal rotation(direction of stack)
	M302 (swing drive) HP search
	M302 (swing drive) edge detection sensor control
	M301 (punch drive) HP search
	M301 (punch drive) punch performance (two holes)
	M301 (punch drive) punch (3/4 hole)
	M203 (cover sheet transportation) 667mm/s line velocity
	MC201 (upper paper feed clutch) ON
Finisher check 4	MC202 (lower paper feed clutch) ON
	M201 (Upper rise descent) Down (HP search)
	M201 (Upper rise descent) Up
	M202 (Lower rise descent) Down (HP search)
	M202 (Lower rise descent) Up
	SD202 (upper row move solenoid) ON
	SD203 (the lower move solenoid) ON
	MC203 (resist transportation clutch) ON
	M201 transportation M F rotation (1000mm/s)
	RU Fan Motor Drive

7.1.6 Load Data

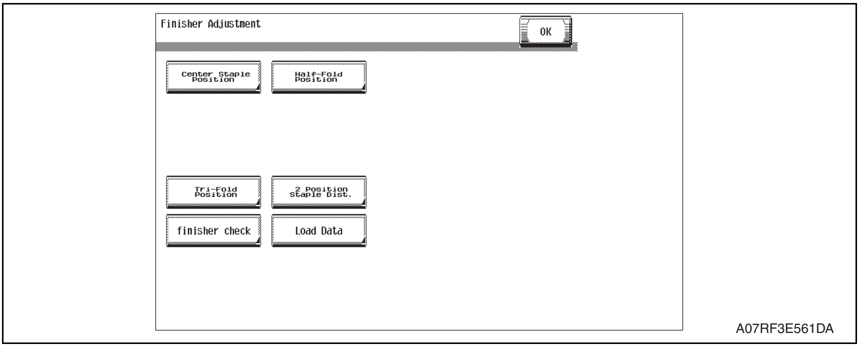
- Register or call values adjusted for the finisher when it was shipped from the factory or when it was installed at the customer site.

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [FS-FN adjustment].



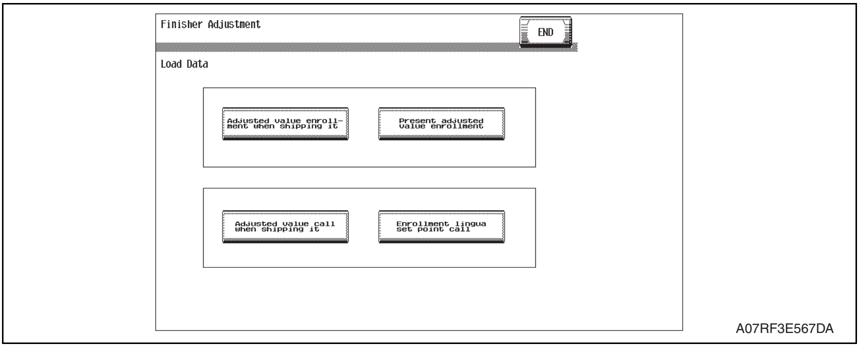
A07RF3E560DA

4. Touch [Load Data].

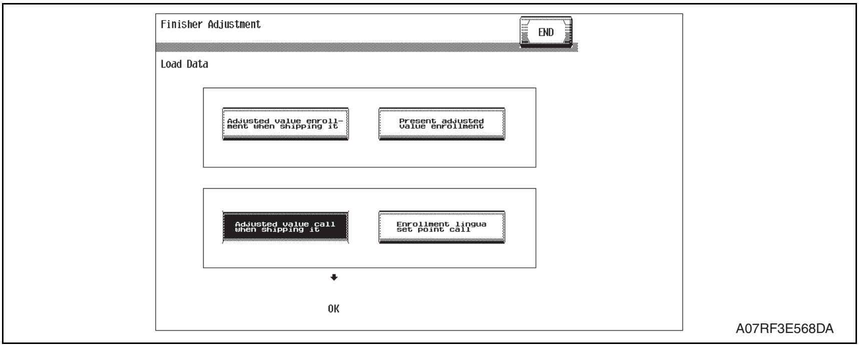


5. Select a mode from the following.

- Adjusted value enrollment when shipping it
  : Not allowed to use this key, prohibited to use this key.
- Present adjusted value enrollment
  : Registers values adjusted for the finisher at the installation.
- Adjusted value call when shipping it
  : Calls values adjusted for the finisher at the shipment.
- Enrollment lingua set point call
  : Calls values adjusted for the finisher at the installation.


Finisher Adjustment
END
Load Data
Adjusted value enroll-ment when shipping it
Present adjusted value enrollment
Adjusted value call when shipping it
Enrollment lingua set point call
A07RF3E567DA

6. Press the Start key.


Finisher Adjustment
END
Load Data
Adjusted value enroll-ment when shipping it
Present adjusted value enrollment
Adjusted value call when shipping it
Enrollment lingua set point call
OK
A07RF3E568DA

7. Check that [OK] is displayed.
8. Touch [OK].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch.

7.2 Staple option setting

Functions	• Specify the maximum number of sheets that can be stapled together. • Only when FS-517 is installed, it is possible to independently set the maximum for each paper type.
Use	• To change the maximum that can be stapled together.
Setting/ procedure	<For FS-517> • Default setting: Plain paper “50 Piece”, Thick1 “30 Piece”, Thick1+/Thick2 “22 Piece”. △5 Large size staple limit restriction: “Do not do.” • Setting range: Plain paper [2 to 50], Thick1 [2 to 30], Thick1+/Thick2 [2 to 22]. △5 Large size staple limit restriction: [-20 pieces] or [Do not do.] 1. Call the Service Mode to the screen. 2. Touch [Finisher]. 3. Touch [Staple option setting]. 4. Select the paper type where the maximum is restricted and enter a desirable maximum number with the 10-key pad. 5. Touch [END]. 6. Touch [Exit] on the Service Mode screen. 7. Turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch. △5 <For FS-518> • Default setting: “100 Piece”. Large size staple limit restriction: “Do not do.” • Setting range: [2 to 100]. Large size staple limit restriction: [-20 pieces] or [Do not do.] 8. Call the Service Mode to the screen. 9. Touch [Finisher]. 10. Touch [Staple option setting]. 11. Select the paper type where the maximum is restricted and enter a desirable maximum number with the 10-key pad. 12. Touch [END]. 13. Touch [Exit] on the Service Mode screen. 14. Turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch. <For FS-608> • Default setting: “50 Piece”. • Setting range: 2 to 50 Piece. 1. Call the Service Mode to the screen. 2. Touch [Finisher]. 3. Touch [Staple option setting]. 4. Enter a desirable maximum number with the 10-key pad. 5. Touch [END]. 6. Touch [Exit] on the Service Mode screen. 7. Turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch.

Setting/ procedure	**NOTE** • **If mixed originals includes one or more large size ones (A3/11 x 17 or more), the maximum that can be stapled together is subject to the setting of large size staple limit restriction.** • **Large size staple limit restriction is valid only for plain paper.** • **When the FS-518 is mounted, the maximum of “50” overrides any setting of more than 50 made for the maximum number of sheets (A3/11 x 17 or more) to be stapled together.** • **If large size staple limit restriction is set to [-20 pieces] and the maximum number of sheets to be stapled together less 20 is 2 or less, then the restricted number of sheets as the maximum is 2.** • **If large size staple limit restriction is set to [-20 pieces] with the FS-518 mounted, the restricted number of sheets as the maximum is 50 even when the maximum number of sheets to be stapled together less 20 is more than 50.**

7.3 fold power of pages restrict.

Functions	• Imposes restriction on the number of sheets to be folded in each of different folding modes. • This function is available only when FS-608 is installed.
Use	• To change the maximum number of sheets to be folded in each of different folding modes.
Setting/ procedure	[Center Fold] • Default setting: “3 Piece”. • Setting range: 1 to 3 Piece [Center Staple] • Default setting: “20 Piece”. • Setting range: 2 to 20 Piece [three fold] • Default setting: “1 Piece”. • Setting range: 1 to 3 Piece. [Z fold/staple using togrther], [Z fold] See P.37 of the ZU-603 service manual. *1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [fold power of pages restrict.]. *4.* Select a folding mode where the maximum is restricted and enter a desirable maximum number with the 10-key pad. *5.* Touch [END]. *6.* Touch [Exit] on the Service Mode screen. *7.* Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch. **NOTE** • **For [Z fold/staple using together] and [Z fold] modes, their original settings are not allowed to be changed.**

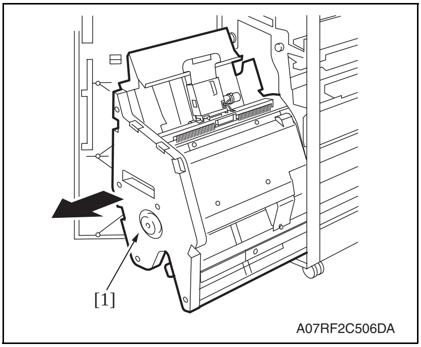
8. Mechanical adjustment

8.1 Adjusting the bypass gate

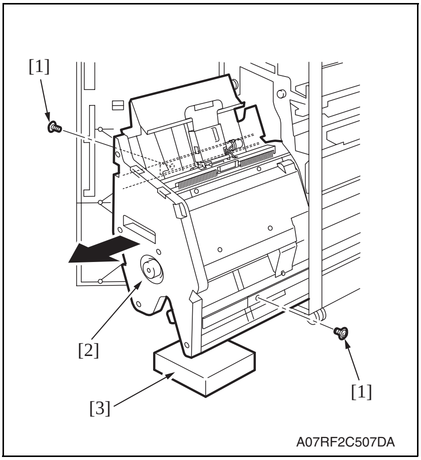
- Conduct this adjustment when the paper gets jammed in the bypass gate.

⚠ CAUTION
• Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.

1. Remove the finisher.
   See P.31
2. Open the front door.



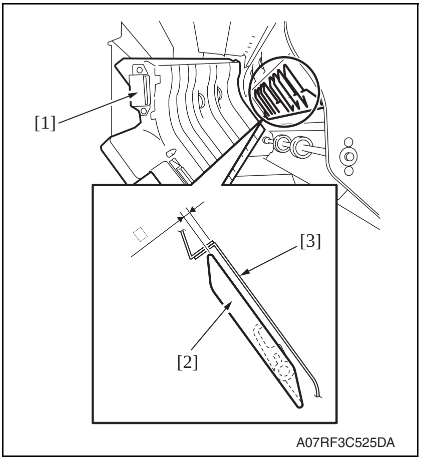
3. Pull out the stacker unit [1].



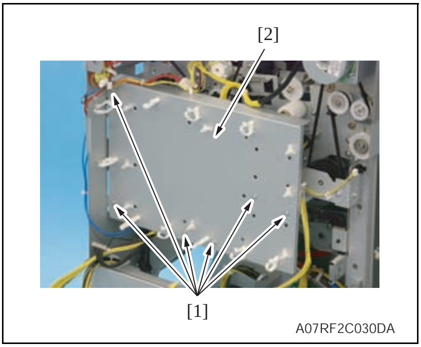
4. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

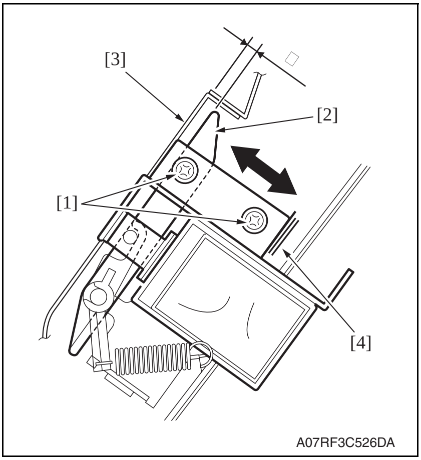
- **Place something [3] on which the stacker unit can rest.**



5. Open the bypass transfer guide plate [1].
6. Check to see if the clearance between the bypass gate [2] and the bypass transfer plate [3] is within a standard value when the bypass gate solenoid turns OFF.
   Standard value: A = 3.2 ± 0.5 mm
7. When the value is not within the standard value, perform the following adjustment.
8. Remove the rear cover.
   See P.26
9. Remove the FNS control board.
   See P.38



10. Remove six screws [1] and remove the FNS control board mounting plate [2].

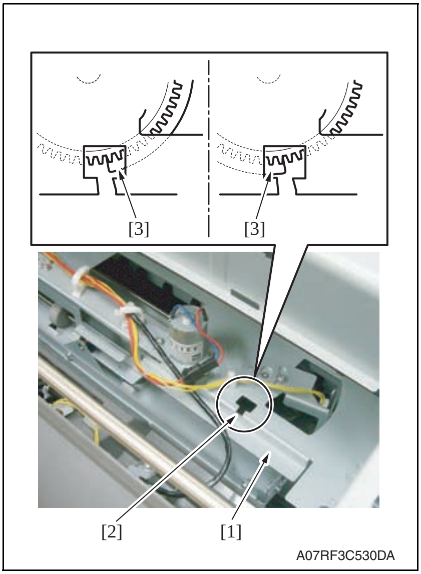


11. Loosen two screws [1] on the bypass gate solenoid, and then, by referring to the markings [4], adjust the position of SD5 so that the clearance between the bypass gate [2] and the bypass transfer plate [3] gets to the standard value when bypass gate solenoid turns OFF.

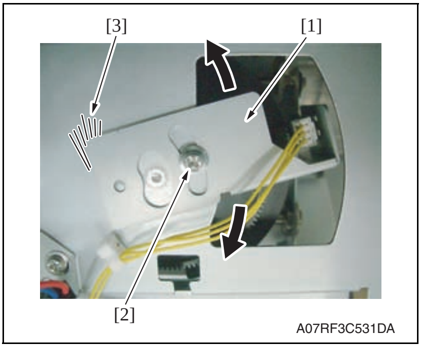
8.2 Shift position adjustment

- Adjust the amount of shift between copy sets ejected to the finishing tray 1.

1. Remove the upper cover/1.
   See P.25
2. Remove the upper cover/2.
   See P.25
3. Turn ON the main power switch and perform [M2(roller shift)HP search] in the service mode.
   See P.68
4. Turn OFF the main power switch.



5. Both in the home position and the shift position, check to see if the edge of the actuator [3] of the slide gear is in the notch [2] of the slide stay [1] of the shift unit.
6. When the edge of the actuator [3] is in the notch [2] of the slide stay, perform the following adjustment.

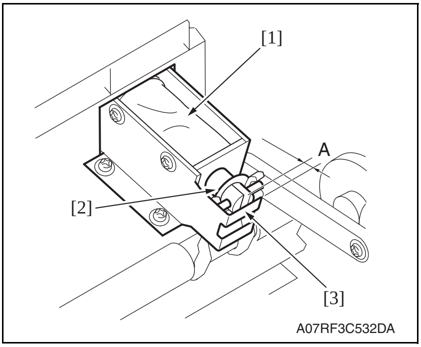


7. Loosen the screw [2] on the mounting plate [1] of the shift roller home sensor, and then adjust the position of the mounting plate [1] by referring to the markings [3].
8. After completing the adjustment, tighten the screw [2].

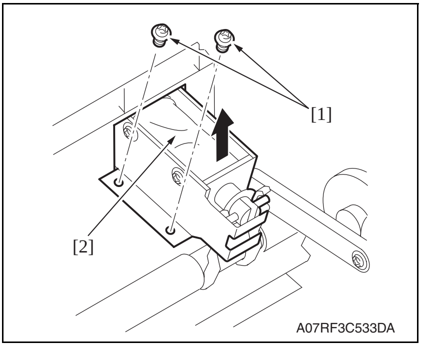
8.3 Adjusting the paper exit opening solenoid

- Conduct this adjustment when the paper exited to the finishing tray 1 is misaligned.

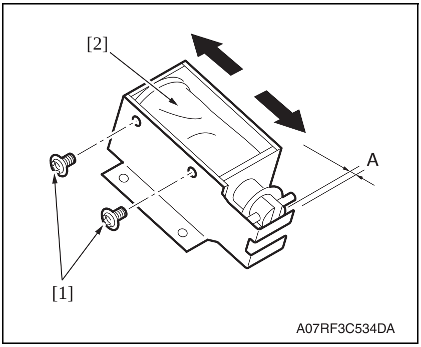
1. Remove the upper cover/1.
   See P.25
2. Remove the upper cover/2.
   See P.25
3. Turn ON the main power switch and perform [SD4(paper exit solenoid):ON] in the service mode.
   See P.68
4. Turn OFF the main power switch.



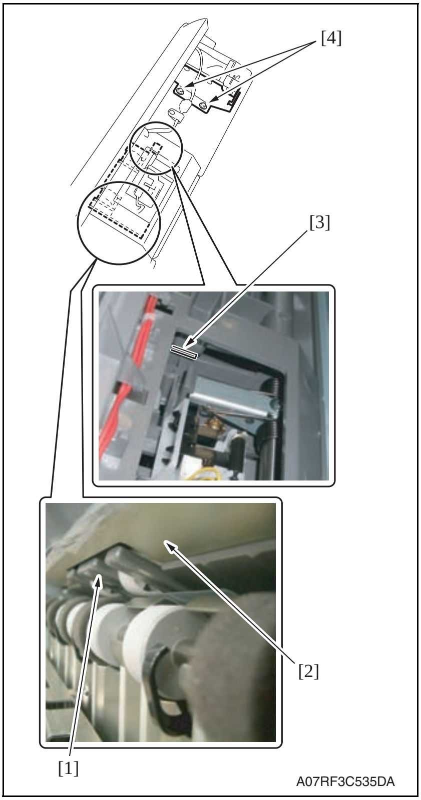
5. Check to see if the clearance between the plunger [2] of the solenoid and the stopper [3] of the mounting plate is within a standard value when paper exit opening solenoid [1] turns ON.
   Standard value: A = 6.5 ± 0.5 mm
6. When the value is not within the standard value, perform the following adjustment.



7. Remove two screws [1] and remove paper exit opening solenoid assy [2].



8. Loosen two screws [1] and move the paper exit opening solenoid [2] in either direction to determine the proper position.
9. Tighten two screws [1].



NOTE

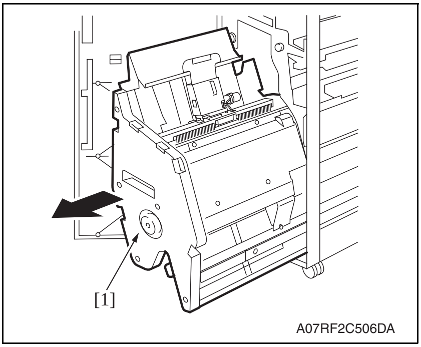
- **To reinstall the paper exit opening solenoid assy, make the end of the paper exit guide [1] contact the part of the rubber [3] of the paper exit guide stay [2] and while in the state tighten two screws [4].**
- **The paper exit guide [1] needs to protrude from the surface of the paper exit guide stay [2] by 1 mm or more.**

8.4 Adjusting the mounting position of the paper exit arm

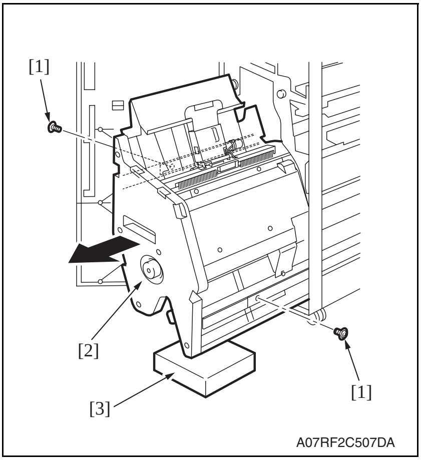
- Conduct this adjustment when there is problem with the paper exit during the stapling operation.

⚠ CAUTION

- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**



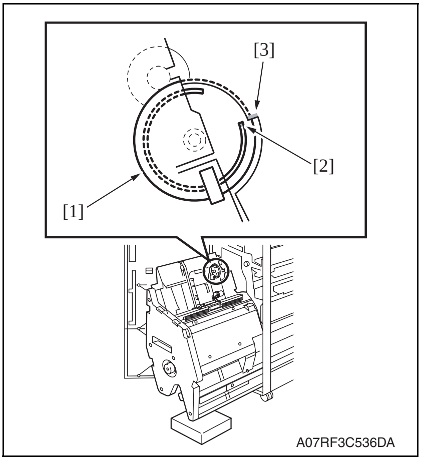
1. Open the front door.
2. Pull out the stacker unit [1].



3. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

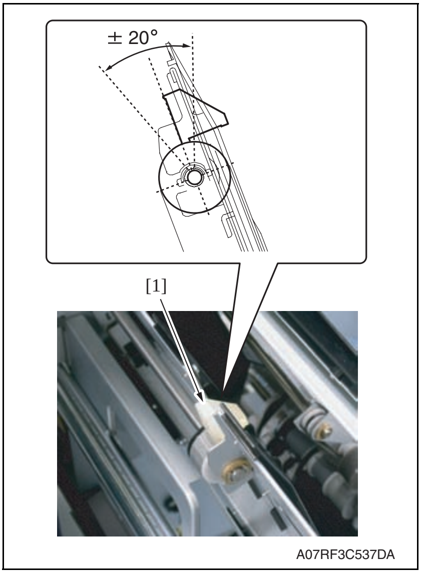
NOTE

- **Place something [3] on which the stacker unit can rest.**



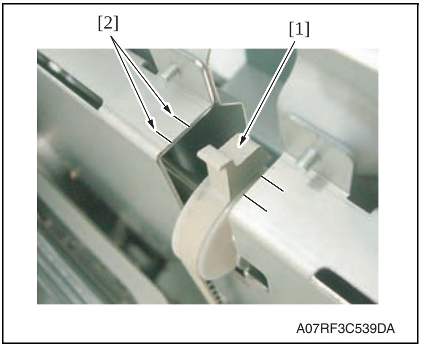
4. Rotate the belt detection gear [1] to align the end [2] of actuator with the notch [3] of the panel /Rr.

5



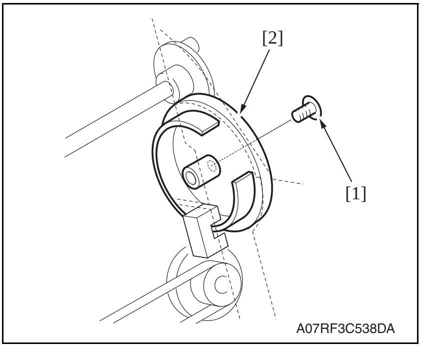
A. For FS-517/FS-518

5. Check the paper exit arm [1] is positioned with the angle shown in the illustration on the left.
   Standard value: ± 20 degrees
6. When the value is not within the standard value, perform the following adjustment.



B. For FS-608

5. Check the paper exit arm [1] is located at the position [2] shown in the illustration on the left.
6. When the value is not within the standard value, perform the following adjustment.



7. Remove the screw [1] and adjust the position of the paper exit arm to the standard position, and then adjust the position of the belt detection gear [2] to the position in step 4 and secure it.

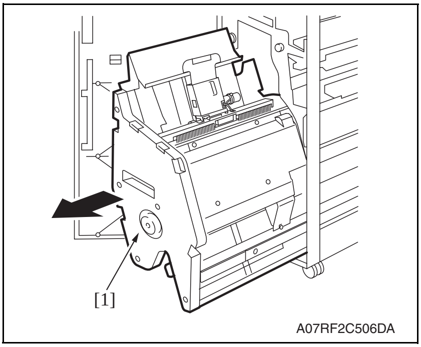
8.5 Adjusting the mounting position of the alignment plate /Up

- Conduct this adjustment when there is misalignment in the stapled paper bundle.

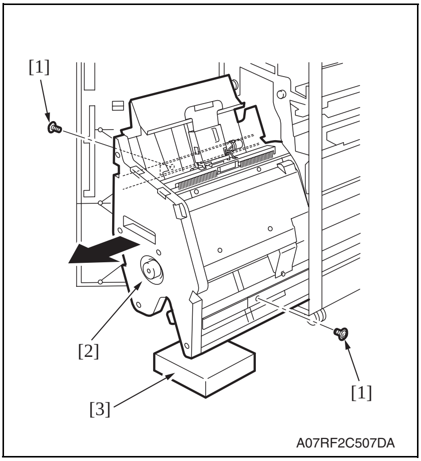
⚠ CAUTION

- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

1. Remove the finisher.
   See P.31
2. Open the front door.



3. Pull out the stacker unit [1].

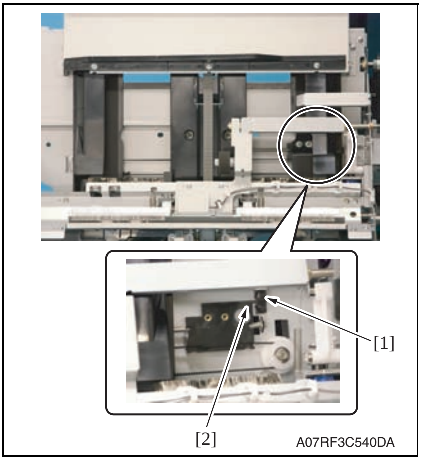


4. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

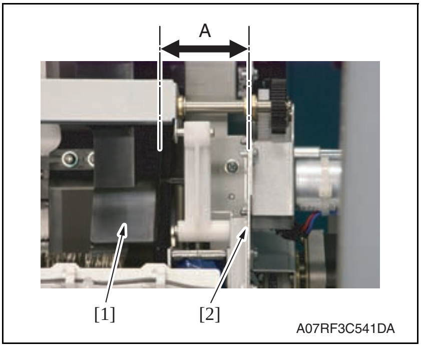
NOTE

- **Place something [3] on which the stacker unit can rest.**

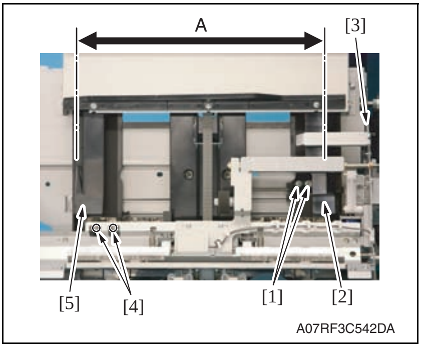
A. For FS-517/FS-518



5. Check to see if the actuator [2] of the alignment home sensor /Up [1] is aligned with the home position.

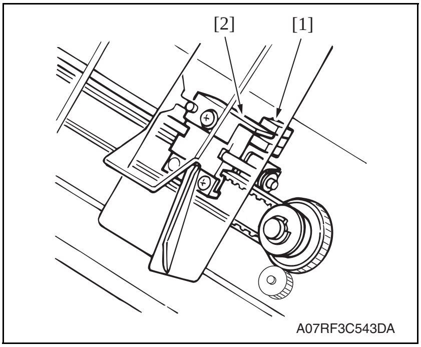


6. Check to see if the distance A between the alignment plate /Up [1] and the panel /Rr [2] is within a standard value.
   Standard value: A = 41.2 ± 0.5 mm
7. When the value is not within the standard value, perform the following adjustment.

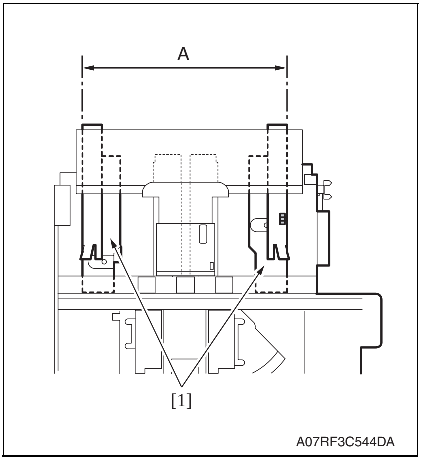


8. Loosen two screws [1] and adjust the distance between the alignment plate /UpRr [2] and the panel /Rr [3] in accordance with the standard value, and the secure it.
9. Loosen two screws [4] and adjust the position of the alignment plate /UpFr [5] to make the distance to the alignment plate /UpRr [2] be the standard value.
   Standard value: A = $335.5^{+1.5}_{-0.5}$ mm

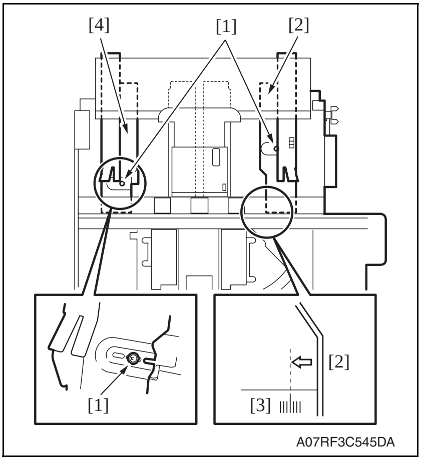
B. For FS-608



5. Check to see if the actuator [2] of the alignment home sensor /Up [1] is aligned with the home position.



6. Check to see if the distance A between the alignment plates /Up [1] is within a standard value.
   Standard value: $A = 335.5^{+0}_{-0.5}$ mm
7. When the value is not within the standard value, perform the following adjustment.



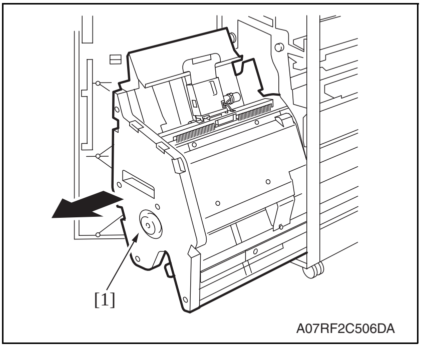
8. Loosen two screws [1] and adjust the alignment plate /UpRr [2] with the long center marking [3] of the marking lines, and then adjust the position of the alignment plate /UpFr [4] by referring the back side to make the distance be the standard value.

8.6 Adjusting the mounting position of the alignment plate /Lw (only FS-608)

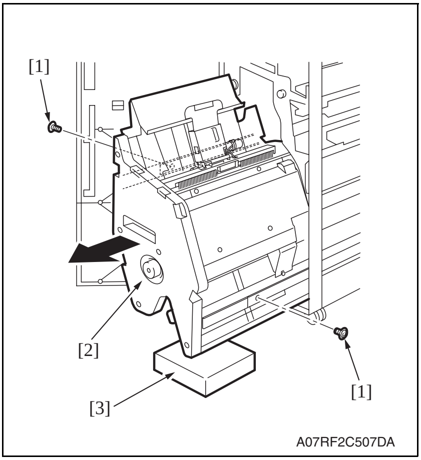
- Conduct this adjustment when there is misalignment in the saddle stitched paper bundle.

⚠ CAUTION
• **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

1. Before this adjustment, make sure that the adjustment, “Adjusting the mounting position of the alignment plate /Up”, has been already completed.
   See P.83
2. Turn ON the main power switch and perform [M18/stapler rear end stopper M: HP movement] in the service mode.
   See P.68
3. Turn OFF the main power switch.
4. Remove the finisher.
   See P.31
5. Open the front door.



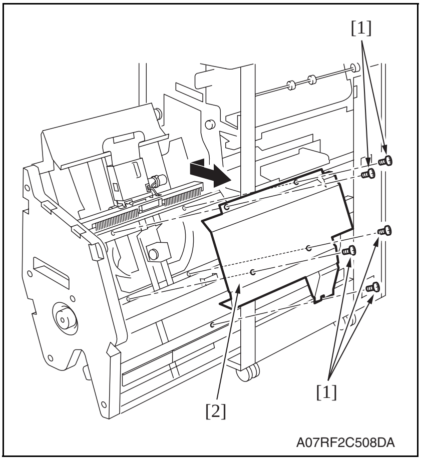
6. Pull out the stacker unit [1].



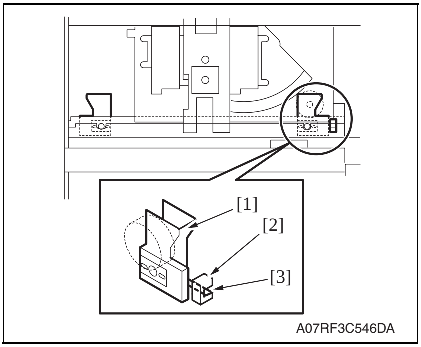
7. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

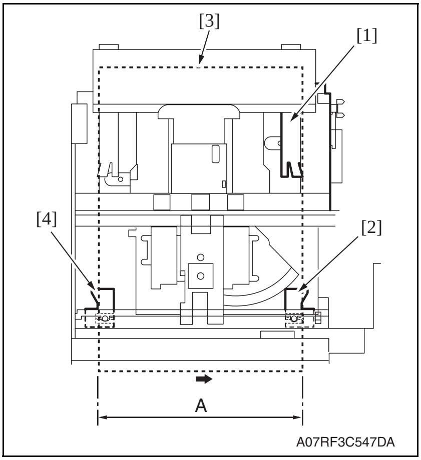
- **Place something [3] on which the stacker unit can rest.**



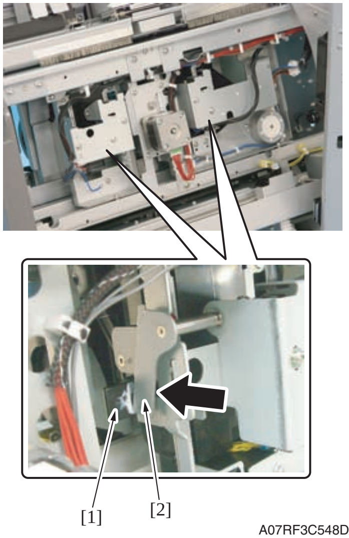
8. Remove five screws [1] and remove stapler unit cover [2].



9. Check to see if the actuator of the alignment plate home sensor /Up is aligned with the home position.
10. Check to see if the actuator [3] of the alignment home sensor /Lw [2] for the alignment plate /Lw [1] is aligned with the home position.

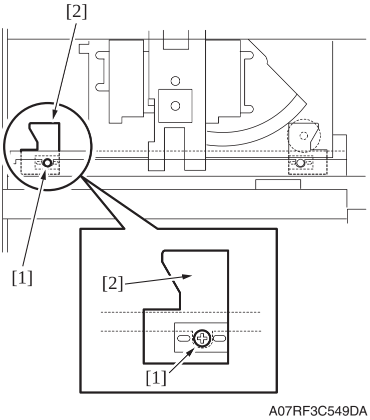


11. Set the paper that is larger than A4S in the stacker section, and then make the alignment plate /UpRr [1] and the alignment plate /LwRr [2] contact with the paper [3] and check to see if the they are aligned. Also, check to see if the distance A between the alignment plate /LwRr [2] and the alignment plate /LwFr [4] is within a standard value.
    Standard value: A = $335.5^{+1.5}_{-0.5}$ mm
12. When the value is not within the standard value, perform the following adjustment.



NOTE

- **When setting paper in the stacker, be sure to press the flat-stapling stopper release lever [2] with your finger to avoid the paper is placed on the flat-stapling stopper [1].**



13. Loosen the screw [1] and adjust the position of the alignment plate /Lw [2] to make the distance be the standard value.

8.7 Staple position adjustment (flat-stapling)

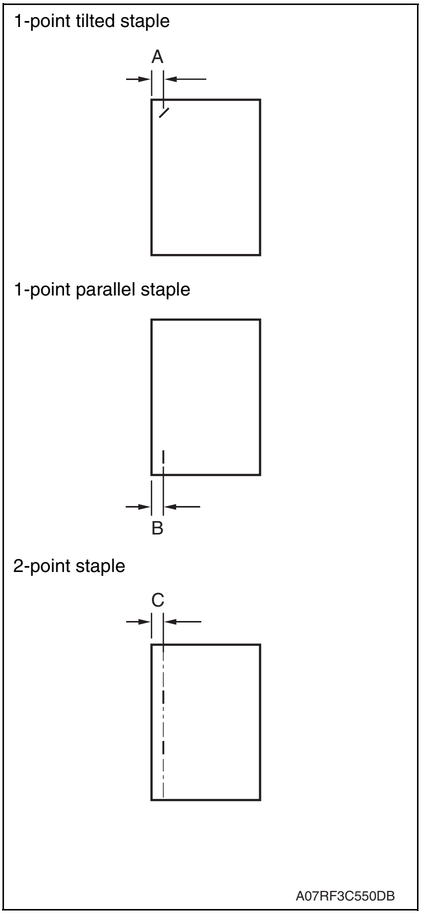
- Conduct this adjustment when the staple position is not within the standard value.

CAUTION

- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

8.7.1 For FS-517/FS-518

1. Make a copy in the staple mode.



2. Check the staple position on the copy is within the specified range.

<For FS-517>

- 1-point tilted staple
  Specification A: 8.5 ± 3.0 mm
- 1-point parallel staple
  Specification B: 8.5 ± 3.0 mm
- 2-point staple
  Specification C: 8.5 ± 3.0 mm

<For FS-518>

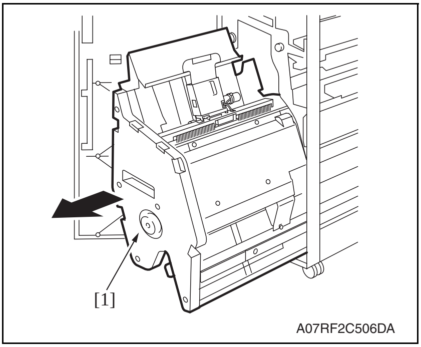
- 1-point tilted staple
  Specification A: 10 ± 3.0 mm
- 1-point parallel staple
  Specification B: 10 ± 3.0 mm
- 2-point staple
  Specification C: 10 ± 3.0 mm

NOTE

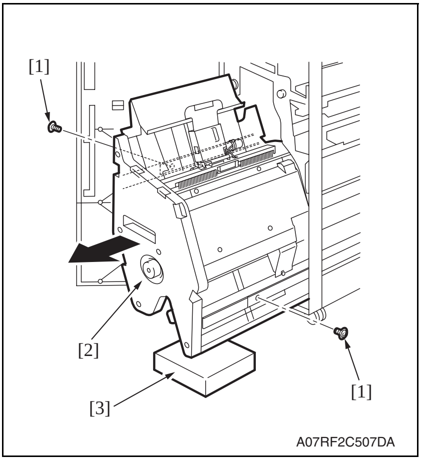
- **In the flat-stapling, the edge of the paper and the line [1] connecting 2 staples should be in parallel.**

3. If the staple position is out of the specified range, make the following adjustment.

4. Remove the finisher.
   See P.31
5. Open the front door.



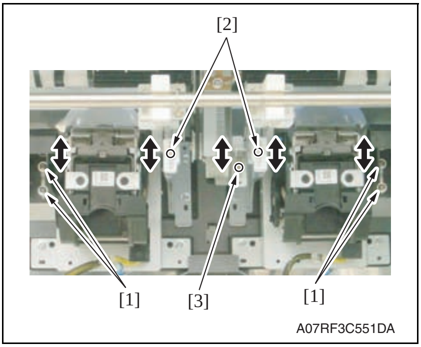
6. Pull out the stacker unit [1].



7. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



8. Loosen four adjustment screws [1] that secure the flat-stapling stoppers /Fr, /Rr. Loosen two adjustment screws [2] that secure the assist stoppers /Fr, /Rr. Adjust each position of the flat-stapling stoppers /Fr, /Rr and assist stoppers /Fr, /Rr.

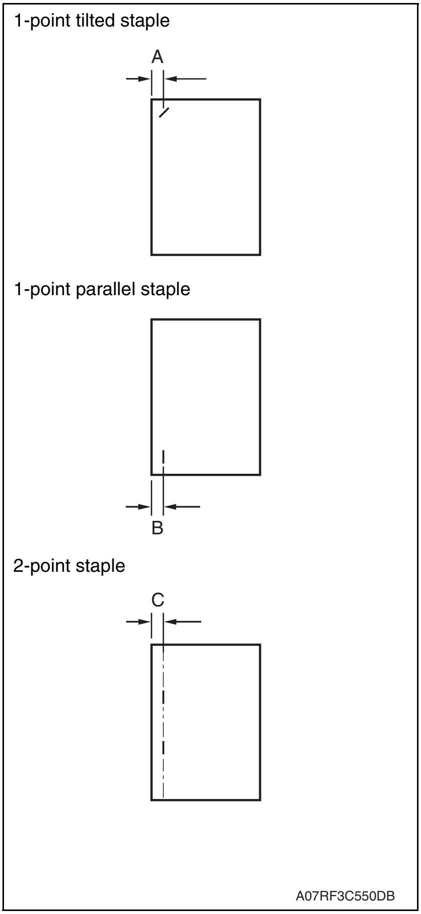
NOTE

- **The heights of the four stoppers should be same.**

9. Loosen the adjusting screw [3] on the rigid stopper, and then adjust the its position to make the height difference with the other stoppers be 0 to -0.5 mm.
10. Make another copy in the staple mode and check the staple position.
11. Until the staple position is within the specified range, repeat step 4 to step 10.

8.7.2 For FS-608

1. Make a copy in the staple mode.

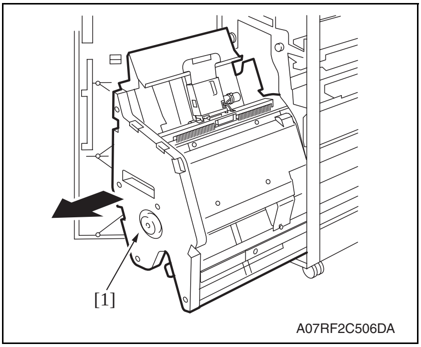


2. Check the staple position on the copy is within the specified range.

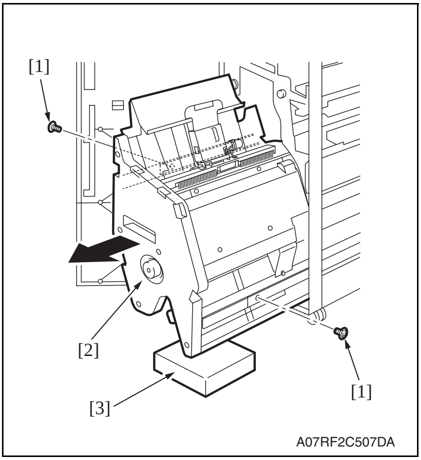
- 1-point tilted staple
  Specification A: 8.5 ± 3.0 mm
- 1-point parallel staple
  Specification B: 8.5 ± 3.0 mm
- 2-point staple
  Specification C: 8.5 ± 3.0 mm

3. If the staple position is out of the specified range, make the following adjustment.

4. Remove the finisher.
   See P.31
5. Open the front door.



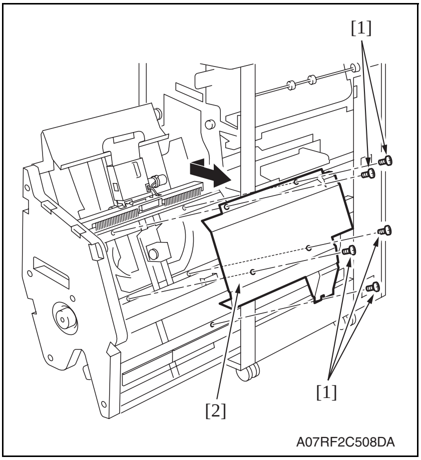
6. Pull out the stacker unit [1].



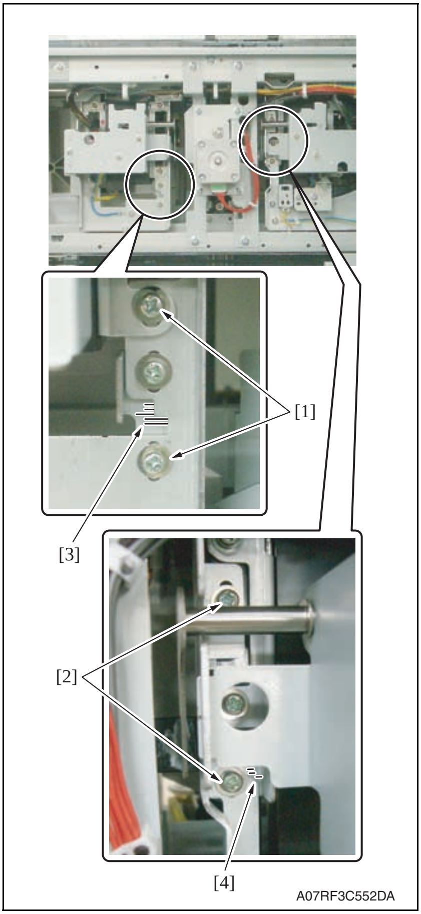
7. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



8. Remove five screws [1] and remove stapler unit cover [2].



9. Loosen two adjusting screws [1] on the flat-stapling stopper /Fr and two adjusting screw [2] on the flat-stapling stopper /Rr, and then adjust the positions of the flat-stapling stoppers /Fr and /Rr by referring to the markings [3] and [4].
10. Make another copy in the staple mode and check the staple position.
11. Until the staple position is within the specified range, repeat step 4 to step 10.

8.8 Staple position adjustment (Saddle stitching) (only FS-608)

- Conduct this adjustment when the edge of the paper and the staple positions are not in parallel at the saddle stitching.

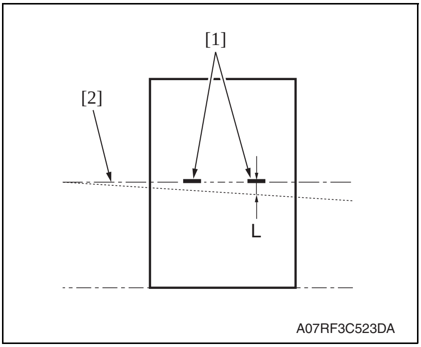
⚠ CAUTION

- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

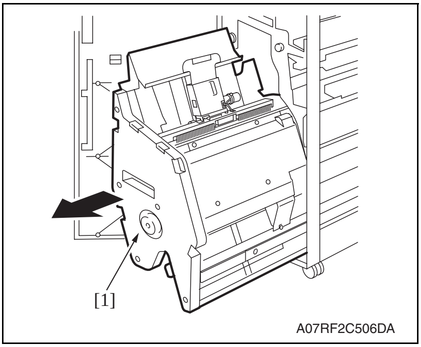
NOTE

- **Before this adjustment, make sure that the adjustment, “Adjusting the mounting position of the alignment plate /Up”, has been already completed.**
  See P.83
- **Before this adjustment, make sure that the adjustment, “Adjusting the mounting position of the alignment plate /Lw”, has been completed.**
  See P.86

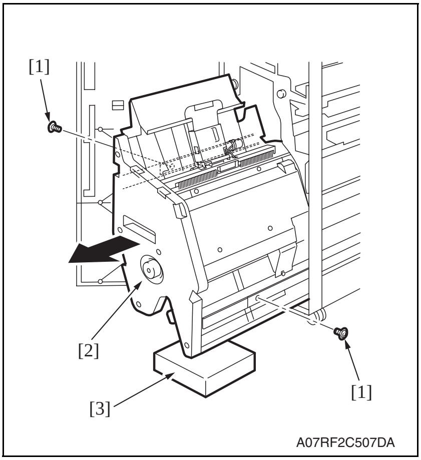
1. Place five sheets of originals on the ADF.
2. Make a set of copy in the saddle stitching mode.



3. Check the line [2] that connects two staples [1] is parallel to the upper and lower edges of paper. Also check the deviation (L) is within the specified range.
   Specification L: 1.0 mm or less
4. If the deviation is out of the specified range, make the following adjustment.
5. Remove the finisher.
   See P.31
6. Open the front door.



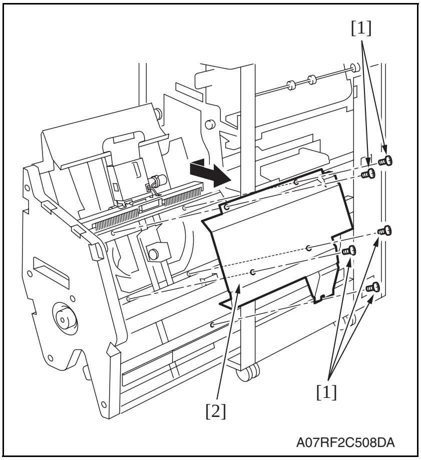
7. Pull out the stacker unit [1].



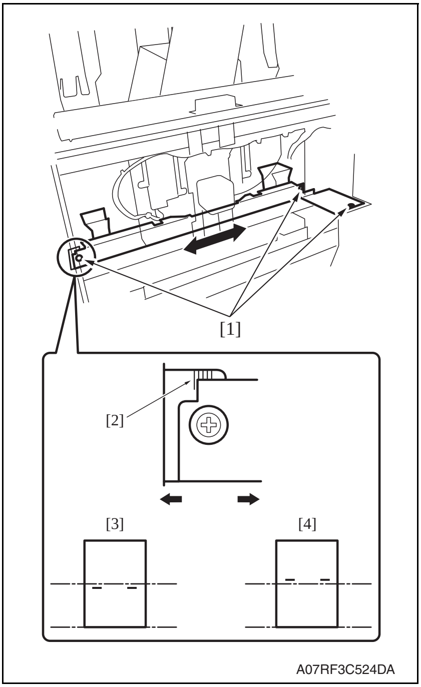
8. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



9. Remove five screws [1] and remove stapler unit cover [2].



10. Loosen three screws [1] that secure the alignment plate /Lw. Adjust the position of the alignment plate /Lw referring to the markings [2].

- If the staple position is misaligned as shown in the illustration [3], slide the alignment plate /Lw to the front.
- If the staple position is misaligned as shown in the illustration [4], slide the alignment plate /Lw to the back.

11. After adjustment, tighten three screws.
12. Make another set of copy in the saddle stitching mode and check the deviation (L) is within the specified range.
13. Until the deviation is within the specified range, repeat step 5 to step 12.

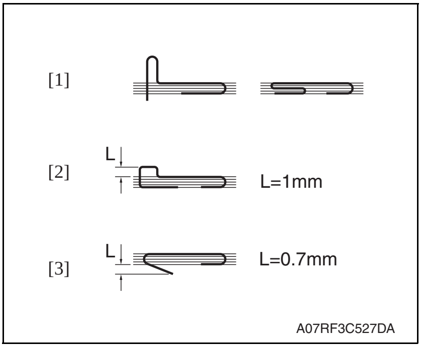
8.9 Stapler vertical position adjustment (only FS-608)

- Conduct this adjustment when there is a problem in clinching of the stapler.

CAUTION

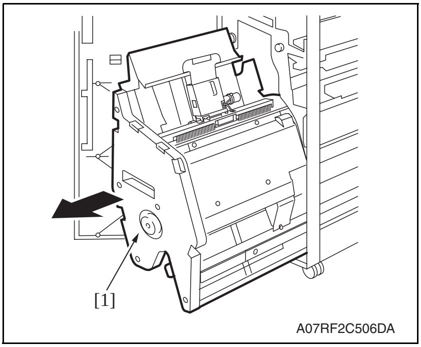
- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

1. Make a copy in the staple mode.



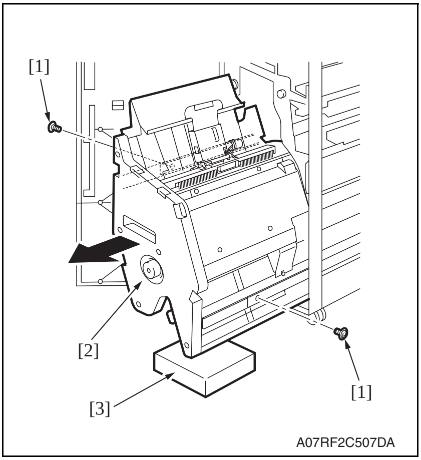
A07RF3C527DA

2. Check there is failures in clinching staples as described below.
- There is the bucking [1] of the staple.
- The floating [2] of the staple is more than the standard value (L = 1 mm).
- The bending height [3] of the staple is more than the standard value (L = 0.7 mm).
3. If clinching performance is out of the above specifications, make the following adjustment.
4. Remove the finisher.
   See P.31
5. Open the front door.
6. Remove the cartridge.



A07RF2C506DA

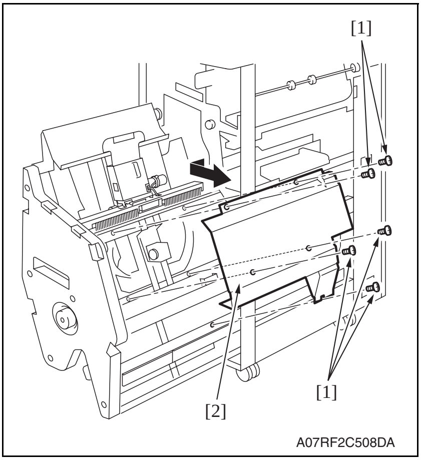
7. Pull out the stacker unit [1].



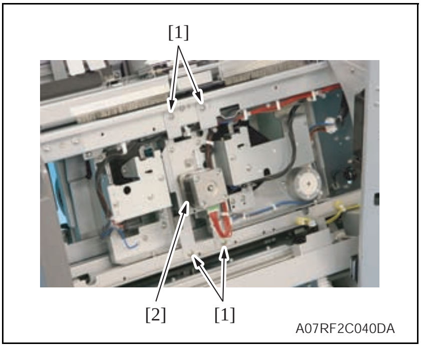
8. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

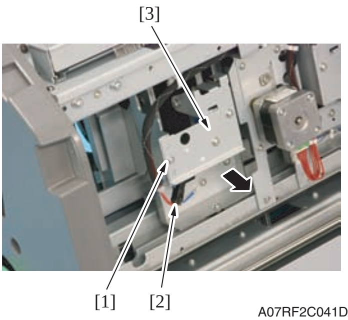
- **Place something [3] on which the stacker unit can rest.**



9. Remove five screws [1] and remove stapler unit cover [2].

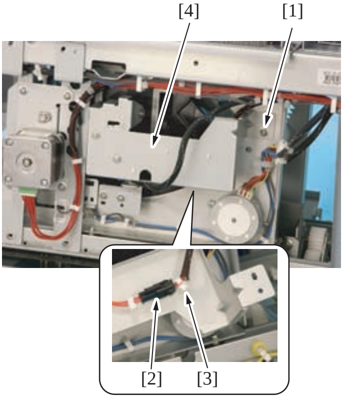


10. Remove four screws [1] that secure the mounting plate [2] of the saddle stitching stopper motor.



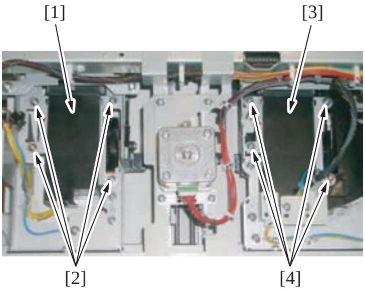
A07RF2C041DA

11. Remove the screw [1] and disconnect the connector [2], and remove the flat-stapling stopper release unit / Fr [3].



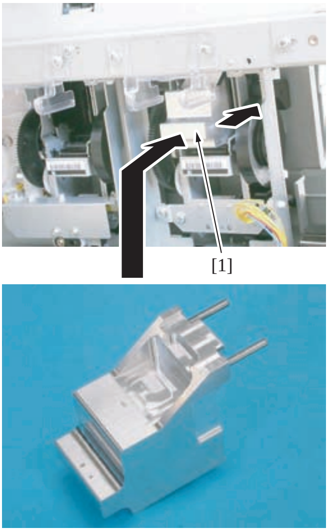
A07RF2C042DA

12. Remove the screw [1], the connector [2], and the clamp [3]. Remove the flat-stapling stopper release unit /Rr [4].



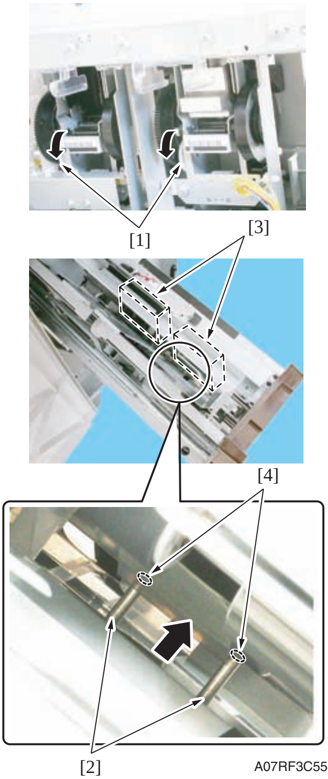
A07RF3C553DA

13. Loosen four screws [2] that secure the clincher /Fr [1]. Loosen four screws [4] that secure the clincher / Rr [3].



A07RF3C555DA

14. Install the stapler positioning jig [1] onto the cartridge setting section.



A07RF3C554DA

15. Rotate the gears [1] of the staplers downward and adjust the clinchers to the positions where two pins [2] of the stapler positioning jigs are inserted into the positioning holes [4] of the clinchers [3], and then rotate the gears [1] downward further to fully insert the pins into the positioning holes.

NOTE

- **Be sure to rotate the gears of the staplers carefully because the pins of the stapler positioning jigs may be clogged if they are inserted forcedly.**

16. Tighten four screws that were loosened in step 13.

17. Rotate the gears of the staplers upward to pull out the pins of the jig from the positioning holes of the clinchers, and then lift up and remove the jig.

18. Replace the cartridge.

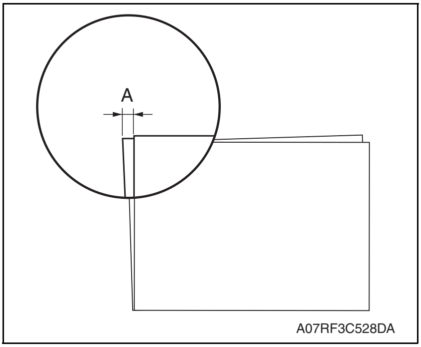
8.10 Folding stopper tilt adjustment (only FS-608)

⚠ CAUTION

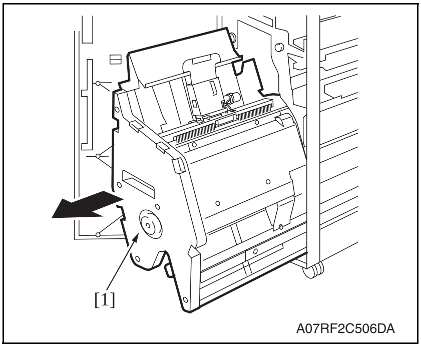
- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

- Conduct this adjustment when there is misalignment in the edges of the fold paper.

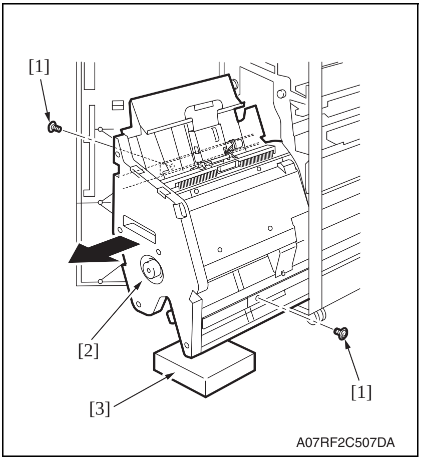
1. Make a copy in the half-fold mode.



2. Check the amount of horizontal deviation (A) between the two sides of the copy is within the specified range.
   Specification A: 1.0 mm or less
3. If the deviation is out of the specified range, make the following adjustment.
4. Remove the finisher.
   See P.31
5. Open the front door.



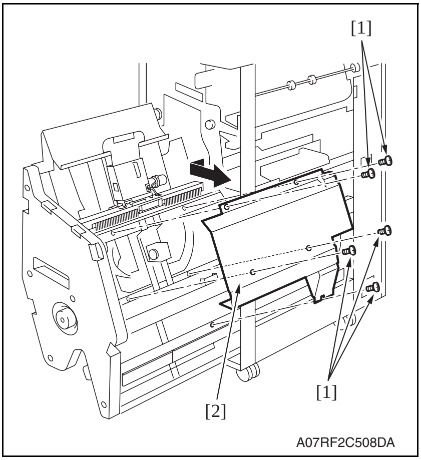
6. Pull out the stacker unit [1].



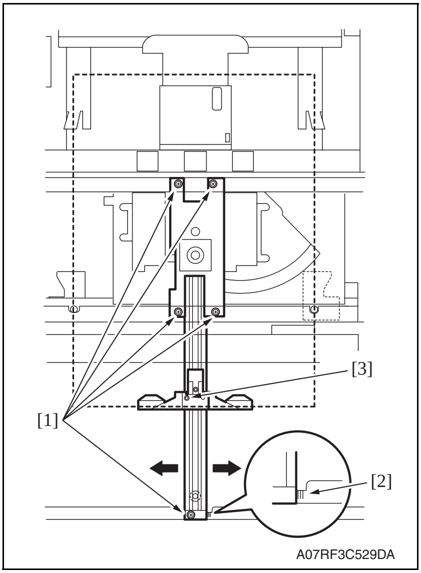
7. Remove two screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

NOTE

- **Place something [3] on which the stacker unit can rest.**



8. Remove five screws [1] and remove stapler unit cover [2].



9. Loosen five screws [1] and then adjust the tilt of the folding stopper by referring to the markings [2].

NOTE

- **Never loosen the screw [3] of the folding stopper. It is prohibited to be removed.**

10. Tighten five screws [1]. Make another copy and check the deviation (A).
11. Until (A) is within the specified range, repeat step 4 to step 10.

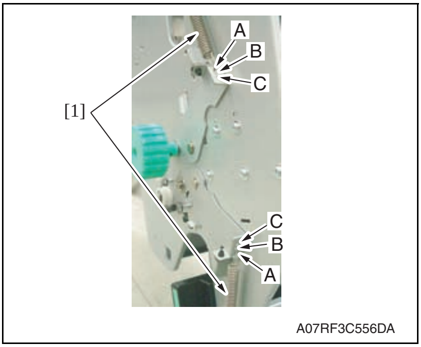
8.11 Adjusting the folding pressure (only FS-608)

CAUTION

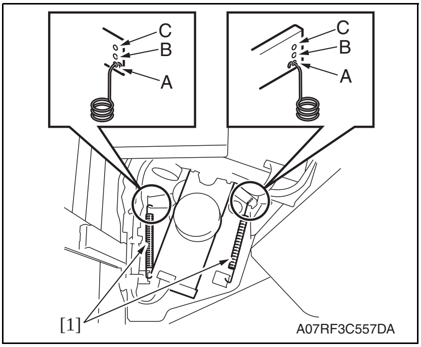
- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

- Conduct this adjustment if you want to change the power of the pressure of the folding roller.

