JUKI®

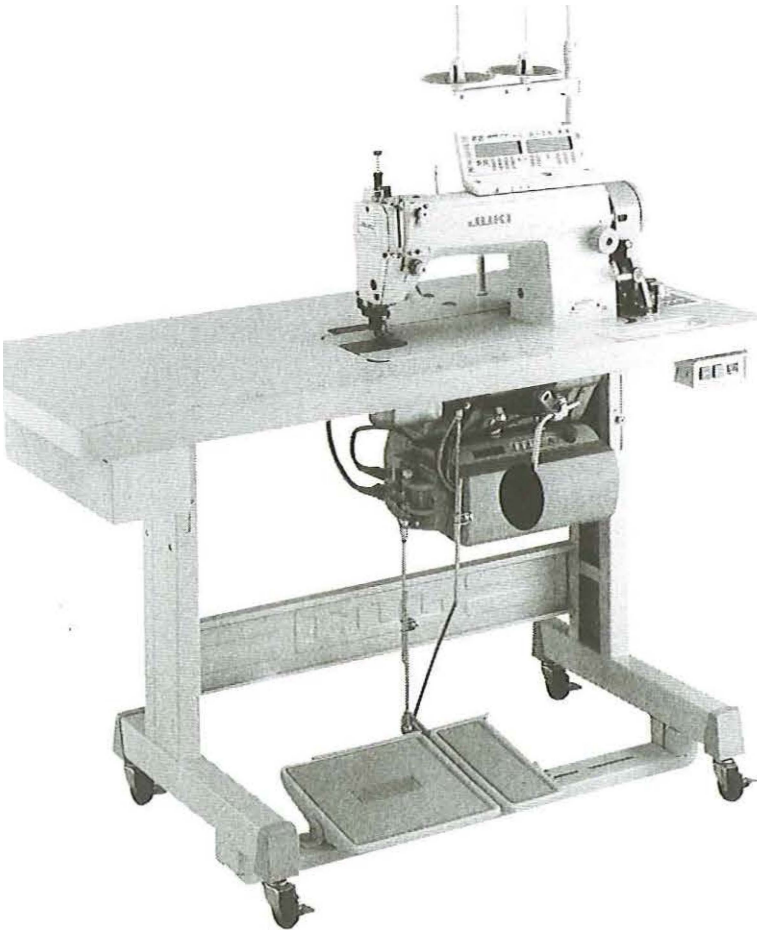
1-NEEDLE,BOTTOM & VARIABLE TOP FEED LOCKSTITCH MACHINE

DLU-5490N

1-NEEDLE,BOTTOM & VARIABLE TOP FEED LOCKSTITCH MACHINE WITH AN AUTOMATIC THREAD TRIMMER

DLU-5490N 7

ENGINEER'S MANUAL



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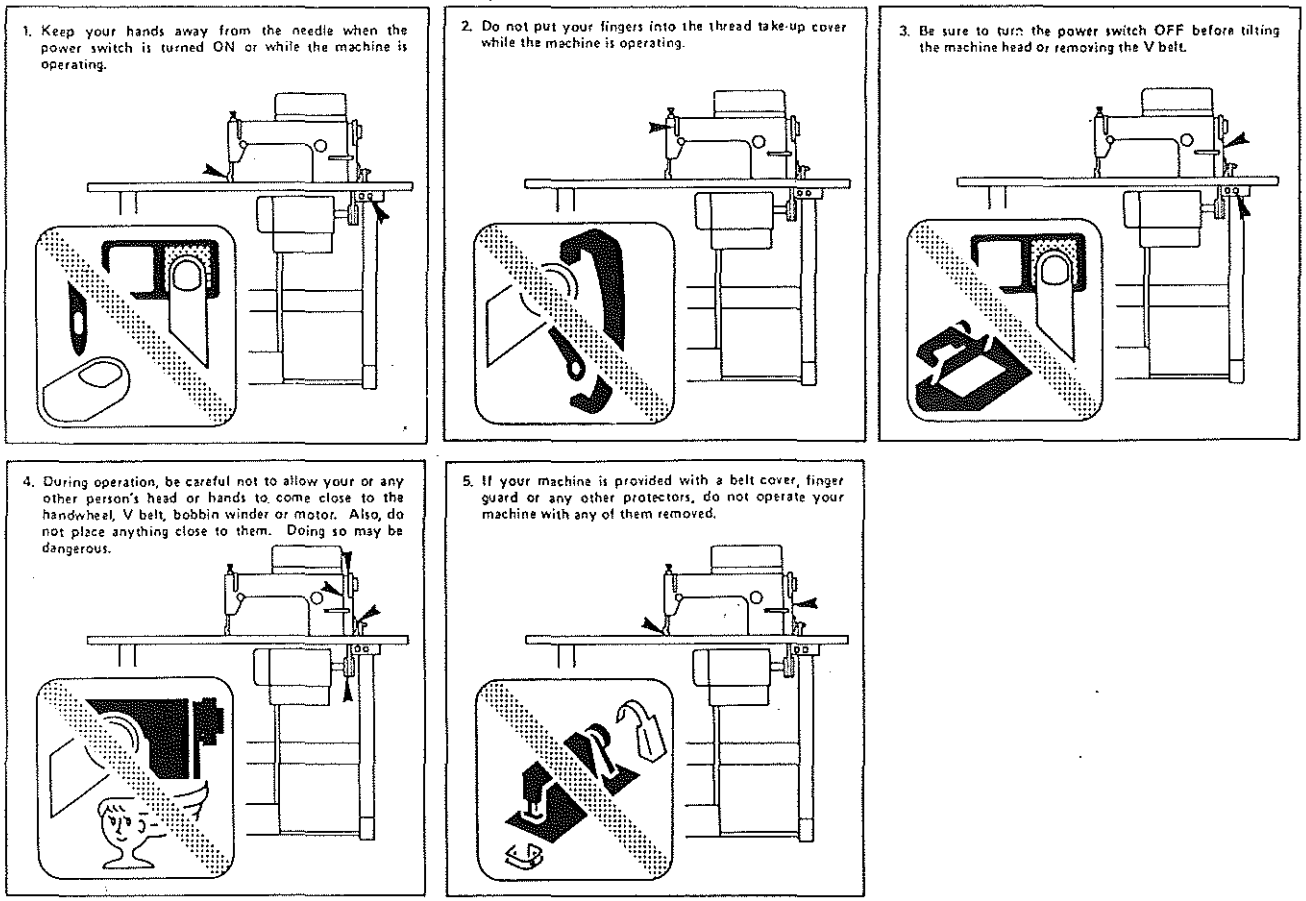
Preface

This Engineer's Manual mainly consists of three sections; "Standard adjustment", "How to adjust", and "Results of improper adjustment". All technical personnel who are responsible for the maintenance and repair of the DLU-5490N and DLU-5490N-7 should carefully read especially "Standard adjustment".Please read this manual carefully before using the units in order to get the most out of them and to enjoy using them for a long time.

CAUTION



BEFORE OPERATION

- Don't run the machine before filling the oil reservoir.
- After setting up your machine, make sure that it runs in the correct direction; lower the needle by turning the handwheel and watch the handwheel's revolution by momentarily switching the power "on" (correct rotational direction of the handwheel: counterclockwise when viewed from the handwheel's end).
- Run the newly installed machine at a speed of 4,000 s.p.m. or lower for the one month.
- Confirm the ratings of your power source by the machine plate stuck on the motor (power voltage, phase etc.)
- Do not wipe the surface of the machine head with lacquer thinner.

CONTENTS

1. SPECIFICATIONS

	Model	DLU-5490N DLU-5490N-7(-7-0B, -7-W0, -7-WB)
1	Sewing speed	4,000spm (normal speed), 4,500spm (max. speed)
2	Stitch length	0 ~ 5mm (0 ~ 0.197")
3	Needle bar stroke	30.7mm (1.209")
4	Top feed amout	0 ~ 8mm (0.315") (depends on gauges used)
5	Needle (standard)	DBX 1 #11
6	Presser foot pressure	4 ~ 5kg (at the standard height of presser spring regulator)
7	Lift of walking foot	3mm (0.118") for the standard version (BB)
8	Lift of presser foot (by knee lifter) (by hand lifter)	Standard: 10mm (0.394"), Max: 13mm (0.512") 4.5 ~ 5.5mm (0.177" ~ 0.217")
9	Gauges (Walking foot, feed dog, throat plate)	DLU-491 Replacement gauges may be used. (standard: BB) DLU-490 Replacement gauges may be used. (Some of them may not be used.)
10	Height of feed dog	0.7 ~ 0.8mm (0.028" ~ 0.031")
11	Feed system	Commonly known as "swing" system
12	Thread take-up	Link type
13	Thread take-up stroke	Standard: 107mm (4.213"), Max. 112mm (4.409") ~ Min. 105mm (4.134")
14	Lubrication	Fully automatic
15	Oil return system	By plunger pump
16	Lubricating oil	New Defrix Oil No. 1
17	Wiper	Provided on 5490N-7-WB
18	Automatic reverse stitching device	Provided on 5490N-7-0B and 5490N-7WB
19	Motor	AC servomotor (applicable only to a version with automatic thread trimmer)
20	Motor output	Rated output: 400W, Max. output: 550W (applicable only to a version with automatic thread trimmer)
21	Power supply	3-phase or single-phase (applicable only to a version with automatic thread trimmer)
22	Solenoid drive power supply	DC-31V (applicable only to a version with automatic thread trimmer)
23	Max. sewing speed limit	200spm~ max. sewing speed (applicable only to a version with automatic thread trimmer)
24	Needle up/down stop switch	The machine usually stops with its needle down. By using this switch, the machine can be stopped with its needle up.
25	Auto-lifer	Available as an option (applicable only to a version with automatic thread trimmer)

2. APPLICATIONS

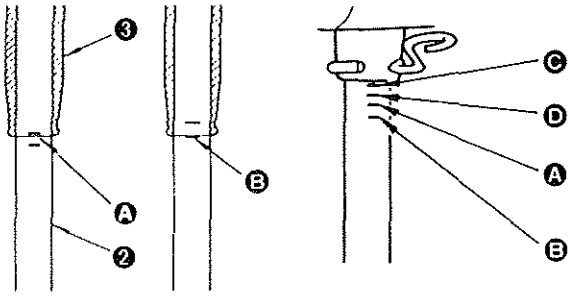
* Extensively used for light- to medium-weight general fabrics in men's suits, ladies' wear, working wear, students' uniforms, etc. The standard threads used with the models are cotton or synthetic fiber threads of #80 to #30.

Needle	Needle system	Thread count	Material	Application
DB x 1	# 9	#80	Georgette, T/C broadcloth	Light-weight materials
	#11	#60	Wool, general broad cloth	Medium-weight materials
	#14	#50	Drill, cotton gaberdine	General fabrics
	#16 #18	#50 ~ #30	Overcoating, denim	Heavy-weight materials

STANDARD ADJUSTMENT

(1) Height of the needle bar

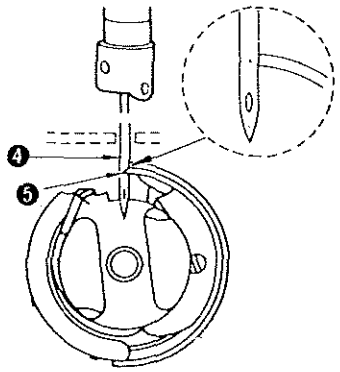
With the needle bar in its lowest position, align the bottom end of the bushing with the appropriate marker line on the needle bar according to the type of needle used.



(For a DB needle)
Align the bottom end of needle bar bushing ❸ with marker line Ⓐ on needle bar ❷ .

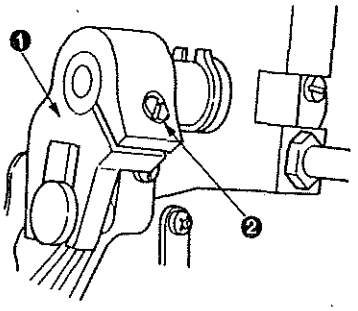
(For a DA needle)
Align the bottom end of needle bar bushing ❸ with marker line Ⓒ on needle bar ❷ .

(2) Timing between the needle and the hook

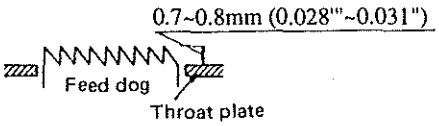


When the bottom end of the lower bushing of the ascending needle bar aligns with marker line (Ⓑ or Ⓓ) on the needle bar, adjust so that hook point ❺ meets the center of needle ❹ . At this time, a clearance of 0.04 (0.002") to 0.1mm (0.004") should be provided between the needle and the hook point.

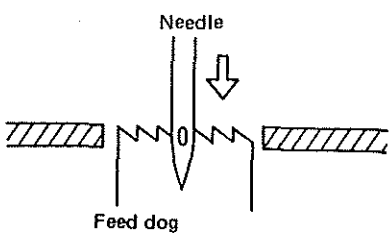
(3) Height of the feed dog



When the feed dog is in its highest position, the top edge of the feed dog is 0.7 to 0.8mm (0.028" to 0.031") above the throat plate surface.



(4) Feed timing

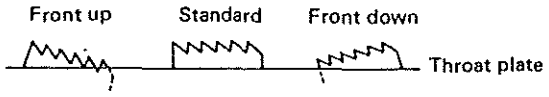


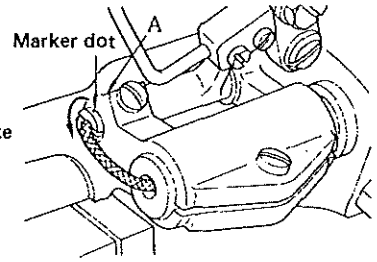
When the front 1st or 2nd tooth of the feed dog is flush with the throat plate surface, the upper end of the eyelet of the descending needle should be flush with the throat plate surface.

