

DMN-530-4 INSTRUCTION MANUAL

Before operating your JUKI Lockstitch Machine, please read this Instruction Manual carefully in order to operate it in the correct and efficient manners.

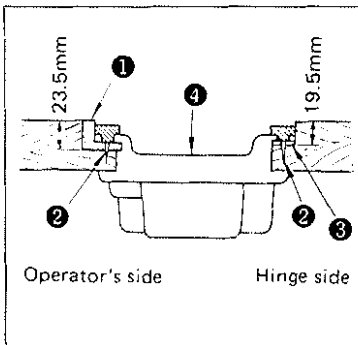
CAUTIONS BEFORE OPERATION

1. Never operate the machine before the oil reservoir is filled up with the prescribed lubricating oil.
2. When the machine is operated for the first time after assembly, bring the needle down with the handwheel and ensure that the handwheel revolves in the correct direction when power is applied; it must revolve in the counter-clockwise direction when viewed from the handwheel end of the machine.
3. Do not change the pulley to a larger one within the first 4 weeks after assembly.
4. Do not carry the machine head by gripping the cover plate at the rear of the handwheel.
5. Confirm the power source referring to the rated voltage and phase indicated on the machine plate on the motor housing.

CAUTIONS IN OPERATION

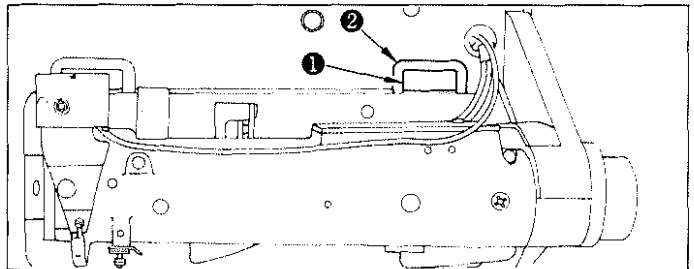
1. Don't put your hand under the needle when you turn "on" the power switch.
2. Don't put your hand into the thread take-up cover while the machine is running.
3. Don't forget to cut off the power supply before you tilt the machine head backwards or replace the V-belt.
4. Never bring your fingers or hair close to, or place anything on the handwheel, V-belt, bobbin winder wheel or motor during operation. It may lead to serious personal injuries.
5. If your machine is provided with a belt cover, finger guard and eye guard, never operate your machine with any of them removed.
6. Take care not to hurt your fingers with the vertical edge trimmer.
7. Don't forget to turn the main switch "off" before you adjust the vertical edge trimmer.

1. SETTING UP THE MACHINE HEAD



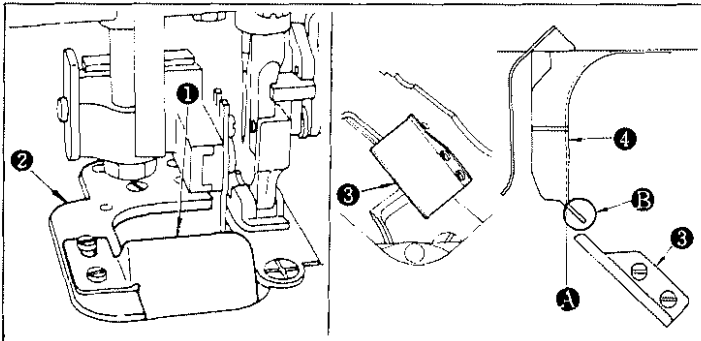
★ Attaching the oil reservoir

Install the oil reservoir in the way that it is supported by four corners of the opening in the table. Nail two rubber cushions ① to a protruded edge from the table opening at operator's side using nails ② and also attach two headrest cushions ③ to a protruded edge at the far end (hinge side) using nails ②, and the place oil reservoir ④ on the cushions.



Insert hinge ① to the hinge hole in the machine bed and let the machine head rest on the four corner cushions on the table by engaging it with rubber hinge ② in the table.

2. ATTACHING THE WASTE MATERIAL GUIDE

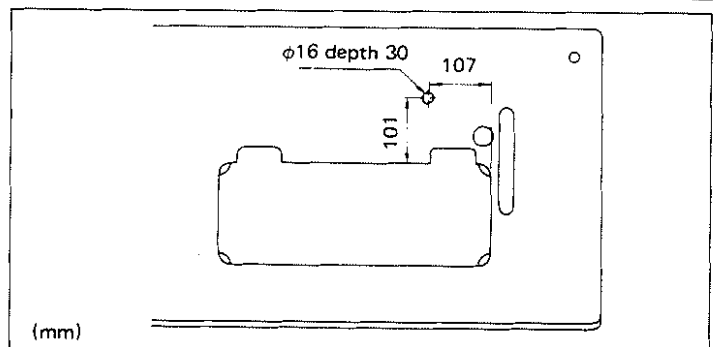


Attach waste material guide ① to throat plate ② to permit all waste materials to drop.

Attach waste material guide (B) ③ to the oil reservoir in the following way;

1. Don't let the top end of the waste material guide (B) protrude to the left from plane A of guard ④.
2. Don't let the waste material guard hit guide (B) at point ⑤ when you tilt or bring the machine back in upright position.

3. POSITION OF THE HEAD SUPPORT

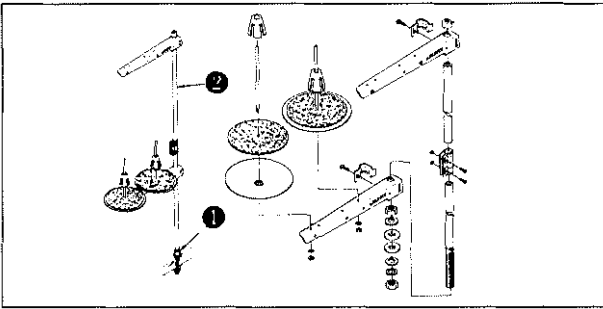


(mm)

When JUKI DMN-530-4 is installed on a non-JUKI table, make a hole in an exact position for the head support according to the above drawing.

(The head support rod installed in an inexact position may fail to stably support the machine head.)