1. Remove the finisher.
   See P.31
2. Remove the rear cover.
   See P.26
3. Open the front door.
4. Remove the stacker unit cover.
   See P.30



5. Change the hook holes where the two front pressure springs [1] are hooked.
   A: Weak
   B: Intermediate
   C: Strong



6. Change the hook holes where the two rear pressure springs [1] are hooked.
   A: Weak
   B: Intermediate
   C: Strong

NOTE

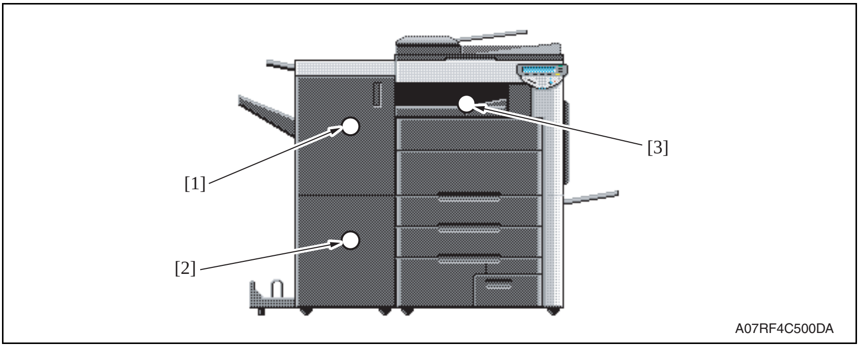
- **Hook the 4 pressure springs [1] on the hook holes of the same mark.**

Troubleshooting

9. Jam display

9.1 Misfeed display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the touch panel of the machine.

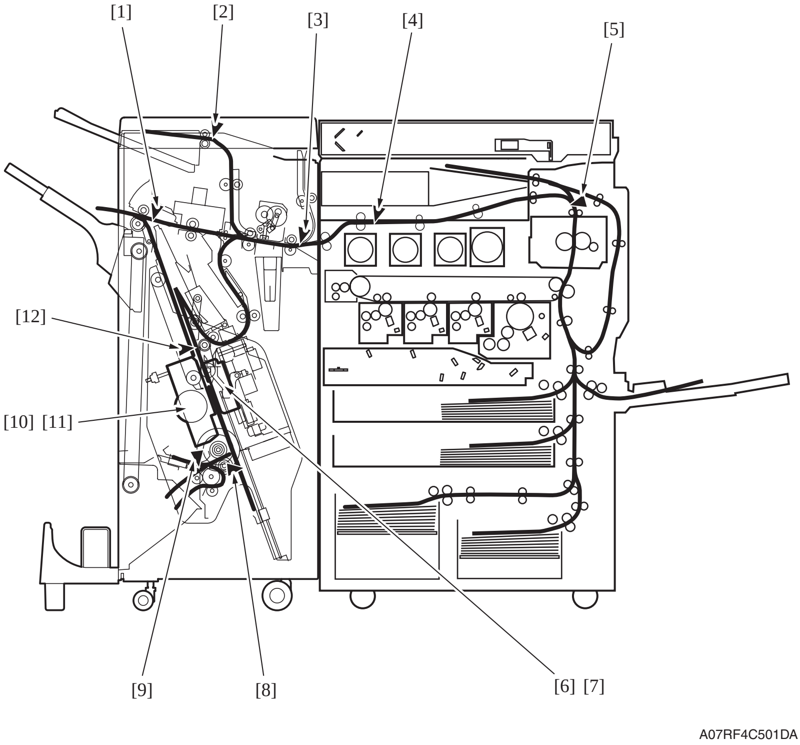


Display	Code	Misfeed processing location	Action
[1]	7216	Front door	P.108
	7217	Front door	P.108
	7218	Front door	P.109
	7219	Front door, stacker unit	P.109
	7220	Front door	P.110
	7221	Front door	P.110
	7222	Front door	P.111
	7223	Front door	P.111
[2]	7224	Front door, stacker unit	P.112
	7225	Front door, stacker unit	P.112
	7226	Front door, stacker unit	P.113
[1]	7228	Front door, stacker unit	P.113
	7229	Front door, stacker unit	P.114
	7230	Front door, stacker unit	P.114
[2]	7248	Front door, stacker unit	P.115
	7281	Front door, stacker unit	P.115
	7282	Front door, stacker unit	P.116
	7283	Front door, stacker unit	P.117
	7290	Front door, stacker unit	P.117
[3]	7542	Horizontal transport cover	P.118
	7543	Horizontal transport cover	P.118

9.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

9.2 Sensor layout



[1]	Tray1 paper exit sensor	PS6	[7]	Clincher motor home sensor /Fr	PS43
[2]	Tray2 paper exit sensor	PS1	[8]	Folding pass-through sensor	PS26
[3]	FNS entrance sensor	PS4	[9]	Folding paper exit sensor	PS25
[4]	Paper pass sensor	PS202	[10]	Stapler motor home sensor /Rr	PS40
[5]	Exhaust sensor	PS39	[11]	Stapler motor home sensor /Fr	PS41
[6]	Clincher motor home sensor /Rr	PS42	[12]	Stacker entrance sensor	PS5

9.3 Solution

9.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

9.3.2 Code: 7216

A. Detection timing

Description
The FNS entrance sensor (PS4) is not turned ON even after the set period of time has elapsed after the copier's exhaust sensor (PS39) is turned ON by the paper.

B. Action

Relevant electrical parts	
Exhaust sensor (PS39) FNS entrance sensor (PS4)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS39 I/O, sensor check	PRCB CN36-12 (ON)	bizhub C650/ C550/C451 K-4
3	PS4 I/O, sensor check	FSCB CN7<A>-13 (ON)	FS-517/518/608 C-2
4	FSCB replacement	—	—

9.3.3 Code: 7217

A. Detection timing

Description
The tray1 paper exit sensor (PS6) is not turned ON even after the set period of time has elapsed after the FNS entrance sensor (PS4) is turned ON by the paper.

B. Action

Relevant electrical parts	
FNS entrance sensor (PS4) Tray1 paper exit sensor (PS6)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS4 I/O, sensor check	FSCB CN7<A>-13 (ON)	FS-517/518/608 C-2
3	PS6 I/O, sensor check	FSCB CN7<B>-14 (ON)	FS-517/518/608 C-4
4	FSCB replacement	—	—

9.3.4 Code: 7218

A. Detection timing

Description
The stacker entrance sensor (PS5) is not turned ON even after the set period of time has elapsed after the FNS entrance sensor (PS4) is turned ON by the paper. (while in stapling)

B. Action

Relevant electrical parts	
FNS entrance sensor (PS4) Stacker entrance sensor (PS5)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS4 I/O, sensor check	FSCB CN7<A>-13 (ON)	FS-517/518/608 C-2
3	PS5 I/O, sensor check	FSDB CN27<A>-8 (ON)	FS-517/518/608 P to Q-12
4	FSDB replacement	—	—
5	FSCB replacement	—	—

9.3.5 Code: 7219

A. Detection timing

Description
The stacker entrance sensor (PS5) is not turned OFF even after the set period of time has elapsed after the stacker entrance motor (M13) is energized.

B. Action

Relevant electrical parts	
Stacker entrance motor (M13) Stacker entrance sensor (PS5)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS5 I/O, sensor check	FSDB CN27<A>-8 (ON)	FS-517/518/608 P to Q-12
3	M13 operation check	FSDB CN28-1 to 6	FS-517/518/608 P to Q-13 to 14
4	FSDB replacement	—	—
5	FSCB replacement	—	—

9.3.6 Code: 7220

A. Detection timing

Description
The tray1 paper exit sensor (PS6) is not turn ON even after the set period of time has elapsed after the start of exiting paper (while in stapling).

B. Action

Relevant electrical parts	
Tray1 paper exit sensor (PS6)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS6 I/O, sensor check	FSCB CN7<B>-14 (ON)	FS-517/518/608 C-4
3	FSCB replacement	—	—

9.3.7 Code: 7221

A. Detection timing

Description
The tray1 paper exit sensor (PS6) is not turn OFF even after the set period of time has elapsed after it turns ON (while in stapling the paper in a large size).

B. Action

Relevant electrical parts	
Tray1 paper exit sensor (PS6)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS6 I/O, sensor check	FSCB CN7<B>-14 (ON)	FS-517/518/608 C-4
3	FSCB replacement	—	—

9.3.8 Code: 7222

A. Detection timing

Description
The tray2 paper exit sensor (PS1) is not turned ON even after the set period of time has elapsed after the FNS entrance sensor (PS4) is turned ON by the paper (while in exiting paper in the finishing tray2).

B. Action

Relevant electrical parts	
FNS entrance sensor (PS4) Tray2 paper exit sensor (PS1)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS4 I/O, sensor check	FSCB CN7<A>-13 (ON)	FS-517/518/608 C-2
3	PS1 I/O, sensor check	FSCB CN7<B>-2 (ON)	FS-517/518/608 C-2 to 3
4	FSCB replacement	—	—

9.3.9 Code: 7223

A. Detection timing

Description
The tray2 paper exit sensor (PS1) is not turn OFF even after the set period of time has elapsed after it turns ON (while in exiting paper in the finishing tray2).

B. Action

Relevant electrical parts	
Tray2 paper exit sensor (PS1)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS1 I/O, sensor check	FSCB CN7<B>-2 (ON)	FS-517/518/608 C-2 to 3
3	FSCB replacement	—	—

9.3.10 Code: 7224

A. Detection timing

Description
The folding pass-through sensor (PS26) is not turn ON after stapling is completed.

B. Action

Relevant electrical parts	
Folding pass-through sensor (PS26)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS26 I/O, sensor check	FSDB CN30-14 (ON)	FS-517/518/608 I-12 to 13
3	FSDB replacement	—	—
4	FSCB replacement	—	—

9.3.11 Code: 7225

A. Detection timing

Description
The folding paper exit sensor (PS25) is not turn ON even after the set period of time has elapsed after the folding knife motor (M19) turns ON.

B. Action

Relevant electrical parts	
Folding knife motor (M19) Folding paper exit sensor (PS25)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS25 I/O, sensor check	FSDB CN30-11 (ON)	FS-517/518/608 I-13
3	M19 operation check	FSDB CN31<A>-7 to 8	FS-517/518/608 I-11 to 12
4	FSDB replacement	—	—
5	FSCB replacement	—	—

9.3.12 Code: 7226

A. Detection timing

Description
The folding paper exit sensor (PS25) is not turn OFF even after the set period of time has elapsed after it turns ON.

B. Action

Relevant electrical parts	
Folding paper exit sensor (PS25)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS25 I/O, sensor check	FSDB CN30-11 (ON)	FS-517/518/608 I-13
3	FSDB replacement	—	—
4	FSCB replacement	—	—

9.3.13 Code: 7228

A. Detection timing

Description
The stacker entrance sensor (PS5) is not turn OFF even after the set period of time has elapsed after it turns ON.

B. Action

Relevant electrical parts	
Stacker entrance sensor (PS5)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS5 I/O, sensor check	FSDB CN27<A>-8 (ON)	FS-517/518/608 P to Q-12
3	FSDB replacement	—	—
4	FSCB replacement	—	—

9.3.14 Code: 7229

A. Detection timing

Description
• The tray1 paper exit sensor (PS6) is not turn OFF even after the set period of time has elapsed after it turns ON (while in the non-stapling mode). • The tray2 paper exit sensor (PS1) is not turn OFF even after the set period of time has elapsed after it turns ON (while in the stapling mode).

B. Action

Relevant electrical parts	
Tray1 paper exit sensor (PS6) Tray2 paper exit sensor (PS1)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS6 I/O, sensor check	FSCB CN7<B>-14 (ON)	FS-517/518/608 C-4
3	PS1 I/O, sensor check	FSCB CN7<B>-2 (ON)	FS-517/518/608 C-2 to 3
4	FSCB replacement	—	—

9.3.15 Code: 7230

A. Detection timing

Description
The tray1 paper exit sensor (PS6) is not turn OFF even after the set period of time has elapsed after it turns ON (while in stapling the paper in a small size).

B. Action

Relevant electrical parts	
Tray1 paper exit sensor (PS6)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS6 I/O, sensor check	FSCB CN7<B>-14 (ON)	FS-517/518/608 C-4
3	FSCB replacement	—	—

9.3.16 Code: 7248

A. Detection timing

Description
The folding pass-through sensor (PS26) is not turn OFF after the set period of time has elapsed after it turns ON.

B. Action

Relevant electrical parts	
Folding pass-through sensor (PS26)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS26 I/O, sensor check	FSDB CN30-14 (ON)	FS-517/518/608 I-12 to 13
3	FSDB replacement	—	—
4	FSCB replacement	—	—

9.3.17 Code: 7281

A. Detection timing

Description
The stapler motor home sensor /Fr (PS41) and clincher motor home sensor /Fr (PS43) is not turn ON even after the set period of time has elapsed after the stapler motor /Fr (M14) and clincher motor /Fr (M15) turn ON.

B. Action

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Drive coupling section check	—	—
3	Sensor check	—	—
4	Staple unit replacement	—	—
5	FSDB replacement	—	—
6	FSCB replacement	—	—

9.3.18 Code: 7282

A. Detection timing

Description
The stapler motor home sensor /Rr (PS40) and clincher motor home sensor /Rr (PS42) is not turn ON even after the set period of time has elapsed after the stapler motor /Rr (M9) and clincher motor /Rr (M10) turn ON.

B. Action

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Drive coupling section check	—	—
3	Sensor check	—	—
4	Staple unit replacement	—	—
5	FSDB replacement	—	—
6	FSCB replacement	—	—

9.3.19 Code: 7283

A. Detection timing

Description
The stapler motor home sensor /Rr (PS40), stapler motor home sensor /Fr (PS41), clincher motor home sensor /Rr (PS42), and clincher motor home sensor /Fr (PS43) is not turn ON even after the set period of time has elapsed after the stapler motor /Rr (M9), stapler motor /Fr (M14), clincher motor /Rr (M10), and clincher motor /Fr (M15) turn ON.

B. Action

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Drive coupling section check	—	—
3	Sensor check	—	—
4	Staple unit replacement	—	—
5	FSDB replacement	—	—
6	FSCB replacement	—	—

9.3.20 Code: 7290

A. Detection timing

Description
The finisher does not stop within a specified period of time after the main body sends it a stop signal.

B. Action

Relevant electrical parts	
FNS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	FSCB replacement	—	—

9.3.21 Code: 7542

A. Detection timing

Description
The paper pass sensor (PS202) is not turned ON even after the set period of time has elapsed after the copier's exhaust sensor (PS39) is turned ON by the paper.

B. Action

Relevant electrical parts	
Exhaust sensor (PS39) Paper pass sensor (PS202)	Transfer control board (TRCB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS39 I/O, sensor check	PRCB CN36-12 (ON)	bizhub C650/ C550/C451 K-4
3	PS202 I/O, sensor check	TRCB CN206-2 (ON)	FS-517/518/608 P-16 to 17
4	TRCB replacement	—	—
5	FSCB replacement	—	—

9.3.22 Code: 7543

A. Detection timing

Description
The paper pass sensor (PS202) is not turn OFF even after the set period of time has elapsed after it turns ON.

B. Action

Relevant electrical parts	
Paper pass sensor (PS202)	Transfer control board (TRCB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS202 I/O, sensor check	TRCB CN206-2 (ON)	FS-517/518/608 P-16 to 17
3	TRCB replacement	—	—
4	FSCB replacement	—	—

10. Malfunction code

10.1 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Malfunction code	Detection timing	Trouble isolation compliant unit	Rank
C1004	FNS communication error	• When the FNS control board (FSCB) is receiving data, a communication error is detected.	—	B
C1008	RU communication error	• When a communication error is detected between the main body and the horizontal transport unit.	—	B
C1101	Shift roller motor drive failure	• The shift roller home sensor (PS18) is not turned ON even after the set period of time has elapsed after the shift roller motor (M2) is energized (beginning of return operation to predetermined position). • The shift roller home sensor (PS18) is not turned OFF even after the set period of time has elapsed after the shift roller motor (M2) is energized (Beginning of shift operation).	—	B
C1102	Tray ascent/descent drive failure	• The Tray1 upper limit sensor (PS2) is not turned ON even after the set period of time has elapsed while the tray1 lift motor (M3) is energized. • The stapler paper exit upper limit sensor (PS7) is not turned ON even after the set period of time has elapsed while the tray1 lift motor (M3) is energized.	—	B
C1103	Aligning plate drive failure	• The alignment home sensor /Up (PS8) is not turned OFF even after the set period of time has elapsed after the alignment motor /Up (M5) is turned ON. The alignment home sensor /Up (PS8) is turned OFF, but continues to remain in the same state.	Staple	B
C1104	Paper exit roller drive failure	• The paper exit roller motor (M7) lock signal remains set to H for a set period of time while the paper exit roller motor (M7) is turning.	—	B
C1105	Paper exit drive failure	• The paper exit home sensor (PS12) is turned neither ON nor OFF even after the set period of time has elapsed after the paper exit motor (M8) is turned ON.	—	B

Code	Malfunction code	Detection timing	Trouble isolation compliant unit	Rank
C1106	Stapler movement drive failure	• The stapler movement home sensor (PS11) is not turned ON even after the set period of time has elapsed after the stapler movement motor (M11) is turned ON. The stapler movement home sensor (PS11) is turned ON, but continues to remain in the same state.	Staple	B
C1107	Stapler clincher rotation drive failure	• The clincher rotation home sensor (PS14) is not turned ON even after the set period of time has elapsed after the clincher rotation motor (M4) is turned ON. The clincher rotation home sensor (PS14) is turned ON, but continues to remain in the same state.	Staple	B
C1108	Stapler rotation motor drive failure	• The stapler rotation home sensor (PS13) is not turned ON even after the set period of time has elapsed after the stapler rotation motor (M6) is turned ON. The stapler rotation home sensor (PS13) is turned ON, but continues to remain in the same state.	Staple	B
C1109	Stapler F unit drive failure	• The stapler motor home sensor /Fr (PS41) is not turned ON even after the set period of time has elapsed while the stapler motor /Fr (M14) is energized.	Staple	B
C1110	Stapler R unit drive failure	• The stapler motor home sensor /Rr (PS40) is not turned ON even after the set period of time has elapsed while the stapler motor /Rr (M9) is energized.	Staple	B
C1111	Stapler F unit clincher drive failure	• The clincher motor home sensor /Fr (PS43) is not turned ON even after the set period of time has elapsed while the clincher motor /Fr (M15) is energized.	Staple	B
C1112	Stapler R unit clincher drive failure	• The clincher motor home sensor /Rr (PS42) is not turned ON even after the set period of time has elapsed while the clincher motor /Rr (M10) is energized.	Staple	B
C1113	Saddle stitching stopper motor drive failure	• The saddle stitching stopper home sensor (PS23) is not turned ON even after the set period of time has elapsed after the saddle stitching stopper motor (M18) is turned ON. The saddle stitching stopper home sensor (PS23) is turned OFF, but continues to remain in the same state.	Staple	B
C1114	Stapler side guide motor drive failure	• The alignment home sensor /Lw (PS24) is not turned ON even after the set period of time has elapsed while the alignment motor /Lw (M16) is energized.	Half-Fold/Tri-Fold/Center Stapling	B

Code	Malfunction code	Detection timing	Trouble isolation compliant unit	Rank
C1115	Folding knife motor drive failure	• The folding knife home sensor (PS22) is not turned ON even after the set period of time has elapsed while the folding knife motor (M19) is energized.	Half-Fold/Tri-Fold/Center Stapling	B
C1116	Folding transfer motor drive failure	• The folding transfer motor (M20) does not reach the specified speed even after the set period of time has elapsed after it starts to operate.	Half-Fold/Tri-Fold/Center Stapling	B
C1137	Gate motor drive failure	• The gate home sensor (PS16) is not turned ON even after the set period of time has elapsed while the gate motor (M12) is energized.	—	B
CC155	Finisher ROM failure	• Data of flash ROM of the finishing options is determined to be faulty when the power is turned ON.	—	B
CC157	Finisher ROM failure (RU)	• Data of flash ROM of the horizontal transport unit is determined to be faulty when the power is turned ON.	—	B

10.2 Solution

10.2.1 C1004: FNS communication error

Relevant electrical parts	
FNS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	FSCB replacement	—	—

10.2.2 C1008: RU communication error

Relevant electrical parts	
Transfer control board (TRCB) FNS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	TRCB replacement	—	—
4	FSCB replacement	—	—

10.2.3 C1101: Shift roller motor drive failure

Relevant electrical parts	
Shift roller motor (M2) Shift roller home sensor (PS18)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS18 I/O, sensor check	FSCB CN7<B>-17 (ON)	FS-517/518/608 C-4
4	M2 operation check	FSCB CN8<B>-1 to 2	FS-517/518/608 C-5
5	FSCB replacement	—	—

10.2.4 C1102: Tray ascent/descent drive failure

Relevant electrical parts	
Tray1 lift motor (M3) Tray1 upper limit sensor (PS2) Stapler paper exit upper limit sensor (PS7)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS2 I/O, sensor check	FSCB CN16-2 (ON)	FS-517/518/608 C-8
4	PS7 I/O, sensor check	FSCB CN16-5 (ON)	FS-517/518/608 C-8
5	M3 operation check	FSCB CN10<A>-1 to 9	FS-517/518/608 C-7
6	FSCB replacement	—	—

10.2.5 C1103: Aligning plate drive failure

Relevant electrical parts	
Alignment motor /Up (M5) Alignment home sensor /Up (PS8)	FNS control board (FSCB) FNS drive board (FSDB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS8 I/O, sensor check	FSDB CN27<B>-5 (ON)	FS-517/518/608 P to Q-13
4	M5 operation check	FSDB CN27<A>-1 to 6	FS-517/518/608 P to Q-11 to 12
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.6 C1104: Paper exit roller drive failure

Relevant electrical parts	
Paper exit roller motor (M7)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	M7 operation check	FSCB CN7<A>-1 to 11	FS-517/518/608 C-1
4	FSCB replacement	—	—

10.2.7 C1105: Paper exit drive failure

Relevant electrical parts	
Paper exit motor (M8) paper exit home sensor (PS12)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS12 I/O, sensor check	FSCB CN7<B>-8 (ON)	FS-517/518/608 C-3
4	M8 operation check	FSCB CN8<B>-3 to 4	FS-517/518/608 C-5
5	FSCB replacement	—	—

10.2.8 C1106: Stapler movement drive failure

Relevant electrical parts	
Stapler movement motor (M11) Stapler movement home sensor (PS11)	FNS control board (FSCB) FNS drive board (FSDB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS11 I/O, sensor check	FSDB CN27<A>-11 (ON)	FS-517/518/608 P to Q-12
4	M11 operation check	FSDB CN26-1 to 6	FS-517/518/608 P to Q-11
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.9 C1107: Stapler clincher rotation drive failure

Relevant electrical parts	
clincher rotation motor (M4) clincher rotation home sensor (PS14)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS14 I/O, sensor check	FSDB CN33<A>-12 (ON)	FS-517/518/608 P to Q-2
4	M4 operation check	FSDB CN33<A>-1 to 7	FS-517/518/608 P to Q-1
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.10 C1108: Stapler rotation motor drive failure

Relevant electrical parts	
Stapler rotation motor (M6) Stapler rotation home sensor (PS13)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS13 I/O, sensor check	FSDB CN34-10 (ON)	FS-517/518/608 P to Q-10 to 11
4	M6 operation check	FSDB CN34-1 to 7	FS-517/518/608 P to Q-10
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.11 C1109: Stapler F unit drive failure

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Staple unit replacement	—	—
4	FSDB replacement	—	—
5	FSCB replacement	—	—

10.2.12 C1110: Stapler R unit drive failure

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Staple unit replacement	—	—
4	FSDB replacement	—	—
5	FSCB replacement	—	—

10.2.13 C1111: Stapler F unit clincher drive failure

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Staple unit replacement	—	—
4	FSDB replacement	—	—
5	FSCB replacement	—	—

10.2.14 C1112: Stapler R unit clincher drive failure

Relevant electrical parts	
Stapler unit	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Staple unit replacement	—	—
4	FSDB replacement	—	—
5	FSCB replacement	—	—

10.2.15 C1113: Saddle stitching stopper motor drive failure

Relevant electrical parts	
Saddle stitching stopper motor (M18) Saddle stitching stopper home sensor (PS23)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS23 I/O, sensor check	FSDB CN30-5 (ON)	FS-517/518/608 I-14
4	M18 operation check	FSDB CN32-1 to 6	FS-517/518/608 I-10 to 11
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.16 C1114: Stapler side guide motor drive failure

Relevant electrical parts	
Alignment motor /Lw (M16) Alignment home sensor /Lw (PS24)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS24 I/O, sensor check	FSDB CN30-8 (ON)	FS-517/518/608 I-13
4	M16 operation check	FSDB CN31<A>-1 to 6	FS-517/518/608 I-12
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.17 C1115: Folding knife motor drive failure

Relevant electrical parts	
Folding knife motor (M19) Folding knife home sensor (PS22)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS22 I/O, sensor check	FSDB CN30-2 (ON)	FS-517/518/608 I-14
4	M19 operation check	FSDB CN31<A>-7 to 6	FS-517/518/608 I-11 to 12
5	FSDB replacement	—	—
6	FSCB replacement	—	—

10.2.18 C1116: Folding transfer motor drive failure

Relevant electrical parts	
Folding transfer motor (M20)	FNS drive board (FSDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	M20 operation check	FSDB CN31<B>-1 to 9	FS-517/518/608 I-11
4	FSDB replacement	—	—
5	FSCB replacement	—	—

10.2.19 C1137: Gate motor drive failure

Relevant electrical parts	
Gate motor (M12) Gate home sensor (PS16)	FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	PS16 I/O, sensor check	FSCB CN7<B>-11 (ON)	FS-517/518/608 C-3 to4
4	M12 operation check	FSCB CN8<A>-1 to 6	FS-517/518/608 C-4 to 5
5	FSCB replacement	—	—

10.2.20 CC155:Finisher ROM failure

Relevant electrical parts	
FNS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	FSCB replacement	—	—

10.2.21 CC157: Finisher ROM failure (RU)

Relevant electrical parts	
Transfer control board (TRCB) FNS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	TRCB replacement	—	—
4	FSCB replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PI-503

2007.08
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2007/08	2.0	△1	Error correction
2007/05	1.0	—	Issue of the first edition

CONTENTS

PI-503

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Name	Post inserter unit
Type	Torque limiter separation type seat feeding device

B. Functions

Auto sheet feeding (online operation)	Feeds the sheet to finisher automatically under the instruction from the main body.
Manual sheet feeding (offline operation)	Feeds the sheet to finisher under the instruction from the operation panel of PI. You can select the following 5 post processing modes: • 1 staple/back mode • 2 staples (flat-stapling) mode • Punch mode (when PK-512/PK-513 is installed on finisher) • Saddle stitching mode (when installed on FS-608) • Tri-folding mode (when installed on FS-608)

C. Paper type

Size	Tray /Up	A4/A4S, B5/B5S, A5 8 $^{1}/_{2}$ x 11, 8 $^{1}/_{2}$ x 11S, 5 $^{1}/_{2}$ x 8 $^{1}/_{2}$, 7 $^{1}/_{4}$ x 10 $^{1}/_{2}$S, 16K, 16KS Custom paper (Max. 311.1 x 297 mm, Min. 182 x 139 mm)
	Tray /Lw	A3, B4, A4/A4S, B5/B5S, A5 8 x 13S, 8 $^{1}/_{4}$ x 13S, 8 $^{1}/_{2}$ x 13S, 8 $^{1}/_{8}$ x 13 $^{1}/_{4}$S, 12 x 18, 11 x 17, 8 $^{1}/_{2}$ x 14, 8 $^{1}/_{2}$ x 11, 8 $^{1}/_{2}$ x 11S, 5 $^{1}/_{2}$ x 8 $^{1}/_{2}$, 8K, 16K, 16KS, 7 $^{1}/_{4}$ x 10 $^{1}/_{2}$, 7 $^{1}/_{4}$ x 10 $^{1}/_{2}$S Custom paper (Max. 311.1 x 457.2 mm, Min. 182 x 139 mm)
Type	Plain paper, recycle paper, color paper, special paper, coated paper, high-quality paper	
Weight	64 g/m^2 to 209 g/m^2	
Capacity	Tray /Up	200 sheets (80 g/m^2) or 30 mm or less in height
	Tray /Lw	200 sheets (80 g/m^2) or 30 mm or less in height

D. Machine specifications

Power requirements	DC 24 V, DC 5 V (supplied from the main body)
Max. power consumption	30 W or less
△1 Dimensions	511 mm (W) x 635 mm (D) x 220 mm (H) 20 inch (W) x 25 inch (D) x 8.75 inch (H)
Weight	10.5 kg (23.25 lb)

E. Operating environment

- Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

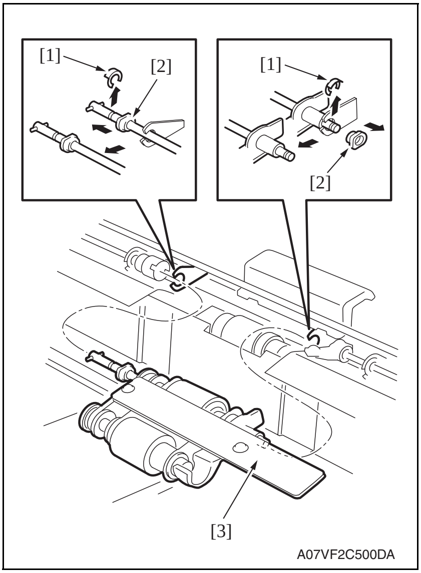
2.1.1 Replacing the pick-up roller /Up and the feed roller /Up

A. Periodically replaced parts/cycle

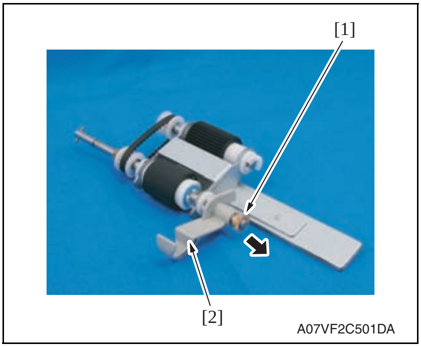
- Pick-up roller /Up: Every 200,000 prints
- Feed roller /Up: Every 100,000 prints

B. Replacing procedure

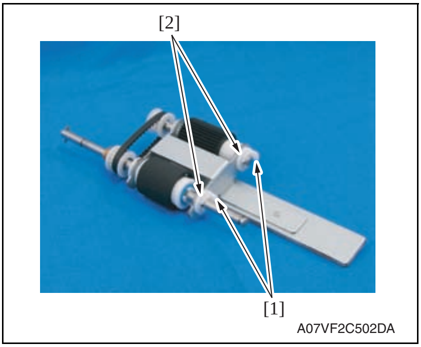
1. Remove the upper cover.
   See P.9



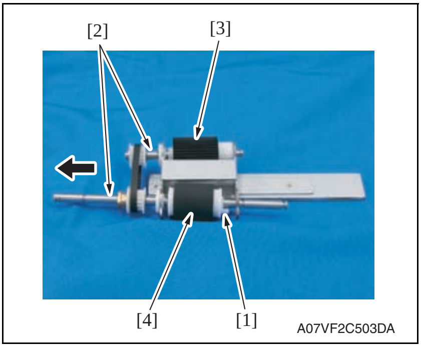
2. Remove two C-clips [1], and then slide two bearings [2] at the both sides and remove the feed roller assy /Up [3].



3. Remove the bearing [1] and remove the actuator [2].



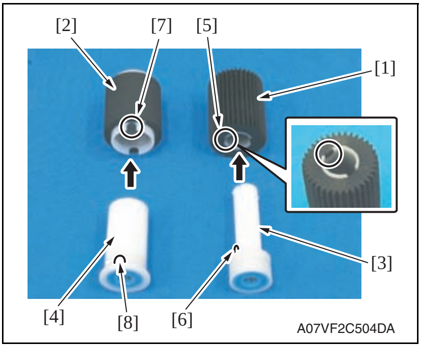
4. Remove two C-clips [1] and remove two bearings [2].



5. Remove the C-clip [1].
6. Slide two roller shafts [2] to the arrow-marked direction to remove the pick-up roller /Up [3] and the feed roller /Up [4].

NOTE

- **Reinstalling the pick-up roller and the feed roller with the blue faces of the one-way clutches of the pick-up roller and the feed roller face to the front.**



7. Remove the pick-up roller [1] and the feed roller [2] from the one-way clutches [3] and [4].

NOTE

- **When reinstalling the pick-up roller [1], be sure to insert its cutout [5] over the protrusion [6] of the one-way clutch [3].**
- **When reinstalling the feed roller [2], be sure to insert its cutout [7] over the protrusion [8] of the one-way clutch [4].**

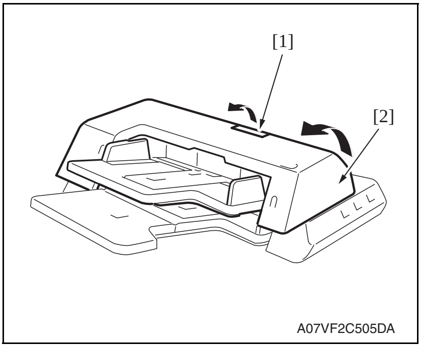
8. To reinstall, reverse the order of removal.

2.1.2 Replacing the pick-up roller /Lw and the feed roller /Lw

A. Periodically replaced parts/cycle

- Pick-up roller /Lw: Every 200,000 prints
- Feed roller /Lw: Every 100,000 prints

B. Replacing procedure



1. Pull the release lever [1] and open the upper door [2].
2. Take steps 2 to 7 in the replacement procedure of the pick-up roller /Up and feed roller /Up.
   See P.3
3. To reinstall, reverse the order of removal.

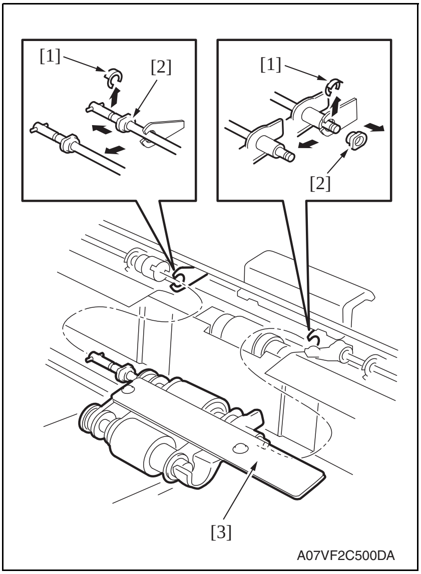
2.1.3 Replacing the separation roller /Up and the torque limiter /Up

A. Periodically replaced parts/cycle

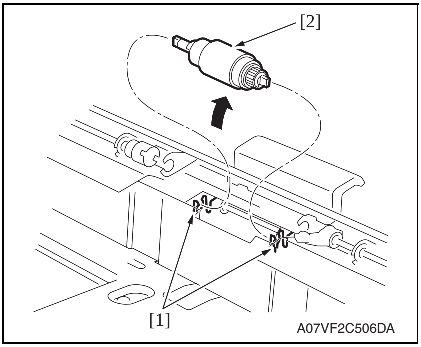
- Separation roller /Up: Every 100,000 prints
- Torque limiter /Up: Every 600,000 prints

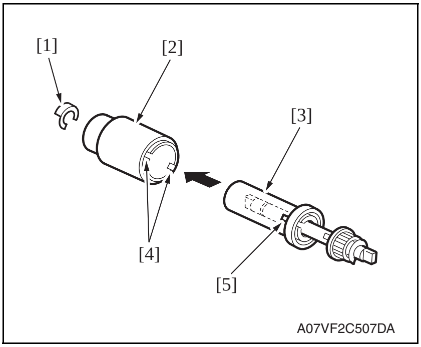
B. Replacing procedure

1. Remove the upper cover.
   See P.9
2. Remove two C-clips [1], and then slide two bearings [2] at the both sides and remove the feed roller assy /Up [3].



3. Release hooks [1] at the both sides, and then lift up and remove the separation roller assy /Up [2].





4. Remove the C-clip [1] and remove the separation roller /Up [2] and the torque limiter /Up [3].

NOTE

- **Install the separation roller with two notches [4] face to the front and be aligned with the prong [5].**

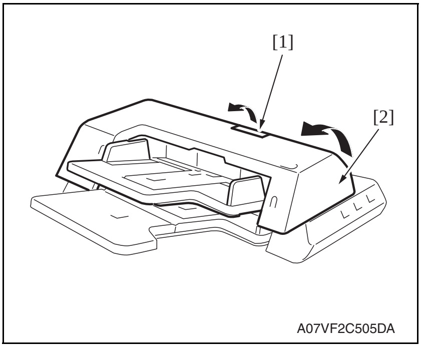
5. To reinstall, reverse the order of removal.

2.1.4 Replacing the separation roller /Lw and the torque limiter /Lw

A. Periodically replaced parts/cycle

- Separation roller /Lw: Every 100,000 prints
- Torque limiter /Lw: Every 600,000 prints

B. Replacing procedure



1. Pull the release lever [1] and open the upper door [2].
2. Take steps 2 to 4 in the replacement procedure of the separation roller /Up and torque limiter /Up.
   See P.6
3. To reinstall, reverse the order of removal.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

3.2.1 Disassembly/Assembly parts list

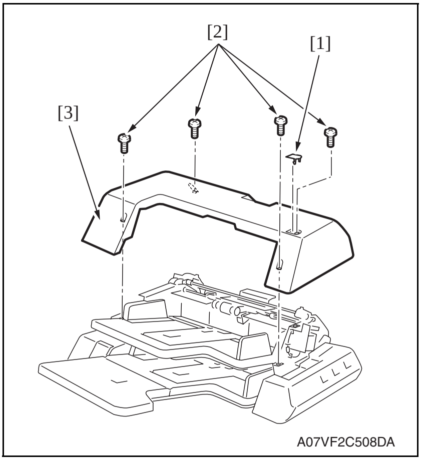
No	Section	Part name	Ref. page
1	Exterior parts	Upper cover	P.9
2		Rear cover	P.10
3		Operation panel cover assy	P.10
4	Unit	Post inserter	P.11
5	Board and etc.	PI drive board (PIDB)	P.12
6		PI control board (PIOB)	P.13

3.2.2 Cleaning parts list

No	Section	Part name	Ref. page
1	Feed section	Pick-up roller /Up	P.13
2		Pick-up roller /Lw	P.14
3		Feed roller /Up	P.13
4		Feed roller /Lw	P.14
5		Separation roller /Up	P.13
6		Separation roller /Lw	P.14
7	Transport section	Transport roller /Up	P.16
8		Transport roller /Lw	P.16

3.3 Disassembly/Assembly procedure

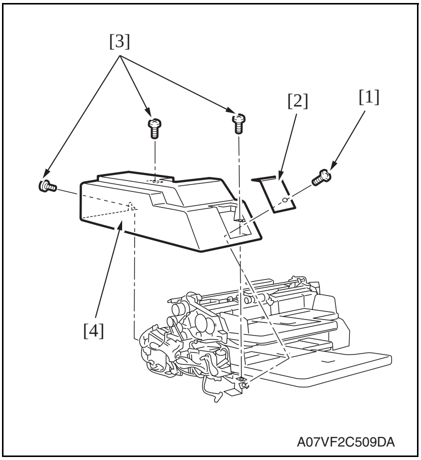
3.3.1 Upper cover



1. Remove the cap [1].
2. Remove four screws [2] and remove the upper cover [3].

3.3.2 Rear cover

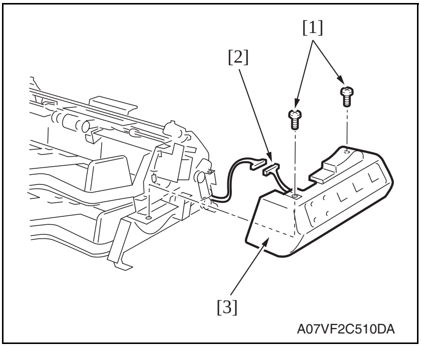
1. Remove the upper cover.
   See P.9



2. Remove the screw [1] and remove the connector cover [2].
3. Remove three screws [3] and remove the rear cover [4].

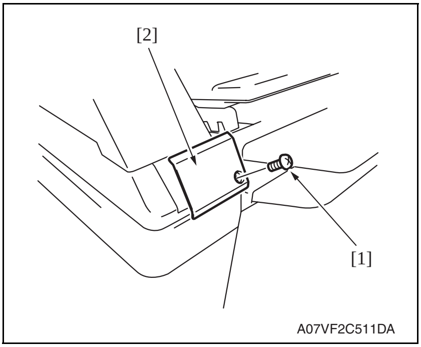
3.3.3 Operation panel cover assy

1. Remove the upper cover.
   See P.9

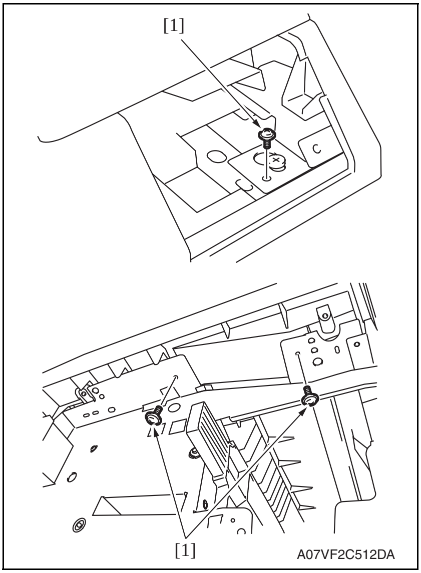


2. Remove two screws [1], disconnect the connector [2] and remove the operation panel assy [3].

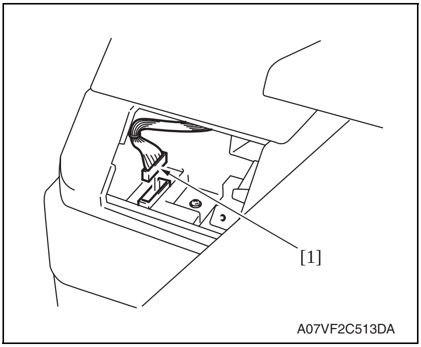
3.3.4 Post inserter



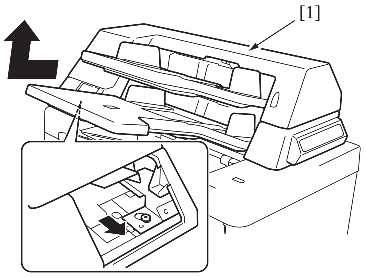
1. Remove the screw [1] and remove the connector cover [2].



2. Open the front door of the finisher.
3. Remove three screws [1].



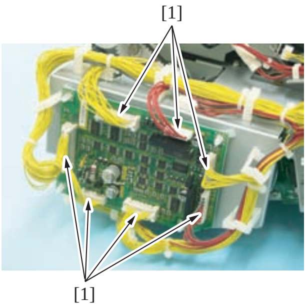
4. Disconnect the connector [1].



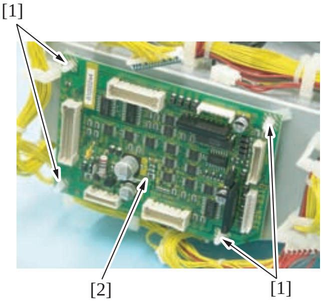
5. Slide the post inserter [1] in the direction of arrow and remove it.

3.3.5 PI drive board (PIDB)

1. Remove the rear cover.
   See P.10



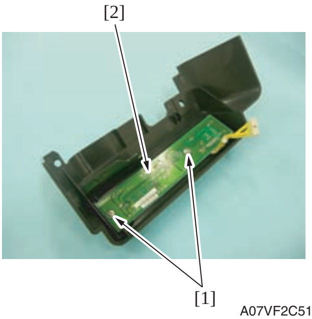
2. Disconnect seven connectors [1] from the PI drive board.



3. Remove four board supports [1] and remove the PI drive board [2].

3.3.6 PI control board (PIOB)

1. Remove the operation panel cover assy.
See P.10



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2. Remove two screws [1] and remove the PI control board [2].

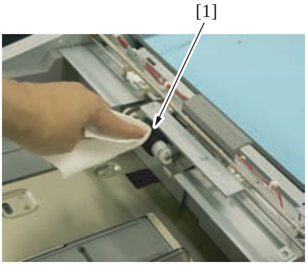
3.4 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

3.4.1 Pick-up roller /Up, feed roller /Up, separationroller /Up

1. Remove the upper cover.
See P.9



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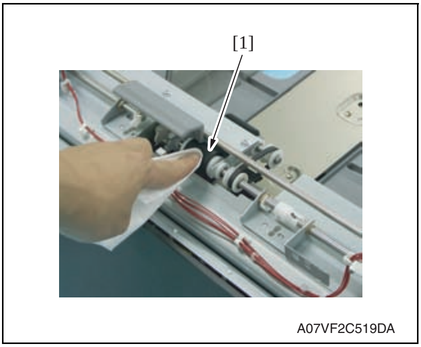
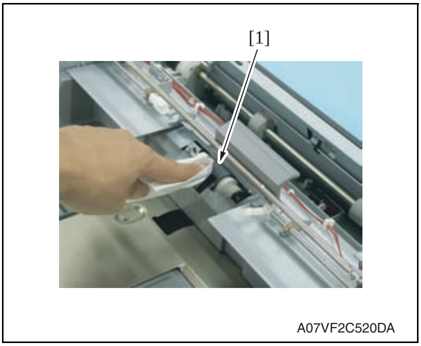
2. Using a cleaning pad dampened with alcohol, wipe the pick-up roller /Up [1] clean of dirt.



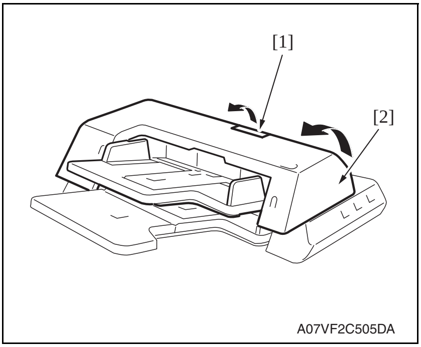
3. Using a cleaning pad dampened with alcohol, wipe the feed roller /Up [1] clean of dirt.

4. Remove the separation roller assy /Up.
See P.6

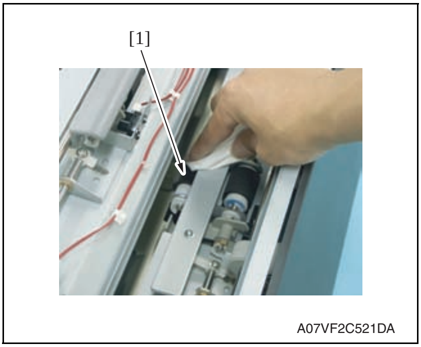


5. Using a cleaning pad dampened with alcohol, wipe the separation roller /Up [1] clean of dirt.

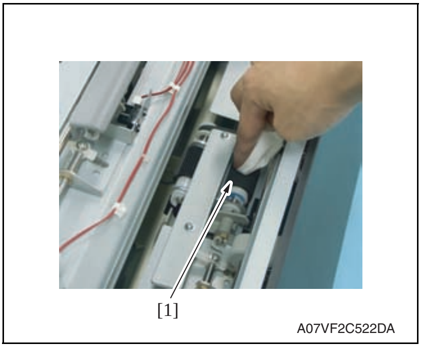
3.4.2 Pick-up roller /Lw, feed roller /Lw, separationroller /Lw



1. Pull the release lever [1] and open the upper door [2].

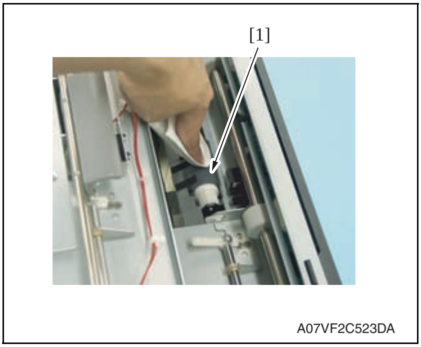


2. Using a cleaning pad dampened with alcohol, wipe the pick-up roller /Lw [1] clean of dirt.



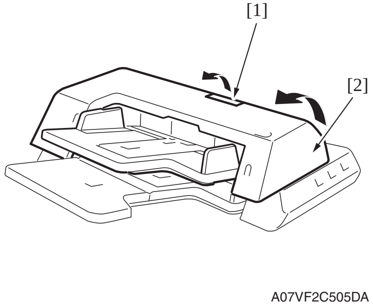
3. Using a cleaning pad dampened with alcohol, wipe the feed roller /Lw [1] clean of dirt.

4. Remove the separation roller assy /Lw.
   See P.6

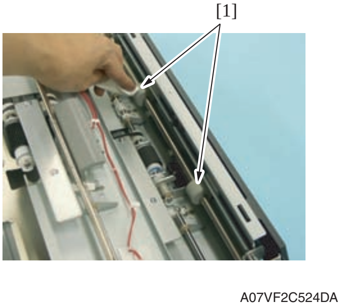


5. Using a cleaning pad dampened with alcohol, wipe the separation roller / Lw [1] clean of dirt.

3.4.3 Transport roller /Up



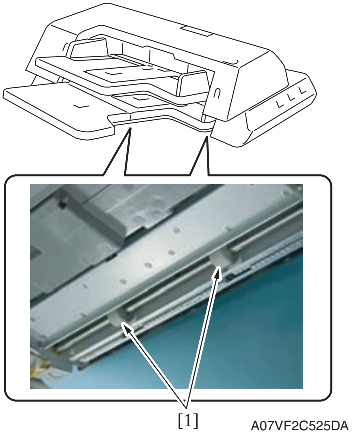
1. Pull the release lever [1] and open the upper door [2].



2. Using a cleaning pad dampened with alcohol, wipe the transport roller /Up [1] clean of dirt.

3.4.4 Transport roller /Lw

1. Remove the post inserter.
   See P.11



2. Using a cleaning pad dampened with alcohol, wipe the transport roller /Lw [1] clean of dirt.

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Utility Mode

5.1 Utility Mode function tree

NOTE

- **This setting menu contains only the cases in which the PI-503 is mounted.**

Utility Mode				Ref. page
User Settings	System Settings	Paper Tray Settings	Cover Sheet Feeder Setting	P.18

5.2 User Settings

5.2.1 System Settings

A. Paper Tray Settings

(1) Cover Sheet Feeder Setting

Functions	• To set paper feed tray, paper size, and paper type used in the post inserter. • The settings take effect only when the post inserter is installed.
Use	
Setting/ Procedure	[Paper Tray] • The default setting is F1. "F1" F2 [Paper Type] • The default setting is Plain Paper. "Plain Paper" Thick 1 Thick 1+ Thick 2 [Paper Size] • The default setting is Auto Detect. "Auto Detect" Standard Size Custom Size

6. Sensor Check

6.1 Check procedure

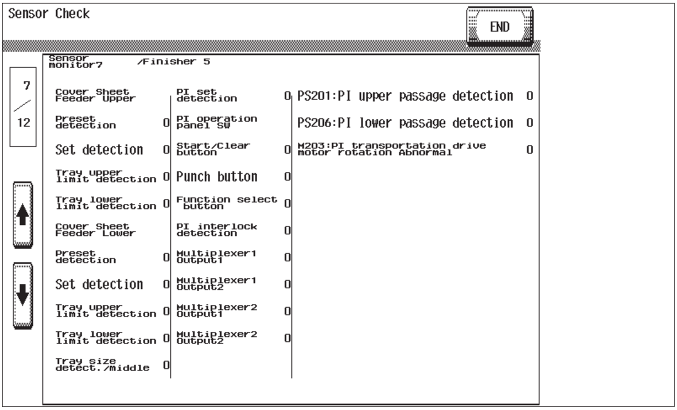
- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State confirmation].
3. Touch [Sensor Check].
4. Touch [↓] six times.

6.1.1 Sensor check screens

- These are only typical screens which may be different from what are shown on each individual machine.



Sensor monitor7 /Finisher 5

Cover Sheet Feeder Upper		PI set detection	0	PS201:PI upper passage detection	0
Preset detection	0	PI operation panel SW		PS206:PI lower passage detection	0
Set detection	0	Start/Clear button	0	M203:PI transportation drive motor rotation Abnormal	0
Tray upper limit detection	0	Punch button	0		
Tray lower limit detection	0	Function select button	0		
Cover Sheet Feeder Lower		PI interlock detection	0		
Preset detection	0	Multiplexer1 Output1	0		
Set detection	0	Multiplexer1 Output2	0		
Tray upper limit detection	0	Multiplexer2 Output1	0		
Tray lower limit detection	0	Multiplexer2 Output2	0		
Tray size detect./middle	0				

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6.1.2 Sensor check list

A. Sensor monitor 7

Symbol	Panel display			Part/signal name	Operation characteristics/panel display	
					1	0
PS202	Finisher 5	Cover Sheet Feeder Upper	Preset detection	Paper empty sensor /Up	Paper not present	Paper present
PS203			Set detection	Paper set sensor /Up	Paper not present	Paper present
PS204			Tray upper limit detection	Tray upper limit sensor /Up	At lower upper position	Not at upper limit position
PS205			Tray lower limit detection	Tray lower limit sensor /Up	At lower limit position	Not at lower limit position
PS207		Cover Sheet Feeder Lower	Preset detection	Paper empty sensor /Lw	Paper not present	Paper present
PS208			Set detection	Paper set sensor /Lw	Paper not present	Paper present
PS209			Tray upper limit detection	Tray upper limit sensor /Lw	At lower upper position	Not at upper limit position
PS210			Tray lower limit detection	Tray lower limit sensor /Lw	At lower limit position	Not at lower limit position
PS212			Tray size detect. /middle	L size sensor /Lw	Paper not present	Paper present
—		PI set detection		—	Installation	Uninstallation
PIOB		PI operation panel SW	Start/Clear button	Post inserter unit manual start/ clear SW	OFF	ON
			Punch button	Post inserter unit manual punch button SW	OFF	ON
			Function select button	Post inserter unit manual function selection button SW	OFF	ON
—		PI interlock detection		—	—	—
—		Multiplexer1 Output1		—	—	—
—		Multiplexer1 Output2		—	—	—
—		Multiplexer2 Output1		—	—	—
—		Multiplexer2 Output2		—	—	—
PS201		PS201:PI upper passage detection		Paper entrance sensor /Up	Paper present	Paper not present
PS206		PS206:PI lower passage detection		Paper entrance sensor /Lw	Paper present	Paper not present
M203		PI203:PI transportation drive motor rotation Abnormal		Transfer motor	Halted	Rotating

7. Finisher

7.1 FS-FN adjustment

7.1.1 Punch Resist Loop Size (PI)

Functions	• To adjust the loop size used for punch registration in the post inserter upper and lower trays.
Use	• To address problems such as misaligned punch holes, wrinkled paper, and jam at the punch registration section.
Adjustment instructions	• Misaligned punched holes: Enter a positive value. • Wrinkled paper: Enter a negative value.
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [FS-FN adjustment]. *4.* Touch [Punch Resist Loop Size (PI)]. *5.* Touch [Upper] or [Lower]. *6.* Set the correction value using the [+]/[-] keys. *7.* Touch [OK] twice to return. *8.* Touch [Exit] on the Service Mode screen. *9.* Turn OFF the main power switch, wait for 10 sec., then turn the switch ON. *10.*Make a copy again and check the deviation of punch hole position. *11.*If the above adjustment does not resolve the problems, perform the punch hole deviation correction. See P.15 of the PK-512/513 service manual.

7.1.2 Cover Sheet Tray Size Detection

Functions	• To specify paper sizes that the cover sheet feeder detects.
Use	• To set a paper size with which size detection is made when a paper having a similar size is placed on the feeder.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [FS-FN adjustment]. *4.* Touch [Cover Sheet Tray Size Detection]. *5.* Touch [Mode 1]. *6.* Select a desired paper size with which size detection is made. *7.* Make the same setting in [Mode 2] to [Mode 6]. *8.* Touch [END] twice. *9.* Touch [Exit] on the Service Mode screen. *10.*Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

7.1.3 Cover Sheet Feeder Adj.

Functions	• To make automatic cover sheet feeder size detection adjustments separately in each of the upper and lower trays.
Use	• Make this adjustment at the time of setup or when the cover sheet feeder cannot make proper size detection.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [FS-FN adjustment]. *4.* Touch [Cover Sheet Feeder Adj.]. *5.* Touch [Upper Tray]. *6.* Place A4S paper on the upper tray and touch [A4 ▭]. *7.* Press the Start key. *8.* Make sure that [Adj. Result] is [OK]. *9.* Touch [Lower Tray]. *10.* Place A4S paper on the lower tray and touch [A4 ▭]. *11.* Press the Start key. *12.* Make sure that [Adj. Result] is [OK]. *13.* Touch [END] twice. *14.* Touch [Exit] on the Service Mode screen. *15.* Turn OFF the main power switch. then, wait for 10 sec. or more and turn ON the main power switch.

8. Mechanical adjustment

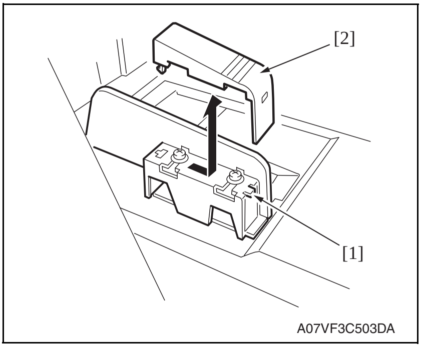
8.1 PI displacement adjustment (with PK-512/PK-513 installed)

- Conduct this adjustment when the punch position is displaced when feeding from PI.

NOTE

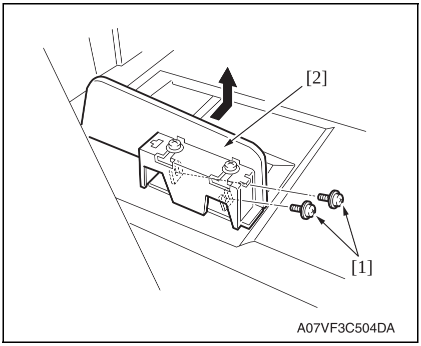
- **Punch hole deviation correction must be completed before making this adjustment.**
  See P.15 of the PK-512/513 service manual.
- **Centering adjustment of the tray 1/2/3/4 must be completed before making this adjustment.**
  See P.569 of the main body service manual.
  See P.570 of the main body service manual.
- **In the PI displacement adjustment, adjust the tray /Up, and then adjust the tray /Lw.**

1. Set three sheets of paper in the tray of the PI, and then feed them in the punch mode as samples.
2. Fold the sheets in half at the center and check the misalignment of the punch holes.



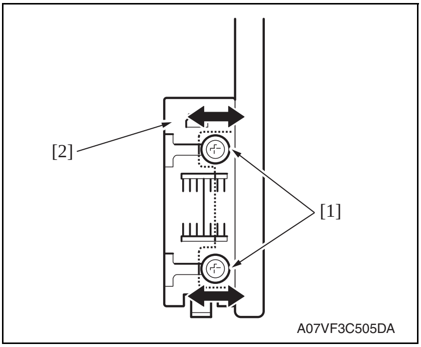
<In the upper tray case>

3. Release the hook [1], and remove the adjustment cover [2].



<In the lower tray case>

3. Remove the adjustment cover in the same way as the upper tray case. Remove two screws [1], slide the side guide plate /Rr [2] to the front, and remove it.

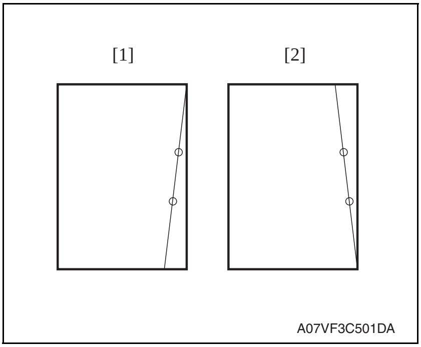


4. Loosen two adjustment screws [1] on the side guide plate /Rr [2] and slide the side guide plate /Rr twice as long as the misalignment of the punch hole position (for example, if the misalignment is 1.5 mm to the rear, slide 3 mm to the rear).
   1 index: 2 mm
5. Fully tighten the adjustment screws to secure the side guide plate /Rr.
6. For the tray /Lw, reinstall the side guide plate /Rr with two screws.
7. Repeat step 1 to 6 until the misalignment of the punch holes is corrected.
8. Reinstall the adjustment cover.
9. In the service mode, perform [Cover Sheet Feeder Adj.].
   See P.22

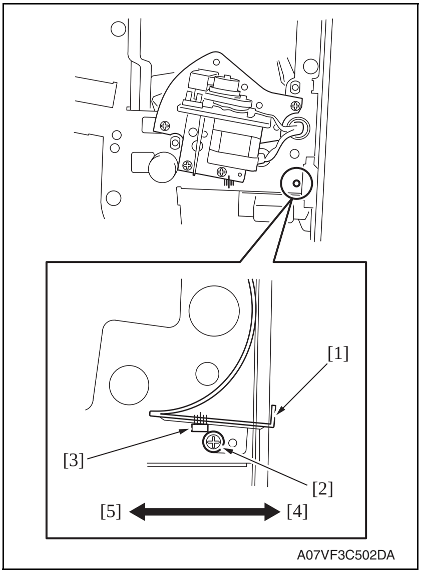
8.2 PI tilt adjustment (with PK-512/PK-513 installed)

- Conduct this adjustment if the edge of the paper and the punch hole position of the paper fed from PI is not in parallel.

1. Set three sheets of paper in the tray of the PI, and then feed them in the punch mode as samples.



2. Fold the sheets in half and check the tilt of the punch holes.
   [1]: The front is wider
   [2]: The back is wider



3. Open the front door of finisher, and then loosen the screw [2] of the guide plate [1].
4. Adjust the guide plate [1] in accordance with the misalignment of the punch holes by referring to the mark [3].
   The back is wider: Move to [4]
   The front is wider: Move to [5]
5. Tighten the screw [2].
6. Repeat step 1 to 5 until the tilt of the punch holes is corrected.

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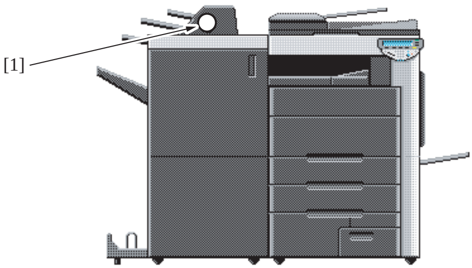
Troubleshooting

9. Jam display

9.1 Misfeed display

- When misfeed occurs, message, misfeed location "Blinking" and paper location "Lighting" are displayed on the touch panel of the main unit.

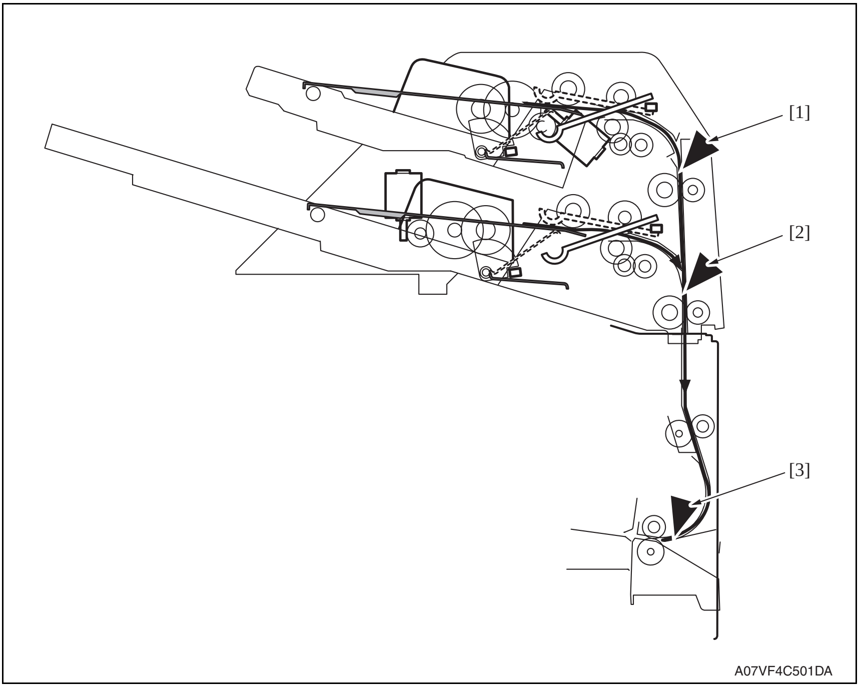


Display	Code	Misfeed processing location	Action
[1]	7235	Upper door	P.29
	7249	Upper door	P.29
	7250	Upper door	P.30
	7251	Upper door	P.30

9.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

9.2 Sensor layout



[1]	Paper entrance sensor /Up	PS201
[2]	Paper entrance sensor /Lw	PS206
[3]	FNS entrance sensor	PS4

9.3 Solution

9.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp.	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

9.3.2 Code: 7235

A. Detection timing

Description
The paper entrance sensor /Lw (PS206) is not turned ON by the passage of paper after a lapse of predefined time after the transfer clutch /Lw (CL202) is turned ON.

B. Action

Relevant electrical parts	
Transfer clutch /Lw (CL202) Paper entrance sensor /Lw (PS206)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS206 I/O, sensor check	PIDB PJ53PIDB<A>-11 (ON)	PI-503 C-8
3	CL202 operation check	PIDB PJ56PIDB-6 (ON)	PI-503 C-7
4	PIDB replacement	—	—
5	FSCB replacement	—	—

9.3.3 Code: 7249

A. Detection timing

Description
The paper entrance sensor /Up (PS201) is not turned ON by the passage of paper after a lapse of predefined time after the transfer clutch /Up (CL201) is turned ON.

B. Action

Relevant electrical parts	
Transfer clutch /Up (CL201) Paper entrance sensor /Up (PS201)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS201 I/O, sensor check	PIDB PJ55PIDB<A>-9 (ON)	PI-503 C-5
3	CL201 operation check	PIDB PJ54PIDB-6 (ON)	PI-503 C-4
4	PIDB replacement	—	—
5	FSCB replacement	—	—

9.3.4 Code: 7250

A. Detection timing

Description
The FNS entrance sensor (PS4) is not turned ON after a lapse of predefined time after the paper entrance sensor /Up (PS201) is turned ON by the passage of paper.

B. Action

Relevant electrical parts	
Paper entrance sensor /Up (PS201) FNS entrance sensor (PS4)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS201 I/O, sensor check	PIDB PJ55PIDB<A>-9 (ON)	PI-503 C-5
3	PS4 I/O, sensor check	FSCB CN7FSCB<A>-13 (ON)	FS-517/608 C-3
4	PIDB replacement	—	—
5	FSCB replacement	—	—

9.3.5 Code: 7251

A. Detection timing

Description
The FNS entrance sensor (PS4) is not turned ON after a lapse of predefined time after the paper entrance sensor /Lw (PS206) is turned ON by the passage of paper.

