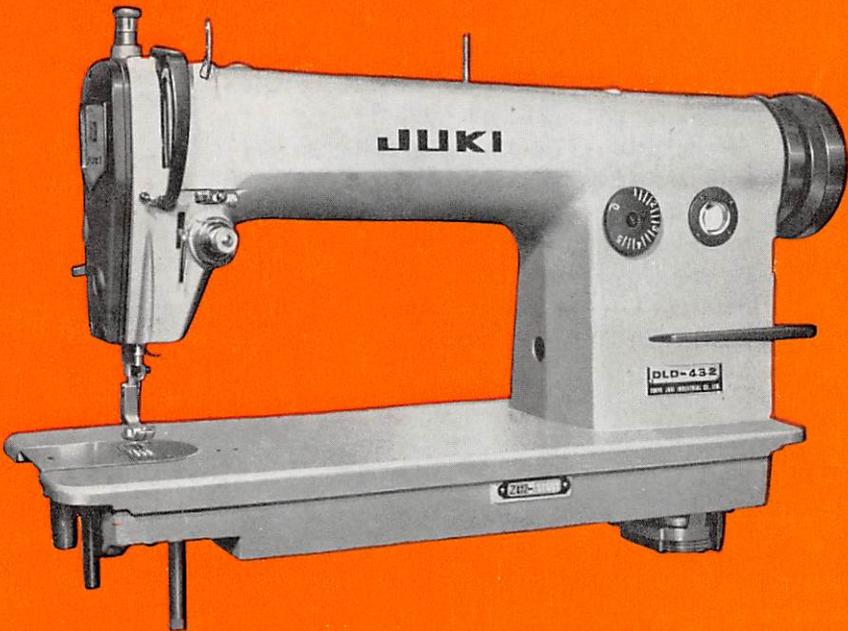


MODEL **DLD-432**

HIGH SPEED, SINGLE NEEDLE,
DIFFERENTIAL FEED, LOCKSTITCH
INDUSTRIAL SEWING MACHINE

INSTRUCTION BOOK



TOKYO JUKI INDUSTRIAL CO. LTD.

From the library of: Superior Sewing Machine & Supply LLC

We want to thank you for purchasing JUKI DLD-432, High Speed, Differential Feed, Lockstitch Industrial Sewing Machine.

This is a high speed, differential feed sewing machine, capable of attaining a speed of up to 4,200 s.p.m. As this machine is equipped with a differential feed mechanism, it can perform stretch stitching or gather stitching with utmost ease. Also, it can perform straight sewing with equal ease to boost up the sewing efficiency.

This is a machine for wide area of usage and best suited for sewing various kinds of garments of light weight to medium heavy weight materials as well as materials of stretchy or shrinking nature. As a differential feed machine, it can be acclaimed to produce very high level of sewing efficiency. Before you start to use this machine, please read the INSTRUCTION BOOK thoroughly and digest the functions of all of its mechanism to produce best results and to prolong the life of the machine.

DLD-432 SPECIFICATIONS

Sewing speed	Up to 4,200 s.p.m.
Differential feed ratio	1:1~1:3 (3:1)
Stitch length	0—5mm(13/64")
Stitch length regulator	Dial system
Reverse sewing	By reverse lever
Needles	DBx1 (16x231) 1738 #14, #16, #18
Lubricating oil	New Defrix Oil No. 1

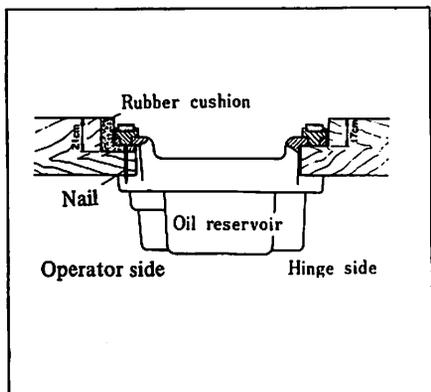
DLD-432 CONTENTS

	Page
Installing the oil reservoir	2
Motor pulley and the belt	2
Cautions on operating the machine	3
Lubrication	3
1. Adjusting the oil supply to the face part	4
2. The oil-adjusting pin	4
3. Adjusting the oil supply to the hook components	4
Threading the machine	5
Preparation of the bobbin thread	6
Inserting & removing the bobbin case	6
Winding the bobbin thread	6
How to insert the bobbin	6
The thread tension	7
Adjusting the needle thread tension	7
Thread take-up spring	7
Adjusting the bobbin thread tension	7
Presser foot and feed dog	8
Adjusting the pressure of the presser foot	8
The presser foot hand lifter	8
Height of the feed dog	8
The stitch length	9
Adjusting the stitch length	9
Reverse sewing	9
Pushing pressure of the feed lever	9
Adjusting the differential feed	10
Stretch sewing	10
Gather sewing	10
Inserting the needle	11
Installing and removing the sewing hook	11
Relation between the hook and the needle	12
Adjusting the height of the presser bar	13
Adjusting the amount of the thread take-up	13
How to use attachments (separate order)	14
How to use the differential feed regulating lever	14
How to use attachment for gather sewing	14
Supplementary feed dogs (reverse toothed)	14

(Note)

Due to improvements on the machine, some parts of the operational procedures of this INSTRUCTION BOOK might be changed without notice.