4. SETTING UP THE THREAD STAND

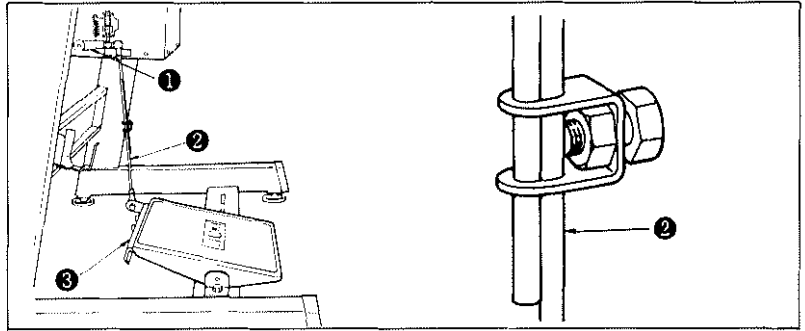


Assemble the thread stand together and set it up using the installation hole in the table.

Tighten gradually nut ① until the thread stand assembly stands fast without shaking.

If an overhead power supply line is used to operate the machine, pass the power supply line through spool rod ②

5. ADJUSTING THE PEDAL



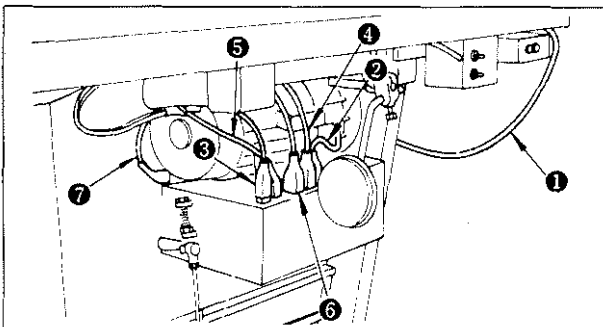
★ Attaching the connecting rod

Align connecting rod ② with motor regulation lever ① by moving pedal adjusting plate ③ to the left or to the right.

★ Angle of the pedal

Angle of the pedal can be adjusted as desired by changing the working length of the connecting rod; loosen a fastening screw without connect the upper part of the rod to the lower part and adjust the overall length.

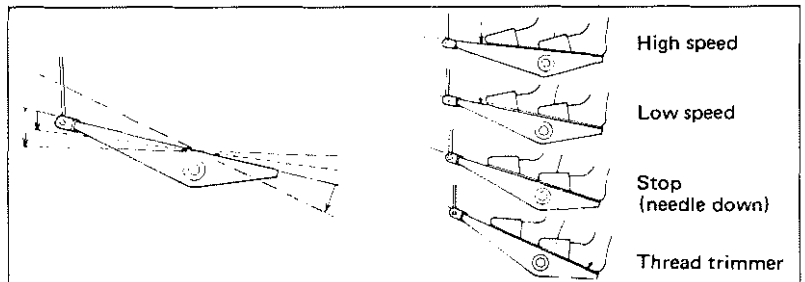
6. CONNECTING THE CORDS



- ① Power supply cord
- ② Magnetic clutch brake cord (already connected)
- ③ Back tack selector switch
- ④ Cords for the wiper switch and the reverse feed lever switch
- ⑤ Cords for the thread trimmer solenoid and the reverse feed solenoid.
- ⑥ Synchronizer cord
- ⑦ Power supply cord for the controller (already connected)

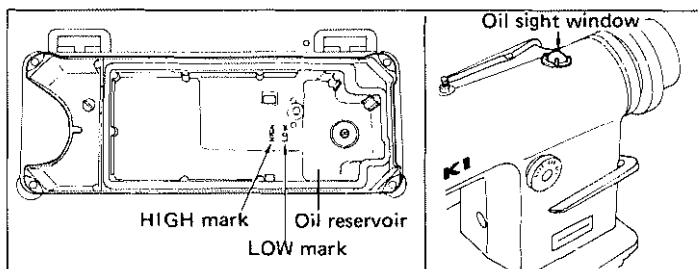
(CAUTION) Before connecting the cords, turn the main switch "off" without fail. Ensure that no cord touches any moving or revolving parts.

7. PEDAL OPERATION



1. Lightly depress the pedal forward (toe-down), and the machine will run at a low speed.
2. Depress the pedal further forward (toe-down), and the machine will run at a high speed on condition that the back tack selector switch is "off". (If the back tack selector switch is "on", an automatic reverse stitching performed prior to a high speed operation.)
3. In the neutral position, the machine will stop with the needle down.
4. Depress the pedal backward rapidly, and the thread trimmer will work.
 - The thread trimmer will carry out its operation even though the pedal is depressed backward (heel-down) directly from the high speed or low speed position.
 - The thread trimmer continues its operation even if the pedal is brought back to the neutral position while the trimmer is still working.
 - When the machine stops, it always brings its needle down into the gauge plate. If you want to raise the needle, depress the pedal once backward.

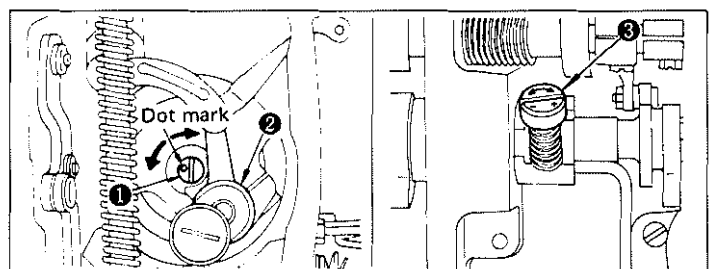
8. LUBRICATION



★ Before operation

1. Fill the oil reservoir with JUKI New Defrix Oil No. 1 up to the mark "HIGH".
2. Add the oil when the oil level comes down below the "LOW" mark.
3. While the machine is running, you can see the oil sight window being splashed with oil as long as the oil reservoir is properly filled. The amount of oil splash has nothing to do with the oil level in the reservoir.

(CAUTION) If the machine is newly installed or has not been used for a long period of time, let the machine idle for about 10 minutes at a speed of 3,000 to 3,500 s.p.m. after filling up the oil reservoir.



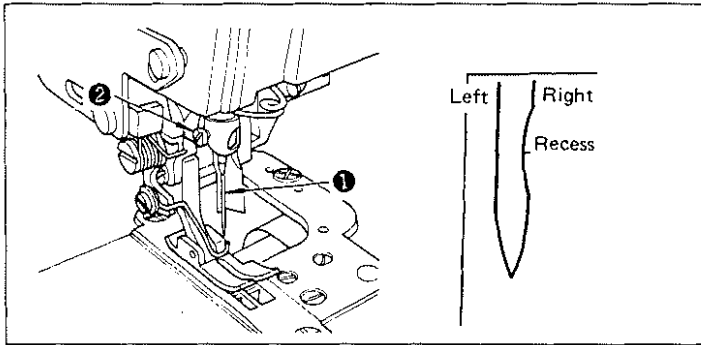
★ Lubrication of the components in the face plate

Adjust the amount of oil to be fed to the components installed in the face plate such as the thread take-up and the needle bar crank components by turning oil amount adjusting pin ①. Set the dot mark on the adjusting pin close to needle bar crank ② to minimize the flow of lubricating oil or to the farthest point from the needle bar crank to maximize the oil flow.