B. Action

Relevant electrical parts	
Paper entrance sensor /Lw (PS206) FNS entrance sensor (PS4)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS206 I/O, sensor check	PIDB PJ53PIDB<A>-11 (ON)	PI-503 C-8
3	PS4 I/O, sensor check	FSCB CN7FSCB<A>-13 (ON)	FS-517/608 C-3
4	PIDB replacement	—	—
5	FSCB replacement	—	—

10. Malfunction code

10.1 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Malfunction code	Detection timing	Trouble isolation compliant unit	Rank
C1124	Sheet feeder up/down drive failure (lower)	The tray upper limit sensor /Lw (PS209) or tray lower limit sensor /Lw (PS210) are not turned ON even after the set period of time has elapsed after the tray lift motor /Lw (M202) is energized.	Post Inserter	B
C1125	Sheet feeder up/down drive failure (upper)	The tray lower limit sensor /Up (PS205) or tray upper limit sensor /Up (PS204) are not turned ON even after the set period of time has elapsed after the tray lift motor /Up (M201) is energized.	Post Inserter	B
C1126	Sheet feeder transportation drive failure	The transfer motor (M203) speed does not reach a specified level after a lapse of predefined time after the transfer motor is turned ON.	Post Inserter	B
C1132	Output op punch driving motor malfunction	The after punch home sensor (PS301) is not turned ON after a lapse of a given time after the punch motor (M301) is turned ON.	Post Inserter, Punch	B

10.2 Solution

10.2.1 C1124: Sheet feeder up/down drive failure (lower)

Relevant electrical parts	
Tray lift motor /Lw (M202) Tray upper limit sensor /Lw (PS209)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M202 connector for proper connection and correct as necessary.	—	—
2	Check the M202 connector for proper drive coupling and correct as necessary.	—	—
3	PS209 I/O, sensor check	PIDB PJ53PIDB<A>-14 (ON)	PI-503 C-9
4	M202 operation check	PIDB PJ56PIDB-1 to 2	PI-503 C-8
5	M202 replacement	—	—
6	PIDB replacement	—	—
7	FSCB replacement	—	—

10.2.2 C1125: Sheet feeder up/down drive failure (upper)

Relevant electrical parts	
Tray lift motor /Up (M201) Tray lower limit sensor /Up (PS205)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M201 connector for proper connection and correct as necessary.	—	—
2	Check the M201 connector for proper drive coupling and correct as necessary.	—	—
3	PS205 I/O, sensor check	PIDB PJ55PIDB<A>-12 (ON)	PI-503 C-6
4	M201 operation check	PIDB PJ54PIDB-1 to 2	PI-503 C-4
5	M201 replacement	—	—
6	PIDB replacement	—	—
7	FSCB replacement	—	—

10.2.3 C1126: Sheet feeder transportation drive failure

Relevant electrical parts	
Transfer motor (M203)	PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M203 connector for proper connection and correct as necessary.	—	—
2	Check the M203 connector for proper drive coupling and correct as necessary.	—	—
3	M203 operation check	PIDB PJ52PIDB<A>-14 to 19	PI-503 C-2 to 3
4	M203 replacement	—	—
5	PIDB replacement	—	—
6	FSCB replacement	—	—

10.2.4 C1132: Output OP punch driving motor malfunction

Relevant electrical parts	
Punch motor (M301) Punch home sensor (PS301)	Punch drive board (PDB) PI drive board (PIDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	When a setting other than [two holes] is set in [Punch option setting] accessed by [Service Mode] - [Finisher], change the setting to [two holes]. If changing the setting, turn OFF the main power switch and turn it ON again after 10 seconds or more.	—	—
2	Check the M301 connector for proper connection and correct as necessary.	—	—
3	Check the M301 connector for proper drive coupling and correct as necessary.	—	—
4	PS301 I/O, sensor check	PDB CN46PDB-5 (ON)	PK-511/512/513 C-3
5	M301 operation check	PDB CN45PDB-1 (DRV1) PDB CN45PDB-3 (DRV2)	PK-511/512/513 C-2 to 3
6	M301 replacement	—	—
7	PDB replacement	—	—
8	PIDB replacement	—	—
9	FSCB replacement	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PK-512/513

2007.02

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2007/02	1.0	—	Issue of the first edition

CONTENTS

PK-512/513

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specifications

A. Type

Name	Punch unit
Type	FS-integrated type punching operation device

B. Functions

Punching method	Stops and punches every paper	
No. of holes	PK-512	2-3 holes / 2-4 holes
	PK-513	4 holes
Hole diameter	ϕ 8.0 mm (2-3 holes), ϕ 6.5 mm (2-4 holes)	
Supported mode	Punch mode, through mode	
Applicable post processing mode	Sort, group, staple	

C. Paper type

Size	2 hole punch setting: A3, B4, A4/A4S, B5/B5S, A5/A5S 8 x 13, $8\ ^{1}/_{4}$ x 13, $8\ ^{1}/_{2}$ x 13, $8\ ^{1}/_{8}$ x $13\ ^{1}/_{4}$, 11 x 17, $8\ ^{1}/_{2}$ x 14, $8\ ^{1}/_{2}$ x 11/$8\ ^{1}/_{2}$ x 11S, $5\ ^{1}/_{2}$ x $8\ ^{1}/_{2}$S, 8K, 16K/16KS $7\ ^{1}/_{4}$ x $10\ ^{1}/_{2}$, $7\ ^{1}/_{4}$ x $10\ ^{1}/_{2}$S 3 hole/4 hole punch setting: A3, B4, A4, B5 11 x 17, $8\ ^{1}/_{2}$ x 11, $7\ ^{1}/_{4}$ x $10\ ^{1}/_{2}$, 8K, 16K
Supported paper	Plain paper, bond paper, colored paper, coated paper (Main unit specifications prioritized)
Weight	64 to 128 g/m^2
Punch prohibited paper	Label paper, tab paper, transparency film, 2nd base paper, holed paper, and the other paper that may interfere with the operation of the punch unit or the punch blade

D. Machine specifications

Power requirements	DC 24 V (supplied from the main body)
	DC 5 V (supplied from the main body)
Max. power consumption	40 W or less
Dimensions	130 mm (W) x 470 mm (D) x 115 mm (H) 5 inch (W) x 18.5 inch (D) x 4.5 inch (H)
Weight	3.0 kg (6.5 lb)

E. Operating environment

- Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

- Periodically replaced parts are not employed.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly/Cleaning list (Other parts)

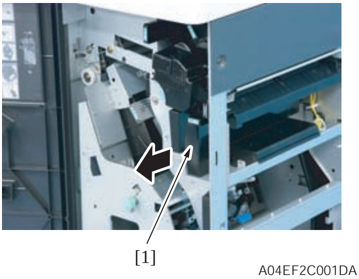
3.2.1 Disassembly/Assembly parts list

No	Section	Part name	Ref. page
1	Punch kit	Punch kit	P.5

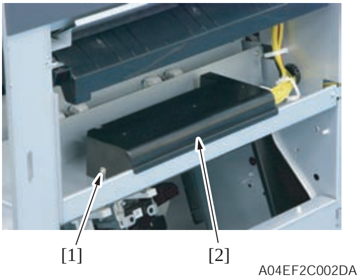
3.3 Disassembly/Assembly procedure

3.3.1 Punch kit

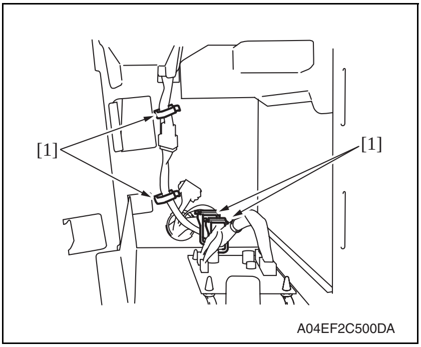
1. Remove the finisher from the main body.
   See P.31 of the FS-517/518/608 service manual.
2. Open the front door.



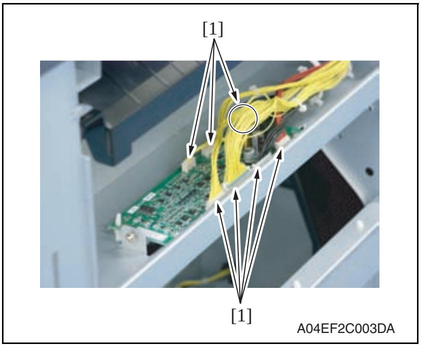
3. Slide the punch scraps box [1] out and remove it.



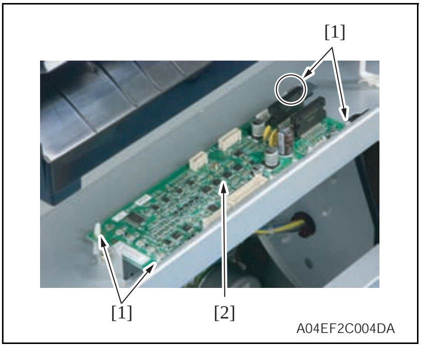
4. Loosen the screw [1] and remove the board cover [2].



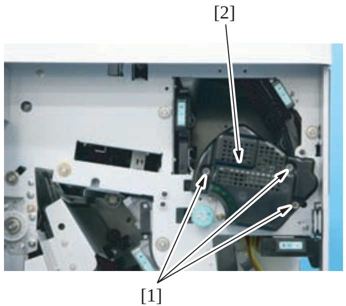
5. Remove the harness from four wire saddles [1].



6. Remove seven connectors [1] from the board.



7. Remove four board supports [1] and remove the punch drive board [2].



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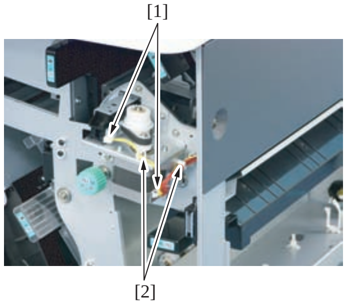
8. Remove three screws [1] and remove the punch kit cover [2].



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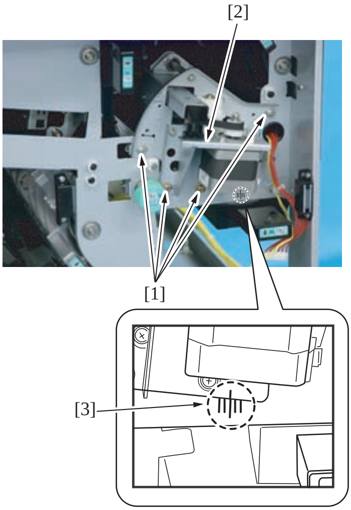
9. Remove two connectors [1] from the front side of the punch kit.
   Remove the harness from two wire saddles [2].



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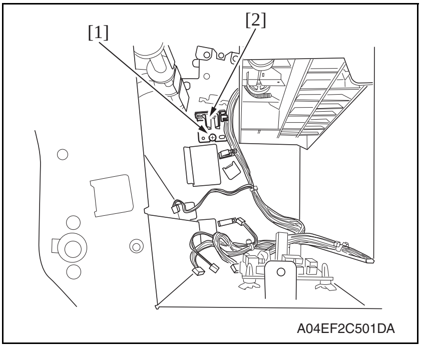
10. Remove four screws [1] and remove the punch kit [2].

NOTE

- **When reinstalling the punch kit, align the mark [3] of the punch kit with the center of the markings on the housing.**
- **When removing the punch kit, take care not to get the wire bundles damaged or broken.**



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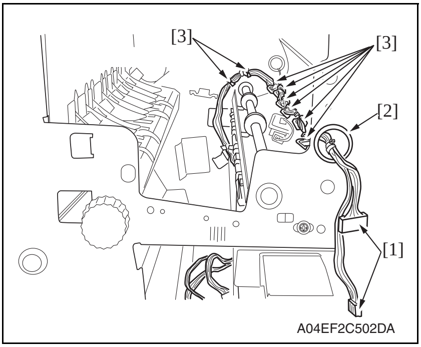
11. Loosen the screw [1] and remove the sensor [2].



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12. Bring the front side two connectors [1] inside through the hole [2].
13. Remove the harness from eight wire saddles [3].

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor Check

5.1 Check procedure

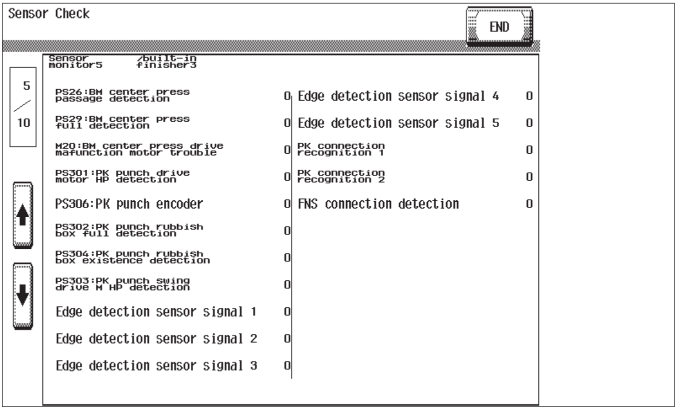
- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch [↓] four times.

B. Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



PS26:BM center press passage detection	0
PS29:BM center press full detection	0
M20:BM center press drive mafunction motor trouble	0
PS301:PK punch drive motor HP detection	0
PS306:PK punch encoder	0
PS302:PK punch rubbish box full detection	0
PS304:PK punch rubbish box existence detection	0
PS303:PK punch swing drive M HP detection	0
Edge detection sensor signal 1	0
Edge detection sensor signal 2	0
Edge detection sensor signal 3	0
Edge detection sensor signal 4	0
Edge detection sensor signal 5	0
PK connection recognition 1	0
PK connection recognition 2	0
FNS connection detection	0

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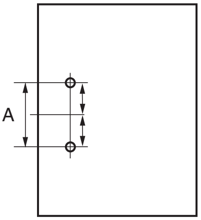
C. Sensor check list

Symbol	Panel display	Part/signal name	Operation characteristics/ panel display			
			1		0	
PS301	PK punch drive motor HP detecti	Punch home sensor	Other than HP		HP	
PS306	PK punch encoder	–	–		–	
PS302	PK punch rubbish box full detection	Scraps box full sensor	Other than full		Full	
PS304	PK punch rubbish box existence detection	Scraps box set sensor	Set		Other than set	
PS303	PK punch swing drive M HP detection	Punch shift home sensor	HP		Other than HP	
PS305	Edge detection sensor signal 1	Paper size detect board	Paper not present		Paper present	
	Edge detection sensor signal 2					
	Edge detection sensor signal 3					
	Edge detection sensor signal 4					
	Edge detection sensor signal 5					
-	PK connection recognition 1	PK connection signal	0	Connection	1	No connection
-	PK connection recognition 2		1		1	

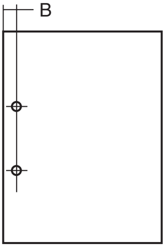
6. Finisher

6.1 FS-FN adjustment

6.1.1 Punch Vertical Position

Functions	• Adjusts the vertical position of the punch holes
Use	• To change the vertical position of the punch holes
Adjustment Specification	• Make a copy in the punch mode and make an adjustment so that 1/2 of the length A is within the following standard range.  A04EF3C502DA • Specifications: A=80 ± 0.5 mm (Interval between the holes unadjustable), 1/2 of the vertical length A ± 1.0 mm • Adjustment range: -5.0 mm to +5.0 mm (1 step=0.1 mm)
Adjustment instructions	• To move the hole position upward: Enter a positive value. • To move the hole position downward: Enter a negative value.
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Finisher]. *3.* Touch [FS-FN adjustment]. *4.* Touch [Punch Vertical Position]. *5.* Touch [ALL]. **NOTE** • **To make an adjustment separately for each paper size, select the paper size the adjustment will affect.** *6.* Set the correction value using the [+]/[-] keys. *7.* Touch [OK] twice to return. *8.* Touch [Exit] on the Service Mode screen. *9.* Turn OFF the main power switch, wait for 10 sec., then turn the switch ON. *10.*Make a copy and check the punch hole positions again.

6.1.2 Punch Horizontal Position

Functions	• Adjusts the horizontal position of the punch holes.
Use	• To change the horizontal position of the punch holes.
Adjustment Specification	• Make a copy in the punch mode and make an adjustment so that the width B is within the following range.  A04EF3C501DA • Specifications: B=10.5 mm • Adjustment range: -5.0 mm to +5.0 mm (1 step=0.1 mm)
Adjustment instructions	• To make width B greater : Enter the value of [+] • To make width a smaller : Enter the value of [-]
Setting/ procedure	1. Call the Service Mode to the screen. 2. Touch [Finisher]. 3. Touch [FS-FN adjustment]. 4. Touch [Punch Horizontal Position]. 5. Touch [Main body]. 6. Set the correction value using the [+]/[-] keys. 7. Touch [OK] twice to return. 8. Touch [Exit] on the Service Mode screen. 9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON. 10. Make a copy and check the punch hole positions again.

6.1.3 Punch edge detection

Functions	• Adjusts the sensitivity (light intensity) of the paper size detect board of the punch kit.
Use	• This adjustment is made at the time of setup.
Adjustment Specification	1. Call the Service Mode to the screen. 2. Touch [Finisher]. 3. Touch [FS-FN adjustment]. 4. Touch [Punch edge detection]. 5. Touch Start key. 6. Confirm that the result is OK. **NOTE** • **When NG appears, check whether the punch kit is properly installed.** 7. Touch [OK] twice to return. 8. Touch [Exit] on the Service Mode screen. 9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

6.1.4 Punch Resist Loop Size (Body)

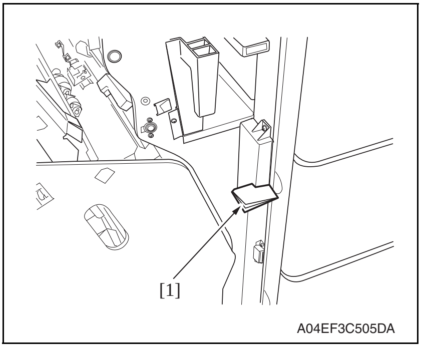
Functions	• Adjusts the punch loop size used for paper exited from the main unit.
Use	• To address problems such as misaligned punch holes, wrinkled paper, and jam at the punch registration section.
Adjustment instructions	• Misaligned punched holes: Enter a positive value. • Wrinkled paper: Enter a negative value.
Setting/ procedure	1. Call the Service Mode to the screen. 2. Touch [Finisher]. 3. Touch [FS-FN adjustment]. 4. Touch [Punch Resist Loop Size (Body)]. 5. Set the correction value using the [+]/[-] keys. 6. Touch [OK] twice to return. 7. Touch [Exit] on the Service Mode screen. 8. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON. 9. Make a copy again and check the deviation of punch hole position. 10. If the above adjustment does not resolve the problems, perform the punch hole deviation correction. P.15

6.2 Punch option setting

Functions	• Specifies punch settings depending on the optional punch kit attached to the finisher.
Use	• An individual punch setting needs to be made according to the type of the punch option.
Adjustment instructions	• The default setting is Non-installat. 1. Call the Service Mode to the screen. 2. Touch [Finisher]. 3. Touch [Punch option setting]. 4. Touch [PK-512] or [PK-513]. 5. Touch [2-Holes/3-Holes] or [2-Holes/4-Holes] or [SWE4 holes]. 6. Touch [decision]. 7. Touch [END]. 8. Touch [Exit] on the Service Mode screen. 9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

7. Mechanical adjustment

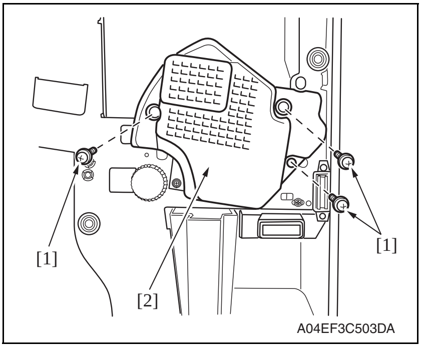
7.1 Punch hole deviation correction



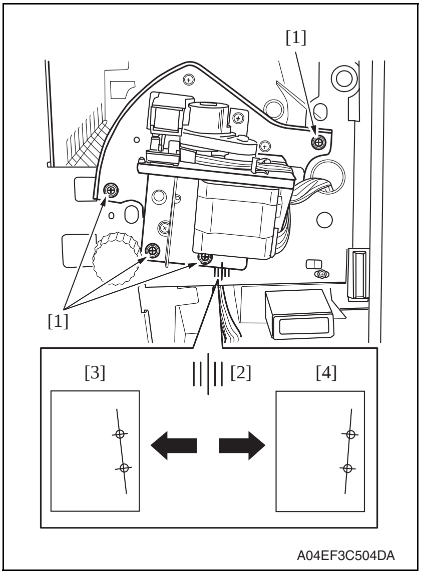
1. Insert a piece of paper [1] into the finisher’s interlock to turn it ON.
2. Turn ON the Main and Sub power switches of the machine, and make sample copies for both the single-side and double-side with any tray in Punch mode.

NOTE

- **ADF cannot be used to produce the samples.**

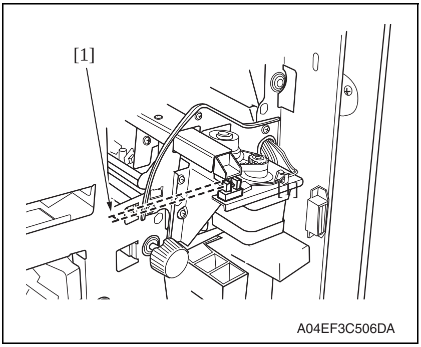


3. Fold the output paper in half and check whether the punch holes are aligned. If the punch holes are misaligned, make the following adjustment.
4. Remove three screws [1] and remove the punch kit cover [2].



5. Loosen four screws [1] and move the punch kit to the left or right by the amount that needs to be corrected referring to the mark [2].

- Wider at the rear [3]: Move the punch kit to the left.
- Wider at the front [4]: Move the punch kit to the right.



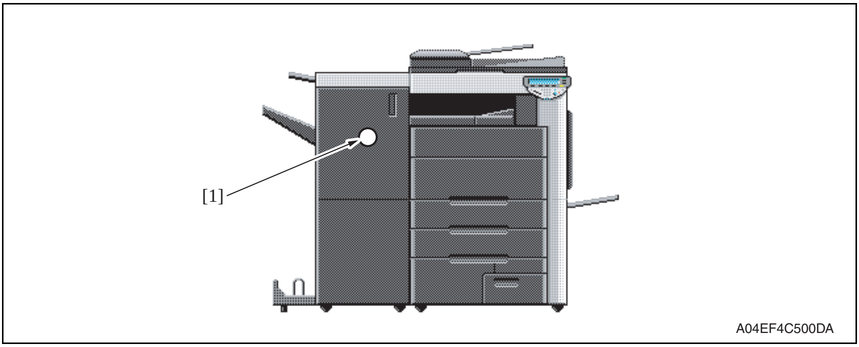
6. Make another copy in the punch mode. During the punch operation, check the punch position is within the range that can be detected by the sensor [1].
7. After the adjustment, if the punch holes are still misaligned, check the partiality of the tray.
   See P.569 of the main body service manual.
   See P.570 of the main body service manual.
8. Install the punch kit cover.
9. Remove the sheet of paper inserted in the interlock section and close the front door of the finisher.

Troubleshooting

8. Jam display

8.1 Misfeed display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the touch panel of the machine.

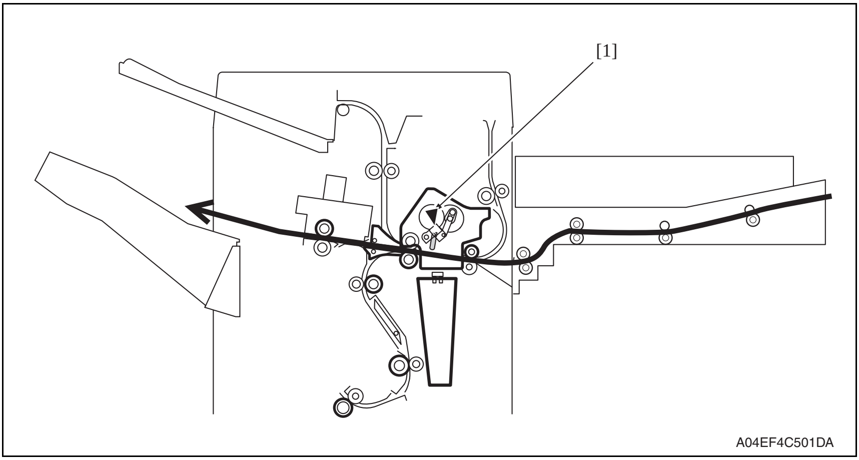


Display	Code	Misfeed processing location	Action
[1]	7243	Front door	P.18

8.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

8.2 Sensor layout



[1]	Punch home sensor	PS301

8.3 Solution

8.3.1 Initial check items

- When a paper misfeed occurs, first check the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

8.3.2 Code: 7243

A. Detection timing

Type	Description
Punch kit misfeed detection	The after punch home sensor (PS301) is not turned ON after a lapse of a given time after the punch motor (M301) is turned ON.

B. Action

Relevant electrical parts	
Punch motor (M301) Punch home sensor (PS301)	Punch drive board (PDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	M301 operation check	PDB CN45PDB-1 (DRV1) PDB CN45PDB-3 (DRV2)	PK-511/512/513 C-2 to 3
3	PS301 I/O, sensor check	PDB CN46PDB-5 (ON)	PK-511/512/513 C-3
4	Change PDB	—	—
5	Change FSCB	—	—

9. Malfunction code

9.1 Trouble code

- The machine’s CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Description	Detection timing	Trouble isolation compliant unit	Rank
C1127	Punch kit movement motor drive failure	• The after punch shift home sensor (PS303) is not turned ON after a lapse of a given time after the punch shift motor (M302) is turned ON.	Punch	B

9.2 Solution

9.2.1 C1127: Punch kit movement motor drive failure

Relevant electrical parts	
Punch shift motor (M302) Punch shift home sensor (PS303)	Punch drive board (PDB) FNS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M302 connector for proper connection and correct as necessary.	—	—
2	Check M302 for proper drive coupling and correct as necessary.	—	—
3	M302 operation check	PDB CN44PDB-1 to 6	PK-511/512/513 C-5
4	PS303 I/O, sensor check	PDB CN47PDB-2 (ON)	PK-511/512/513 C-5
5	Change PDB	—	—
6	Change FSCB	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-519/PK-510 /OT-602

2008.01

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.
Ver. 4.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2008/01	4.0	△3	Content additions/Error correction
2007/08	3.0	△2	Error correction
2007/05	2.0	△1	Content additions/Error correction
2007/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

FS-519/PK-510/OT-602

Outline

Maintenance

Adjustment/Setting

Troubleshooting

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Outline

1. Product specifications

1.1 FS-519

A. Type

Name	Multi staple finisher built into the copier
Installation	Installed in the copier
Document alignment	Center
Consumables	Staples

B. Functions

Modes	Sort, group, sort offset, group offset, sort stable, and punch (when PK-510 is mounted)

C. Paper type

(1) Non sort/sort/group

Type	Size	Weight	Max. capacity		
Plain paper Recycled paper	A6S, A5S/A5, B5S/B5, B6S, A4S/A4, B4, A3, A3Wide 5 $^1/_2$ x 8 $^1/_2$S/5 $^1/_2$ x 8 $^1/_2$, 8 $^1/_2$ x 11S/8 $^1/_2$ x 11, 8 $^1/_2$ x 14, 11 x 17, 12 $^1/_4$ x 18 Max. 311.15 mm x 457.2 mm 12.25 x 18 inch Min. 90 mm x 139.7 mm 3.5 x 5.5 inch	64 to 90 g/m^2 17 to 24 lb	Exit tray1	200 sheets	
			Exit tray2	A4S, 8 $^1/_2$ x 11S or less	1000 sheets *3
				B4, 8 $^1/_2$ x 14 or greater	500 sheets *3
Government standard postcards		91 to 210 g/m^2 24.25 to 55.75 lb	20 sheets		
Envelope		—			
OHP transparencies		—			
Translucent paper		—			
Label		—			
Letterhead		—			
Thick paper 1		91 to 120 g/m^2 24.25 to 32 lb			
Thick paper 1+		121 to 157 g/m^2 32.25 to 41.75 lb			
Thick paper 2		158 to 209 g/m^2 42 to 55.5 lb			
Thick paper 3		210 to 256 g/m^2 55.75 to 68 lb			
Thick paper 4		257 to 300 g/m^2 68.25 to 79.75 lb			
Long size paper *1	210 mm to 297 mm x 457.2 mm to 1200 mm	127 to 160 g/m^2 33.75 to 42.5 lb	—		

*1: Long size paper is available only for non-sort mode.

(2) Sort offset/group offset

Type	Size	Weight	Max. capacity		
Plain paper Recycled paper	A5, B5S/B5, A4S/A4, B4, A3 $8\,^{1}/_{2}$ x 11S/$8\,^{1}/_{2}$ x 11, $8\,^{1}/_{2}$ x 14, 11 x 17 Max. 297 mm x 431.8 mm 11.75 x 17 inch Min. 182 mm x 148.5 mm 7.25 x 5.75 inch	64 to 90 g/m^2 17 to 24 lb	Exit tray1	200 sheets	
			Exit tray2	A4S, $8\,^{1}/_{2}$ x 11S or less	1000 sheets *3
				B4, $8\,^{1}/_{2}$ x 14 or greater	500 sheets *3
Thick paper		91 to 300 g/m^2 24.25 to 79.75 lb	—		

(3) Sort staple

Type	Size	Weight	Max. capacity			No. of sheets to be stapled
Plain paper Recycled paper	A5, B5S/B5, A4S/A4, B4, A3 $8\,^{1}/_{2}$ x 11S/$8\,^{1}/_{2}$ x 11, $8\,^{1}/_{2}$ x 14, 11 x 17 Max. 297 mm x 431.8 mm 11.75 x 17 inch Min. 182 mm x 148.5 mm 7.25 x 5.75 inch	64 to 90 g/m^2 17 to 24 lb	Exit tray1	200 sheets/20 sets		50 sheets *2
			Exit tray2	A4S, $8\,^{1}/_{2}$ x 11S or less	1000 sheets/100 sets *3	
				B4, $8\,^{1}/_{2}$ x 14 or greater	500 sheets/50 sets *3	
Thick paper 1		91 to 209 g/m^2 24.25 to 55.5 lb	—			30 sheets
Thick paper 1+			—			15 sheets
Thick paper 2			—			15 sheets

*2: The number of sheets to be stapled is limited for high-density images.
(Color wise: 20 sheets x 20 sets)

*3: The table below shows tray2 max. capacity with other options.

		Sort/Group/ Sort offset/Group offset	Sort staple
FS-519 + OT-602	A4S, 8-$^{1}/_{2}$ x 11S or less	500 sheets	500 sheets/50 sets
	B4, 8-$^{1}/_{2}$ x 14 or greater	250 sheets	250 sheets/25 sets
FS-519 + SD-505	A4S, 8-$^{1}/_{2}$ x 11S or less	500 sheets	500 sheets/50 sets
	B4, 8-$^{1}/_{2}$ x 14 or greater	250 sheets	250 sheets/25 sets
FS-519 +SD-505 + OT-602	A4S, 8-$^{1}/_{2}$ x 11S or less	200 sheets	200 sheets/25 sets
	B4, 8-$^{1}/_{2}$ x 14 or greater	100 sheets	100 sheets/10 sets
FS-519 + MT-502	A4S, 8-$^{1}/_{2}$ x 11S or less	500 sheets	500 sheets/50 sets
	B4, 8-$^{1}/_{2}$ x 14 or greater	250 sheets	250 sheets/25 sets
FS-519 +MT-502 + OT-602	A4S, 8-$^{1}/_{2}$ x 11S or less	200 sheets	200 sheets/25 sets
	B4, 8-$^{1}/_{2}$ x 14 or greater	100 sheets	100 sheets/10 sets

(4) Punch

Type	Size	Weight	Punched holes	Exit tray
Plain paper Recycled paper	B5S/B5 to A3 8 $^{1}/_{2}$ x 11S/8 $^{1}/_{2}$ x 11 to 11 x 17	64 to 209 g/m^2 17 to 55.5 lb	2, 3, 4 *	Exit tray1 Exit tray2 OT-602 MT-502

*: The punched holes is different because of the difference of area.

D. Stapling

Staple filling mode	Dedicated staple cartridge (5000 staples)	
Staple detection	Available (Nearly Empty: 20 remaining staples)	
Stapling position	Back of the corner (30 degree)	A4, A3, B5, B4 8 $^{1}/_{2}$ x 11, 11 x 17
	Front of the corner (30 degree)	
	Back of the corner (Parallel)	A4S, B5S, A5 8 $^{1}/_{2}$ x 11S, 8 $^{1}/_{2}$ x 14
	Front of the corner (Parallel)	
	Side: Parallel 2 point	A4S/A4, A3, B5S/B5, B4, A5 8 $^{1}/_{2}$ x 11S/8 $^{1}/_{2}$ x 11, 8 $^{1}/_{2}$ x 14, 11 x 17
Manual staple	None	

E. Hole Punch

No. of holes	Metric: 4 holes, Inch: 2 holes/3 holes, Sweden: 4 holes
Punch dust full detection	Available

F. Machine specifications

Power requirements	DC 24 V (supplied from the main body)
	DC 5.1 V (generated by finisher)
Max. power consumption	66 W or less
Dimensions	352 mm (W) x 558 mm (D) x 589 mm (H) 13.75 inch (W) x 22 inch (D) x 23.25 inch (H)
Weight	33.2 kg (73.25 lb)

G. Operating environment

- Conforms to the operating environment of the main body.

1.2 PK-510

A. Type

Name	Punch kit PK-510	
Installation	Built into the finisher	
Paper size	Metric	B5S, A4, B4, A3
	Inch (2 holes)	8 $^{1}/_{2}$ x 11S/8 $^{1}/_{2}$ x 11, 8 $^{1}/_{2}$ x 14, 11 x 17
	Inch (3 holes)	8 $^{1}/_{2}$ x 11, 11 x 17
	Sweden	B5S, A4, B4, A3
Paper type	Plain Paper, Recycled paper (64 to 209 g/m^2, 17 to 55.5 lb)	
Punch hole	Metric: 2 holes, 4 holes, Inch: 2/3 hole, Sweden: 4 holes	
Number of stored punch wastes	Metric (2 holes): For 2,500 sheets of paper (64 g/m^2) Metric (4 holes): For 1,500 sheets of paper (80 g/m^2) Inch (2/3 holes): For 1,000 sheets of paper (75 g/m^2) Sweden (4 holes): For 1,500 sheets of paper (80 g/m^2)	
Document alignment	Center	

B. Machine specifications

Power requirements	Supplied by the finisher
Dimensions	114 mm (W) x 461 mm (D) x 106 mm (H) 4.5 inch (W) x 18.25 inch (D) x 4.25 inch (H)
Weight	Approx. 1.9 kg (4.25 lb) or less

C. Operating environment

- Conforms to the operating environment of the main body.

1.3 OT-602

A. Type

Name	Output tray OT-602
Installation	Fixed to the finisher
Mode	Sort, group, and sort stable Sort, group, sort offset, group offset, and sort stable
Number of bins	1 bin
Document alignment	Center

B. Paper type

Mode	Size	Type		Capacity
Sort/group	A6S, A5S/A5, B5S/B5, B6S, A4S/A4, B4, A3, A3Wide 5 $^1/_2$ x 8 $^1/_2$S/5 $^1/_2$ x 8 $^1/_2$, 8 $^1/_2$ x 11S/8 $^1/_2$ x 11, 8 $^1/_2$ x 14, 11 x 17 Max. 311.15 mm x 457.2 mm 12.25 x 18 inch Min. 90 mm x 139.7 mm 3.5 x 5.5 inch	Plain Paper	64 to 90 g/m^2, 17 to 24 lb	200 sheets (up to a height of 24 mm)
		Recycled paper		
		Special	Government standard postcards	20 sheets
			Envelope	
			OHP transparencies	
			Translucent paper	
			Label	
			Letterhead	
		Thick paper 1	91 to 120 g/m^2 24.25 to 32 lb	
		Thick paper 1+	121 to 157 g/m^2 32.25 to 41.75 lb	
		Thick paper 2	158 to 209 g/m^2 42 to 55.5 lb	
		Thick paper 3	210 to 256 g/m^2 55.75 to 68 lb	
		Thick paper 4	257 to 300 g/m^2 68.25 to 79.75 lb	
Sort offset/ group offset	A5, B5S/B5, A4S/A4, B4, A3 8 $^1/_2$ x 11S/8 $^1/_2$ x 11, 8 $^1/_2$ x 14, 11 x 17 Max. 297 mm x 431.8 mm 11.75 x 17 inch Min. 182 mm x 148.5 mm 7.25 x 5.75 inch	Plain Paper	64 to 90 g/m^2, 17 to 24 lb	200 sheets (up to a height of 24 mm)
		Recycled paper		
		Thick paper	91 to 300 g/m^2 24.25 to 79.75 lb	—
Sort stable		Plain Paper	64 to 90 g/m^2, 17 to 24 lb	200 sheets or 20 copies (up to a height of 24 mm)
		Recycled paper		
		Thick paper	91 to 209 g/m^2 24.25 to 55.5 lb	—

C. Machine specifications

Dimensions	282 mm (W) x 368 mm (D) x 57 mm (H) 11 inch (W) x 14.5 inch (D) x 2.25 inch (H)
Weight	0.7 kg (1.5 lb)

D. Operating environment

- Conforms to the operating environment of the main body.

NOTE
How product names appear in the document

- **FS-519: Finisher**
- **PK-510: Punch kit**
- **OT-602: Output tray**

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

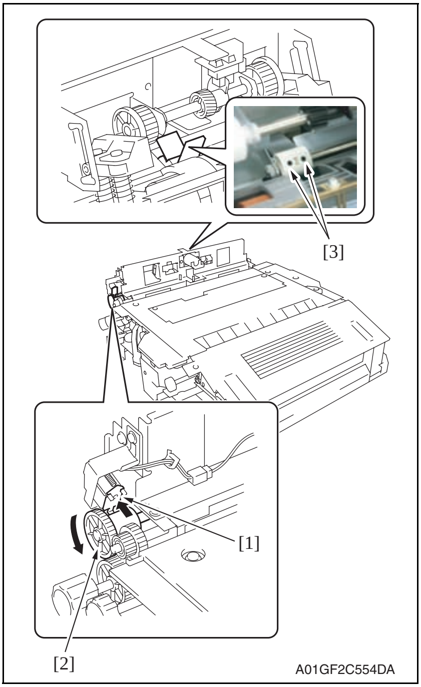
2.1.1 Replacing the paddles

A. Periodically replaced parts/cycle

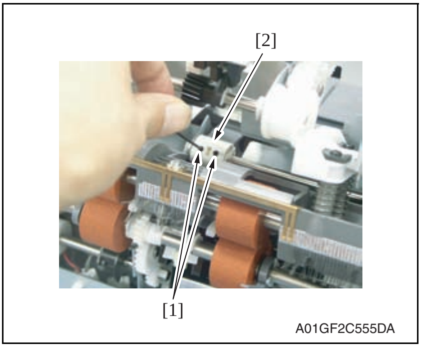
- Paddles: Every 800,000 prints

B. Procedure

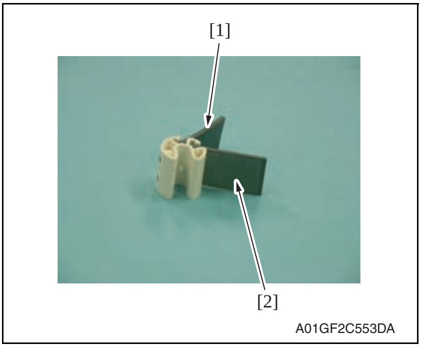
1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28



3. While pushing the plunger [1], turn the gear [2] in the direction of the arrow until the screws [3] appear as shown in the illustration.



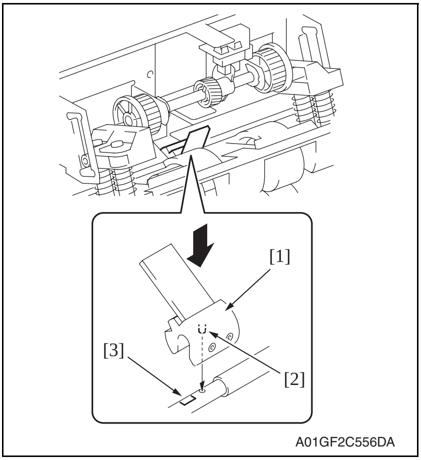
4. Loosen two screws [1] and remove the paddle holder assy [2].



5. Remove two paddles [1] [2] and replace them with new ones.

NOTE

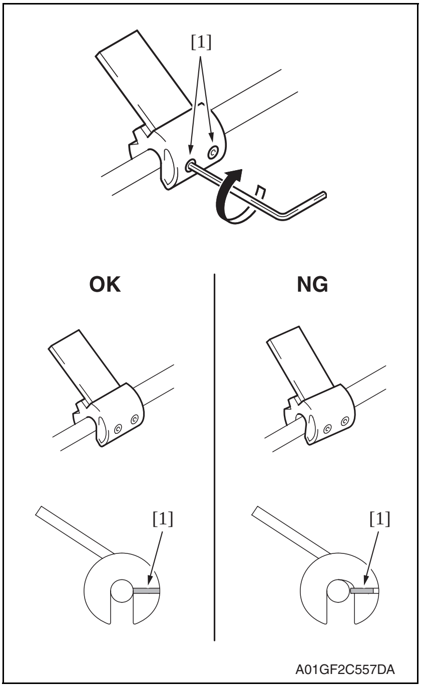
- **When installing new paddles, be sure to install the paddle covered with black film [1] and the paddle covered with transparent film [2] to their original position.**
- **If there is difficulty in installing the paddles, apply alcohol to the root of the paddles and install them.**



6. Install the paddle holder assy [1].

NOTE

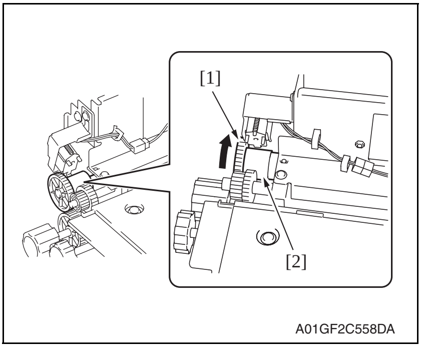
- **To reinstall the paddle holder assy, place it where its locating pin [2] is aligned with the hole on the shaft. Attach the paddle holder assy onto the shaft by first pressing the assy on the side where the shaft has a depression [3].**



7. Secure the paddle holder assy by tightening two screws [1].

NOTE

- **When tightening the two set screws, lightly press the paddle so that it is fixed without any tilt.**
- **For proper set screw tightening to fix the paddle, turn each set screw only one quarter (1/4) of a turn after the set screw tip has reached the shaft.**



NOTE

- **After reinstalling the paddle holder assy, check to make sure that the collar [2] remains still when you are turning the gear [1].**

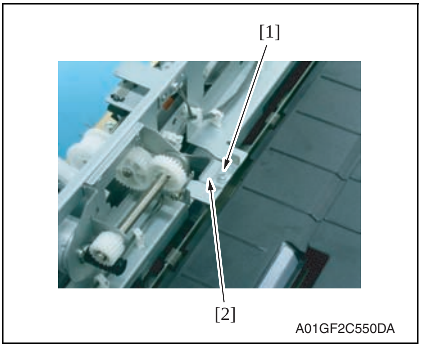
2.1.2 Replacing the cleaning pad

A. Periodically replaced parts/cycle

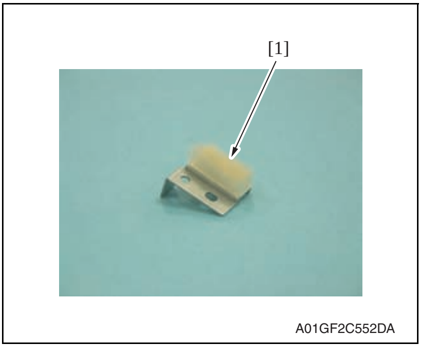
- Cleaning pad: Every 800,000 prints

B. Procedure

1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28

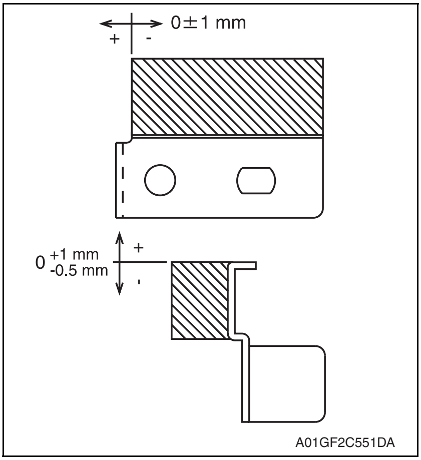


3. Remove the screw [1] and remove the cleaning pad [2].



4. Peel off the cleaning pad [1].

3



5. To reinstall, reverse the order of removal.

NOTE

- **Before attaching a new cleaning pad, clean the metal surface where the new cleaning pad is attached.**
- **Align the right ends of the new cleaning pad and the metal as shown in the illustration.**

2.1.3 Lubricating the worm gear and replacing the cover film

A. Periodically lubricated parts/cycle

- Worm gear: Every 800,000 prints

B. Periodically replaced parts/cycle

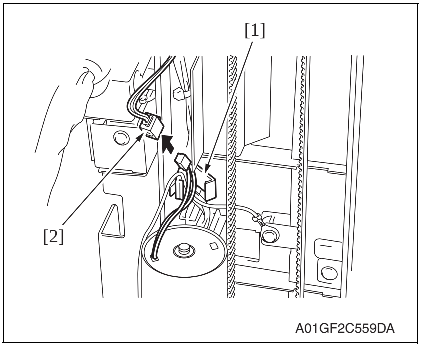
- Cover film: Every 800,000 prints

C. Procedure

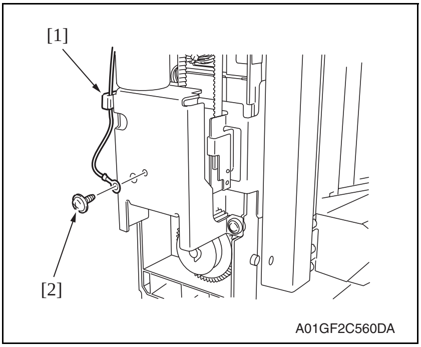
NOTE

- **Before the following lubrication and replacement work, make sure to remove optional SD-505 and MT-502 when the finisher is equipped with these options.**

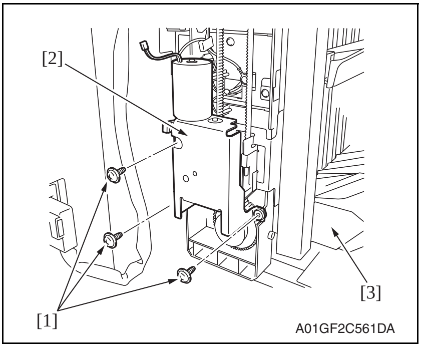
1. Turn the main and sub power switch ON. Then turn the main power switch OFF when the tray reaches the lowest position during the initial operation.
2. Remove the tray unit rear cover.
   See P.23



3. Remove the wire saddle [1] and disconnect the connector [2].



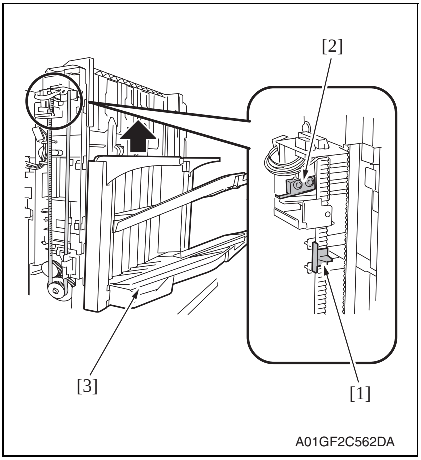
4. Remove the wire saddle [1] and the screw [2]. Remove the ground terminal.



5. Remove three screws [1] and remove the Elevator motor assy [2].

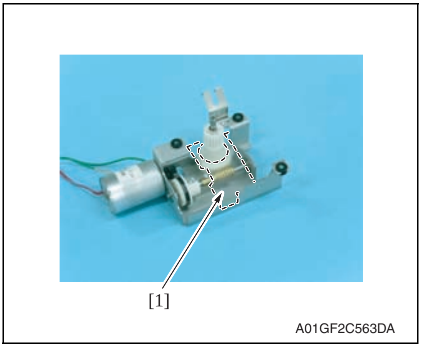
NOTE

- **Remove the elevator motor assy while holding the lower part of the tray [3] with your hand.**

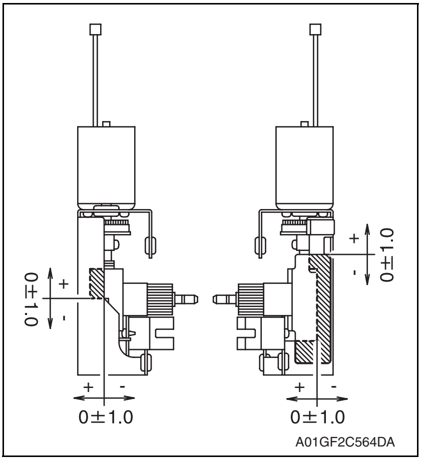


NOTE

- **Before reinstalling the elevator motor assy, raise the tray [3] until the lever [1] attached on the timing belt moves to the position lower than that of the sensor [2]. In that state, reinstall the elevator motor assy.**

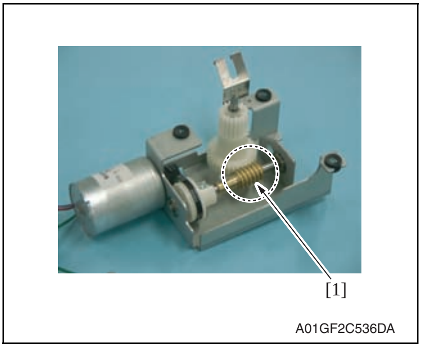


6. Remove the cover film [1] by peeling off its adhesive tape.



NOTE

- **Before attaching a new cover film, clean the metal surface where the new cover film is attached.**
- **Align the right ends of the new cover film and the metal as shown in the illustration.**



7. Apply the following grease to the worm gear [1].
Material: Molykote EM-50L grease
(No.: 4478 7801 ##)

8. To reinstall, reverse the order of removal.

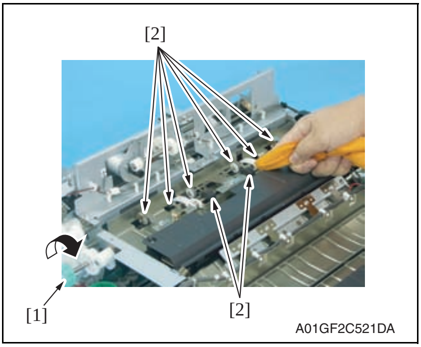
2.1.4 Cleaning of the rollers and rolls

A. Periodically cleaning parts/cycle

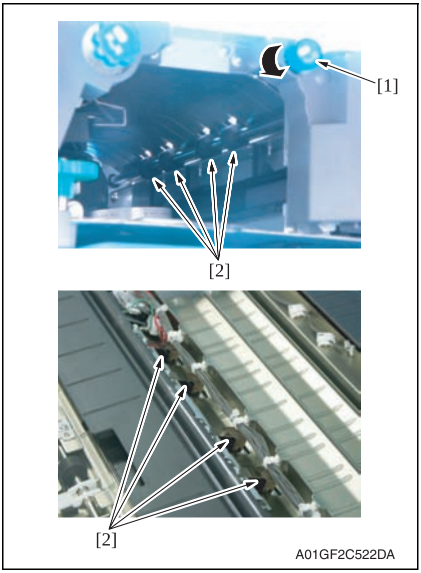
- Rollers and rolls: Every 300,000 prints

B. Procedure

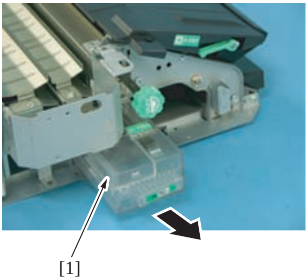
1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28
3. Remove the finisher unit upper cover.
   See P.21



4. While turning processing knob FN5 [1], wipe the roller and roll [2] using a soft cloth dampened with alcohol.

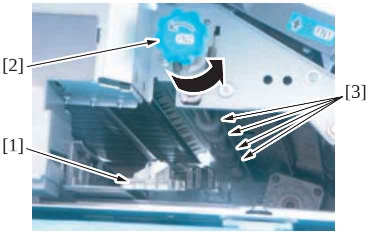


5. While turning processing knob FN4 [1], wipe the roller and roll [2] using a soft cloth dampened with alcohol.



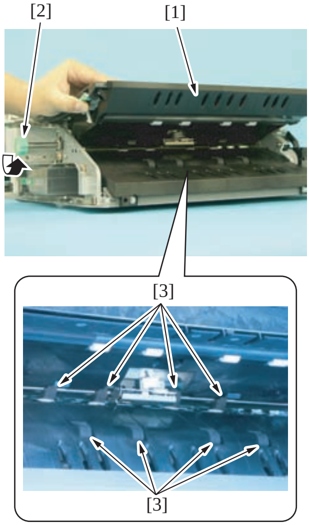
A01GF2C523DA

6. Remove punch waste storage box FN3.1 [1].
   (only when PK-510 is installed)



9J08F2C004DA

7. Lower processing guide FN3 [1].
8. While turning processing knob FN2 [2], wipe the roll [3] using a soft cloth dampened with alcohol.



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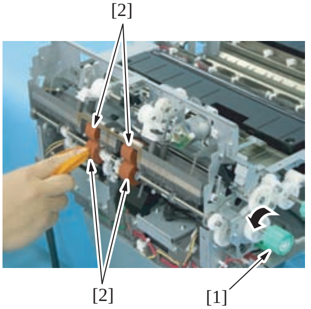
9. Upper processing guide FN1 [1].
10. While turning processing knob FN2 [2], wipe the roller [3] using a soft cloth dampened with alcohol.



A01GF2C525DA

11. While turning processing knob FN6 [1], wipe the roller [2] using a soft cloth dampened with alcohol.

2.1.5 Cleaning of the paddles

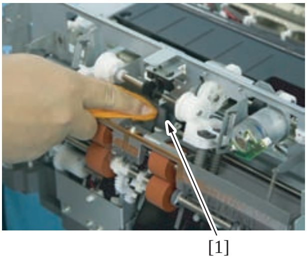
A. Periodically cleaning parts/cycle

- Paddles: Every 300,000 prints

B. Procedure

1. Remove the tray unit.
See P.25

2. Remove the finisher unit.
See P.28



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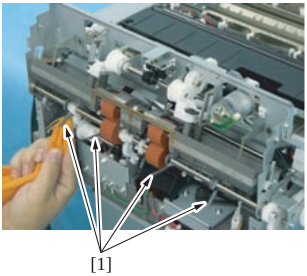
3. Using a soft cloth dampened with alcohol, wipe the paddle 1 [1].



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4. Using a soft cloth dampened with alcohol, wipe four paddles 2 [1].

3. Other

3.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

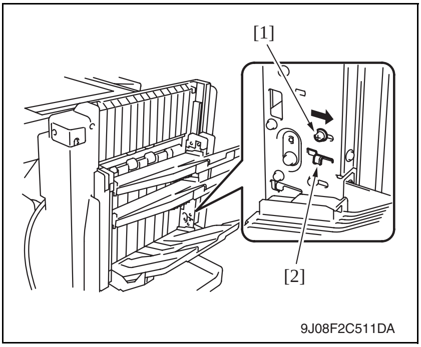
- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Precautions to be observed when option configuration is changed

- The exit tray detection position must be changed depending on configuration of the options mounted on the copier.

3.2.1 Setting the exit tray detection position

A. When only OT-602, MT-502, or SD-505 is mounted

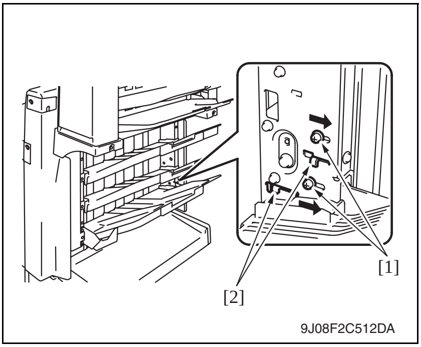


1. Loosen the screw [1] and move it in the direction of the arrow. Then, tighten it at the new position.

NOTE

- **This step should be done securely. If not, any trouble may happen.**
- **Be sure to move the screw itself.**
- **Do not move the screw by using the adjust plate [2].**

B. When OT-602 + MT-502 or OT-602 + SD-505 are mounted

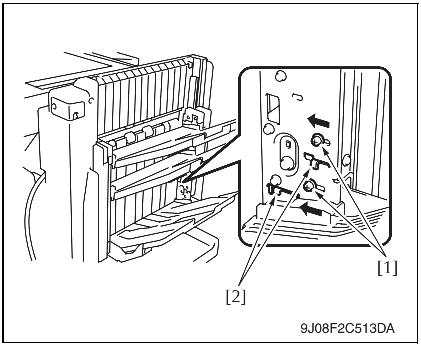


1. Loosen two screws [1] and move them in the direction of the arrow. Then, tighten them at the corresponding new positions.

NOTE

- **This step should be done securely. If not, any trouble may happen.**
- **Be sure to move the screw itself.**
- **Do not move the screw by using the adjust plate [2].**

C. When only FS-519 is mounted



1. Loosen two screws [1] and move them in the direction of the arrow. Then, tighten them at the corresponding new positions.

NOTE

- **This step should be done securely. If not, any trouble may happen.**
- **Be sure to move the screw itself.**
- **Do not move the screw by using the adjust plate [2].**

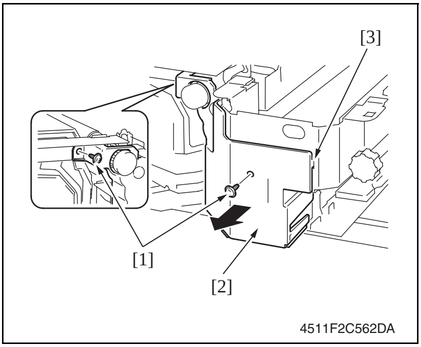
3.3 Disassembly/Assembly/Cleaning list (Other parts)

3.3.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref. page
1	Exterior parts	Finisher unit right front cover	P.20
2		Finisher unit left front cover	P.20
3		Finisher unit rear cover	P.20
4		Finisher unit upper cover	P.21
5		Front door	P.21
6		Middle guide	P.22
7		Intake cover	P.23
8		Tray unit front cover	P.23
9		Tray unit rear cover	P.23
10		Connector cover	P.23
11		Tray 1	P.24
12		Tray 2	P.24
13		Output tray OT-602 (Option)	P.24
14	Unit	Tray unit	P.25
15		Finisher unit	P.28
16		Stapler unit	P.31
17		Punch kit PK-510 (Option)	P.32
18	Electric parts	Exit roller motor	P.33
19		Elevator motor	P.44
20		Duplex guide solenoid	P.50
21		FS control board	P.52
22	Others	Storage paddle drive clutch	P.33
23		Exit upper roller	P.33
24		Storage paddle	P.33
25		Exit paddle drive clutch	P.38
26		Exit lower roller	P.38
27		Aligning section	P.41
28		Timing belt	P.44
29		Shutter drive gear	P.49

3.4 Disassembly/Assembly procedure

3.4.1 Finisher unit right front cover

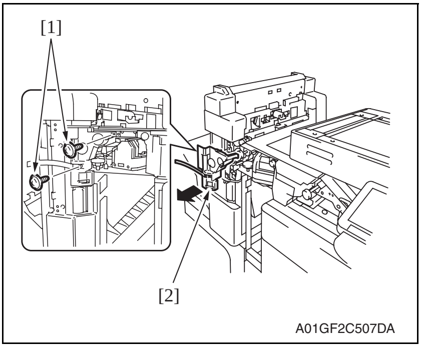


1. Open the front door.
2. Remove two screws [1] and remove the finisher unit right front cover [2].

NOTE

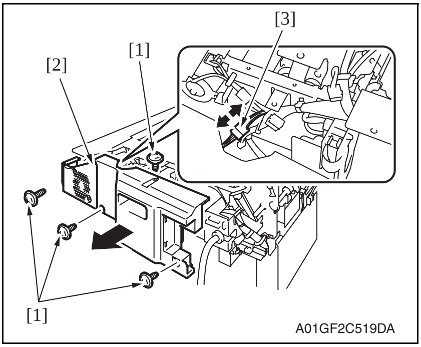
- **At reinstallation, first fit the tab [3] into position.**

3.4.2 Finisher unit left front cover



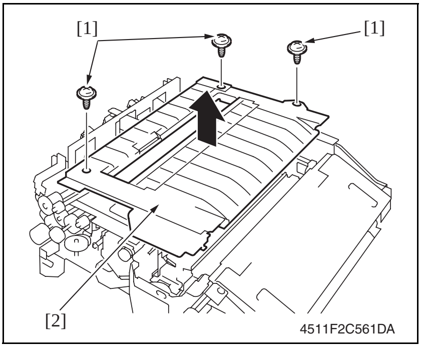
1. Remove the front door.
   See P.21
2. Remove two screws [1] and remove the finisher unit left front cover [2].

3.4.3 Finisher unit rear cover



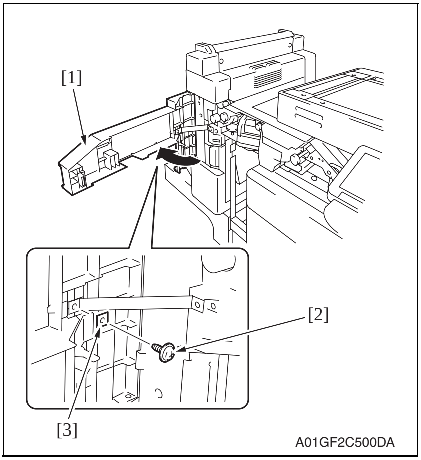
1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28
3. Remove four screws [1] and remove the finisher unit rear cover [2].
4. Disconnect the connector [3].

3.4.4 Finisher unit upper cover

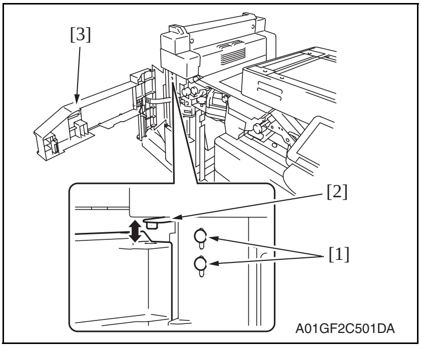


1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28
3. Remove the finisher unit rear cover.
   See P.20
4. Remove three screws [1] and remove the finisher unit upper cover [2].

3.4.5 Front door

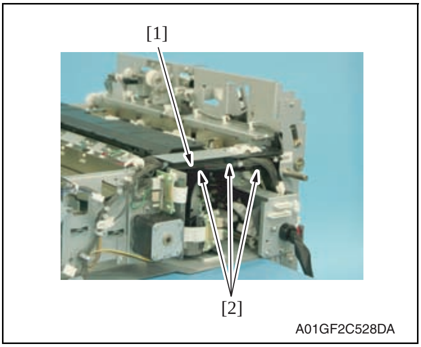


1. Open the front door [1].
2. Remove the screw [2] and the retaining plate [3].

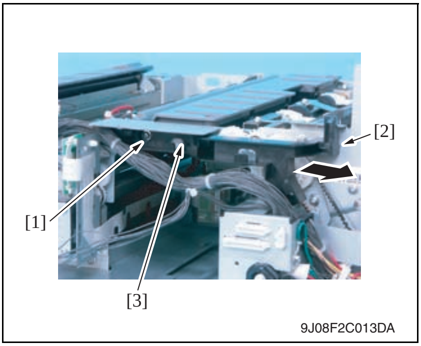


3. Loosen two screws [1] and move the hinge [2] up. Then remove the front door [3].

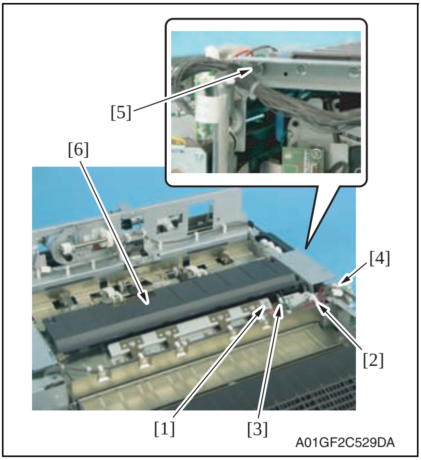
3.4.6 Middle guide



1. Remove the finisher unit.
   See P.28
2. Remove the finisher unit rear cover.
   See P.20
3. Remove the finisher unit upper cover.
   See P.21
4. Remove the harness bundle [1] from three harness guides [2].