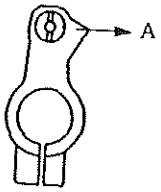
HOW TO ADJUST	RESULTS OF IMPROPER ADJUSTMENT
○ Loosen the needle bar clamp screw to perform adjustment.	○ Changing the needle bar height disturbs the feed and hook timings. So, avoid altering the needle bar height unless the type of needle has been changed.
○ Loosen the three hook setscrews to perform adjustment. (A version without the automatic thread trimmer has two setscrews.)	○ If the clearance between the needle and hook blade point is too large, stitch skipping or thread breakage may frequently occur. ○ If the clearance between the needle and hook blade point is too small, the needle may scratch the hook blade point. ○ If the hook timing is advanced, tighter stitches will be produced, but stitch skipping may often occur. ○ A delayed hook timing is effective for preventing balloon stitches and stitch skipping. ○ For a version without the automatic thread trimmer, use the lowest marker line to make adjustment.
○ Loosen screw ❷, and move driving forked crank ❶ to make adjustment. (The distance between the top and bottom ends of a tooth of the standard feed dog (B1613-450-A00) is about 0.8mm (0.031"). So, this may be used for easier adjustment.)	○ If the feed dog is too high, the needle may sway and possible bend or break. On the contrary, if the feed dog is too low, insufficient feed power may result, often causing stitch jam. Increasing the feed dog height adds to feed power, but at the same time, chances of puckering may also increase.
○ Loosen the two setscrews of the feed eccentric cam.	○ If the feed dog descending timing is advanced, chances of thread splitting, balloon stitches will be reduced, however, stitches will be loose.

(5) Tilt of the feed dog

The standard tilt of the feed dog is obtained by aligning the marker dot on the feed bar shaft with point A of the feed rocker.





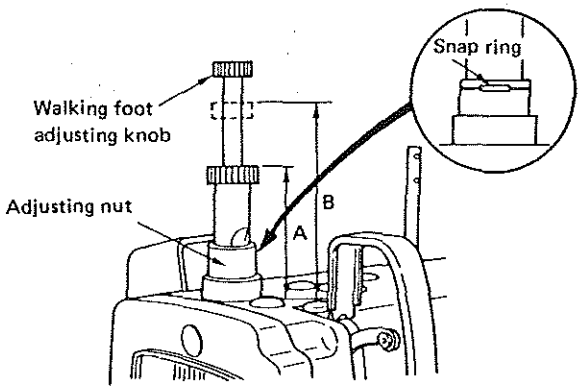


[Note] The tilt of the feed dog of the DLU-5490N cannot be adjusted.

(6) Walking foot pressure and presser foot pressure

	A	B
Type of gauge	Height of presser spring regulator	Height of adjusting knob
BA, BB, BC	43	50
D	43	50
E	43	50
J	43	50
L	43	50
M	43	50
N	43	50
P	43	50
S	43	50

(Standard adjustments)



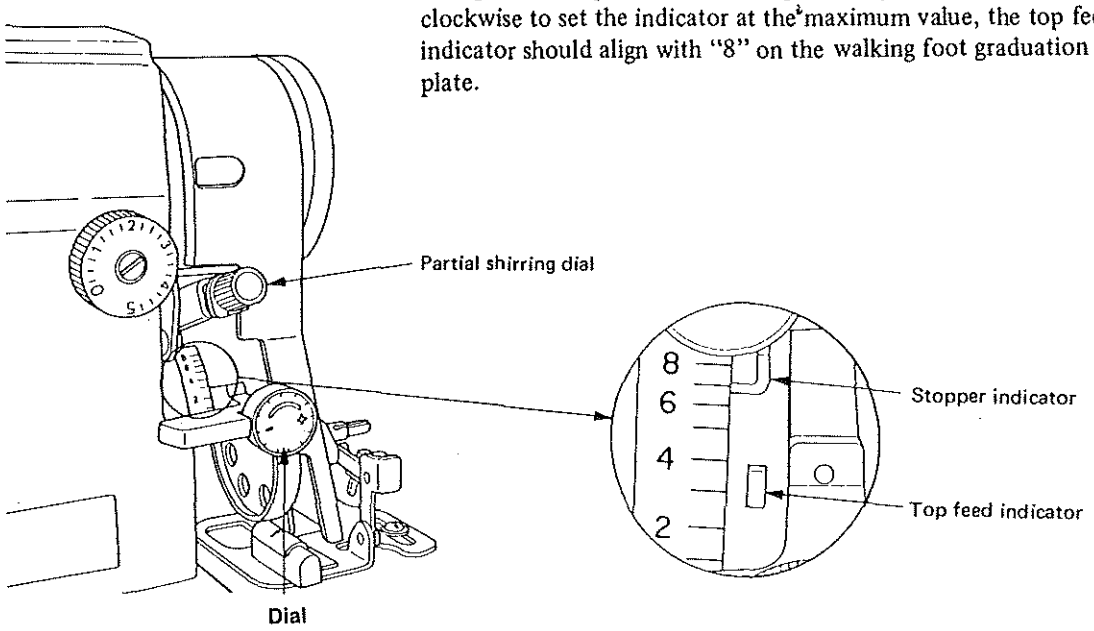
[Note 1] The suitable pressures of the walking foot and presser foot vary, depending on the type of material. So, properly adjust the pressures for each type of material.

[Note 2] Distance B represents the height of the walking foot adjusting screw when the walking foot adjusting knob is depressed until its top end is engaged with the pin of the walking foot adjusting screw. If you do not have a scale etc., take the position where the white marker line on the presser spring regulating nut is aligned with the snap ring (colored in silver) as a reference for distance B. If the walking foot adjusting screw is excessively tightened, the durability of the slot in the presser bar base may be impaired. So be careful.

HOW TO ADJUST	RESULTS OF IMPROPER ADJUSTMENT
Loosen the setscrew of the feed bar shaft, and turn the feed bar shaft to perform adjustment.	○ Setting the feed dog with its front up is effective for preventing puckering. Setting it with its front down reduces chances of fiber breakage when sewing knit.
○ A : Turn the presser spring regulator clockwise to increase the pressure, or counterclockwise to decrease it. ○ B : Bring the presser foot down. With the presser foot sole in contact with the throat plate surface, push the walking foot adjusting knob down, and turn the walking foot adjusting screw clockwise to increase the walking foot pressure, or counterclockwise to decrease it.	○ The standard adjustments depend on the type of material. The pressures of the walking foot and presser foot are closely related to the shirring capability of the machine. When the walking foot pressure is kept constant, the shirring capability is enhanced as the presser foot pressure is decreased. When the presser foot pressure is kept constant, the shirring capability is enhanced as the walking foot pressure is increased. If the presser foot pressure is too low, however, the feed power will be decreased, leading to stitch jam. If the walking foot pressure is too high, the walking foot may scratch the material. As the sewing speed is increased, the feed power reduces. So, increase the presser foot pressure when sewing at high speed.

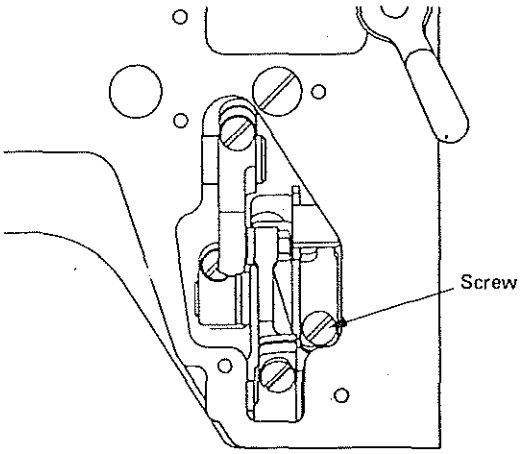
(7) Relationship between the walking foot graduation plate and indicator

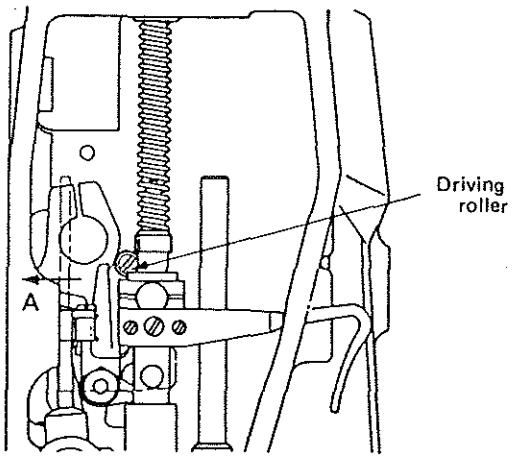
With the partial shirring stopper indicator set at "8" on the walking foot graduation plate, when the top feed adjusting knob is turned clockwise to set the indicator at the maximum value, the top feed indicator should align with "8" on the walking foot graduation plate.



(8) Top feed vertical timing

With the dial set at "3" and the top feed indicator at "3", turn the handwheel by hand in the normal direction. The moment the presser foot sole touches the throat plate surface, the top feed dogs should start to go up.

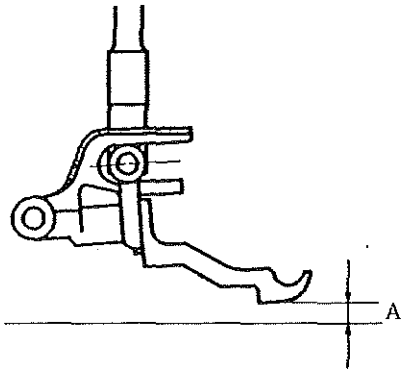




HOW TO ADJUST	RESULTS OF IMPROPER ADJUSTMENT
○ With the indicator set at the maximum value, loosen the screw at the rear of the machine arm. Move the plate to align the indicator with "8" on the plate. Retighten the screw.	○ If the relationship between the walking foot graduation plate and the indicator is not correct, it is difficult to know a proper to feed amount.
○ Remove the side cover from the back of the sewing machine, and loosen the screw. Turn the handwheel until the presser foot sole touches the throat plate surface. Lightly press the driving roller of the walking foot driving arm (front) in direction A, and securely tighten the screw of the walking foot driving arm. After adjustment, check the walking foot dog for proper motion. [Precaution] The top feed vertical timing is factory-adjusted to the standard timing. The timing may be somewhat disturbed when (1) the bottom feed timing has been changed, (2) the lift of the bottom feed dog has been changed, or (3) a gauge has been changed. Avoid adjusting the top feed vertical timing as much as possible.	○ If the walking foot and feed dog start to go up before the presser foot comes in contact with the throat plate, shirring amount will decrease. If they start to go up after the presser foot comes in contact with the throat plate surface, the upper cloth will be pushed back, resulting in decreased shirring amount. In the former case, the presser bar may bind with consequent reduced feed power.

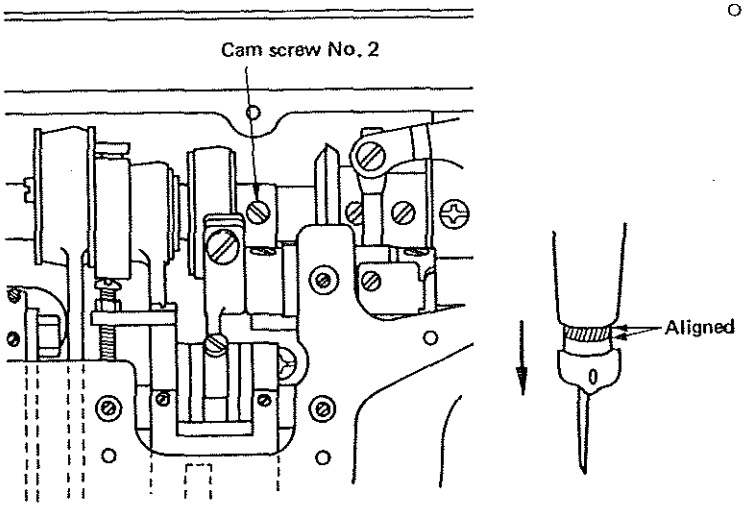
STANDARD ADJUSTMENT

Max. lift A of each type of walking foot is as shown below. If the max. lift is significantly different from the following values, recheck the adjustment.



BA ~ BC types E types	Approx. 3mm (0.118")
D types	Approx. 1.6mm (0.063")
J M types P	Approx. 2.7mm (0.106")
S types	Approx. 2.4mm (0.094")

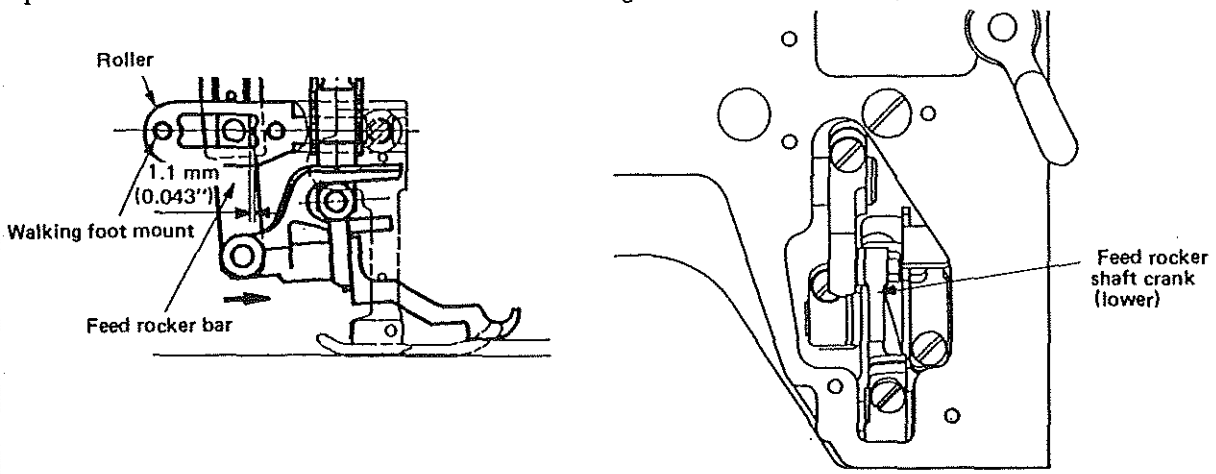
(9) Top feed horizontal timing

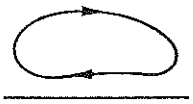
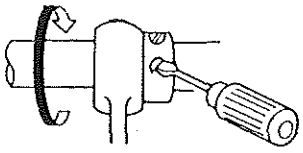
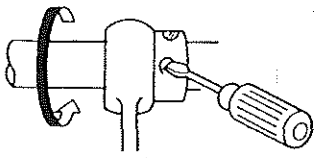


- With the needle bar in its highest position, the cam screw No. 2 should be slightly below the main shaft axis.
  The cam screw No. 2 reaches the main shaft axis when the color boundary line of the descending needle bar aligns with the bottom end of the needle bar lower bushing when the handwheel is turned in the normal direction.

