OPERATION MANUAL

Electric Wire Wrapper
TDWW501B

START™ International

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INTRODUCTION

Thank you for purchasing the TDWW501B.

This manual describes the correct operating procedures for the machine and the appropriate precautions to be observed for its use. Please read the manual thoroughly before use so that the machine may be employed correctly.

Please retain the manual in an easily accessible place for future reference. As the machine has been designed so that simple repairs and adjustments including parts replacements may be performed by the user, please be sure that the information that is contained in the manual is fully understood before use.

This machine has been designed and manufactured for general industrial use.

TO USE THE MACHINE SAFELY AND PROPERLY

1. Symbols

In this manual, various symbols are used to guide you in correct use of the machine, prevent hazards to you and other persons and protect your property from being damaged. These symbols are shown and explained below.

WARNING

When warning information is accompanied by this symbol, incorrect handling ignoring the warning may result in death or serious injury.

ALWAYS INSTALL A GROUNDING WIRE.

If electricity leaks from the wiring, an electric shock hazard may result. Always ground using a grounding wire.

DO NOT REMOVE THE COVER

If the crimping machine is operated with the cover removed, it could expose the operator to injury or electric shock.

DO NOT PUT YOUR HANDS OR FINGERS NEAR THE MACHINE DURING OPERATION.

If your hands or fingers touch an operating part, it may result in injury such as fractured bone. The ram sliding part and crank shaft end are particularly dangerous. Be sure to turn the power OFF before doing a tooling change or cleaning.

TURN THE POWER OFF WHEN THE MACHINE IS NOT IN USE.

If a child or outsider turns the power ON by mistake, it could result in injury or electric shock.

CONTENTS

1. GENERAL

The START International Model TDWW501B is used to wrap splice-joint wires or other bundled wires with vinyl insulating tape. When joined wires are inserted into the machine, it wraps, cuts, and attaches the vinyl tape automatically around them. The machine employs an original drive system, which results in low noise and easy maintenance

2. SPECIFICATIONS

Model	TDWW501B
Power Supply	100 V AC, 50/60 Hz
Tape Width	No more than 55 mm (Up to three tapes can be wound)
Tape Length	40 to 69 mm (Setting in 1 mm steps)
Tape Contact Section	Plate springs (Stainless steel, coated)
Cycle Time	No more than 0.8 sec.
Weight	Approx. 30 kg
Applicable Joint Terminals	NT Joint 0.3 sq S (commonly known as “0.3S”) NT Joint 0.3 sq L (commonly known as “0.3L”) NT29014-1 (also known as “Small”) NT Joint M Core (commonly known as “Large”) Joint LL (commonly known as “LL”) Joint 3L (commonly known as “3L”) For the “Terminal Joint (commonly known as “4L”)”, the following optional parts are required.

Part No.	Product Name	Number of units
MT01-03112	Right wheel cover	1
MT01-03108-S	Taping wheel set	1 set
MT01-03184-S	Tape reel plate spring set	1 set

3. TERMINOLOGY

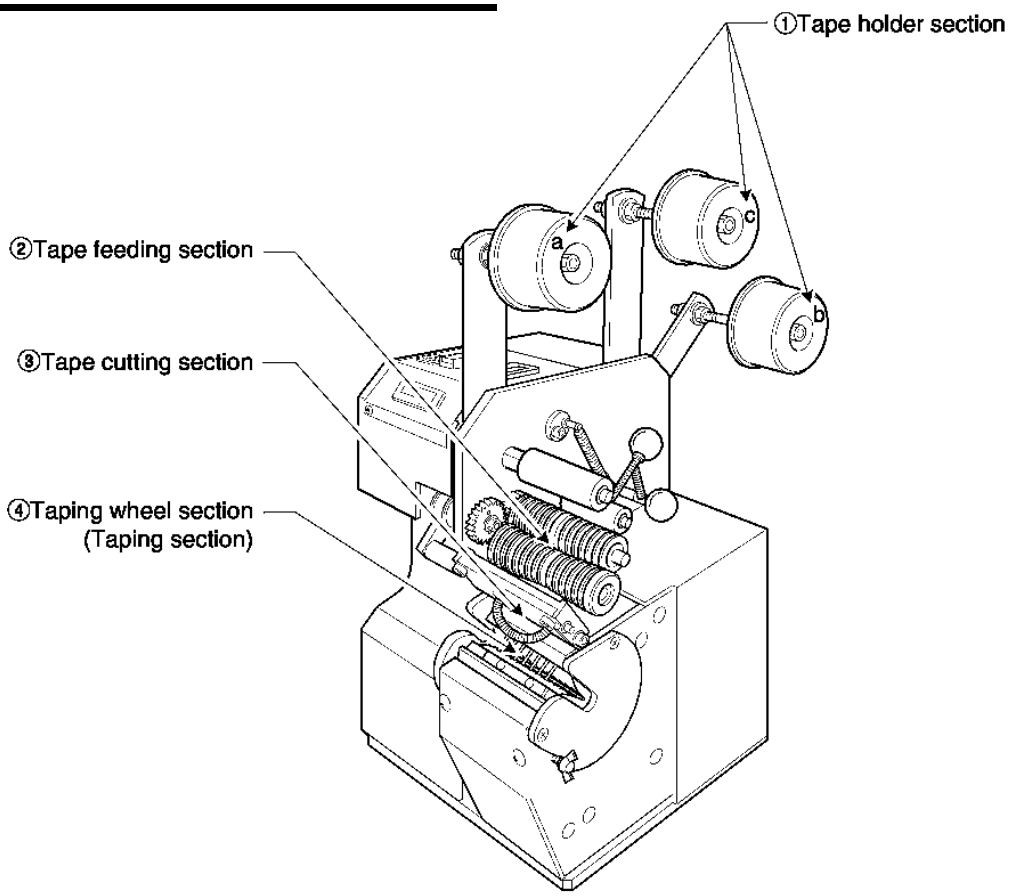


Fig. 1

1- **Tape Holder Section**

Prepare the tapes to be used, insert each tape reel all the way into each holder so that the adhesive surface faces toward the machine when the tape is unwound downward (see Fig. 3 in Section 5 PREPARATION AND OPERATION.) Set the tape reel onto the tape holder ***'a'*** when taping a single tape or set the tape reels onto tape holders ***'a'*** and ***'b'*** when taping two tapes.

The standard machine is equipped with two 40 mm wide tape holders ***'a'*** and ***'b'*** and one 25 mm tape holder ***'c'***. Each tape holder has a tape reel stopper (ball plunger).

2 – **Tape Feeding Section**

This mechanism feeds tapes by the set length. For details of how to set the tape length, see the description for 4 in "4: Control Panel."

3 - **Tape Cutting Section**

This mechanism cuts tapes. As it cuts tapes by driving a blade with a motor, be careful never to approach your finger or hand near to it.

4 - **Taping Wheel Section (Taping section)**

This mechanism accepts the insertion of splice-joined wires to be taped up. For details of how to replace the plate spring and tape support brush, see "7: Replacement of the Taping Reel Plate Spring and the Tape Support Brush.