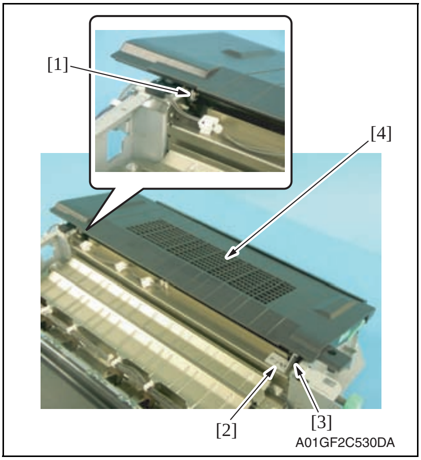


5. Remove the screw [1] and tab [2], and remove the harness guide [3].



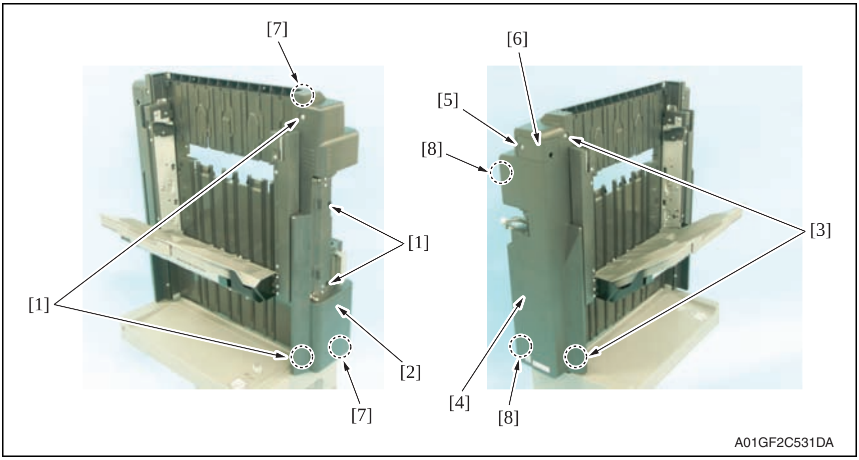
6. Remove the screw [1] and the ground wire.
7. Remove the wire saddle [2] and edge cover [3], and disconnect the connector [4].
8. Remove the shoulder screw [5] and remove the middle guide [6].

3.4.7 Intake cover



1. Remove the finisher unit.
   See P.28
2. Remove the finisher unit rear cover.
   See P.20
3. Remove the finisher unit upper cover.
   See P.21
4. Remove the C-ring [1].
5. Remove the screw [2] and the metal bracket [3], and the intake cover [4].

3.4.8 Tray unit front cover/Tray unit rear cover/Connector cover

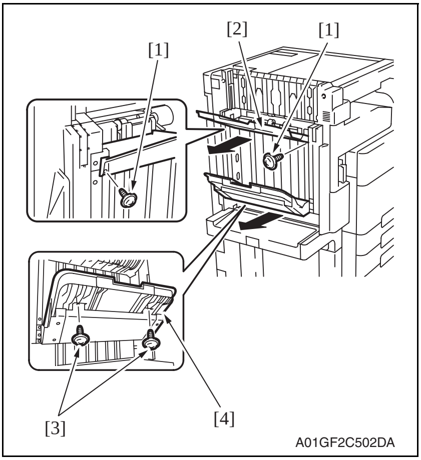


1. Remove four screws [1] and remove the tray unit front cover [2].
2. Remove two screws [3] and remove the tray unit rear cover [4].
3. Remove the screw [5] and remove the connector cover [6].

NOTE

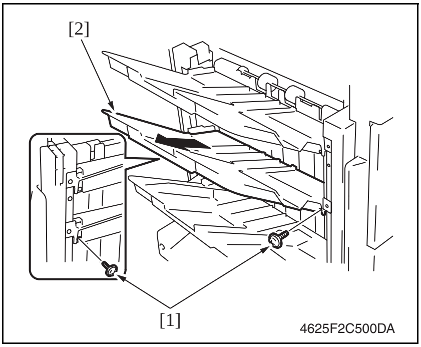
- **When installing the tray unit front cover, snap the tab [7] first.**
- **When installing the tray unit back cover, snap the tab [8] first.**

3.4.9 Tray 1/Tray 2



1. Remove two screws [1], and remove the tray 1 [2].
2. Remove two screws [3], and remove the tray 2 [4].

3.4.10 Output tray (OT-602): Option

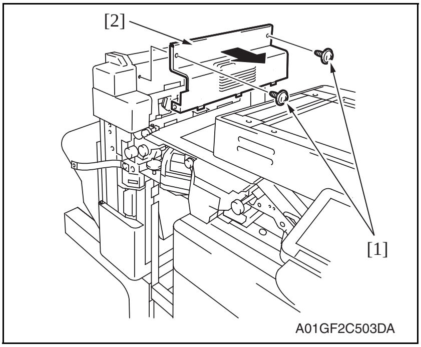


1. Remove two screws [1], and remove the output tray [2].

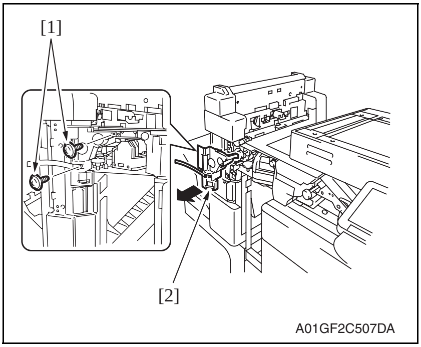
3.4.11 Tray unit

NOTE

- **When removing the tray unit, set the tray unit to its home position.**
- **If the exit tray (OT-602) is installed, remove it in advance.**
  See P.24

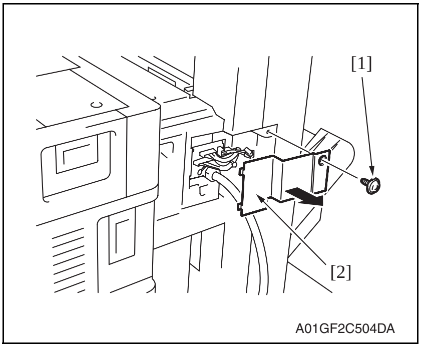


1. Remove the front door.
   See P.21
2. Remove two screws [1] and remove the tray unit upper cover [2].

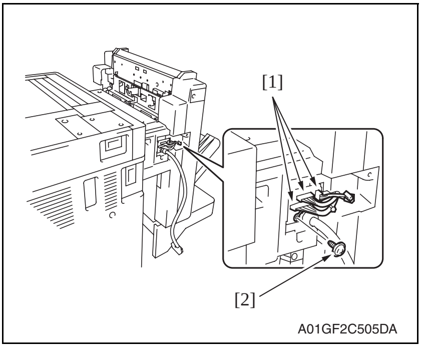


3. Remove two screws [1] and remove the finisher unit left front cover [2].

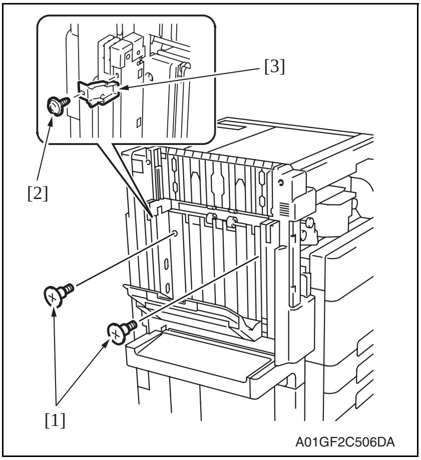
△1



4. Remove the screw [1] and remove the connector cover [2].



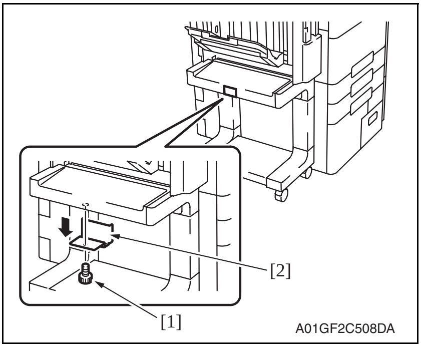
5. Disconnect three connectors [1] and remove the screw [2], and the ground wire.



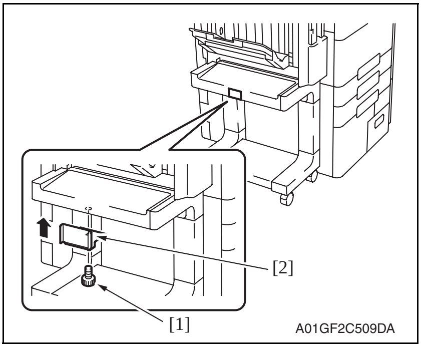
6. Remove two shoulder screws [1].

NOTE

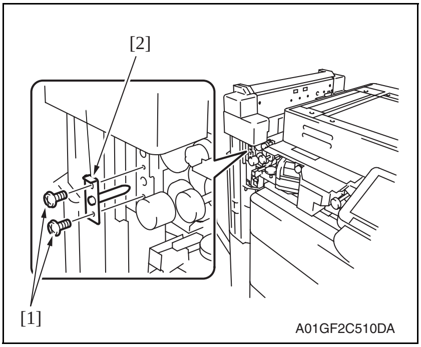
- **When the output tray (OT-602) is mounted, remove the screw [2] and remove the mounting holder [3].**



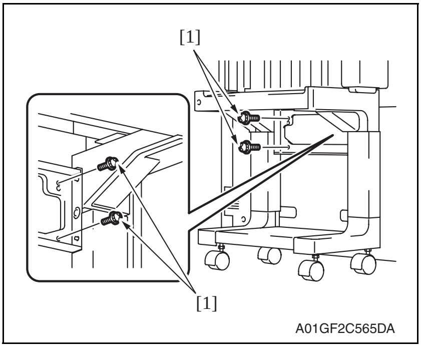
7. Remove the screw [1] and the stopper [2] shown in the illustration.



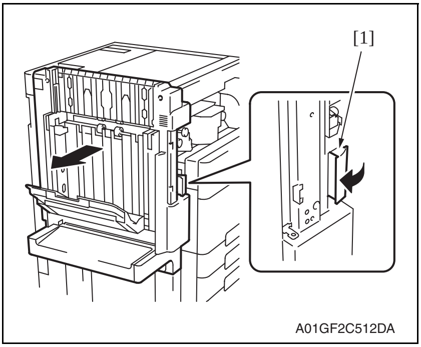
8. Position the stopper [2] as shown and secure it with the screw [1].



9. Remove two screws [1] and remove the mounting bracket [2].



10. Remove four screws [1].

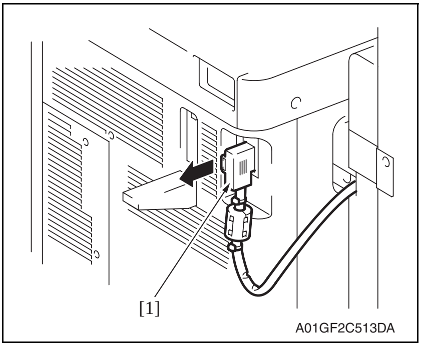


11. Pull the lock release lever [1] and remove the tray unit.

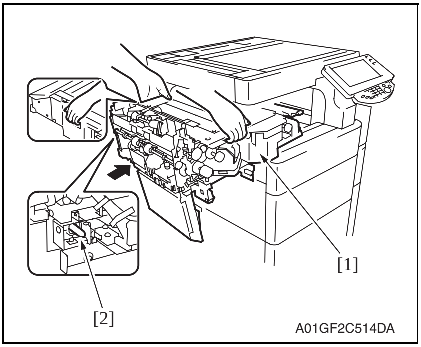
NOTE

- **Make sure the height and angle adjustment of stand table when installing the finisher.**
  See P.29

3.4.12 Finisher unit



1. Remove the tray unit.
   See P.25
2. Disconnect the hookup cord [1].

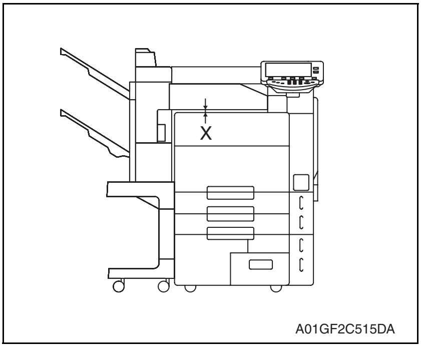


3. Hold the positions as shown in the illustration to remove the finisher unit [1].

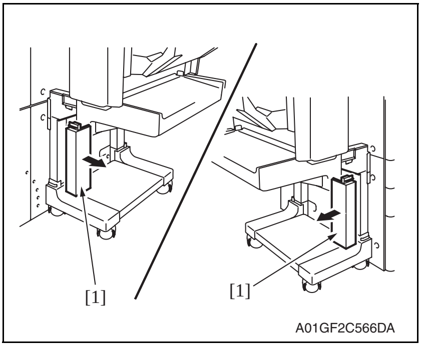
NOTE

- **When setting the finisher unit, make sure to fit the finisher unit hole with stabilizing pin [2] and set it to the end.**
- **Make sure the height and angle adjustment of stand table when installing the finisher.**
  See P.29

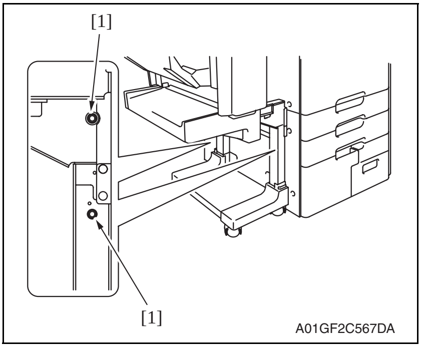
3.4.13 Height and angle adjustment of stand table



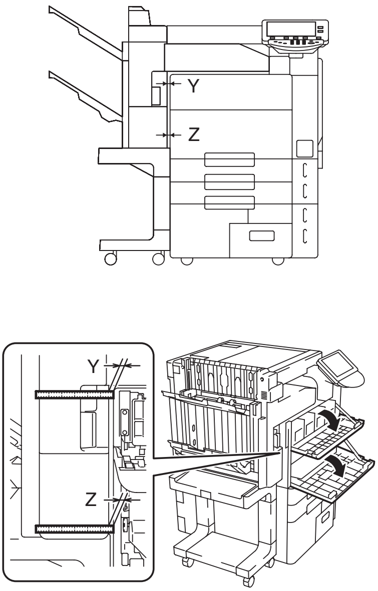
1. Measure the width of X on front and back side.
   Specifications: 4 ± 2 mm



2. If X is out of the specified range, remove two covers [1] from the legs of the stand table.



3. Loosen four screws [1] (two screws each for the left and right) and adjust the height of the stand. Tighten the screws again.



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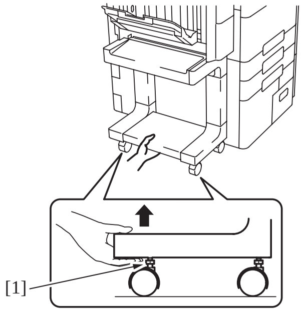
4. Measure the width of Y and Z (clearance of the exterior parts) on front and back side.
   Specifications:
   Y = Z - 1 mm
   (Y must be smaller than Z)
   Z = 7 ± 2 mm (front side)
   Z = 9 ± 2 mm (back side)

NOTE

- **To measure the front side, open the front door and measure it using finisher side as supporting point referring showed on the illustration left.**



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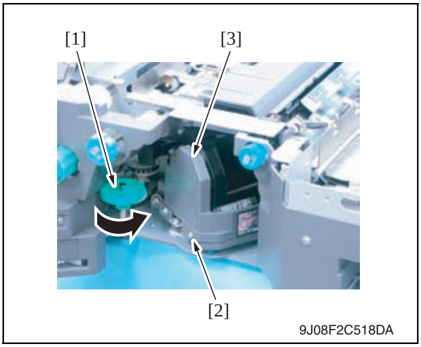
5. When the value does not fall within the specified range, remove the tray unit and pull up the casters to adjust them.

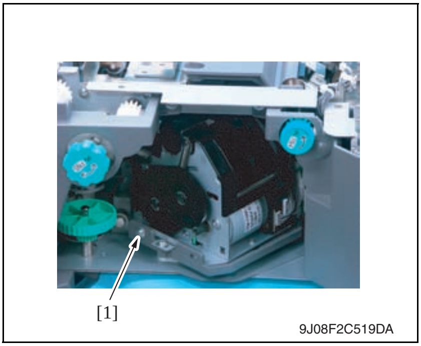
NOTE

- **For adjusting the casters, hold the bottom part of the stand table and turn the adjusting bolt [1].**

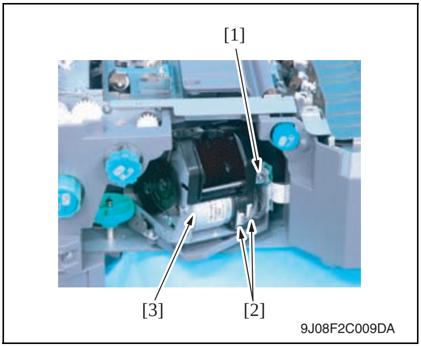
3.4.14 Stapler unit



1. Open the front door.
2. Turn the dial [1], and move the stapler forward.
3. Remove the staple cartridge.
4. Remove the screw [2], and remove the cover [3].

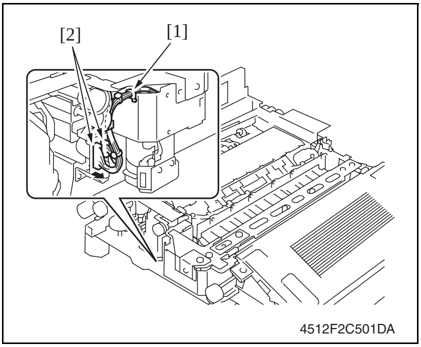


5. Remove the screw [1].

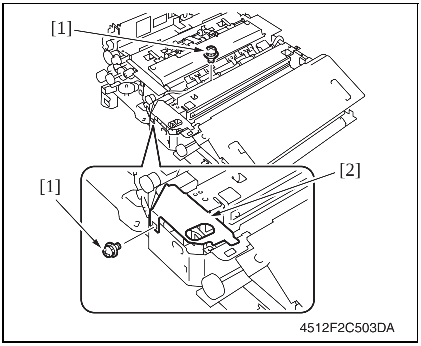


6. Remove the screw [1] and remove the ground wire.
7. Disconnect two connectors [2] and remove the stapler unit [3].

3.4.15 Punch kit (PK-510): Option

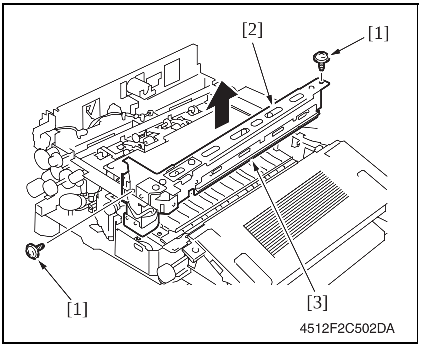


1. Remove the finisher unit.
   See P.28
2. Remove the finisher unit rear cover.
   See P.20
3. Remove the finisher unit upper cover.
   See P.21
4. Remove the finisher unit right front cover.
   See P.20
5. Remove the edge cover [1] and disconnect two connectors [2].



NOTE

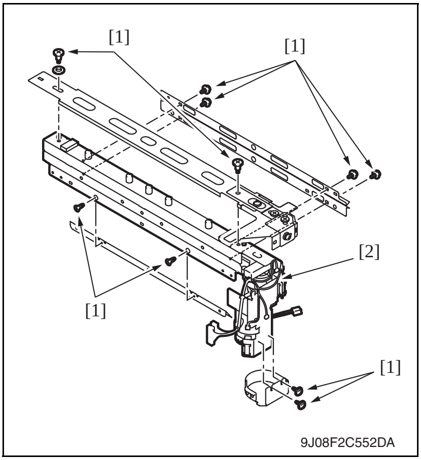
- **When the creasing unit is mounted, remove two screws [1], and remove the metal bracket [2].**



6. Remove two screws [1] and remove the punch kit [2].

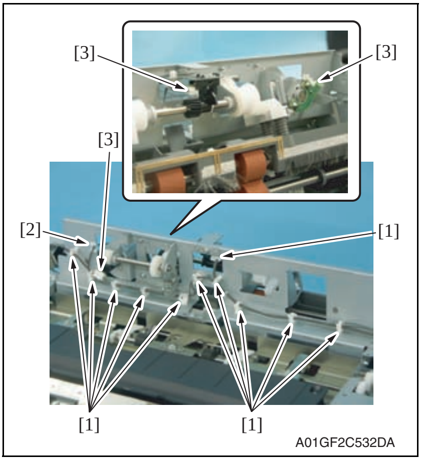
NOTE

- **Take care so that the mylar [3] will not be bent.**

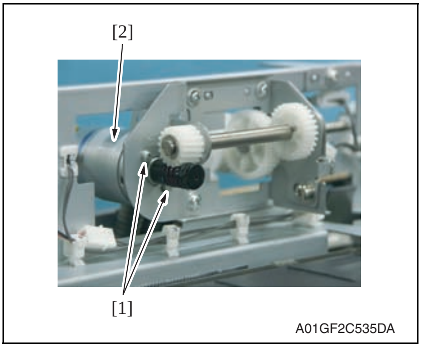


7. Remove ten screws [1] and remove the punch kit [2].

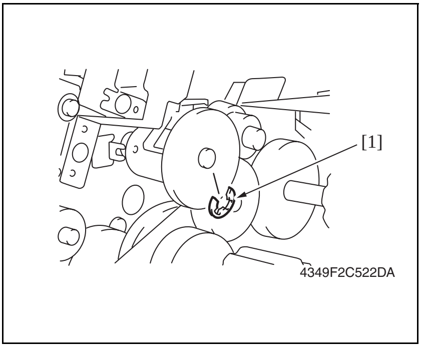
3.4.16 Exit roller motor/Storage paddle drive clutch/Exit upper roller/Storage paddle



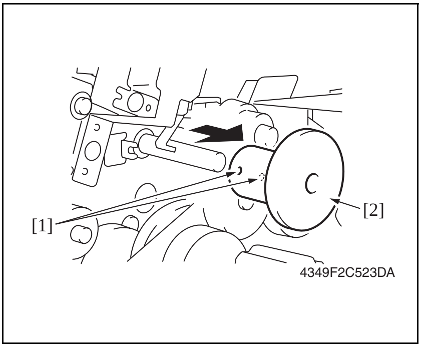
1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28
3. Remove the finisher unit left front cover.
   See P.20
4. Remove eleven wire saddles [1] and remove the edge cover [2].
5. Disconnect three connectors [3].



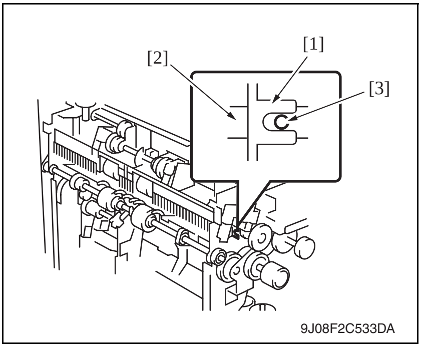
6. Remove two screws [1] and remove the exit roller motor [2].



7. Remove the E-ring [1].

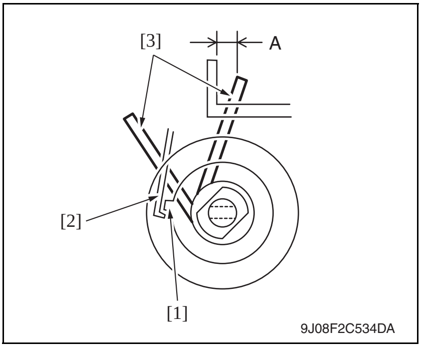


8. Loosen two hexagonal socket head screws [1], and remove the storage paddle drive clutch assy [2].



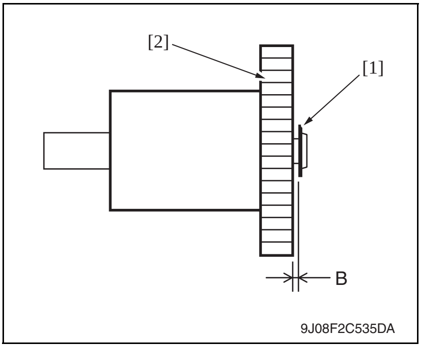
NOTE

- **When installing the storage paddle drive clutch, insert the hexagonal wrench into the flame notch [1], and confirm that the storage paddle drive axis [2] fits to the 2 mm-hole [3].**



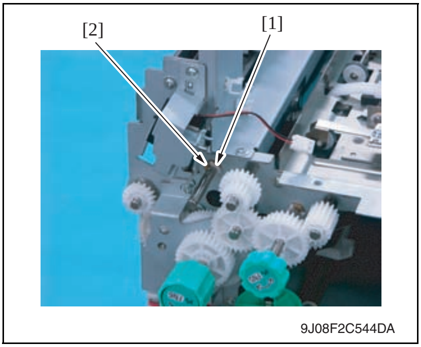
NOTE

- **When installing the storage paddle drive clutch, hook the solenoid flapper [2] on the tab [1] and confirm the storage paddle [3] locates the position as shown in the illustration.**
  Specifications A: 3.3 ± 3 mm

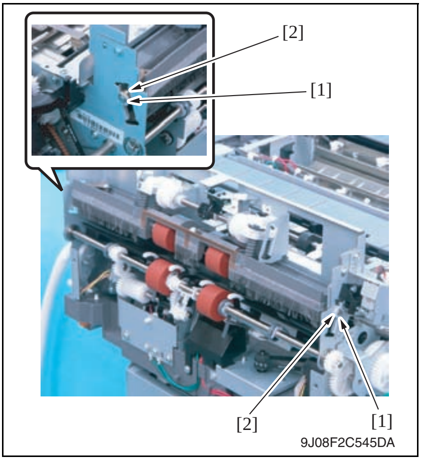


NOTE

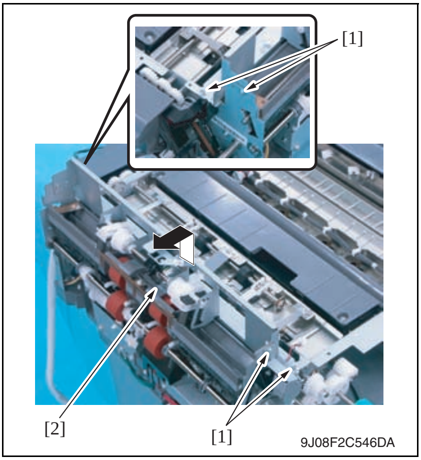
- **When installing the storage paddle drive clutch, adjust the distance between the E-ring [1] and the storage paddle drive clutch gear [2].**
  Specifications B: 0.2 ± 0.1 mm



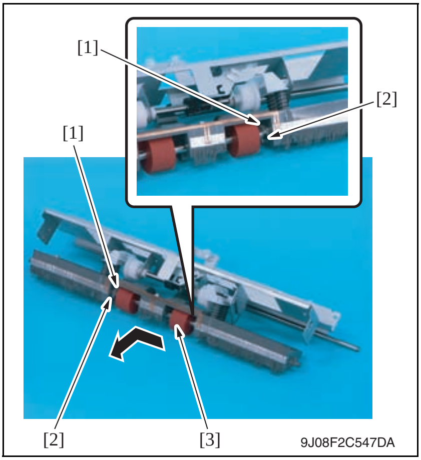
9. Remove the C-ring [1] and the bushing [2].



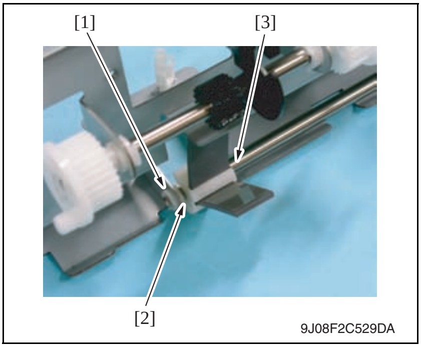
10. Remove two C-rings [1] and two bushings [2].



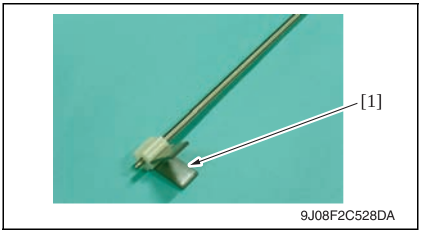
11. Remove four screws [1] and remove the exit transportation section (upper) assy [2].



12. Remove two C-rings [1] and two bearings [2], and remove the exit upper roller assy [3].

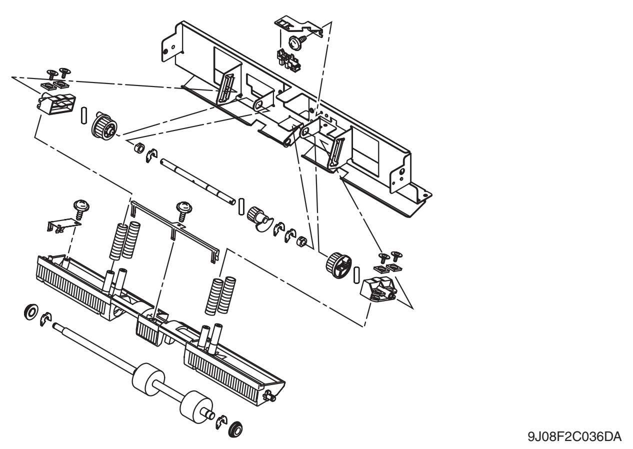


13. Remove the C-ring [1] and the bushing [2], and remove the storage paddle assy [3].



14. Remove the storage paddle [1].

15. Disassemble the pressure/retraction system units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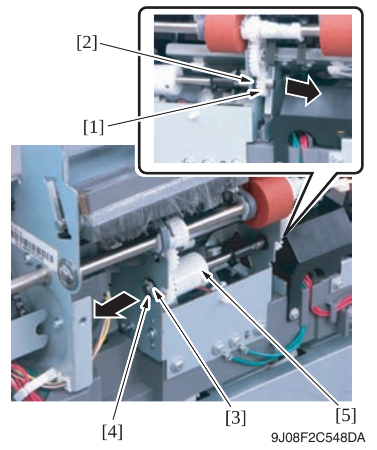
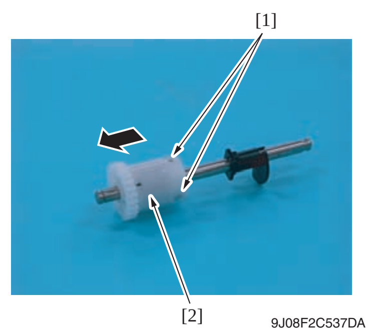
3.4.17 Exit paddle drive clutch/Exit lower roller



9J08F2C548DA

1. Remove the tray unit.
   See P.25
2. Remove the finisher unit.
   See P.28
3. Remove the finisher unit left front cover.
   See P.20
4. Remove the gear [1] and the bushing [2].
5. Remove the C-ring [3] and the bushing [4].
6. Remove the exit paddle drive clutch assy [5].



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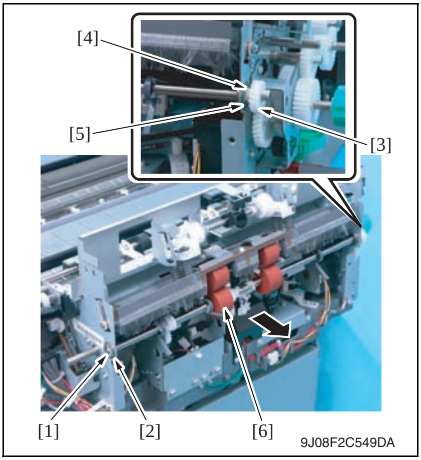
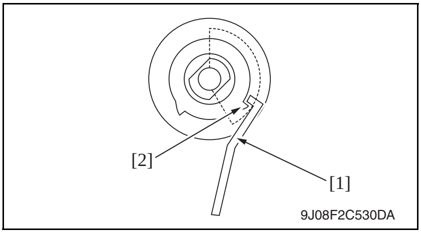
7. Loosen two hexagonal socket head screws [1], and remove the exit paddle drive clutch assy [2].

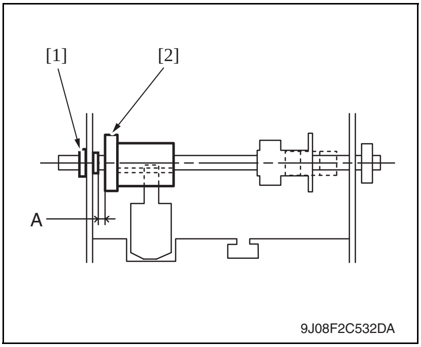


8. Remove the C-ring [1] and the bearing [2].
9. Remove the gear [3], C-ring [4] and bearing [5].
10. Remove the exit lower roller assy [6].



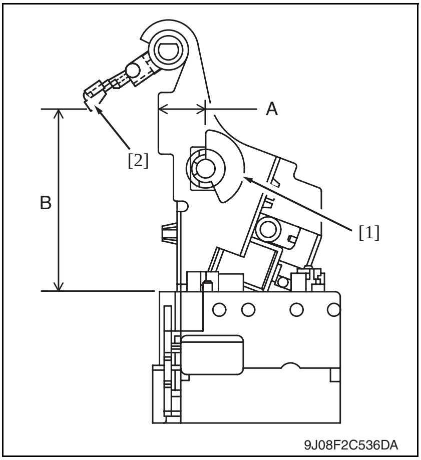
NOTE

- **When installing the exit paddle drive clutch, turn up the side that the distance between tabs is wider and hook the solenoid flapper [1] on the tab [2].**



NOTE

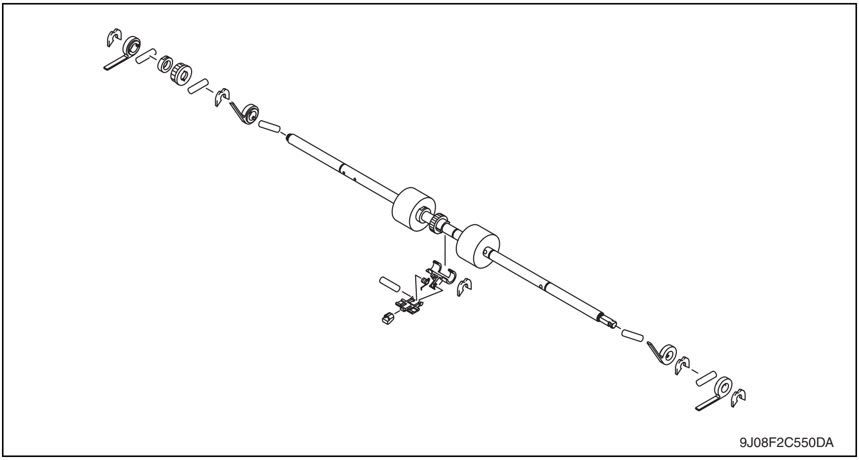
- **When installing the exit paddle drive clutch assy, adjust the distance between the bushing [1] and the exit paddle drive clutch [2] to 0.2 mm and tighten two hexagonal socket head screws.**



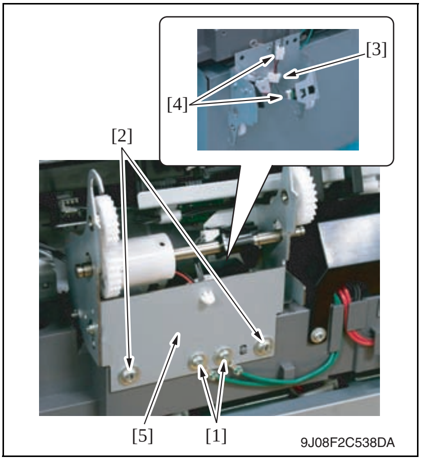
NOTE

- **When installing the exit paddle drive clutch assy, adjust the position of blocked panel [1].**
  Specifications A: 14.6 ± 1 mm
- **When installing the exit lower roller assy, adjust the position of the arm holder [2].**
  Specifications B: 56.4 ± 3 mm

11. Disassemble the exit lower roller assy



3.4.18 Aligning section



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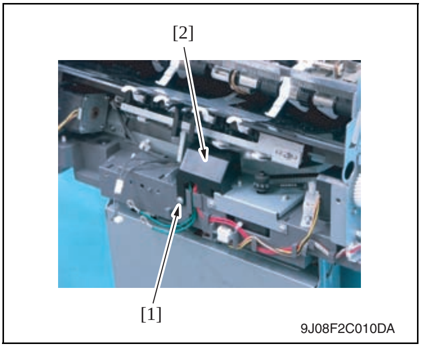
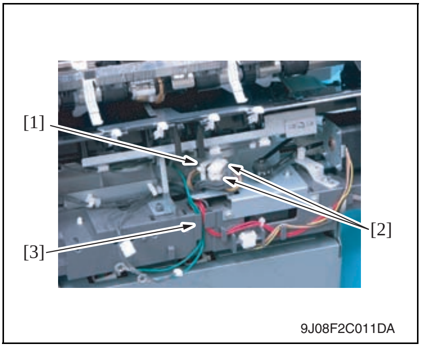
1. Remove the finisher unit left front cover.
   See P.20
2. Remove the finisher unit rear cover.
   See P.20
3. Remove the finisher unit upper cover.
   See P.21
4. Remove the exit transportation section (upper) assy.
   See P.33
5. Remove the exit lower roller assy.
   See P.38
6. Remove two screws [1] and remove the ground wire.
7. Remove two screws [2].
8. Remove the wire saddle [3] and disconnect two connectors [4], and remove the exit paddle drive clutch mounting plate assy [5].



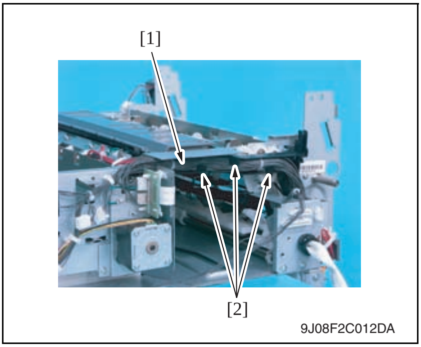
9J08F2C010DA

9. Remove the screw [1] and remove the connector cover [2].

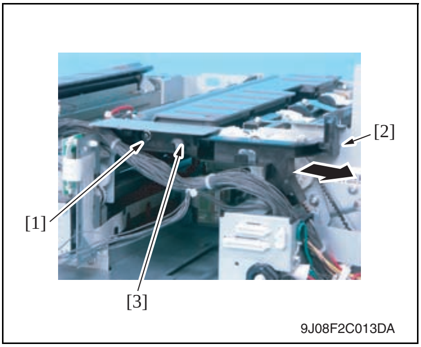


9J08F2C011DA

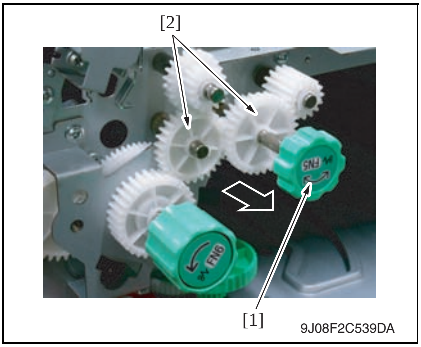
10. Remove the wire saddle [1] and disconnect two connectors [2].
11. Remove the ground wire from the harness guide [3].



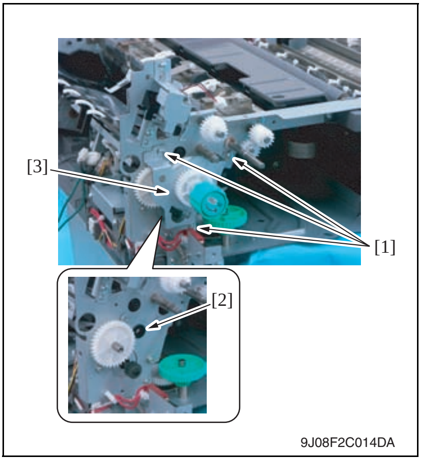
12. Remove the harness bundle [1] from the harness guide [2].



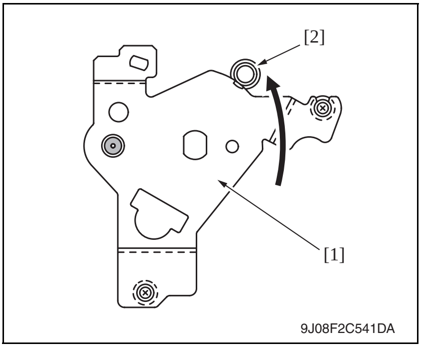
13. Remove the screw [1] and tab [2], and remove the harness guide [3].



14. Remove the knob [1] of FN5 and remove two gears [2].

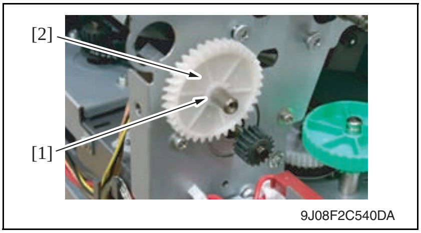


15. Remove three screws [1] and bushing [2], and remove the gear assy [3].

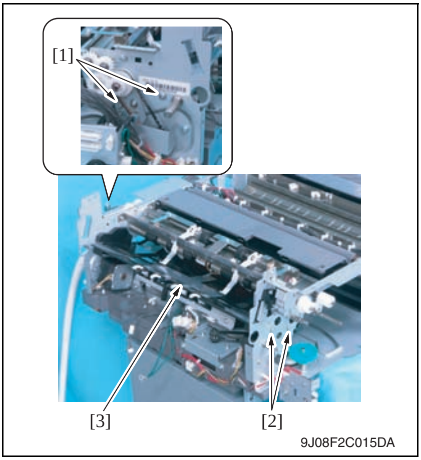


NOTE

- **When installing the gear assy, fit the mounting plate [1] to the caulking axis [2], and tightening with screw.**
- **Make sure that the gear rotates smoothly.**



16. Remove the C-ring [1] and remove the gear [2].



17. Remove two screws [1] and two shoulder screws [2], and remove the aligning plate assy [3].

3.4.19 Elevator motor/Timing belt

A. Removal procedure

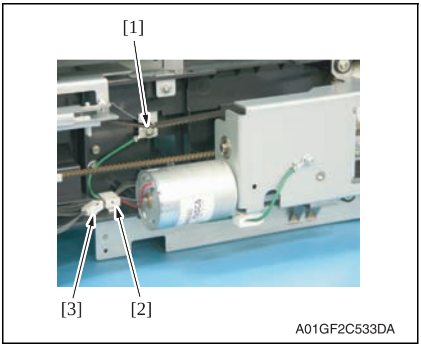
1. Remove the tray unit.
See P.25

2. Remove the tray unit front cover.
See P.23

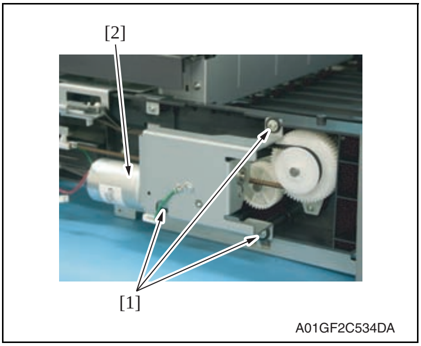
3. Remove the tray unit rear cover.
See P.23

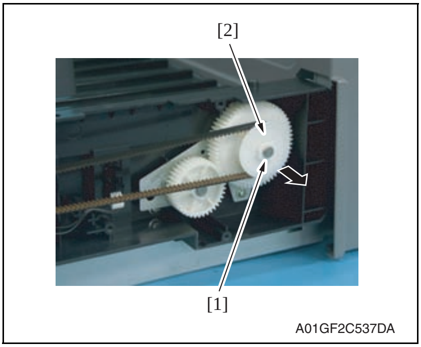
4. Remove the screw [1] and remove the ground wire.

5. Remove the wire saddle [2] and disconnect the connector [3].

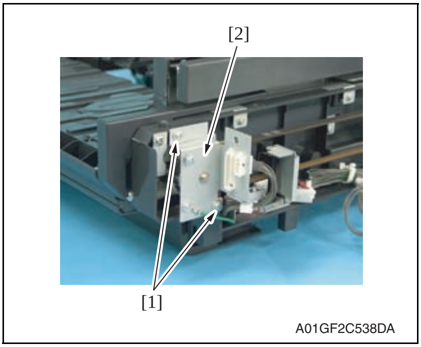


6. Remove three screws [1] and remove the elevator motor assy [2].

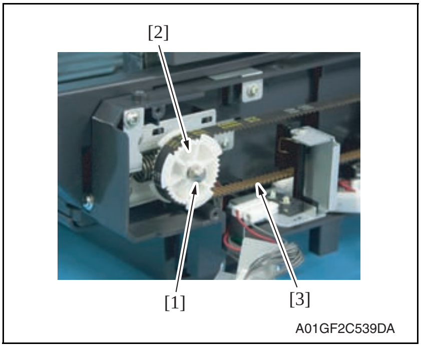




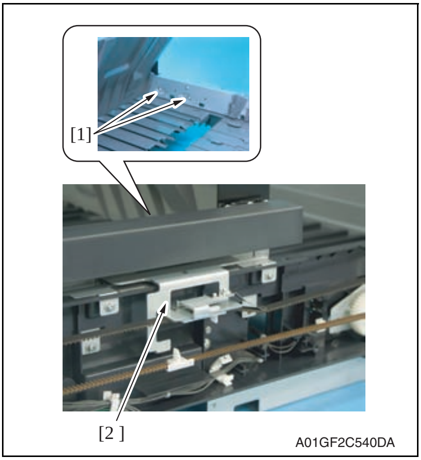
7. Remove the C-ring [1] and remove the gear cover [2].



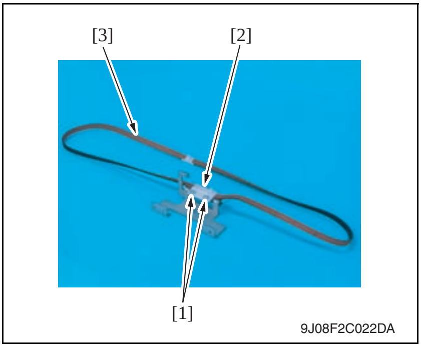
8. Remove two screws [1] and remove the metal bracket [2].



9. Remove the C-ring [1] and remove the gear (upper rear) [2] and belt [3].



10. Remove two screws [1] and remove elevator mounting plate (rear) [2].

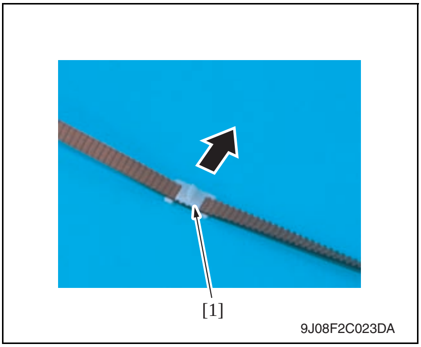


11. Remove two screws [1] and remove the belt holder [2].

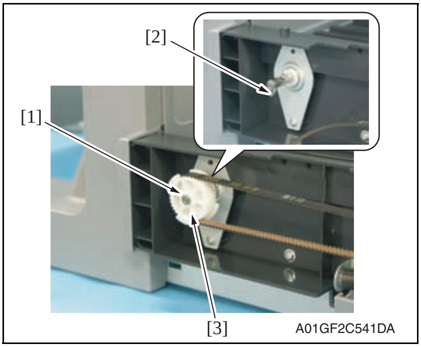
12. Remove the timing belt (rear) [3].

NOTE

- **When installing the timing belt, make sure there is no looseness.**



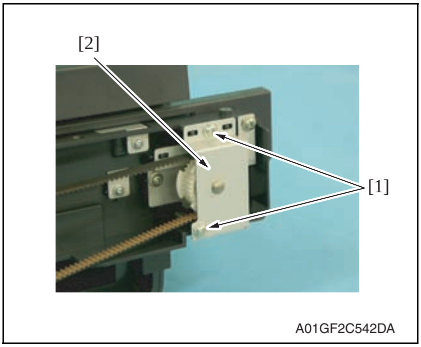
13. Remove the lever [1].



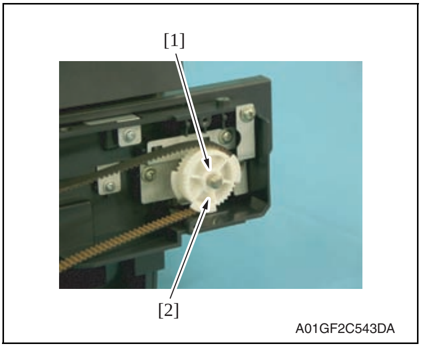
14. Remove the C-ring [1] and pin [2], and remove the gear (lower front) [3].

NOTE

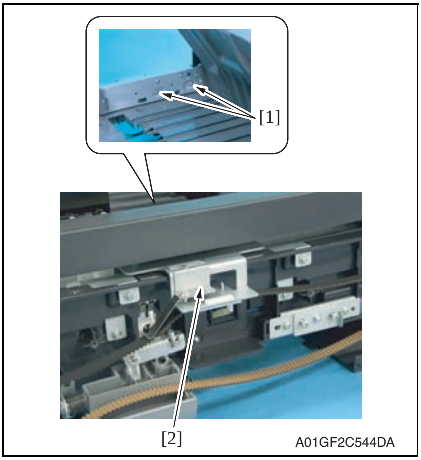
- **Use care not to lose the pin.**



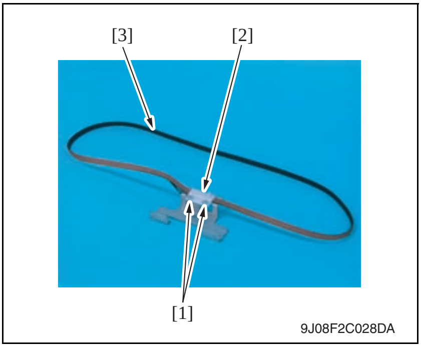
15. Remove two screws [1] and remove the metal bracket [2].



16. Remove the C-ring [1] and remove the gear (upper front) [2].

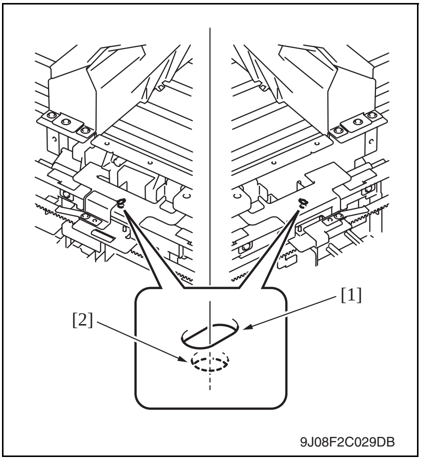


17. Remove two screws [1] and remove elevator mounting plate (front) [2].



18. Remove two screws [1] and remove the belt holder [2].

19. Remove the timing belt (front) [3].

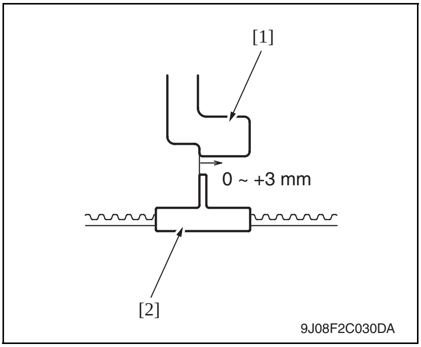


B. Adjustment of lever installation position

1. Install all components excepting for elevator motor assy.

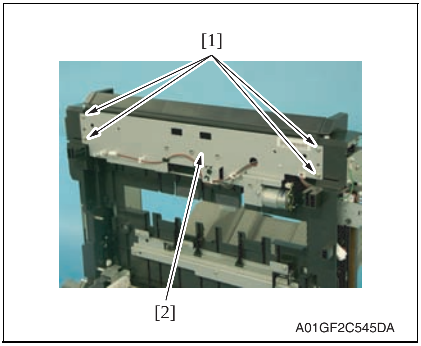
NOTE

- **Fit the hole of the elevator mounting plate (front/back) [1] and the hole of the elevator tray [2], and install them by fixing the front and back along.**

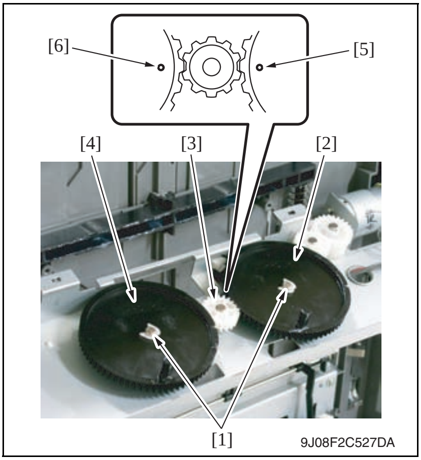


2. Fit the blocked plate [1] as shown in the illustration, and install the lever [2].
   Specifications: 0 to +3 mm
3. Install the elevator motor assy.

3.4.20 Shutter drive gear



1. Remove the tray unit.
   See P.25
2. Remove the tray unit front cover.
   See P.23
3. Remove the tray unit rear cover.
   See P.23
4. Remove four screws [1] and remove the shutter drive gear assy [2].

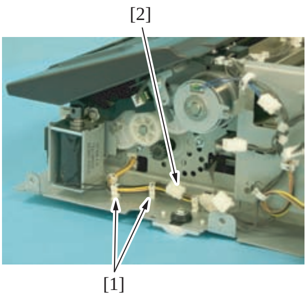


5. Remove two C-rings [1] and remove the gear 1 [2], gear 2 [3] and gear 3 [4].

NOTE

- **When installing the shutter drive gear, fit the match marks [5] of gear 1 and [6] of gear 3 as shown in the left illustration.**

3.4.21 Duplex guide solenoid



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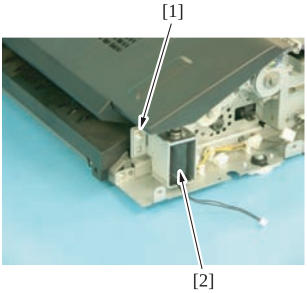
1. Remove the finisher unit.
   See P.28
2. Remove the finisher unit rear cover.
   See P.20
3. Remove the finisher unit upper cover.
   See P.21
4. Remove two saddles [1] and disconnect the connector [2].



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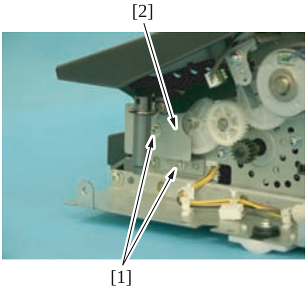
5. Remove the screw [1] and remove the duplex guide solenoid [2].



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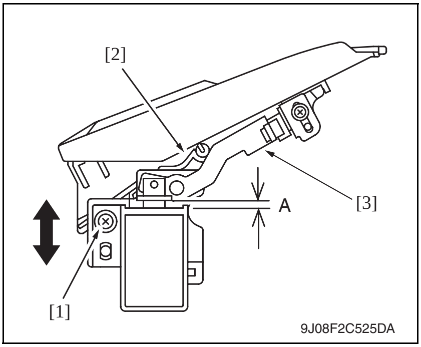
6. Remove two screws [1] and remove the duplex guide solenoid lever assy [2].

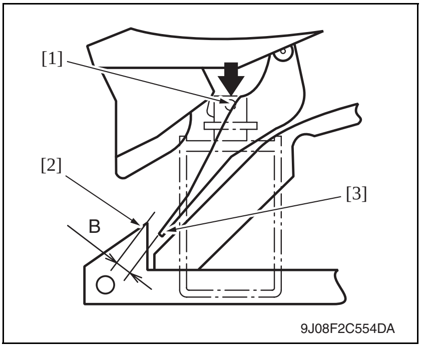


A. Adjustment

1. Loosen the screw [1].
2. Move the mounting plate up and down until the space A reaches specification, and tighten the screw [1].
   Specification: 3.5 mm (Tolerance: + 0.5 mm)

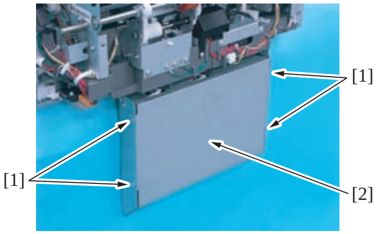
NOTE

- **The switch tab [2] shall face down and touch to the lever [3].**

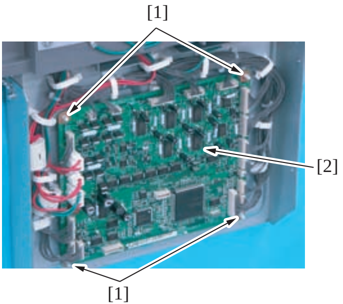


3. Lift down the plunger [1], and make sure that the gap B between switch tab end [2] and the guide [3] is over 5 mm.

3.4.22 FS control board



1. Remove the tray unit.
   See P.25
2. Remove four screws [1] and remove the cover [2].



3. Disconnect all the connectors on the FS control board.
4. Remove the board supports [1], and remove the FS control board [2].

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor Check

5.1 Check procedure

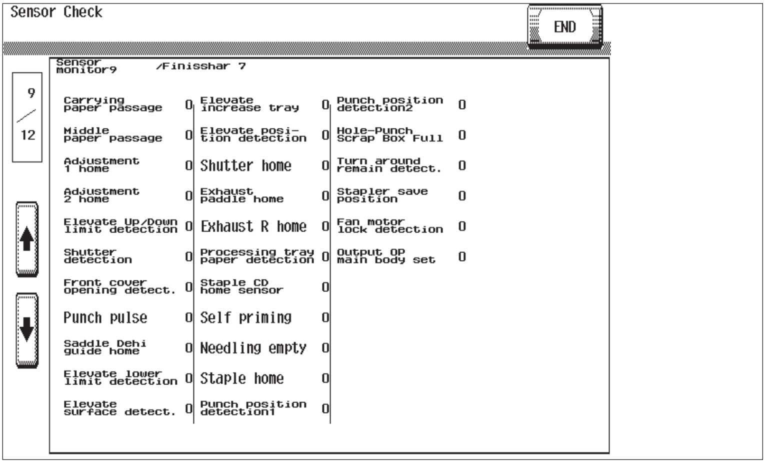
- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main body in the standby state (including a misfeed, malfunction, and closure failure condition).

A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch eight times [↓].

B. Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



Sensor monitor9 /Finisshar 7

Carrying paper passage	0	Elevate increase tray	0	Punch position detection2	0
Middle paper passage	0	Elevate position detection	0	Hole-Punch Scrap Box Full	0
Adjustment 1 home	0	Shutter home	0	Turn around remain detect.	0
Adjustment 2 home	0	Exhaust paddle home	0	Stapler save position	0
Elevate Up/Down limit detection	0	Exhaust R home	0	Fan motor lock detection	0
Shutter detection	0	Processing tray paper detection	0	Output OP main body set	0
Front cover opening detect.	0	Staple CD home sensor	0		
Punch pulse	0	Self priming	0		
Saddle Dehi guide home	0	Needling empty	0		
Elevate lower limit detection	0	Staple home	0		
Elevate surface detect.	0	Punch position detection1	0		

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C. Sensor check list

Symbol	Panel display		Part/signal name	Operation characteristics/ panel display	
				1	0
PS1	Sensors monitor9	Carrying Paper Passage	Entrance sensor	Paper present	Paper not present
PS2		Middle Paper Passage	Transport sensor	Paper present	Paper not present
PS7		Home1 (CD-Align)	Alignment home position sensor /1	At home	Not at home
PS8		Home2 (CD-Align)	Alignment home position sensor /2	At home	Not at home
SW3		Elevate Tray Raised/ Lowered	Elevator tray switch	ON	OFF
SW2		Shutter	Shutter detect switch	Closed	Open
SW1		Front Cover	Front door switch	Closed	Open
PS502		Punch Pulse	Punch motor pulse sensor	Blocked	Unblocked
PS23		Home (Saddle In and Out)	In & out guide home sensor	Blocked	Unblocked
PS13		Elevate Tray Lowered	Elevator tray lower limit sensor	Blocked	Unblocked
PS12		Surface (Elev.)	Elevator top face detection sensor	Blocked	Unblocked
—		Elevate Tray Proliferation	Short connector	Set	Not set
PS11		Elevate Position	Elevator tray home position sensor	Blocked	Unblocked
PS14		Home (Shutter)	Shutter home position sensor	Blocked	Unblocked
PS6		Home (Exit Paddle)	Exit paddle home position sensor	Blocked	Unblocked
PS5		Home (Exit R)	Exit roller home position sensor	Blocked	Unblocked
PS3		Empty (Finisher)	Storage tray detect sensor	Blocked	Unblocked
PS9		Home (Staple CD)	Staple home position sensor	Blocked	Unblocked
—		Self Printing	Self-priming sensor	Blocked	Unblocked
—		Staple Empty	Staple empty detection sensor	Blocked	Unblocked
—		Home (Stapler)	Staple home position sensor	Blocked	Unblocked
PS500		Punch Position1	Punch cam sensor	Unblocked	Blocked
PS501		Punch Position2	Punch home position sensor	Unblocked	Blocked
PS503		Punch Dust Full	Punch Trash full sensor	Blocked	Unblocked
PS4		Remain in Reverse Section	Entrance switch back sensor	Unblocked	Blocked
PS10		Stapler Save Position	Stapler save position sensor	Blocked	Unblocked
M9		Fan Motor Lock	Cooling fan motor	When turning	When stopped
SW4		Exit OP Machine Set	Slide switch	Set	Not set

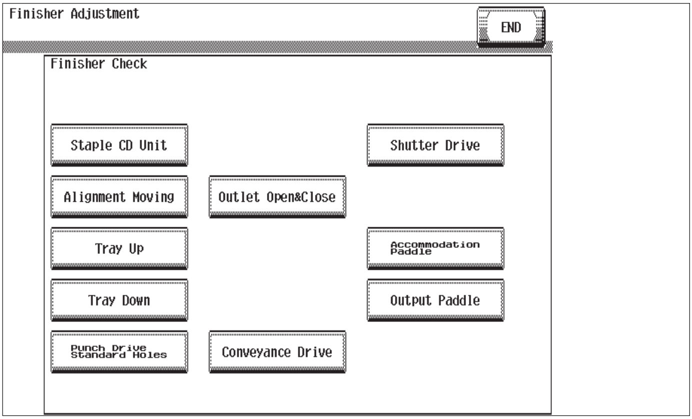
6. Finisher operations

6.1 CB-FN adjustment

6.1.1 Finisher Check

A. Entering Finisher

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [CB-FN adjustment].
4. Touch [Finisher Check].
5. Touch the item one wants.



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B. Finisher Check

(1) Staple CD Unit

- Returns the staple unit to the predetermined position after it moves to the 2-point stapling position for A4.
  → Moves from the predetermined position to the inner 2-point stapling position for A4.
  → Moves from the starting position and stops after the predetermined time.
  → Moves to the front of A4.
  → Moves from the starting position and stops after the predetermined time.
  → Moves to the predetermined position.
  → The operation is finished.

(2) Alignment Moving

- Aligning plates 1 and 2 return to the predetermined position after moving to the aligning position for A4S.
  → Moves from the predetermined position to the second predetermined position for A4S.
  → Stops after the predetermined time.
  → Moves to the aligning position for A4S.
  → Stops after the predetermined time.
  → Moves to the predetermined position.
  → The operation is finished.

(3) Tray Up

- The elevator tray is raised to bin 1. (Bin 1 → Additional bin → Bin 2)
  → The exit opens.
  → The shutter closes.
  → The paper output tray is raised to bin 1.
  → The shutter opens.
  → The exit closes.
  → The operation is finished.

(4) Tray Down

- The elevator tray is lowered from bin 1. (Bin 2 → Additional bin → Bin 1)
  → The exit opens.
  → The shutter closes.
  → The paper output tray is lowered from bin 1.
  → The shutter opens.
  → The exit closes.
  → The operation is finished.

(5) Punch Drive Standard Holes (appears only when the punch kit PK-510 is installed)

- The punch is driven once at a standard hole.
  → The operation is finished.

(6) Punch Drive MC 2Holes (appears only when the punch kit PK-510 is installed)

- The punch is driven once at a 2holes.
  → The operation is finished.

(7) Outlet Open & Close

- Opens and closes the exit.
  → The exit opens.
  → Stops after the predetermined time.
  → The exit closes.
  → The operation is finished.

(8) Fold Drive (appears only when the saddle kit SD-505 is installed)

See P.29 of the SD-505 service manual.