★ Lubrication of the hook components

Adjusting the amount of oil to be fed to the hook by turning oil adjusting screw ③ on the hook driving shaft; turn it in (+) direction to increase or in (-) direction to reduce the flow of oil.

9. ATTACHING THE NEEDLE

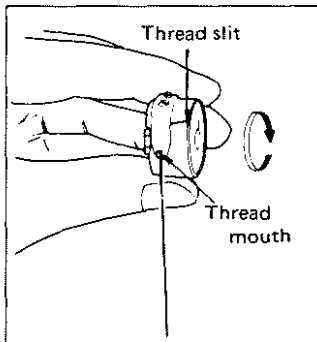


★ Cut off the power supply to the motor

☆ The standard needle is DB x 1 #14.

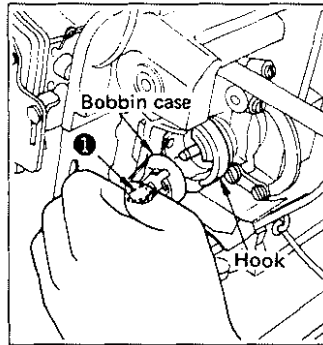
1. Turn the handwheel to raise the needle bar to its highest position.
2. Loosen needle clamp screw ② and pick up needle ① with your fingers with its recess facing to the right.
3. Insert the needle into the needle bar as far as it will go.
4. Firmly tighten the needle clamp screw.

12. SETTING THE BOBBIN IN THE BOBBIN CASE



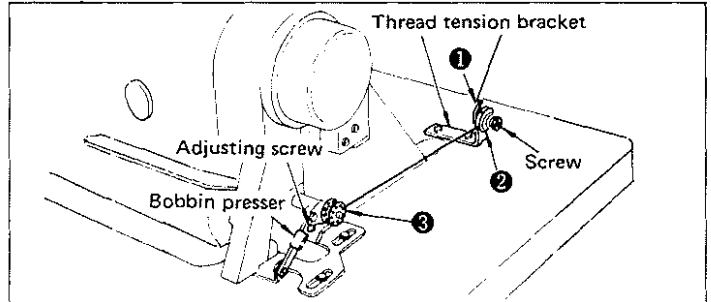
1. Take the bobbin in your left hand in the way that the thread is seemed to be right-turn winding as illustrated and put it into the bobbin case.
 2. Bring the thread into the thread slit in the bobbin case and draw it, and the thread will pass under the thread tension spring and can be pulled out through the thread mouth.
- ☆ The bobbin must revolve in the arrowed direction when the thread is pulled.

10. SETTING THE BOBBIN CASE



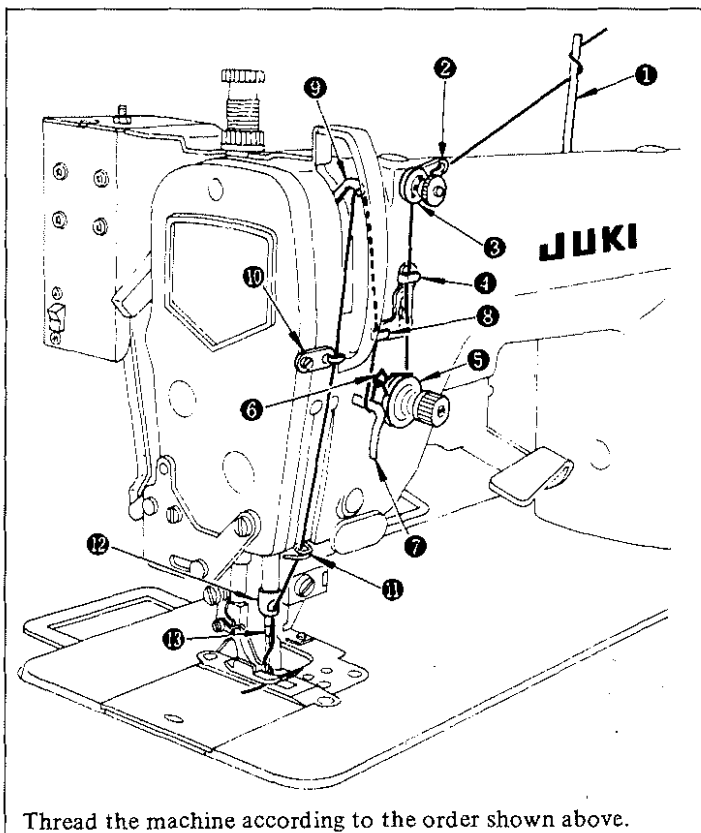
1. When you take the bobbin case out of the hook, lift up the bobbin case latch ① and take out the bobbin case by holding the latch. This prevents the bobbin from falling out.
2. When you insert a bobbin case in the hook, push the bobbin case into the hook, make sure it snaps into place and release the bobbin case latch to close down.

11. WINDING THE BOBBIN



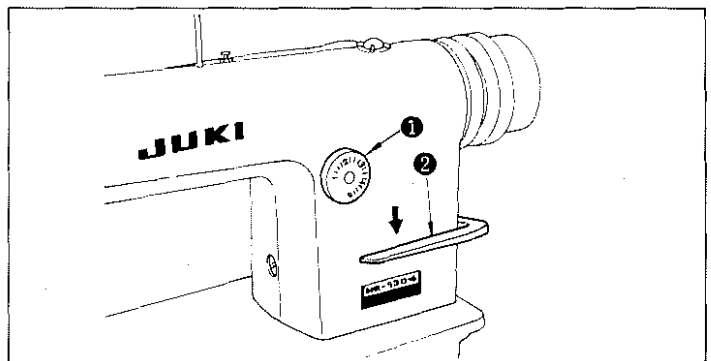
1. Thread the bobbin winder and the thread tension component according to the order shown in the illustration and wind the thread end round the bobbin several turns.
2. Push down the bobbin presser to let the winder pulley touch the belt.
3. Set the adjusting screw so that about 80% of the total capacity of a bobbin is wound up; turn the adjusting screw clockwise to increase or counterclockwise to reduce the winding amount.
4. Adjust the position of the thread tension bracket so that the bobbin is evenly wound.
5. As soon as the bobbin is wound up, the bobbin winder will stop automatically.