4. CONTROL PANEL

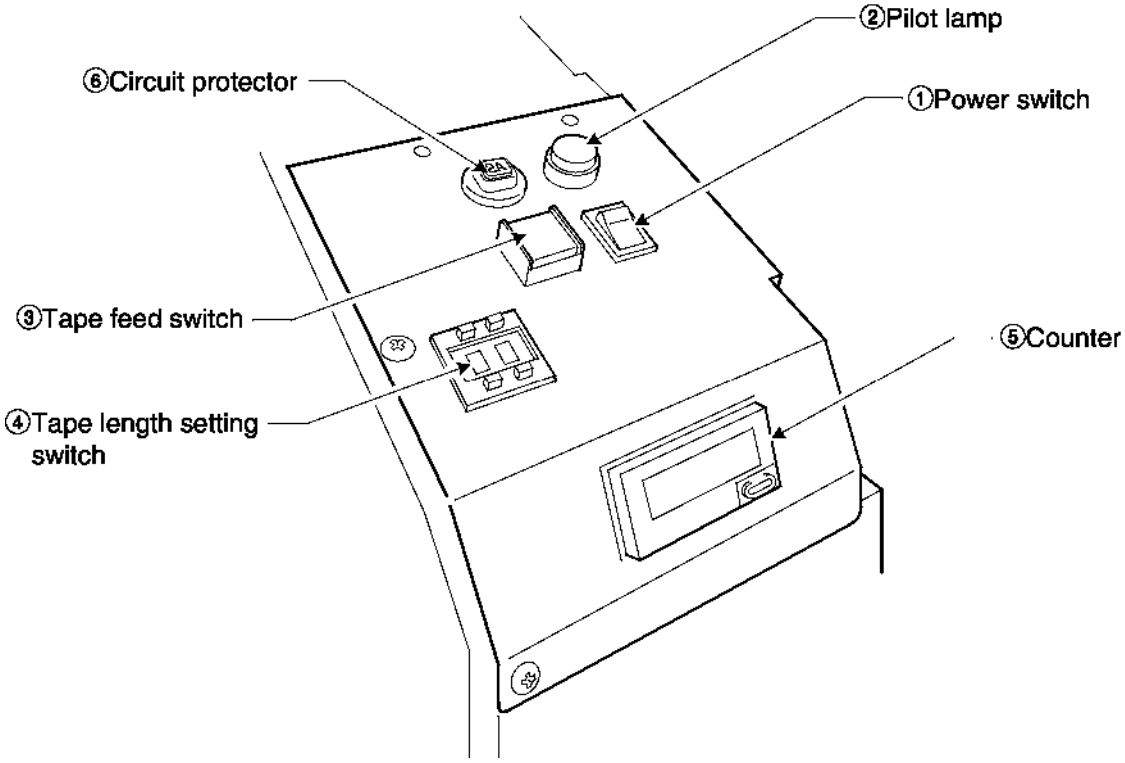


Fig. 2 Control Panel

1 - **Power Switch**

The power switch switches the power supply. Be sure to set the switch to OFF when not using the machine.

2 – **Pilot Lamp**

Lights when the power is ON.

3 - **Tape Feed Switch**

Each press of this switch executes “rise of upper blade → tape feed” and “fall of upper blade (cutting of tape)” alternately. Holding the switch for more than a second executes a single cycle of the above operations.

4 – **Tape Length Setting Switch**

A thumb rotary switch for setting the tape cut length. Note that this switch can set an approximate tape length only and that the actual tape feed length varies depending on the tape material, tape width and environmental conditions. The digit of 10 can be set in the range from 4 to 6 and the digit of 1 can be set in the range from 0 to 9.

5 - **Counter**

A production counter counts up when every cycle has completed, normally after the machine is activated by the start switch on the left side of the wire inlet.

6 - **Circuit Protector**

The Circuit protector shuts down the power supply in case of an excessive current. To release the function, push in the projecting switch.

5. PREPARATION AND OPERATION

5-1 Connect the power supply using the provided power cord. (Be sure to ground the grounding wire.)

5-2 Set the tape reel(s) on the tape holder(s). (See description 1 in "3: Nomenclature)

5-3 Unwind the tape from each tape reel, pass it onto the front side of the guide roll, and distribute it between the rubber roll and the backward feed roll and then between the tape clamp plate and the backward feed roll.

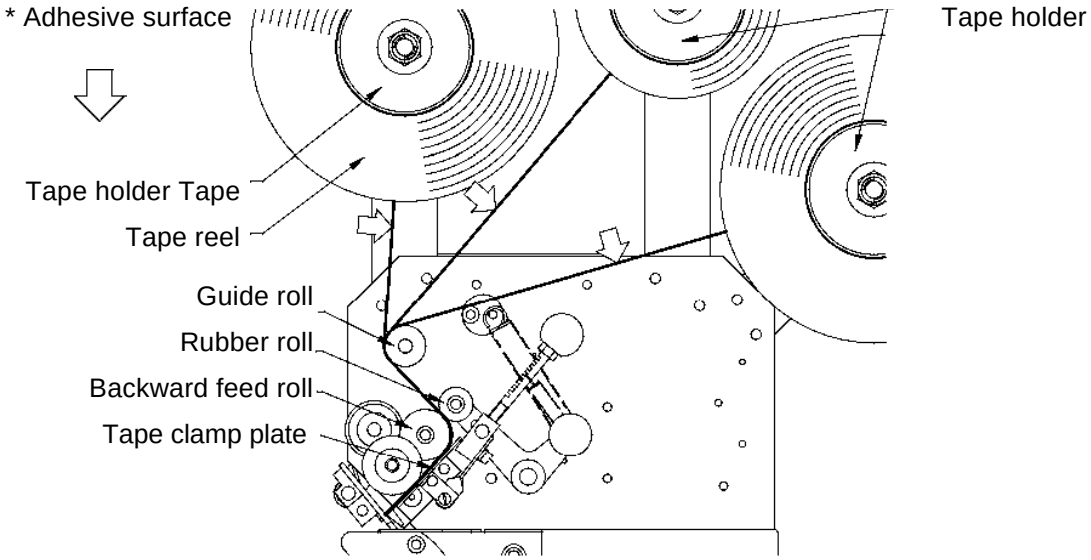


Fig. 3

5-4 Press the power switch to ON and check that the pilot lamp (white) is lit.

*** CAUTION**

The machine is designed so that the taping wheel turns once when the power switch is set to ON. Be careful not to have your finger or hand caught by the wheel at this time.

5-5 Press and hold the tape feed switch on the control panel a few times until the tape comes onto the taping section. (See description 3 in "4: Control Panel.")

5-6 Check that the tape is fed onto the center of the plate spring on the taping section. If the tape is deviated, loosen the nut on the reel shaft and adjust the tape position to the left or right. Be sure to tighten the nut after making this adjustment.

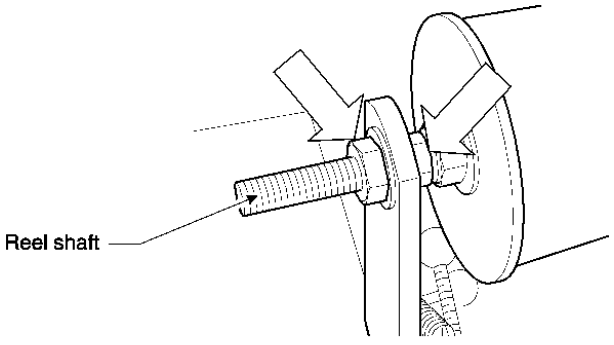


Fig. 4

5-7 Set the tape length with the tape length setting switch on the control panel (see description 4 in "4: Control Panel"). After this operation, press and hold the tape feed switch again to feed tape and check its length.

5-8 Feed the tape into the taping section again. It is now ready for operation.

5-9 Apply the joined section of wires onto the center of the fed tape and insert the wires and tape together into the taping wheel (taping section). When these are inserted deep into the taping section, the start switch on the left of the wheel is activated to perform one cycle of the taping operation around the joint, after which the machine stops.

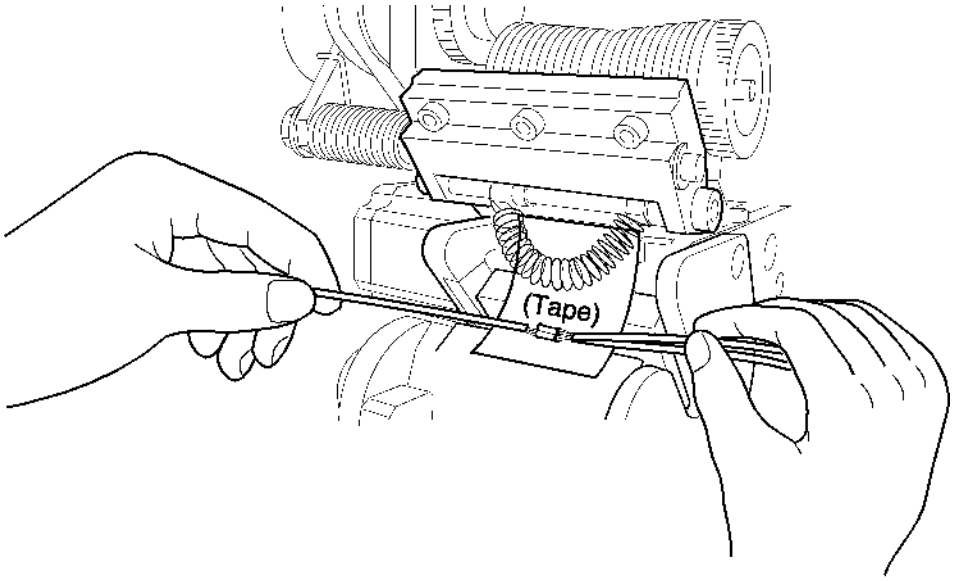


Fig. 5

*** CAUTION**

Do not pull the wires away or release the wires from your hands during the rotation of the taping wheel. Otherwise, the motor may stop rotation in the middle and/or taping may become impossible.

