

GOLDEN WHEEL

No. 006029

CS-6500	1-NEEDLE, TOP & BOTTOM FEED LOCKSTITCH MACHINE FOR HEAVY DUTY MATERIALS
CS-6501	1-NEEDLE, TOP & BOTTOM FEED LOCKSTITCH MACHINE FOR HEAVY DUTY MATERIALS (27MM SPECIFICATION)

Please read this Instruction Manual carefully before using the unit in order to get the most out of it and to enjoy using it for a long time. Please keep this Instruction Manual at hand taking care not to lose it.

INSTRUCTION MANUAL

BEFORE OPERATION

1. Do not operate the machine even for trial before lubrication it.
2. Confirm that the voltage and phase (single or 3-phase) are correct by checking them against the ratings shown on the motor nameplate.
3. When running your machine for the first time after the set-up, check the rotational direction of the handwheel. ★ Turn on the power switch. Run the machine at a low speed while checking the rotational direction of the handwheel. (The handwheel should turn counterclockwise as observed from the handwheel side.)
4. For the first month, run the machine at speed of 1000s.p.m. or less.

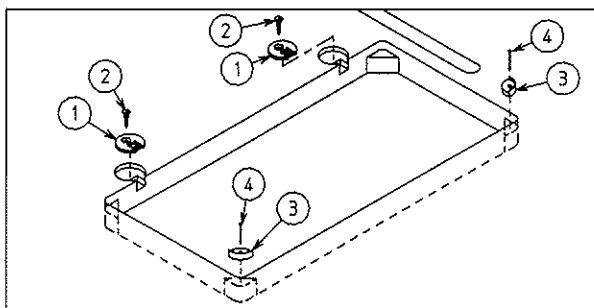
CAUTIONS IN OPERATION

1. Keep your hands away from the needle when you turn on the power switch or while the machine is operating.
2. During operation, be careful not to allow your or any other person's head or fingers to come close to the handwheel, V-belt, bobbin winder or motor. Also, do not place anything close to them.
3. Do not turn the machine with the finger guard, beltcover or any other protectors removed.
4. Be sure to turn off the power switch and confirm that the motor is completely stopped before removing the V-belt.

SPECIFICATIONS

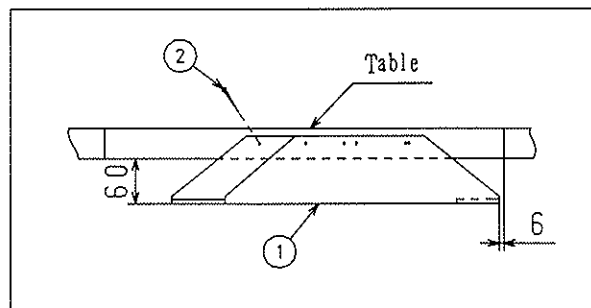
Spec		Model	CS-6500	CS-6501
Application			Heavy duty material	
Sewing speed (Max)			1200 (spm)	
Stitch length			0~12.7 (mm)	
Needle bar stroke			50.8 (mm)	55.6 (mm)
Presser foot stroke	Knee lifter		15 (mm)	27 (mm)
	Hand lifter		12.7 (mm)	
Needle			DDx1 #25	
Lubricating oil			Machine oil (white spindle oil)	