13. THREADING THE MACHINE



Thread the machine according to the order shown above.

14. SETTING THE STITCH LENGTH

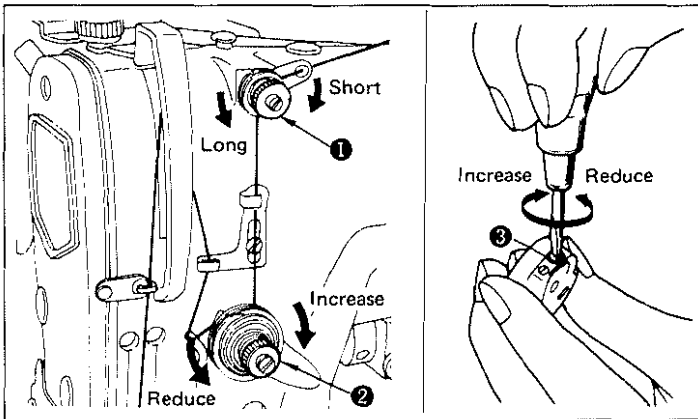


Set a desired stitch length with feed regulator dial ①; align a desired figure (in mm) with the pointer pin on the machine arm. When you select a smaller number, turn the regulator dial as you are depressing reverse feed control lever ②

★ Reverse sewing

1. Depress reverse feed control lever ②, and the machine will immediately reverse its sewing direction.
2. The machine will continue to reverse as long as the lever is kept down.
3. Release the lever, and the machine will immediately run in the normal direction.

15. THREAD TENSION



★ Adjusting the needle thread tension

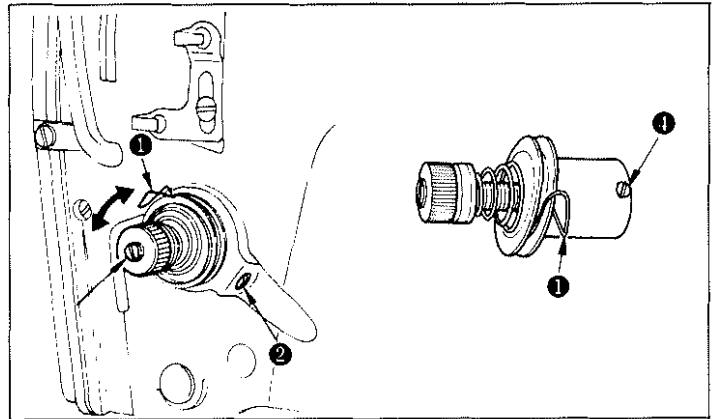
Turn tension nut No. 1 ① clockwise to make short or counterclockwise to make long the thread being left in the needle after thread trimming action.

Turn tension nut No. 2 ② clockwise to increase or counterclockwise to reduce the needle thread tension.

★ Adjusting the bobbin thread tension

Turn tension adjusting screw ③ clockwise to increase or counterclockwise to reduce the bobbin thread tension.

16. THREAD TAKE UP SPRING



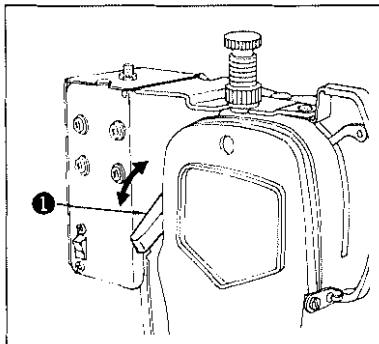
★ Adjusting the stroke of take-up spring ①

Loosen screw ② which sets tension post socket in place and turn tension post ③ as desired.

★ Adjusting the tension of take-up spring ①

1. Loosen screw ② and pull out tension post ③
2. Loosen screw ① for adjustment.
3. Turn tension post ③ clockwise to increase or counterclockwise to reduce the spring tension.

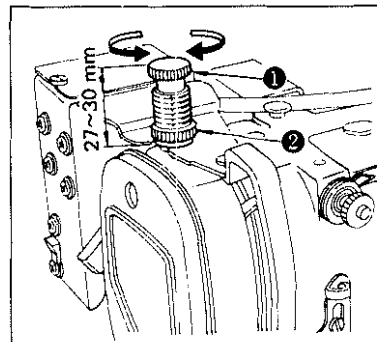
17. PRESSER LIFTER



Push hand lifter ① to the right, and the presser foot will rise and stay about 5.5 mm (7/32") above the gauge plate surface. Push down the hand lifter to its original position to lower the presser foot.

When you use the knee lifter, the presser foot will rise about 10 mm (25/64") above the gauge plate surface.

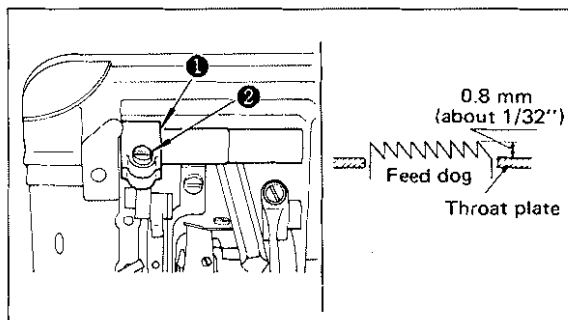
18. PRESSURE OF THE PRESSER FOOT



Loosen nut ② and turn presser spring regulator ① clockwise to increase or counterclockwise to reduce the pressure of the presser foot. Tighten nut ② after the adjustment.

To obtain a standard pressure for general cloth, turn the presser spring regulator so that its top end is 27 ~ 30 mm above the machine arm surface. (equivalent to about 5 Kg).

19. HEIGHT OF THE FEED DOG

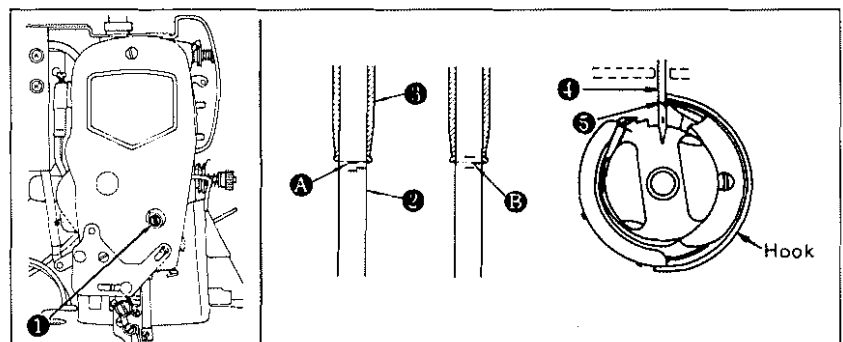


It is recommendable to determine the height of the feed dog so that it projects from the gauge plate surface by about 0.8 mm (1/32") when it goes up.