6. ADJUSTMENTS

6-1 Adjusting the tensions of springs in the taping section

The tension of the rubber roll can be adjusted by loosening the bolt a shown in the figure below and by then rotating the adjustment ring. Be sure to tighten the bolt after adjustment. The tension of the tape clamp plate can be adjusted by varying the hooking position of the tension spring b shown in the figure below. Approaching the hooking position to the rotation axis decreases the tension and distancing the hooking position from the rotation axis increases the tension.

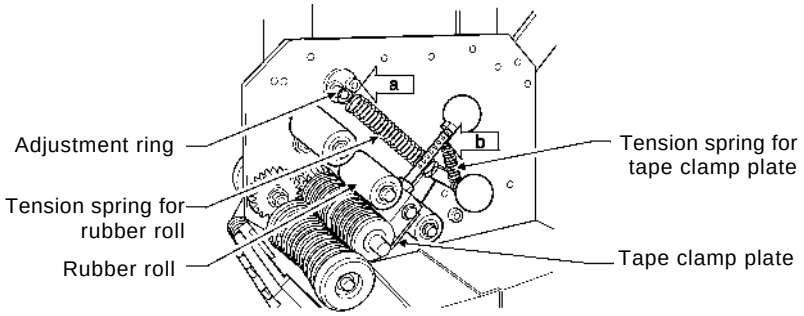


Fig. 6

6-2 Adjusting the home position of the taping wheel

Remove the bolt retaining the wheel cover, loosen the wing bolt and remove the taping wheel. Next, press the power switch to ON and return taping wheel drive gear to the home position. With the drive gear in the home position, attach taping wheel so that the wire inlet faces toward the front of the machine. Be sure to tighten the bolt on the wheel cover after the adjustment. Note that this adjustment is performed after turning the machine ON.

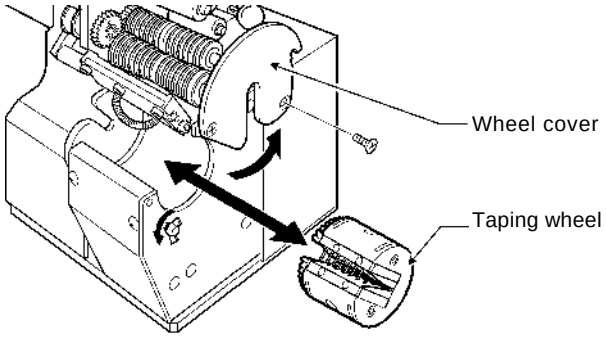


Fig. 7

6-3 Adjusting the cut depth of the upper blade

Loosen bolts clamping the upper blade and slide the blade up or down. Be sure to tighten the bolts after the adjustment. The upper blade can be attached with either cutting edge up so that, when the cut deteriorates, it can be re-attached upside down. In this case, be sure not to mistake the left and right orientations.

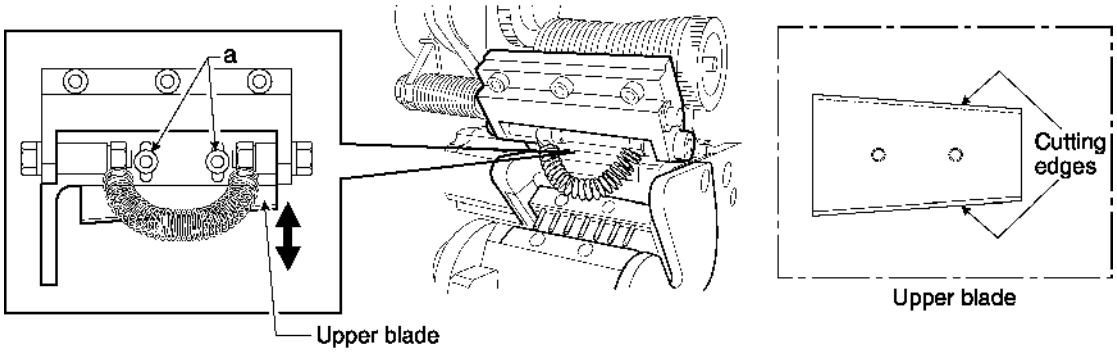
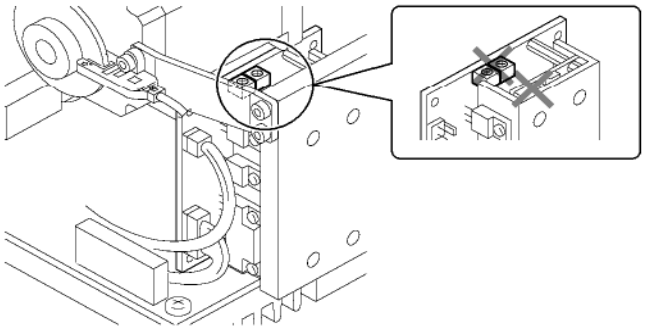


Fig. 8

*** CAUTION**

Never attempt to turn the dial on the stepping motor driver or alter its switch position. Otherwise, the driver and motor may overheat or break down.



7. REPLACEMENT OF TAPE REEL PLATE SPRING AND TAPE SUPPORT BRUSH

7-2 Remove the bolt retaining the wheel cover, loosen the wing bolt and remove the taping wheel.

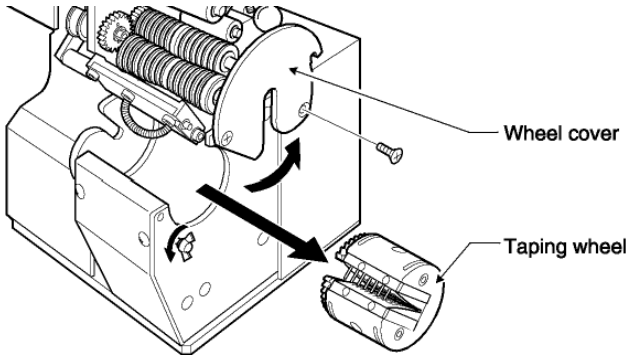


Fig. 9

7-2 Remove the bolts on the taping wheel and disengage the base block retaining the tape reel plate spring from the wheel. Next, remove the bolts retaining the tape reel plate spring and replace the tape reel plate spring and/or the tape support brush. Be sure to tighten the bolts after the replacement.

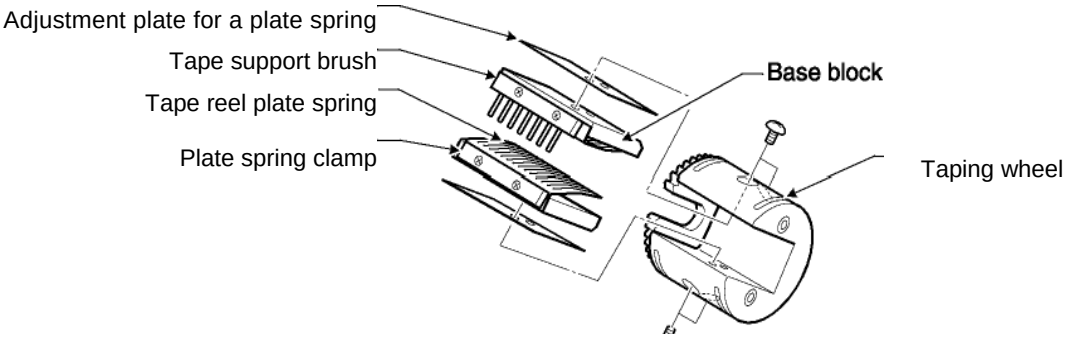


Fig. 10

8. MAINTENANCE

8-1 Maintain the sliding surfaces of the taping wheel periodically by removing old oil and then applying new oil. (Recommended: DynaMax EP no. 0 by Cosmo Oil Lubricants Co., Ltd. Or equivalent).