(9) Saddle Outlet Open & Close (appears only when the saddle kit SD-505 is installed)

See P.29 of the SD-505 service manual.

(10) Conveyance Drive (appears only when the saddle kit SD-505 is installed)

See P.29 of the SD-505 service manual.

(11) Shutter Drive

- Opens and closes the shutter.
  → The exit opens.
  → The shutter closes.
  → Stops after the predetermined time.
  → The shutter opens.
  → The exit closes.
  → The operation is finished.

(12) Bin SL Drive (appears only when the mail bin kit MT-502 is installed)

See P.10 of the MT-502 service manual.

(13) Accommodation Paddle

- Drive the storage paddle two turns
  → The operation is finished,

(14) Output Paddle

- Drive the exit paddle one turn
  → The operation is finished,

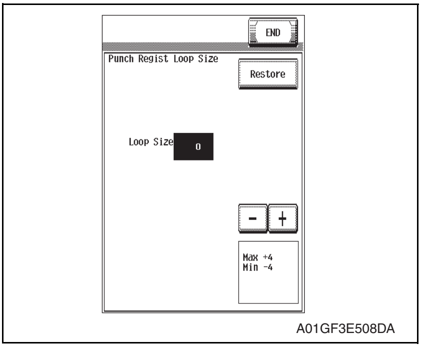
6.1.2 Punch Regist Loop Size

NOTE

This adjustment must be made in any of the following cases:

- **When a slant occurs in the punch hole position.**
- **When misfeed frequently occurs in punch hole mode.**

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [CB-FN adjustment].
4. Touch [Punch Regist Loop Size].



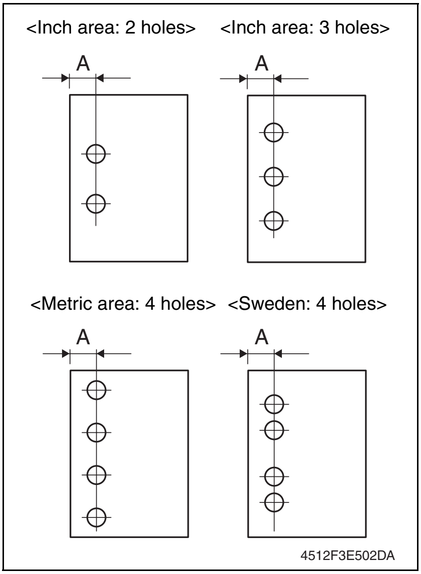
Loop Size 0

Max +4
Min -4

5. Set the correction value using the [-]/[+] keys.
- Adjustment range: +4 max. and -4 min. (1 increment: 1 mm)
- To make loop length larger, enter a positive value.
- To make loop length smaller, enter a positive value.

6. Touch two times [END].
7. Touch [Exit] on the Service Mode screen.
8. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
9. Make a copy again and check the deviance of punch hole position.

6.1.3 Punch Horizontal Position



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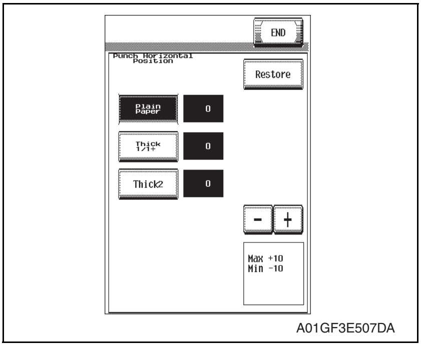
1. Set the copier into the hole punch mode and make a 1-sided copy from a 1-sided original.
2. Measure width A on the copy and check to see if the measured dimension falls within the specified range.
   <Inch area: 2 holes, 3 holes>
   Specifications: 9.5 ± 1.0 mm
   <Metric area: 4 holes>
   Specifications: 11 ± 1.0 mm
   <Sweden: 4 holes>
   Specifications: 11.5 ± 1.0 mm
3. If the measured width A outside the specified range, perform the following procedure to punch hole position adjustment.
4. Call the Service Mode to the screen.
5. Touch [Finisher].
6. Touch [CB-FN adjustment].
7. Touch [Punch Horizontal Position].



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8. Set the correction value using the [+]/[-] keys.
- To make width A wider, enter a positive value.
- To make width A narrower, enter a negative value.
- Adjustment range: +10 max. and -10 min. (1 increment: 0.5 mm)
9. Touch two times [END].
10. Touch [Exit] on the Service Mode screen.
11. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
12. Make a copy and check the punch hole positions again.

3 6.2 Punch option setting

Functions	• To set installation and model of the punch kit. • To set the number of holes to be made by the punch kit installed.
Use	• Use when the punch kit is installed.
Setting/ Procedure	• The default setting is Non-installat. *1.* Touch [PK-510]. *2.* Select the number of punch holes to be made corresponding to the model and destination. *3.* Touch [decision]. *4.* Turn off the main power switch and turn it on again more than 10 seconds after.

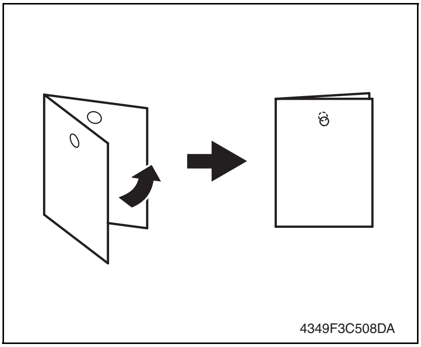
7. Mechanical adjustment

7.1 Punch hole deviance adjustment (PK-510)

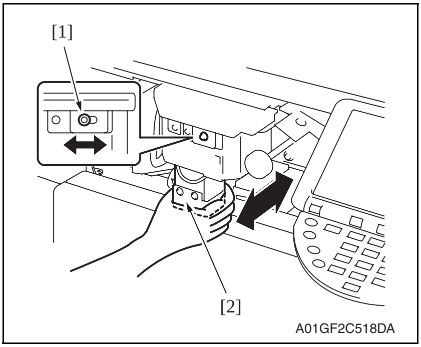
NOTE

Make this adjustment after any of the following procedures has been performed.

- **When the punch kit has been replaced.**
- **When the punch kit has been removed.**



1. Set the copier into the hole punch mode and make a 1-sided copy from a 1-sided original.
2. Fold the output paper in half and check whether the punch hole positions are aligned.
   Specification: 0 ± 2 mm
3. If the punch hole position is misaligned, adjust with the following procedure.



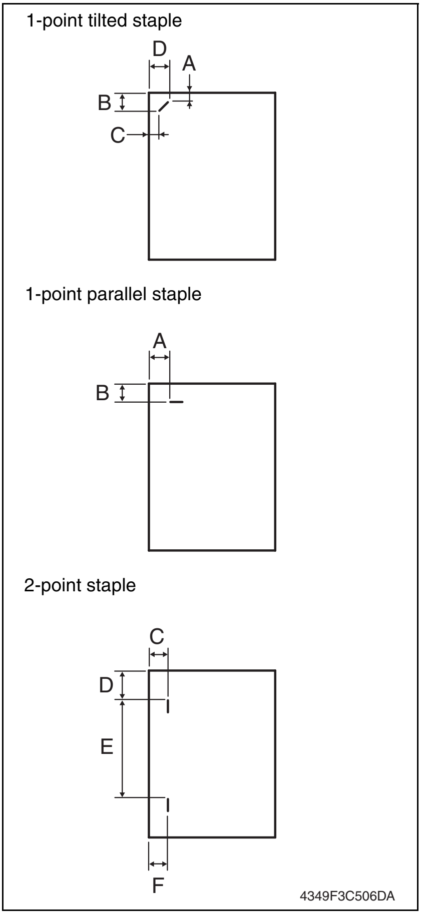
4. Remove the finisher unit right front cover.
   See P.20
5. Loosen the adjustment screw [1], and move the punch unit [2] forward or backward to make the adjustment.
6. After the adjustment has been completed, tighten the adjusting screw.
7. Make a copy and check the punch hole positions again.

7.2 Staple position adjustment

NOTE

Make this adjustment after any of the following procedures has been performed.

- **When the stapler has been replaced.**
- **When staple position is misaligned.**



1. Set the staple mode and make a copy.
2. Check the staple position of the paper.

- 1-point tilted staple
  (Paper width: 216 to 297 mm)
  279 to 297 mm: 45° tilt,
  B5, B4S: 30° tilt

Measurement position	Specification	Adjustment range
A	4.9 mm	-3 mm to +3 mm
B	10.1 mm	-4 mm to +4 mm
C	6.5 mm	-3 mm to +3 mm
D	16.2 mm	-4 mm to +4 mm

- 1-point parallel staple
  (Paper width: 182 to 216 mm)

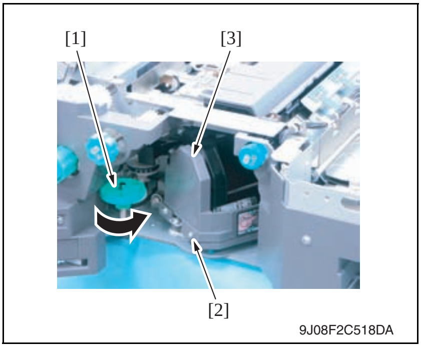
Measurement position	Specification	Adjustment range
A	4.5 mm	-3 mm to +3 mm
B	6 mm	-4 mm to +4 mm

- 2-point staple

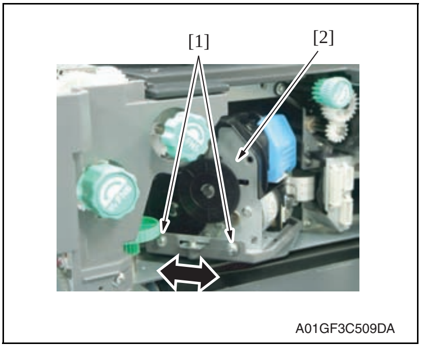
Measurement position	Specification	Adjustment range
C, F	6 mm	-4 mm to +4 mm
D	Y	-4 mm to +4 mm
E	X	-4 mm to +4 mm

Y = (paper width-X-11) / 2
X = A3, A4: 137
B4, B5: 114
A4S: 190
B5S: 162
Substitute above into the equation.

3. If the staple position is misaligned, adjust with the following procedure.



4. Open the front door.
5. Turn the dial [1], and move the stapler forward.
6. Loosen the screw [2], and remove the cover [3].



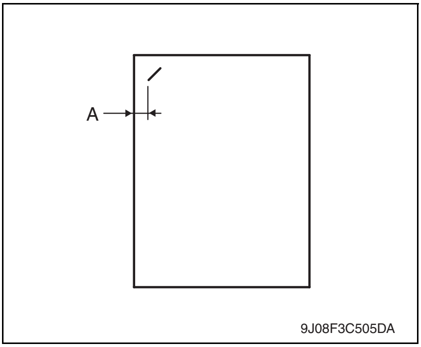
7. Loosen two adjustment screws [1] and move the stapler unit [2] in the direction of the arrow to make the adjustment.
8. Make another copy and check the staple position.

7.3 Staple home position sensor position adjustment

NOTE

Make this adjustment after any of the following procedures has been performed.

- **When the stapler has been replaced.**
- **When staple position is misaligned.**



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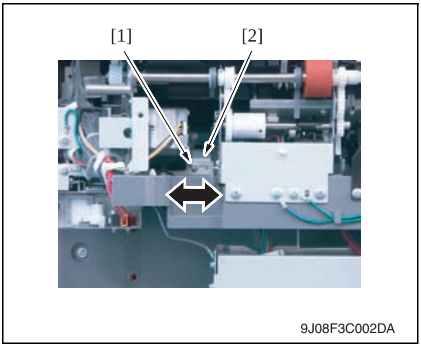
1. Set the staple mode and make a copy.
2. Check the staple position of the paper.

- 1-point tilted staple
  (Paper width: 216 to 297 mm)
  Specification A: 6.5 mm ± 1.5 mm

3. If the staple position does not fall within the specified range, make an adjustment as shown below.



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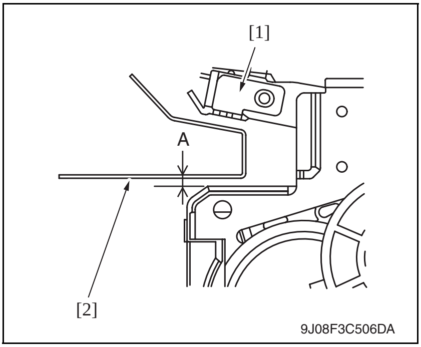
4. Remove the tray unit.
   See P.25
5. Loosen the screw [1] and make the adjustment by shifting stapler home sensor [2] in the direction of an arrow.

7.4 Adjustment of clearance between stapler and FD stopper

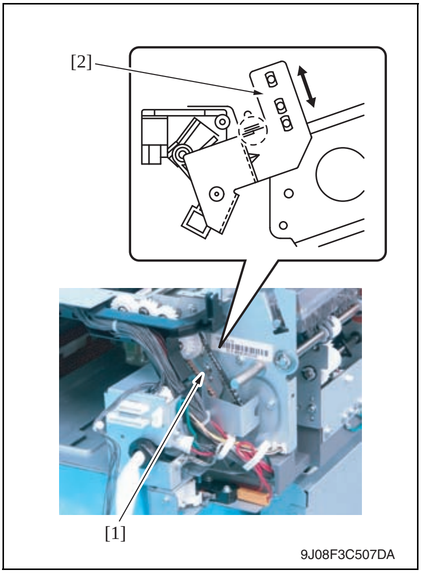
NOTE

Make this adjustment after any of the following procedures has been performed.

- **When stapler fails to move appropriately.**



1. Check the clearance between the stapler unit [1] and the FD stopper [2] is within the specified range.
   Specification A: 2.0 mm ± 0.5 mm
2. If the value does not fall within the specified range, make the adjustment as shown below.



3. Remove the tray unit.
   See P.25
4. Remove the finisher unit.
   See P.28
5. Remove the finisher unit rear cover.
   See P.20
6. Loosen the screw [1] and move the mounting plate [2] to adjust.

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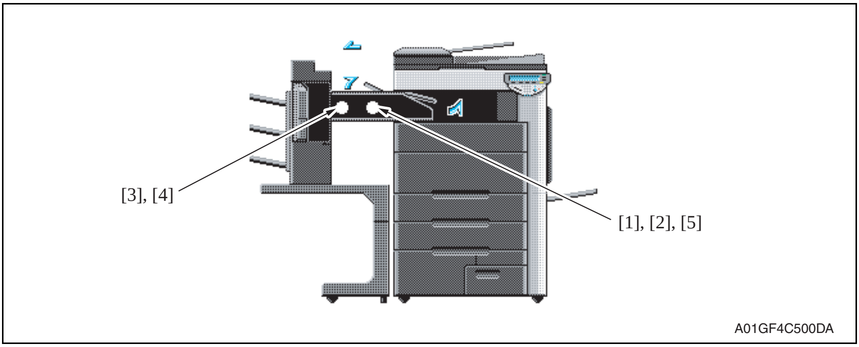
Troubleshooting

8. Jam display

8.1 Misfeed display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the touch panel of the machine.

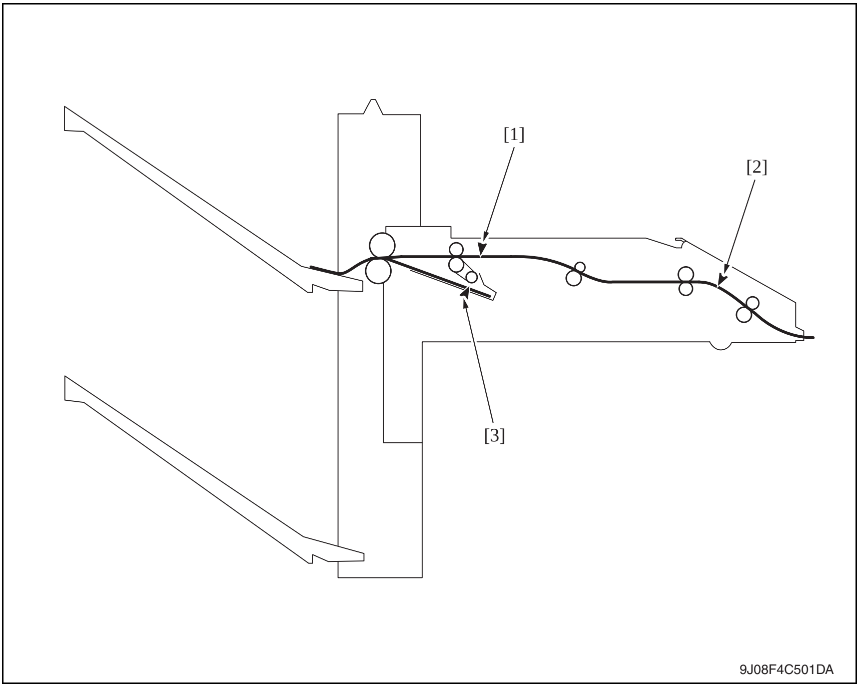


Display	Code	Misfeed location	Misfeed processing location	Action
[1]	7218	Finisher transport section misfeed	Front door	P.70
[2]	7216	Finisher exit section misfeed	Front door	P.71
[3]	7221	Finisher bundle exit misfeed	Front door	P.71
[4]	7281	Finisher staple misfeed	Front door	P.72
[5]	7243	Finisher punch misfeed	Front door	P.72

8.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

8.2 Sensor layout



[1]	Transport sensor	PS2
[2]	Entrance sensor	PS1
[3]	Storage tray detect sensor	PS3

8.3 Solution

8.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

8.3.2 Transport section misfeed

A. Detection timing

Type	Description
Finisher transport section misfeed detection	The entrance sensor (PS1) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned ON by the paper.
	The entrance sensor (PS1) is not turned OFF even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned OFF by the paper.
Finisher transport section misfeed detection	The entrance sensor (PS1) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The transport sensor (PS2) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Paper exit sensor (PS39) Entrance sensor (PS1) Transport sensor (PS2)	FS control board (FSCB) MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS39 sensor check	PRCB CN36PRCB-12 (ON)	bizhub C650/ C550/C451 K-4
3	PS1 sensor check	FSCB PJ19FSCB-11 (ON)	FS-519 C-7
4	PS2 sensor check	FSCB PJ19FSCB-14 (ON)	FS-519 C-7
5	Change FSCB	—	—
6	Change MFPB	—	—

8.3.3 Exit section misfeed

A. Detection timing

Type	Description
Finisher exit section misfeed detection	The transport sensor (PS2) is not turned ON even after the set period of time has elapsed after the entrance sensor (PS1) is turned ON by the paper.
	The transport sensor (PS2) is not turned OFF even after the set period of time has elapsed after the entrance sensor (PS1) is turned OFF by the paper.

B. Action

Relevant electrical parts	
Entrance sensor (PS1) Transport sensor (PS2)	FS control board (FSCB) MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS1 sensor check	FSCB PJ19FSCB-11 (ON)	FS-519 C-7
3	PS2 sensor check	FSCB PJ19FSCB-14 (ON)	FS-519 C-7
4	Change FSCB	—	—
5	Change MFPB	—	—

8.3.4 Finisher bundle exit misfeed

A. Detection timing

Type	Description
Finisher bundle exit misfeed detection	The storage tray detect sensor (PS3) is not turned OFF even after the set period of time has elapsed after the exit motor (M4) is energized.

B. Action

Relevant electrical parts	
Storage tray detect sensor (PS3) Exit motor (M4)	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS3 sensor check	FSCB PJ14FSCB-8 (ON)	FS-519 C-12
3	M4 operation check	FSCB PJ10FSCB-5 to 8	FS-519 C-3
4	Change FSCB	—	—

8.3.5 Finisher staple misfeed

A. Detection timing

Type	Description
Finisher staple misfeed detection	The staple home position sensor in the staple unit is not turned ON even after the set period of time has elapsed after the staple motor rotates forward, and then the staple motor rotates backward, and the staple home position sensor in the staple unit is turned ON within the set period of time.

B. Action

Relevant electrical parts	
Staple unit	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Drive coupling section check	—	—
3	Sensor check	—	—
4	Change staple unit	—	—
5	Change FSCB	—	—

8.3.6 Finisher punch misfeed (PK-510)

A. Detection timing

Type	Description
Finisher punch misfeed detection	Punch positioning sensors 1 and 2 are not turned ON even after the set period of time has elapsed after the punch motor is energized.

B. Action

Relevant electrical parts	
Punch unit	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Drive coupling section check	—	—
3	Sensor check	—	—
4	Change punch unit	—	—
5	Change FSCB	—	—

9. Malfunction code

9.1 Trouble code

- The machine’s CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Description	Detection timing
C1004	FNS communication error	• When the FNS control board (FSCB) is receiving data, a communication error is detected.
C1183	Elevator motor ascent/ descent drive failure	• The elevator tray lower limit sensor (PS13) is not turned ON even after the set period of time has elapsed after the main power switch is set to ON. • The elevator tray home position sensor (PS11) and elevator top face detection sensor (PS12) are not turned ON even after the set period of time has elapsed after the elevator motor (M11) is energized. • The elevator tray does not stop at the position for the specified tray after the elevator motor (M11) is energized (beginning of descent operation) and the elevator tray lower limit sensor (PS13) is turned ON. • The elevator top face detection sensor (PS12) is not turned ON even after the set period of time has elapsed after the elevator motor (M11) is energized (beginning of ascent operation) when paper is being fed out.
C1190	Aligning plate 1 drive failure	• The alignment home position sensor/1 (PS7) is not turned ON even after the set period of time has elapsed after the main power switch is set to ON. • The alignment home position sensor/1 (PS7) is not turned OFF even after the set period of time has elapsed after the align motor/1 (M5) is energized.
C1191	Aligning plate 2 drive failure	• The alignment home position sensor/2 (PS8) is not turned ON even after the set period of time has elapsed after the main power switch is set to ON. • The alignment home position sensor/2 (PS8) is not turned OFF even after the set period of time has elapsed after the align motor/2 (M6) is energized.
C11A0	Paper holding drive failure	• The exit paddle home position sensor (PS6) is not turned ON even after the set period of time has elapsed after the exit paddle solenoid (SD2) is activated (beginning of paddle retraction operation). • The exit paddle home position sensor (PS6) is not turned OFF even after the set period of time has elapsed after the exit paddle solenoid (SD2) is activated (beginning of paddle paper-holding operation).
C11A1	Exit roller pressure/ retraction failure	• The exit roller home position sensor (PS5) is not turned ON even after the set period of time has elapsed after the exit roller motor (M10) is energized (beginning of pressure operation). • The exit roller home position sensor (PS5) is not turned OFF even after the set period of time has elapsed after the exit roller motor (M10) is energized (beginning of retraction operation).

Code	Description	Detection timing
C11A3	Shutter drive failure	• The shutter home position sensor (PS14) is not turned OFF even after the set period of time has elapsed after the shutter motor (M8) is energized (beginning of shutter-opening operation). • The shutter home position sensor (PS14) is not turned ON even after the set period of time has elapsed after the shutter motor (M8) is energized (beginning of shutter-closing operation).
C11B0	Staple unit CD drive failure	• The staple home position sensor (PS9) is not turned ON even after the set period of time has elapsed after the stapling unit moving motor (M7) is energized (beginning of return operation to predetermined position).
C11B2	Staple drive failure	• The home position sensor is not turned ON even after the set period of time has elapsed after the staple motor is energized (beginning of staple operation).
C11C0	Punch cam motor unit failure	• The punch home position sensor (PS501) is not turned ON even after the set period of time has elapsed while the punch motor (M99) is energized.
C1301	Finishing option cooling fan motor failure	• The cooling fan motor (M9) lock signal remains set to H for a set period of time while the cooling fan motor (M9) is turning. • The cooling fan motor (M9) lock signal remains set to L for a set period of time while the cooling fan motor (M9) remains stopped.
C1402	FNS nonvolatile memory failure	• When the main power switch is turned ON, the FNS board nonvolatile memory failure is detected.
CC155	Finisher ROM failure	• Data of flash ROM of the finishing options is determined to be faulty when the power is turned ON.

9.2 Solution

9.2.1 C1004: FNS communication error

Relevant electrical parts	
FS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change FSCB	—	—

9.2.2 C1183: Elevator motor ascent/descent drive failure

Relevant electrical parts	
Elevator motor (M11) Elevator tray home position sensor (PS11) Elevator tray lower limit sensor (PS13)	Elevator top face detection sensor (PS12) Relay board/1 (REYB/1) FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M11 connector for proper connection and correct as necessary.	—	—
2	Check M11 for proper drive coupling and correct as necessary.	—	—
3	If OT-602 is connected, check the connector for proper connection, and correct as necessary.	—	—
4	Check the installation position of the OT-602 tray, and correct as necessary.	—	—
5	M11 operation check	FSCB PJ6FSCB-5 to 6	FS-519 J-4
6	PS11 sensor check	FSCB PJ18FSCB-6 (ON)	FS-519 L-3
7	PS13 sensor check	FSCB PJ18FSCB-3 (ON)	FS-519 L-4
8	PS12 sensor check	FSCB PJ18FSCB-4 (ON)	FS-519 L-3
9	Change REYB/1	—	—
10	Change FSCB	—	—

9.2.3 C1190: Aligning plate 1 drive failure

9.2.4 C1191: Aligning plate 2 drive failure

Relevant electrical parts	
Align motor/1 (M5) Align motor/2 (M6) Alignment home position sensor/1 (PS7) Alignment home position sensor/2 (PS8)	FS control board (FSCB)

- C1190

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M5 connector for proper connection and correct as necessary.	—	—
2	Check M5 for proper drive coupling and correct as necessary.	—	—
3	M5 operation check	FSCB PJ11FSCB-1 to 4	FS-519 C-10
4	PS7 sensor check	FSCB PJ14FSCB-3 (ON)	FS-519 C-11
5	Change FSCB	—	—

- C1191

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M6 connector for proper connection and correct as necessary.	—	—
2	Check M6 for proper drive coupling and correct as necessary.	—	—
3	M6 operation check	FSCB PJ11FSCB-5 to 8	FS-519 C-11
4	PS8 sensor check	FSCB PJ14FSCB-6 (ON)	FS-519 C-11
5	Change FSCB	—	—

9.2.5 C11A0: Paper holding drive failure

Relevant electrical parts	
Exit paddle solenoid (SD2) Exit paddle home position sensor (PS6)	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the SD2 connector for proper connection and correct as necessary.	—	—
2	PS6 sensor check	FSCB PJ13FSCB-11 (ON)	FS-519 C-4
3	SD2 operation check	FSCB PJ13FSCB-2 (REM)	FS-519 C-5
4	Change FSCB	—	—

9.2.6 C11A1: Exit roller pressure/retraction failure

Relevant electrical parts	
Exit roller motor (M10) Exit roller home position sensor (PS5)	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M10 connector for proper connection and correct as necessary.	—	—
2	Check M10 for proper drive coupling and correct as necessary.	—	—
3	M10 operation check	FSCB PJ12FSCB-8 to 9	FS-519 C-9
4	PS5 sensor check	FSCB PJ19FSCB-3 (ON)	FS-519 C-8
5	Change FSCB	—	—

9.2.7 C11A3: Shutter drive failure

Relevant electrical parts	
Shutter motor (M8) Shutter home position sensor (PS14)	Relay board/1 (REYB/1) FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M8 connector for proper connection and correct as necessary.	—	—
2	Check M8 for proper drive coupling and correct as necessary.	—	—
3	M8 operation check	FSCB PJ6FSCB-7 to 8	FS-519 J-5
4	PS14 sensor check	FSCB PJ18FSCB-5 (ON)	FS-519 J-5
5	Change REYB/1	—	—
6	Change FSCB	—	—

9.2.8 C11B0: Staple unit CD drive failure

Relevant electrical parts	
Stapling unit moving motor (M7) Staple home position sensor (PS9)	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check for interference with the shutter and exit roller, and correct as necessary.	—	—
2	Check the M7 connector for proper connection and correct as necessary.	—	—
3	Check M7 for proper drive coupling and correct as necessary.	—	—
4	M7 operation check	FSCB PJ10FSCB-1 to 4	FS-519 C-3 to 4
5	PS9 sensor check	FSCB PJ13FSCB-5 (ON)	FS-519 C-4 to 5
6	Change FSCB	—	—

9.2.9 C11B2: Staple drive failure

Relevant electrical parts	
Staple unit	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the staple unit connector for proper connection and correct as necessary.	—	—
2	Check the staple unit for proper drive coupling, and correct as necessary.	—	—
3	Staple unit operation check	—	—
4	Change staple unit	—	—
5	Change FSCB	—	—

9.2.10 C11C0: Punch cam motor unit failure

Relevant electrical parts	
Punch unit	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the punch unit connectors for proper connection, and correct as necessary.	—	—
2	Check the punch unit for proper drive coupling, and correct as necessary.	—	—
3	Punch unit sensor check	—	—
4	Change punch unit	—	—
5	Change FSCB	—	—

9.2.11 C1301: Finishing option cooling fan motor failure

Relevant electrical parts	
Cooling fan motor (M9)	FS control board (FSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M9 connector for proper connection and correct as necessary.	—	—
2	Check M9 for proper drive coupling and correct as necessary.	—	—
3	Check the FSCB connectors for proper connection, and correct as necessary.	—	—
4	M9 operation check	FSCB PJ12FSCB-3	FS-519 C-10
5	Change FSCB	—	—

9.2.12 C1402: FNS nonvolatile memory failure

Relevant electrical parts	
FS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change FSCB	—	—

9.2.13 CC155: Finisher ROM failure

Relevant electrical parts	
FS control board (FSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change FSCB	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

MT-502

2007.08

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2007/08	2.0	△1	Error correction
2007/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

MT-502

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Blank Page

Outline

1. Product specification

A. Type

Name	Mailbin kit	
Installation	Install at the top section of the finisher elevator tray.	
Number of bins	4 bins	
Number of sheets stored per bin	125 sheets (Total 500 sheets) (90 g/m², 24 lb)	
△1 Storable paper	Plain paper	64 to 90 g/m² (17 to 24 lb)
	Recycled paper	
Storable paper size	Metric area	A5S, B5, A4
	Inch area	5 $^1/_2$ x 8 $^1/_2$S, 8 $^1/_2$ x 11

B. Machine specifications

Power requirements	DC 24 V (Supplied from the finisher) DC 5 V (Generated inside the mail bin)
Dimensions	340 mm (W) x 509 mm (D) x 387 mm (H) 13.5 inch (W) x 20 inch (D) x 15.25 inch (H)
Weight	8 kg (17.75 lb)

C. Operating environment

- Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

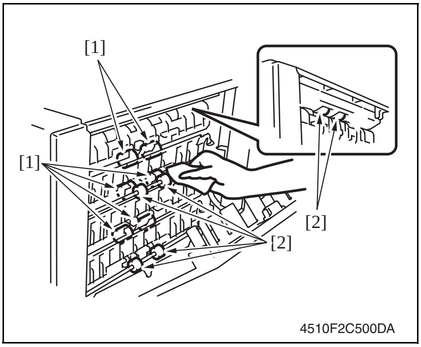
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

2.1.1 Cleaning of the roller and roll



1. Open the right door.
2. Using a soft cloth dampened with alcohol, wipe the roller [1] and roll [2].

3. Other

3.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

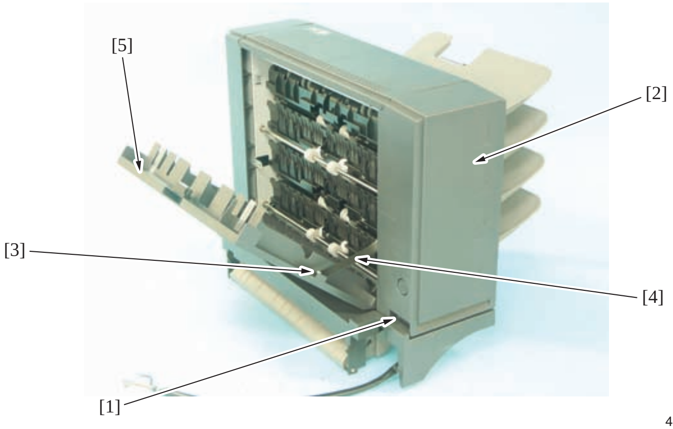
- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

3.2 Disassembly/Assembly list (Other parts)

No.	Section	Part name	Ref. page
1	Exterior parts	Rear cover	P.5
2		Front cover	P.6
3		Upper cover	P.6
4		Right door	P.5
5		Paper output tray	P.6

3.3 Disassembly/Assembly procedure

3.3.1 Rear cover/Right door



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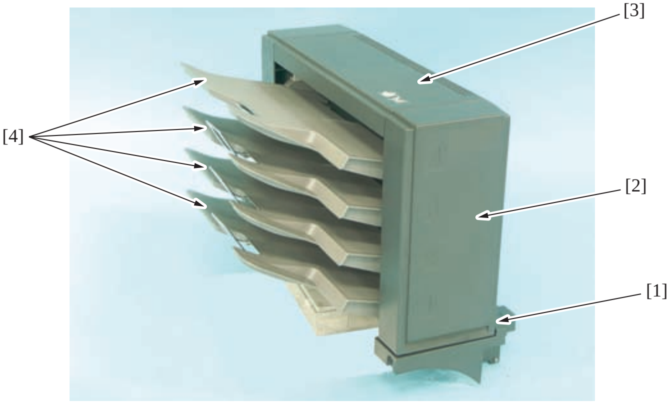
1. Remove the screw [1] and remove the rear cover [2].
2. Remove the screw [3], the stopper [4], and remove the right door [5].

3.3.2 Front cover/Upper cover/Paper output tray



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1. Remove the screw [1] and remove the front cover [2].
2. Remove the rear cover.
   See P.5
3. Remove the upper cover [3].
4. Remove the paper output trays [4].

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor check

5.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

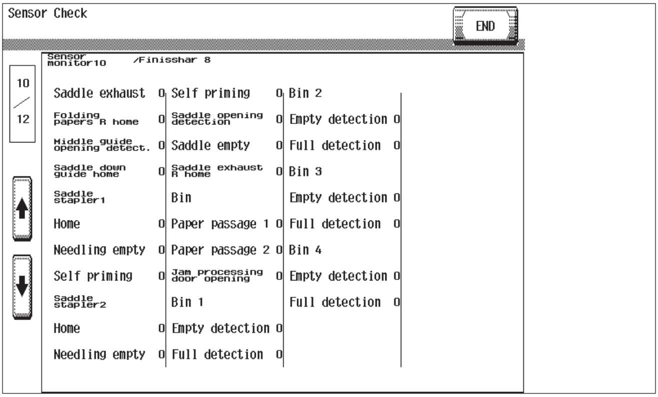
A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch nine times [↓].

5.2 Sensor check list

5.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



Sensor Check

Sensor monitor10 /Finisshar 8

Saddle exhaust	0	Self priming	0	Bin 2	
Folding papers R home	0	Saddle opening detection	0	Empty detection	0
Middle guide opening detect.	0	Saddle empty	0	Full detection	0
Saddle down guide home	0	Saddle exhaust R home	0	Bin 3	
Saddle stapler1		Bin		Empty detection	0
Home	0	Paper passage 1	0	Full detection	0
Needling empty	0	Paper passage 2	0	Bin 4	
Self priming	0	Jam processing door opening	0	Empty detection	0
Saddle stapler2		Bin 1		Full detection	0
Home	0	Empty detection	0		
Needling empty	0	Full detection	0		

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5.2.2 Sensor check list

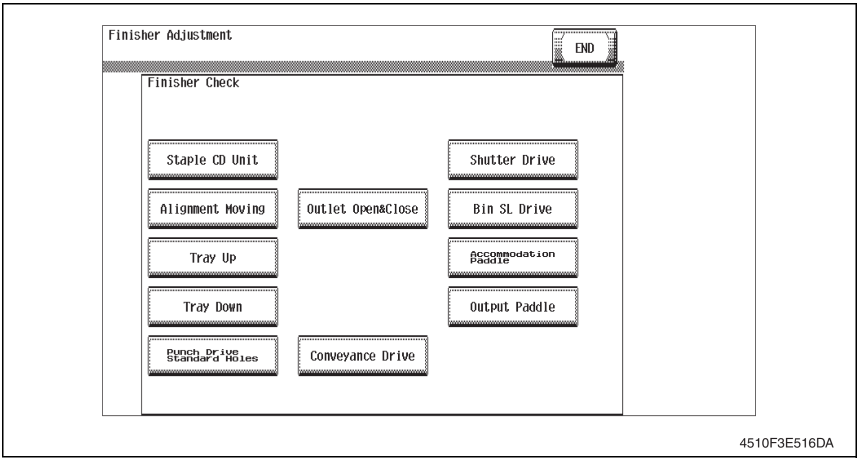
A. Sensors 4

Symbol	Panel display		Part/Signal name	Operation characteristics/ panel display	
				1	0
PS10	Bin	Paper Passage 1	Lower transport sensor	Paper present	Paper not present
PS9		Paper Passage 2	Upper transport sensor	Paper present	Paper not present
PS11		Door (Jam)	Cover open/close sensor	Open	Close
PS1	Bin1	Empty	Paper detection sensor 1	Paper not present	Paper present
PS5		Full	Paper full detection sensor 1	Blocked	Unblocked
PS2	Bin2	Empty	Paper detection sensor 2	Paper not present	Paper present
PS6		Full	Paper full detection sensor 2	Blocked	Unblocked
PS3	Bin3	Empty	Paper detection sensor 3	Paper not present	Paper present
PS7		Full	Paper full detection sensor 3	Blocked	Unblocked
PS4	Bin4	Empty	Paper detection sensor 4	Paper not present	Paper present
PS8		Full	Paper full detection sensor 4	Blocked	Unblocked

6. Finisher operations

6.1 Entering Finisher Check

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [CB-FN adjustment].
4. Touch [Finisher Check].
5. Touch [Bin SL Drive].



6.2 Finisher Check modes

A. Mail bin solenoid drive mode

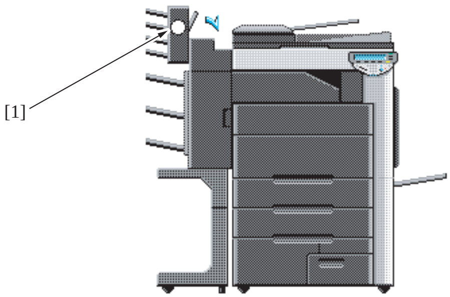
- Bin entrance switching solenoids 1, 2 and 3 switch, in order, at the predetermined times.
  → Bin entrance switching solenoid 1 (SD1) activates for the predetermined time.
  — Bin entrance switching solenoid 2 (SD2) activates for the predetermined time.
  → Bin entrance switching solenoid 3 (SD3) activates for the predetermined time.
  → All bin entrance switching solenoids deactivate.
  → The operation is finished.

Troubleshooting

7. Jam display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main unit.



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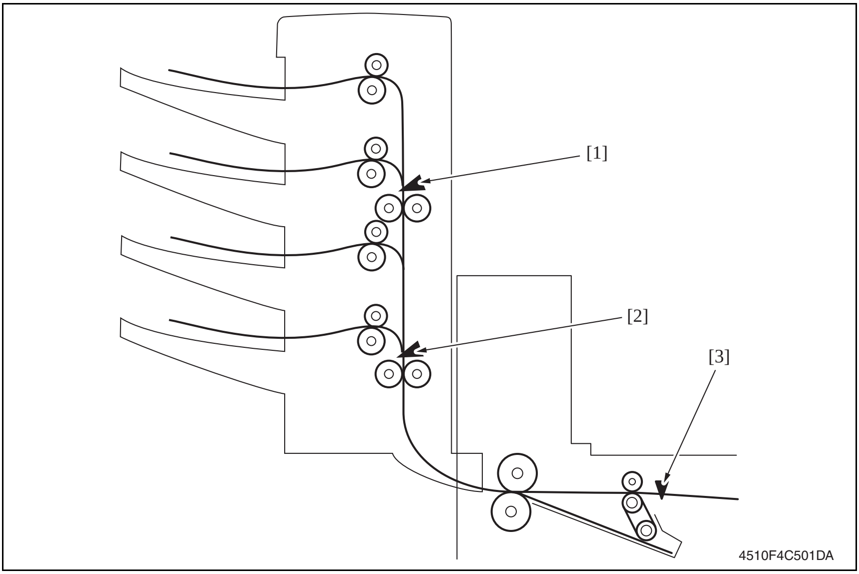
Display	Code	Misfeed location	Misfeed access location	Action
[1]	7290	Vertical transport section	Right door	P.14

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

7.2 Sensor layout



[1]	Upper transport sensor	PS9
[2]	Lower transport sensor	PS10
[3]	Transport sensor	PS2

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

7.3.2 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The lower transport sensor (PS10) is not turned ON even after the set period of time has elapsed after the transport sensor (PS2) is turned ON by the paper.
	The upper transport sensor (PS9) is not turned ON even after the set period of time has elapsed after the lower transport sensor (PS10) is turned ON by the paper.
Detection of paper remaining in the transport section	The lower transport sensor (PS10) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The upper transport sensor (PS9) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Transport sensor (PS2) Lower transport sensor (PS10) Upper transport sensor (PS9)	MT control board (MTCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS2 sensor check	FSCB PJ19FSCB-14 (ON)	FS-519 C-7
3	PS10 sensor check	MTCB CN102MTCB-8 (ON)	MT-502 B to C-4
4	PS9 sensor check	MTCB CN101MTCB-8 (ON)	MT-502 B to C-3
5	MTCB replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

SD-505

2007.08
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2007/08	2.0	△1	Error correction
2007/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

SD-505

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Name	Saddle sticher SD-505
Type	Built into the finisher
Installation	Screwed to the finisher
Document alignment	Center
Stapling function	Center parallel two points No. of sheets to be stapled together: 2 to 15

B. Paper type

Type	Plain paper	64 g/m^2 to 90 g/m^2 17 to 24 lb
	Recycled paper	
	Thick paper	91 g/m^2 to 209 g/m^2 24.25 to 55.5 lb
Size	B5S to A3 8 $^1/_2$ x 11S to 11 x 17	
Capacity	200 sheets or 20 copies	

C. Machine specifications

Power requirements		DC 24 V (supplied from the finisher) DC 5 V
Max. power consumption		9.5 W or less
Dimensions	Crease unit	48 mm (W) x 399 mm (D) x 121 mm (H) 2 inch (W) x 15.75 inch (D) x 4.75 inch (H)
	Saddle unit	445 mm (W) x 478 mm (D) x 203 mm (H) 17.5 inch (W) x 18.75 inch (D) x 8 inch (H) 576 mm (W) x 478 mm (D) x 281 mm (H) *1 22.75 inch (W) x 18.75 inch (D) x 11 inch (H) *1
Weight	Crease unit	1.9 kg (0.5 lb)
	Saddle unit	7.4 kg (2.0 lb)

*1: Size when the paper output tray is pulled out

D. Operating environment

- Conforms to the operating environment of the main body.

E. Consumables

- Staples 2000 (MS-2C) x 2

NOTE

- **These specifications are subject to change without notice.**

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Maintenance

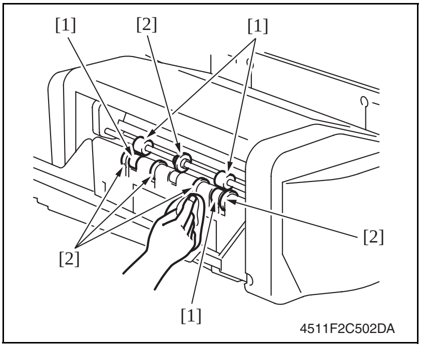
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

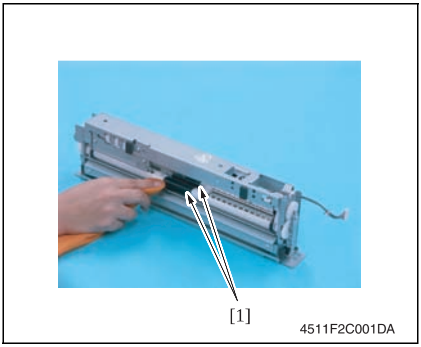
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

2.1.1 Cleaning of the rollers and rolls



1. Using a soft cloth dampened with alcohol, wipe the roller [1] and roll [2].

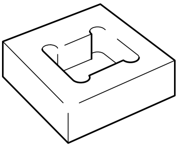
2. Remove the crease unit.
   See P.9



3. Using a soft cloth dampened with alcohol, wipe the roller [1].

3. Service tool

3.1 CE tool list

Tool name	Shape	Personnel	Parts No.	Remarks
Stapler unit positioning jig		1	4511-7901-01	

4. Other

4.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

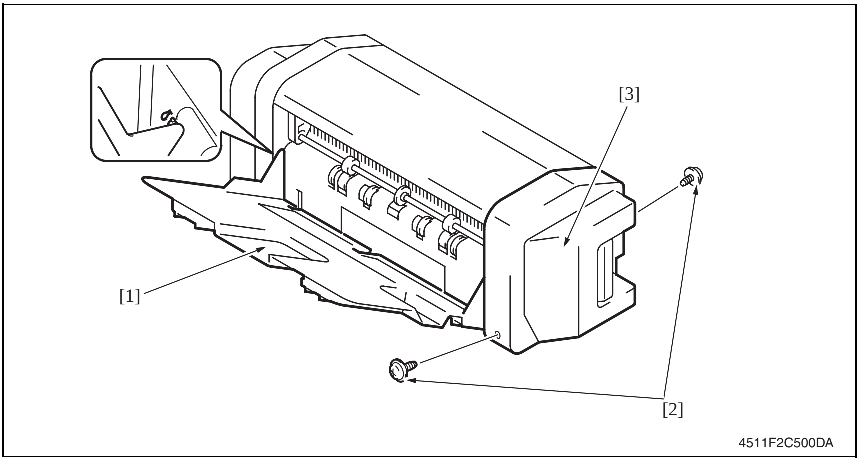
4.2 Disassembly/Assembly list (other parts)

4.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref. page
1	Exterior parts	Paper output tray	P.5
2		Front cover	P.5
3		Upper cover	P.6
4		Rear cover	P.6
5	Unit	Saddle unit	P.7
6		Crease unit	P.9
7		Stapler unit	P.11
8	Others	In & out guide drive motor	P.15
9		Crease roller	P.17

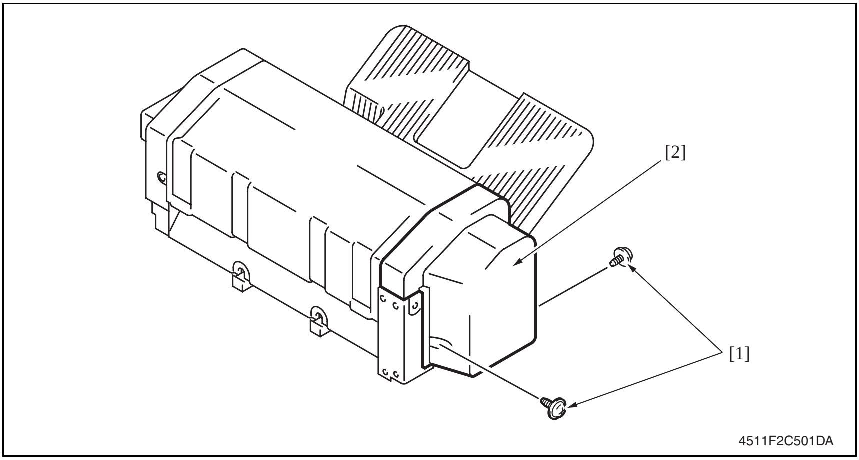
4.3 Disassembly/Assembly procedure

4.3.1 Paper output tray/front cover



1. Align the cutout and remove the paper output tray [1].
2. Remove two screws [2], and remove the front cover [3].

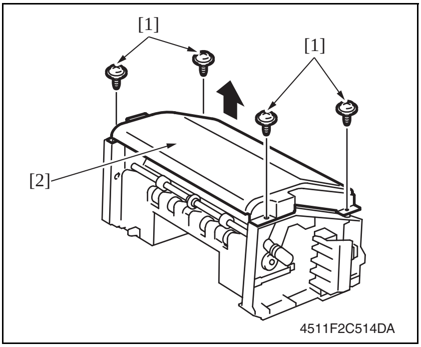
4.3.2 Rear cover



1. Remove two screws [1], and remove the rear cover [2].

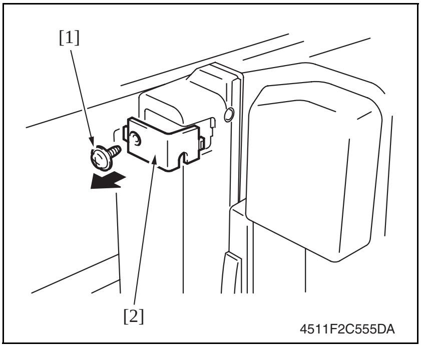
4.3.3 Upper cover

1. Remove the front cover.
   See P.5
2. Remove the rear cover.
   See P.6

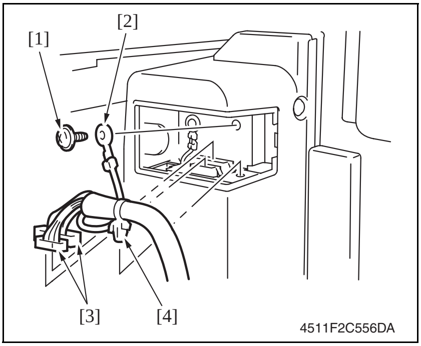


3. Remove four screws [1], and remove the upper cover [2].

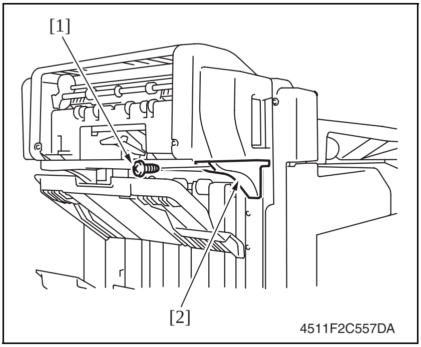
4.3.4 Saddle unit



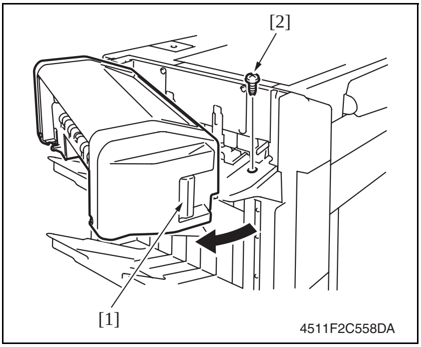
1. Remove the screw [1], and remove the connector cover [2].



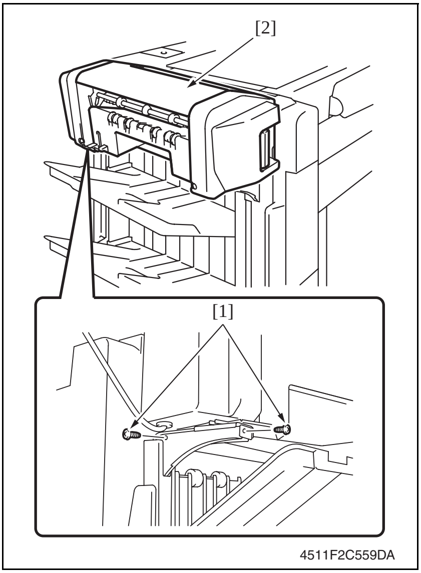
2. Remove the screw [1], and remove the ground wire [2].
3. Disconnect two connectors [3].
4. Remove the snap band [4].



5. Remove the screw [1], and remove the mounting bracket [2].



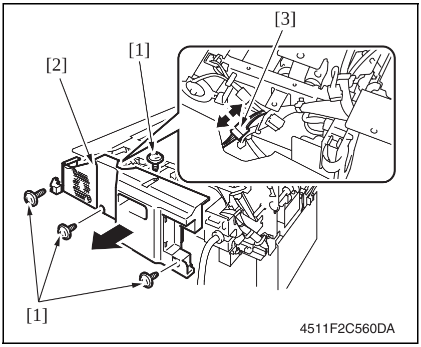
6. Pull the lock release lever [1], and open the saddle unit.
7. Remove the screw [2].



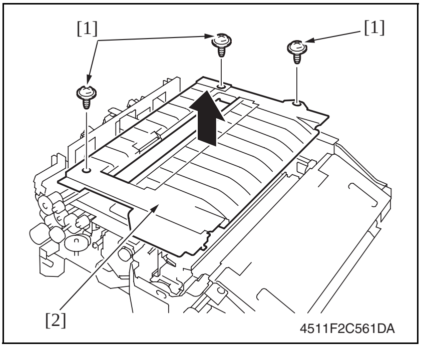
8. Remove two screws [1], and remove the saddle unit [2].

4.3.5 Crease unit

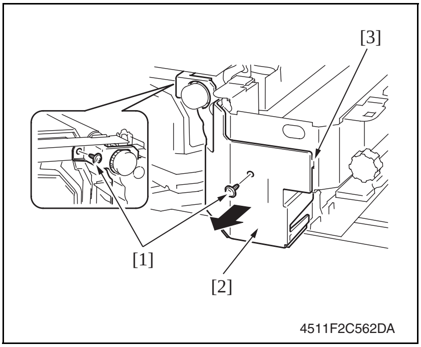
1. Remove the saddle unit.
   See P.7
2. Remove the finisher unit.
   See P.28 of the FS-519/PK-510/OT-602 service manual.



3. Remove four screws [1] and remove the finisher unit rear cover [2].
4. Disconnect the connector [3].



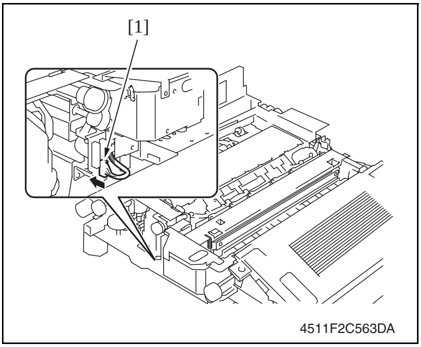
5. Remove three screws [1] and remove the finisher unit upper cover [2].



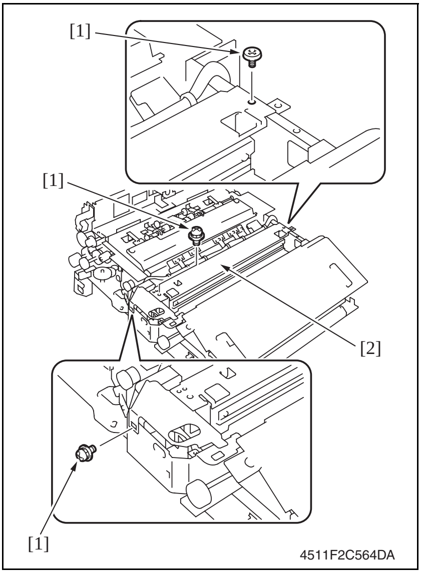
6. Remove two screws [1] and remove the finisher unit right front cover [2].

NOTE

- **At reinstallation, first fit the tab [3] into position.**



7. Disconnect the connector [1].



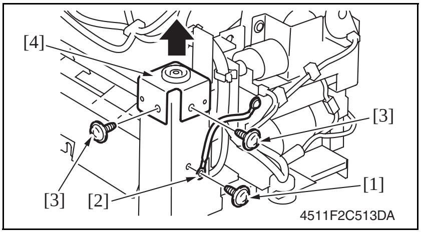
8. Remove three screws [1], and remove the crease unit [2].

NOTE

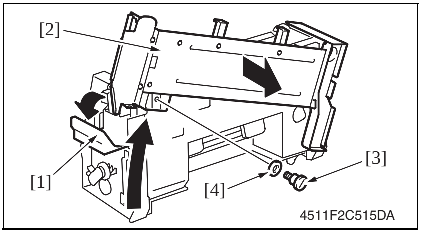
- **When the punch kit is mounted, remove the punch kit first.**

4.3.6 Stapler unit

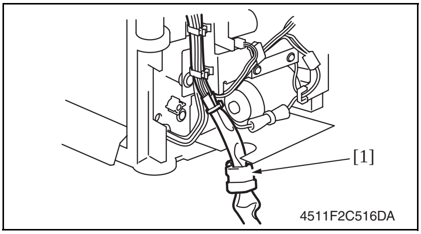
1. Remove the saddle unit.
   See P.7
2. Remove the paper output tray.
   See P.5
3. Remove the front cover.
   See P.5
4. Remove the rear cover.
   See P.6
5. Remove the upper cover.
   See P.6



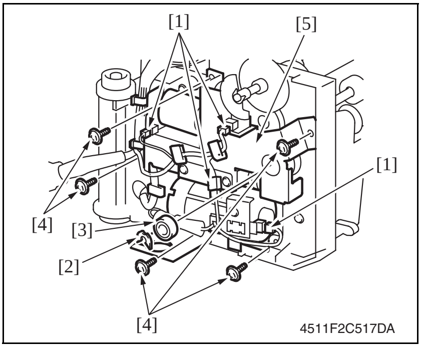
6. Remove the screw [1], and remove the ground wire [2].
7. Remove two screws [3], and remove the holder [4].



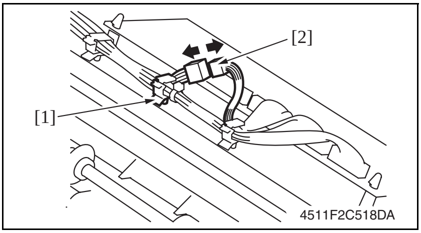
8. Release the lock release lever [1], and slide the saddle unit mounting plate [2].
9. Remove the shoulder screw [3] and the washer [4], and remove the saddle unit mounting plate [2].



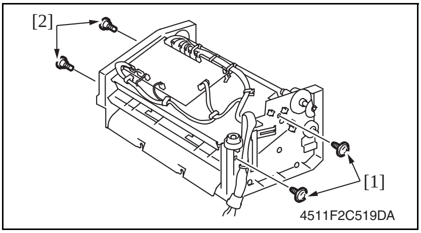
10. Remove the harness clamp [1] from the metal bracket.



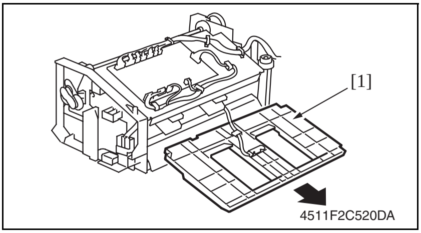
11. Remove the harness from the wire saddle.
12. Disconnect four connectors [1].
13. Remove the C-ring [2], and remove the bearing [3].
14. Remove five screws [4], and remove the drive unit [5].



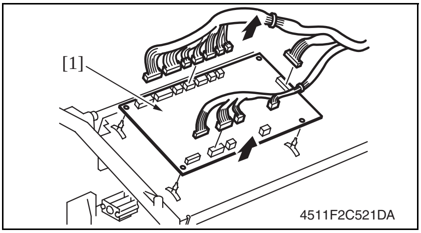
15. Remove the wire saddle [1], and disconnect the connector [2].



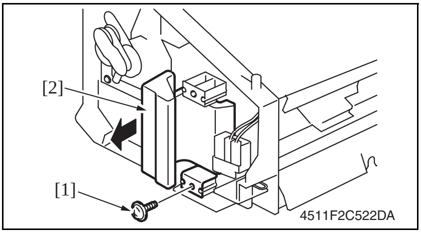
16. Remove two screws [1] and two shoulder screws [2].



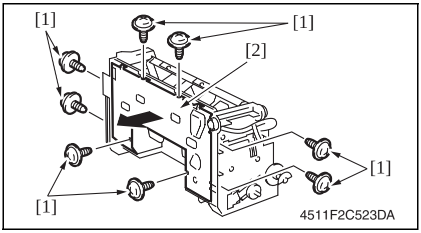
17. Remove the processing tray [1].



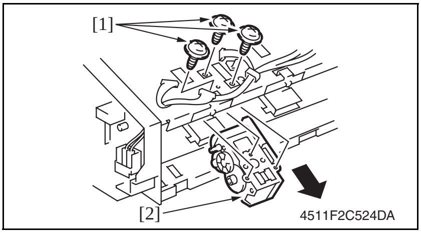
18. Disconnect all the connectors on the main control board.
19. Remove the board support, and then remove the main control board [1].



20. Remove the screw [1], and remove the lock release lever [2].

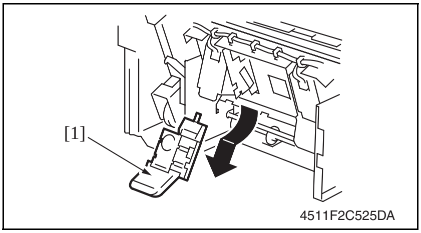


21. Remove eight screws [1], and remove the lower cover [2].

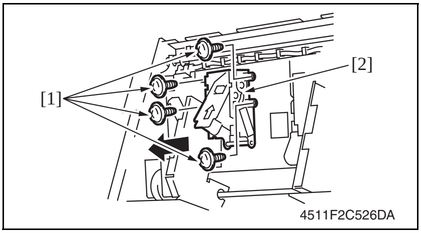


22. Remove the wire saddle and disconnect the connector.

23. Remove three screws [1], and remove the clincher 1 [2].



24. Remove the staple cartridge 1 [1].



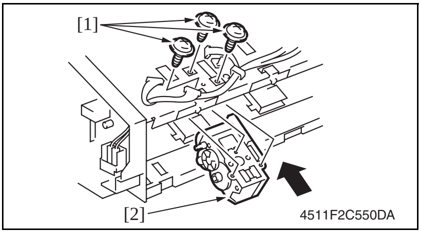
25. Remove four screws [1], and remove the stapler 1 [2].

NOTE

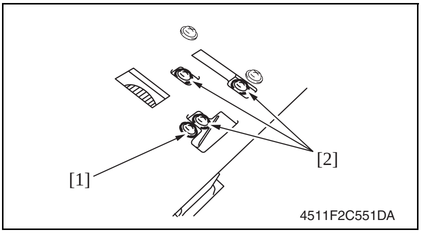
- **To replace clincher 2 and stapler 2, repeat steps 22 to 25.**

Precaution for clincher reinstallation

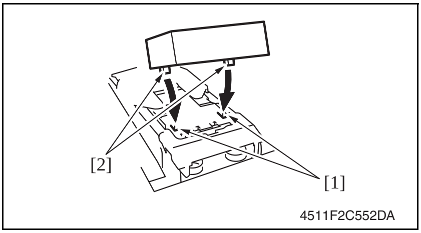
- **When the clincher is installed, the position of the stapler and the clincher will be misaligned. Be sure to perform the following adjustment.**



1. Use three screws [1] to temporary fix the clincher [2].



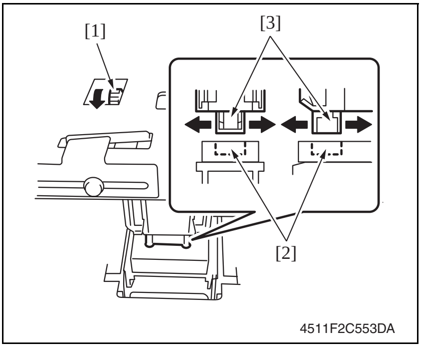
2. Loosen the screw [1] of the stopper.
3. Loosen three screws [2] of the clincher.



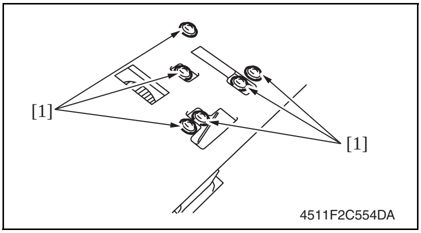
4. Aligning the protrusions of the jig [2] with the recesses in the stapler [1], fit the jig to the stapler.

NOTE

- **Make sure that the protrusions of the jig properly rest in the recesses.**



5. Turn the gear [1] of the clincher and then slide the clincher assy so that the protrusion of the clincher [3] fits into the recess in the jig [2].



6. Tighten six screws [1].

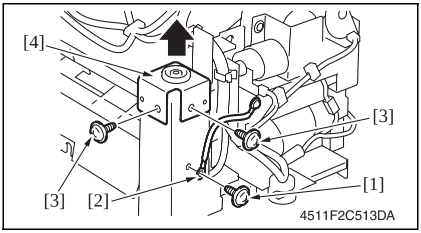
NOTE

- **Turn the gear again and check to see that the protrusion of the clincher smoothly fits into the recess in the jig.**

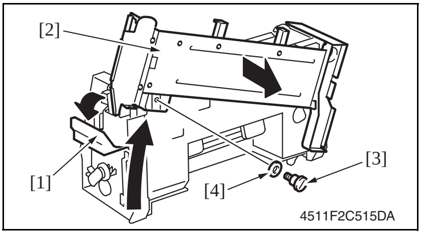
7. Turn the gear and remove the jig.