In order to prevent the feed dog from hitting the thread trimmer knife, don't set it too low.

1. Loosen screw ② which sets feed rocker shaft arm ①.
2. Adjust the height of the feed dog by moving the feed bar up and down.
3. Tighten screw ② firmly.

20. NEEDLE-TO-HOOK RELATION



★ Set the needle to hook relation in the following way;

1. Set the feed regulator dial to "2".
2. Turn the handwheel to bring down the needle bar at the lowest point of its stroke and loosen screw ① which sets the needle bar connection.

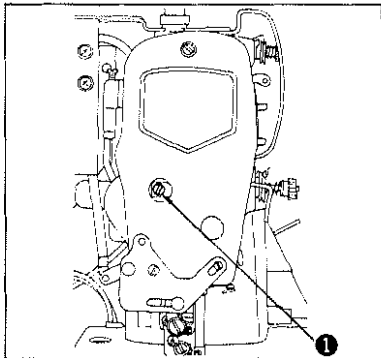
(Setting the needle bar)

3. Align the upper line ③ engraved on needle bar ② with the bottom end of needle bar lower bushing ④ and tighten screw ①.

(Setting the hook)

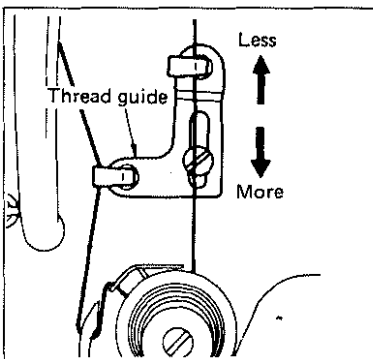
4. Loosen 3 screws to set free the hook and turn the handwheel until the middle line ⑥ engraved on the needle bar has come down in line with the bottom end of the needle bar lower bushing.
5. Bring the hook close to the needle ④ so that center of the pointed end of the hook blade ⑤ is aligned with the center of the needle with a clearance of 0.02 ~ 0.05 mm between them. Tighten 3 screws firmly to set the hook in the above-mentioned position.

21. HEIGHT AND ANGLE OF THE PRESSER BAR



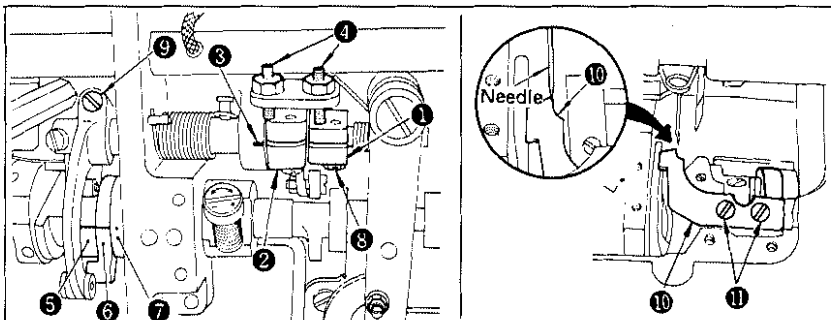
The height and angle of the presser bar can be adjusted by loosening screw 1 which fastens the presser bar to the presser bar guide bracket.

22. THREAD TAKING AMOUNT OF THE TAKE-UP LEVER



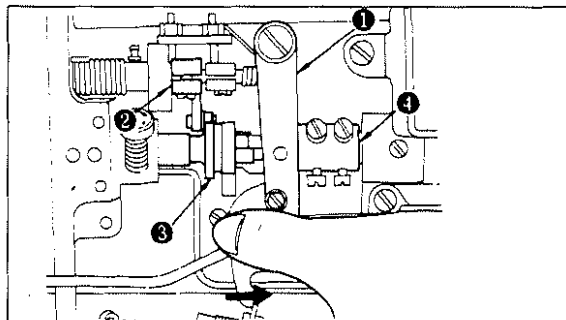
Lower the thread guide to let it supply more thread for the thread take-up lever when sewing a heavy-weight material. Move the thread guide upward when sewing a light-weight material.

23. INITIAL POSITION OF THE THREAD TRIMMER



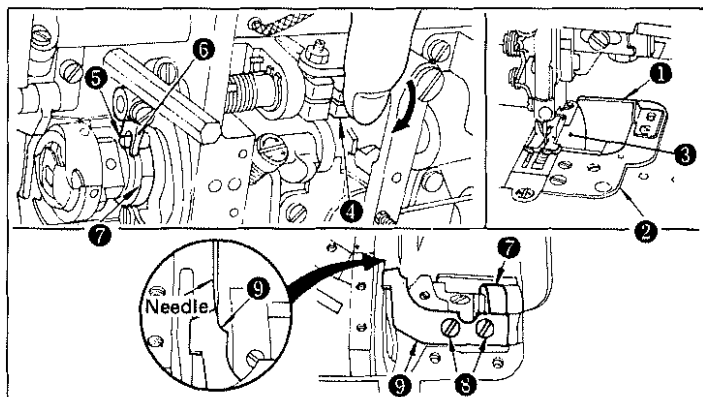
- Loosen screws 1 once and set both dot 5 is knife driving pawl 1 and thread spreader arm 2 in line with the notch on the boss of the bed. Tighten screws 1 after the adjustment.
- Align the engraved lines on knife mounting base 5 and thread spreader mounting base 6 with the dot mark on hook driving shaft front bushing 7; loosen setscrew 8 on the knife driving claw to align the knife mounting base, and loosen setscrew 9 on the thread spreader driving arm to align the thread guard mounting base, respectively.
- Loosen screw 11 and adjust the position of thread trimmer knife 10 so that its blade point aligns with the needle center.

24. TIMING OF THREAD TRIMMING ACTION



- Tilt the machine head back.
- Turn the handwheel to bring the needle bar to its lowest position and then push magnet arm 1 in the arrowed direction.
- In this state of the machine, turn the handwheel again until the red dot on the handwheel matches the red dot on the machine arm and make sure that the roller on top of thread spreader arm 2 comes into contact with thread trimmer cam 3. When necessary, adjust it by moving thread trimmer driving collar 4 in its circumferential direction.