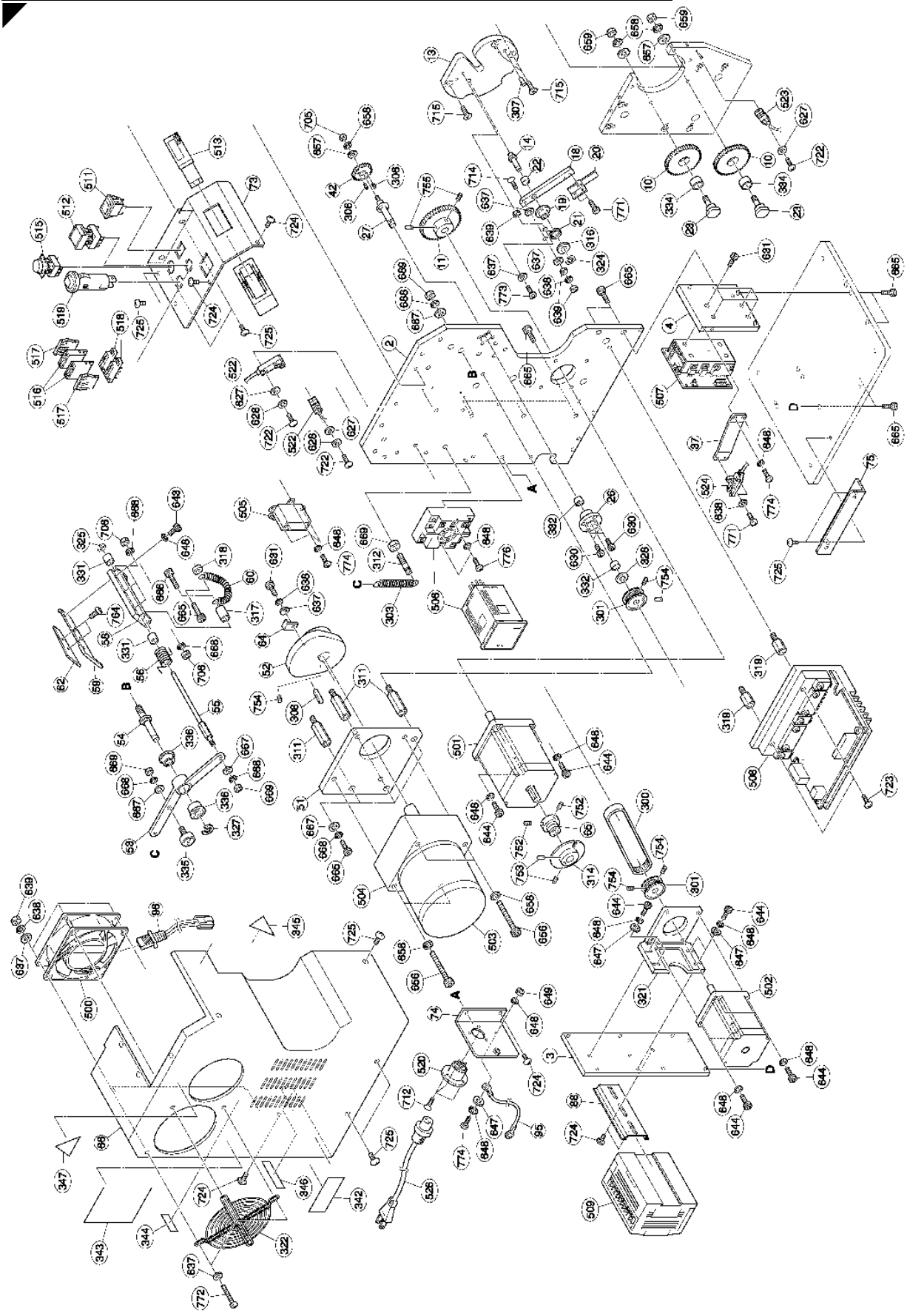
*** CAUTION**

Do not pull the wires away or release the wires from your hands during the rotation of the taping wheel. Otherwise, the motor may stop rotation in the middle and/or taping may become impossible.

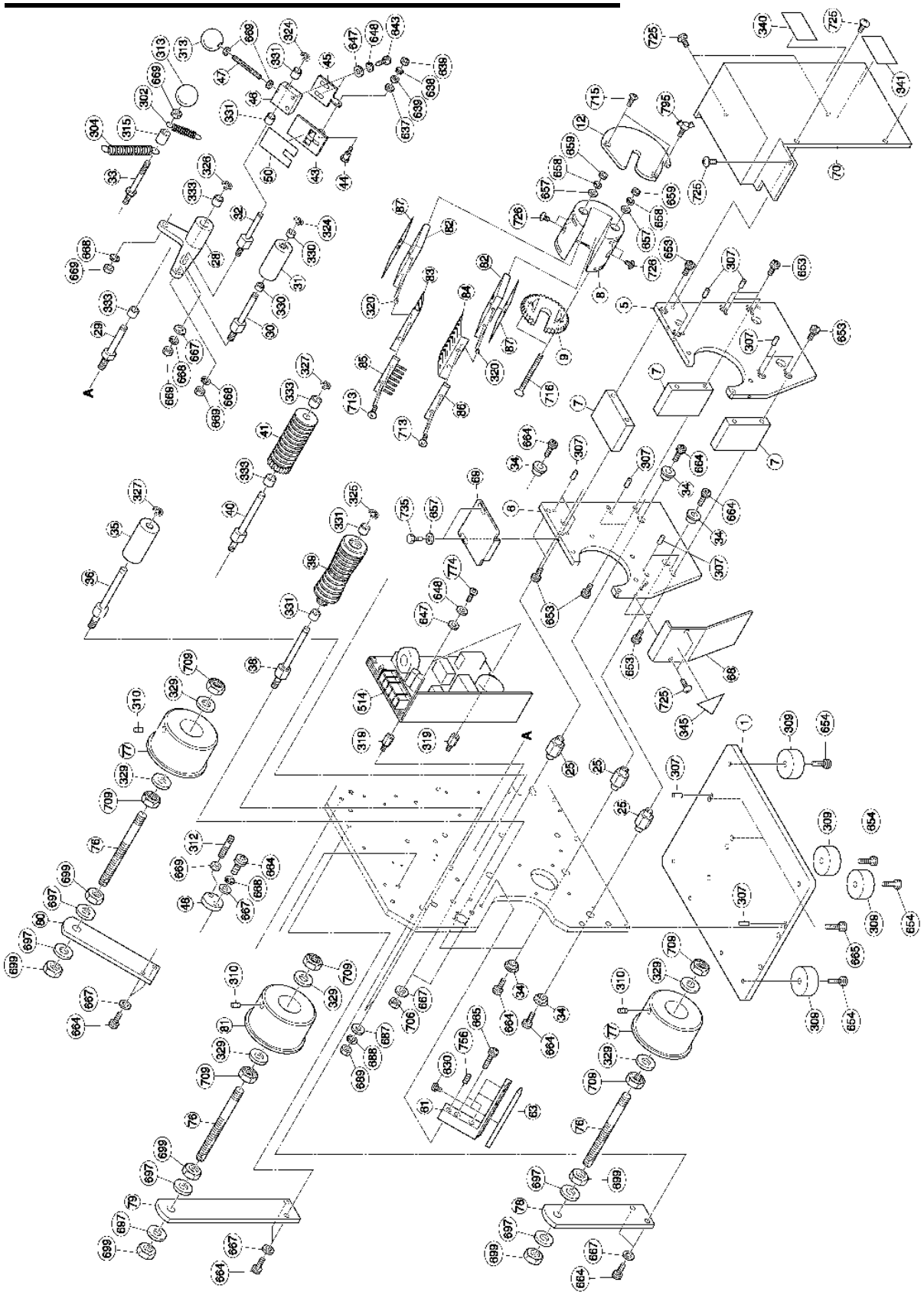
9. TROUBLESHOOTING

	Trouble	Possible Causes	Remedies
1	The machine cannot be turned ON.	1. The power supply is not connected. 2. The circuit protector (519 in the parts list) is tripped.	1. Connect the machine to the rated power supply. 2. Push in the switch.→Description 6 in "4. Control Panel."
2	The machine can be turned ON but will not work.	1. The Proximity sensor (523 in the parts list) has failed. 2. A wire or cable is disconnected.	1. Replace it. 2. Replace it.
3	Tapes are not fed or the tape cut lengths are not identical.	1. The tension of the rubber roll tension spring (304 in the parts list) is insufficient. 2. The rubber roll tension spring (304 in the parts list) is worn out. 3. The tension of the tape clamp plate tension spring (302 in the parts list) is insufficient. 4. The tape clamp plate tension spring (302 in the parts list) is worn out. 5. The timing belt (300 in the parts list) is worn out. 6. The screw (754 in the parts list) retaining the timing pulley (301 in the parts list) is loose. 7. The motor (502 in the parts list) is failed. 8. The Teflon tape (50 in the parts list) is worn out. 9. The knurling of the forward or backward feed roll (39 or 41 in the parts list) is stopped. 10. The forward or backward feed roll 39 or 41 in the parts list) is worn out.	1. Adjust it. →"6-1 Adjusting the tensions of springs in the taping section." 2. Replace it. 3. Adjust it. →"6-1 Adjusting the tensions of springs in the taping section." 4. Replace It. 5. Replace it. 6. Tighten the screw. 7. Repair or replace it. 8. Replace it. 9. Clean the knurling. 10. Replace it.
4	Tapes are not cut.	1. The upper or lower blade (62 or 63 in the parts list) is worn out. 2. The cut depth of the upper blade (62 in the parts list) is insufficient. 3. The spring for the cutter blade (56 in the parts list) is worn out. 4. The tape is too thick.	1. Replace it. 2. Adjust it. → 6-3 "Adjusting the cut depth of upper blade." 3. Replace it. 4. Replace the tape.
5	The taping wheel (8 in the parts list) stops in the middle .	1. Tape is wound around the taping wheel (8 in the parts list) due to improper cutting. 2. The tension of the tape reel plate spring (83 or 84 in the parts list) is excessive.	1. Turn the machine OFF, remove the tape and adjust the blade. (See procedure in item 4, "Tapes are not cut." above.) 2. Adjust the tension by decreasing the band spring adjustment plate (87 in the parts list).
6	The taping wheel (8 in the parts list) stops in a wrong position.	1. The taping wheel (8 in the parts list) is set in a wrong position.	1. Adjust it. → 6-2 "Adjusting the home position of taping wheel."
7	The taping result is not neat.	1. The tape reel plate spring (83 or 84 in the parts list) is worn out. 2. The tape support brush (85 in the	1. Replace it. 2. Replace it.