4.3.7 In & out guide drive motor

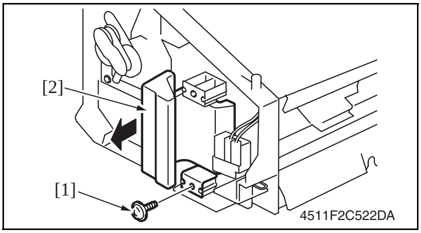
1. Remove the saddle unit.
   See P.7
2. Remove the paper output tray.
   See P.5
3. Remove the front cover.
   See P.5
4. Remove the rear cover.
   See P.6
5. Remove the upper cover.
   See P.6



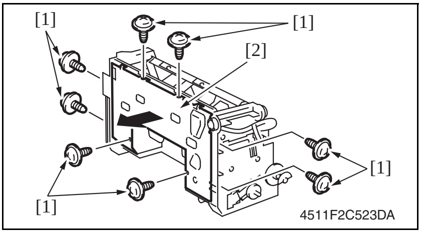
6. Remove the screw [1], and remove the ground wire [2].
7. Remove two screws [3], and remove the holder [4].



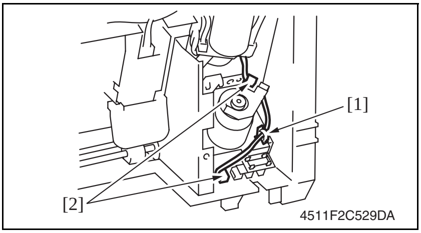
8. Release the lock release lever [1], and slide the saddle unit mounting plate [2].
9. Remove the shoulder screw [3] and the washer [4], and remove the saddle unit mounting plate [2].



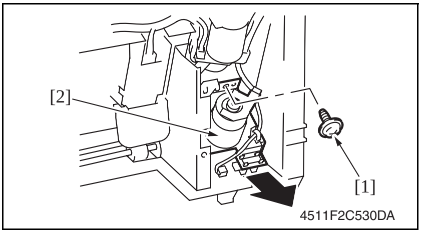
10. Remove the screw [1], and remove the lock release lever [2].



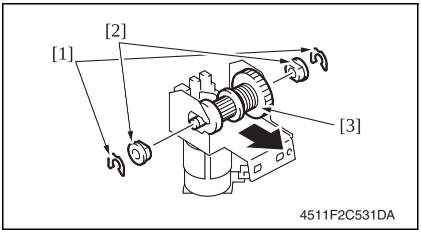
11. Remove eight screws [1], and remove the lower cover [2].



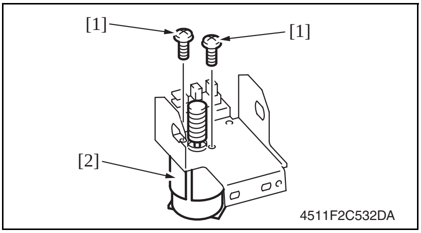
12. Remove the wire saddle [1], and disconnect two connectors [2].



13. Remove the screw [1], and remove the in & out guide drive motor assy [2].

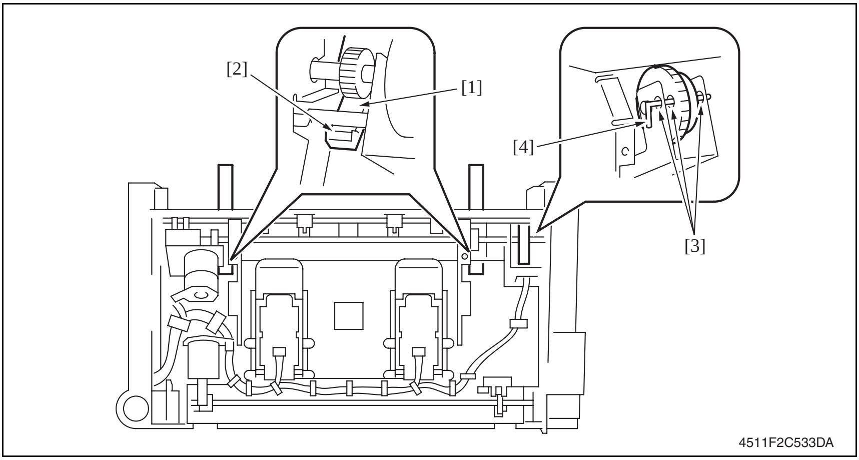


14. Remove two C-rings [1].
15. Remove two bushings [2], and remove the clutch gear assy [3].



16. Remove two screws [1], and remove the in & out guide drive motor [2].

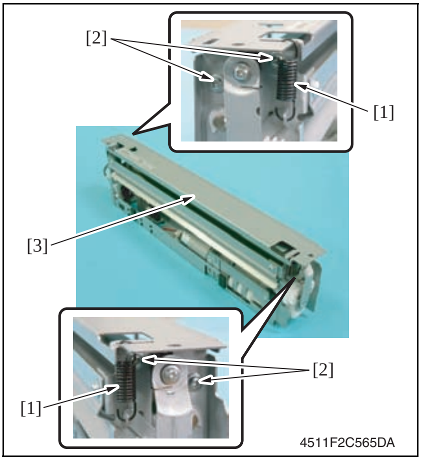
Precaution for in & out guide drive motor reinstallation



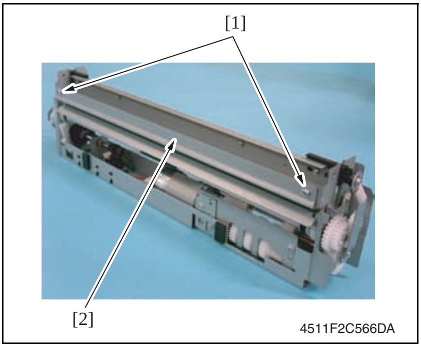
1. Press the two in & out guides [1] in and check that they touch the stopper [2] simultaneously.
2. Check that pins [4] can be inserted through the positioning holes [3] (3 holes) of the in & out guide sensor assy.
3. Use two screws to secure the in & out guide drive motor.

4.3.8 Crease roller

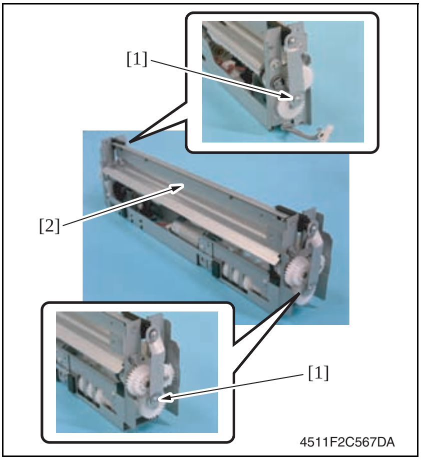
1. Remove the crease unit.
   See P.9



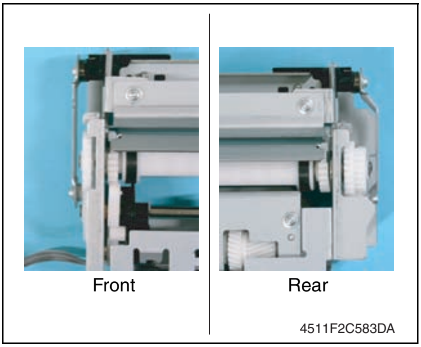
2. Remove two springs [1] and four screws [2], and remove the upper plate [3].



3. Remove two screws [1], and remove the guide plate [2].

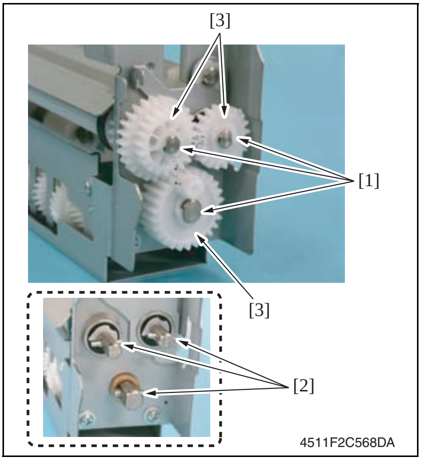


4. Remove two screws [1], and remove the chopper assy [2].


Front
Rear

NOTE

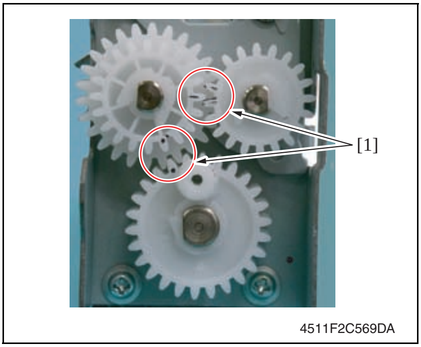
- **Install the chopper assy in the direction shown in the left figure.**



5. Remove three C-rings [1] and three pins [2], and remove three gears [3].

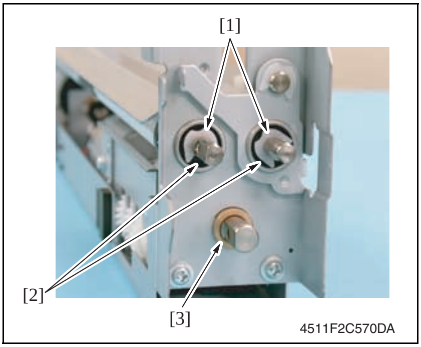
NOTE

- **Use care not to lose the pin.**

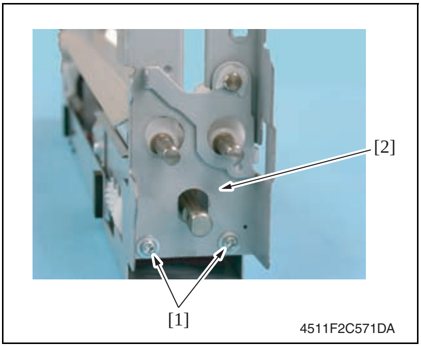


NOTE

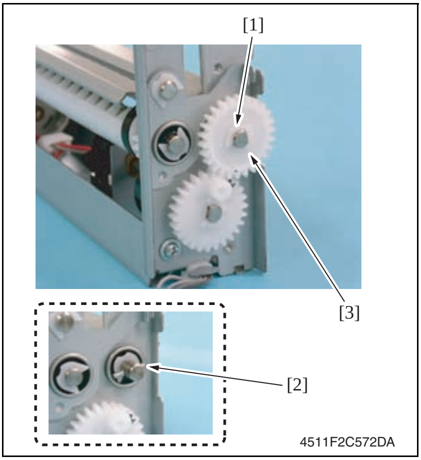
- **Install the gear so that the mark [1] is aligned to the position shown in the left figure.**



6. Remove two C-rings [1], and remove two bearings [2].
7. Remove the bushing [3].



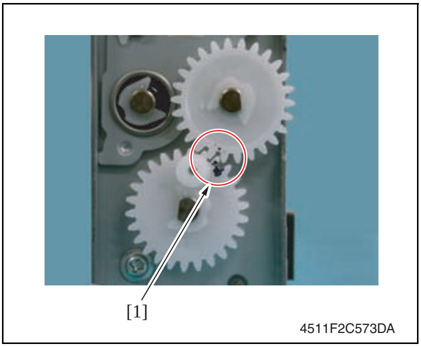
8. Remove two screws [1], and remove the rear holder [2].



9. Remove the C-ring [1] and the pin [2], and remove the gear [3].

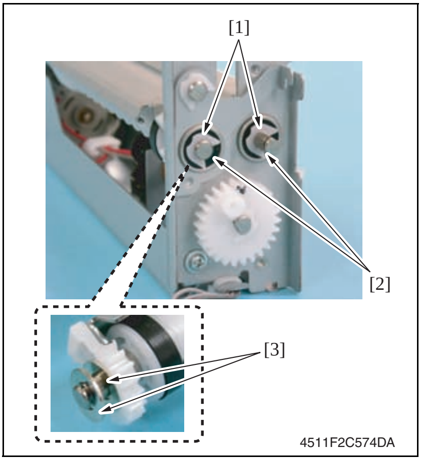
NOTE

- **Use care not to lose the pin.**



NOTE

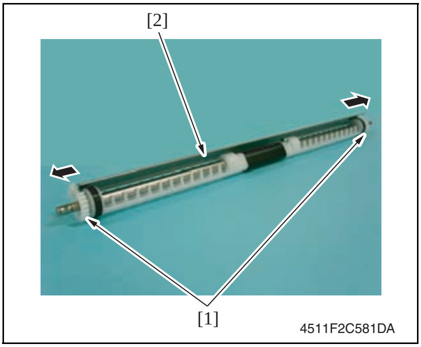
- **Install the gear so that the mark [1] is aligned to the position shown in the left figure.**



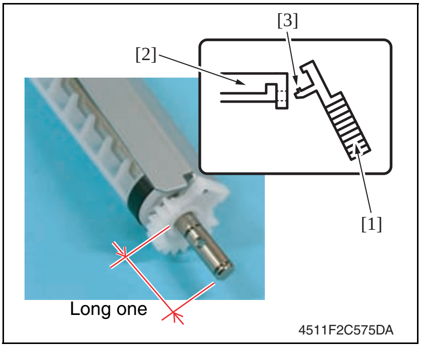
10. Remove two C-rings [1], two bearings [2] and two washers [3].

NOTE

- **Use care not to lose the washer.**

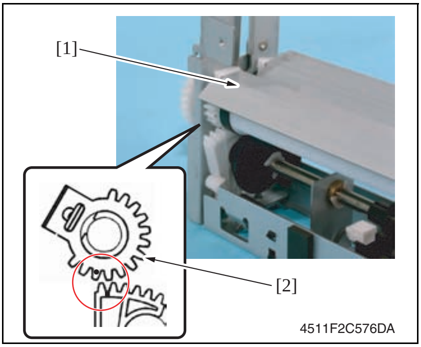


11. Remove two gears [1] of crease roller 1 assy, and remove the guide plate [2].



NOTE

- **When installing the gear [1] to the guide plate [2], insert the gear [1] at an angle and use care not to break the tabs [3].**
- **Install the guide plate as shown on the left.**



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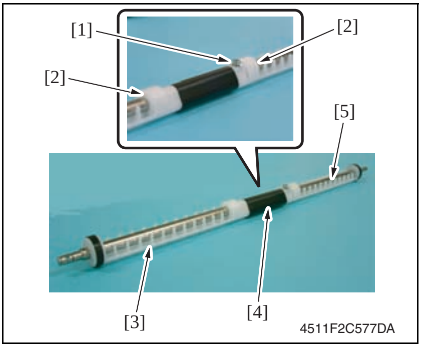
NOTE

- **When mounting the crease roller 1 assy [1], mount it so that the tally mark on the gear [2] for the crease roller 1 and the tally mark on the gear below will be next to each other with the one on the gear [2] being outer side.**



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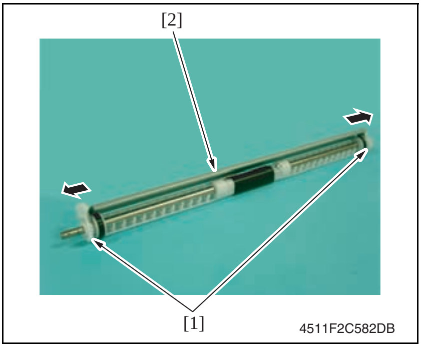
12. Remove the screw [1].

13. Remove two C-rings [2] and remove the crease roller A [3], B [4] and C [5].



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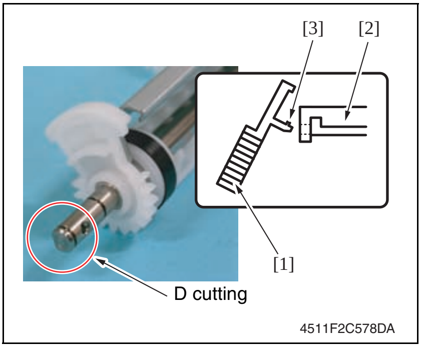
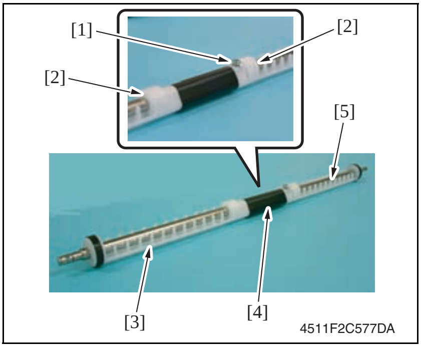
14. Remove two gears [1] of crease roller 2 assy, and remove the guide plate [2].



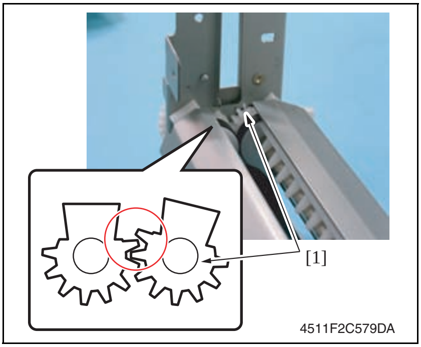
NOTE

- **When installing the gear [1] to the guide plate [2], insert the gear [1] at an angle and use care not to break the tabs [3].**
- **Install the gear and guide plate as shown on the left.**



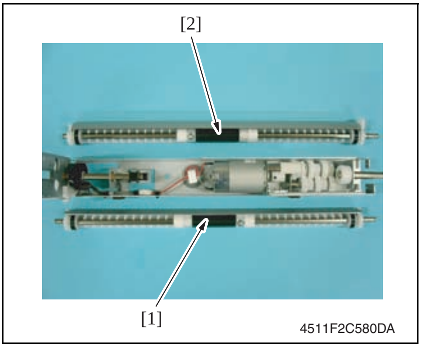
15. Remove the screw [1].

16. Remove two C-rings [2] and remove the crease roller A [3], B [4] and C [5].



NOTE

- **When mounting the crease roller assy 2, mount it so that the gear [1] for the crease roller 2 assy will be over the gear for the cease roller 1 by one tooth.**



NOTE

- **Use care to mount the crease roller assy 1 [1] and 2 [2] in the proper directions.**

Adjustment/Setting

5. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

6. Sensor check

6.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

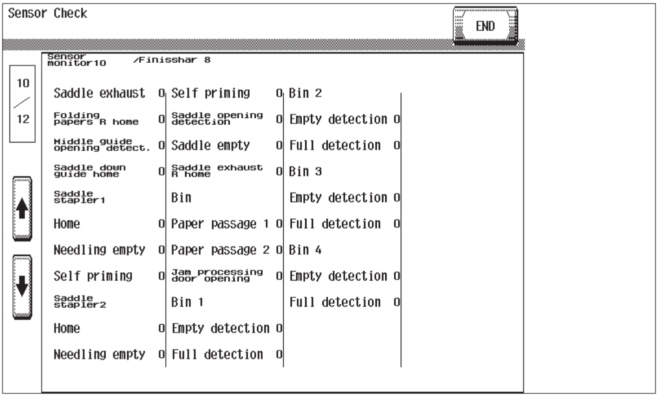
A. Procedure

1. Display the Service Mode screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch nine times [🡇].

6.2 Sensor check list

6.2.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



Sensor monitor10 /Finisshar 8

Saddle exhaust	0	Self priming	0	Bin 2	
Folding papers R home	0	Saddle opening detection	0	Empty detection	0
Middle guide opening detect.	0	Saddle empty	0	Full detection	0
Saddle down guide home	0	Saddle exhaust R home	0	Bin 3	
Saddle stapler1		Bin		Empty detection	0
Home	0	Paper passage 1	0	Full detection	0
Needling empty	0	Paper passage 2	0	Bin 4	
Self priming	0	Jam processing door opening	0	Empty detection	0
Saddle stapler2		Bin 1		Full detection	0
Home	0	Empty detection	0		
Needling empty	0	Full detection	0		

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6.2.2 Sensor check list

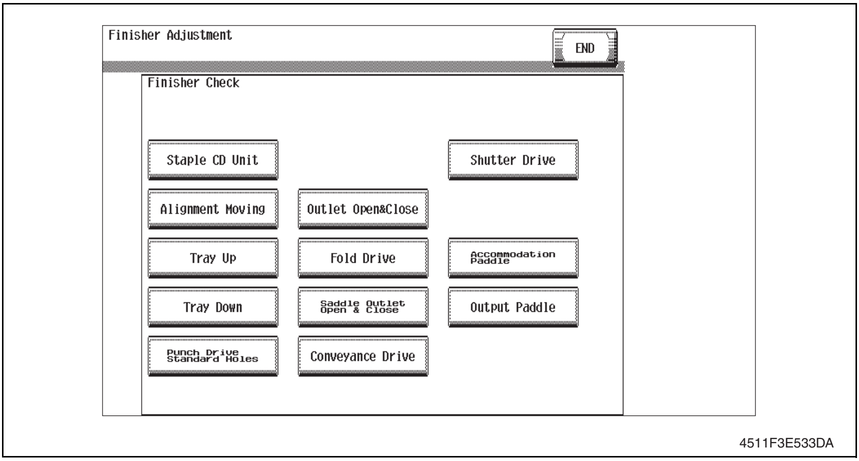
A. Sensors 4

Symbol	Panel display		Part/Signal name	Operation characteristics/Panel display	
				1	0
PS20	Sensors monitor4	Saddle exit	Saddle exit sensor	Paper present	Paper not present
PS22		Folding R home	Crease roller home position sensor	Paper present	Paper not present
SW5		Middle guide	Middle guide switch	Open	Closed
PS24		Saddle guide	Layable guide home sensor	Blocked	Unblocked
—		Saddle stapler 1			
—		Home	Staple Home Position Sensor 1	Blocked	Unblocked
—		Staple empty	Staple Empty Detection Sensor 1	Blocked	Unblocked
—		Self priming	Self-Priming Sensor 1	Blocked	Unblocked
—		Saddle stapler 2			
—		Home	Staple Home Position Sensor 2	Blocked	Unblocked
—		Staple empty	Staple Empty Detection Sensor 2	Blocked	Unblocked
—		Self priming	Self-Priming Sensor 2	Blocked	Unblocked
SW4		Saddle	Saddle interlock switch	Open	Closed
PS21		Saddle empty	Saddle tray empty sensor	Paper present	Paper not present
PS18		Home (Saddle exit)	Saddle exit roller home position sensor	Paper present	Paper not present

7. Finisher operations

7.1 Entering Finisher Check

1. Display the Service Mode screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [CB-FN adjustment].
4. Touch [Finisher Check].
5. Touch the item one wants.



7.2 Finisher Check modes

A. Creasing unit movement mode

- Performs the creasing drive once.
  → Raises the layable guide.
  → Stops after the predetermined time.
  → Lowers the layable guide.
  → The operation is finished.

B. Saddle Unit exit open/close mode

- Opens the saddle exit after the saddle exit is opened and closed.
  → Stops after the predetermined time.
  → The saddle exit closes.
  → The saddle in & out guide advances.
  → Stops after the predetermined time.
  → The saddle in & out guide retracts.
  → The operation is finished.

C. Transport drive mode

- Transport drive is performed for the predetermined time. (Performs the same transport drive as the pre-drive with the high speed of the connected copier.)
  → Drives the entrance motor (M1).
  → Drives the transport motor/1 (M2).
  → Drives the transport motor/2 (M3).
  → Drives the exit motor (M4).
  → The operation is finished.
- If the mail bin kit MT-502 is installed, the mail bins are also driven.
- If the saddle kit SD-505 is also installed, the saddle transport motor (M8) is also driven.

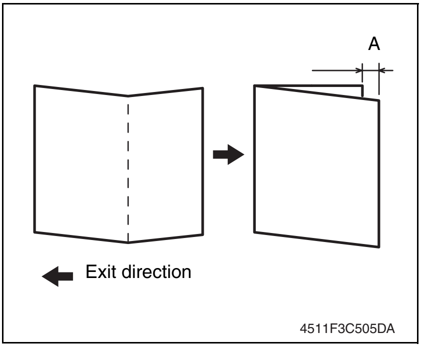
7.3 Fold & Staple Pos. Adjustment

NOTE

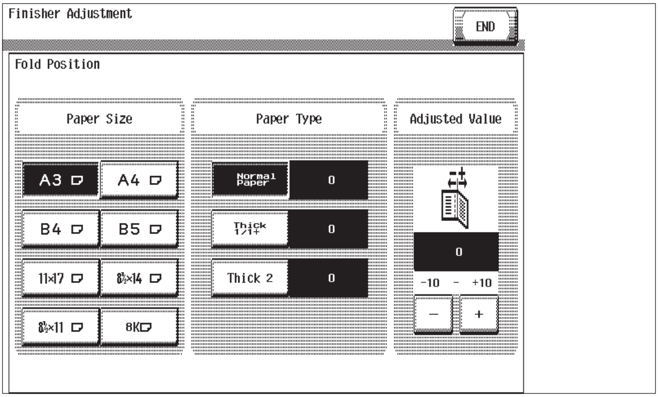
Make this adjustment after any of the following procedures has been performed.

- **When the crease unit has been replaced.**
- **When a deviation occurs in the crease.**
- **When fold angle adjustment has been made.**

1. Make a copy in the crease mode. (A3 size)



2. Fold the copy fed out along the crease.
3. Check the crease for deviation (Measure width A).
   Specification: 0 ± 1.5 mm
4. When the width A does not fall within the specified value, conduct the following adjustment.
5. Display the Service Mode screen.
   See P.434 of the main body service manual.
6. Touch [Finisher].
7. Touch [CB-FN adjustment].
8. Touch [Fold & Staple Pos.Adjustment].
9. Touch [Fold Position Adjustment].
10. Touch [A3] and then touch [Normal Paper].



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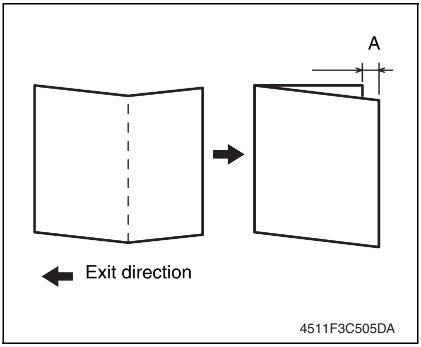
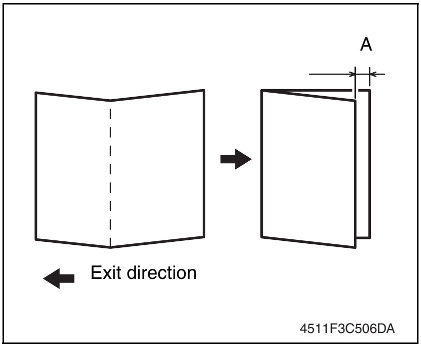


- If the fold is offset as shown on the left.

11. Touch [-] and set the appropriate numeric value.
Adjustment range: 0 to -10
(1 increment 0.5 mm)



- If the fold is offset as shown on the left.

12. Touch [+] and set the appropriate numeric value.
Adjustment range: 0 to +10
(1 increment 0.5 mm)

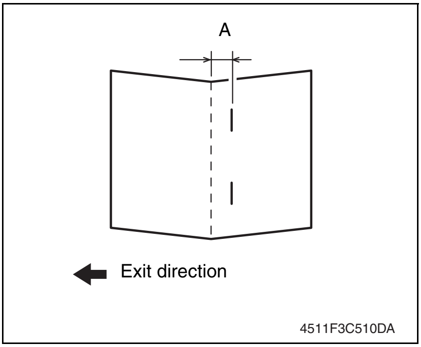
13. Touch [END].
14. Make another copy, and check the deviation.
15. Touch [Exit] on the Service Mode screen.
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

7.4 Center Staple Position Adjustment

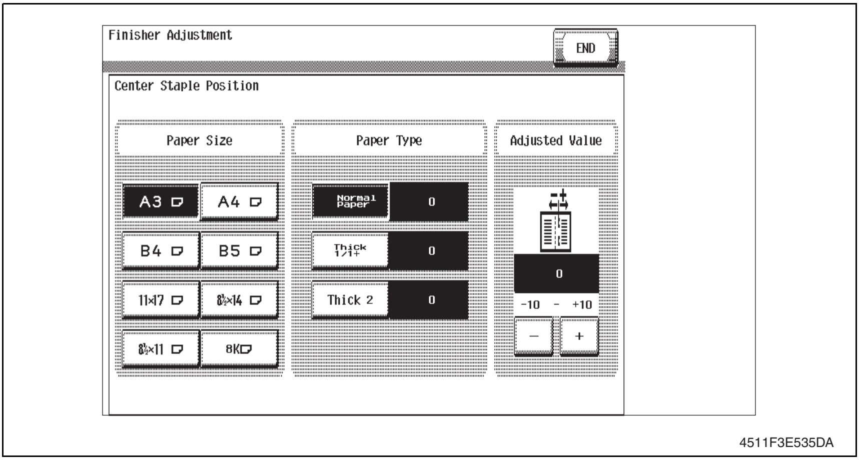
NOTE

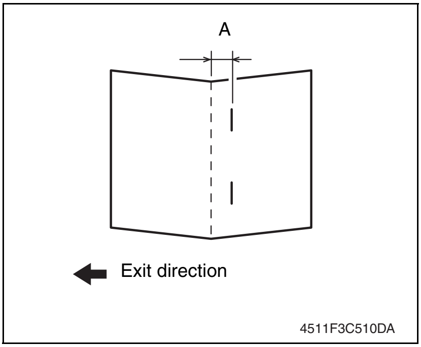
Make this adjustment after any of the following procedures has been performed.

- **When staple unit has been replaced.**
- **When center staple position is misaligned.**
- **When center staple angle adjustment has been made.**



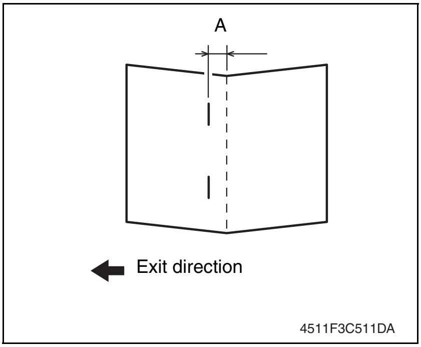
1. Load a five-page A4 document in the document feed tray.
2. Select the center staple mode and make a copy. (A3 Size)
3. Check the staple position for deviation from the crease (Measure width A).
   Specification: 0 ± 1.5 mm
4. When the width A does not fall within the specified value, conduct the following adjustment.
5. Display the Service Mode screen.
   See P.434 of the main body service manual.
6. Touch [Finisher].
7. Touch [CB-FN adjustment].
8. Touch [Fold & Staple Pos.Adjustment].
9. Touch [Center Staple Position].
10. Touch [A3] and then touch [Normal Paper].





- If the fold is offset as shown on the left.

11. Touch [-] and set the appropriate numeric value.
Adjustment range: 0 to -10
(1 increment 0.5 mm)



- If the fold is offset as shown on the left.

12. Touch [+] and set the appropriate numeric value.
Adjustment range: 0 to +10
(1 increment 0.5 mm)

13. Touch [END].
14. Make another copy, and check the deviation.
15. Touch [Exit] on the Service Mode screen.
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

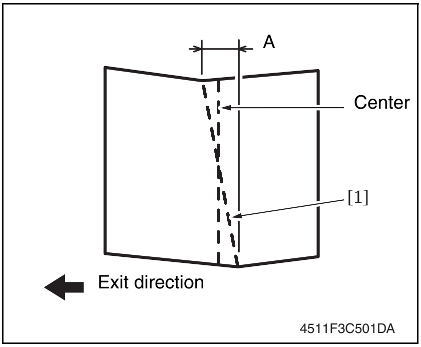
8. Mechanical adjustment

8.1 Fold Angle Adjustment

NOTE
Make this adjustment after any of the following procedures has been performed.

- **When the crease unit has been replaced.**
- **When a slant occurs in the crease.**

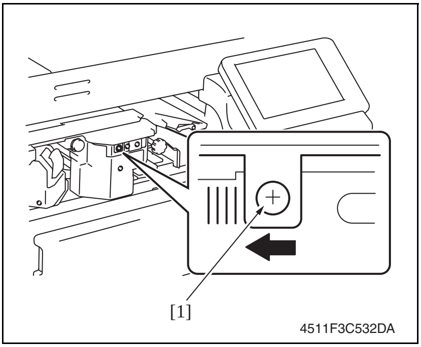
1. Make a copy in the crease mode. (A3 size)



2. Fold the output paper along the crease [1].

3. Fold the output paper and half and measure the width A of the paper.
Specification: 0 ± 1.5 mm

4. If the fold position is slanted as shown on the left, make the following adjustment.



5. Open the front door, loosen the adjustment screw [1], and move the crease unit to the left to make the adjustment.
Graduated in 1-mm divisions

- If the fold position is slanted opposite to the figure of step 4, move the crease unit to the right to make the adjustment.

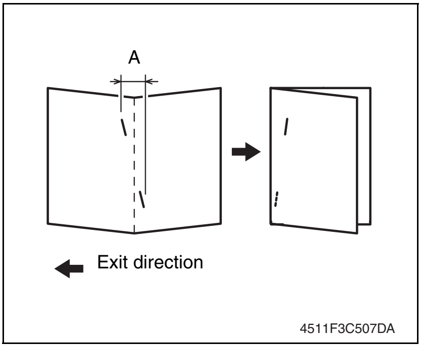
6. Make another copy and check the fold position.

8.2 Center Staple Angle Adjustment

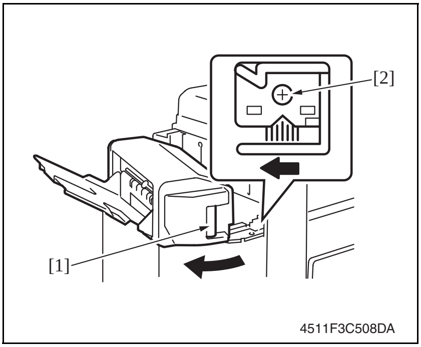
NOTE

Make this adjustment after any of the following procedures has been performed.

- **When staple unit has been replaced.**
- **When a slant occurs in the position of the center staple.**



1. Load a five-page A4 document in the document feed tray.
2. Select the center staple mode and make a copy. (A3 Size)
3. Check the staple position for deviation from the crease (Measure width A).
   Specification: 0 ± 1.5 mm
4. If the staple position is slanted as shown on the left, make the following adjustment.



5. Release the lock release lever [1] of the saddle unit.
6. Loosen the adjustment screw [2] and move the lock lever to the left to make the adjustment.

- If the staple position is slanted opposite to the figure of step 2, move the lock lever to the right to make the adjustment.

7. Make another copy and check the staple position.

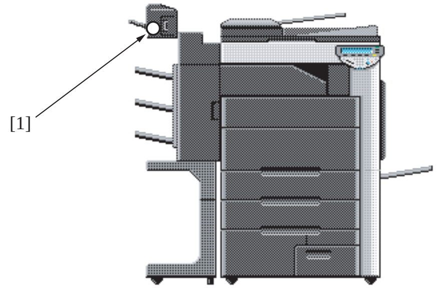
Blank Page

Troubleshooting

9. Jam display

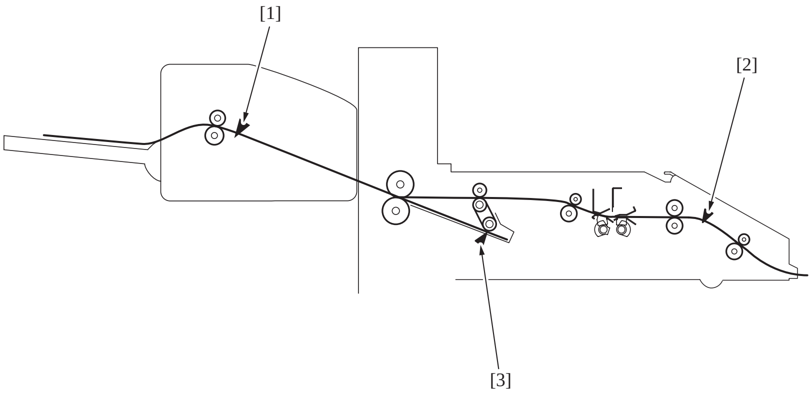
9.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main unit.



Display	Code	Misfeed location	Misfeed processing location	Action
[1]	7221	Paper bundle exit misfeed	Front door	P.39
	7285	Staple unit 1 misfeed	Saddle cover	P.40
	7284	Staple unit 2 misfeed	Saddle cover	
	7225	Creasing section misfeed	Front door	P.41

9.2 Sensor layout



[1]	Saddle exit sensor	PS20
[2]	Entrance sensor	PS1
[3]	Storage tray detect sensor	PS3

9.3 Solution

9.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

9.3.2 Paper bundle exit misfeed

A. Detection timing

Type	Description
Paper bundle misfeed detection	The storage tray detecting sensor (PS3) is not turned OFF even after the set period of time has elapsed after the exit motor (M4) is energized.
	The saddle exit sensor (PS20) is not turned ON even after the set period of time has elapsed after the exit motor (M4) is energized.
	The saddle exit sensor (PS20) is not turned OFF even after the set period of time has elapsed after the saddle exit sensor (PS20) is turned ON.

B. Action

Relevant electrical parts	
Storage tray detect sensor (PS3) Saddle exit sensor (PS20) Exit motor (M4) Saddle exit motor (M8)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS3 sensor check	FSCB PJ14FSCB-8 (ON)	FS-519 C-12
3	PS20 sensor check	SDCB PJ19SDCB-8 (ON)	SD-505 B-2
4	M4 operation check	FSCB PJ10FSCB-5 to 8	FS-519 C-3
5	M8 operation check	SDCB PJ4SDCB-1 to 2	SD-505 G-6
6	Change SDCB	—	—

9.3.3 Staple unit 1 misfeed/Staple unit 2 misfeed

A. Detection timing

Type	Description
Staple unit misfeed detection	The staple home position sensor in the staple unit is not turned ON even after the set period of time has elapsed after the staple motor rotates forward, and then the staple motor rotates backward, and the staple home position sensor in the staple unit is turned ON within the set period of time.

B. Action

Relevant electrical parts	
Staple unit 1 Staple unit 2	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Drive coupling section check	—	—
3	Sensor check	—	—
4	Change staple unit 1	—	—
5	Change staple unit 2	—	—
6	Change SDCB	—	—

9.3.4 Creasing section misfeed

A. Detection timing

Type	Description
Creasing section misfeed detection	The entrance sensor (PS1) is not turned ON even after the set period of time has elapsed after the entrance motor (M1) is energized (beginning of backward rotation operation).
	The entrance sensor (PS1) is not turned OFF even after the set period of time has elapsed after the entrance motor (M1) is energized (beginning of forward rotation operation).

B. Action

Relevant electrical parts	
Entrance sensor (PS1) Entrance motor (M1)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS1 sensor check	FSCB PJ19FSCB-11 (ON)	FS-519 C-7
3	M1 operation check	FSCB PJ9FSCB-1 to 4	FS-519 C-6 to 7
4	Change SDCB	—	—

10. Malfunction code

10.1 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Item	Description
C11A2	Saddle exit roller pressure/retraction failure	• The saddle exit roller home position sensor (PS18) is not turned ON even after the set period of time has elapsed after the saddle exit open/close motor (M9) is energized (beginning of pressure operation). • The saddle exit roller home position sensor (PS18) is not turned OFF even after the set period of time has elapsed after the saddle exit open/close motor (M9) is energized (beginning of retraction operation).
C11A4	Saddle exit motor failure	The lock signal is detected after the set period of time has elapsed after the saddle exit motor (M8) is energized.
C11A5	Saddle in & out guide motor failure	• The in & out guide home sensor (PS23) is not turned OFF even after the set period of time has elapsed after the in & out guide motor (M13) is energized (beginning of advancing operation). • The in & out guide home sensor (PS23) is not turned ON even after the set period of time has elapsed after the in & out guide motor (M13) is energized (beginning of retracting operation).
C11A6	Saddle layable guide drive failure	• The layable guide home sensor (PS24) is not turned ON even after the set period of time has elapsed after the layable guide motor (M14) is energized (beginning of return operation to predetermined position). • The layable guide home sensor (PS24) is not turned OFF even after the set period of time has elapsed after the layable guide motor (M14) is energized (beginning of return operation to predetermined position).
C11B5	Side staple 1 drive failure	Home position sensor 1 is not turned OFF even after the set period of time has elapsed after saddle staple motor 1 is energized (beginning of staple operation).
C11B6	Side staple 2 drive failure	Home position sensor 2 is not turned OFF even after the set period of time has elapsed after saddle staple motor 2 is energized (beginning of staple operation).
C11D0	Crease motor drive failure	• The crease roller home position sensor (PS22) is not turned OFF even after the set period of time has elapsed after the crease motor (M10) is energized (beginning of backward rotation operation). • The crease roller home position sensor (PS22) is not turned ON even after the set period of time has elapsed after the crease motor (M10) is energized (beginning of forward rotation operation).

10.2 Solution

10.2.1 C11A2: Saddle exit roller pressure/retraction failure

Relevant electrical parts	
Saddle exit open/close motor (M9) Saddle exit roller home position sensor (PS18)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M9 connector for proper connection and correct as necessary.	—	—
2	Check M9 for proper drive coupling and correct as necessary.	—	—
3	M9 operation check	SDCB PJ4SDCB-6 to 7	SD-505 G-5 to 6
4	PS18 sensor check	SDCB PJ9SDCB-6 (ON)	SD-505 B-2
5	Change SDCB	—	—

10.2.2 C11A4: Saddle exit motor failure

Relevant electrical parts	
Saddle exit motor (M8-SK)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M8 connector for proper connection and correct as necessary.	—	—
2	Check M8 for proper drive coupling and correct as necessary.	—	—
3	M8 operation check	SDCB PJ4SDCB-1 to 2	SD-505 G-6
4	Change SDCB	—	—

10.2.3 C11A5: Saddle in & out guide motor failure

Relevant electrical parts	
In & out guide motor (M13) In &out guide home sensor (PS23)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M13 connector for proper connection and correct as necessary.	—	—
2	Check M13 for proper drive coupling and correct as necessary.	—	—
3	M13 operation check	SDCB PJ4SDCB-4 to 5	SD-505 G-6
4	PS23 sensor check	SDCB PJ10SDCB-3 (ON)	SD-505 B-2 to 3
5	Change SDCB	—	—

10.2.4 C11A6: Saddle layable guide drive failure

Relevant electrical parts	
Layable guide motor (M14) Layable guide home sensor (PS24)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M14 connector for proper connection and correct as necessary.	—	—
2	Check M14 for proper drive coupling and correct as necessary.	—	—
3	M14 operation check	SDCB PJ4SDCB-8 to 9	SD-505 G-5
4	PS24 sensor check	SDCB PJ10SDCB-6 (ON)	SD-505 B-3
5	Change SDCB	—	—

10.2.5 C11B5: Side staple 1 drive failure

10.2.6 C11B6: Side staple 2 drive failure

Relevant electrical parts	
Staple unit 1 Staple unit 2	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the staple units 1 and 2 connectors for proper connection and correct as necessary.	—	—
2	Check staple units 1 and 2 for proper drive coupling, and correct as necessary.	—	—
3	Staple units 1 and 2 operation check	—	—
4	Change staple units 1 and 2	—	—
5	Change SDCB	—	—

10.2.7 C11D0: Crease motor drive failure

Relevant electrical parts	
Crease motor (M10) Crease roller home position sensor (PS22)	SD control board (SDCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M10 connector for proper connection and correct as necessary.	—	—
2	Check M10 for proper drive coupling and correct as necessary.	—	—
3	M10 operation check	SDCB PJ3SDCB-1 to 2	SD-505 C-7
4	PS22 sensor check	SDCB PJ2SDCB-3 (ON)	SD-505 C-7
5	Change SDCB	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

JS-504

2007.08

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2007/08	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

CONTENTS

JS-504

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Type	Built-in type 2-bin stacker
Installation	Installed in main body
Document alignment	Center

B. Functions

Modes	Sort, group, sort offset, group offset

C. Paper

Exit tray	Size	Type		Capacity
Upper tray	A5S, B5S/B5, A4S/A4, B4, A3 8-$^1/_2$ X 11S/8-$^1/_2$ X 11, 8-$^1/_2$ X 14, 11 X 17 Max.: 297 mm X 431.8 mm 11.75 inch X 17 inch Min.: 148 mm X 210 mm 5.75 inch X 8.25 inch	Plain paper (64 to 90 g/m^2) (17 to 24 lb)		50 sheets
Lower tray	A6S, A5S/A5, B6S, B5S/B5, A4S/A4, B4, A3, A3 Wide, Post card S 5-$^1/_2$ X 8-$^1/_2$S/5-$^1/_2$ X 8-$^1/_2$, 8-$^1/_2$ X 11S/8-$^1/_2$ X 11, 8-$^1/_2$ X 14, 11 X 17, 12-$^1/_4$ X 18 Max.: 311.1 mm X 1200 mm 12.25 inch X 47.25 inch Min.: 90 mm X 139.7 mm 3.5 inch X 5.5 inch	Plain paper (64 to 90 g/m^2) (17 to 24 lb)		150 sheets
		Special paper	Thick paper 1 (91 to 120 g/m^2) (24.25 to 32 lb)	20 sheets
			Thick paper 1+ (121 to 157 g/m^2) (32.25 to 41.75 lb)	
			Thick paper 2 (158 to 209 g/m^2) (42 to 55.5 lb)	
			Thick paper 3 (210 to 256 g/m^2) (55.75 to 68 lb)	
			Thick paper 4 (257 to 300 g/m^2) (68.25 to 80 lb)	
			OHP film	
			Post card	
			Label	
			Envelope	10 sheets
			Long size paper	1 sheet

D. Offset function

Exit tray	Lower tray
Shift amount	30 mm
Types of paper to be used	Plain paper, Thick paper 1/1+/2/3/4
Size	B5S/B5, A4S/A4, B4, A3 8-$^{1}/_{2}$ X 11S/8-$^{1}/_{2}$ X 11, 8-$^{1}/_{2}$ X 14, 11 X 17

E. Machine specifications

Power requirements	DC 24 V ± 10 % (supplied from the main body)
	DC5 V ± 5 %
Max. power consumption	40 W or less
Dimensions	431 mm (W) X 540 mm (D) X 131 mm (H) 17 inch (W) X 21.25 inch (D) X 5.25 inch (H) 558 mm (W) X 540 mm (D) X 131 mm (H) *1 22 inch (W) X 21.25 inch (D) X 5.25 inch (H) *1
Weight	5.0 kg (11 lb)

*1: Size when the paper exit tray is pulled out

F. Operating environment

- Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

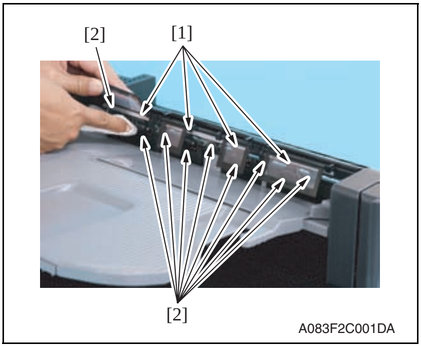
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

2.1.1 Cleaning of the roller and roll

A. Periodically cleaning parts/cycle

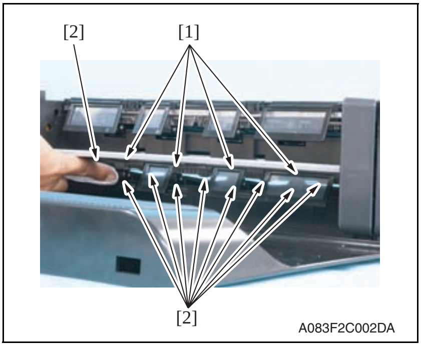
- Roller and roll: Every 300,000 prints

1. Remove the separator.
See P.5



2. Using a cleaning pad dampened with alcohol, wipe the roller [1] and roll [2].

3. Remove the upper tray.
See P.8



4. Using a cleaning pad dampened with alcohol, wipe the roller [1] and roll [2].

3. Other

3.1 Disassembly/adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

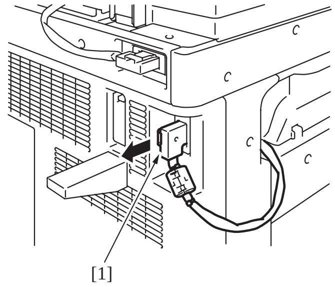
3.2 Disassembly/Assembly list (Other parts)

3.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref. page
1	Unit	Separator	P.5
2	Exterior parts	Front cover	P.6
3		Rear left cover	P.7
4		Rear right cover	P.7
5		Upper tray	P.8
6		Paper guide plate	P.8
7	Board	JS control board	P.9
8	Motors	Transport motor	P.9
9		Route change motor	P.10
10		Shift motor	P.11

3.3 Disassembly/Assembly procedure

3.3.1 Separator



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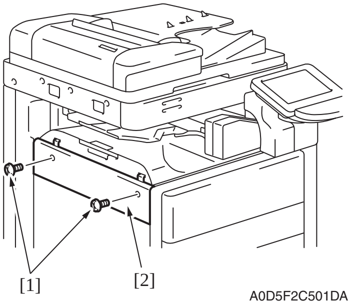
1. Remove the relay connector [1].



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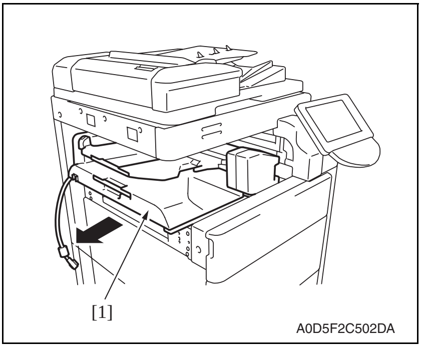
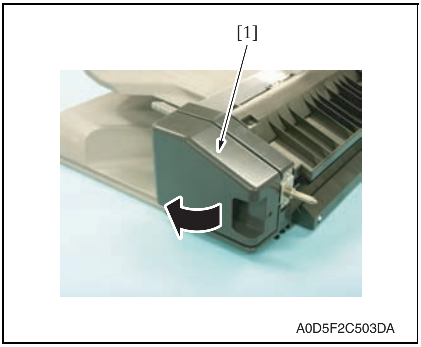
2. Remove two screws [1] and remove the mount cover [2].



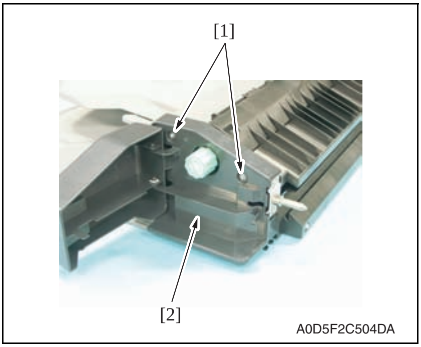
3. Remove the separator [1].

3.3.2 Front cover

1. Remove the separator.
   See P.5



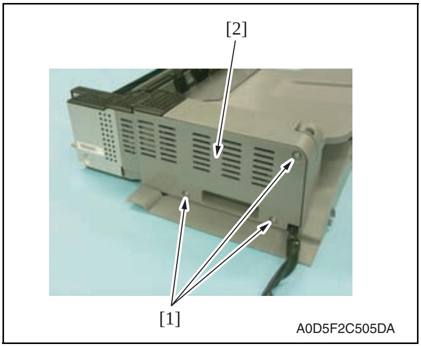
2. Open the misfeed clearing cover [1].



3. Remove two screws [1] and remove the front cover [2].

3.3.3 Rear left cover

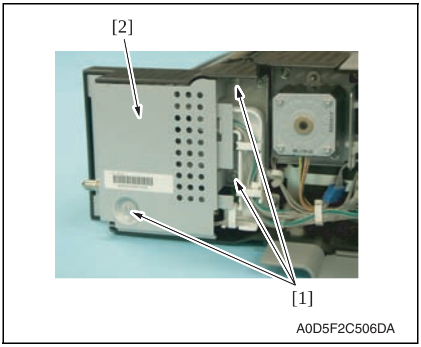
1. Remove the separator.
   See P.5



2. Remove three screws [1] and remove the rear left cover [2].

3.3.4 Rear right cover

1. Remove the separator.
   See P.5
2. Remove the rear left cover.
   See P.7

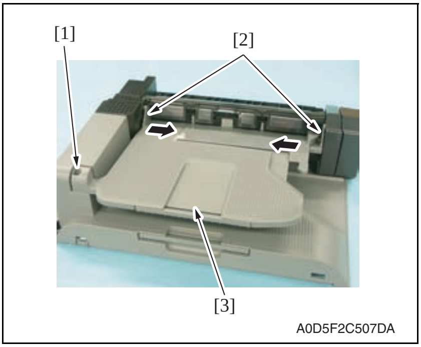


3. Remove three screws [1] and remove the rear right cover [2].

3.3.5 Upper tray

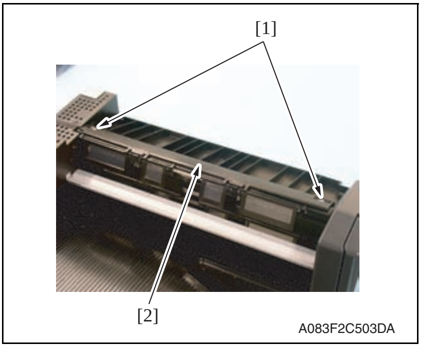
1. Remove the separator.
   See P.5

2. Remove the screw [1]. Push two protrusions [2] in the directions of the arrows and remove the upper tray [3].



3.3.6 Paper guide plate

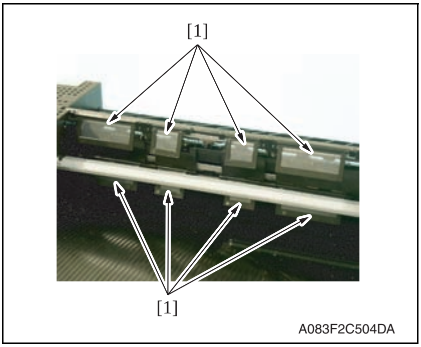
1. Remove the separator.
   See P.5
2. Remove the upper tray.
   See P.8
3. Remove two screws [1] and remove the paper guide plate cover [2].



4. Remove eight paper guide plates [1].

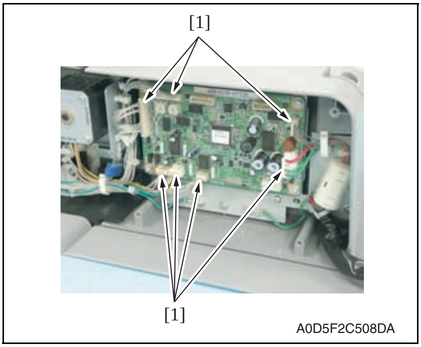
NOTE

- **When reinstalling the paper guide plates [1], make sure that the film side must face the roller.**

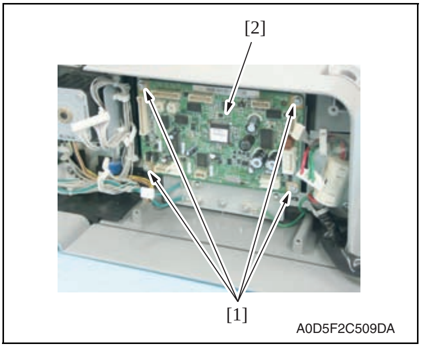


3.3.7 JS control board

1. Remove the separator.
   See P.5
2. Remove the rear left cover.
   See P.7



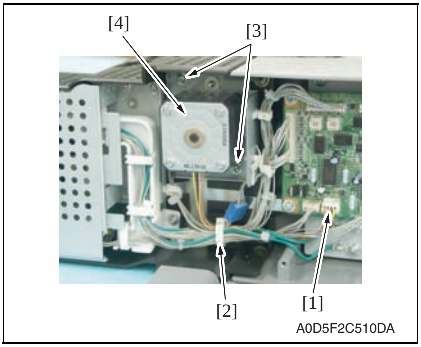
3. Remove all seven connectors [1] from the JS control board.



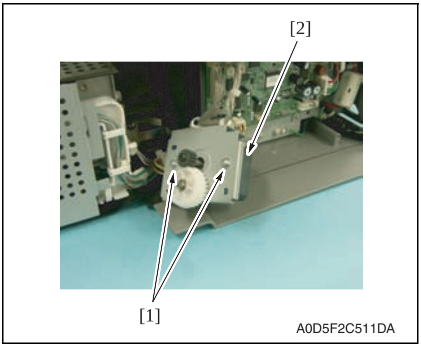
4. Remove four screws [1] and remove the JS control board [2].

3.3.8 Transport motor

1. Remove the separator.
   See P.5
2. Remove the rear left cover.
   See P.7



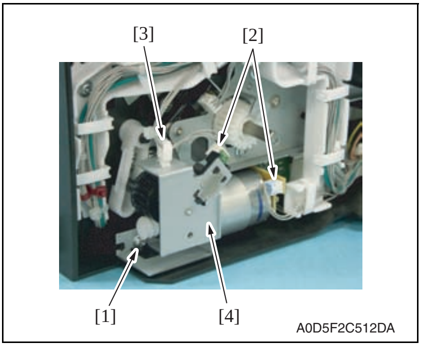
3. Disconnect the connector [1] and remove the harness from the wire saddle [2].
4. Remove two screws [3] and remove the transport motor assy [4].



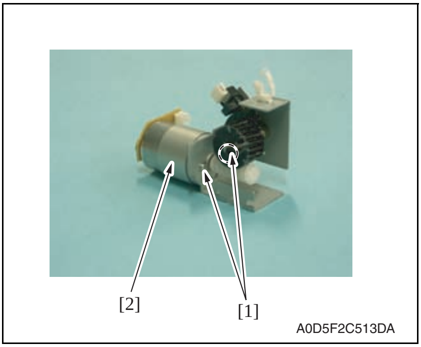
5. Remove two screws [1] and remove the transport motor [2].

3.3.9 Route change motor

1. Remove the separator.
   See P.5
2. Remove the rear left cover.
   See P.7
3. Remove the rear right cover.
   See P.7



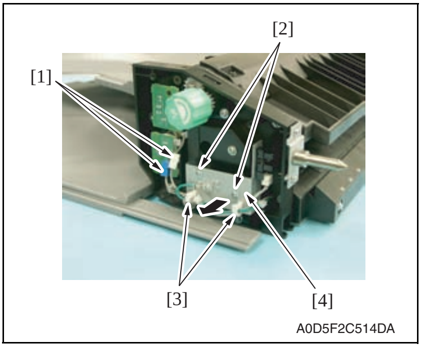
4. Remove the screw [1], disconnect two connectors [2] and the harness from the wire saddle [3], and remove the route change motor assy [3].



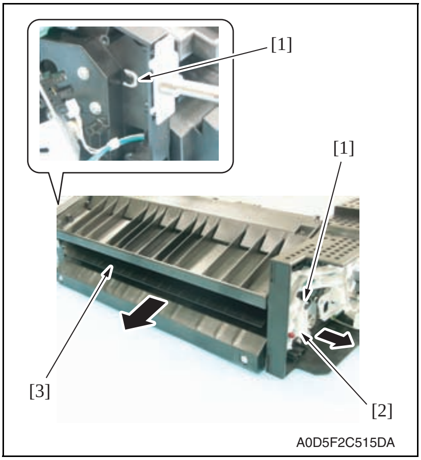
5. Remove two screws [1] and remove the route change motor [2].

3.3.10 Shift motor

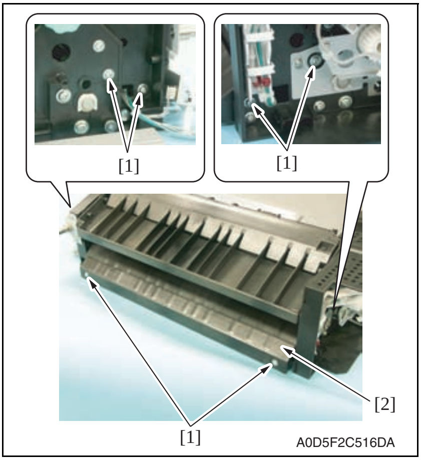
1. Remove the separator.
   See P.5
2. Remove the front cover.
   See P.6
3. Remove the route change motor.
   See P.10



4. Disconnect two connectors [1], remove two screws [2] and remove the harness from the wire saddles [3]. Pull out the sensor assy [4] in the direction of the arrow.



5. Remove two C-clips [1] and lever [2], and remove the route change guide [3].



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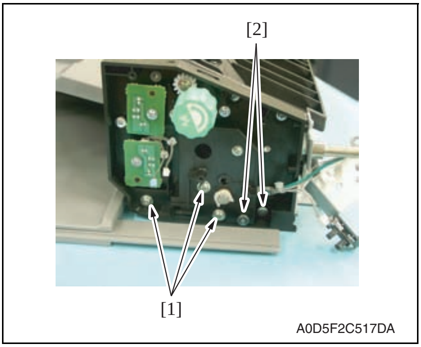
6. Remove six screws [1] and remove the transport guide/lower [2].



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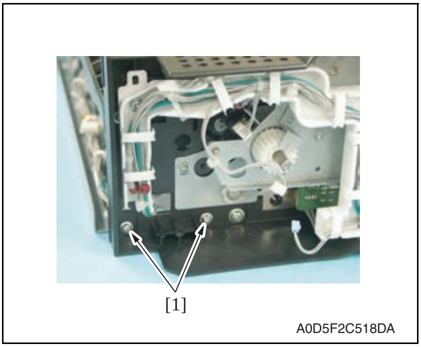
7. Remove three screws [1] and two shoulder screws [2].



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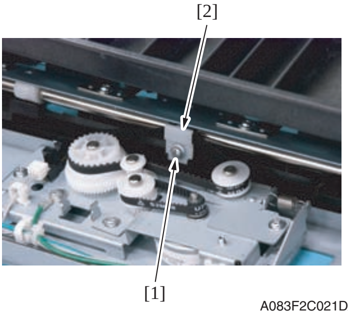
8. Remove two screws [1].



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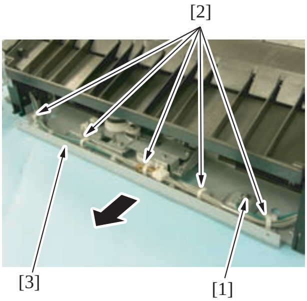
9. Remove the screw [1] and remove the belt fixed plate [2].



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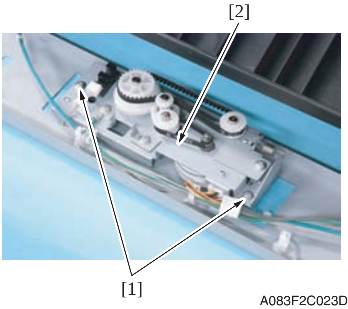
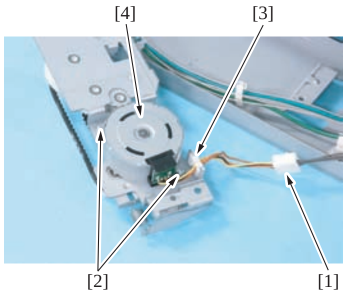
10. Remove the screw [1] and remove the ground terminal.
11. Remove the harness from five wire saddles [2] and pull out the shift drive section assy [3] in the direction of the arrow.



A083F2C023DA

12. Remove two screws [1] and remove the shift motor assy [2].



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13. Disconnect the connector [1], remove two screws [2] and remove the harness from the wire saddle [3], and remove the shift motor [4].

Adjustment/Setting

4. How to use the adjustment section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.
- Throughout this “Adjustment/Setting,” the default settings are indicated by “ ”.

Advance checks
Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ **CAUTION**
- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

5. Sensor check

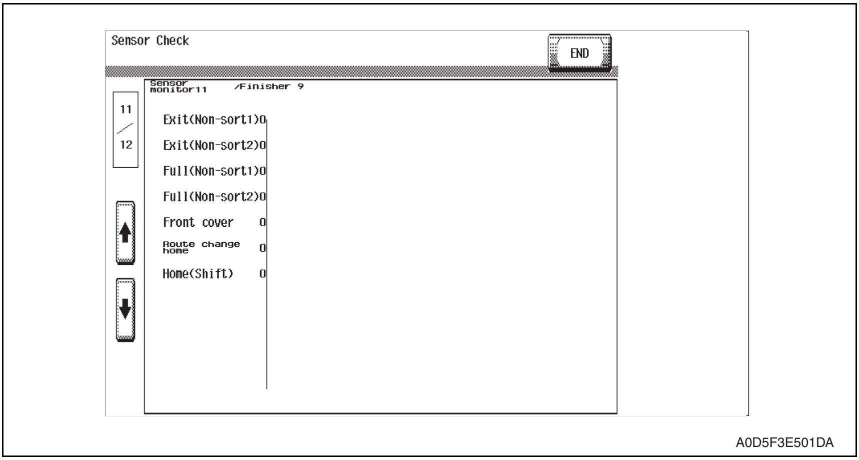
5.1 Check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check].
4. Touch ten times [↓].