(10) Longitudinal position of the walking foot

With the top feed amount set at the maximum (8 mm (0.315")), a clearance of 1.1 mm (0.043") should be provided between the front end of the slot in the walking foot mount and the roller.



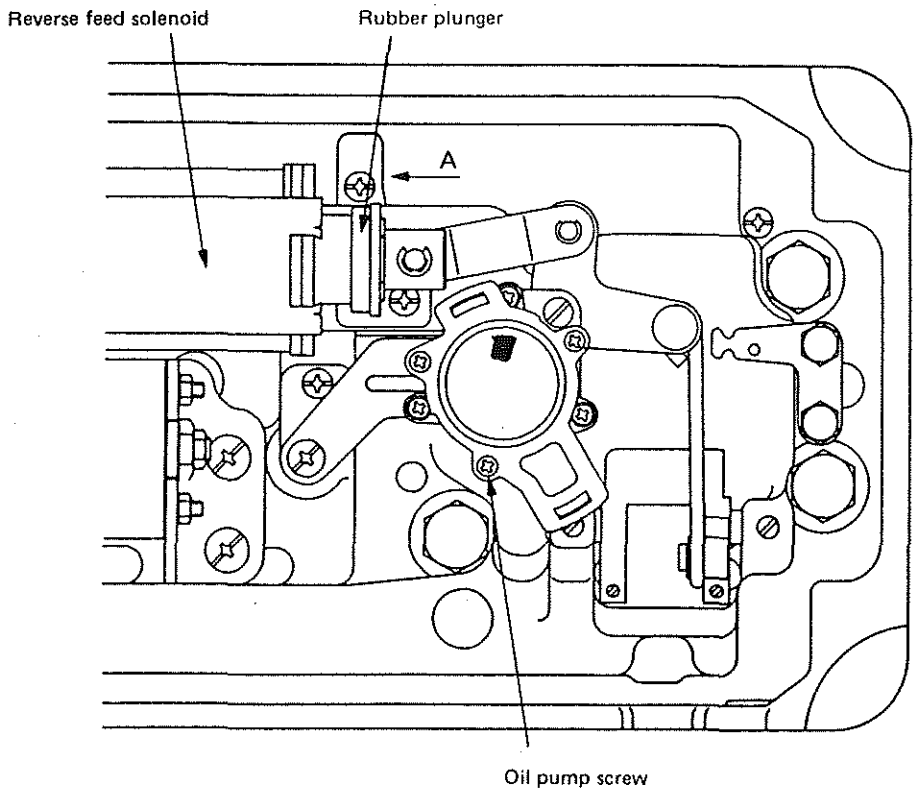
HOW TO ADJUST	RESULTS OF IMPROPER ADJUSTMENT
	○ If the walking foot goes up too high, the needle bar may hit the walking foot when the presser foot rides over an overlapping section. Also, the path of the walking foot will be as shown in Fig. 1, which means reduced walking foot feed power. If the walking foot does not go up high enough, its path will be as shown in Fig. 2. As a result, the walking foot may damage or push back the material.  (Fig. 1)  (Fig. 2)
○ Loosen the screw No. 2 first, and then the screw No. 1. With the screwdriver applied to the screw, slowly turn the handwheel with care taken not to cause the cam to move. Loosely tighten the screw No. 2 to adjust the top feed horizontal timing. After adjustment, securely tighten the screws.  (Fig. 1)  (Fig. 2)	○ If the horizontal feed timing of the walking foot is earlier than the bottom feed, the walking foot pulls the upper cloth back before the feed dog completes its feed motion, often causing scratches on the material or poor shirring. On the contrary, if the timing is too late, the walking foot fails to feed the upper cloth when the feed dog feeds the material, often causing scratches on the material. (Fig. 1) The horizontal feed timing of the walking foot will be delayed. (Fig. 2) The horizontal feed timing of the walking foot will be advanced.
○ Turn the top feed adjusting knob to set the top feed amount at the maximum ("8" on the top feed scale). Turn the handwheel until the horizontal feed bar reaches its front end position (shown in the direction of the arrow), then loosen the screw of the feed rocker shaft crank (lower) to release the feed rocker bar. Move the feed rocker bar forward or backward to adjust the clearance between the slot in the walking foot mount and the roller to 1.1 mm (0.043"). After adjustment, tighten the screw.	○ If the longitudinal position of the walking foot is inaccurate, the top feed components may interfere with each other. After adjustment, set the top feed amount at the maximum, and check the components for any contact between them.

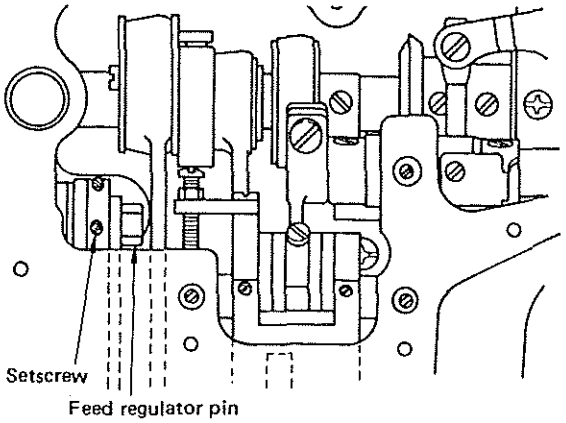
(11) Normal and reverse feed pitches

The ratio of the normal feed pitch to the reverse feed pitch is 90 to 105%.

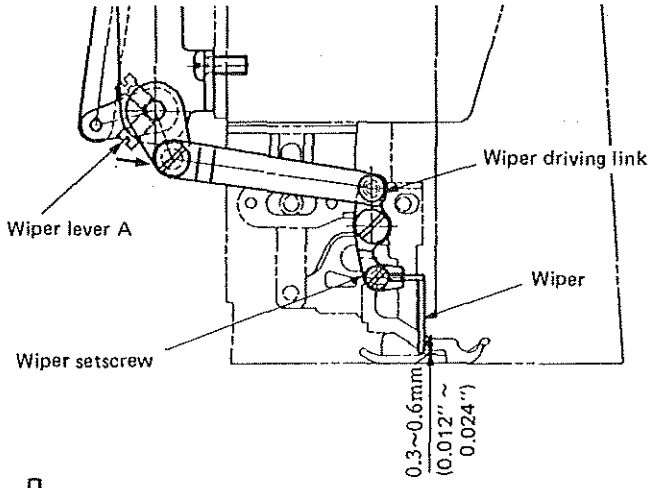
(12) Position of the reverse feed solenoid

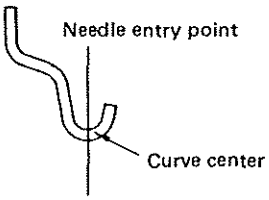
With the stitch length dial set at 3 (0.118") to 3.5mm (0.138"), press the feed lever down to the reverse feed side. When the plunger is pushed in direction A, the rubber plunger should come in contact with the end surface of the solenoid.

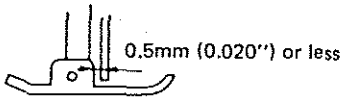


HOW TO ADJUST	RESULTS OF IMPROPER ADJUSTMENT
○ Loosen the setscrew of the feed regulator pin, and turn the feed regulator pin using a hexagonal spanner to perform adjustment.  	○ Incorrect normal & reverse feed pitches will cause defective stitches at the time of reverse feed stitching. **Precaution:** If there is a significant difference between the top and bottom feed amounts, accurate adjustment cannot be made. So, when making this adjustment, set the ratio of top feed to bottom feed to 1:1.
○ Loosen the oil pump screw about a half turn, and slightly loosen the oil pump support using a spanner so that the solenoid can be moved. Loosely tighten the solenoid setscrew, and lightly tap the solenoid to make adjustment. After adjustment, check the plunger for smooth motion. Securely tighten the oil pump support solenoid setscrew, and then tighten the pump setscrew. **Precaution:** Never loosen the oil pump support more than necessary.	○ If the solenoid is positioned too much to the left, the reverse feed pitch will be 3mm (0.118") or less. If the solenoid is positioned too much to the right, the solenoid will fail to work properly, leading to uneven reverse feed stitch lengths.

(13) Position of the wiper



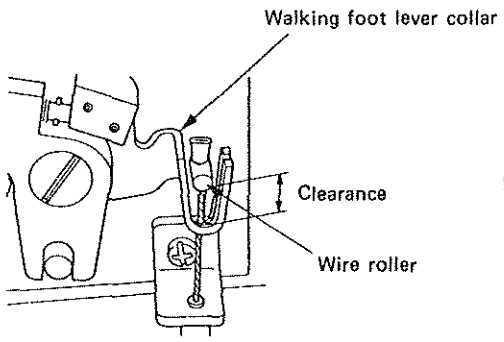




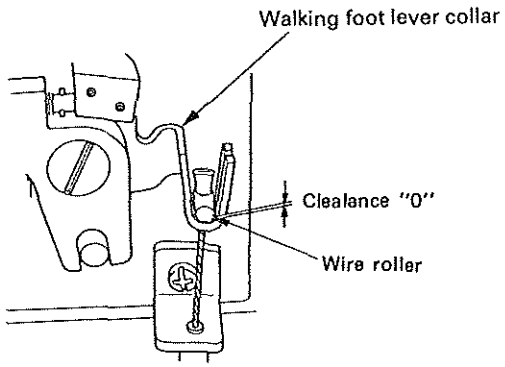
1) The curve center of the wiper tip aligns with the center of the needle entry point.
2) When wiper lever A is pressed in the direction of the arrow, a clearance of 0.3 (0.012") to 0.6mm (0.024") is provided between the walking foot and the bottom end of the wiper.
3) The clearance between the wiper and the presser foot is 0.5mm (0.020") or less.

(14) Position of the PF-6 partial shirring stopper

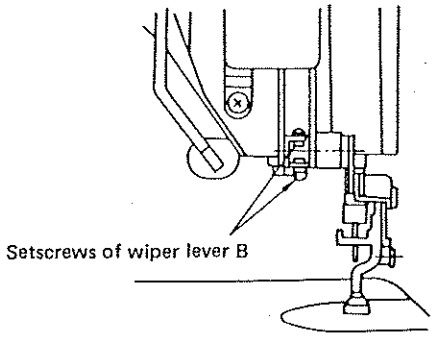
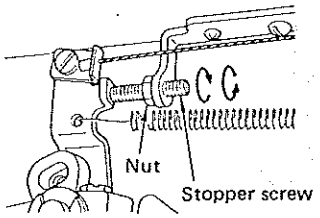
When the feed lever is set to the reverse feed side with the stitch length dial set at "3" and the top feed scale at "3", the clearance between the walking foot lever collar and the wire roller is zero.



(When the normal feed pitch is set to "3")

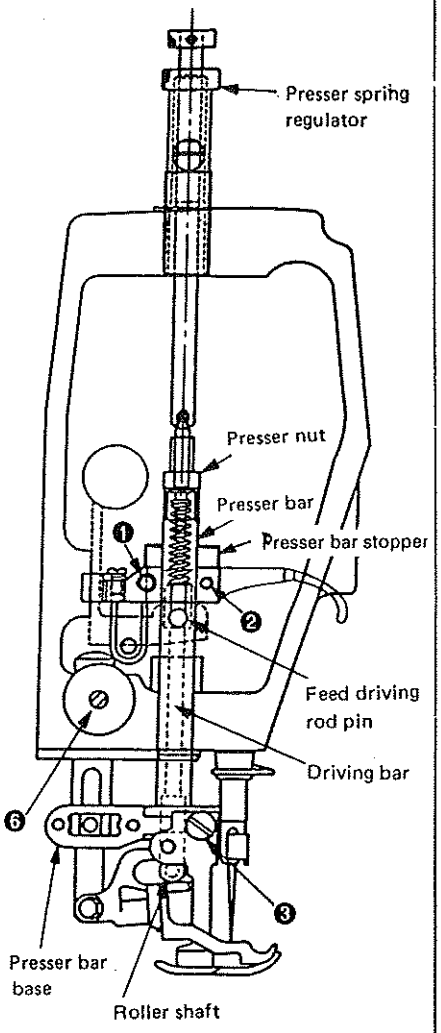
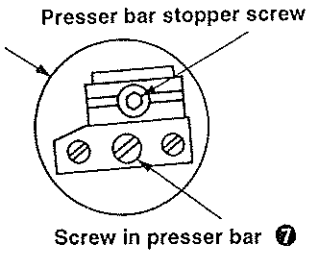


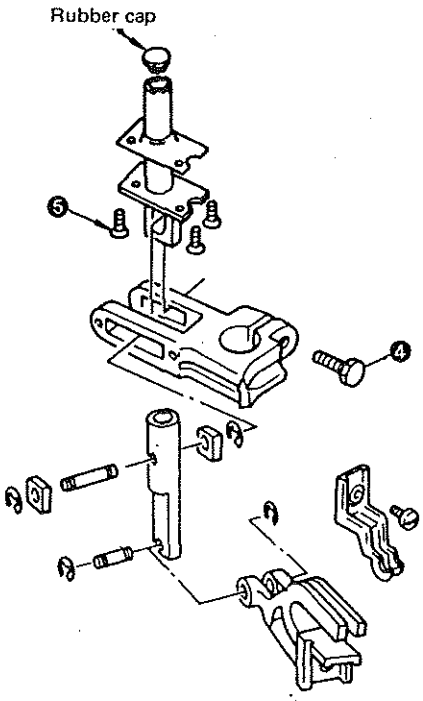
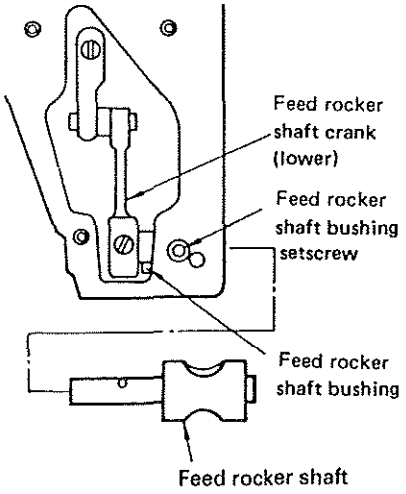
(When the reverse feed pitch is set to "3")