10. DISASSEMBLY DIAGRAM 1



DISSASEMBLY DIAGRAM 2



11. PARTS LIST

<No. 3>

No.	Part No.	Part Name	Q'ty	Remark
1	MT01-01001	Base plate	1	with 2 pieces of No.307 assembled
2	MT01-03002	Column plate	1	with 3 pieces of No.34 assembled
3	MT01-01003	Supporter plate A	1	
4	MT01-01004	Supporter plate B	1	
5	MT01-03005	Right panel of guide box	1	with 5 pieces of No.307 assembled
6	MT01-03006	Left panel of guide box	1	with 3 pieces of No.34 assembled with 6 pieces of No.307 assembled
7	MT01-01007	Guide box spacer	3	
8	MT01-01008	Taping wheel	1	
9	MT01-01009	Taping gear	1	
10	MT01-03010	Idol gear	2	with a piece of No.334 assembled
11	MT01-01011	Main gear	1	with 2 pieces of No.755 assembled
12	MT01-03012	Right wheel cover	1	
13	MT01-03013	Left wheel cover	1	with a piece of No.307 assembled
14	MT01-01014	Guide pin	1	with a piece of No.324 assembled
18	MT01-01018	Switch lever	1	
19	MT01-01019	Spring guide	1	
20	MT01-01020	Detection board	1	
21	MT01-01021	Spring	1	
22	MT01-01022	Lever bush	1	
23	MT01-03023	Idol gear shaft	2	
25	MT01-01025	Stay rod	3	
26	MT01-01026	Shaft holder	1	with 2 pieces of No.332 assembled
27	MT01-01027	Feed roll shaft	1	with 2 pieces of No.306 assembled
28	MT01-01028	Rubber roll lever	1	with 2 pieces of No.333 assembled
29	MT01-01029	Rubber roll lever shaft	1	with a piece of No.326 assembled
30	MT01-01030	Rubber roll shaft	1	with a pieces of No.324 assembled
31	MT01-03031	Rubber roll	1	with 2 pieces of No.330 assembled
32	MT01-01032	Table clamp holder shaft	1	with a piece of No.324 assembled
33	MT01-01033	Rubber roll spring hanger	1	
34	MT01-01034	Bush	6	
35	MT01-01035	Guide roll	1	
36	MT01-01036	Guide roll shaft	1	with a piece of No.327 assembled
37	MT01-01037	Photo sensor BK	1	
38	MT01-01038	Forward feed shaft	1	with a piece of No.325 assembled
39	MT01-01039	Forward feed roll	1	with 2 pieces of No.331 assembled

<No.2>

No.	Part No.	Part Name	Q'ty	Remark
40	MT01-01040	Backward feed shaft	1	with a piece of No.327 assembled
41	MT01-01041	Backward feed roll	1	with 2 pieces of No.333 assembled
42	MT01-01042	Idol gear for feeding	1	
43	MT01-01043	Tape clamp plate	1	with a piece of No.50 labeled
44	MT01-01044	Pin	1	
45	MT01-01045	Tape clamp plate stay	1	
46	MT01-01046	Holder	1	with 2 pieces of No.331 assembled
47	MT01-01047	Adjustment stick	1	
48	MT01-01048	Adjustment ring	1	
50	MT01-01050	Teflon tape	1	
51	MT01-01051	Motor attachment plate	1	
52	MT01-01052	Cam	1	with a piece of No.754 assembled
53	MT01-01053	Cutter lever	1	
54	MT01-01054	Cutter lever shaft	1	with a piece of No.327 assembled
55	MT01-01055	Cutter holder shaft	1	with a piece of No.325 assembled
56	MT01-01056	Spring for cutter	1	
58	MT01-01058	Upper cutter holder	1	with 2 pieces of No.331 assembled
59	MT01-01059	Upper cutter guide	1	
60	MT01-01060	Tape clamp spring	1	
61	MT01-01061	Lower cutter holder	1	with a piece of No.756 assembled
62	MT01-01062	Upper blade	1	
63	MT01-01063	Lower blade	1	
64	MT01-01064	Sensor plate	1	
65	MT01-01065	Slit cam collar	1	with 2 pieces of No.752 assembled
66	MT01-08066	Main body cover	1	with each piece of No.343~346 labeled
68	MT01-01068	Drum cover	1	with a piece of No.345 labeled
69	MT01-01069	Support plate	1	
70	MT01-03070	Control cover	1	with each piece of No.340, 341 labeled
73	MT01-08073	SW panel	1	
74	MT01-01074	Metal connecter plate	1	
75	MT01-01075	Cover attachment plate	1	
76	MT01-01076	Reel shaft	3	
77	MT01-01077	Tape reel A	2	with a piece of No.310 assembled

No.	Part No.	Part Name	Q'ty	Remark
78	MT01-01078	Reel stand A	1	
79	MT01-01079	Reel stand B	1	
80	MT01-01080	Reel stand C	1	
81	MT01-01081	Tape reel B	1	with a piece of No.310 assembled
82	MT01-03082	Base block	2	with 2 piece of No.320 assembled
83	MT01-03083-***	Tape reel plate spring	1	
84	MT01-03083-***	Tape reel plate spring	1	The condition changes depending on the combination of wires and the size of the joint terminal. Please refer to the attached paper.
85	MT01-03085-***	Tape support brush	1	
86	MT01-03086	Plate spring clamp	1	
87	MT01-03087-***	Adjustment plate for plate spring	(2)	
88	MT01-03088	DIN rail	1	
95	MT01-01995	Ground wire	1	
96	MT01-01996	Fun motor cord	1	
300	UE00-80021	Timing belt	1	
301	UE00-90004	Timing pulley	2	with 2 pieces of No.754 assembled
302	UE03-10005	Tension spring	1	
303	UE03-10006	Tension spring	1	
304	UE03-10007	Tension spring	1	
306	UE3K-32010	Spring pin	2	
307	UE3K-24012	Parallel pin	14	
308	UE4L-44250	Parallel key	1	
309	UE04-10207	Rubber foot	4	
310	UE04-10208	Ball plunger	3	
311	UE04-10209	Hexagonal support	3	
312	UE04-10210	Spring hook	2	with a piece of No.669 assembled
313	UE04-10211	Grip ball	2	
314	UE04-10212	Slit cam for photo sensor	1	with 2 pieces of No.753 assembled
315	UE04-10213	Metal collar	1	
316	UE04-10214	Metal washer	1	
317	UE04-10215	Resin collar	1	
318	UE04-10216	Resin washer	1	
319	UE04-10228	Joggled hexagonal space	4	
320	UE04-10218	Wire thread inserts	4	
321	UE04-10219	Motor attachment bracket	1	
322	UE04-10229	Finger guard	1	