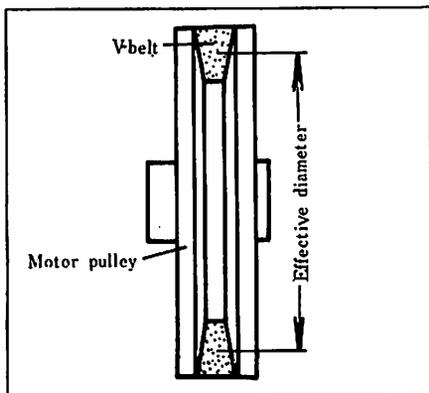
INSTALLING THE OIL RESERVOIR



As shown in the figure, set the reservoir in such a way so that the 4 corners of the grooved part of the table will be supporting the reservoir.

1. Nail in the 2 rubber cushions in front to the protruding part of the table.
2. Place the oil reservoir on the protruding part of the table.

MOTOR PULLEY AND THE BELT



Model DLD-432 can sew at a high speed of up to 4,200 s.p.m. When connected directly to the power source, use a 3-phase 400 W (1/2 HP) clutch motor.

Use a M type V-belt. The relation between the number of rotation of the machine with the dimension of the motor pulley is shown in the table. (effective diameter)

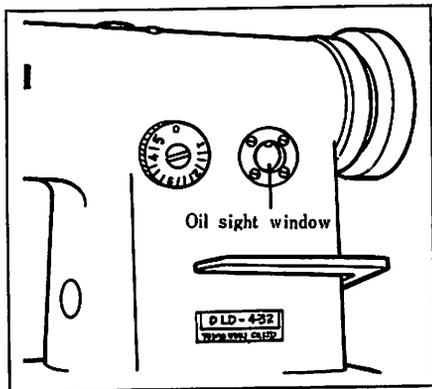
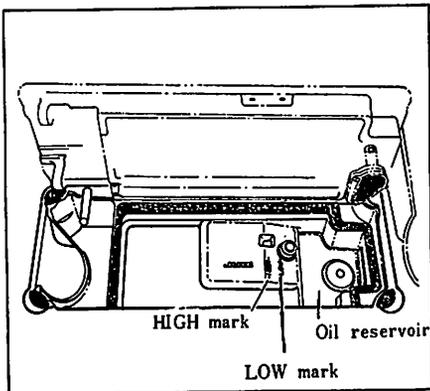
*The effective diameter of the motor pulley means the diameter as measured from the center of the V-belt when the belt is wound around the machine.

Cycle	No. of rotation of machine	Part No. of motor pulley	Effective diameter of motor pulley
50	4,210 s.p.m.	MTK-PV100000	100 mm(3-15/16")
	3,790 s.p.m.	MTK-PQ090000	90 mm(3-35/64")
60	4,270 s.p.m.	MTK-PV085000	85 mm(3-11/32")
	3,760 s.p.m.	MTK-PV075000	75 mm(2-61/64")

CAUTIONS ON OPERATING THE MACHINE

- ① Do not run the machine, under any circumstances, before the oil reservoir is filled up with fresh oil.
- ② Always rotate the machine toward the operator. Do not run the machine in the reverse direction.
- ③ This machine can run with a speed of up to 4,200 s.p.m. but for the first month drop the speed to about 3,700 s.p.m.

LUBRICATION



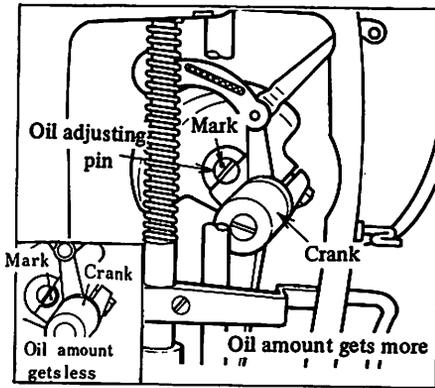
Before operating the machine

1. Fill up the oil reservoir with JUKI New Defrix Oil No.1 up to the mark "HIGH".
2. Watch and see that the oil level does not go below the "LOW" mark.

3. Under normal conditions, when the machine is run after it is filled up with oil, the oil will spurt against the oil sight window.

(Caution)

- 1) When the oil gets dirty, change it with new, fresh oil. If the oil plug of the reservoir is removed, oil will come out.
- 2) When the machine is to be run for the first time or when it was idle for a great length of time, run the machine at 3,000-3,500 s.p.m. for about 10 minutes and allow the machine to get well-oiled.



1. Adjusting the oil supply to the face part

When adjusting the oil supply to the thread take-up and needle bar crank components, remove the face plate and the oil preventing plate and adjust by turning the oil adjusting pin at the tip of the main shaft.