5.1.1 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



Sensor Check

Sensor monitor11 /Finisher 9

Exit(Non-sort1) 0
Exit(Non-sort2) 0
Full(Non-sort1) 0
Full(Non-sort2) 0
Front cover 0
Route change home 0
Home(Shift) 0

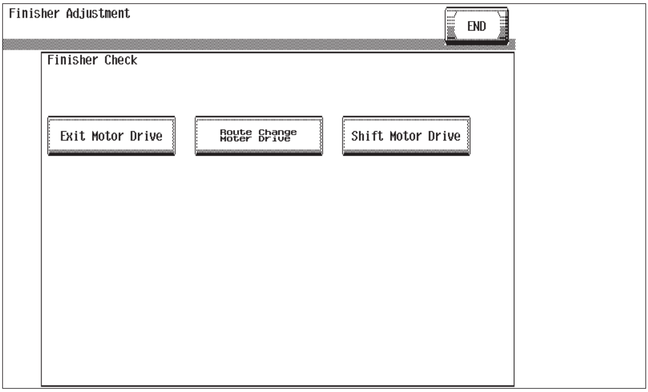
5.1.2 Sensor check list

Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PS1	Exit (Non-sort1)	Lower tray exit sensor	Paper present	Paper not present
PS2	Exit (Non-sort2)	Upper tray exit sensor	Paper present	Paper not present
T1FDTB/LED	Full (Non-sort1)	Lower tray paper full detect board/LED	Full	Other than full
T2FDTB/LED	Full (Non-sort2)	Upper tray paper full detect board/LED	Full	Other than full
PS3	Front cover	Front door sensor	Closed	Open
PS4	Route change home	Route change home sensor	Blocked	Unblocked
PS6	Home(Shift)	Shift home sensor	Blocked	Unblocked

6. Finisher operations

6.1 Entering Finisher Check

1. Call the Service Mode to the screen.
   See P.434 of the main body service manual.
2. Touch [Finisher].
3. Touch [Job Separator].
4. Touch [Exit Motor Drive], [Shift Motor Drive] or [Route change Motor Drive].



A0D5F3E502DA

5. Touch the Start key to start the operation check.
6. Touch the Stop key to stop the ongoing operation check.

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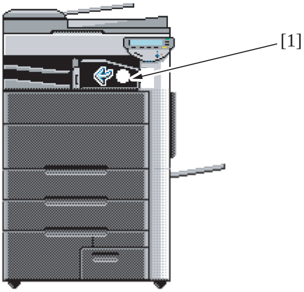
Troubleshooting

7. Jam display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.



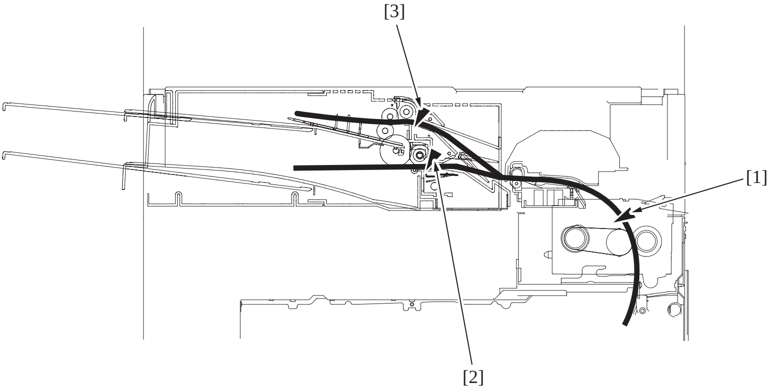
A0D5F4C500DA

Display	Code	Misfeed location	Misfeed access location	Action
[1]	7216	Job separator transport section	Right door	P.21

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

7.2 Sensor layout



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[1]	Paper exit sensor	PS39
[2]	Lower tray exit sensor	PS1
[3]	Upper tray exit sensor	PS2

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

7.3.2 Job separator transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The lower tray exit sensor (PS1) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned ON by the paper.
	The upper tray exit sensor (PS2) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned ON by the paper.
	The lower tray exit sensor (PS1) is not turned OFF even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned OFF by the paper.
	The upper tray exit sensor (PS2) is not turned OFF even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned OFF by the paper.
	The paper exit sensor (PS39) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS39) is turned ON by the paper.
Detection of paper remaining in the transport section	The lower tray exit sensor (PS1) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The upper tray exit sensor (PS2) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Paper exit sensor (PS39) Lower tray exit sensor (PS1) Upper tray exit sensor (PS2)	JS control board (JSCB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS39 I/O check, sensor check	PRCB CN36PRCB-12 (ON)	bizhub C650/C550/ C451 K-4
3	PS1 I/O check, sensor check	JSCB PJ7JSCB-6 (ON)	JS-504 F-4 to 5
4	PS2 I/O check, sensor check	JSCB PJ7JSCB-9 (ON)	JS-504 F-4
5	JSCB replacement	—	—
6	PRCB replacement	—	—

8. Malfunction code

8.1 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Description	Detection timing
C1004	FNS communication error	• When the JS control board (JSCB) is receiving data, a communication error is detected.
C1182	Shift motor drive failure	• The shift home sensor (PS6) is not blocked after the set period of time has elapsed after the shift motor (M2) is turned ON (start of moving to the home position.) • The shift home sensor (PS6) is not unblocked twice in a row after the set period of time has elapsed after the shift motor (M2) is turned ON (start of moving to the shift position.)
C11E0	Finisher route change failure	• The route change home sensor (PS4) is not blocked after the set period of time has elapsed after the route change motor (M3) is turned ON (start of shifting to the lower tray route.) • The route change home sensor (PS4) is not unblocked after the set period of time has elapsed after the route change motor (M3) is turned ON (start of shifting to the upper tray route.)
CC155	Finisher ROM failure	• Data of flash ROM of the finishing options is determined to be faulty when the power is turned ON.

8.2 Solution

8.2.1 C1004: FNS communication error

Relevant electrical parts	
JS control board (JSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change JSCB	—	—

8.2.2 C1182: Shift motor drive failure

Relevant electrical parts	
Shift motor (M2) Shift home sensor (PS6)	JS control board (JSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M2 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M2 for proper drive coupling and correct as necessary.	—	—
3	PS6 I/O check, sensor check	JSCB PJ7JSCB-18 (ON)	JS-504 F-3
4	M2 operation check	JSCB PJ4JSCB-1 to 4	JS-504 F-6
5	Change JSCB	—	—

8.2.3 C11E0: Finisher route change failure

Relevant electrical parts	
Route change motor (M3) Route change home sensor (PS4)	JS control board (JSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M3 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M3 for proper drive coupling and correct as necessary.	—	—
3	PS4 I/O check, sensor check	JSCB PJ7JSCB-15 (ON)	JS-504 F-4
4	M3 operation check	JSCB PJ6JSCB-1 to 2	JS-504 F-6
5	Change JSCB	—	—

8.2.4 CC155: Finisher ROM failure

Relevant electrical parts	
JS control board (JSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change JSCB	—	—

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bizhub C650/C550/C451 Overall wiring diagram

PH unit
IU cooling fan motor
PH cooling fan motor
FM15
FM14
REYB/PH
PH relay board
Imaging unit/Y
Imaging unit/M
Imaging unit/C
Imaging unit/K
Main erase lamp/Y
Main erase lamp/M
Main erase lamp/C
Main erase lamp/K
EL/Y
EL/M
EL/C
EL/K
Waste toner agitating motor
Fusing pressure retraction motor
Charge cleaning motor/K
Charging cleaner home sensor
Charging cleaner return sensor
Pressure home sensor
SV ERB
Service EEPROM board
M20
M29
M15
PS43
PS44
PS55
IH cooling fan motor/3
IH cooling fan motor/2
IH cooling fan motor/1
Rear side cooling fan motor
Heating roller rotation sensor/2
Heating roller rotation sensor/1
FM12
FM11
FM10
FM16
PS57
PS56
Fusing unit
Total counter
Tray2 paper empty indicator board
Tray1 paper empty indicator board
Gate switch solenoid
Plug-in counter (Option)
TCT
PEB2
PEB1
SD1
Waste toner box set sensor
Toner supply motor/K
Toner supply motor/C
Toner supply motor/M
Toner supply motor/Y
Toner empty sensor/K
Toner empty sensor/Y
Toner empty sensor/M
Toner empty sensor/C
Waste toner agitating motor lock sensor
Waste toner full sensor
PS53
M12
M11
M10
M9
PZS/K
PZS/Y
PZS/M
PZS/C
PS23
PS54
Right door switch
Front door switch
MS1
MS3
Loop amount detection sensor/2
Loop amount detection sensor/1
IDC registration sensor/R
IDC registration sensor/F
Temperature/humidity sensor
Toner cartridge cover switch
TC EEPROM board/K
TC EEPROM board/C
TC EEPROM board/M
TC EEPROM board/Y
PS42
PS41
IDCS/R
IDCS/F
TEM/HUMS
RS1
TC ERB/K
TC ERB/C
TC ERB/M
TC ERB/Y
Ferrite core
PRCB
Printer control board
C650
C550/C451
REDB
Relay drive board
MS2
SW2
RL1
Upper right door switch
Dehumidifier heater switch
F2
Fuse *5
Fusing power relay *5
To except Europe and Taiwan
To Europe and Taiwan
Fuse(F1) and Fuse holder (USA only)
SW1
Power switch
DCPU
DC power supply
Horizontal transport unit (Option)
REYB/SL
Slide interface board
REYB/FAN
Fan motor relay board
FM103
FM102
FM101
Exit paper cooling fan motor/3
Exit paper cooling fan motor/2
Exit paper cooling fan motor/1
OT-503(Option)
FAX speaker
MCMB
Machine condition monitor board
FM17
MFP control board cooling fan motor
Vender
Tube
M14
M13
M21
PS52
PS51
FM5
FM4
FM1
M3
PS39
PS50
PS38
PS40
FM8
FM7
FM13
FM3
FM2
FM6
M30
PS46
PS45
PS18
M17
M16
M19
M18
M38
M1
Toner cartridge motor C/K
Toner cartridge motor Y/M
1st image transfer pressure retraction motor
Pressure welding alienation sensor/color
Pressure welding alienation sensor/K
Fusing cooling fan motor/3
Fusing cooling fan motor/2
Suction fan motor
2nd image transfer pressure retraction motor
Paper exit sensor
Pressure welding alienation sensor
Timing roller sensor
OHP detection sensor
K toner suction fan motor
Color toner suction fan motor
Paper cooling fan motor
Cooling fan motor
Fusing cooling fan motor/1
Ozone ventilation fan motor
Fusing motor
K PC encoder sensor/2
K PC encoder sensor/1
K PC drum position sensor
Color developing motor
Color PC drum motor
K developing motor
K PC drum motor
Cleaner motor
Transfer belt motor
HV2
High voltage unit/2
HV1
High voltage unit/1
Duplex
Switchback motor
Exit motor
Tray1 vertical transport motor
Take-up motor
Tray2 vertical transport motor
Tray1 upper limit sensor
Tray1 paper feed sensor
Tray1 vertical transport sensor
Tray1 paper empty sensor
Tray1 paper feed clutch
Tray2 paper feed clutch
Tray2 paper empty sensor
Tray2 paper feed sensor
Tray2 vertical transport sensor
Tray2 door set sensor
Tray2 upper limit sensor
ADU paper passage sensor/2
ADU paper passage sensor/1
ADU door sensor
ADU transport motor/2
ADU transport motor/1
Registration motor
Bypass paper empty sensor
Multi FD size sensor/3
Multi FD size sensor/2
Multi FD size sensor/1
Bypass paper width detection resistor
Bypass sub tray set sensor
Bypass paper lower sensor
Bypass paper feed motor
Bypass set sensor
Bypass paper limit sensor
Bypass tray up down motor
M33
M4
M5
M22
M7
PS6
PS5
PS4
PS2
CL1
CL2
PS10
PS13
PS12
PS17
PS14
PS48
PS47
PS49
M32
M31
M2
PS34
PS33
PS32
PS31
VR1
PS37
PS36
M27
PS30
PS35
M28
PFTDB
Paper feed/transport drive board
LU-301(Option)
PS1
PS8
PS7
PS3
PSDTB/1
M6
PS9
PSDTB/2
M8
PS15
PS16
PS11
PS20
CL5
PS19
PS22
PS21
CL6
CL7
PEB/4
PEB/3
PS26
PS27
PS24
PS25
M24
M23
CL4
CL3
PS58
PS29
PS28
M26
M25
Tray1 device detection sensor
Tray1 CD paper size sensor/2
Tray1 CD paper size sensor/1
Tray1 near empty sensor
Paper size detect board/1
Tray1 lift-up motor
Tray2 device detection sensor
Paper size detect board/2
Tray2 lift-up motor
Tray2 CD paper size sensor/1
Tray2 CD paper size sensor/2
Tray2 near empty sensor
Tray3 upper limit sensor
Tray3 paper feed clutch
Tray3 paper empty sensor
Tray3 near empty sensor
Tray3 paper feed sensor
Tray3 transport clutch
Tray4 paper feed clutch
Tray3 paper empty indicator board
Tray4 paper empty indicator board
Tray4 paper feed sensor
Tray4 near empty sensor
Tray4 paper empty sensor
Tray4 upper limit sensor
Tray4 lift-up motor
Tray3 lift-up motor
Horizontal transport clutch2
Horizontal transport clutch1
Horizontal transport set sensor
Horizontal transport sensor
Intermediate roller sensor
Vertical transport motor
Transport motor
CCDB
CCD board
IPB
Image processing board
Original cover sensor
Scanner home sensor
Original size detection/2 sensor
Original size detection/1 sensor
RS201
PS201
PS205
PS204
20 degree sensor
Scanner motor
Optical cooling fan motor
PS202
M201
FM201
REYB/SCAN
Scanner relay board
Original glass moving motor
M202
OGPCB
Original glass position control board
Glass home sensor
PS203
DF-611/DF-610 (Option)
Exposure lamp
FL201
INVB
Inverter board
Dehumidifier heater transformer
Tray4 dehumidifier heater
Tray3 dehumidifier heater
DH2
DH1
Power supply cooling fan motor
FM9
Interface kit
Fax 1 line
PCIB
PCI board
Fax 2 line
SA-501
Scan accelerator kit
C650 : Standard
C550/C451 : Option
DIMM1
DIMM0
CF_card
HDD
SC-503 (Option)
CPU cooling fan motor
MFPB
MFP board
IH coil
FH1
IHPU
IH power supply
OPINVB
Operation panel inverter board
OPIOB
Operation panel I/O board
OPCB
Operation panel control board
NRB
NVRAM board
JMPB *6
JMP board
C650 : Not use
C550/C451 : Standard
GIFB
GIF board
C650 : Standard
C550/C451 : Option
EIFB
EIF board
C650 : Standard
C550/C451 : Option
IC-409
Image controller
(Option)
C650
C550/C451 : Europe
C650 : Europe and Taiwan
C650 Except Europe and Taiwan
C550/C451 : Except Europe
JAPAN and Taiwan
NF1
Noise filter
Except JAPAN
JAPAN
CN154
PG1
DESCRIPTION
20
20-L
DESTINATION
LOCATION
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

CLOSED END CONNECTORS LARGE
CLOSED END CONNECTORS MEDIUM
CLOSED END CONNECTORS SMALL
POSITIVE LOCK RECEPTACLE #250 WITH HOUSING
POSITIVE LOCK RECEPTACLE #187 WITH HOUSING
OUTPUT OF ACTIVE LOW
OUTPUT OF ACTIVE HIGH
INPUT OF ACTIVE LOW
INPUT OF ACTIVE HIGH
OUTPUT OF ACTIVE HIGH OR LOW
INPUT OF ACTIVE HIGH OR LOW
DC24V
DC5V

*1 RXD : Reception data

*2 TXD : Transmission data

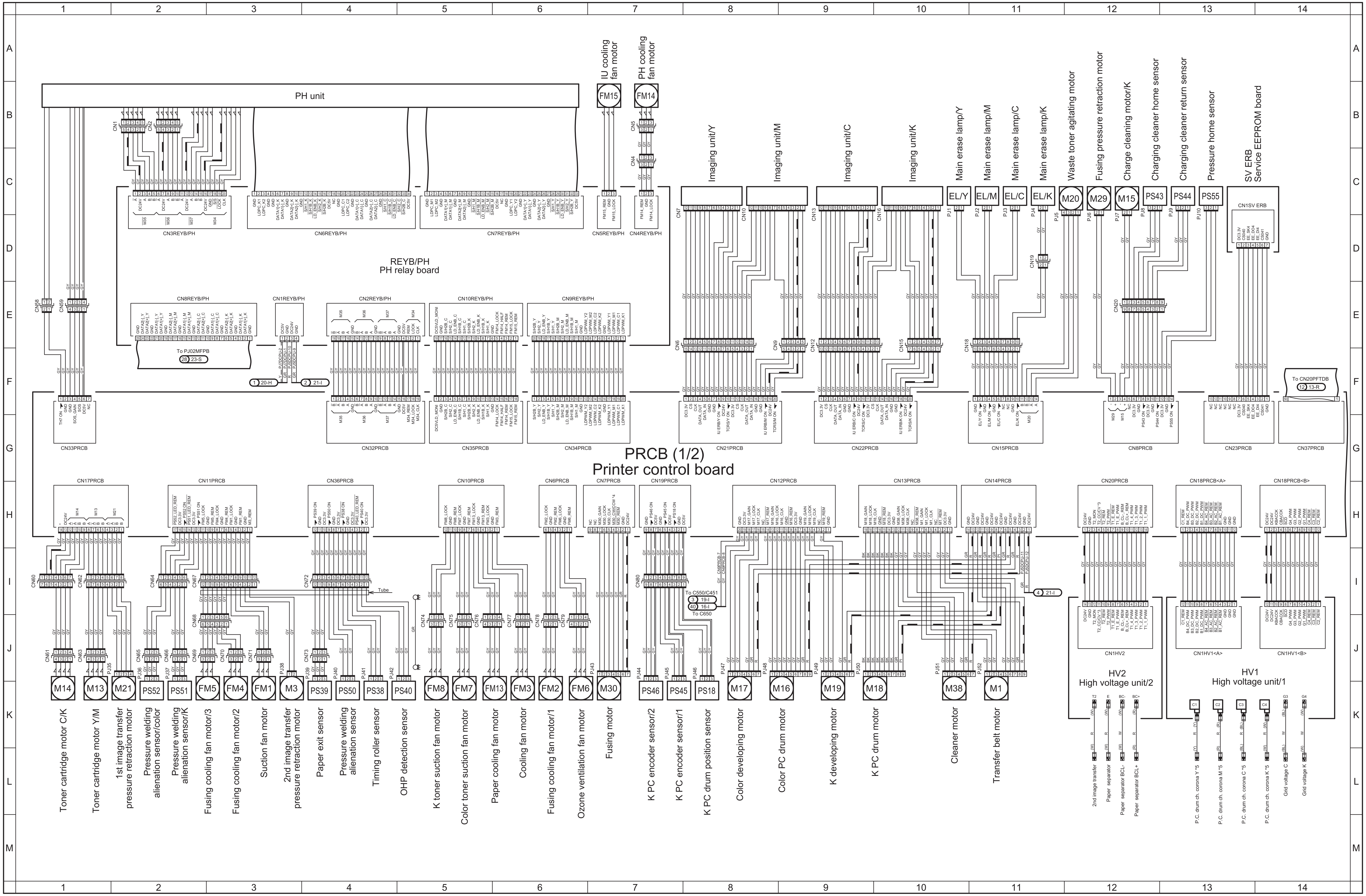
*3 CC/CV : 1/2 current/voltage switching

*4 CW/CCW : Clock wise/counter clock wise

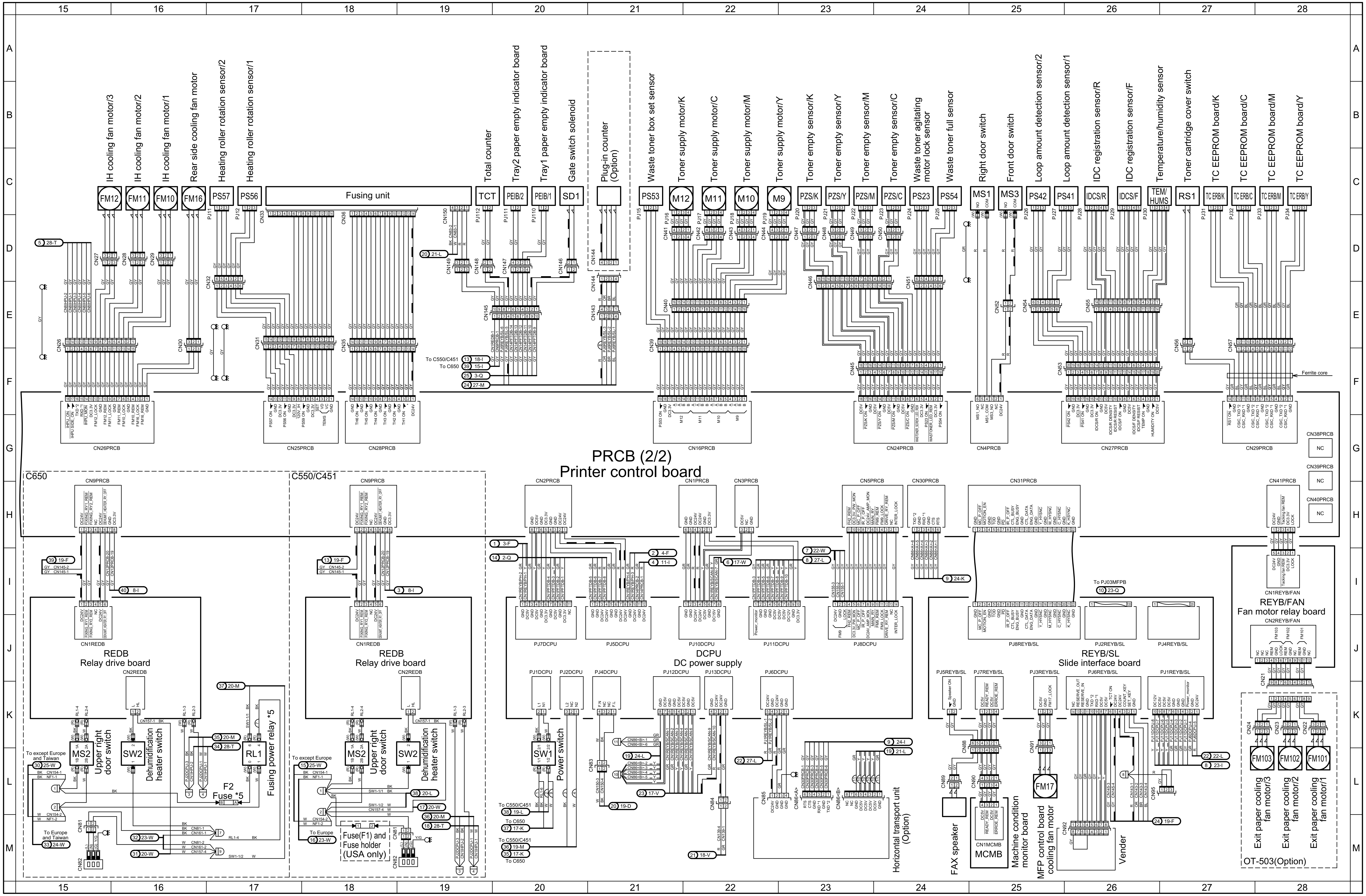
*5 : Japan and Taiwan only

*6 : Remove the JMPB when installing VI-504.

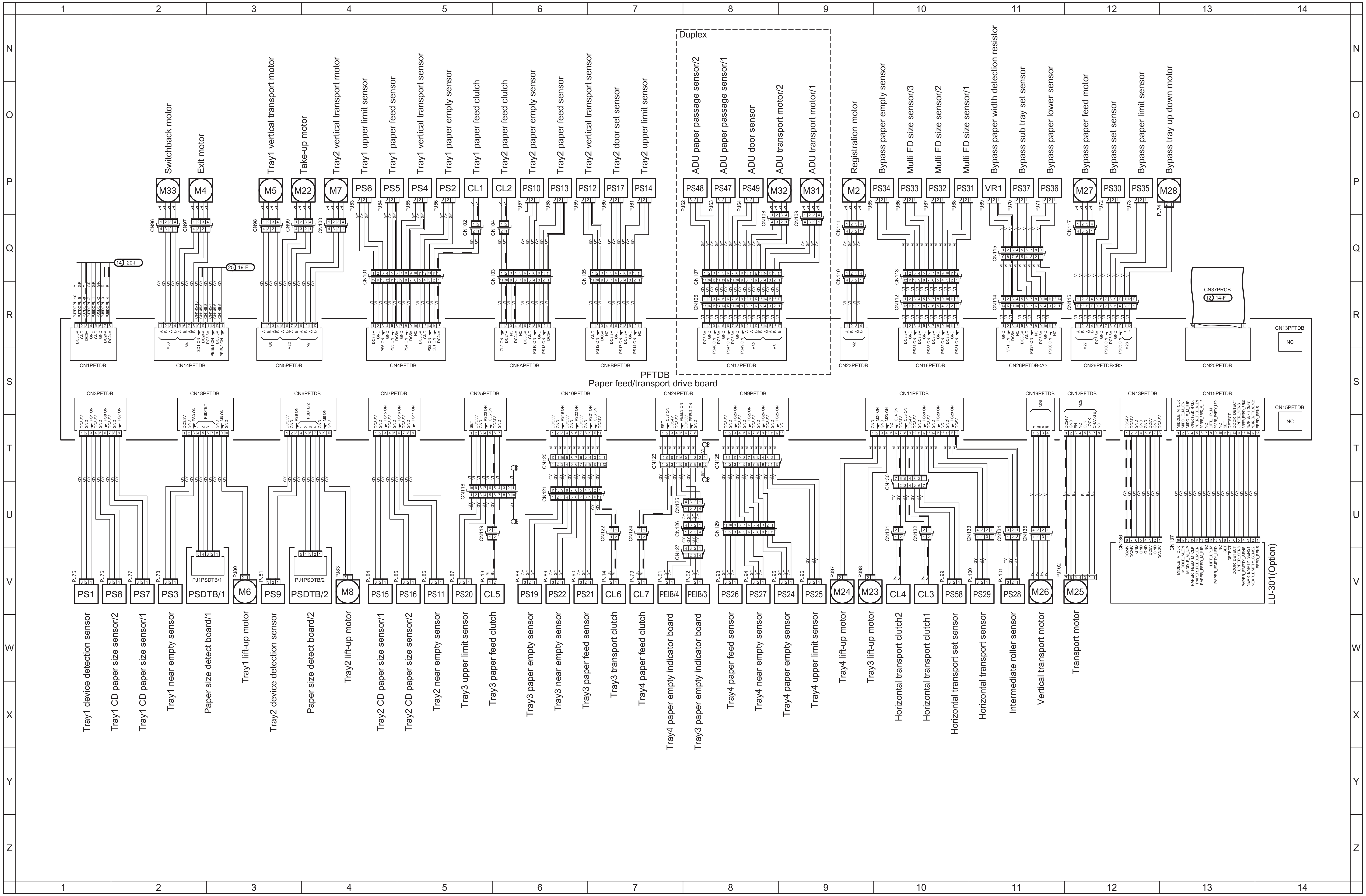
bizhub C650/C550/C451 Overall wiring diagram 1/4



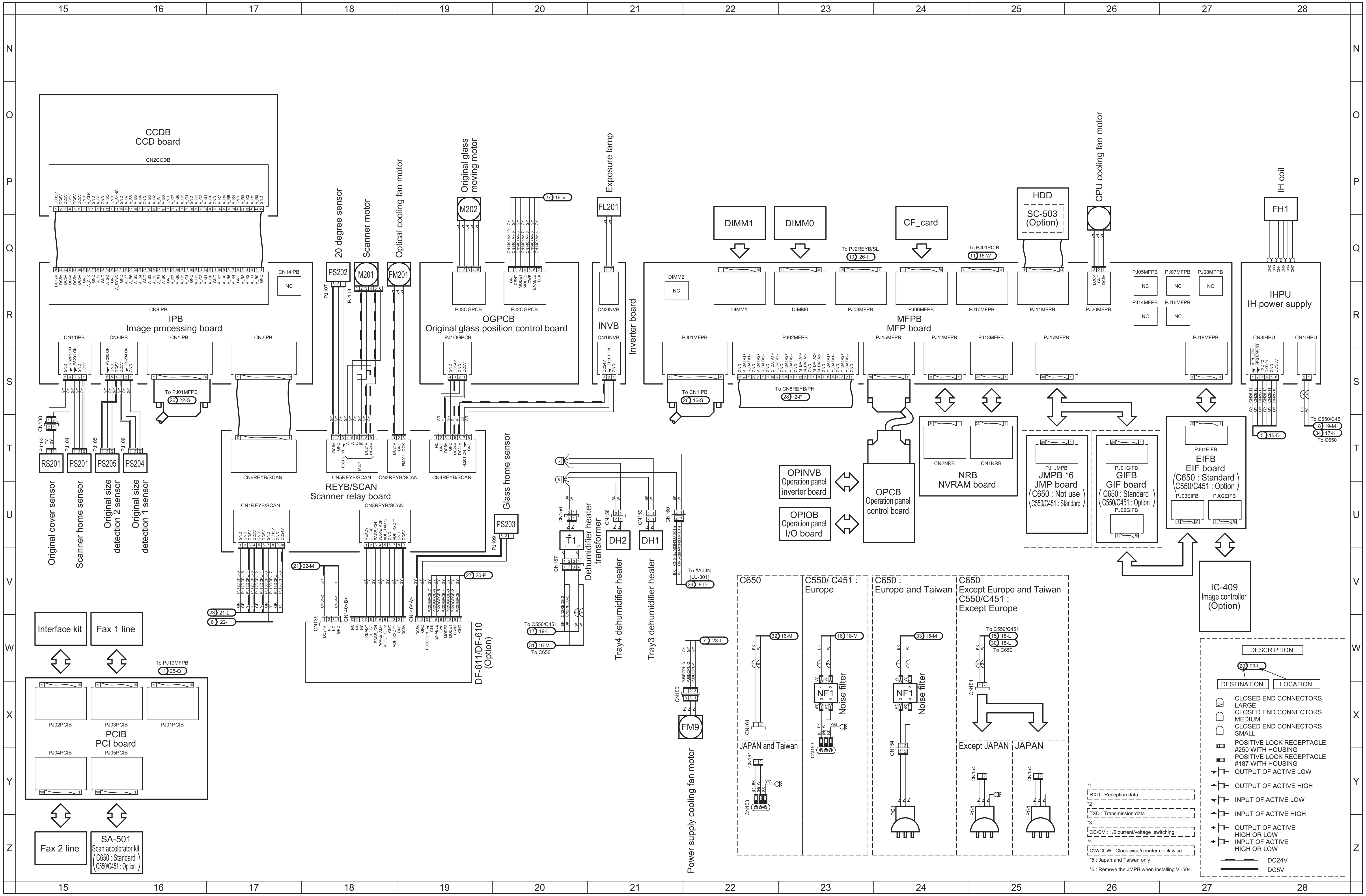
bizhub C650/C550/C451 Overall wiring diagram 2/4



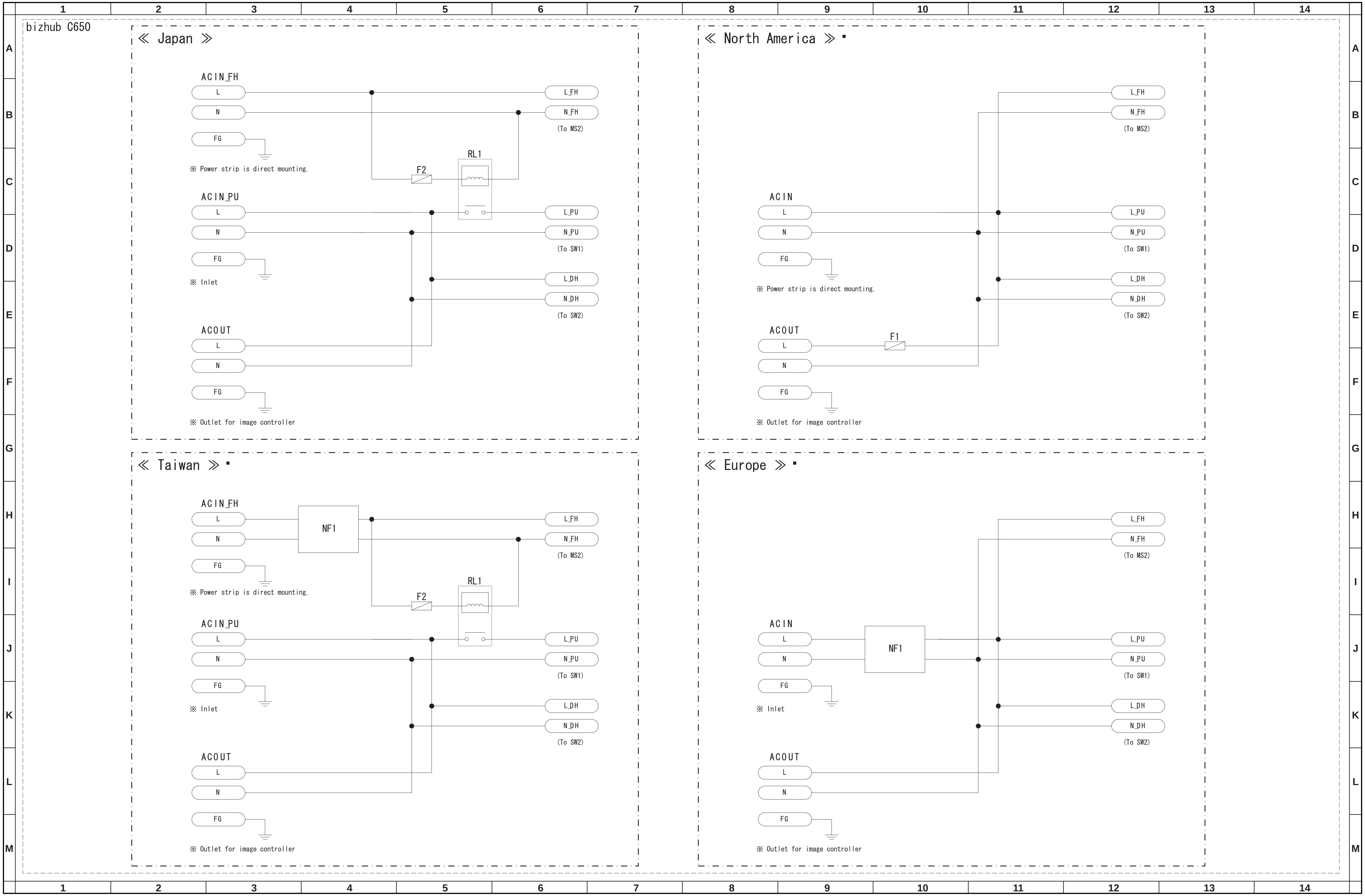
bizhub C650/C550/C451 Overall wiring diagram 3/4


1 2 3 4 5 6 7 8 9 10 11 12 13 14
N O P Q R S T U V W X Y Z
Duplex
M33 Switchback motor
M4 Exit motor
M5 Tray1 vertical transport motor
M22 Take-up motor
M7 Tray2 vertical transport motor
PS6 Tray1 upper limit sensor
PS5 Tray1 paper feed sensor
PS4 Tray1 vertical transport sensor
PS2 Tray1 paper empty sensor
CL1 Tray1 paper feed clutch
CL2 Tray2 paper feed clutch
PS10 Tray2 paper empty sensor
PS13 Tray2 paper feed sensor
PS12 Tray2 vertical transport sensor
PS17 Tray2 door set sensor
PS14 Tray2 upper limit sensor
PS48 ADU paper passage sensor/2
PS47 ADU paper passage sensor/1
PS49 ADU door sensor
M32 ADU transport motor/2
M31 ADU transport motor/1
M2 Registration motor
PS34 Bypass paper empty sensor
PS33 Multi FD size sensor/3
PS32 Multi FD size sensor/2
PS31 Multi FD size sensor/1
VR1 Bypass paper width detection resistor
PS37 Bypass sub tray set sensor
PS36 Bypass paper lower sensor
M27 Bypass paper feed motor
PS30 Bypass set sensor
PS35 Bypass paper limit sensor
M28 Bypass tray up down motor
14 20-I
25 19-F
12 14-F
CN37PRCB
CN1PFTDB
CN14PFTDB
CN5PFTDB
CN4PFTDB
CN8APFTDB
CN8BPFTDB
CN17PFTDB
CN23PFTDB
CN16PFTDB
CN26PFTDB<A>
CN26PFTDB<B>
CN20PFTDB
CN13PFTDB
NC
PFTDB
Paper feed/transport drive board
CN3PFTDB
CN18PFTDB
CN6PFTDB
CN7PFTDB
CN25PFTDB
CN10PFTDB
CN24PFTDB
CN9PFTDB
CN11PFTDB
CN19PFTDB
CN12PFTDB
CN13PFTDB
CN15PFTDB
CN15PFTDB
NC
PJ1PSDTB/1
PJ1PSDTB/2
PS1 Tray1 device detection sensor
PS8 Tray1 CD paper size sensor/2
PS7 Tray1 CD paper size sensor/1
PS3 Tray1 near empty sensor
PSDTB/1 Paper size detect board/1
M6 Tray1 lift-up motor
PS9 Tray2 device detection sensor
PSDTB/2 Paper size detect board/2
M8 Tray2 lift-up motor
PS15 Tray2 CD paper size sensor/1
PS16 Tray2 CD paper size sensor/2
PS11 Tray2 near empty sensor
PS20 Tray3 upper limit sensor
CL5 Tray3 paper feed clutch
PS19 Tray3 paper empty sensor
PS22 Tray3 near empty sensor
PS21 Tray3 paper feed sensor
CL6 Tray3 transport clutch
CL7 Tray4 paper feed clutch
PEIB/4 Tray4 paper empty indicator board
PEIB/3 Tray3 paper empty indicator board
PS26 Tray4 paper feed sensor
PS27 Tray4 near empty sensor
PS24 Tray4 paper empty sensor
PS25 Tray4 upper limit sensor
M24 Tray4 lift-up motor
M23 Tray3 lift-up motor
CL4 Horizontal transport clutch2
CL3 Horizontal transport clutch1
PS58 Horizontal transport set sensor
PS29 Horizontal transport sensor
PS28 Intermediate roller sensor
M26 Vertical transport motor
M25 Transport motor
LU-301(Option)

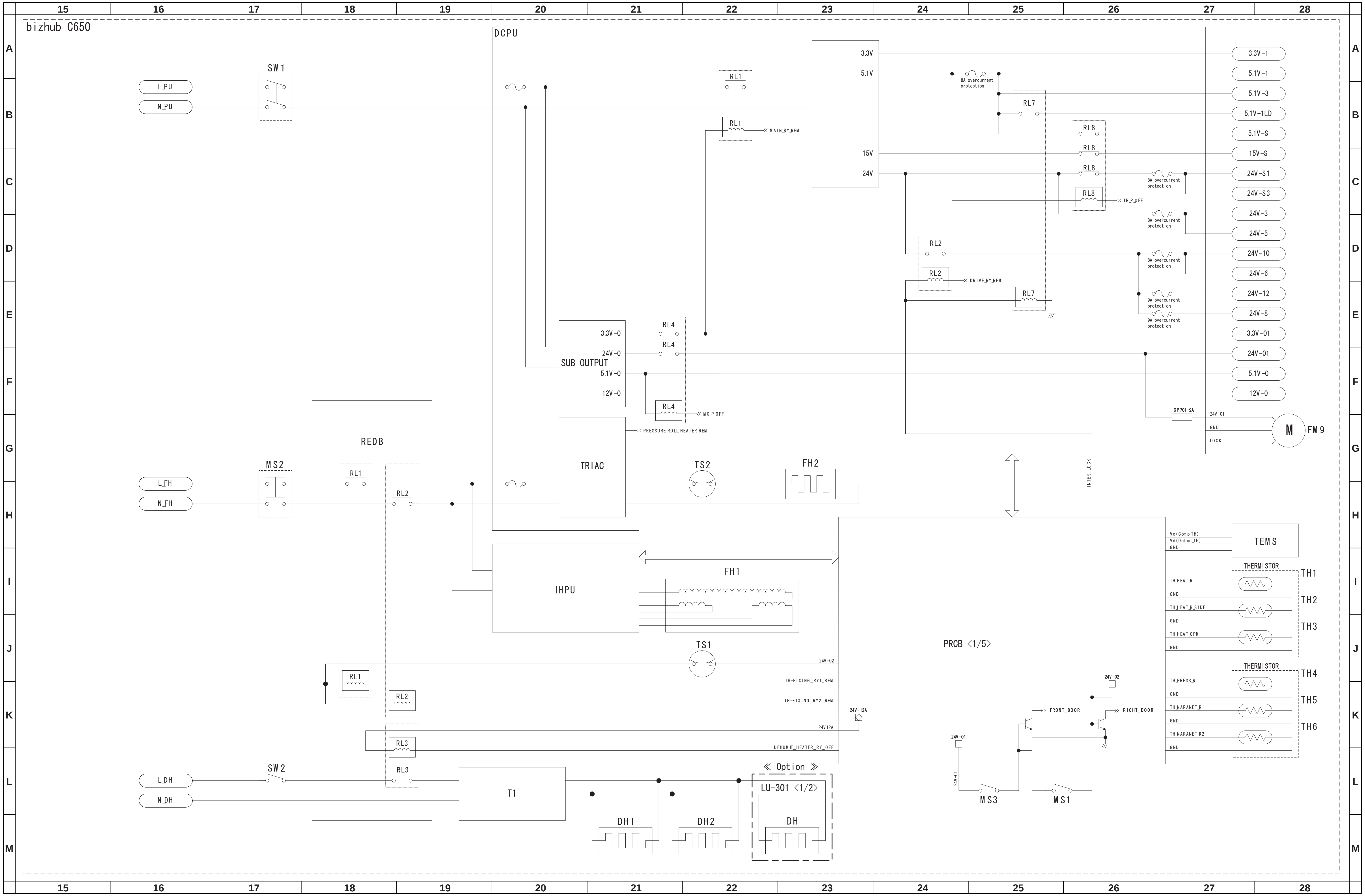
bizhub C650/C550/C451 Overall wiring diagram 4/4



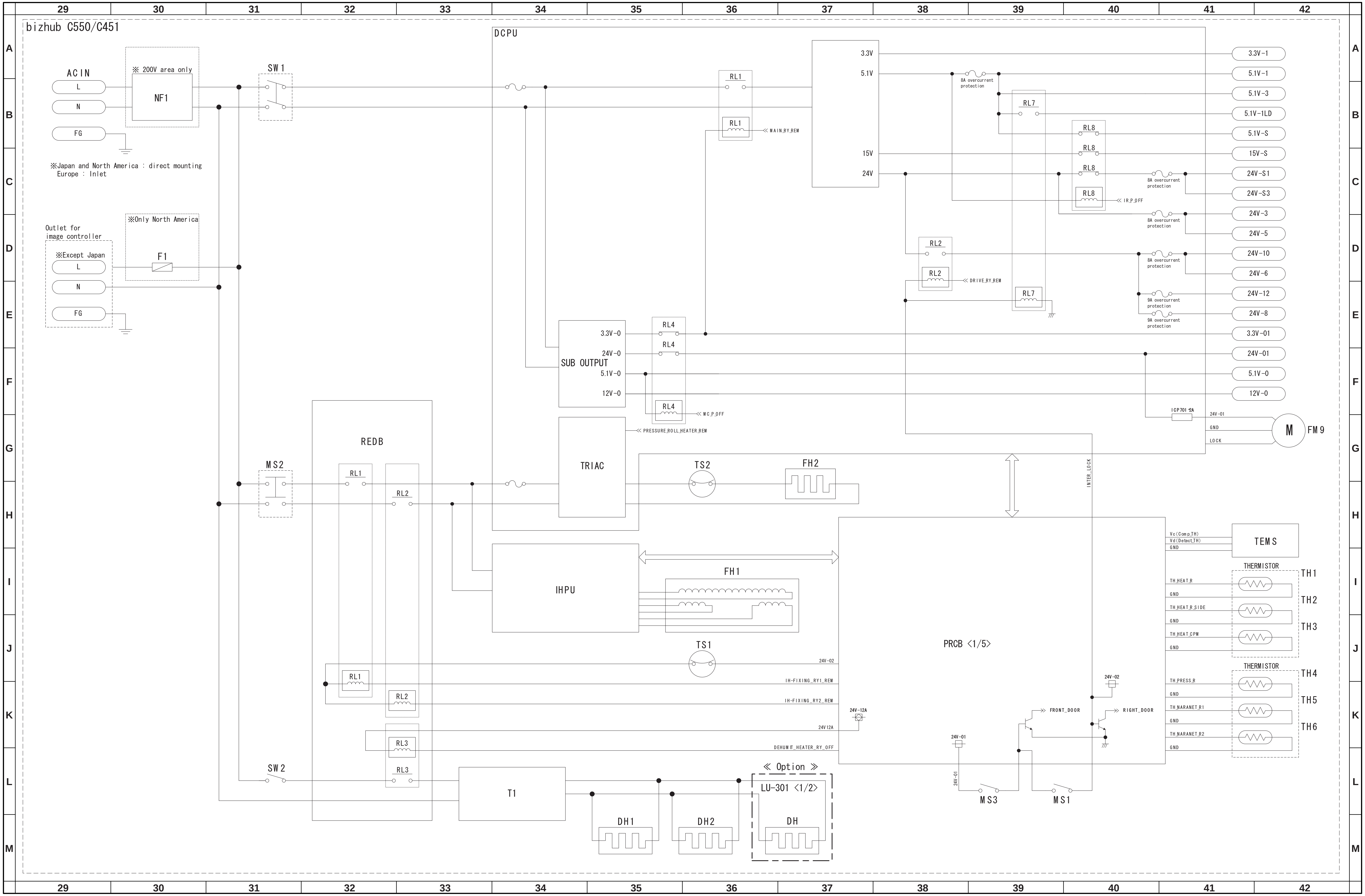
bizhub C650/C550/C451 Circuit diagram 1/8



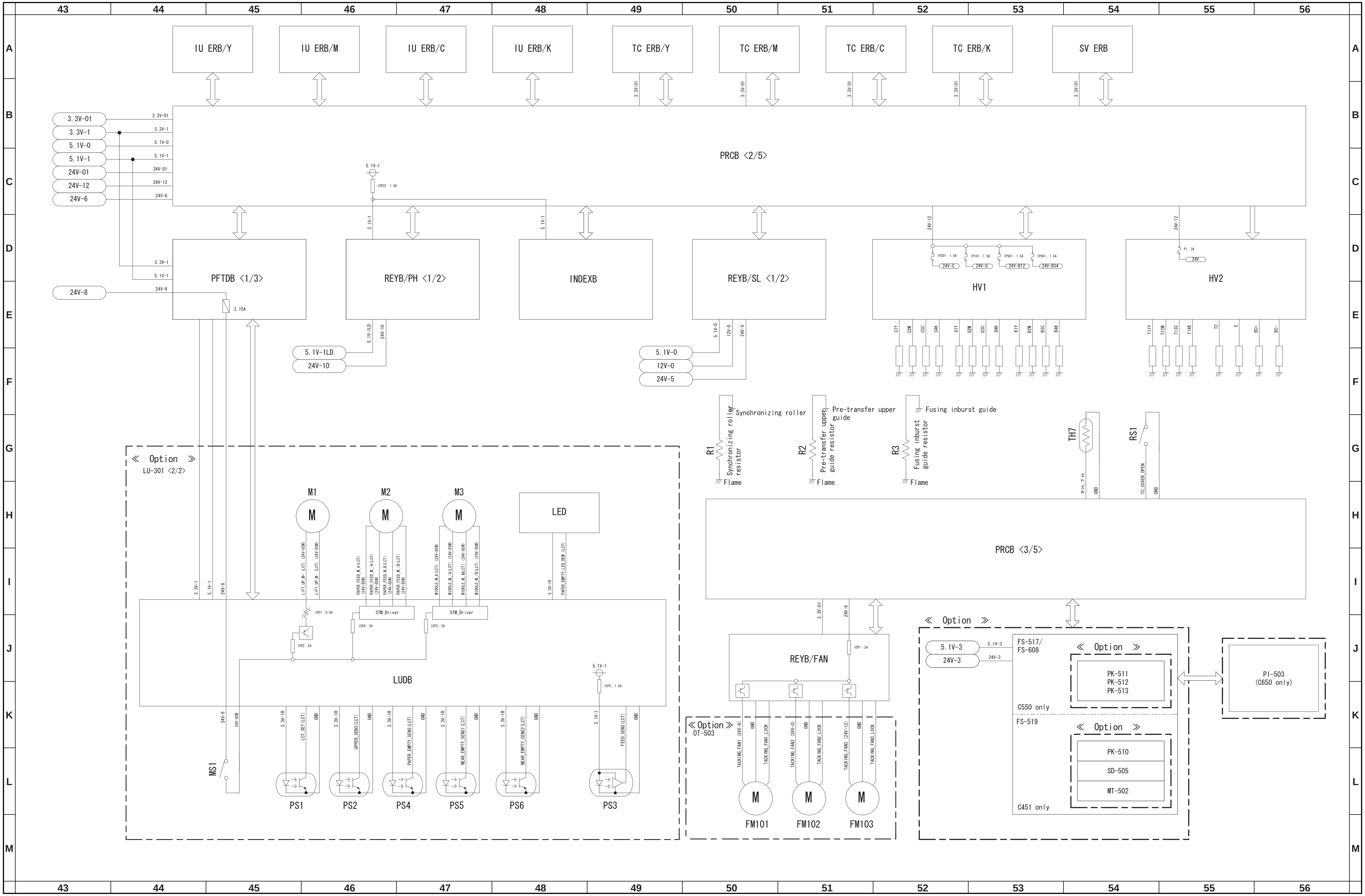
bizhub C650/C550/C451 Circuit diagram 2/8



bizhub C650/C550/C451 Circuit diagram 3/8



bizhub C650/C550/C451 Circuit diagram 4/8



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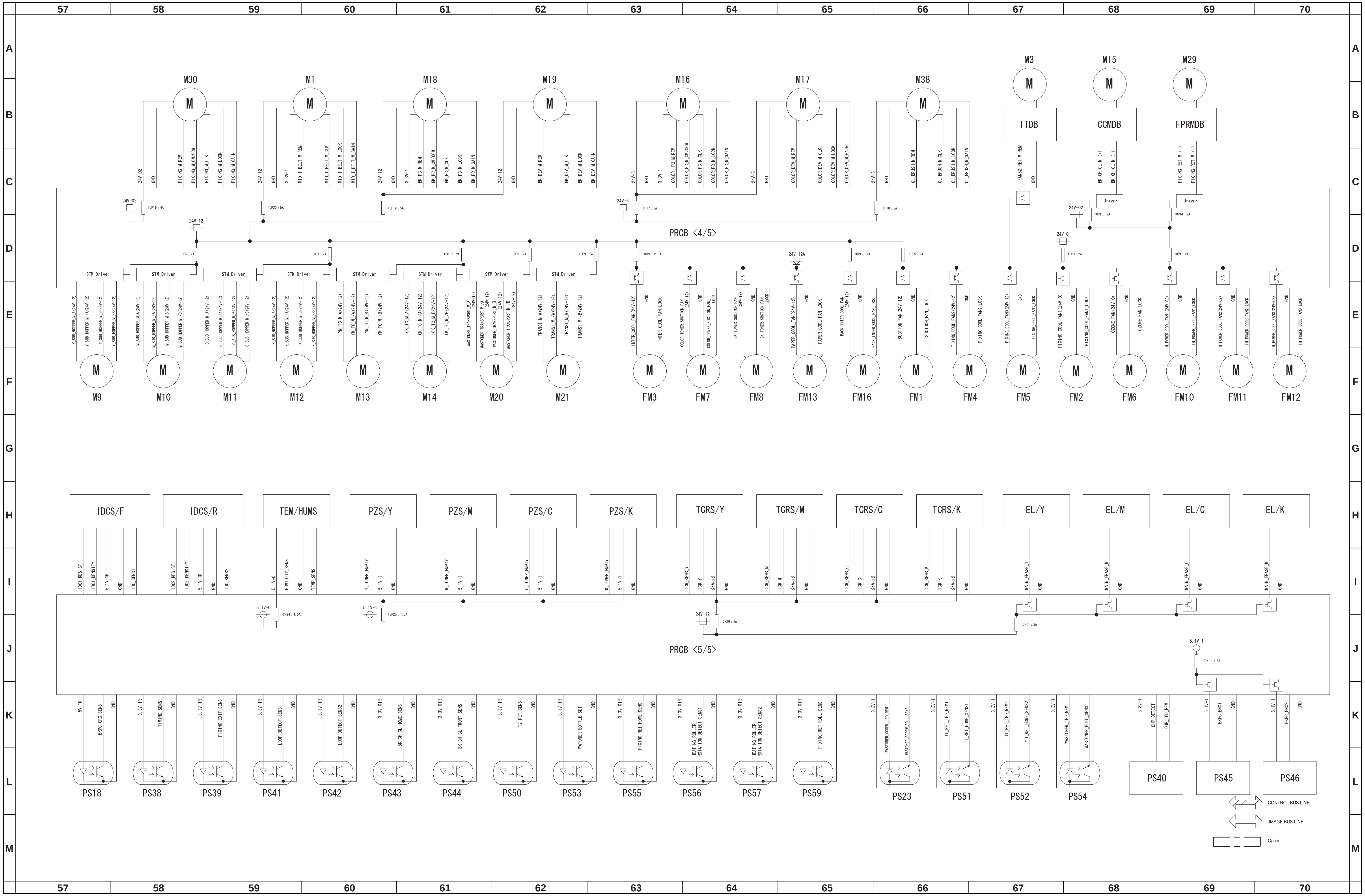
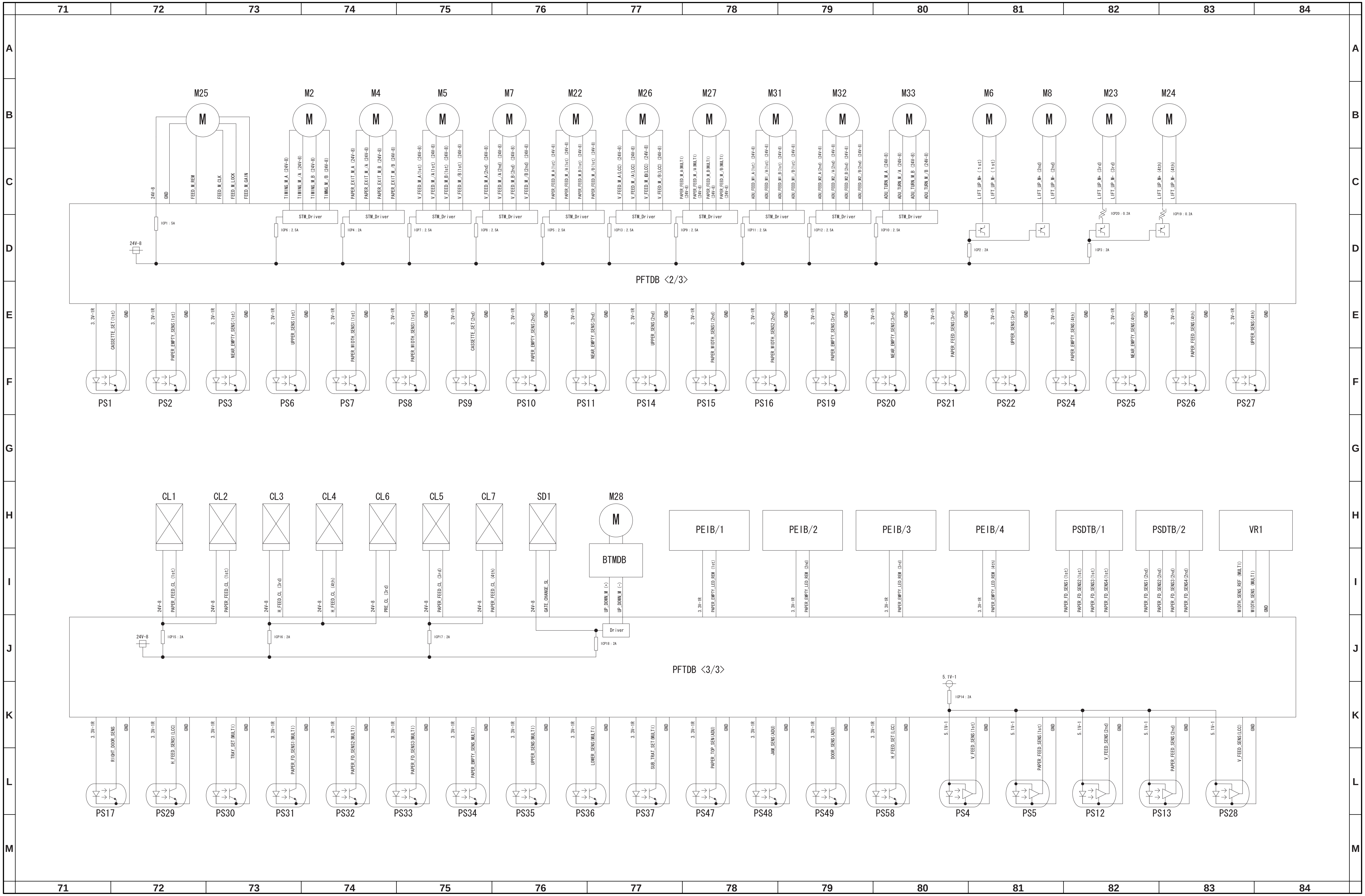
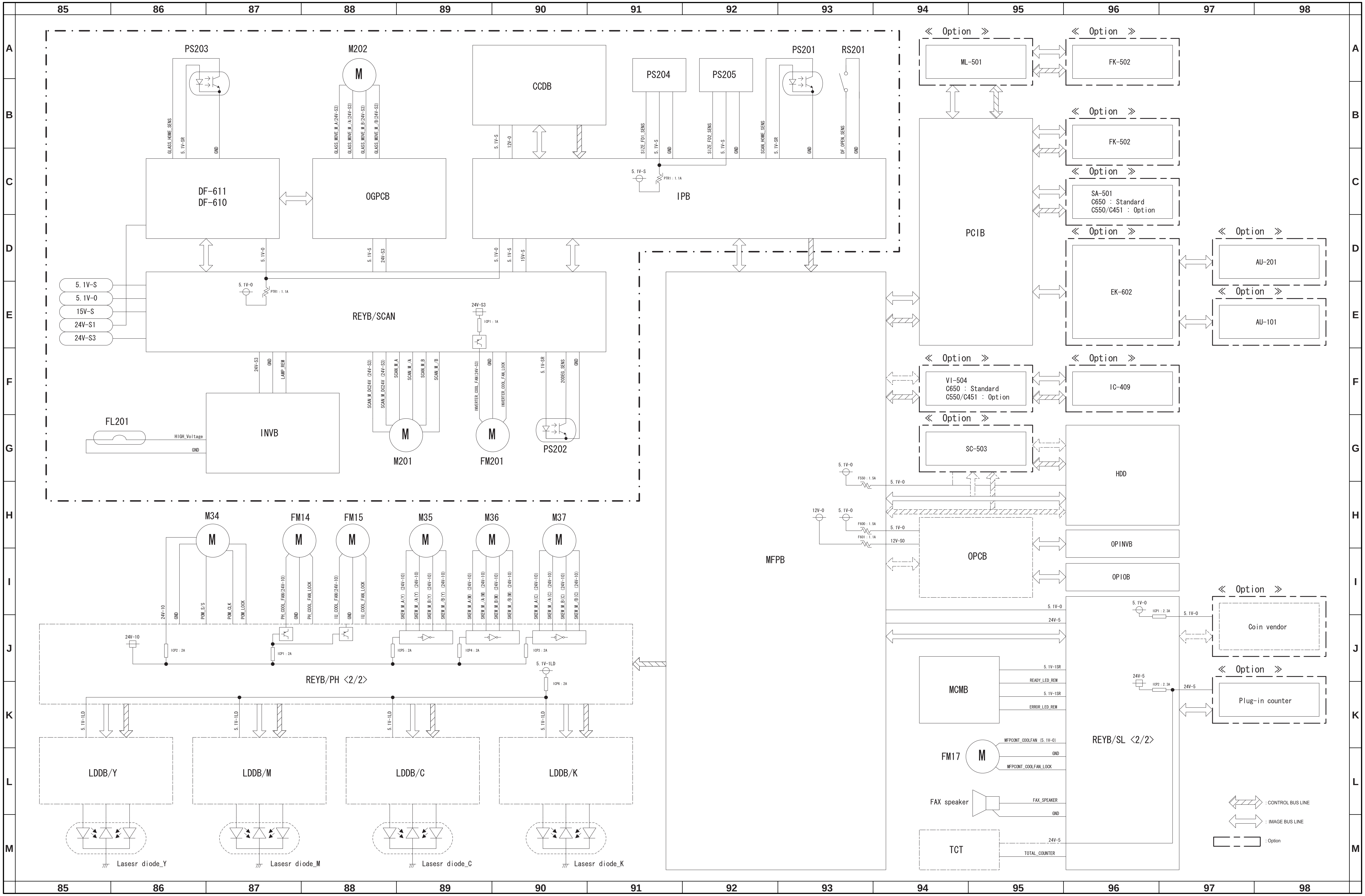


bizhub C650/C550/C451 Circuit diagram 6/8



bizhub C650/C550/C451 Circuit diagram 7/8



bizhub C650/C550/C451 Circuit diagram 8/8

BTMDB	手差し昇降モータ基板	Bypass tray up down motor drive board
CCDB	CCD基板	CCD board
CCMDB	帯電CH清掃モータK駆動基板	Charge cleaning motor drive board
CL1	トレイ1給紙クラッチ	Tray1 paper feed clutch
CL2	トレイ2給紙クラッチ	Tray2 paper feed clutch
CL3	水平搬送クラッチ1	Horizontal transport clutch1
CL4	水平搬送クラッチ2	Horizontal transport clutch2
CL5	トレイ3給紙クラッチ	Tray3 paper feed clutch
CL6	トレイ3搬送クラッチ	Tray3 transport clutch
CL7	トレイ4給紙クラッチ	Tray4 paper feed clutch
DCPU	DC電源ユニット	DC power supply
DH1	トレイ3防湿ヒータ	Tray3 dehumidifier heater
DH2	トレイ4防湿ヒータ	Tray4 dehumidifier heater
EIFB	EIF基板	EIF board
EL/C	メインイレーサランプ/C	Main erase lamp/C
EL/K	メインイレーサランプ/K	Main erase lamp/K
EL/M	メインイレーサランプ/M	Main erase lamp/M
EL/Y	メインイレーサランプ/ Y	Main erase lamp/Y
F1	—	Fuse *1
F2	ヒューズ *2	Fuse *2
FH1	IHコイル	IH coil
FH2	均熱ヒータランプ	Soaking roller heater lamp
FL201	露光ランプ	Exposure lamp
FM1	サクションファンモータ	Suction fan motor
FM2	定着冷却ファンモータ/1	Fusing cooling fan motor/1
FM3	機内冷却ファンモータ	Cooling fan motor
FM4	定着冷却ファンモータ/2	Fusing cooling fan motor/2
FM5	定着冷却ファンモータ/3	Fusing cooling fan motor/3
FM6	オゾン排気ファンモータ	Ozone ventilation fan motor
FM7	カラートナー吸引ファンモータ	Color toner suction fan motor
FM8	Kトナー吸引ファンモータ	K toner suction fan motor
FM9	電源冷却ファンモータ	Power supply cooling fan motor
FM10	IH冷却ファンモータ/1	IH cooling fan motor/1
FM11	IH冷却ファンモータ/2	IH cooling fan motor/2
FM12	IH冷却ファンモータ/3	IH cooling fan motor/3
FM13	用紙冷却ファンモータ	Paper cooling fan motor
FM14	PH冷却ファンモータ	PH cooling fan motor
FM15	IU冷却ファンモータ	IU cooling fan motor
FM16	機内背面冷却ファンモータ	Rear side cooling fan motor
FM17	MFPコントローラ冷却ファンモータ	MFP control board cooling fan motor
FM201	光学冷却ファンモータ	Optical cooling fan motor
FPRMDB	定着圧接離間モータ基板	Fusing pressure/retraction motor drive board
HV1	高圧ユニット/1	High voltage unit/1
HV2	高圧ユニット/2	High voltage unit/2
IDCS/F	IDCレジストセンサ/F	IDC registration sensor/F
IDCS/R	IDCレジストセンサ/R	IDC registration sensor/R
IHPU	IH電源ユニット	IH power supply
INDEXB	インデックス基板	Index board
INVB	インバータ基板	Inverter board
IPB	画像処理基板	Image processing board
ITDB	2次転写圧接離間モータ駆動基板	2nd image transfer pressure/retraction motor drive board
IU ERB/C	IU EEPROM基板/C	IU EEPROM board/C
IU ERB/K	IU EEPROM基板/K	IU EEPROM board/K
IU ERB/M	IU EEPROM基板/M	IU EEPROM board/M
IU ERB/Y	IU EEPROM基板/Y	IU EEPROM board/Y
JMPB	JMP基板	JMP board
JPEGB	JPEG基板	JPEG board
LCDB	LCD基板	LCD board
LDDB/C	レーザ駆動基板/C	Laser drive board/C
LDDB/K	レーザ駆動基板/K	Laser drive board/K
LDDB/M	レーザ駆動基板/M	Laser drive board/M
LDDB/Y	レーザ駆動基板/Y	Laser drive board/Y
M1	転写ベルトモータ	Transfer belt motor
M2	レジストモータ	Registration motor
M3	2次転写圧接離間モータ	2nd image transfer pressure retraction motor
M4	排紙モータ	Exit motor
M5	トレイ1縦搬送モータ	Tray1 vertical transport motor
M6	トレイ1リフトアップモータ	Tray1 lift-up motor
M7	トレイ2縦搬送モータ	Tray2 vertical transport motor
M8	トレイ2リフトアップモータ	Tray2 lift-up motor
M9	トナー補給モータ/Y	Toner supply motor/Y
M10	トナー補給モータ/M	Toner supply motor/M
M11	トナー補給モータ/C	Toner supply motor/C
M12	トナー補給モータ/K	Toner supply motor/K
M13	トナーカートリッジモータY/M	Toner cartridge motor Y/M
M14	トナーカートリッジモータC/K	Toner cartridge motor C/K
M15	帯電清掃モータ/K	Charge cleaning motor/K
M16	カラーPCモータ	Color PC drum motor
M17	カラー現像モータ	Color developing motor
M18	K PCモータ	K PC drum motor
M19	K 現像モータ	K developing motor
M20	廃棄トナー攪拌モータ	Waste toner agitating motor
M21	1次転写圧接離間モータ	1st image transfer pressure retraction motor
M22	給紙モータ	Take-up motor