No.	Part No.	Part Name	Q'ty	Remark
324	UE5G-30004	E-type retaining ring	3	
325	UE5G-30005	E-type retaining ring	2	
326	UE5G-30006	E-type retaining ring	1	
327	UE5G-30007	E-type retaining ring	3	
328	UE05-8AH06	Thrust washer	1	
329	UE05-8AH07	Thrust washer	6	
330	UE05-35015	Drymet ST bush	2	
331	UE05-35016	Drymet ST bush	6	
332	UE05-35017	Drymet ST bush	2	
333	UE05-35018	Drymet ST bush	4	
334	UE05-35019	Drymet ST bush	2	
335	UE05-33006	Cam follower	1	
336	UE05-35020	Flanged miniature ball bearing	2	
340	UE08-70019	Label	1	Japanese
	UE08-70032			English
	UE08-70083			Chinese
341	UE08-70021	Label	1	Japanese
	UE08-70034			English
	UE08-70084			Chinese
342	UE08-70049	Face-plate	1	
343	UE08-70061	Label for machines	1	Japanese
	UE08-70063			English
	UE08-70085			Chinese
344	UE08-70066	Power indicator label	1	
345	UE08-70079	Caution label	2	
346	UE08-70080	Ground wire earthing label	1	Japanese
	UE08-70082			English
347	UE08-70086	Caution label for high temperature	1	
500	UE06-10041	Fun motor	1	
501	UE06-10039	Stepping motor	1	
502	UE06-10035	Stepping motor	1	
503	UE06-10036	Reversible motor	1	
504	UE06-10037	Gear head	1	with a piece of No.308 attached
505	UE06-36238	Capacitor	1	
506	UE06-36239	Brake pack	1	
507	UE06-36240	Stepping motor driver	1	

No.	Part No.	Part Name	Q'ty	Remark
508	UE06-36258	Stepping motor driver	1	
509	UE06-34104	Micro sequencer	1	
511	UE06-32070	Locker switch	1	
512	UE06-32071	Push button switch	1	
513	UE06-33036	Counter	1	
514	UE06-36257	Switching power supply	1	
515	UE06-36242	Indicator	1	
516	UE06-36243	Thumb rotary switch	2	
517	UE06-36244	Thumb rotary switch attachment board	1 pair	
518	UE06-36245	Thumb rotary switch connector	2	
519	UE06-36249	Circuit protector	1	
520	UE06-36001	Metal connector	1	
522	U E06-36246	Proximity sensor	2	with each piece of No.627, 628, 722 attached
523	UE06-36261	Proximity sensor	1	with each piece of No.627, 722 attached
524	UE06-36247	Photo sensor	1	
526	UE06-50001	Power supply code	1	
528	UE06-36248	Metal coating resistor	5	* Used for wiring, please refer to the schematic diagram.
627		Plain washer	3	M2.6
628		Lock washer	2	M2.6
630		Bolt of hexagon socket head	7	M3 × 6
631		Bolt of hexagon socket head	5	M3 × 8
637		Plain washer	11	M3
638		Lock washer	8	M3
639		Hexagonal nut	8	M3
643		Bolt of hexagon socket head	5	M4 × 12
644		Bolt of hexagon socket head	12	M4 × 15
647		Plain washer	9	M4
648		Lock washer	28	M4
649		Hexagonal nut	1	M4
653		Bolt of hexagon socket head	12	M5 × 12
654		Bolt of hexagon socket head	4	M5 × 15
656		Bolt of hexagon socket head	4	M5 × 45

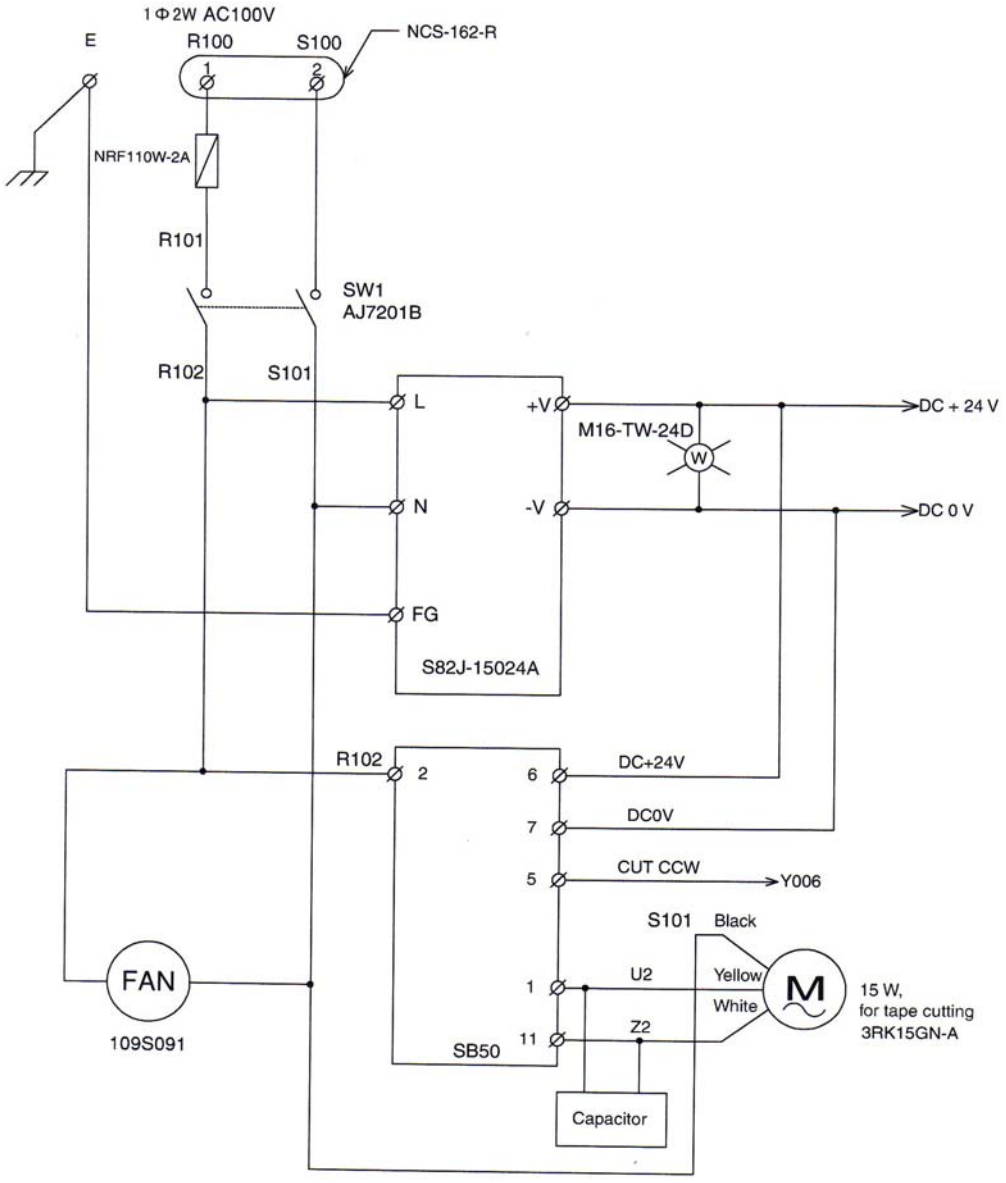
No.	Part No.	Part Name	Q'ty	Remark
657		Plain washer	7	M5
658		Lock washer	9	M5
659		Hexagonal nut	4	M5
664		Bolt of hexagon socket head	13	M6 × 15
665		Bolt of hexagon socket head	18	M6 × 20
666		Bolt of hexagon socket head	1	M6 × 30
667		Plain washer	15	M6
668		Lock washer	11	M6
669		Hexagonal nut	10	M6
687		Plain washer	3	M8
688		Lock washer	3	M8
689		Hexagonal nut	3	M8
697		Plain washer	6	M12
699		Hexagonal nut of type 3 (JIS B1181)	6	M12
705		U nut	1	M5
706		U nut	4	M6
709		U nut	6	M12
712		Cross recess head countersunk screw	3	M3 × 5
713		Cross recess head countersunk screw	4	M3 × 10
714		Cross recess head countersunk screw	1	M3 × 15
715		Cross recess head countersunk screw	5	M5 × 15
716		Cross recess head countersunk screw	2	M5 × 60
722		Cross recess head truss screw	3	M2.6 × 12
723		Cross recess head truss screw	2	M4 × 20
724		Cross recess head truss screw	7	M4 × 8
725		Cross recess head truss screw	6	M5 × 8
726		Cross recess head truss screw	4	M5 × 12
735		Hexagonal head bolt	2	M5 × 10
752		Hexagonal socket set screw	2	M3 × 5
753		Hexagonal socket set screw	2	M4 × 4
754		Hexagonal socket set screw	5	M4 × 8
755		Hexagonal socket set screw	2	M5 × 12
756		Hexagonal socket set screw	1	M6 × 12
764		Button bolt of hexagon socket head	2	M4 × 5
771		Cross recess head pan screw	4	M3 × 6
772		Cross recess head pan screw	3	M3 × 35
773		Cross recess head pan screw	1	M3 × 15
774		Cross recess head pan screw	8	M4 × 10
776		Cross recess head pan screw	2	M4 × 35
795		Wing bolt	1	M5 × 12