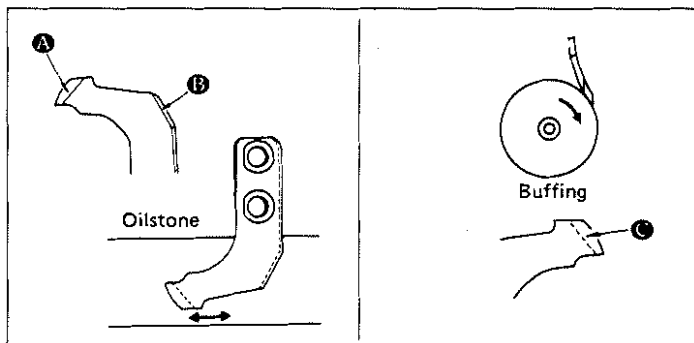
25. REPLACING THE THREAD TRIMMER KNIFE



- Remove waste material guide 1 and throat plate 2 (as accompanied by waste material guard 3) from the machine.
- Tilt the machine head back, push down by your fingers knife driving pawl 4 and disengage knife driving arm 5 from knife base latch pin 6, and you can freely turn round knife mounting base 7.
- Bring the machine head to its upright position, turn the knife mounting base until it is accessible, loosen knife setscrews 8 using a screw driver and remove thread trimmer knife 9. When you install the knife, reverse the above procedures and align the knife edge with the center of the needle.

(CAUTION) Tilt the machine head back when you remove the throat plate accompanied by a waste material guard.

26. SHARPENING THE THREAD TRIMMER KNIFE



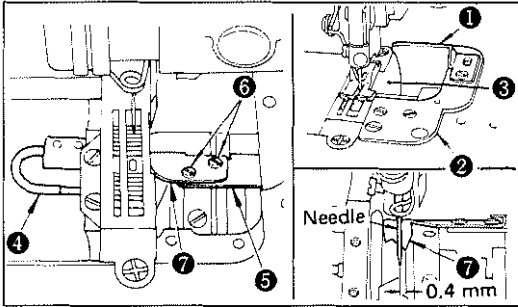
★ Using an oilstone

- Press the knife by your hand against the surface of the oilstone so that both edges A and B evenly touch the oilstone surface.
- Slide the knife on the oilstone surface forward and backward by lightly pressing it with your fingers.
- To increase the sharpness, remove the burr formed on the edge using the oilstone. (Use only the fine-grain oilstone)

★ Using a buffing machine

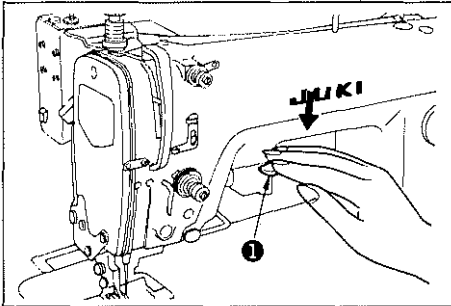
When you use a buffing machine, buff lightly face C of the knife.

27. REMOVING THE THREAD SPREADER



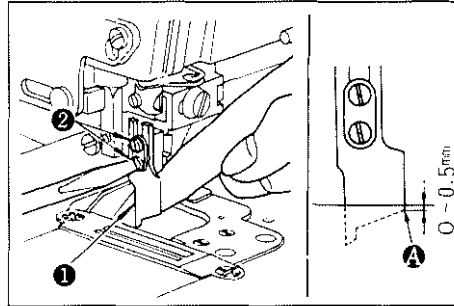
1. Remove waste material guide ① and then throat plate ② (accompanied by a waste material guard ③).
 2. Turn the handwheel to bring down the needle bar to its lowest position and press bobbin stopper ④ against the bobbin until the former touches the latter.
 3. Continue to turn the handwheel slowly, and thread spreader mounting base ⑤ will start rotating toward you.
 4. Stop turning the handwheel when the thread spreader comes in an accessible position, loosen setscrew ⑥ using a screw driver and remove thread spreader ⑦. Reverse the above procedures when attaching the thread spreader to its original position so that its top end locates 0.4 mm on the right of the needle center.
- (CAUTION) Tilt the machine head back when you remove the throat plate accompanied by the waste material guard.

28. TRIMMING KNIFE



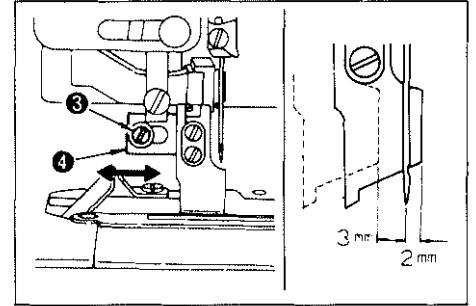
★ Operating the knife

Push down knife set lever ① on the machine head to set the built-in trimming knife in its working position. The knife will work as the machine starts. When you want to stop the knife operation, push up knife set lever ①, and the knife will rise and stop. This must be down after stopping the machine.



★ Attaching the knife

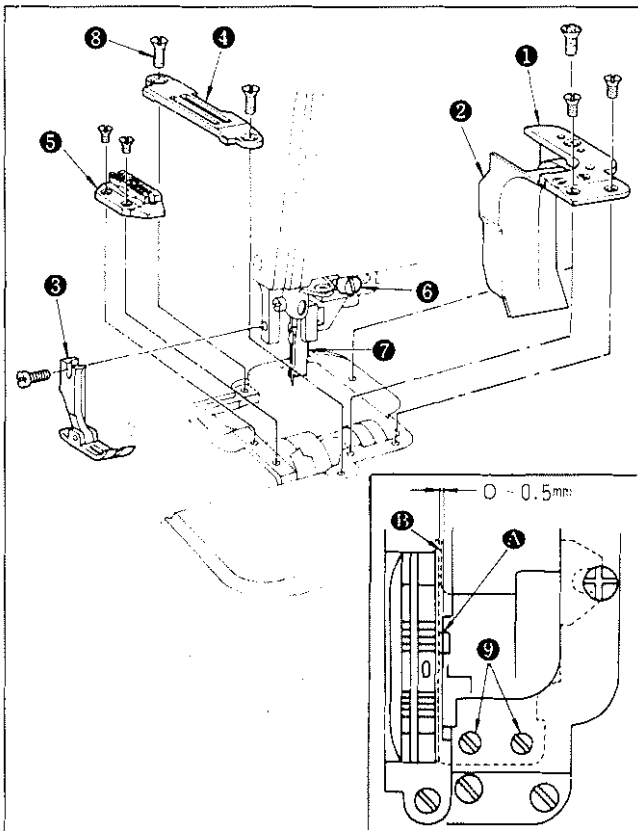
The knife must be attached in the way that its edge ④ comes down 0 to 0.5 mm below the gauge plate surface when it has reached at the lowest point of the stroke. Remove two setscrews ①, and you can replace the knife.