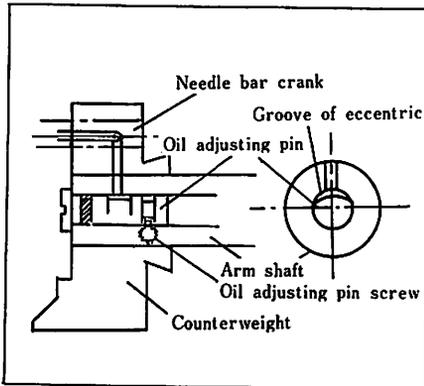
1. When the mark of the adjusting pin comes near the crank, the oil amount gets less.
2. When the mark comes to the opposite side of the crank, the oil amount gets more.

(Caution)

The oil amount does not change immediately after the adjustment, so when adjusting, have this in mind.

2. The oil adjusting pin

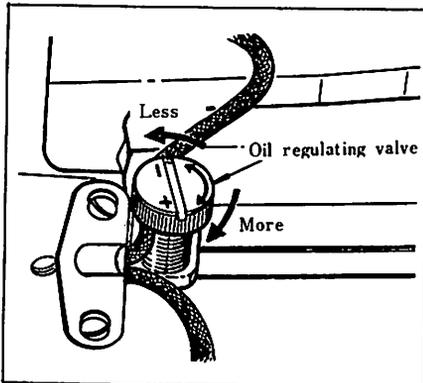
1. The oil adjusting pin has a carved groove as shown in the figure. When this groove and the oil hole of the main shaft come together, the oil amount gets more.
2. When the groove is at the opposite side of the oil hole, the oil amount gets less.
3. The mark on the oil adjuster shows the side without the carved groove.



3. Adjusting the oil supply to the hook components

The supply of oil to the hook components can be adjusted by the oil regulating valve on the hook shaft.

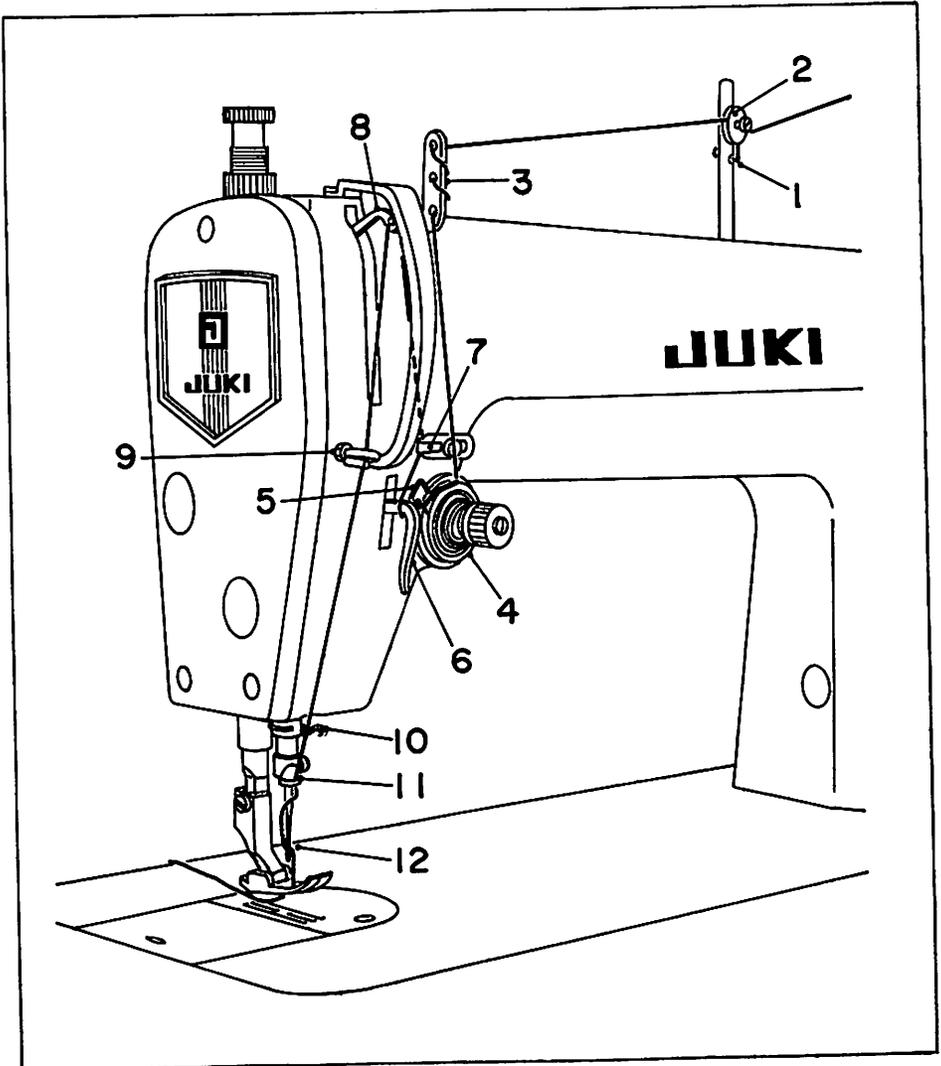
1. If this valve is turned toward ⊕ side(right), the oil amount gets more.
2. If this valve is turned to ⊖ side(left), the amount gets less.