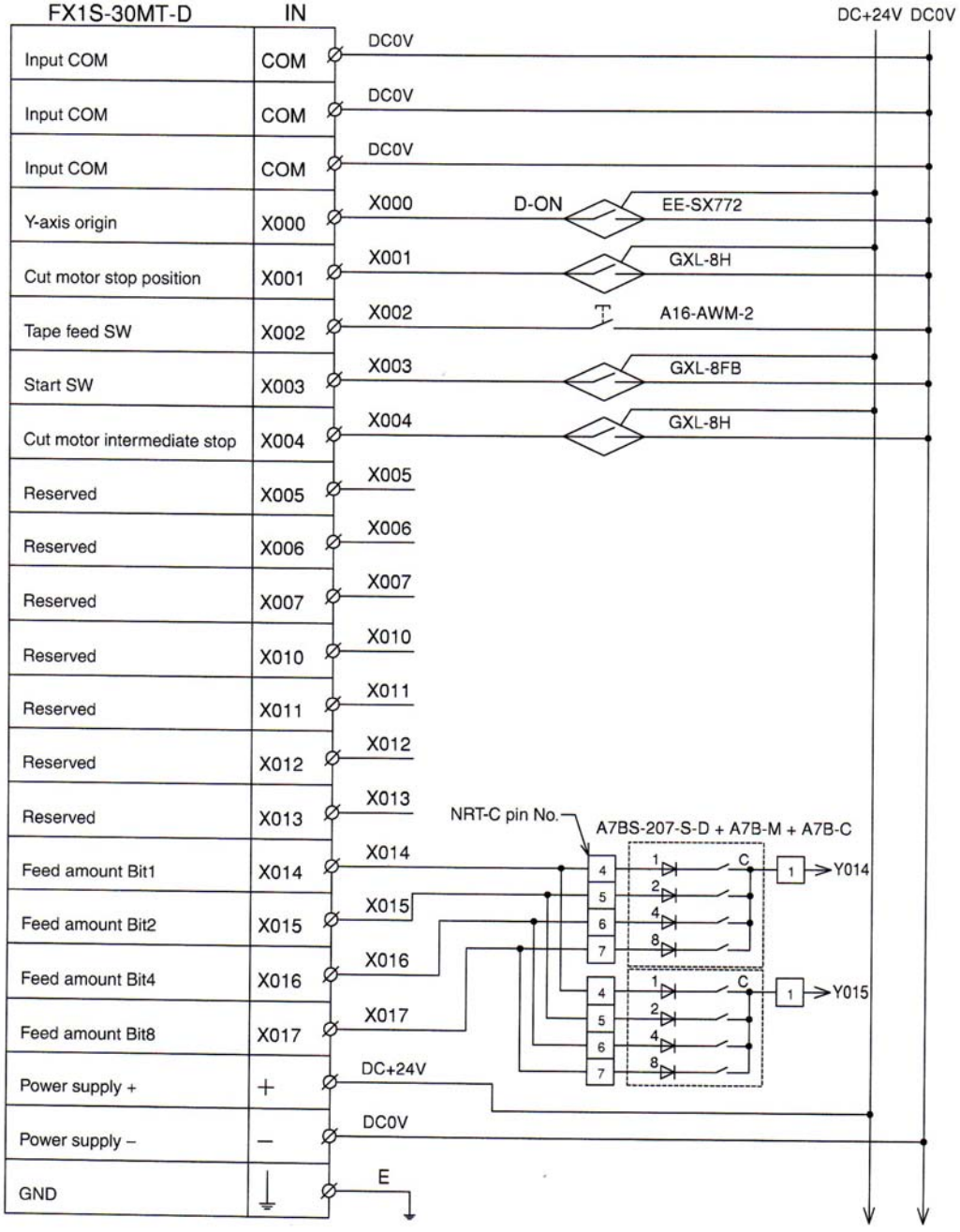
12. PARTS LIST (SETS)

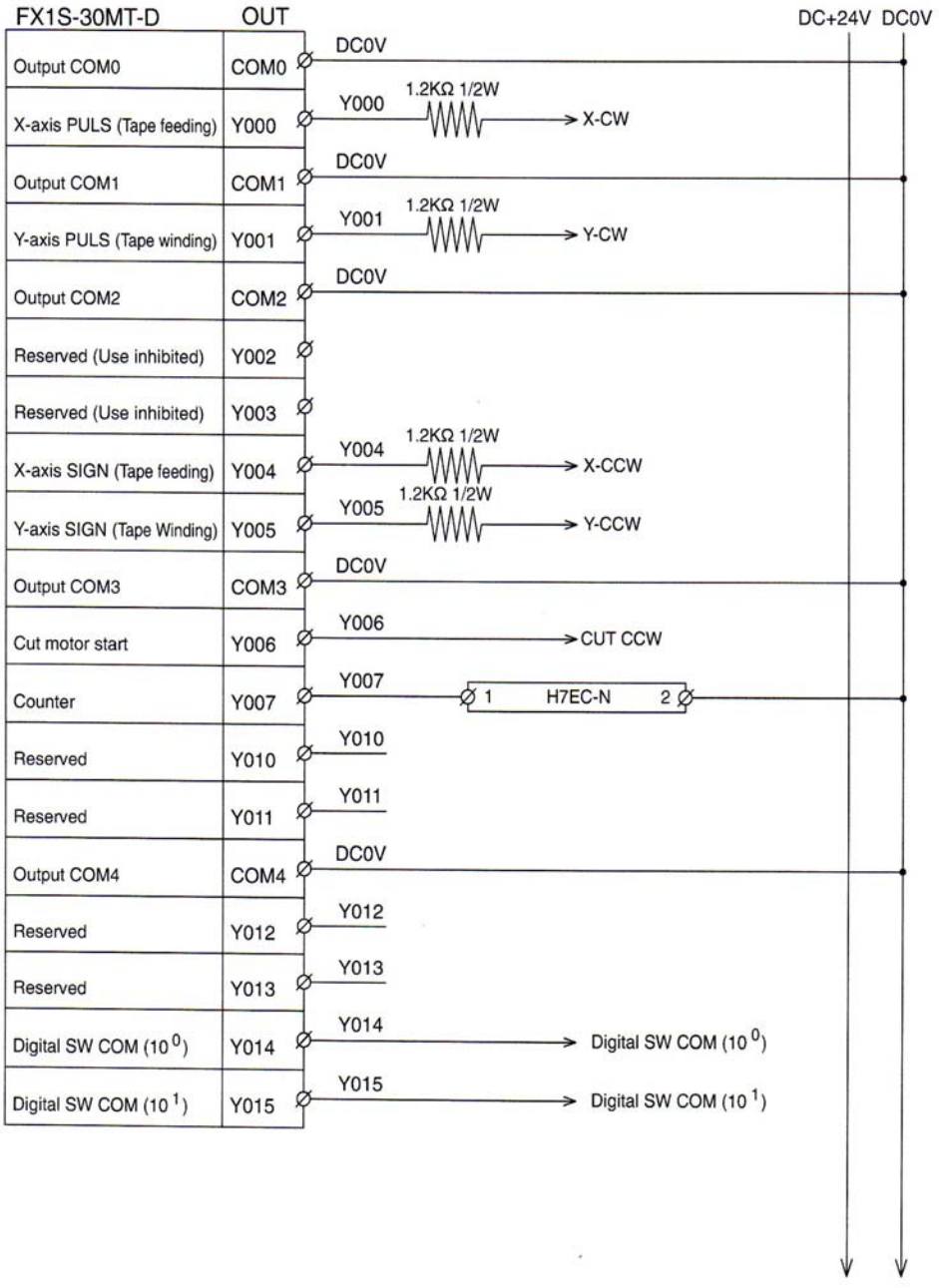
In addition to the individual parts on the Parts List in Section 11, the following part sets are also available for purchase.