1. SETTING UP THE SEWING MACHINE



(1) Installing the cushion

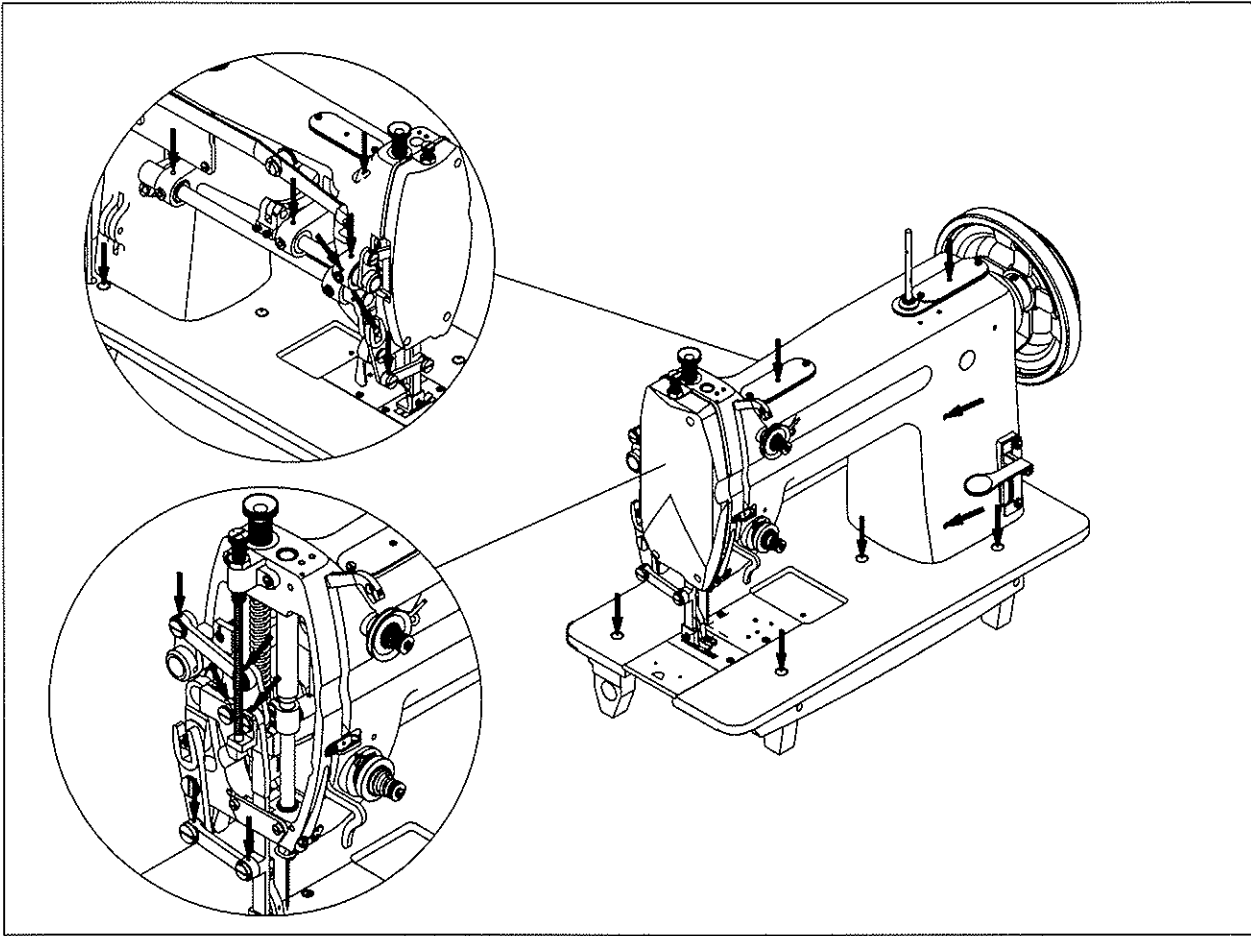
- 1) Fasten the hinge supporter ① on the table using the screw ②.
- 2) Fasten the rubber cushion ③ on the table using the nail ④.



(2) Installing oil pan

- Fasten the oil pan ① on the table using nails ② (at 6 places).

2. LUBRICATION



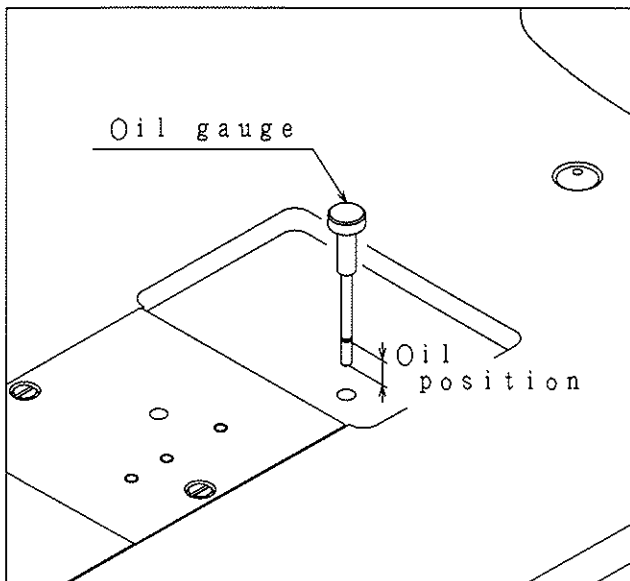
Before starting the machine.

1) Prior to operation, be sure to properly lubricate the points marked with the arrows.

When oiling all sections requiring lubrication, after installation of the machine has been completed, wait for a while (approximately 10 minutes) so that oil can penetrate each section sufficiently before starting continuous operation.

When starting the machine initially and after kept away for a long time without using at all, apply two or three drops of oil each section noted with an arrow mark, and to operate the machine continuously, apply two or three drops of oil each section whenever starting operation in the morning and in the afternoon.

3. LUBRICATION FOR MACHINE BED OIL TANK

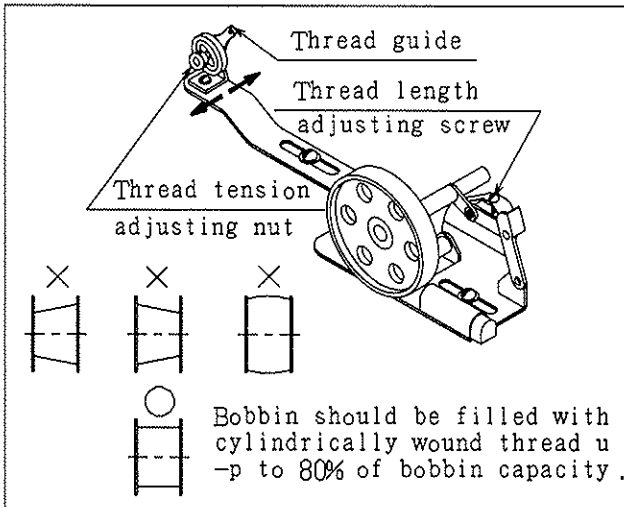


Pour oil up to the position on the oil gauge—e pulling out by hand.