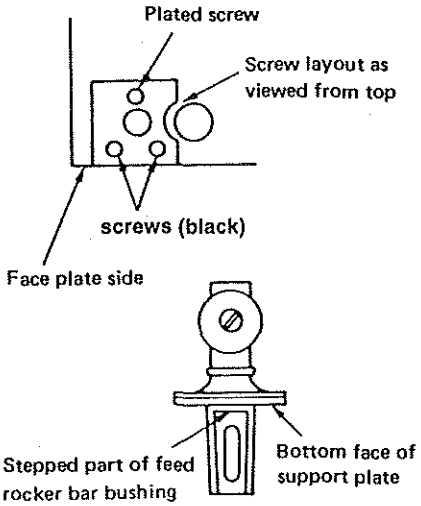
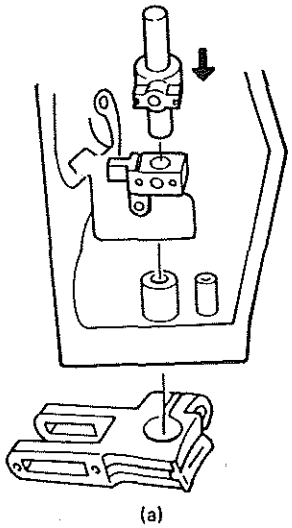
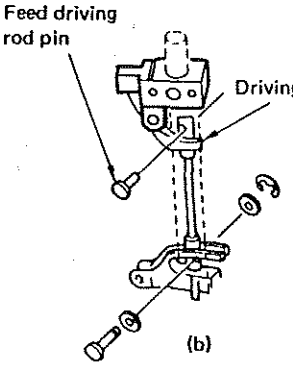
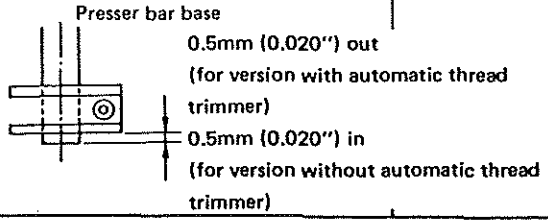
HOW TO ADJUST	RESULTS OF IMPROPER ADJUSTMENT
○ Loosen the setscrews of wiper lever B, and press wiper lever A in the direction of the arrow. With wiper lever A pressed, tighten the setscrews of wiper lever B. If the wiper hits the walking foot, bend the wiper so that it does not touch the walking foot.  	○ If the wiper is improperly positioned, the wiper may hit the walking foot or needle bar.
○ Move the stopper screw under the table forward or backward to adjust the clearance to zero, then lock the nut.  * If the feed stitch used is limited to 3mm (0.118") or less, the knee pad (or pedal) play can be reduced by setting the reverse feed control lever for the reverse feed and by performing the above adjustment.	○ If the clearance between the wire roller and the walking foot lever collar is too large, the partial shirring pedal (or knee pad) will have a large play, preventing easy operation. If the contact between the two parts is too tight, the top feed amount for reverse feed stitching will be reduced, possibly causing scratches on the material.

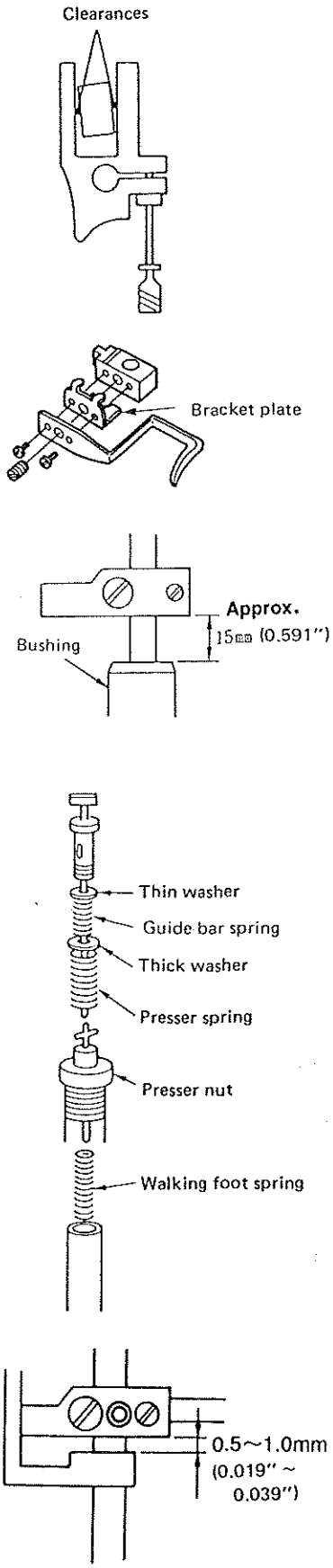
4. DISASSEMBLING AND REASSEMBLING PROCEDURES

(1) Disassembling and reassembling the face and top feed components

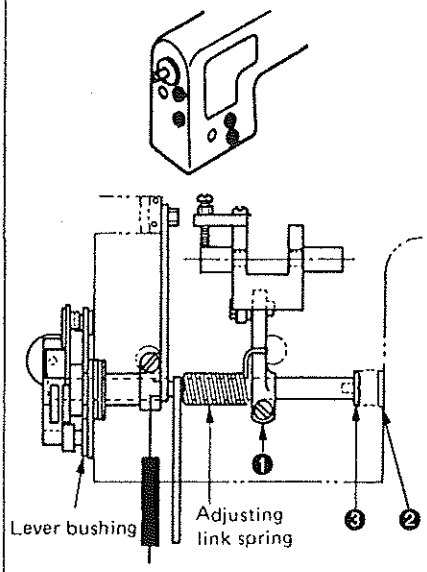
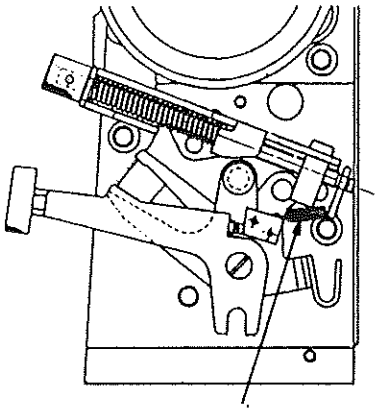
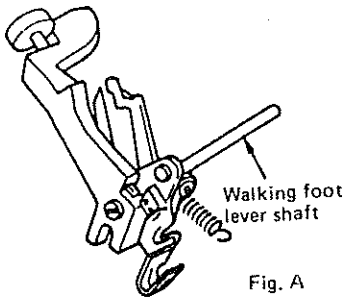
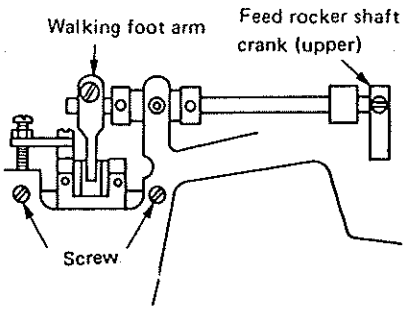
DISASSEMBLING PROCEDURE	REFERENCE DIAGRAM -	PRECAUTIONS
1. Remove the presser spring regulator. (The guide bar has been installed.) 2. Remove the presser nut. Remove the spring from the walking foot. 3. Loosen screws ❶ and ❷ in the presser bar position bracket. Remove the thread guide and filler plate from the presser bar position bracket. 4. Detach the needle. Loosen set-screw ❸ , and remove the presser foot. 5. Remove the snap ring from the roller shaft, and remove the roller and the roller shaft. 6. Loosen the presser bar base screw ❹ and pull the presser bar upward to remove the pin. After the pin has been drawn out, keeping the presser bar held pulled up, press up the feed driving rod so that it is drawn out from above. Loosen presser bar position bracket and draw the presser bar upward, and the presser bar and the presser bar position bracket will come off. 7. Take out the rubber cap, remove three setscrews ❺ , and loosen set-screw ❻ . This will allow the feed rocker bar bushing to be pulled down and removed.		○ If the presser nut is tight and cannot be loosened easily, apply a cloth to the knurled part of pliers, and turn the nut. ○ When removing the thread guide from the presser bar position bracket, take care not to damage the thread guide. ○ Never loosen the presser bar stopper screw. Remove it together with the presser bar. (The presser bar stopper screw works as a reference when assembling the relevant components.) 

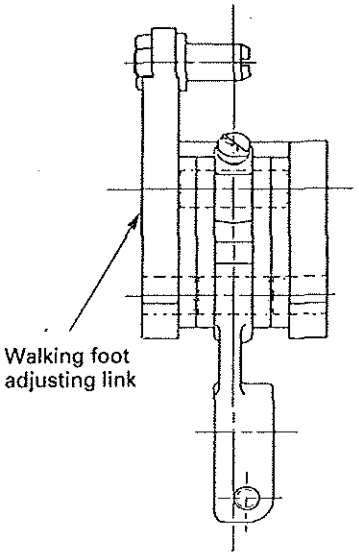
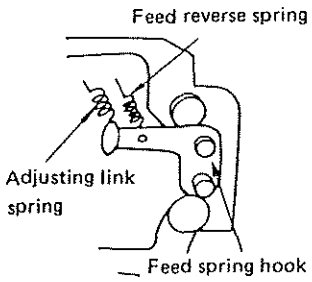
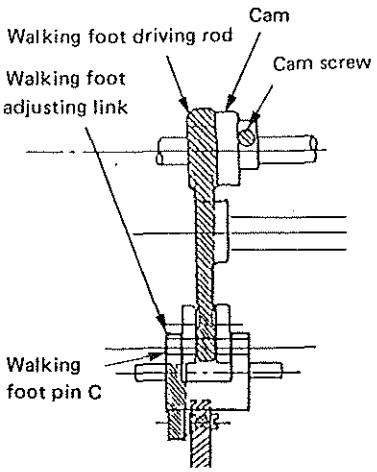
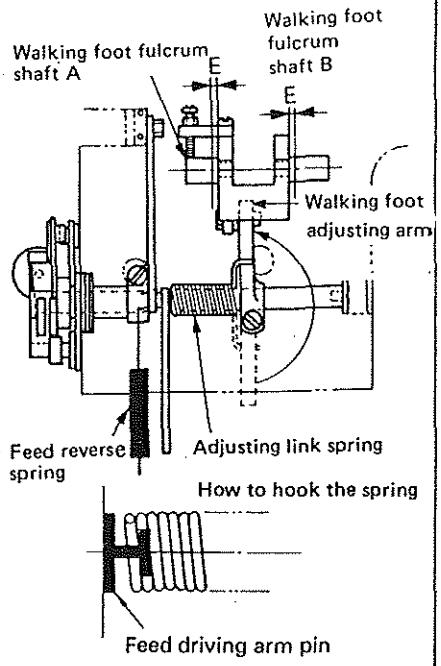
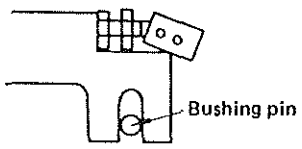
DISASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
8. The components of the feed rocker bar bushing can be disassembled by removing the snap ring as illustrated. However, it is advisable to disassemble only the necessary components for easier reassembling.		○ The gasket is in close contact with the machine arm, so use great care when removing it, otherwise it may crack. ○ The gasket has been attached to the feed rocker bar bushing with adhesive, so they cannot be separated. ○ Be careful not to loose the roller snap ring, the feed driving rod roller snap ring, and the walking foot presser snap ring. If the snap rings has been scratched or opened when removing them, do not use them.
9. The feed rocker shaft can be pulled out to the front and removed by loosening the setscrew of the feed rocker shaft crank (lower).		

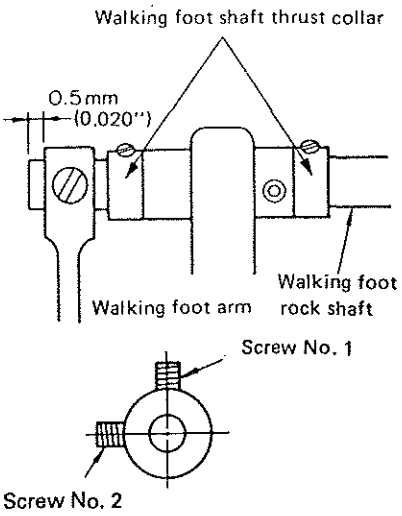
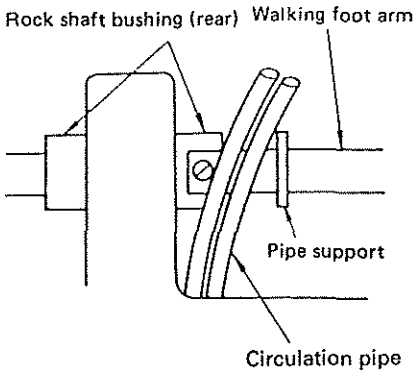
ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
○ Assembling the feed rocker components Put the top feed rock shaft into the top feed rock shaft bushing, remove their thrusting play by adjusting the feed rocker shaft crank (lower), and fix them for preliminary installation. Install the feed rocker bar bushing unit from the bottom, and tighten the three setscrews of the support plate. Then, fit the stepped part of the feed rocker bar bushing to the bottom face of the support plate, and securely tighten the setscrew of the feed orcker bar bushing.		Be sure that the lubricating hole in the feed rocker shaft faces exactly upward. Of the three support plate setscrews, two screws on the operator's side are black.
○ Assembling the presser bar components Put the presser bar in presser bar base, place the presser bar position bracket on the lifting plate and fit them in the slit on the machine arm. Position the presser bar stopper screw so that it faces frontward, insert the presser bar in the presser bar base so that the top end of the presser bar projects approximately 0.5 mm (0.020") under the bottom of the base. Then, put the feed driving rod in the presser bar. Insert the feed driving rod pin into the slot in the feed driving rod and also into the slot in the presser bar and the upper hole in the feed driving rod so that the pin is placed on the pushing arm as illustrated (b). Put the feed driving rod on the forked part of the walking foot mount, install the roller and the roller shaft, and fix them using the snap ring. Screw the presser foot onto the presser bar base, check the needle entry point, and tighten the screw. For a version with the automatic thread trimmer, assemble the components so that the end of the presser bar protrudes 0.5 mm (0.020") from the bottom face of the presser bar base. For a version without the automatic thread trimmer, assemble them so that the end of the presser bar is 0.5mm (0.020") above the bottom face of the presser bar base.	 (a)  (b) 	Ascertain that the walking foot base is not pushed against the feed driving rod. If the needle entry point is bad, correct it by adjusting the position of the feed rocker bar bushing. After adjustment, be sure to securely tighten the screw of the bushing.