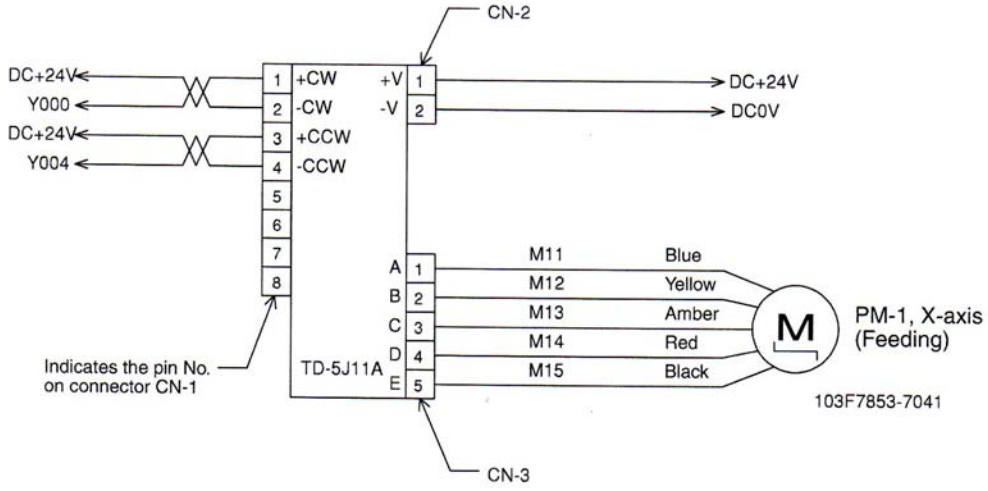
Set Parts No.	Set Parts Name	Contents of set parts				Remark
		No.	Part No.	Part Name	Q'ty Set	
MT01 -01 005-S	Guide box set	5	MT01 -03005	Right panel of guide box	1	with 5 pieces of No.307 assembled
		6	MT01 -03006	Left panel of guide box	1	with 3 pieces of No.34 assembled with 6 pieces of No.307 assembled
		7	MT01 -01 007	Guide box spacer	3	
		653	M5 × 12	Bolt of hexagon socket head	12	
MT01 -01008-S	Taping wheel set	8	MT01-01008	Taping wheel	1	
		9	MT01 -01 009	Taping gear	1	
		657	M5	Plain washer	2	
		658	M5	Lock washer	2	
		659	M5	Hexagonal nut	2	
		716	M5 × 60	Cross recess head countersunk screw	2	
MT01 -01013-S	Left wheel cover set	13	MT01 -03013	Left wheel cover	1	with a piece of No.307 assembled
		14	MT01 -03014	Guide pin	1	with a piece of No.324 assembled
MT01-01018-S	Switch lever set	18	MT01-01018	Switch lever	1	
		22	MT01-01022	Lever bush	1	
MT01-01019-S	Spring guide set	19	MT01-01019	Spring guide	1	
		316	UE04-1 0214	Metal washer	1	
MT 01-01046-S	Tape clamp holder set	30	MT01 -01 030	Rubber roll shaft	1	with a pieces of No.324 assembled
		31	MT01 -03031	Rubber roll	1	with 2 pieces of No.330 assembled
		32	MT01 -01 032	Table clamp holder shaft	1	with a piece of No.324 assembled
		43	MT01 -01 043	Tape clamp plate	1	with a piece of No.50 labeled
		44	MT01-01044	Pin	1	
		45	MT01 -01 045	Tape clamp plate stay	1	
		46	MT01 -01 046	Holder	1	with 2 pieces of No.331 assembled
		47	MT01 -01 047	Adjustment stick	1	
		313	UE04-10211	Grip ball	2	
		637	M3	Plain washer	1	
		638	M3	Lock washer	1	
		639	M3	Hexagonal nut	2	
		643	M4 × 12	Bolt of hexagon socket head	2	
		647	M4	Plain washer	2	
		648	M4	Lock washer	2	
		669	M6	Hexagonal nut	2	
MT01 -01053-S	Cuter lever set	53	MT01-01053	Cutter lever	1	
		336	UE05-35020	Flanged miniature ball bearing	2	
MT01 -01 076-S	Reel shaft set	76	MT01 -01 076	Reel shaft	1	
		329	UE05-8AH07	Thrust washer	2	
		709	M12	U nut	2	

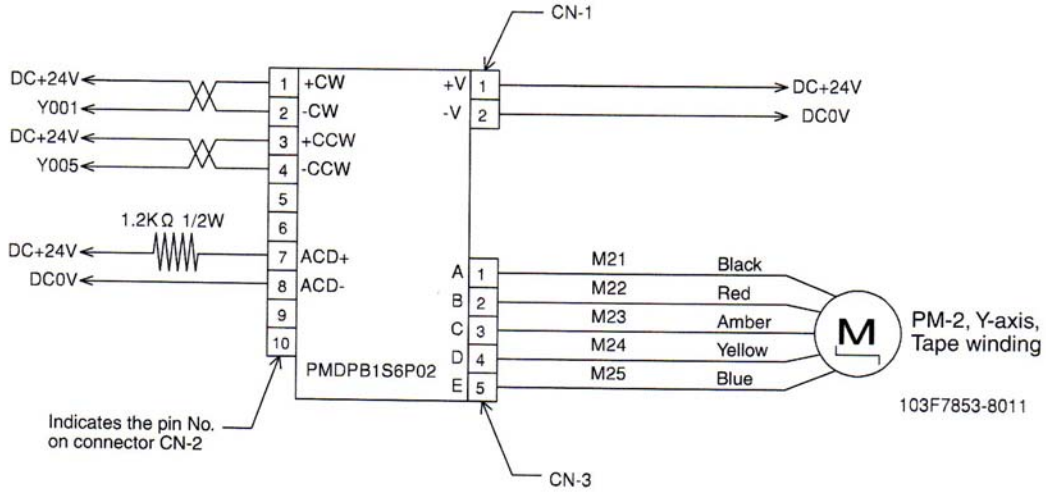
13. SCHEMATIC DIAGRAM




FX1S-30MT-D
IN
DC+24V DC0V
Input COM
COM
DC0V
Input COM
COM
DC0V
Input COM
COM
DC0V
Y-axis origin
X000
X000
D-ON
EE-SX772
Cut motor stop position
X001
X001
GXL-8H
Tape feed SW
X002
X002
A16-AWM-2
Start SW
X003
X003
GXL-8FB
Cut motor intermediate stop
X004
X004
GXL-8H
Reserved
X005
X005
Reserved
X006
X006
Reserved
X007
X007
Reserved
X010
X010
Reserved
X011
X011
Reserved
X012
X012
Reserved
X013
X013
NRT-C pin No.
A7BS-207-S-D + A7B-M + A7B-C
Feed amount Bit1
X014
X014
Feed amount Bit2
X015
X015
Feed amount Bit4
X016
X016
Feed amount Bit8
X017
X017
Y014
Y015
Power supply +
+
DC+24V
Power supply –
–
DC0V
GND
E


FX1S-30MT-D
OUT
DC+24V
DC0V
Output COM0
COM0
DC0V
X-axis PULS (Tape feeding)
Y000
1.2KΩ 1/2W
X-CW
Output COM1
COM1
DC0V
Y-axis PULS (Tape winding)
Y001
1.2KΩ 1/2W
Y-CW
Output COM2
COM2
DC0V
Reserved (Use inhibited)
Y002
Reserved (Use inhibited)
Y003
X-axis SIGN (Tape feeding)
Y004
1.2KΩ 1/2W
X-CCW
Y-axis SIGN (Tape Winding)
Y005
1.2KΩ 1/2W
Y-CW
Output COM3
COM3
DC0V
Cut motor start
Y006
CUT CCW
Counter
Y007
1
H7EC-N
2
Reserved
Y010
Reserved
Y011
Output COM4
COM4
DC0V
Reserved
Y012
Reserved
Y013
Digital SW COM (10 0)
Y014
Digital SW COM (10 0)
Digital SW COM (10 1)
Y015
Digital SW COM (10 1)


CN-2
DC+24V
Y000
DC+24V
Y004
1 +CW
2 -CW
3 +CCW
4 -CCW
5
6
7
8
+V 1
-V 2
DC+24V
DC0V
A 1
B 2
C 3
D 4
E 5
M11 Blue
M12 Yellow
M13 Amber
M14 Red
M15 Black
M
PM-1, X-axis
(Feeding)
Indicates the pin No.
on connector CN-1
TD-5J11A
CN-3
103F7853-7041


CN-1
DC+24V
Y001
DC+24V
Y005
1.2KΩ 1/2W
DC+24V
DC0V
1 +CW
2 -CW
3 +CCW
4 -CCW
5
6
7 ACD+
8 ACD-
9
10
+V 1
-V 2
DC+24V
DC0V
A 1
B 2
C 3
D 4
E 5
M21 Black
M22 Red
M23 Amber
M24 Yellow
M25 Blue
M
PM-2, Y-axis,
Tape winding
Indicates the pin No.
on connector CN-2
PMDPB1S6P02
CN-3
103F7853-8011

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