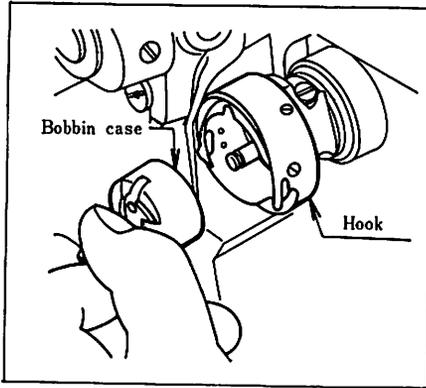
THREADING THE MACHINE

Rotate the hand wheel to right and place the thread take-up to the highest position.

1. Pass the needle thread in the order shown by the figure.
2. Pass the thread to the needle eye from left to right.
3. Pull out about 10 cm (4") of the thread from the needle eye.

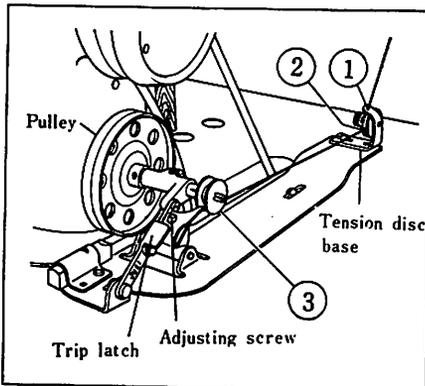


PREPARATION OF THE BOBBIN THREAD



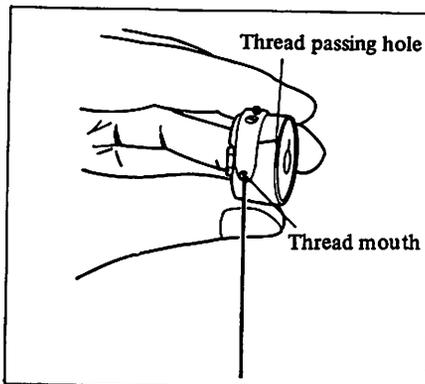
Inserting & removing the bobbin case

1. Rotate the hand wheel with your hand and bring the needle to its highest position.
 2. Tilt the machine and support it by the head support on the table.
 3. Lift up the knob of the bobbin case and take it out.
- * If you hold the knob in open condition, bobbin will not fall off.
4. To insert the bobbin case, insert it deep into the shaft of the hook so that the nose of the bobbin case fully enters the groove of the hook and then close the knob.



Winding the bobbin thread

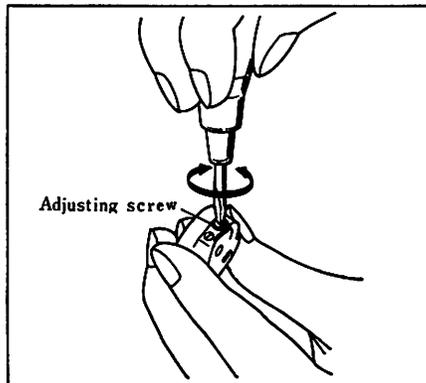
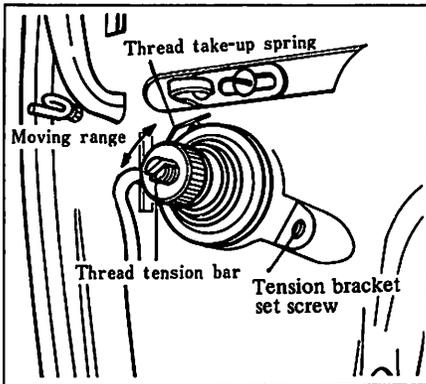
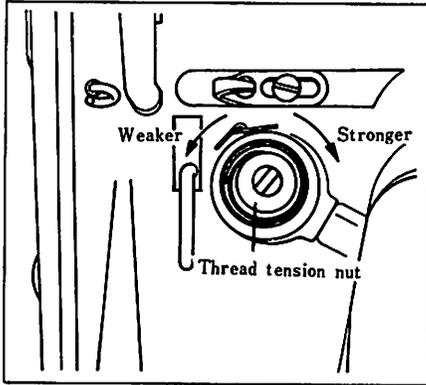
1. Set the bobbin winder to the table with screws.
2. Pass the thread in the order shown in the figure and wind it around the bobbin several times.
3. Knock down the trip latch and contact the pulley to the belt.
4. Adjust the winding amount by the winding adjusting screw so that about 80% is wound.
5. When the thread is wound unevenly, move the thread tension disc base to right and correct to even winding condition.
6. When the winding is completed, the trip latch will be released and the pulley will stop automatically.



How to insert the bobbin

1. Hold the bobbin and insert it to the bobbin case so that the thread will be in right-twist condition.
2. Pass the thread to the thread passing hole of the bobbin case.
3. Then pull the thread and it will pass under the thread tension spring and can be pulled out through the thread mouth.

THE THREAD TENSION



Adjusting the needle thread tension

Ideal stitches are formed when the needle thread and the bobbin thread are perfectly interlocked at the center of the cloth.

The tension of the needle thread is adjusted by the thread tension nut.