In case of oil volume is insufficient, it will not lubricate to respective necessary parts and hook, so be sure to check it occasionally and replenish sufficiently to prevent locking-up of the machine.

4. WINDING OF BOBBIN THREAD

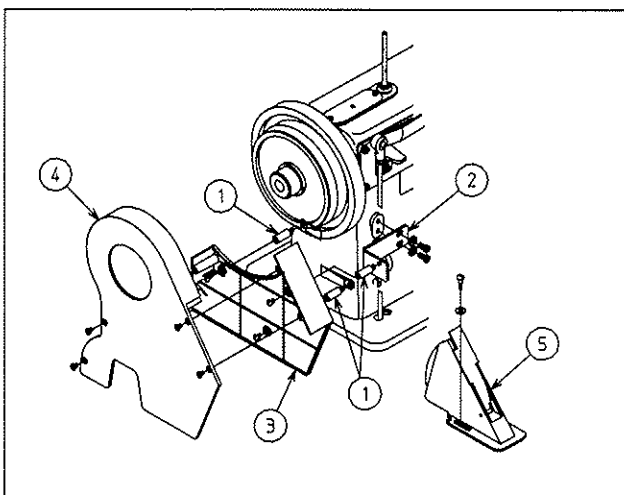
CAUTION TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



- Tension of wound thread
Slack winding is recommended for polyester thread and nylon thread.
- Conically wound thread
Move the thread guide toward smaller diameter of wound thread layer.
- Length of wound thread
Loosen the thread length adjusting screw to decrease length of thread and tighten the screw to increase length of thread.

5. INSTALLING THE BELT COVER

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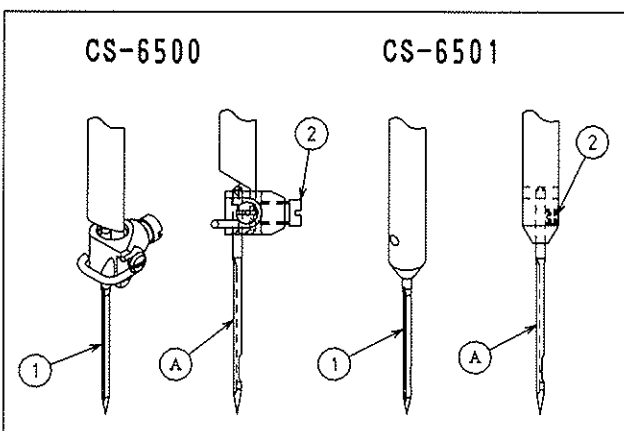


(Installing procedure)

- 1) Insert belt cover stud ① and support plate ② in the tapped hole in the machine arm.
- 2) Belt cover A ③ on to the stud ① and support plate ②.
- 3) Belt cover B ④ fit the belt cover A ③.
- 4) Adjust position of belt cover C ⑤ fixing it with wood screw.