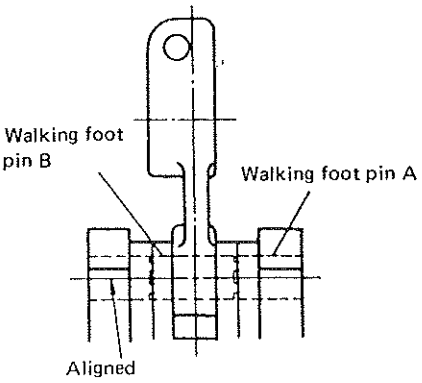
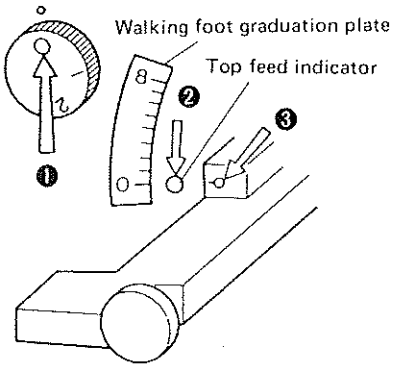
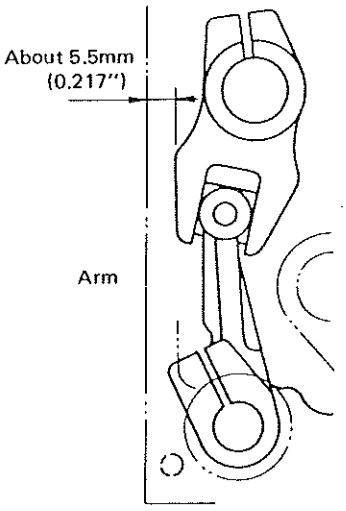
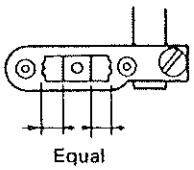
ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
When tightening the screw of the presser bar base, be sure that the clearances on both sides are equal as illustrated. Apply the bracket plate to the presser bar guide bracket, and attach the presser bar thread guide in parallel to the presser bar guide bracket. Then, adjust the position of the presser bar position bracket so that it is spaced approximately 15 mm (0.591")from the top face of the presser bar bushing. Fit the presser bar position bracket support plate in the slit on the presser bar stopper and tighten the presser bar position bracket clamping screw. At this time, the presser foot should be in contact with the throat plate. Put the walking foot spring in the presser bar, and tighten the presser unit. Lastly, install all the presser spring regulator, washers and springs. The lift of the presser foot ranges from 4.5 (0.177") to 5.5mm (0.217"). When the hand lifter is lowered, the clearance between the bottom face of the support plate and the lifting lever should be 0.5 (0.020") to 1.0mm (0.039"). If the clearance is not within this range, check the assembly dimensions. The height of the BB-type walking foot is 2.7 (0.106") to 3.2mm (0.126"). If the height is not within this range, correct it according to the step for adjusting the walking foot height.		○ When the walking foot is raised and released, it should come down onto the throat plate surface. If it does not come down, it is because the screw has been overtightened. Properly retighten the screw. ○ Note that the presser bar turns when the presser bar guide bracket is tightened. ○ **In order to eliminate twist of the presser bar, it is very effective to keep your hand away from the presser bar base components and loosen the clamping screw in the presser bar base and then re-tighten it using a screwdriver.** ○ (When checking, be sure to turn the walking foot adjusting knob counterclockwise, not to apply any tension to the walking foot spring, and not to install the presser spring.) Loosen the presser bar base setscrew once, then retighten it. Then the presser bar base will come down smoothly without jarring.

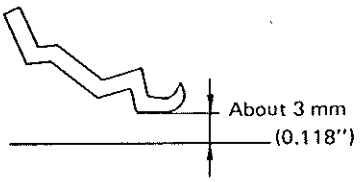
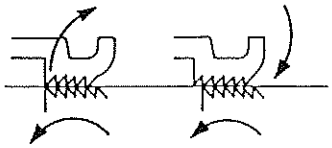
(2) Disassembling and reassembling the top feed drive mechanism

ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
○ Remove the side plate and the four rubber caps illustrated. Remove rubber cap ❷ from the lever, and loosen setscrew ❸. Put the screwdriver in the lower hole, and loosen setscrew ❶. Then, remove the spring from the stopper mount and the stopper indicator. Insert the screwdriver between the lever bush and stopper indicator, and pull them with the screwdriver. This will detach the lever from the lever bush as illustrated in Fig. A. The adjusting link spring and the top feed converting arm can be removed.	 	Be careful not to break the rubber ring. Do not remove the lever bushing from the arm.
○ Loosen the feed rocker shaft crank (upper)and the walking foot arm set-screw, then loosen the four thrust collar setscrews. This will allow the walking foot rock shaft to be drawn off to the rear. When the screws are loosened, and the shaft is dislocated, the adjusting link can be removed. Loosen the screw and remove the walking foot pin C. By so doing, the walking foot adjusting link can be separated from the walking foot driving rod.	 Fig. A 	

ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
○ Assembling the reverse feed shaft Remove the reverse feed control lever and the adjusting link spring, then loosen the cam screw. ○ Assemble the walking foot adjusting link as illustrated at right. Adjust walking foot fulcrum shafts A and B to provide equal lateral clearances (E) between the walking foot adjusting link and the arm, the fix the shafts.		 It is advisable to release the spring only on the feed spring hook side for easier installation that follows.
○ Connect the walking foot driving rod with the walking foot adjusting link, using walking foot pin C.		
○ With the reverse feed shaft installed as illustrated in Fig. A, insert the shaft into the reverse feed bushing. Let the end of the shaft project about 20 mm (0.078") from the reverse feed bushing, attach the adjusting link spring, and install the walking foot adjusting arm as illustrated by the broken line. Fix. the lever shaft using the thrust screw. Hook the left end of the adjusting link spring onto the feed driving arm pin as illustrated at right.	 	○ When inserting the walking foot lever shaft into the reverse lever bushing, be careful not to break the rubber ring.  ○ Put the bushing pin in the forked part of the lever.

ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
Turn the walking foot adjusting arm in the direction of the arrow, fit the forked part onto the adjusting link pin, and fix them for preliminary installation.		After tightening them for preliminary installation, the walking foot adjusting arm should be gradually turned. This can be easily done by tilting the machine head so that the side plate faces upward.
○ Assembling the walking foot shaft Insert the walking foot rock shaft into the arm, walking foot arm, walking foot shaft thrust collar, rear bushing, walking foot shaft thrust collar, front bushing and the feed rocker shaft crank (upper) in the order they are listed.		
Make the walking foot shaft project about 0.5mm (0.020") from the left end of the walking foot arm, and fix the walking foot shaft trust collar. When tightening the screws, be sure that screw No. 2 faces in the opposite direction from the side plate, and tighten the screw No. 1 so that it does not come in contact with the pipe support.		Be sure that the ground surface of the thrust collar faces the bushing. Pipe support works to prevent the circulation tube from coming in contact with the screw.
○ Fix the circulation pipe on the bushing side, using the tube support. ○ Attach the walking foot rock shaft hole cap from the rear of the machine arm. Install the pulley. ○ Set the bottom feed pitch to 0mm (0").		

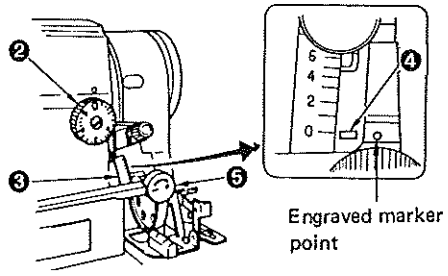
ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
○ Set the top feed pointer at "0" on the walking foot graduation plate, align walking foot pin A with walking foot pin B, and tighten the walking foot adjusting arm. ○ Tighten the walking foot arm. ○ When the needle bar is in its highest position, screw No. 2 of the cam should be slightly lower than the axis of the main shaft. When the color boundary line on the descending needle bar aligns with the bottom end of the needle bar lower bushing when the hand-wheel is turned in the normal direction, the cam screw No. 2 meets the axis of the main shaft. ○ Install the reverse feed control lever spring, adjusting link spring and stopper indicator spring. ○ Set the partial shirring dial at "8", bottom feed dial at "3" and top feed dial at the maximum value, "8". ○ Tighten the feed rocker shaft crank (upper) so that, when the end of the top feed shaft has come closest to the side plate, a clearance of about 5.5mm(0.217") is provided between the feed rocker shaft crank (upper) and the arm (side cover mounting surface).	  	Before making this adjustment, be sure that the positions of ❶ , ❷ and ❸ are as illustrated. **(Caution)** **If the walking foot adjusting arm is not securely fixed, the screw may loosen when auto-reverse function works.** **Be sure to fix the walking foot adjusting arm firmly using a large screwdriver.** At this time, be sure that the space on either side of the roller in the walking foot mount is equal. 

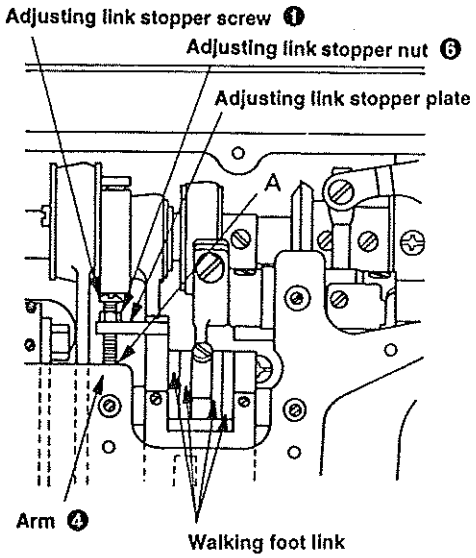
ASSEMBLING PROCEDURE	REFERENCE DIAGRAM	PRECAUTIONS
○ How to adjust the trajectory Make sure that the walking foot is about 3 mm (0.118″) above the throat plate. Set both top and bottom feed pitches at 3 mm (0.118″). (See page 7-(8))		
Position and fix the cam so that the feed dog comes in contact with the presser foot sole when the advancing walking foot touches the throat plate, and the feed dog starts to go down from the throat plate surface when the walking foot starts to go up.		For the standard position of the cam, refer to Standard Adjustment (9).

Caution with respect to the adjusting link stopper screw of DLU-5490N or -5490N-7

If the projecting amount of the adjusting link stopper screw, when the DLU-5490N or-5490N-7 performs reverse feed stitching, the walking foot adjusting pin may come off the forked portion of the walking foot adjusting arm or the walking foot adjusting arm may interfere with the adjusting link stopper screw resulting in failed adjustment of the walking foot mechanism or preventing the feed lever from returning to the home position. So as to avoid these troubles, take care of the following.

[Check whether the adjusting link stopper has been improperly adjusted.]





1 How to check

1. Set stitch dial ❷ to 0 (zero). Adjust the top end of stopper indicator ❹ to 0 (zero) on walking foot graduation plate ❸ by turning walking foot adjusting dial ❺.

(Caution)
At this time, if the marker point on the feed lever significantly deviates from the graduation on walking foot graduation plate ❸, suppose that the feed mechanism has not been properly adjusted. So, it is necessary to properly re-adjust the feed mechanism.

2. Turn stitch dial ❷ to position 3.
3. Press feed lever down by hand until it will go no further to ascertain that there is no clearance in portion A between adjusting link stopper screw ❶ and surface of arm ❹.
   At this time, also check that top surfaces of four walking foot links are all leveled. If there is a clearance in portion A, troubles may occur. So, re-adjust to remove the clearance following the adjusting procedure described below.

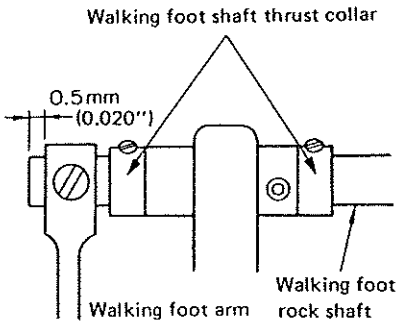
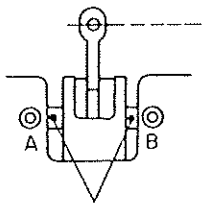
2 How to adjust

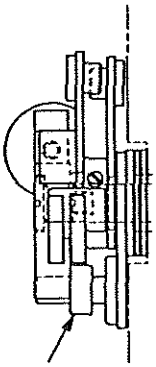
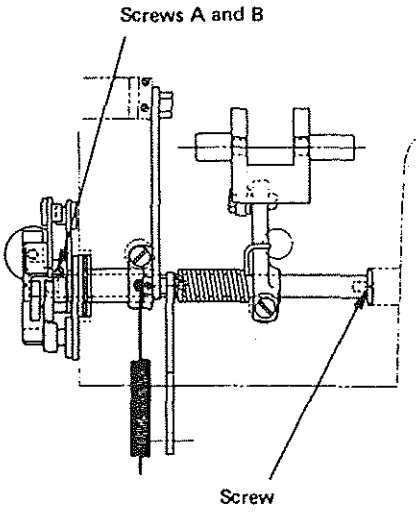
Loosen nut ❻ in the adjusting link stopper. Set stitch dial ❷ to 3. Keeping the feed lever held fully depressed by hand, tighten adjusting link stopper screw ❶ to allow it ❹ to come in contact with machine arm ❹ (no clearance exists in portion A) and firmly tighten nut ❻.

(Caution)
Carefully remember that the reverse feed amount of the walking foot and the reverse feed amount under the automatic reverse feed stitching mode is 3 mm at the maximum.