M23	トレイ3リフトアップモータ	Tray3 lift-up motor
M24	トレイ4リフトアップモータ	Tray4 lift-up motor
M25	搬送モータ	Transport motor
M26	縦搬送モータ	Vertical transport motor
M27	手差し給紙モータ	Bypass paper feed motor
M28	手差し昇降モータ	Bypass tray up down motor
M29	定着圧接離間モータ	Fusing pressure retraction motor
M30	定着モータ	Fusing motor
M31	ADU搬送モータ/1	ADU transport motor/1
M32	ADU搬送モータ/2	ADU transport motor/2
M33	反転モータ	Switchback motor
M34	ポリゴンモータ	Polygon motor
M35	スキュー補正モータ/Y	Skew correction motor/Y
M36	スキュー補正モータ/M	Skew correction motor/M
M37	スキュー補正モータ/C	Skew correction motor/C
M38	クリーナモータ	Cleaner motor
M201	スキャナモータ	Scanner motor
M202	原稿ガラス移動モータ	Original glass moving motor
MCMB	状態表示基板	Machine condition monitor board
MFPB	MFP基板	MFP board
MS1	右ドアスイッチ	Right door switch
MS2	右上ドアスイッチ	Upper right door switch
MS3	前ドアスイッチ	Front door switch
NF1	—	Noise filter *3
NRB	NVRAM基板	NVRAM board
OGPCB	原稿ガラス位置制御基板	Original glass position control board
OPCB	操作パネル制御基板	Operation panel control board
OPINVB	操作パネルインバータ基板	Operation panel inverter board
OPIOB	操作パネルI/O基板	Operation panel I/O board
PCIB	PCI基板	PCI board
PEIB/1	トレイ1エンプティ表示基板	Tray1 paper empty indicator board
PEIB/2	トレイ2エンプティ表示基板	Tray2 paper empty indicator board
PEIB/3	トレイ3エンプティ表示基板	Tray3 paper empty indicator board
PEIB/4	トレイ4エンプティ表示基板	Tray4 paper empty indicator board
PFTDB	給紙搬送駆動基板	Paper feed /transport drive board
PRCB	プリンタ制御基板	Printer control board
PS1	トレイ1装置検出センサ	Tray1 device detection sensor
PS2	トレイ1エンプティセンサ	Tray1 zzpaper empty sensor
PS3	トレイ1ニアエンプティセンサ	Tray1 near empty sensor
PS4	トレイ1縦搬送センサ	Tray1 vertical transport sensor
PS5	トレイ1給紙センサ	Tray1 paper feed sensor
PS6	トレイ1リフトアップ上限センサ	Tray1 upper limit sensor
PS7	トレイ1CDサイズセンサ/1	Tray1 CD paper size sensor/1
PS8	トレイ1CDサイズセンサ/2	Tray1 CD paper size sensor/2
PS9	トレイ2装置検出センサ	Tray2 device detection sensor
PS10	トレイ2エンプティセンサ	Tray2 paper empty sensor
PS11	トレイ2ニアエンプティセンサ	Tray2 near empty sensor
PS12	トレイ2縦搬送センサ	Tray2 vertical transport sensor
PS13	トレイ2給紙センサ	Tray2 paper feed sensor
PS14	トレイ2リフトアップ上限センサ	Tray2 upper limit sensor
PS15	トレイ2CDサイズセンサ/1	Tray2 CD paper size sensor/1
PS16	トレイ2CDサイズセンサ/2	Tray2 CD paper size sensor/2
PS17	トレイ2ドアセットセンサ	Tray2 door set sensor
PS18	K PCドラム位置センサ	K PC drum position sensor
PS19	トレイ3エンプティセンサ	Tray3 paper empty sensor
PS20	トレイ3リフトアップ上限センサ	Tray3 upper limit sensor
PS21	トレイ3給紙センサ	Tray3 paper feed sensor
PS22	トレイ3ニアエンプティセンサ	Tray3 near empty sensor
PS23	廃棄トナー攪拌モータロックセンサ	Waste toner agitating motor lock sensor
PS24	トレイ4エンプティセンサ	Tray4 paper empty sensor
PS25	トレイ4リフトアップ上限センサ	Tray4 upper limit sensor
PS26	トレイ4給紙センサ	Tray4 paper feed sensor
PS27	トレイ4ニアエンプティセンサ	Tray4 near empty sensor
PS28	中間ローラ前センサ	Intermediate roller sensor
PS29	水平搬送センサ	Horizontal transport sensor
PS30	手差しセットセンサ	Bypass set sensor
PS31	手差しマルチFDサイズセンサ/1	Multi FD size sensor/1
PS32	手差しマルチFDサイズセンサ/2	Multi FD size sensor/2
PS33	手差しマルチFDサイズセンサ/3	Multi FD size sensor/3
PS34	手差し用紙エンプティセンサ	Bypass paper empty sensor
PS35	手差しリフトアップ上限センサ	Bypass paper limit sensor
PS36	手差しリフトアップ下限センサ	Bypass paper lower sensor
PS37	手差しサブトレイセットセンサ	Bypass sub tray set sensor
PS38	タイミングローラ前センサ	Timing roller sensor
PS39	排出センサ	Paper exit sensor
PS40	OHP検出センサ	OHP detection sensor
PS41	定着ループ量検出センサ/1	Loop amount detection sensor/1
PS42	定着ループ量検出センサ/2	Loop amount detection sensor/2
PS43	帯電極清掃ホームセンサ	Charging cleaner home sensor
PS44	帯電極清掃リターンセンサ	Charging cleaner return sensor
PS45	K PCエンコーダセンサ/1	K PC encoder sensor/1
PS46	K PCエンコーダセンサ/2	K PC encoder sensor/2
PS47	通紙センサ/1	ADU paper passage sensor/1
PS48	通紙センサ/2	ADU paper passage sensor/2

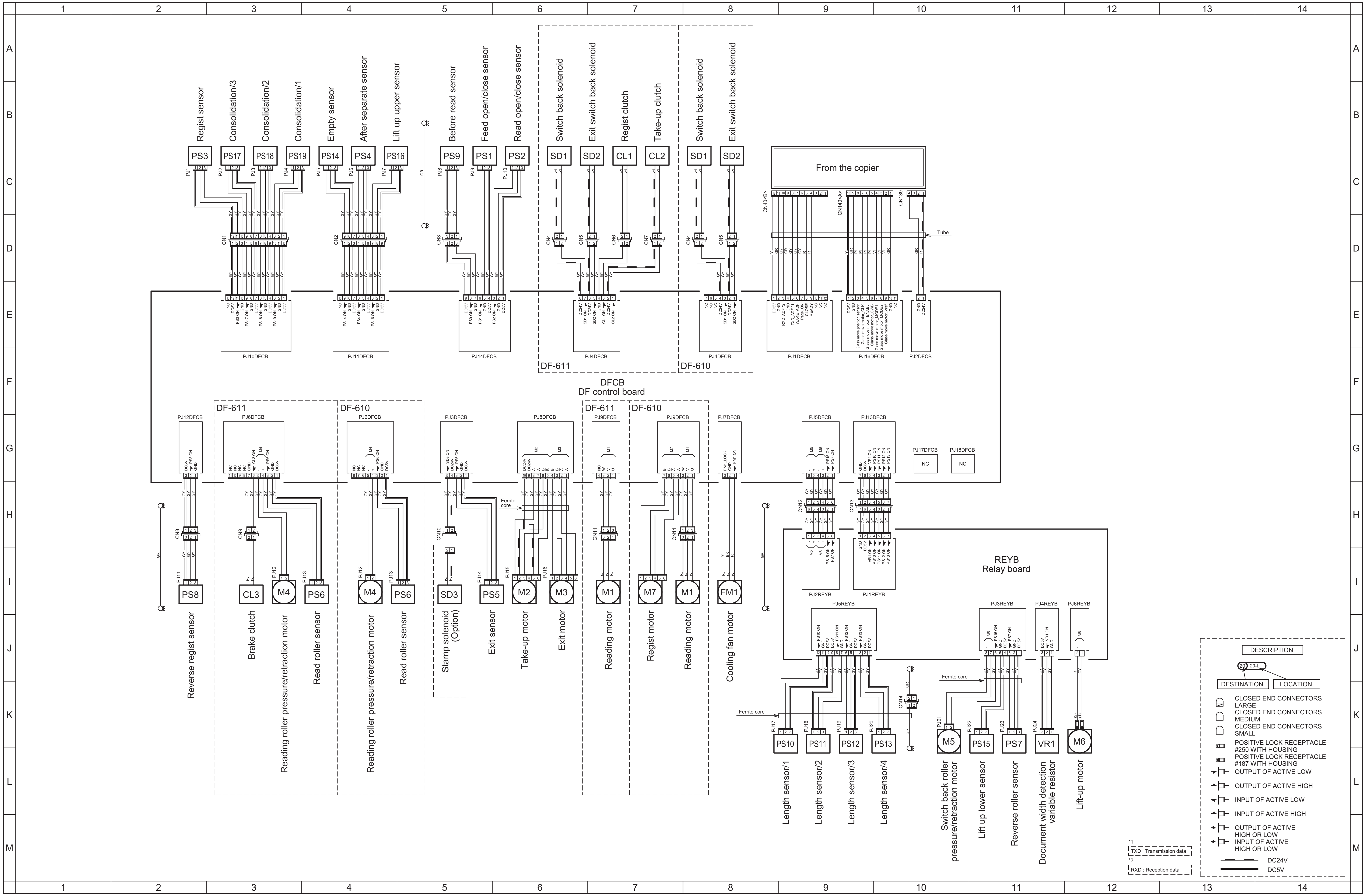
PS49	ADUドアセンサ	ADU door sensor
PS50	圧接離間センサ	Pressure welding alienation sensor
PS51	圧接離間センサ/K	Pressure welding alienation sensor/K
PS52	圧接離間センサ/カラー	Pressure welding alienation sensor/color
PS53	廃棄トナーボックスセットセンサ	Waste toner box set sensor
PS54	廃棄トナーフルセンサ	Waste toner full sensor
PS55	圧接ホームセンサ	Pressure home sensor
PS56	加熱ローラ回転センサ/1	Heating roller rotation sensor/1
PS57	加熱ローラ回転センサ/2	Heating roller rotation sensor/2
PS58	水平搬送セットセンサ	Horizontal transport set sensor
PS59	定着離間位置センサ	Fusing retraction position sensor
PS201	スキャナホームセンサ	Scanner home sensor
PS202	20度センサ	20 degree sensor
PS203	ガラスホームセンサ	Glass home sensor
PS204	原稿サイズ検出1センサ	Original size detection 1 sensor
PS205	原稿サイズ検出2センサ	Original size detection 2 sensor
PSDTB/1	用紙サイズ検知基板/1	Paper size detect board/1
PSDTB/2	用紙サイズ検知基板/2	Paper size detect board/2
PZS/C	トナーエンプティセンサ/C	Toner empty sensor/C
PZS/K	トナーエンプティセンサ/K	Toner empty sensor/K
PZS/M	トナーエンプティセンサ/M	Toner empty sensor/M
PZS/Y	トナーエンプティセンサ/Y	Toner empty sensor/Y
REDB	リレー駆動基板	Relay drive board
REYB/FAN	ファンモータ中継基板	Fan motor relay board
REYB/PH	PH中継基板	PH relay board
REYB/SCAN	スキャナ中継基板	Scanner relay board
REYB/SL	スライド中継基板	Slide interface board
RL1	定着電源リレー *4	Fusing power relay *4
RS1	トナーカートリッジカバースイッチ	Toner cartridge cover switch
RS201	原稿押さえセンサ	Original cover sensor
SD1	ゲート切換えソレノイド	Gate switch solenoid
SV ERB	サービスEEPROM基板	Service EEPROM board
SW1	メインスイッチ	Power switch
SW2	防湿ヒータスイッチ	Dehumidification heater switch
T1	防湿ヒータトランス	Dehumidifier heater transformer
TC ERB/C	TC EEPROM基板/C	TC EEPROM board/C
TC ERB/K	TC EEPROM基板/K	TC EEPROM board/K
TC ERB/M	TC EEPROM基板/M	TC EEPROM board/M
TC ERB/Y	TC EEPROM基板/Y	TC EEPROM board/Y
TCRS/C	TCRセンサ/C	TCR sensor/C
TCRS/K	TCRセンサ/K	TCR sensor/K
TCRS/M	TCRセンサ/M	TCR sensor/M
TCRS/Y	TCRセンサ/Y	TCR sensor/Y
TCT	トータルカウンタ	Total counter
TEM/HUMS	温湿度センサ	Temperature/humidity sensor
TEMS	NCセンサ	NC sensor
TH1	加熱ローラサーミスタ/1	Heating roller thermistor/1
TH2	加熱ローラサーミスタ/2	Heating roller thermistor/2
TH3	加熱ローラサーミスタ/3	Heating roller thermistor/3
TH4	加圧ローラサーミスタ	Fusing pressure roller thermistor
TH5	均熱ローラサーミスタ/1	Soaking roller thermistor/1
TH6	均熱ローラサーミスタ/2	Soaking roller thermistor/2
TH7	PHサーミスタ	PH thermistor
TS1	加熱ローラサーモスタット	Heating roller thermostat
TS2	均熱ローラサーモスタット	Soaking roller thermostat
VR1	手差し用紙幅検出抵抗	Bypass paper width detection sensor

LU-301 (Option)		
DH	除湿ヒータ	Dehumidification heater
LED	トレイLED	Tray LED
LUDB	LU駆動基板	LU drive board
M1	リフトアップモータ	Lift-up motor
M2	給紙モータ	Paper feed motor
M3	搬送モータ	Transport motor
MS1	LUドアスイッチ	LU door switch
PS1	トレイセットセンサ	Tray set sensor
PS2	上限センサ	Upper limit sensor
PS3	給紙センサ	Paper feed sensor
PS4	用紙エンプティセンサ	Paper empty sensor
PS5	用紙ニアエンプティセンサ/1	Near empty sensor/1
PS6	用紙ニアエンプティセンサ/2	Near empty sensor/2

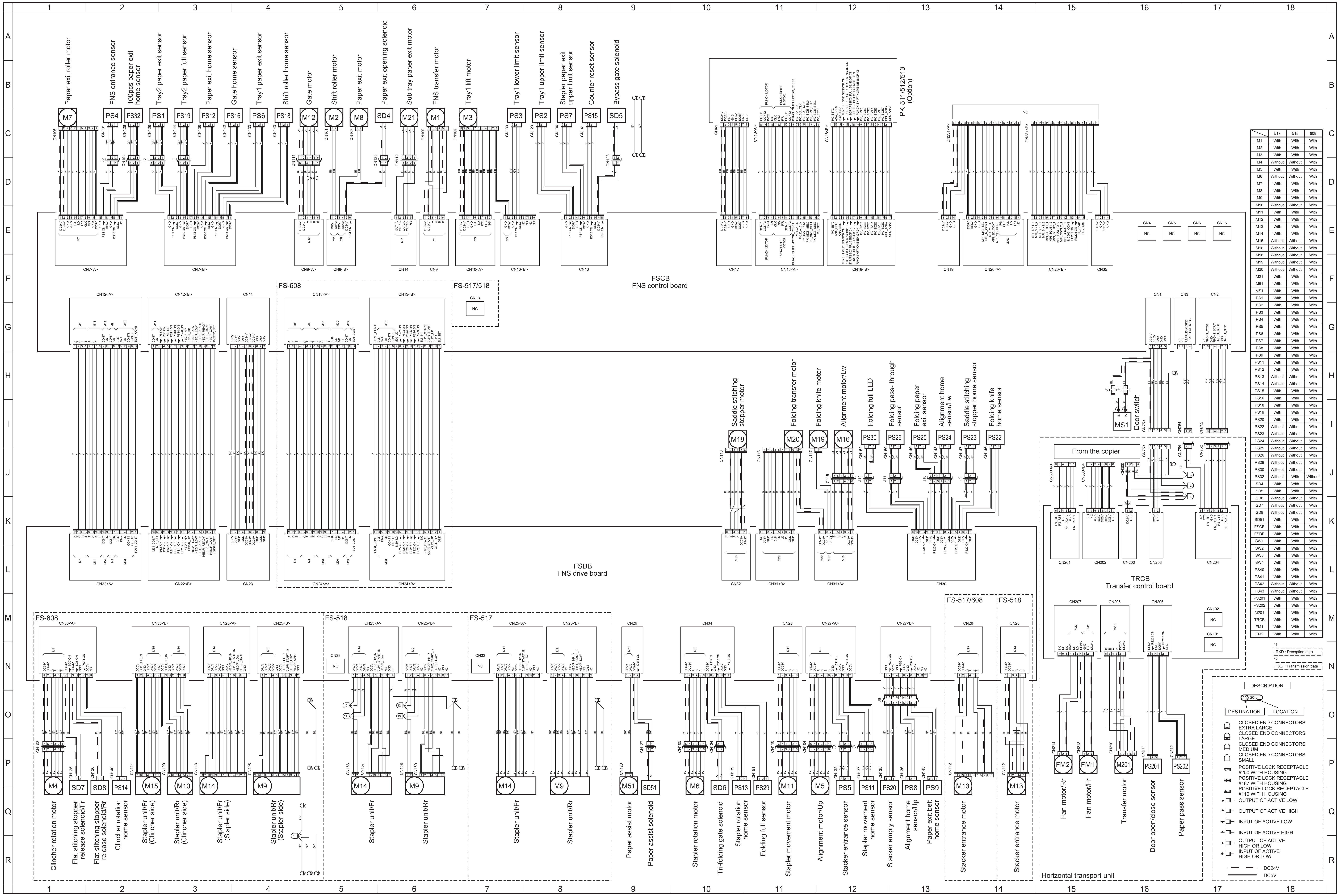
OT-503 (Option)		
FM101	排紙冷却ファンモータ/1	Exit paper cooling fan motor/1
FM102	排紙冷却ファンモータ/2	Exit paper cooling fan motor/2
FM103	排紙冷却ファンモータ/3	Exit paper cooling fan motor/3

*1 : North America only
*2 : C650 ; Japan and Taiwan
C550/C451 ; Not use
*3 : C650 ; 200V area only
C550/C451 ; Taiwan and Europe
*4 : C650 ; Japan and Taiwan
C550/C451 ; Not use

DF-611/610 Overall wiring diagram



FS-517/518/608 Overall wiring diagram



	517	518	608
M1	With	With	With
M2	With	With	With
M3	With	With	With
M4	Without	Without	With
M5	With	With	With
M6	Without	Without	With
M7	With	With	With
M8	With	With	With
M9	With	With	With
M10	Without	Without	With
M11	With	With	With
M12	With	With	With
M13	With	With	With
M14	With	With	With
M15	Without	Without	With
M16	Without	Without	With
M18	Without	Without	With
M19	Without	Without	With
M20	Without	Without	With
M21	With	With	With
M51	With	With	With
MS1	With	With	With
PS1	With	With	With
PS2	With	With	With
PS3	With	With	With
PS4	With	With	With
PS5	With	With	With
PS6	With	With	With
PS7	With	With	With
PS8	With	With	With
PS9	With	With	With
PS11	With	With	With
PS12	With	With	With
PS13	Without	Without	With
PS14	Without	Without	With
PS15	With	With	With
PS16	With	With	With
PS18	With	With	With
PS19	With	With	With
PS20	With	With	With
PS22	Without	Without	With
PS23	Without	Without	With
PS24	Without	Without	With
PS25	Without	Without	With
PS26	Without	Without	With
PS29	Without	Without	With
PS30	Without	Without	With
PS32	Without	With	Without
SD4	With	With	With
SD5	With	With	With
SD6	Without	Without	With
SD7	Without	Without	With
SD8	Without	Without	With
SD51	With	With	With
FSCB	With	With	With
FSDB	With	With	With
SW1	With	With	With
SW2	With	With	With
SW3	With	With	With
SW4	With	With	With
PS40	With	With	With
PS41	With	With	With
PS42	Without	Without	With
PS43	Without	Without	With
PS201	With	With	With
PS202	With	With	With
M201	With	With	With
TRCB	With	With	With
FM1	With	With	With
FM2	With	With	With

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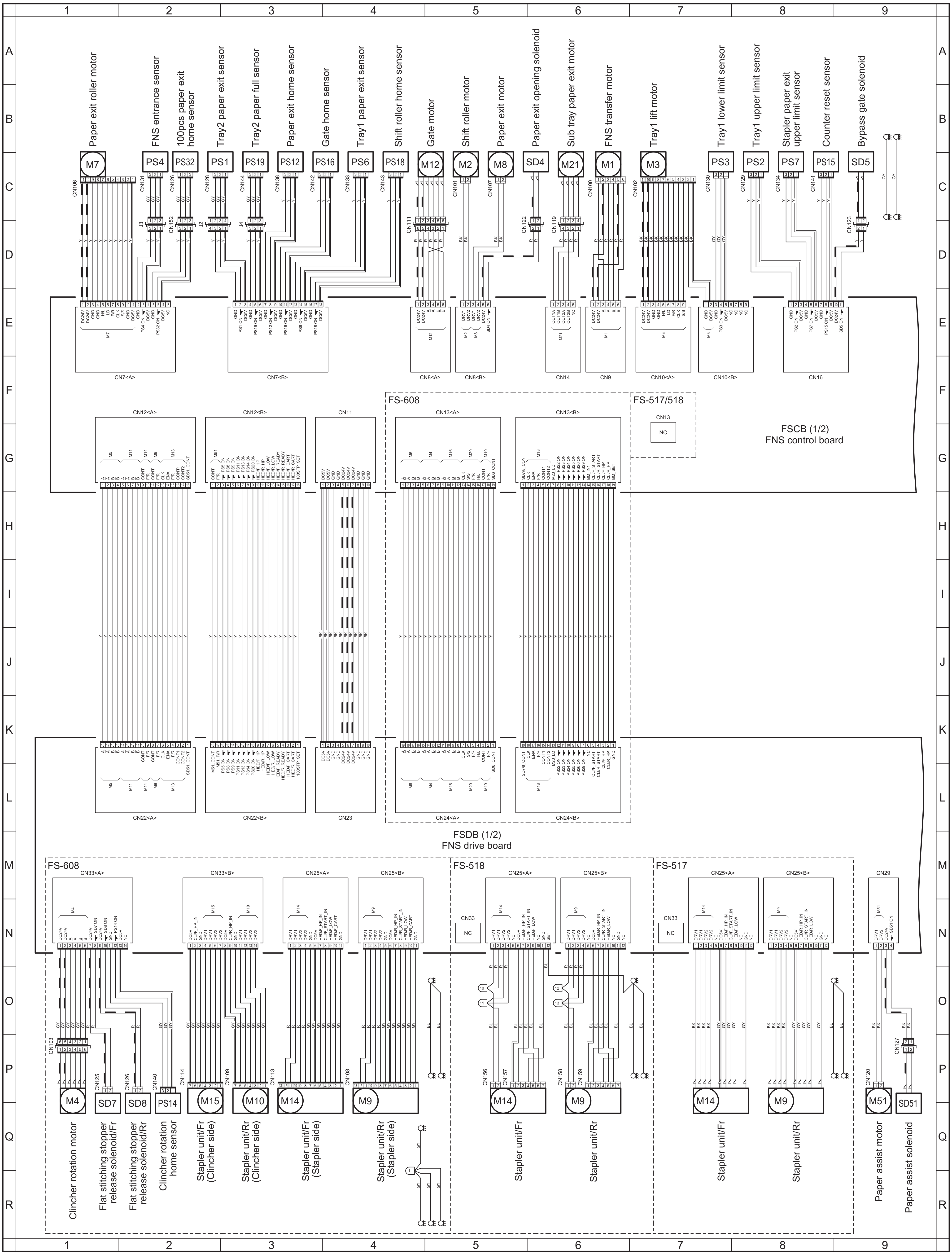
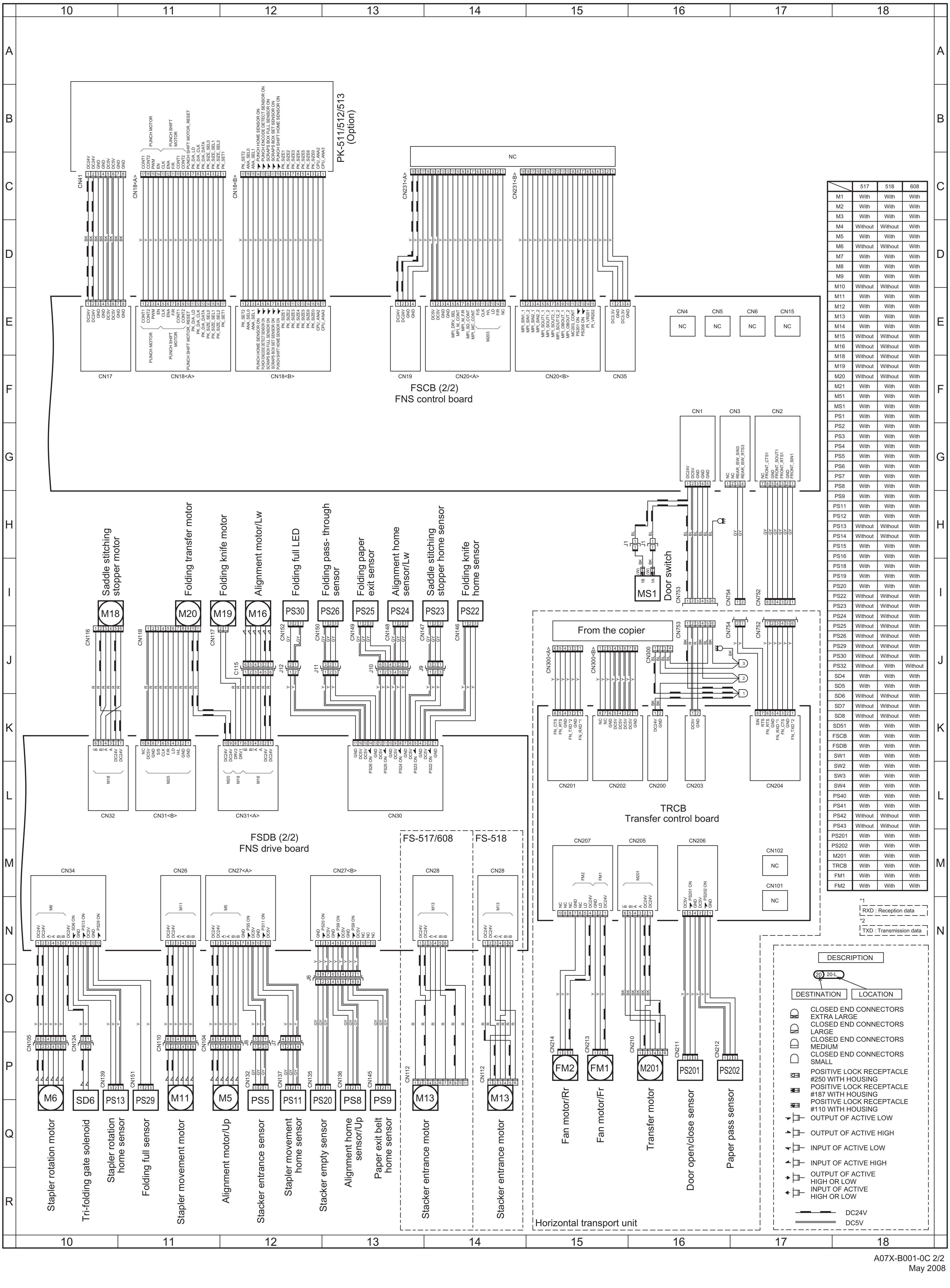
May 2008

FS-517/518/608 Overall wiring diagram 1/2



FS-517/518/608 Overall wiring diagram 2/2



	517	518	608
M1	With	With	With
M2	With	With	With
M3	With	With	With
M4	Without	Without	With
M5	With	With	With
M6	Without	Without	With
M7	With	With	With
M8	With	With	With
M9	With	With	With
M10	Without	Without	With
M11	With	With	With
M12	With	With	With
M13	With	With	With
M14	With	With	With
M15	Without	Without	With
M16	Without	Without	With
M18	Without	Without	With
M19	Without	Without	With
M20	Without	Without	With
M21	With	With	With
M51	With	With	With
MS1	With	With	With
PS1	With	With	With
PS2	With	With	With
PS3	With	With	With
PS4	With	With	With
PS5	With	With	With
PS6	With	With	With
PS7	With	With	With
PS8	With	With	With
PS9	With	With	With
PS11	With	With	With
PS12	With	With	With
PS13	Without	Without	With
PS14	Without	Without	With
PS15	With	With	With
PS16	With	With	With
PS18	With	With	With
PS19	With	With	With
PS20	With	With	With
PS22	Without	Without	With
PS23	Without	Without	With
PS24	Without	Without	With
PS25	Without	Without	With
PS26	Without	Without	With
PS29	Without	Without	With
PS30	Without	Without	With
PS32	Without	With	Without
SD4	With	With	With
SD5	With	With	With
SD6	Without	Without	With
SD7	Without	Without	With
SD8	Without	Without	With
SD51	With	With	With
FSCB	With	With	With
FSDB	With	With	With
SW1	With	With	With
SW2	With	With	With
SW3	With	With	With
SW4	With	With	With
PS40	With	With	With
PS41	With	With	With
PS42	Without	Without	With
PS43	Without	Without	With
PS201	With	With	With
PS202	With	With	With
M201	With	With	With
TRCB	With	With	With
FM1	With	With	With
FM2	With	With	With

*1 RXD : Reception data

*2 TXD : Transmission data

A07X-B001-0C 2/2
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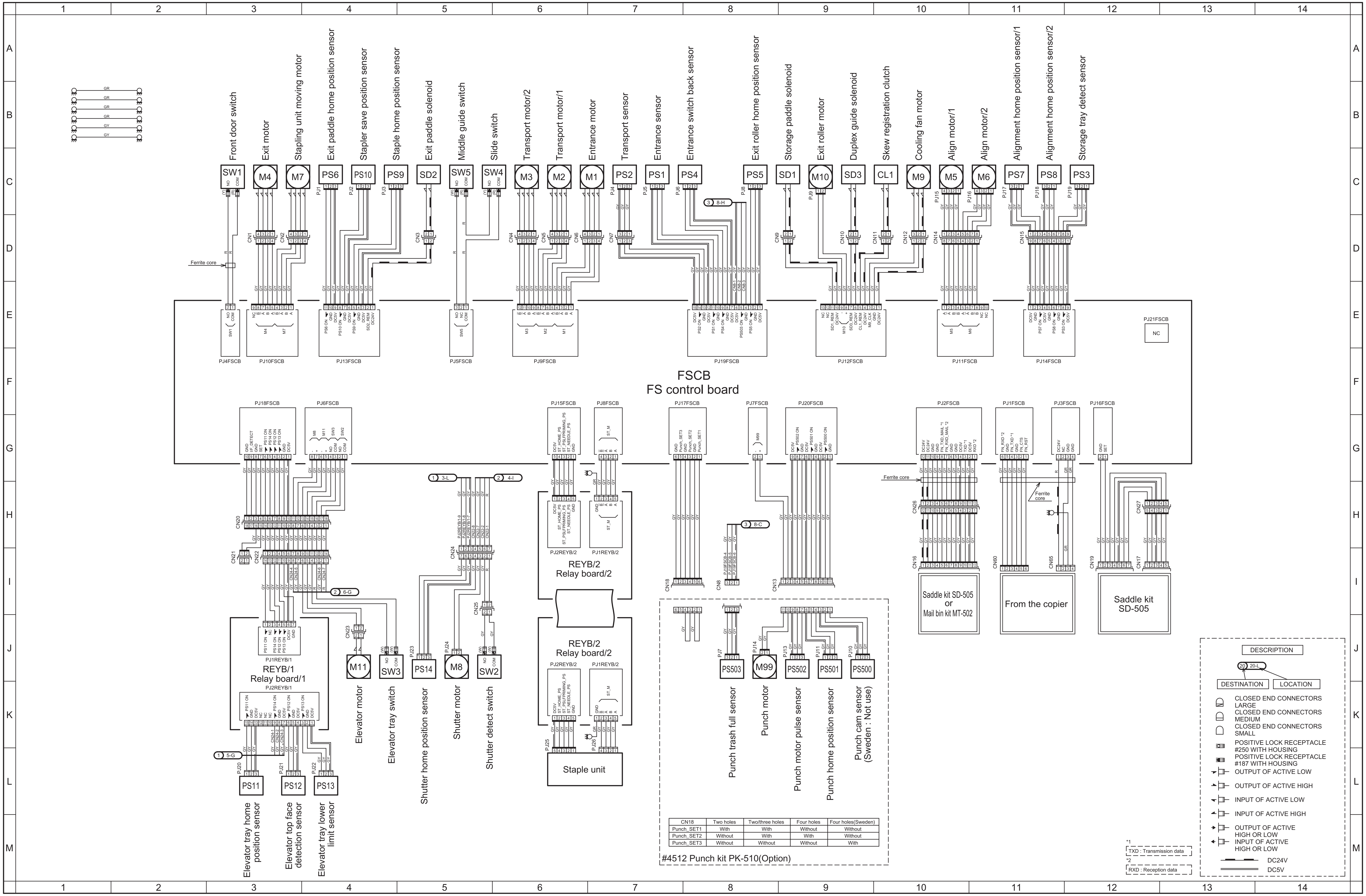
FS-519 Overall wiring diagram

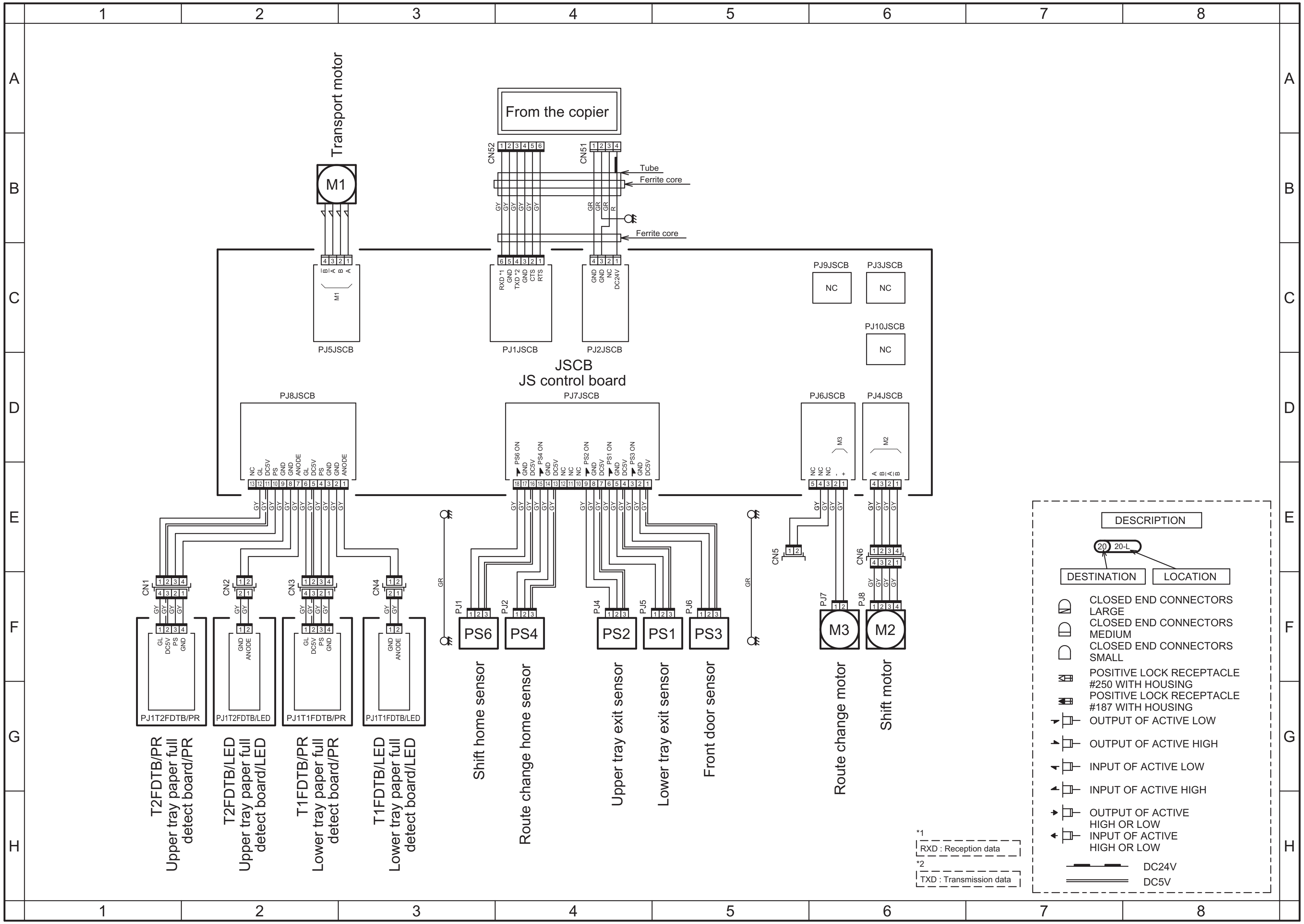


CN18	Two holes	Two/three holes	Four holes	Four holes(Sweden)
Punch_SET1	With	With	Without	Without
Punch_SET2	Without	With	With	Without
Punch_SET3	Without	Without	Without	With

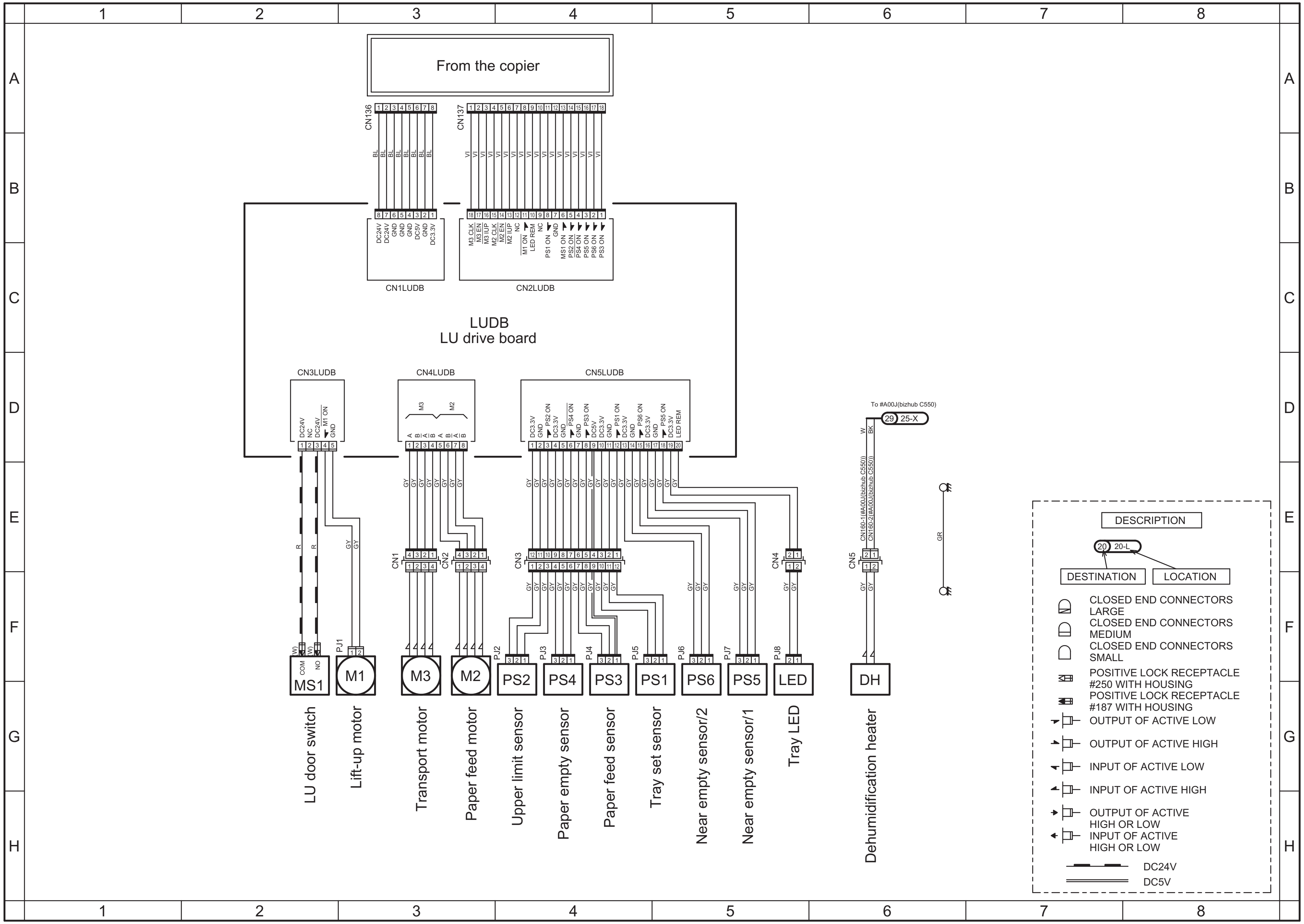
*1 TXD : Transmission data

*2 RXD : Reception data

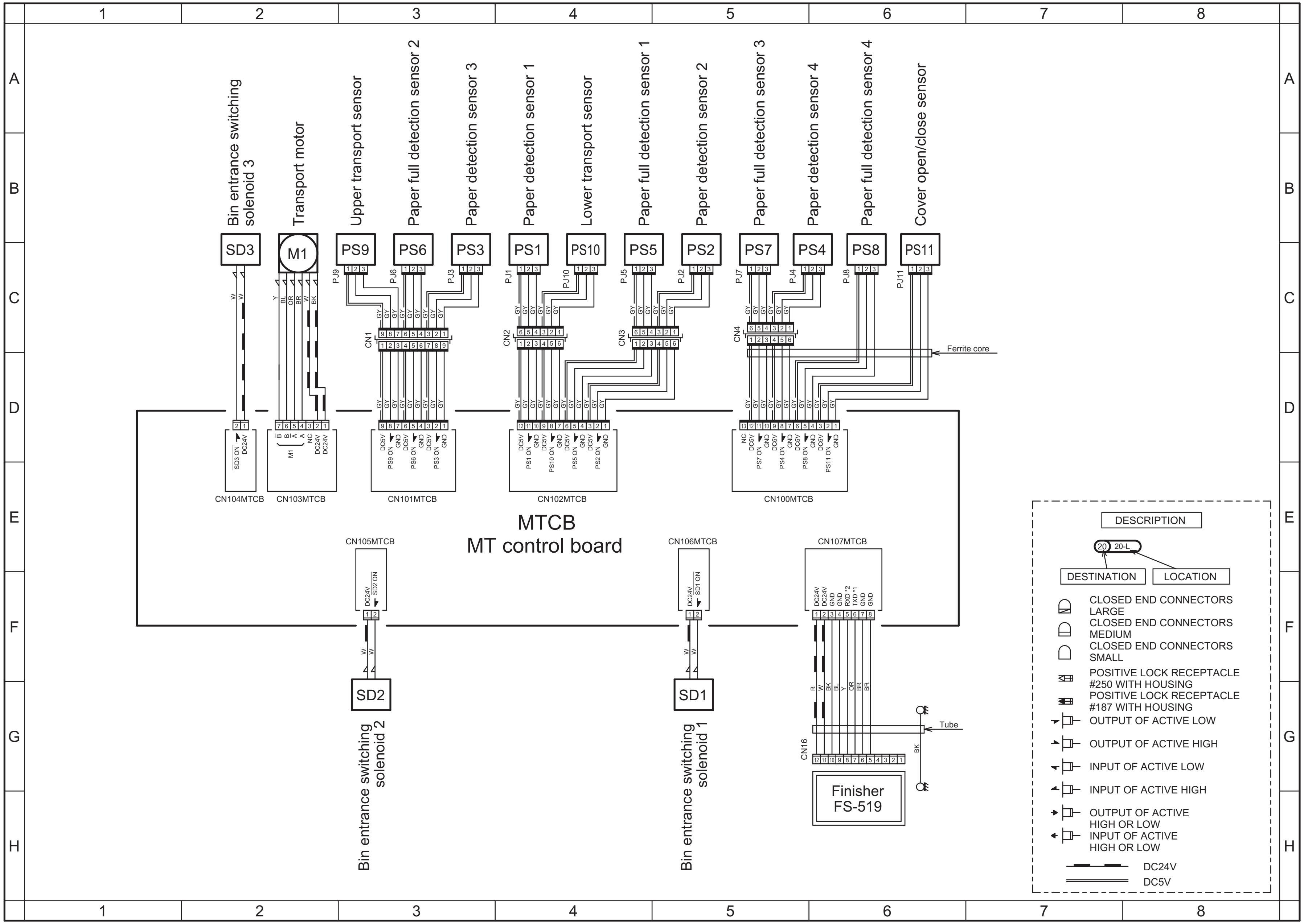
JS-504 Overall wiring diagram



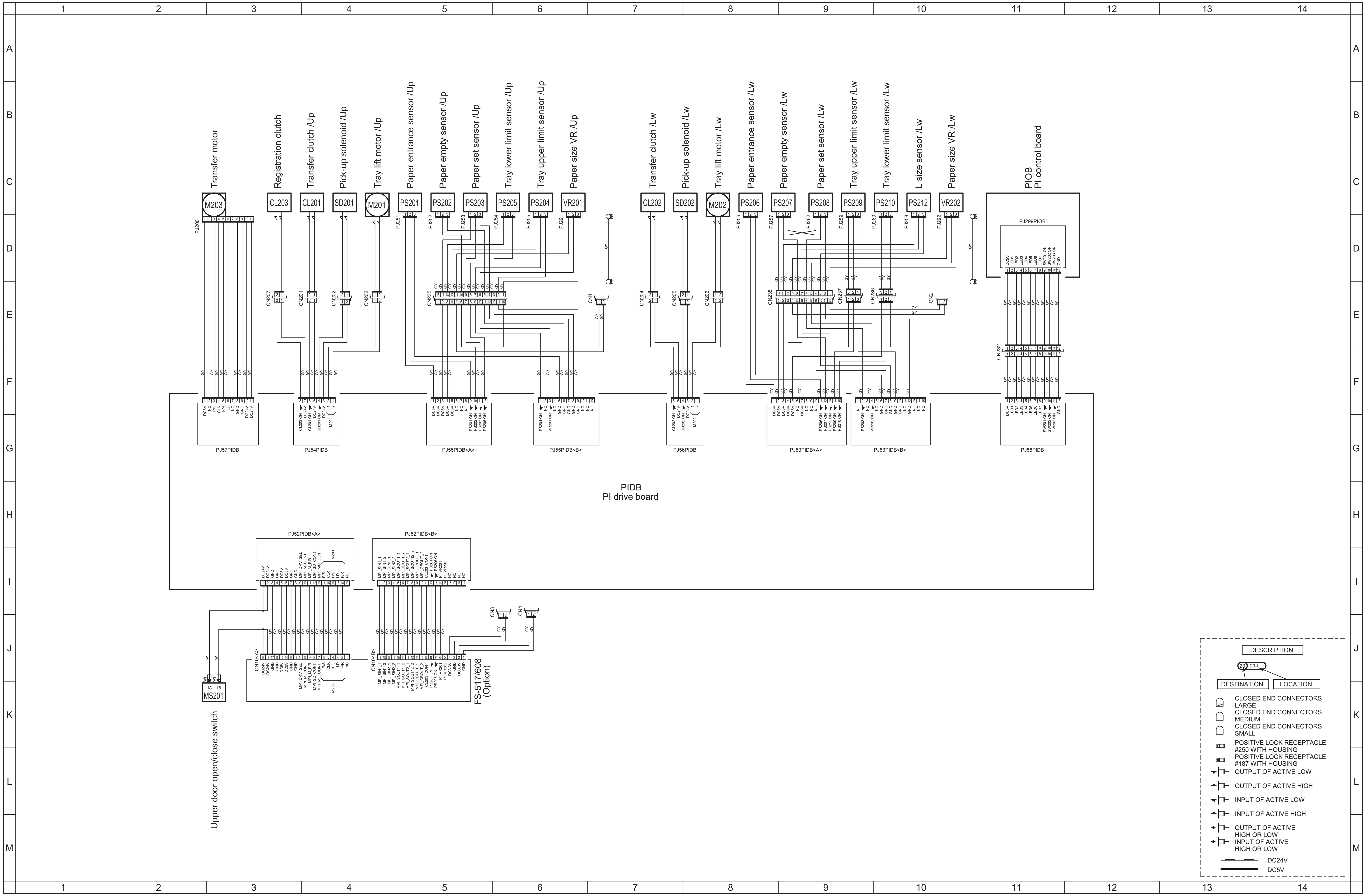
LU-301 Overall wiring diagram



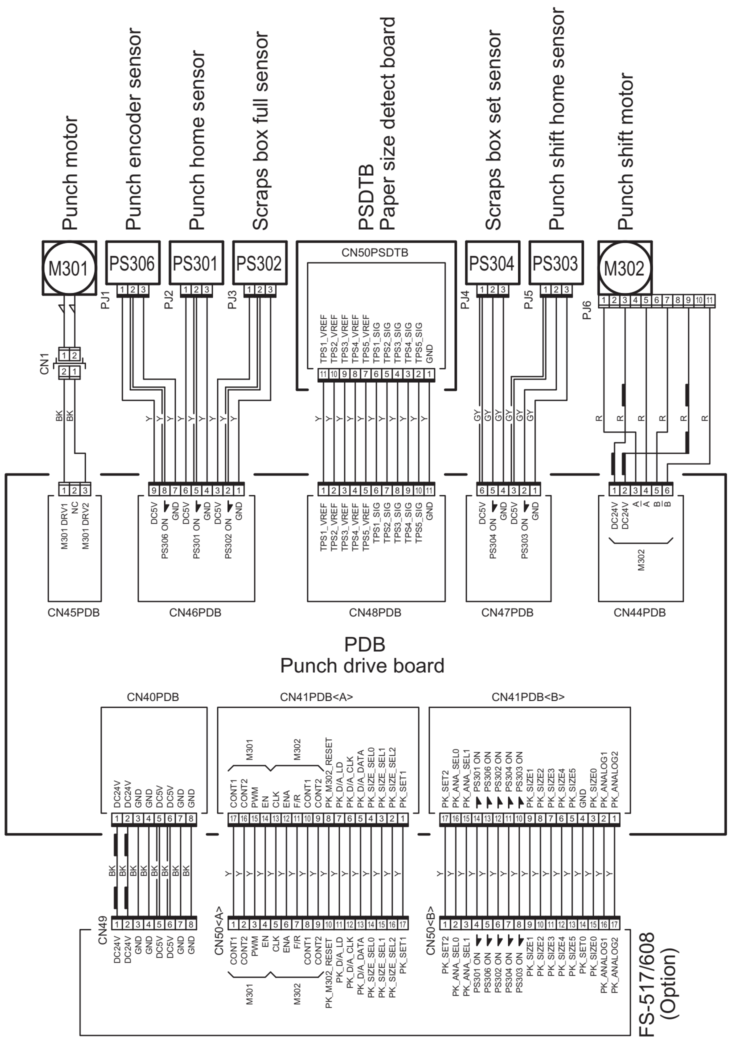
MT-502 Overall wiring diagram



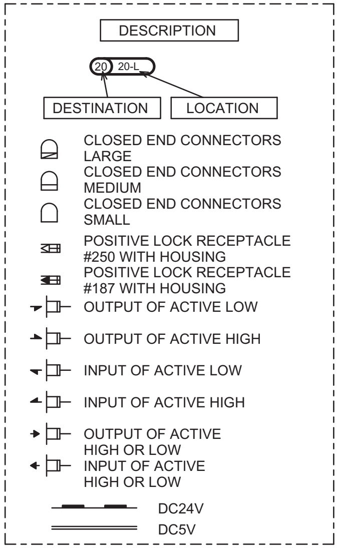
PI-503 Overall wiring diagram



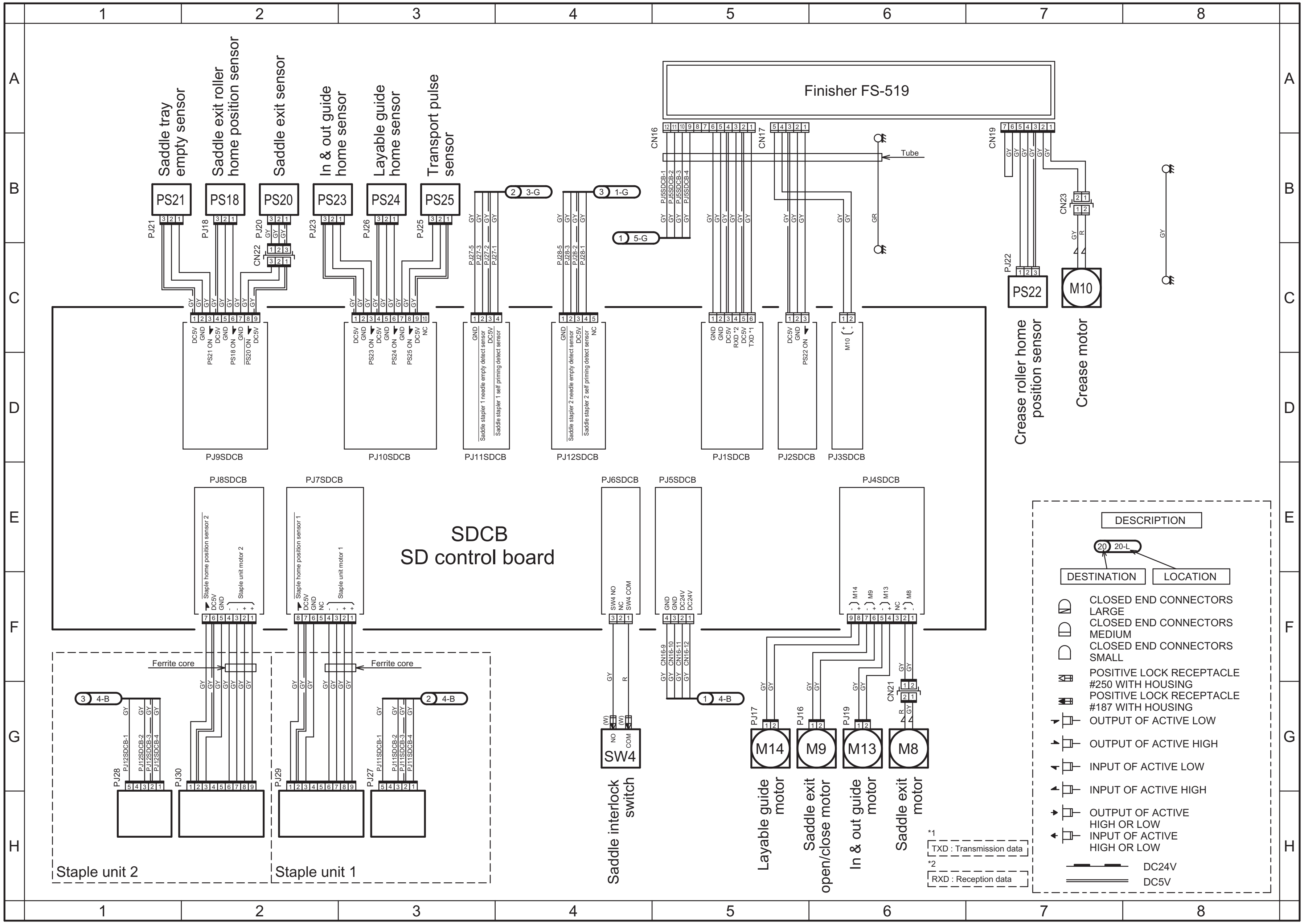
PK-511/512/513 Overall wiring diagram



	511	512 / 513
M301	With	With
M302	With	With
PS301	With	With
PS302	With	With
PS303	With	With
PS304	With	With
PS306	Without	With
PSDTB	With	With
PDB	With	With

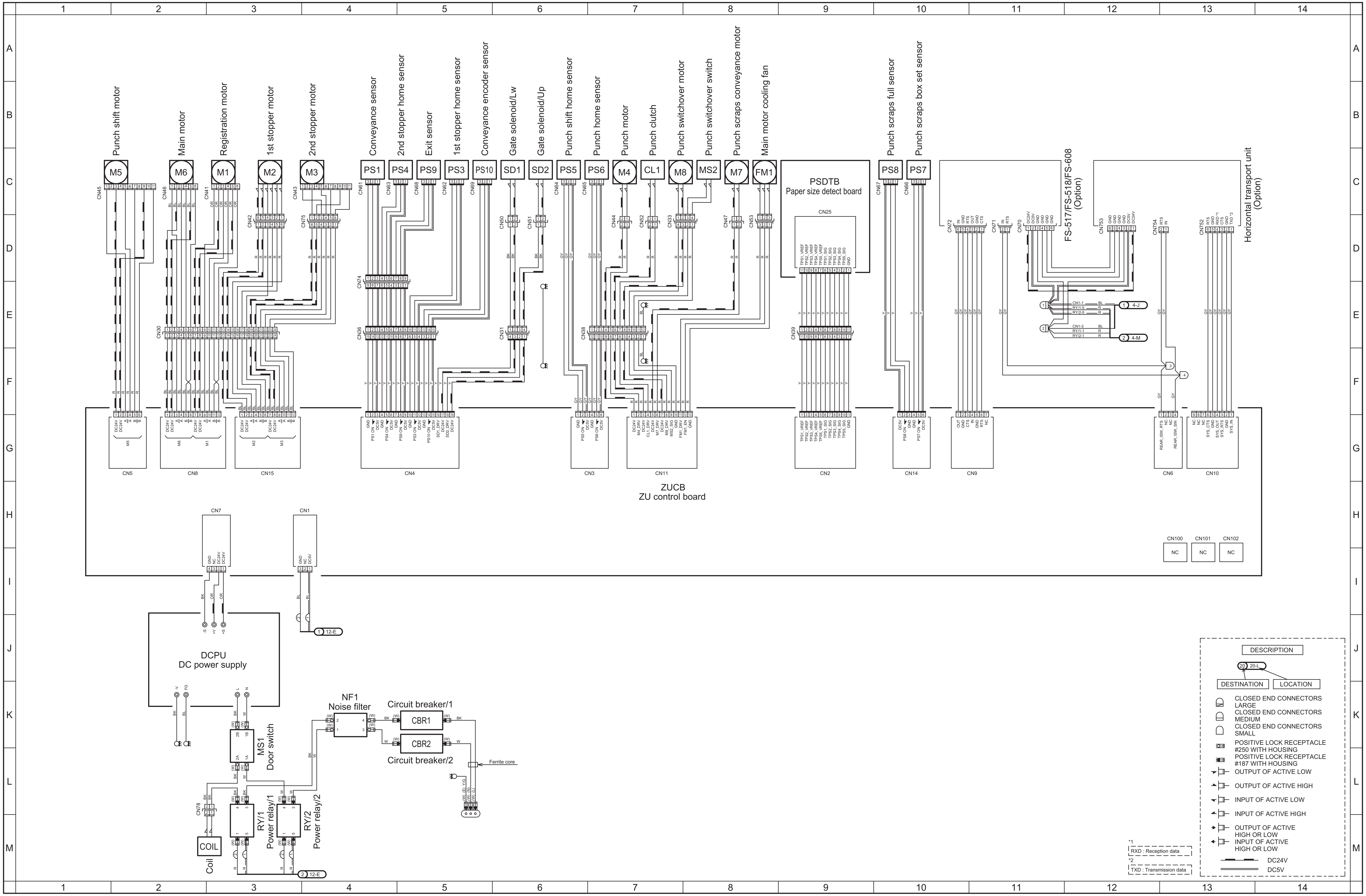

DESCRIPTION
20
20-L
DESTINATION
LOCATION
CLOSED END CONNECTORS LARGE
CLOSED END CONNECTORS MEDIUM
CLOSED END CONNECTORS SMALL
POSITIVE LOCK RECEPTACLE #250 WITH HOUSING
POSITIVE LOCK RECEPTACLE #187 WITH HOUSING
OUTPUT OF ACTIVE LOW
OUTPUT OF ACTIVE HIGH
INPUT OF ACTIVE LOW
INPUT OF ACTIVE HIGH
OUTPUT OF ACTIVE HIGH OR LOW
INPUT OF ACTIVE HIGH OR LOW
DC24V
DC5V

SD-505 Overall wiring diagram



Saddle tray empty sensor
Saddle exit roller home position sensor
Saddle exit sensor
In & out guide home sensor
Layable guide home sensor
Transport pulse sensor
PS21
PS18
PS20
PS23
PS24
PS25
PJ21
PJ18
PJ20
CN22
PJ23
PJ26
PJ25
Finisher FS-519
CN16
CN17
CN19
Tube
CN23
PJ22
PS22
M10
Crease roller home position sensor
Crease motor
PJ9SDCB
PJ10SDCB
PJ11SDCB
PJ12SDCB
PJ1SDCB
PJ2SDCB
PJ3SDCB
PJ8SDCB
PJ7SDCB
PJ6SDCB
PJ5SDCB
PJ4SDCB
SDCB
SD control board
Saddle stapler 1 needle empty detect sensor
Saddle stapler 1 self priming detect sensor
Saddle stapler 2 needle empty detect sensor
Saddle stapler 2 self priming detect sensor
Staple home position sensor 2
Staple unit motor 2
Staple home position sensor 1
Staple unit motor 1
Ferrite core
PJ28
PJ30
PJ29
PJ27
Staple unit 2
Staple unit 1
SW4
Saddle interlock switch
PJ17
PJ16
PJ19
CN21
M14
M9
M13
M8
Layable guide motor
Saddle exit open/close motor
In & out guide motor
Saddle exit motor
*1 TXD : Transmission data
*2 RXD : Reception data
DESCRIPTION
DESTINATION
LOCATION
CLOSED END CONNECTORS LARGE
CLOSED END CONNECTORS MEDIUM
CLOSED END CONNECTORS SMALL
POSITIVE LOCK RECEPTACLE #250 WITH HOUSING
POSITIVE LOCK RECEPTACLE #187 WITH HOUSING
OUTPUT OF ACTIVE LOW
OUTPUT OF ACTIVE HIGH
INPUT OF ACTIVE LOW
INPUT OF ACTIVE HIGH
OUTPUT OF ACTIVE HIGH OR LOW
INPUT OF ACTIVE HIGH OR LOW
DC24V
DC5V

ZU-603 Overall wiring diagram



KONICA MINOLTA

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