6. INSTALLATION OF NEEDLES

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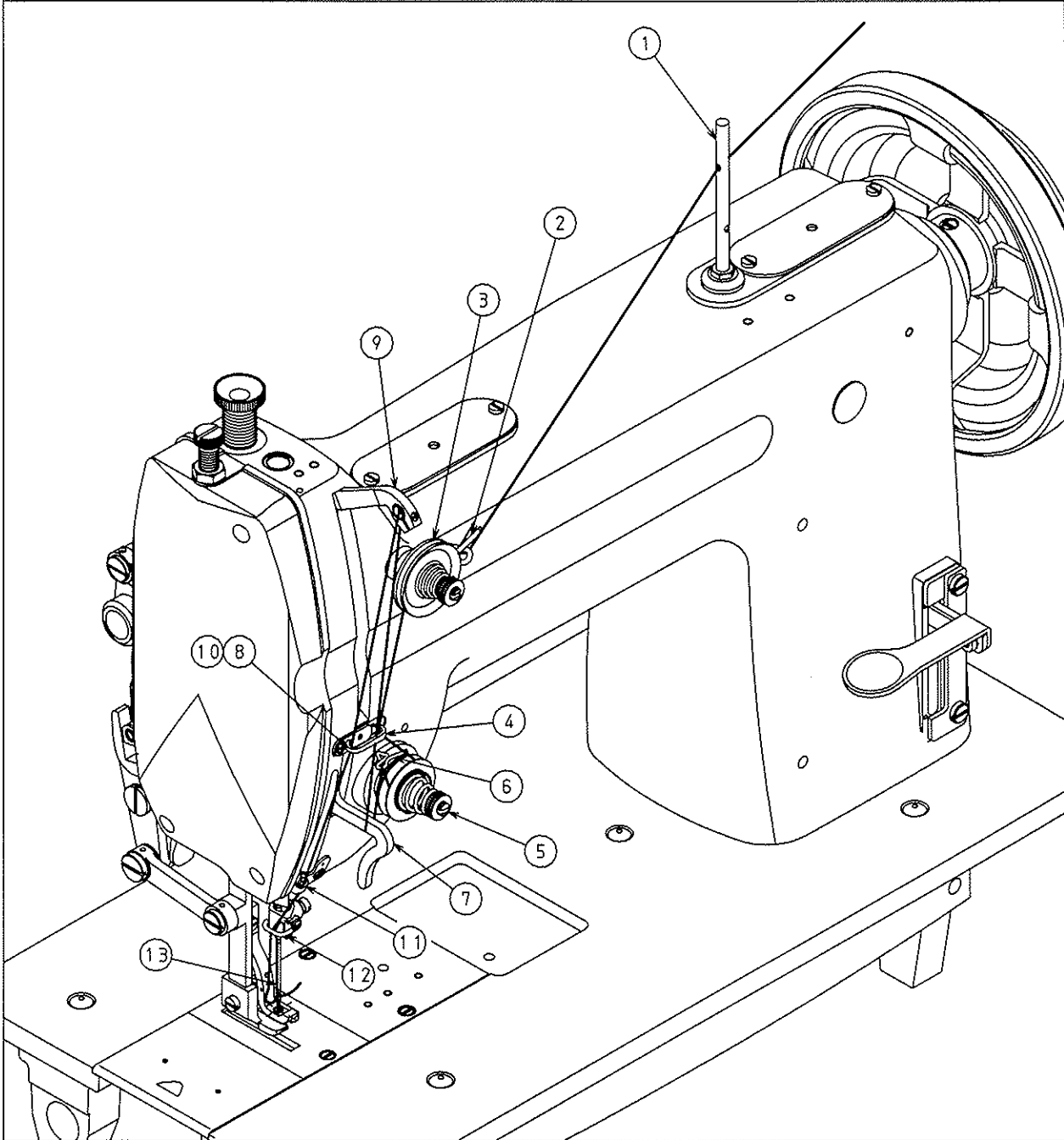
- 1) Turn the handwheel to move the needle bar up to its highest position.
- 2) Loosen needle setscrew ②, and hold needle ① so that long groove A left side.
- 3) Insert the needle into the needle bar until it will go no further.
- 4) Securely tighten the needle set screw ②.

7. THREADING THE MACHINE HEAD

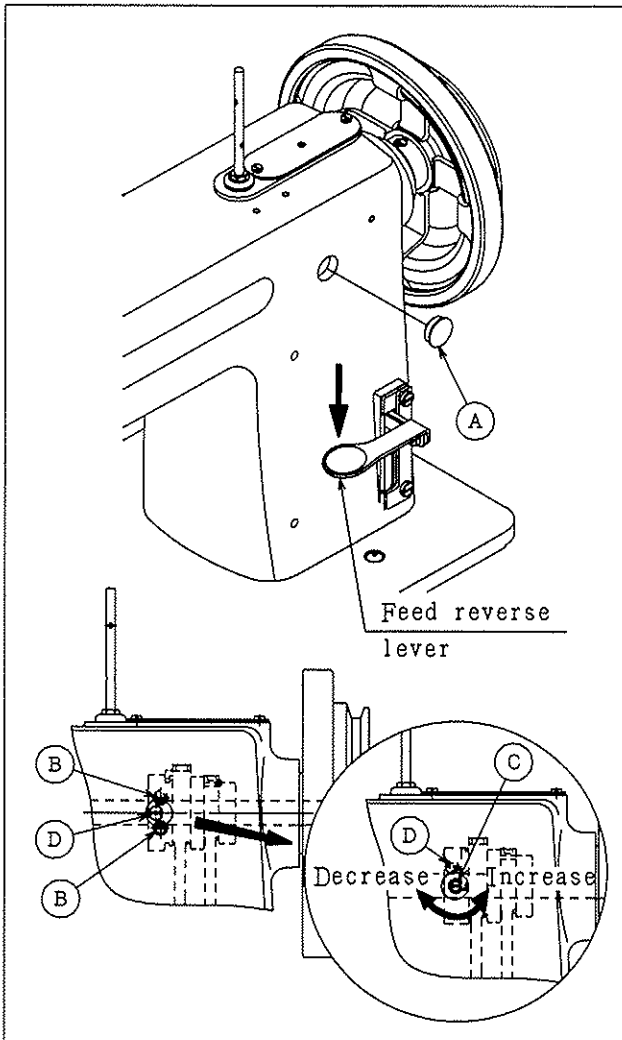


CAUTION

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8. ADJUSTMENT OF STITCH LENGTH AND STITCH REVERSING



○ Adjustment of stitch length

- 1) Remove the rubber plug (A) on the machine arm.
- 2) Loosen the two screws (B) on rotating the handwheel by hand.
- 3) Then rotate the handwheel to about 90° toward the other side and adjust the stitch length by adjust screw (C).

To increase the stitch length turn it counterclockwise and to decrease clockwise.

- 4) After the adjustment, securely tighten the two screws (B).
- 5) The screw (D) is not required to loosen.