1. Turn it to right to make the tension stronger and to the left to make it weaker.

Thread take-up spring

* To change the moving range of the thread tension spring:

1. Loosen the screw of the thread tension bracket.

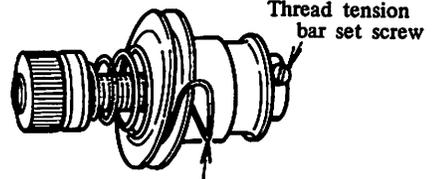
2. Rotate the thread tension bar.

* To change the strength of the thread take-up spring.

1. Loosen the set screw, remove the thread tension bar.

2. Loosen the thread tension bar set screw and adjust.

3. When the thread tension bar is turned to right, the spring will get stronger and if turned to left, it will get weaker.



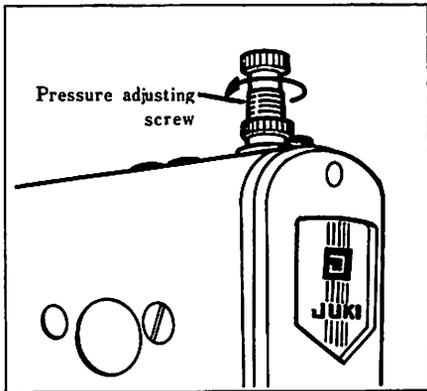
Thread take-up spring

Adjusting the bobbin thread tension

Rotate the thread tension screw of the bobbin case to adjust the bobbin thread tension.

1. Rotate it to right to make the bobbin thread tension stronger and to left to make it weaker.

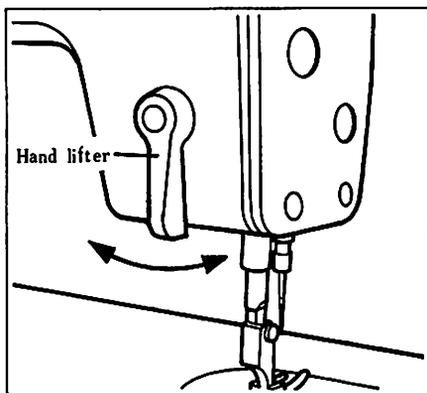
PRESSER FOOT AND FEED DOG



Adjusting the pressure of the presser foot

1. Turn the pressure adjusting screw to right to make the pressure stronger and to left to make it weaker.

Normal pressure for general fabric is about 5 kg (11 lbs.).



The presser foot hand lifter

To stop the presser foot at the lifted position:

1. Rotate the hand lifter in the rear of the face part either to right or left.
2. The presser foot will go up about 5 mm (13/64") and stops.
3. To lower the presser foot, activate the knee lifter once and the presser foot will come down to the original position.
4. With the knee lifter, the presser foot will go up about 10 mm (25/64").

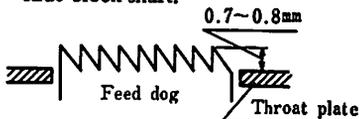
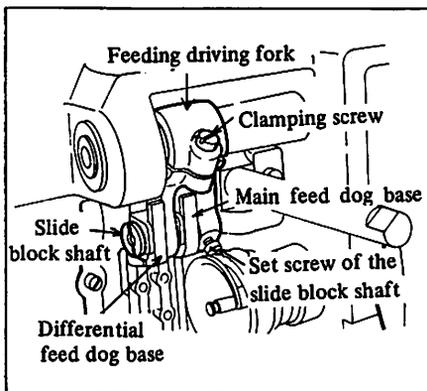
Height of the feed dog

Set the height of the feed dog from the surface of the throat plate to 0.7~0.8 mm.

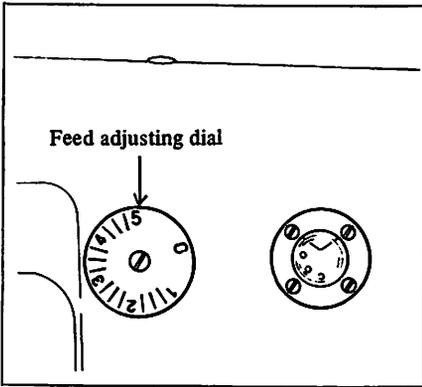
In sewing light weight materials, if this height is too high, shrink-stitching may result.

To adjust the height of the feed dog:

1. Loosen the clamping screw of the feed driving fork.
2. Move the main feed dog base (right side) up and down and adjust the height of the main feed dog.
3. After adjusting, tightly tighten the clamping screw.
4. Loosen the set screw of the slide block shaft and adjust the height of the differential feed dog base by rotating the slide block shaft.
5. After adjusting, tighten the set screw of the slide block shaft.