★ Adjusting the knife

The position of the knife can be adjusted within the limit of 5 mm (13/64"); 2 mm (5/64") in front of and 3 mm (1/8") behind the needle center. Loosen screw ③ and change the position of the knife fastening block. Firmly tighten screw ④ after the adjustment.

29. CHANGE OF CUTTING WIDTH



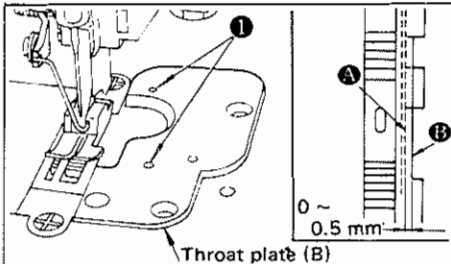
Five gauges for cutting width are available; 3.2 mm (1/8"), 4.0 mm (5/32"), 4.8 mm (3/16"), 5.6 mm (7/32") and 6.4 mm (1/4"). Replace the gauge when you want to change the cutting width in the following way;

1. Remove throat plate ① (with a waste material guard ②), presser foot ③, gauge plate ④ and feed dog ⑤.
2. Loosen screw ⑥ to release the knife holder.
3. Attach the feed dog, gauge plate presser foot and throat plate with waste material guard suitable for a desired cutting width.
4. Turn the handwheel to bring down built-in trimming knife ⑦ to its lowest position.
5. Tighten screw ⑥ by pressing the top end of knife ⑦ lightly against the surface of the gauge plate at point ④. (tighten screws ⑧ by pressing the gauge plate against the knife if a desired sharpness of the knife is not obtained after the knife holder was set.)
6. Loosen screws ⑨ and set the waste material guard on the throat plate so that its face ③ is overlapped by 0 ~ 0.5 mm (0 ~ 1/64"), with face ④ of the gauge plate.
7. Tighten screws ⑨ firmly.

REPLACEMENT PARTS BY GAUGE

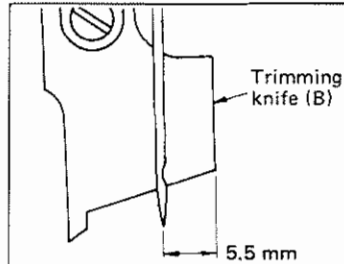
Cloth cutting width mm (inches)	3.2 (1/8)	4.0 (5/32)	4.8 (3/16)	5.6 (7/32)	6.4 (1/4)
Gauge plate	B1190-530-D00	B1190-530-E00	B1190-530-F00	B1190-530-G00	B1190-530-H00
Feed dog	Standard	B1609-530-D00		B1609-530-G00	
	Coarse tooth	B1609-530-E00		B1609-530-H00	
Presser foot (asm)	without finger guard	B1524-530-DA0	B1524-530-EA0		B1524-530-GA0
	with finger guard	B1524-530-DB0	B1524-530-EB0		B1524-530-GB0
Waste material guard	B1191-530-E00			B1191-530-G00	

30. OTHER REPLACEMENT PARTS



★ Throat plate (B)

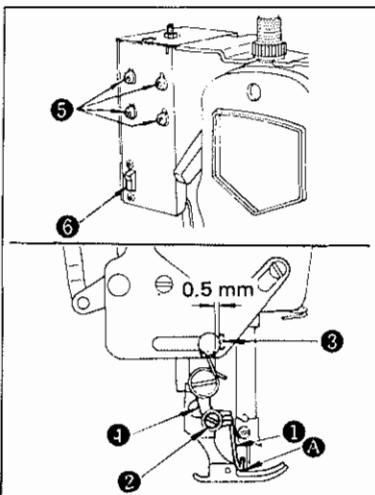
Use the throat plate (B), when the waste material after cutting do not have to falling down through the machine bed. Tighten screws ❶ in the way that face ❸ of the throat plate cover overlaps with face ❷ of the gauge plate by 0 ~ 0.5 mm (0 ~ 1/64").
(Part No. D1109-530-DAB)



★ Trimming knife (B)

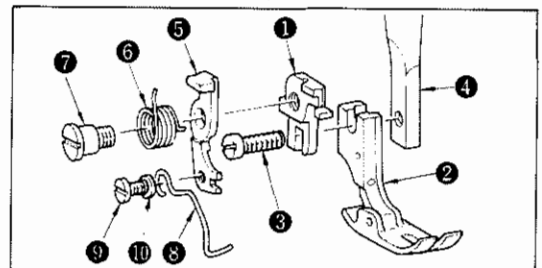
By using this knife, you can cut the cloth up to 5.5 mm (7/32") in front of the needle center.
(Part No. B4145-530-B00)

31. WIPER



★ Position of the wiper

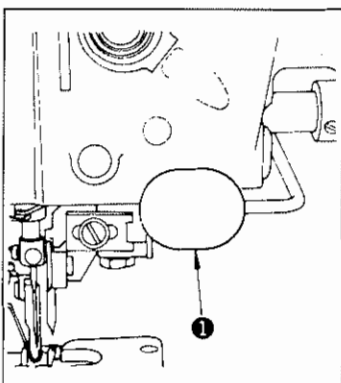
Wiper ❶ must be in contact with the presser foot at point ❸. When necessary, loosen screw ❷ and let the wiper touch the presser foot.
There must be a 0.5 mm (1/64") clearance between wiper driving plate ❸ and wiper arm ❹. Loosen magnet setscrew ❺ and adjust the position of the magnet to provide said clearance. Turn wiper switch ❻ "on", and the wiper will operate after thread trimming. Turn it "off" when you do not use the wiper.



★ Connecting to the wiper to the presser foot

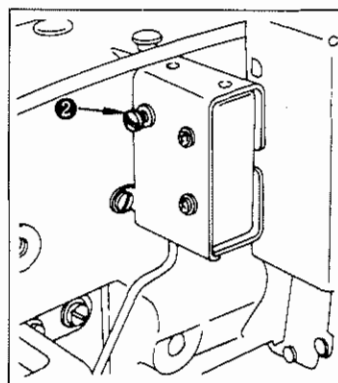
1. Attach wiper holder ❶ and hinge presser foot (asm) ❷ together to presser bar ❸ using presser foot clamp screw ❹.
2. Attach wiper arm ❺ and wiper spring ❻ to the wiper holder by tightening wiper arm stud ❼.
3. Attach wiper ❽ to wiper holder ❶ using screw ❾ and plain washer ❿.