○ Feed reverse stitching

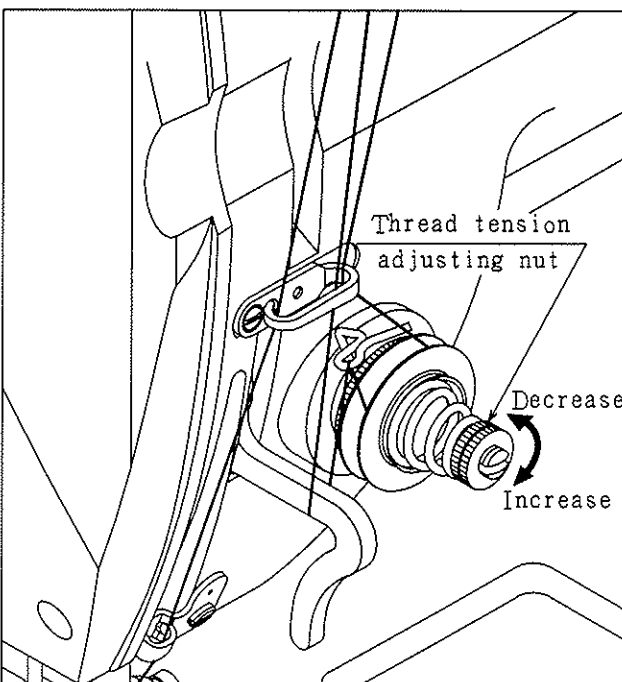
- 1) Push the feed reverse lever down.
- 2) The machine performs reverse feed stitching as long as the lever is held depressed.
- 3) The moment you release the lever, the machine resumes the normal stitching mode.

9. THREAD TENSION



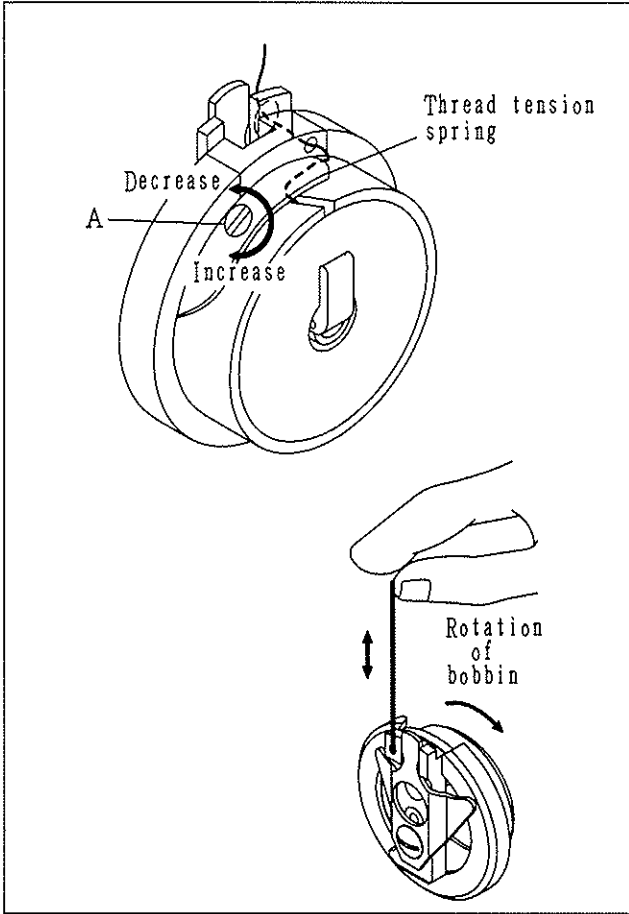
CAUTION

TURN THE SWITCH OFF THE POWER SUPPLY TO PREVENT FROM UNEXPECTED INJURY. BE SURE TO CONFIRM THE STOP OF ROTATION OF THE MOTOR BEFORE OPERATIONS.



1) Adjusting the needle thread tension

Turn the thread tension adjusting nut clockwise to increase or counterclockwise to decrease the needle thread tension.

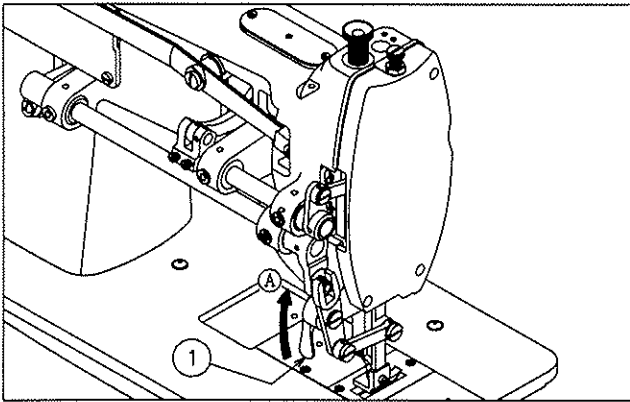


2) Adjusting the bobbin thread tension

- 1) Bobbin thread tension can be adjusted by screw A.