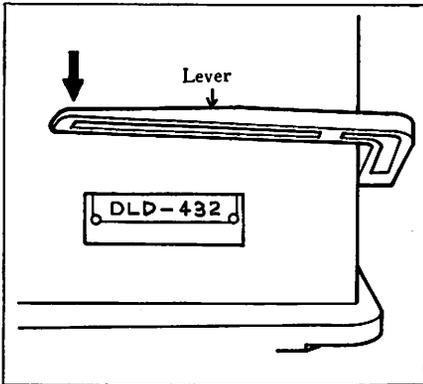
THE STITCH LENGTH



Adjusting the stitch length

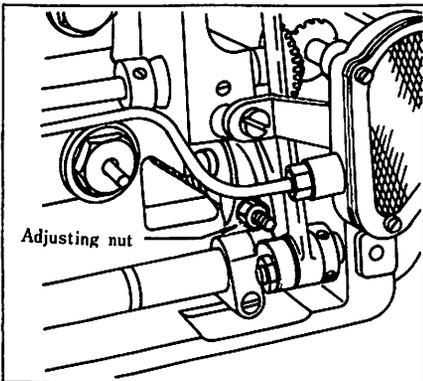
The stitch length can be adjusted by turning the feed adjusting dial above the feed lever. The figures on the graduator are shown in mm.

1. Rotate the feed adjusting dial either to right or left.
 2. And match the desired figure with the pin which is coming out from the arm.
- * The maximum stitch length is 5 mm (13/64")



Reverse sewing

1. For reverse sewing, push the feed lever down.
2. As long as this lever is kept down, reverse sewing can be performed.
3. Release this lever and the feed lever will return to original position and normal straight stitching can be resumed.

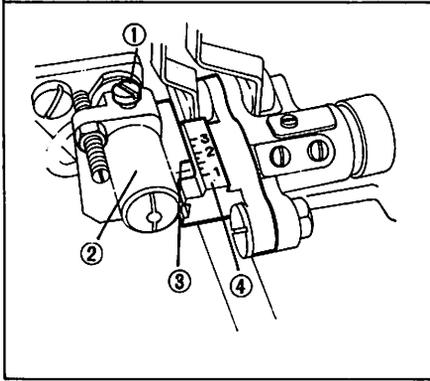


Pushing pressure of the feed lever

Irrespective of the length of stitches, the pull-up spring is somewhat strengthened so that during high speed sewing if the hand is released from the feed lever, it will positively return to the original position.

When shorter stitches are desired or when the rotation of the machine is to be slowed down, it is possible to decrease the pushing pressure of the feed lever.

1. When the adjusting nut is loosened, the pressure will become weaker and if the nut is tightened, the pressure will become stronger.

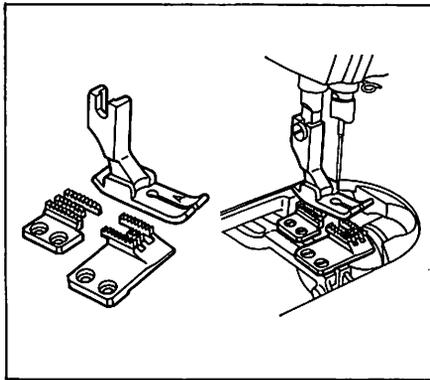


Adjusting the differential feed

This machine possesses 2 feed dogs, main feed dog and differential feed dog and by means of differential feed regulator, the feed amount changes to sew stretch or gather stitchings.

To change the differential feed ratio, do as follows:

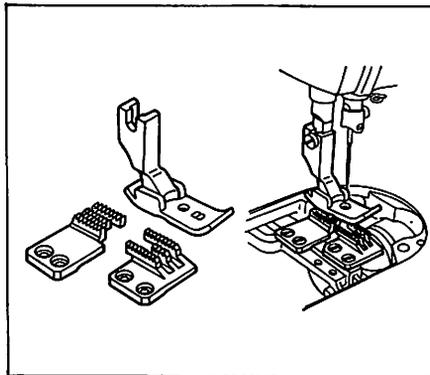
- 1 Loosen the set screw ① of the differential feed regulator base.
- 2 Move the differential feed regulator base ② up and down and match the indicating line ③ with the graduation ④ of the differential feed crank.
- 3 If the indicating line is matched to "2" of the graduation, the differential ratio becomes 1:2 and if it is matched to "3", the ratio becomes 1:3.
- 4 When the indicating line is matched to the graduation, tighten the set screw of the differential feed regulator base.



Stretch sewing

When this machine is to be used for stretch sewing, attach the feed dog and presser foot for stretch sewing. (A of photo) The stretch sewing can be performed by the maximum stretch sewing ratio of 1:3.

Make this ratio larger as the stretch nature of the material gets larger.

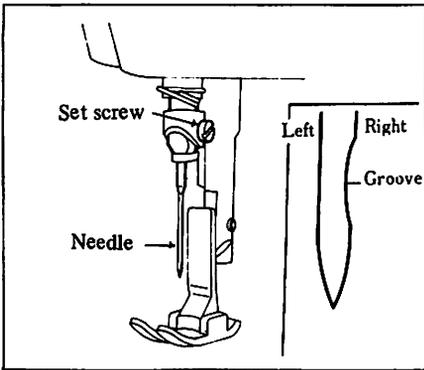


Gather sewing

When this machine is to be used for gather sewing, attach the feed dog and presser foot (B of photo). The gather sewing can be performed by the maximum ratio of 1:3.

When straight sewing and gather sewing are to be performed alternately, to change the sewing type, there are special attachments available for this purpose. Please order them separately.