32. REVERSE FEED SWITCH LEVER



★ Operation

1. Depress switch lever ❶, and the machine will reverse immediately.
2. The machine will continue the reverse feed as long as this switch lever is being depressed.
3. Release this switch lever, and the machine will go back to the normal feed operation.



★ Height of the switch lever

Set the height of the switch lever at a convenient height. You can adjust it after loosening screw ❷.

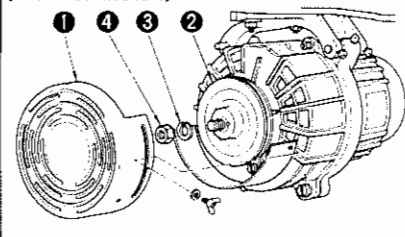
33. MOTOR PULLEY AND BELT

1. Use a V-belt of M type.
2. The running speed of the machine depends on the motor pulley and the V-belt relation as listed below;

Outer diameter of the motor pulley	Part No. of motor pulley	Revolution		Belt length	Part No. of belt
		50 Hz	60 Hz		
125 mm	MTS-P01200A0	5,060 s.p.m.		44"	MTJ-VM004400
120	MTS-P01150A0	4,850			
115	MTS-P01100A0	4,630		43"	MTJ-VM004300
105	MTS-P01000A0	4,250	5,040 s.p.m.		
100	MTS-P00950A0	4,000	4,780		
95	MTS-P00900A0	3,820	4,540		
90	MTS-P00850A0	3,610	4,320		
85	MTS-P00800A0	3,390	4,000	42"	MTJ-VM004200
80	MTS-P00750A0	3,160	3,790		
75	MTS-P00700A0		3,520		

(CAUTION) The motor pulley has a tapered hole to fit the motor shaft. No commercially available motor pulley does not fit the motor, please note. The effective diameter of the motor is obtained by subtracting 5 mm (13/64") from the outer diameter.

(How to install)

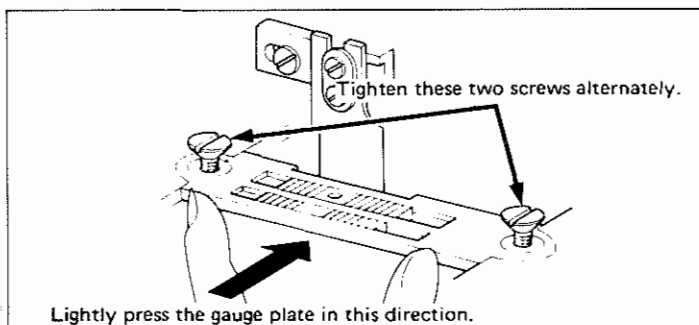


Remove pulley cover ①, and install motor pulley ② on the motor shaft, fitting it into the key way. Attach spring washer ③ to them, and tighten nut ④, using a wrench.

To remove motor pulley ②, take off the pulley cover, and reverse the installing procedure stated above. It is advisable to use a gear puller (Part No. J1065000000), which is available at extra cost, to easily remove the motor pulley.

(Caution) When removing the motor pulley, do not hit it too hard with a hammer or the like, or else it may be damaged.

34. INSTALLING THE GAUGE PLATE

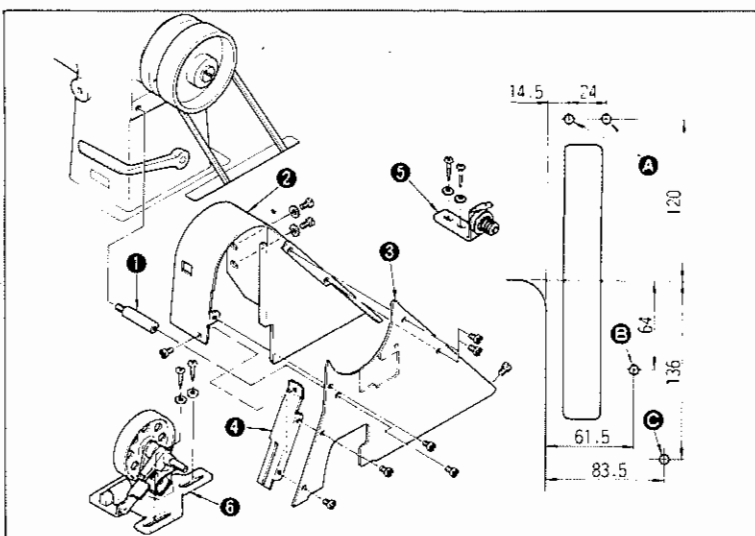


Lower the trimming knife down to its lowest point and gradually tighten two screws alternately while you are lightly pressing the gauge plate against the trimming knife face.

35. SPECIFICATIONS

Use	: General medium-weight cloth
Sewing speed	: Max. 5,000 s.p.m. (4,000 s.p.m. when the stitch length exceeds 4.0 mm (5/32"))
Maximum stitch length	: 5.0 mm (13/64")
Needle	: DB x 1 #9 ~ #13 (Standard: #14)
Presser foot lift	: 10 mm (25/64") by knee lifter
Cloth cutting knife stroke	: 6.5 mm (1/4")
Lubricating oil	: JUKI New Defrix Oil No. 1

36. INSTALLING THE BELT COVER AND THREAD WINDER



(Installing procedure)

1. Make three wood screw guide holes (A, B and C) in the machine table.
2. Screw belt cover support ① into the tapped hole in the arm.
3. Attach belt cover ② to the machine head, using the setscrew.
4. Slightly tilt the machine head backward, put belt cover top ③ inside the outer ring of the pulley, then fix belt cover top ③ with four screws.
5. Fix belt cover top ③ to support ①.
6. Loosen the setscrew of the belt cover. Properly position belt cover ②, then screw the belt cover.
7. Fix thread winder cover ④ with three screws. Using wood screws, fix thread winder tension controller ⑤ at A, and fix thread winder ⑥ at B and C.

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Please do not hesitate to contact our distributors or agents in your area for further informations when necessary.

*Appear and specification listed in this instruction manual are subjected to change without notice.

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1988, 4 Printed in Japan