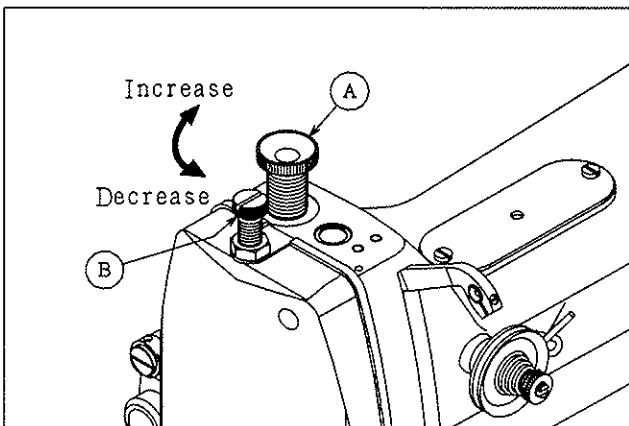
In the case of cotton thread #3, the thread tension can be checked as the following. Hold the end of pulled out thread and if the bobbin case fall slowly, the tension is proper.

10. LIFTING THE PRESSER FOOT



- 1) Turn the hand lifter ① toward ②, the presser foot lifts.

11. ADJUSTING THE PRESSER FOOT PRESSURE

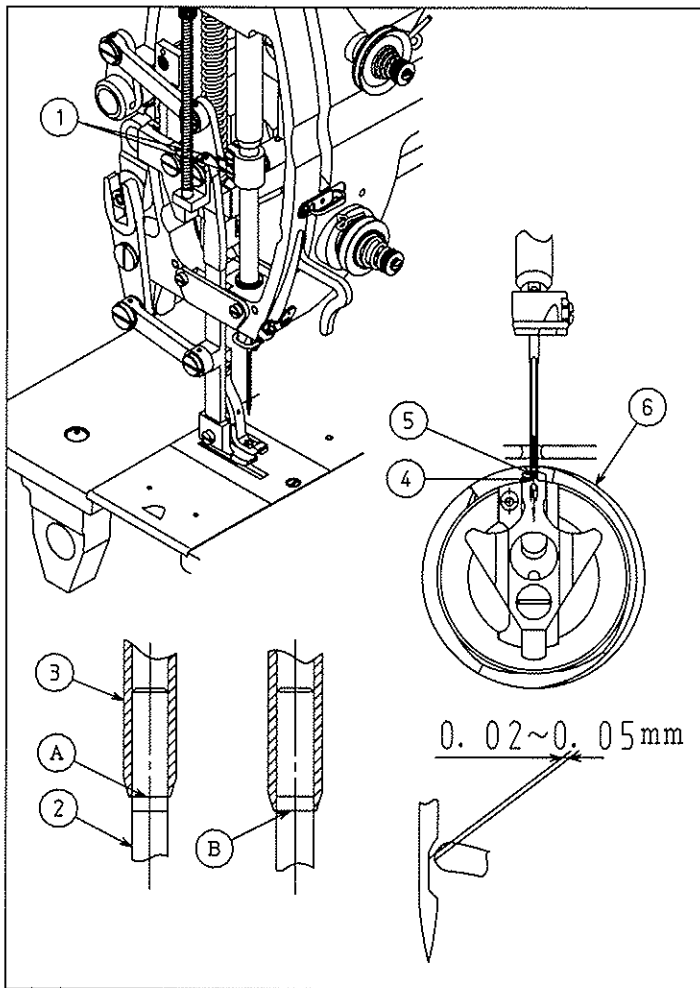


- 1) **Adjustment of pressure of presser foot**
Turn the presser spring regulator ① to the right to increase and to the left to decrease.
- 2) **Adjustment of pressure of walking foot**
Turn the presser spring regulator ② to the right to increase and to the left to decrease.

12. NEEDLE-TO-HOOK RELATIONSHIP

⚠ CAUTION

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(1) Adjust the timing between the needle and the hook as follows :

- 1) Turn the handwheel to bring the needle bar down to the lowest point of its stroke, and loosen two screws (1).

(Adjusting the needle bar height)

- 2) Align marker line (A) on needle bar upper bushing (2) with the bottom end of needle bar upper bushing (3), then tighten two screws (1).

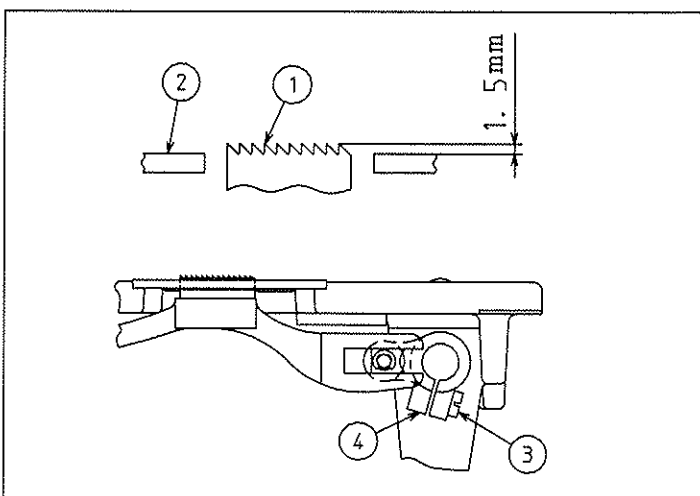
(Adjusting position of the hook (6))

- 3) Loosen the three hook setscrews, turn the handwheel and align marker line (B) on ascending needle bar (2) with the bottom end of needle bar bushing (3).
- 4) After making the adjustments mentioned in the above steps, align hook blade point (6) with the center of needle (4). Provide a clearance of 0.02 mm to 0.05 mm (reference value) between the needle and the hook, then securely tighten screws in the hook.