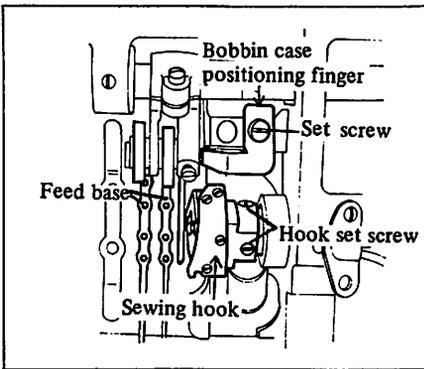
INSERTING THE NEEDLE



Use DB x 1 needles. There are many numbers and sizes of the needle, but select the correct size and number depending on the thickness of the thread or kinds of sewing material.

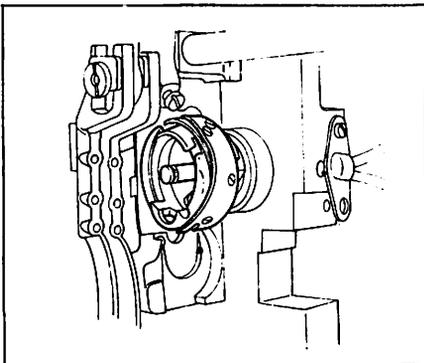
1. Rotate the hand wheel and bring the needle bar to the highest position.
2. Loosen the needle clamp screw.
3. Hold the needle so that the long groove of the needle comes to your left side.
4. Insert the needle deep into the needle hole
5. Then securely tighten the needle clamping screw.

INSTALLING AND REMOVING THE SEWING HOOK



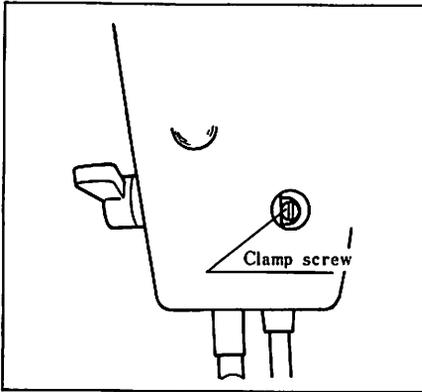
During the running of the machine, if thread hards get into the hook or the position of the hook changes for some reason or to exchange the hook with a new one, do as follows in order:

1. Rotate the hand wheel and bring the needle bar to the highest position.
2. Remove the bobbin case and the needle
3. Remove the bobbin case positioning finger set screw and take out the bobbin case positioning finger.
4. Loosen the 3 screws of the sewing hook.



5. Rotate the hand wheel and raise up the feed base to its highest position.
 6. Rotate the sewing hook with your hand and place it in the position as shown in the figure.
 7. Pull the hook to your left and take it out.
- * To install the hook back, reverse this procedure.

RELATION BETWEEN THE HOOK AND THE NEEDLE

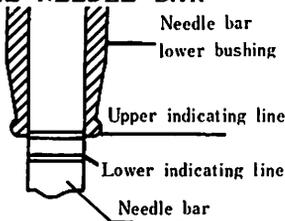


Match the needle with the sewing hook as follows:

1. Rotate the hand wheel and bring the needle bar to its lowest position.
2. Loosen the needle bar clamping set screw.

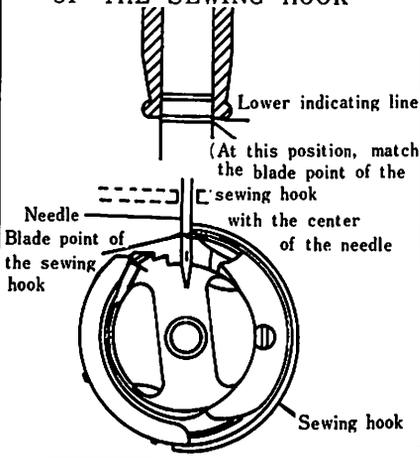
(Determine the height of the needle bar)

① DETERMINE THE HEIGHT OF THE NEEDLE BAR



3. Match the upper carved line of the needle bar with the lower edge of the needle bar lower bushing.
4. Tighten the needle bar clamping set screw.

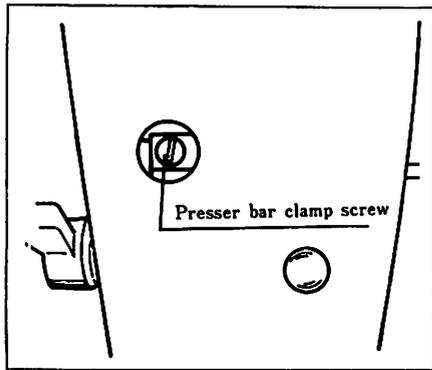
② DETERMINE THE POSITION OF THE SEWING HOOK



(Determine the position of the sewing hook)

5. Loosen the 3 clamping screws of the hook so that the hook can be rotated freely with the hand.
6. Place the hook with your hand to the thread passing position.
7. Rotate the hand wheel and match the lower carved line of the needle bar with the lower edge of the needle bar lower bushing.
8. In this condition, match the blade point of the hook with the center line of the needle
9. Make the clearance between the needle and the hook blade point to 0.05 mm and
10. Securely tighten the hook clamping set screw.