5. HOW TO REMOVE PLAY

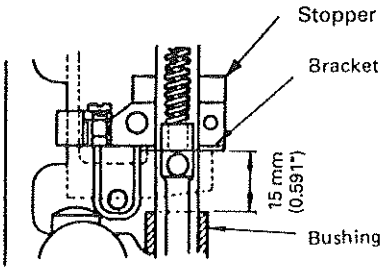
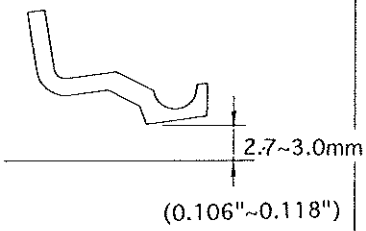
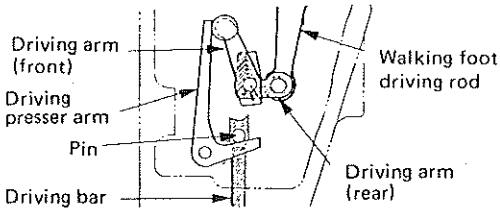
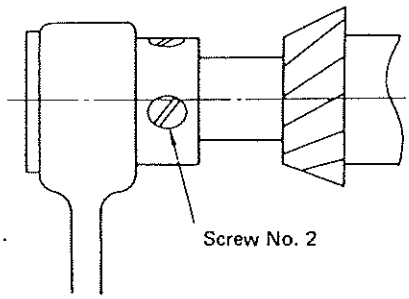
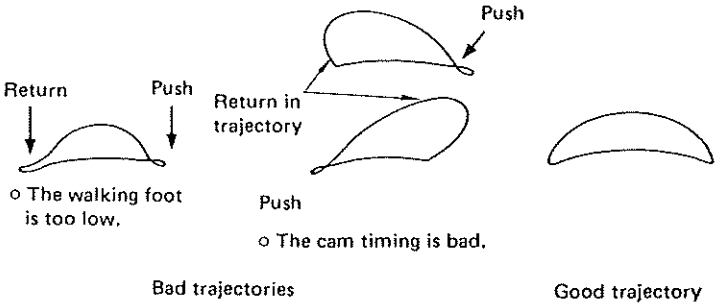
To assure smooth operation of the sewing machine, it is necessary to remove any excess play from components. Remove play according to the following procedure.

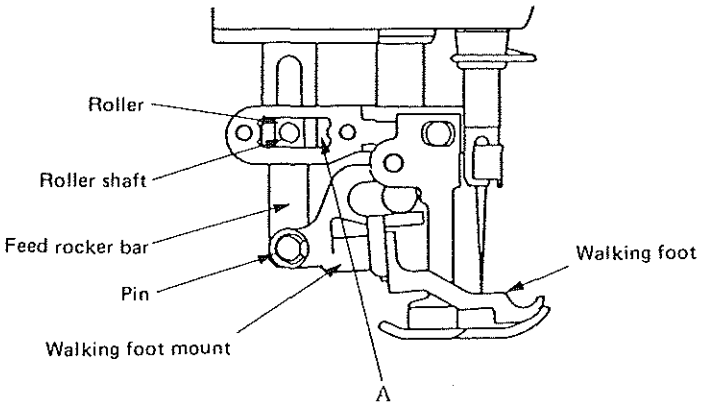
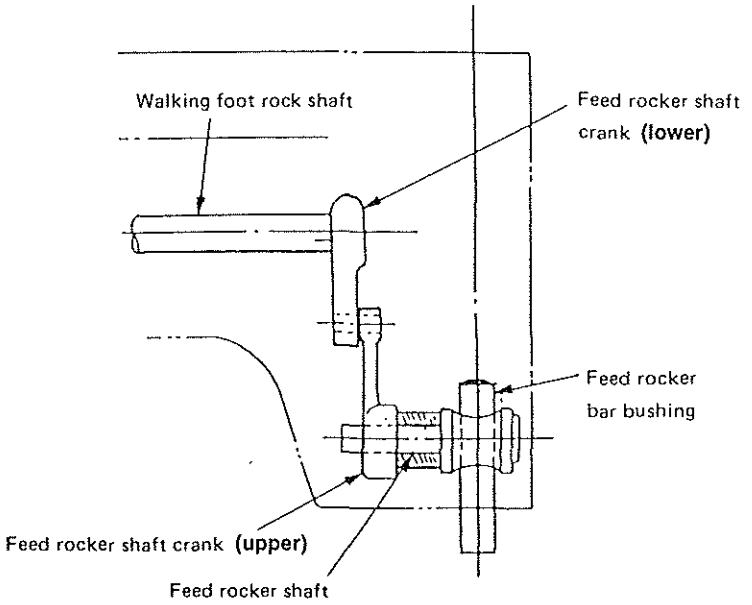
HOW TO REMOVE PLAY	REFERENCE DIAGRAM	PRECAUTIONS
(1) How to remove play from the walking foot rock shaft Loosen the walking foot arm, the feed rocker shaft crank (upper), and the setscrew. Then remove the holder screw, position the thrust collar screw so that it may be loosened easily to remove play.		By avoiding disturbing the feed rocker bar and main shaft, the need for the adjustment of the walking foot stroke can be eliminated.
(2) How to remove play from the walking foot adjusting link Loosen the two screws of walking foot fulcrum shaft, and adjust walking foot fulcrum shafts (A) and (B) to remove play so that the walking foot adjusting link does not interfere with the walking foot arm and walking foot driving rod. Retighten the screws of two walking foot fulcrum shaft. If the adjusting link does not move smoothly after removing play, it is probably because the walking foot arm or the walking foot driving rod binds. To correct this, loosen the screw of the walking foot arm, and turn the main shaft to make readjustment. After readjustment, check the roller for correct positioning, and then fix the walking foot arm. If this readjustment fails to solve the problem, correct the position of the cam.		

HOW TO REMOVE PLAY	REFERENCE DIAGRAM	PRECAUTIONS
(3) How to remove play from the reverse feed control lever Remove play from the thrust collar of the reverse feed control lever. Be careful not to tighten the thrust collar too tight, otherwise the lever cannot be pressed smoothly.	 	
(4) How to remove play from the reverse feed control lever shaft Loosen the screw of the thrust 2 or 3 turns, and also loosen screws A and B. Insert a screwdriver between reverse feed control lever and the walking foot lever collar (asm), and remove the play. Loosely tighten the screws A and B, but securely tighten the screw. After that, securely tighten Screws A and B.	 	(Caution) The setscrews A and B in the feed lever boss are likely to loosen. So securely tighten them without fail.

6. HOW TO ADJUST THE TOP FEED DRIVE MECHANISM

Be sure to check the following after disassembling, assembling or removing play:

CHECK ITEM	ADJUSTMENT PROCEDURE & REFERENCE DIAGRAM
(1) Trajectory of walking foot ○ The presser bar guide bracket is 15 mm (0.591") above the top end of the bushing.	
○ The sole of the walking foot (BB type) is 2.7 (0.106') to 3.0mm(0.118') above the throat plate. 	Remove the side cover. Turn the main shaft in the normal direction until the driving arm (front) comes closest to the side cover. Place a 3 mm (0.118") thick under the walking foot, loosen the screw of the driving arm (front), and adjust the position of the driving arm (front) so that the driving presser arm lightly comes in contact with the pin and the driving arm (front). Securely tighten the screw of the driving arm(front). 
○ There is no "push" or "return" (see the figure) in the trajectory of the walking foot.	When the needle bar is in its highest position, the screw No. 2 of cam should be slightly lower than the axis of the main shaft. With this standard position in mind, make adjustment to obtain the appropriate position.  

CHECK ITEM	ADJUSTMENT PROCEDURE & REFERENCE DIAGRAM
(2) Position of the roller The clearance between A and the roller is 1.1 mm (0.043″) when the handwheel is turned with the walking foot scale set at 8 mm (0.315″).	 ○ Loosen the screw of the feed rocker shaft crank (lower), and perform adjustment. **(Precaution)** Clearance between feed rocker shaft crank (upper) and the side cover is 5.3mm(0.208") Note that the above-mentioned procedure should not be applied to the adjustment of the rocking position of the feed rocker shaft crank (upper). 

7. REPLACING THE MOVING KNIFE (DLU-5490N-7)

Remove the moving knife according to the following procedure:

1) Loosen and remove hinge screw ❷ of the moving knife link.
2) Loosen and remove hinge screw ❶ of the knife forked base, and move the knife forked base and moving knife to the position as illustrated in Fig. c. Remove the moving knife pin from the knife forked base.
3) Move the knife forked base to the position shown in Fig. d, and remove the moving knife hinge screw ❸.
   (When removing the moving knife hinge screw, it is advisable to use the exclusive screwdriver (part No. J1063000000) which is separately available.)

> To allow the moving knife to actuate normally, failed belt tension or material or thread waste clogging in the components near the knife mounting base has to be strictly prevented. It is recommended to frequently clean the components near the knife mounting base.

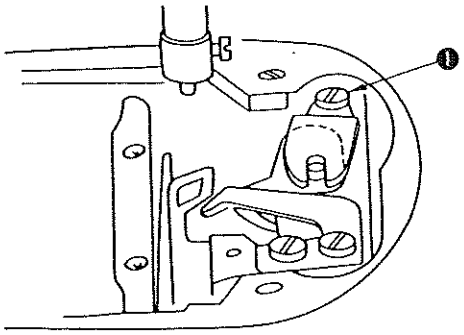


Fig. a

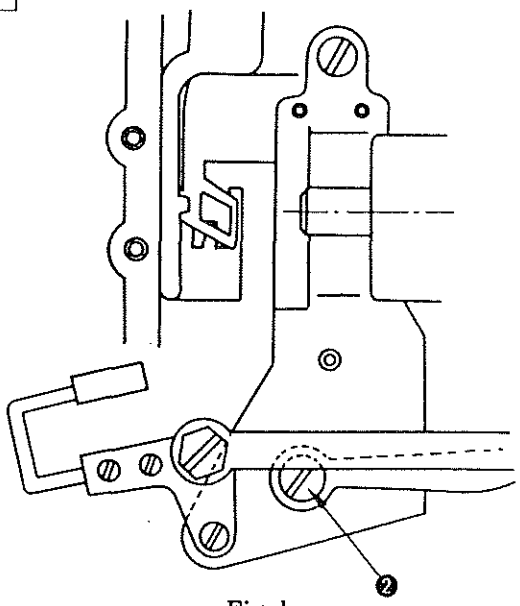


Fig. b

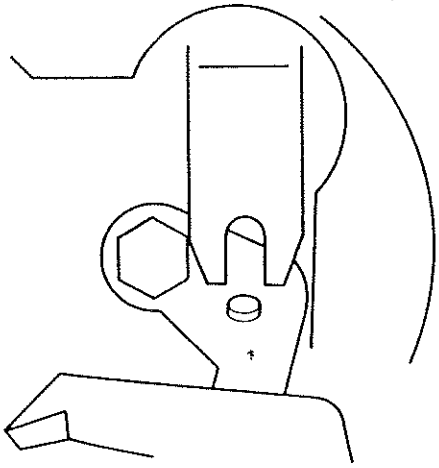


Fig. c

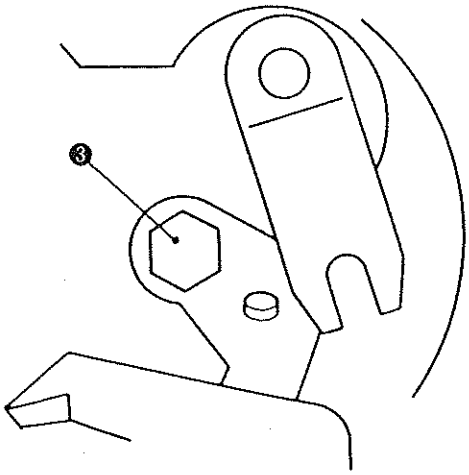


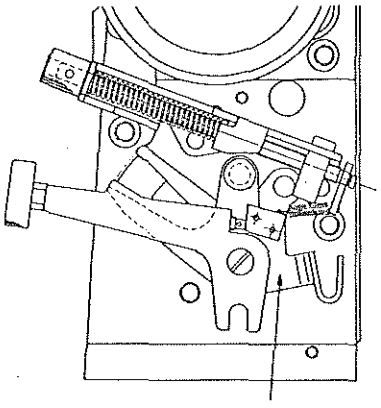
Fig. d

8. INSTALLING AND ADJUSTING THE PARTIAL SHIRRING DEVICE (PF-6)

(1) Description of the PF-6 partial shirring device

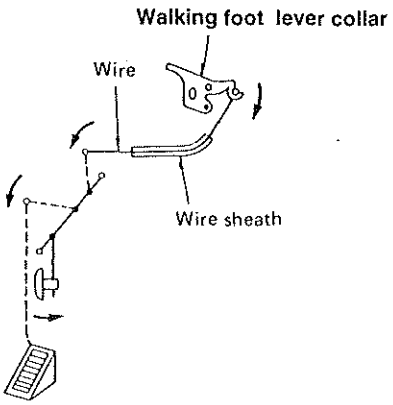
The top feed amount can be adjusted by changing the walking foot lever collar. Lower the hook of the walking foot lever collar to increase the top feed amount, or raise it to decrease the top feed amount. The walking foot lever collar can be moved indeoendently of the reverse feed control lever, so you can change only the top feed amount without changing the bottom feed amount.

In the PF-6, the hook of the walking foot lever collar is connected with the kneep pad (or pedal) through a wire so that the top feed amount can be changed using the knee pad (or pedal).