13. HEIGHT OF THE FEED DOG

⚠ CAUTION

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Feed dog (1) is factory-adjusted to jut out 1.5 mm from the surface of throat plate (2).

When the feed dog height needs to be adjusted according to the sewing specifications or after the feed dog is replaced, do as follows :

- 1) Loosen the screw (3).
- 2) Move the feed bar (4) up or down to perform adjustment, then securely tighten the screw (3).

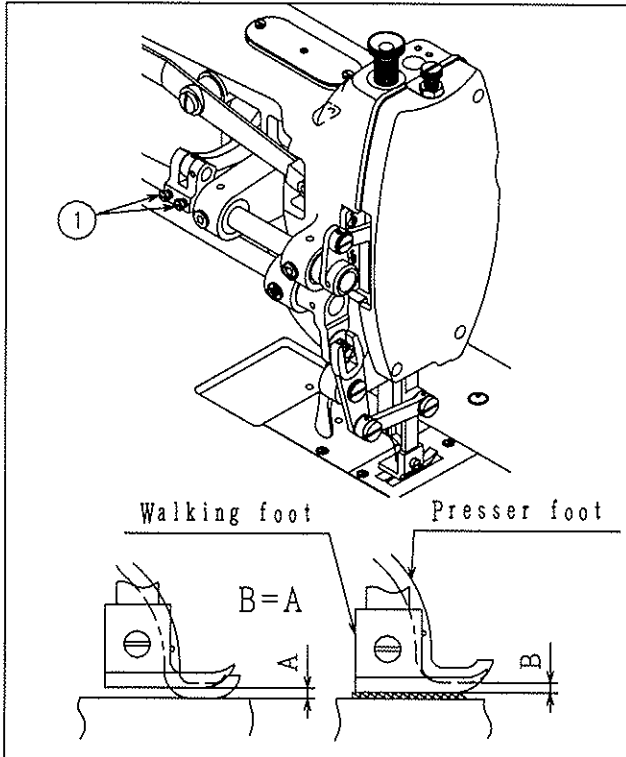
14. ADJUSTING THE WALKING FOOT AND THE PRESSER FOOT



CAUTION

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(1). ALTERNATE VERTICAL MOTIONS OF THE WALKING FOOT AND THE PRESSER FOOT

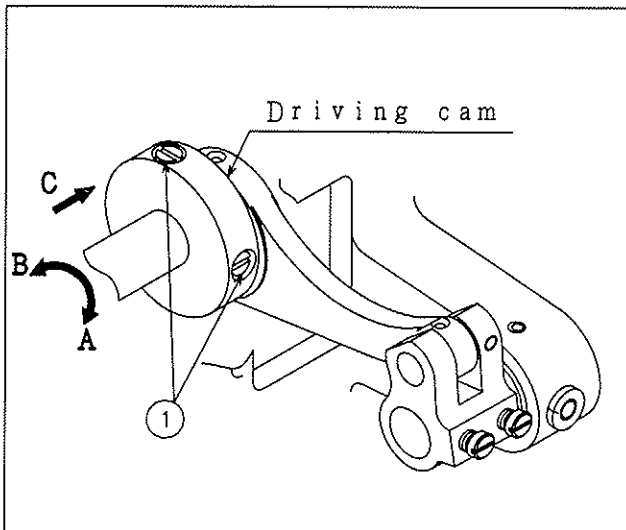


The alternate vertical strokes of walking foot and presser foot are shown Fig. Depending on the type of materials, however the vertical stroke of the presser foot may be set smaller than of walking foot.

Do as follows:

- 1) Turn the handwheel, raise the presser foot from throat plate a little.
- 2) Loosen screw ①.
- 3) The presser foot falls to the throat plate by power of the spring. Then tighten screw ① in its position.