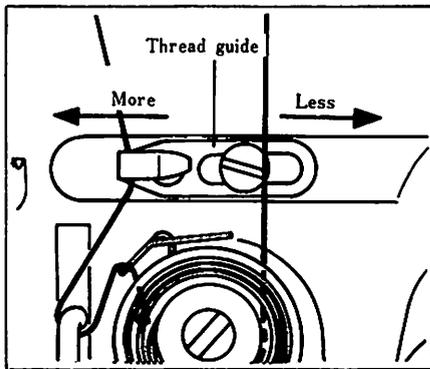
ADJUSTING THE HEIGHT OF THE PRESSER BAR



When the height or the direction of the presser bar is to be changed due to the exchange of presser foot:

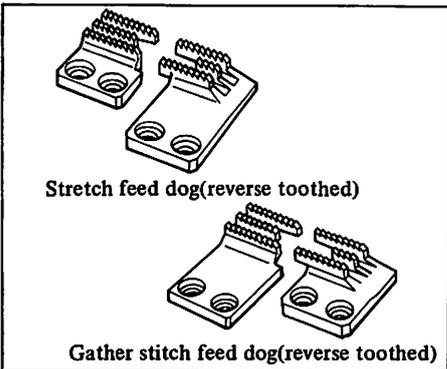
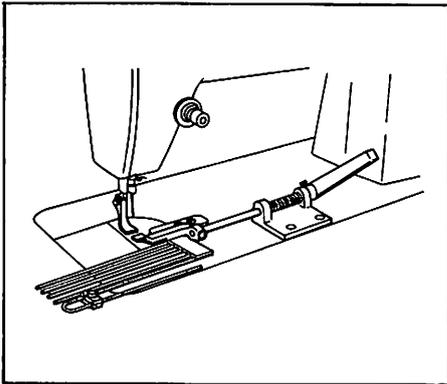
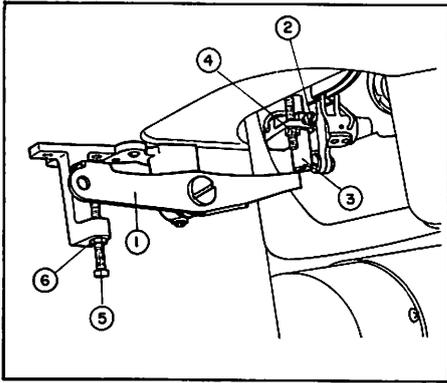
1. Remove the rubber plug of the face plate
2. From this hole, adjust by loosening the presser bar clamping screw.
3. After the adjustment, securely tighten the set screw.

ADJUSTING THE AMOUNT OF THREAD TAKE-UP



The amount of the thread take-up should be changed according to the length of stitches or thickness of the sewing cloth to produce ideal thread tension.

1. When sewing heavy weight materials, move the thread guide to your left.
The thread take-up amount of the take-up gets more.
2. When sewing light weight materials, move the thread guide to your right.
The thread take-up amount gets less.



How to use attachments (separate order)

(These attachments are not included as accessory parts of the machine. Please order them separately)

How to use the differential feed regulating lever

When straight sewing or gather sewing is to be performed by alternately changing the sewing types, use the differential feed regulator lever ①.

For example, when sewing by the differential feed ratio of 1:1~ 1:2, make adjustment in the following order:

1. Loosen the differential feed regulator base set screw ②.
2. Match the indicating line of the differential feed regulator base ③ to "2" of graduation and set with nut ④.
3. Make the tip of the differential feed adjusting lever ① to support the differential feed regulator base.
4. Raise up the differential feed adjusting lever ① by the regulating screw ⑤ and tighten the nut ⑥
5. Connect the differential feed adjusting lever ① with the pedal with chain.
6. When pedal is stepped on and the sewing starts, the differential feed regulator base ③ will be raised up and the differential feed ratio becomes 1:2 and gather sewing can be performed.
7. If the pedal is released, the machine will do straight sewing. Thus, the differential feed regulator lever is used for straight sewing and gather sewing, alternately.

*How to use attachment for gather sewing

When this attachment is used, only the lower cloth is gather-stitched by the amount of the differential ratio.

This attachment can be installed very easily by 2 set screws. Be sure to use exclusive presser foot for this purpose.

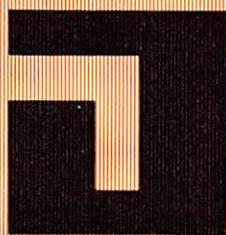
*Supplementary Feed Dogs (Reverse Toothed)

For stretch stitching B-1613-432-A00

Stretch feed dog (reverse toothed)

For gather stitching B-1613-432-B00

Gather stitch feed dog (reverse toothed)



TOKYO JUKI



TOKYO JUKI INDUSTRIAL CO., LTD.

Head Office & Plant, 2-1, 8-chome, Kokuryo-cho, Chofu-shi, Tokyo, Japan

Business Office: 23, Kabuki-cho, Shinjuku-ku, Tokyo, Japan

Cable Address: JUKI TOKYO

Telex: 232-2301 JUKISINJUKU TOK

From the library of: Superior Sewing Machine & Supply LLC

BA 432 BEB Printed in Japan (F)