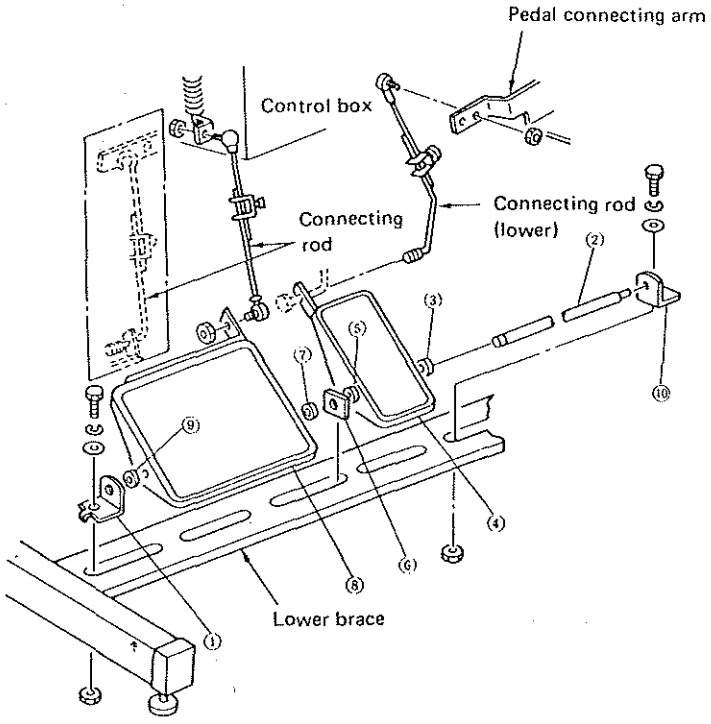
* For the installing and adjusting procedure for the PF-6, refer to 8-(2).

* The PF-6 is designed for performing partial shirring, so it is advisable to use a rake-in type gauges (B type or similar type) which are mainly designed for producing large shirring stitches.



(2) Installing the stand other than JUKI Z-type stand

The PF-6 is mainly designed to be mounted on JUKI Z-type or T-type stand. When installing the PF-6 on the H-type stand, use the pedals shown in the table of 8-(3).

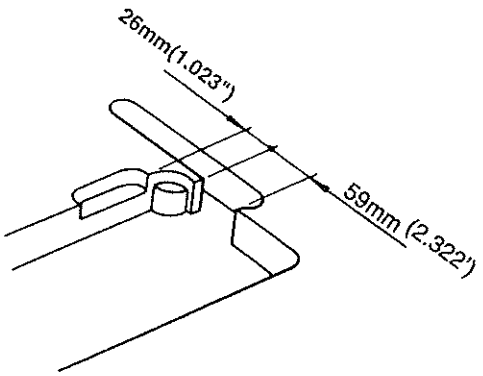


The pedal components are assembled as illustrated above.
The pedals shown above may not be used with a stand other than JUKI's. In this case, obtain large and small pedals suited for the stand, and connect the large pedal to the motor, and the small pedal to the PF-6, using the connecting rod (lower). Then, connect the connecting rod (lower) to the pedal connecting arm.

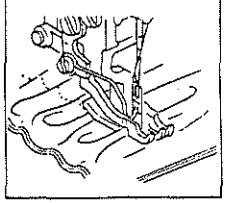
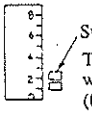
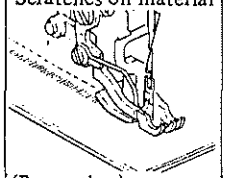
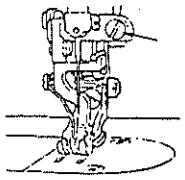
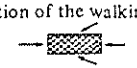
(3) PF-6 pedal components

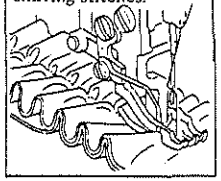
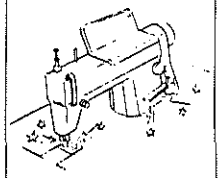
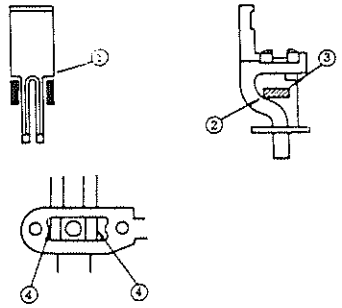
Description	Z type stand	Q'ty	H type stand	Q'ty
Pedal shaft	GPF01016000	1	—	
Liner plate	GPF06017000	1	—	
Pedal (small)	GPF060600A0	1	B8101232000	1
Pedal adjusting plate	GPF06080000	1	B8125280000	1
Pedal (large)	11158805	1	—	
Pedal mat	11158904	1	—	
Pedal adjusting plate	11158706	1	B8104012000	1
Pedal bushing	D8113555B00	4	—	
Liner plate	11159001	2	—	
Screws	SM9082023SE	2	SM9061203SE	9
	WS0861410KR	2	NM6060001SE	5
	WP0871602SE	4	—	
	NM6080721SE	2	—	
	SM9061203SE	4	—	
	WS0621210KR	4	WS0621210KR	5
	WP0671016SE	4	WP0671016SE	5
Pedal support arm	—		B8125012000	4

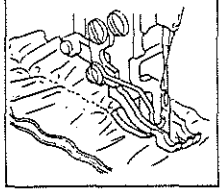
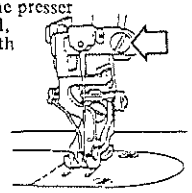
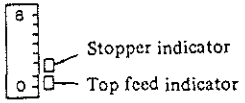
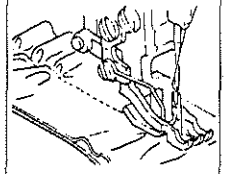
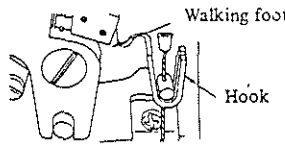
If you install the PF-6 unit on a machine table other than the one which is specially designed for JUKI machine with thread trimmer and PF-6, make a recess in the table as show below to fix the wire sheath guide to it.

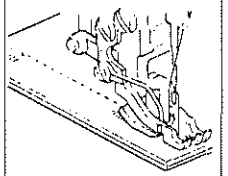
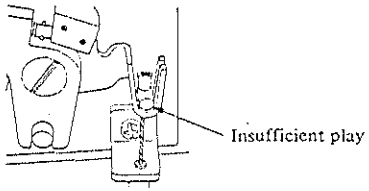
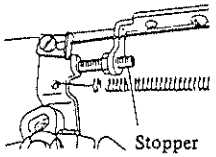


9. TROUBLES AND CORRECTIVE MEASURES

Trouble	Check point	Check result	Cause	Corrective measures
Material cannot be fed properly. 	Feed dog height	The feed dog is too low.	The feed power is weakened because the feed dog is too low.	Loosen the screw of feed forked base, and properly adjust the height of the feed dog.
	Presser foot pressure and walking foot pressure	The presser foot pressure is too low, or the walking foot pressure is extremely high in comparison with the presser foot pressure.	If the presser foot pressure is low, the presser foot fails to come in close contact with material as the sewing speed increases, leading to poor feed power. If the walking foot pressure is too high, the presser foot is pushed up, causing the presser foot to come in poor contact with material as the sewing speed increases.	Increase the presser foot pressure. If the walking foot pressure is too high, decrease the pressure to balance it with the presser foot pressure.
	Walking foot and feed dog teeth	The teeth are worn.	In an extended period of use, the feed teeth are worn, and the feed power is weakened.	Replace them with new ones.
	Top feed amount Bottom feed amount	The top feed amount is too small. The bottom feed amount is too small.	If the partial shirring stopper indicator is set at a value smaller than the feed amount, an insufficient top feed amount will result. If the top feed dial is turned under the aforementioned condition, the reverse feed control lever lowers, and the feed amount decreases.  Stopper indicator The top feed amount will be below 2 mm (0.079")	Turn the partial shirring stopper dial clockwise to set the indicator at "8".
	Type of material	Difficult to feed material	The feed power may decrease when sewing slippery materials, or extremely light- or heavy-weight materials. Properly adjust the presser foot pressure and sewing speed.	Increase the presser foot pressure for heavy-weight materials. For light-weight materials, reduce the sewing speed.
Scratches on material  (Precaution) Scratches on materials are mainly caused by improper presser foot pressure or walking foot pressure rather than the feed timing. Those scratches cannot be removed on some types of materials. For such materials, it is advisable to use a walking foot and feed dog coated with urethane rubber.	Remove the presser spring regulator and the presser bar spring, then check if the presser foot can be moved up and down by finger when the needle bar is in its highest position.	The presser bar cannot be moved up and down unless a force is used.	If the presser bar guide bracket and the presser bar base are not aligned, or if the top feed mechanism fails to move smoothly, the presser adjusting spring cannot function satisfactorily. As a result, the presser foot fails to come in close contact with material, leading to poor feed power.	Loosen the screw of the presser bar base, using a screwdriver, and tighten it again. Then, recheck. (Precaution) Be careful not to overtighten the screw, or else the driving bar binds. 
	Condition of the walking 	There are burrs on the periphery.	Burrs on the periphery scratch materials.	Remove the burrs, using a buff, file, etc.
	Check the walking foot teeth power by moving it up and down by a finger.	The walking foot pressure is too low.	If the walking foot pressure is too low, the walking foot may slip and scratch material.	Increase the walking foot pressure.
		The walking foot pressure is too high.	If the walking foot pressure is too high, the walking foot teeth may bite in and scratch material.	Decrease the walking foot pressure.
	Walking foot ascending timing	The walking foot goes up a little while after the presser foot sole touches the throat plate.	If the walking foot ascending timing is too late, the walking foot remains in contact with the material even when the lower cloth has been fed. This may result in scratches.	Correct the timing so that it starts to go up the moment the presser foot touches the throat plate. (Note) A little inaccuracy in timing will cause no problem.

Trouble	Check point	Check result	Cause	Corrective measures
	Horizontal motion timing of walking foot	The walking foot horizontal motion timing is too late.	If the horizontal timing is too late, the walking foot tends to feed material even when the lower material has been fed. This may cause scratches.	Correct the position of the cam.
		The walking foot horizontal motion timing is too early.	If the timing is too early, the walking foot prematurely starts to go back even while the feed dog is still feeding material forward. This may cause scratches.	
	Horizontal stroke of the walking foot	The horizontal stroke of the walking foot is too long.	If the walking foot pressure is too low or the walking foot teeth are worn, the walking foot slips and feeds material too much.	
The lower cloth is also shirred while producing shirring stitches. 	Presser foot pressure and walking foot pressure	The presser foot pressure is too low. The walking foot pressure is too high.	This problem occurs when sewing light-weight materials such as georgette. In an ordinary garment factory, there is no such problem since the operator separates the upper and lower cloths. However, if the walking foot pressure is extremely high, the lower cloth may also be shirred.	Slightly decrease the walking foot pressure to balance it with the pressure foot pressure.
Abnormal sound 	Run the sewing machine at low speed with the top feed set at "0" and bottom feed at "5", and check if the reverse feed control lever clatters or not.	If clatters for each rotation.	If the feed dog or walking foot contacts an adjacent component, the reverse feed control lever clatters. So, first check them for any contact. If the lever moves when the top feed is set at "0", check if the feed dog comes in contact with the throat plate.	If the contact occurs during vertical motion, correct the position of the forked base. If the contact occurs during horizontal motion, correct the position of the feed bar crank.
	Run the machine at low speed with the top feed set at "8", and the bottom feed at "0", and check if the reverse feed lever clatters.	It clatters for each rotation.	If the lever moves when the bottom feed is set at "0", check if the following components come in contact with each other: ① Top feed dog and presser foot ② Walking foot mount and presser foot ③ Walking foot mount and needle bar safety cover ④ Roller and presser bar base 	① Some presser foot has max. feed amount of 5 mm (0.197"). Reduce the top feed amount. If the lever is not in the standard position, remove the side cover, and correct the position of the feed rocker shaft crank (lower). ② If a DLU-490 presser foot is used, it may come in contact with the walking foot mount. So, use one with part No. B1524-491-xxx. ③ If a DLU-490 presser foot is used, it may come in contact with the walking foot mount. So, use one with part No. B1524-491-xxx. ④ Remove the side cover, and correct the position of the feed rocker shaft crank (lower).

Trouble	Check point	Check result	Cause	Corrective measures
Defective shirring 	Move the walking foot up and down to check it for application of pressure.	The spring fails to work, and the walking foot does not move up and down smoothly.	The screw of the presser bar base has been over-tightened, and the presser bar has deformed, preventing smooth motion. 	Slightly loosen the presser bar base screw. Be careful not to loosen it too much, otherwise the part will be dislocated during operation.
		The pressure is too low.	If the walking foot pressure is too low, the walking foot slips on material, resulting in poor shirring. This happens especially when a gauge has been changed.	Increase the walking foot pressure.
	Check the walking foot for contact with an adjacent component.		See "Abnormal sound".	
	Check the top feed amount.	The top feed amount is not enough.	Check if the partial shirring stopper indicator has been set at a small value. 	Turn the partial shirring stopper dial and top feed adjusting dial clockwise to set the indicator at a larger value.
	Walking foot teeth	They are worn.	The walking foot slips on the material.	Change the gauge.
	Type of the gauge	Other than B type	Some types of gauges are not suited for gathering.	Use a gauge suited for the material and operation.
	Material	Difficult-to-feed material	Some gauges are not suited for gathering.	Use a gauge suited for the material and operation. (Use a separating plate if necessary.)
Defective partial shirring 	Check if the wire roll at the rear of the machine has been placed in the hook of the walking foot lever collar.	It is not in the walking foot lever collar.		Place the wire roll in the hook.
	Position of the partial shirring stopper indicator.	It has been set at a small value.	Insufficient shirring resulta.	Turn the partial shirring dial clockwise to provide a sufficient top feed amount.

Trouble	Check point	Check result	Cause	Corrective measures
Scratches caused during reverse feed stitching 	When the PF-6 is used, check if there is a play between the wire roller and walking foot lever collar.	The play is not enough.	 The insufficient play prevents reverse feed when the reverse feed lever lowers.	Adjust the stopper under the table to provide a proper play.  Adjust so that, when the reverse feed lever is lowered with the top feed and bottom feed set at "3", the roller comes in contact with the hook.

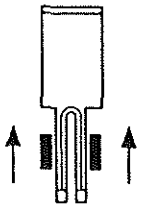
10. HOW TO USE GAUGES

A variety of gauges are available for the DLU-5490N to handle many different types of operations. When ordering, see our gauge brochure.

(1) Type of gauge

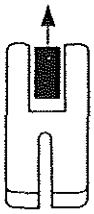
The walking feet are roughly divided into the rake-in type, pull-in type and needle-side type.

Ⓐ Rake-in type



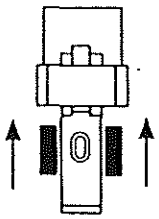
Rake-in type includes B, E and J. This type is ideally used for producing large shirring and gathering. When a separating plate is used with type B or E, gathering amount can be further increased.

Ⓑ Pull-in type



Pull-in type includes D-type compensating foot. This type is designed to pull material ahead of the needle. It is ideally used for sewing sharp curves.
This type of gauge feeds sewn parts of material, therefore, it cannot be used for producing large shirring as the rake-in type. Also, care should be used not to set the top feed amount at a larger value than necessary, otherwise the walking foot teeth may scratch material.

Ⓒ Needle-side type



Types S and HA belong to the needle-side type. This type is designed to feed material on the sides of the needle. The part of material around the needle is securely held and fed. This stretches material when it is sewn, effectively preventing puckering.

(2) Top feed amount of each type of gauge

The maximum feed amount of each type is as shown below:

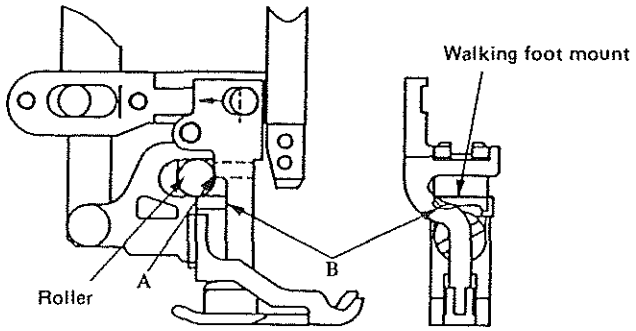
- Types B and E . . . . . 8 mm (0.315″)
- Other types of gauges . . . . 5 mm (0.197″)

* Use the top feed amounts shown above as the standard. If the top feed amount is set at a larger value than necessary, the material cannot be held securely. This will cause material to flap or cause scratches on material.

(3) Interchangeability of DLU-5490N and DLU-490 gauges

Except for some gauges, the gauge sets used for the DLU-490 can be used for the DLU-5490N. However, when using the DLU-490 gauges, pay attention to the following points when installing a presser foot:

a)



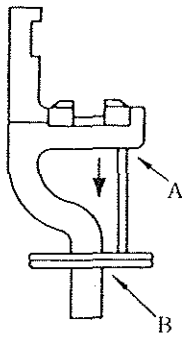
A DLU-490 gauge has a mounting slot. So, if the presser foot is positioned lower than necessary, point A of the presser foot comes in contact with the roller, preventing proper driving motion of the walking foot.
After installing the gauge, move the walking foot up and down by a finger to check it for smooth motion. If it is necessary to set the presser foot low, machine point A, using a grinder.

* When purchasing a new presser foot for the DLU-5490N, be sure that the 6th to 8th digits of its paart No. are "491".
Example: B1524-491-BA0

* A gauge with part No. 491 can be used for the DLU-490.

b) When a presser foot with a finger guard is used for the DLU-5490N, the fibger guard must also be changed. (The paragraph a) above also applies.)
Change the finger guard as follows:

1) Pull part A out, using a nipper, and draw part B out by prying the finger guard.



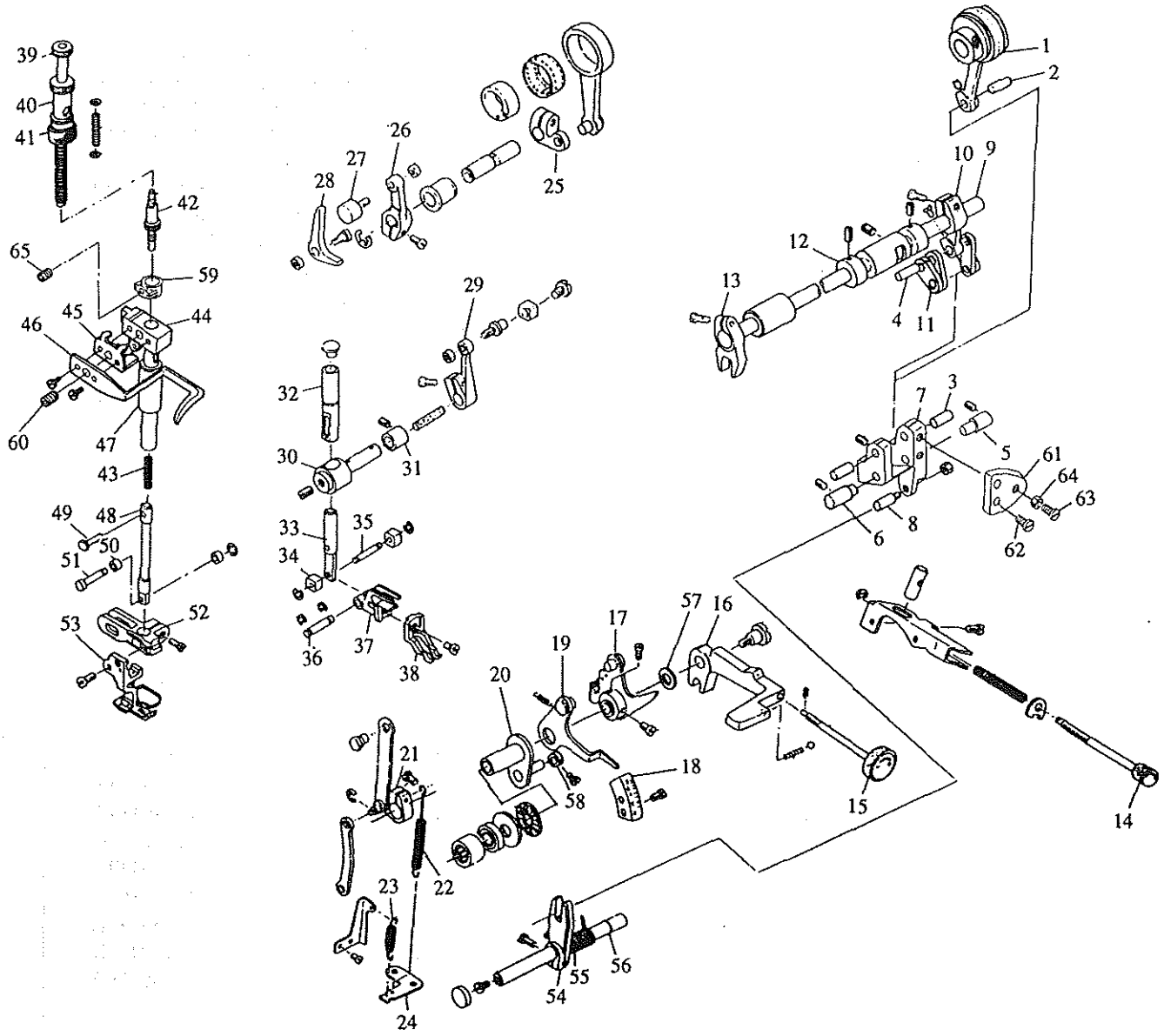
Presser foot Part No.	Finger guard part No.
B1524490JBB	B1421491J0B
B1524490JBC	B1421491J0B
B1524490JBM	B1421491J0B
B1524490AB0	B1421491J0B
B1524490JBF	B1421491J0B
B1524490GBB	B1421491G0B
B1524490JBK	B1421491J0K
B1524490JBL	B1421491J0K
All presser feet other than the above	B1421491000

2) Select the proper finger cover, and securely attach it using an instantaneous adhesive. (Before attaching it, thoroughly wipe any oil off.)

3) The following three types cannot be used because part B of the presser foot comes in contact with the walking foot mount.
So, purchase one with part No. including "491".

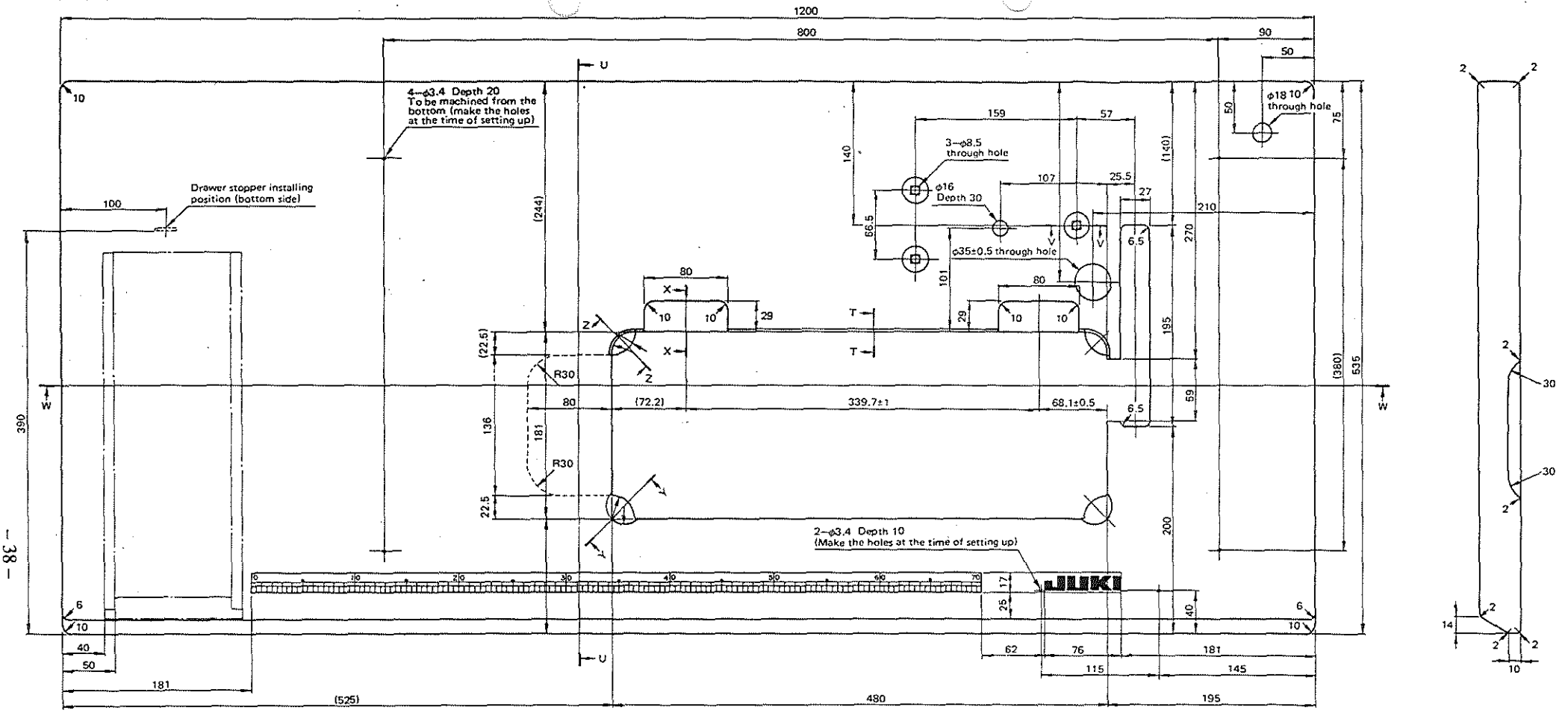
① B1524490J0A
② B1524490J0G
③ B1524490F0D

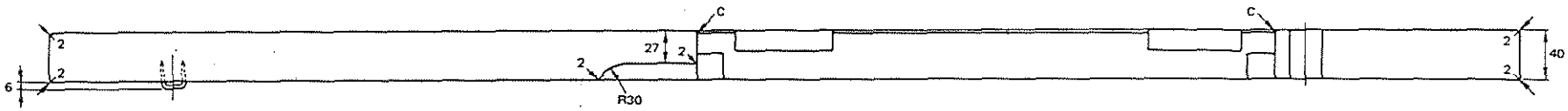
11. PARTS LIST (Bottom and variable top feed components)

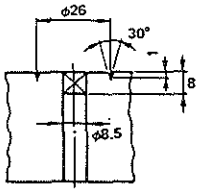


1. Cam
2. Walking foot pin C
3. Walking foot pin A
4. Walking foot pin B
5. Walking foot fulcrum shaft A
6. Walking foot fulcrum shaft B
7. Walking foot adjusting link
8. Walking foot adjusting pin
9. Walking foot rock shaft
10. Walking foot arm
11. Walking foot link
12. Thrust collar
13. Feed rocker shaft crank
14. Stopper dial
15. Dial
16. Reverse feed control lever
17. Walking foot lever collar
18. Walking foot graduation plate
19. Stopper indicator
20. Reverse feed bushing
21. Feed driving arm
22. Feed reverse spring
23. Adjusting link spring
24. Feed spring hook
25. Driving arm (front)
26. Driving arm (rear)
27. Driving roller
28. Driving presser arm
29. Feed rocker shaft crank (lower)
30. Feed rocker shaft
31. Feed rocker shaft bushing
32. Feed rocker bar bushing
33. Feed rocker bar
34. Roller
35. Roller shaft
36. Pin
37. Walking foot mount
38. Walking foot
39. Walking foot adjusting knob
40. Presser spring regulator
41. Nut
42. Cap
43. Walking foot spring
44. Presser bar guide bracket
45. Bracket plate
46. Presser bar thread guide
47. Bushing
48. Driving bar
49. Pin
50. Roller
51. Roller shaft
52. Presser bar base
53. Presser foot
54. Walking foot adjusting arm
55. Adjusting link spring
56. Rubber ring
57. Washer
58. Thrust collar
59. Presser bar stopper
60. Screw of presser bar
61. Adjusting link stopper plate
62. Screw of adjusting link stopper plate
63. Adjusting link stopper screw
64. Adjusting link stopper nut
65. Presser bar stopper screw

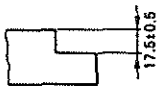
12. DLU-5490N TABLE DIMENSIONS Part No. 11155405



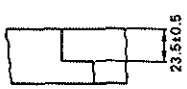




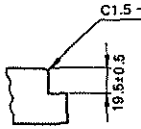
Section VV



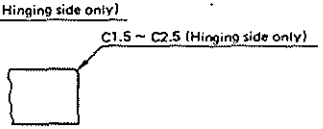
Section XX



Section YY

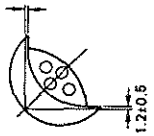


Section ZZ



Section TT

XX rubber installing dimension diagram (1/2)



YY rubber installing dimension diagram (1/1)

DLU-5490N-7 TABLE DIMENSIONS Part No. 111556205