(2). PROPER TIMING MOVEMENT OF WALKING FOOT

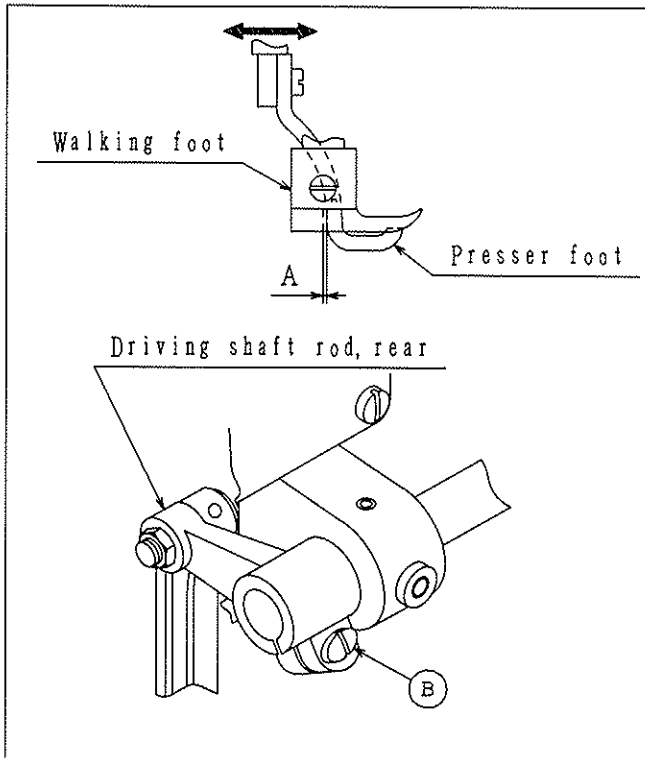


According to variation of fabrics to be sewn appropriate stitching adjustment can be obtained by means of making a timing of the walking foot movement faster or slower against the feed dog movement.

Do as follows:

- 1) Loosen two screws ①.
- 2) While fixed the driving cam by hand or screw driver, adjust it rotating the handwheel slowly by hand.
- 3) Rotate the handwheel toward "A" so that the timing of walking foot movement would be slower.
- 4) Rotate the handwheel toward "B" so that timing of walking foot movement would be faster.
- 5) After the adjustment, tighten the screw ① firmly pushing the driving cam to the way of arrow "C".

(3). A GAP BETWEEN THE PRESSER FOOT AND WALKING FOOT



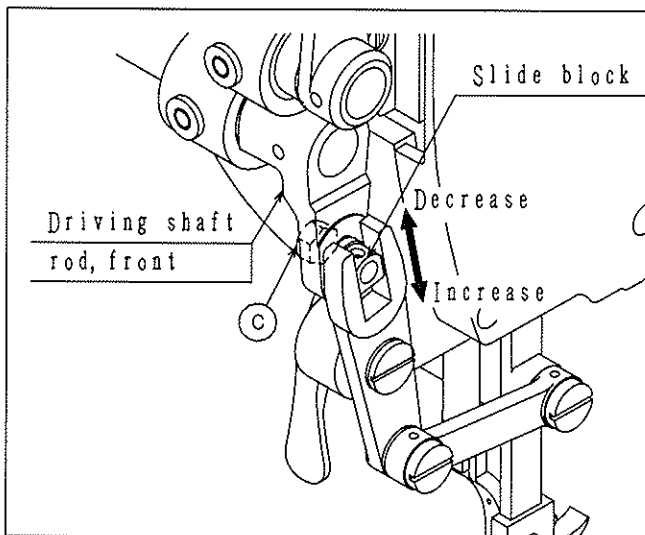
In the case of gap "A" of presser foot and walking foot is wider accessibly, and either presser foot are touched please adjust it in the position described as following.

Do as follows:

- 1) Loosen the screw ② .
- 2) Adjust the gap properly moving the walking foot back and forth.
- 3) After the adjustment, securely tighten the screw ② .

On the delivery machine is adjusted for narrowest gap of 0.5~1.0 mm when the maximum stitch length of 12.7 mm.

(4). TIMING BETWEEN UPPER AND LOWER FEED

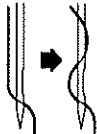


The amount of feed dog movement is evenly adjusted for the upper feed amount. But according to the material to be sewn appropriate stitching can be obtained by means of making a timing of the walking foot movement faster or slower against the feed dog movement.

Do as follows:

- 1) Loosen nut ③ .
- 2) To decrease the movement, slide the slide block upward and to increase for the downward.
- 3) After the adjustment, securely tighten nut ③ .

15. TROUBLE AND CORRECTIVE MEASURES

Trouble	Cause	Corrective measures
1. Thread breakage (Thread frays or wears out.) (Needle thread remains 2 to 3 cm on the wrong side of the cloth.)	① The thread path, needle point, hook point or bobbin case positioning finger has scratches. ② The needle thread tension is too high. ③ The needle hits the hook point. ④ The needle thread tension is too low. ⑤ The thread take-up spring has an excessively high tension while it has an excessively small stroke. ⑥ The timing between the needle and hook is too early or late.	○ Remove the scratches on the hook point using a fine sand paper. Buff the bobbin case positioning finger. ○ Properly adjust the needle thread tension. ○ See '12. NEEDLE-TO-HOOK RELATIONSHIP'. ○ Properly adjust the needle thread tension. ○ Decrease the tension, and increase the stroke. ○ See '12. NEEDLE-TO-HOOK RELATIONSHIP'.
2. Stitch skipping	① The clearance between the needle and the hook point is too large. ② The timing between the needle and hook is too early or late. ③ The presser foot pressure is too low. ④ The clearance between the top edge of the needle eyelet and the hook point is not correct. ⑤ The size of the needle is wrong. ⑥ A synthetic fiber thread or thin thread is used.	○ See '12. NEEDLE-TO-HOOK RELATIONSHIP'. ○ See '12. NEEDLE-TO-HOOK RELATIONSHIP'. ○ Increase the presser foot pressure. ○ See '12. NEEDLE-TO-HOOK RELATIONSHIP'. ○ Replace the needle by one which is one grade thicker. ○ Wind the thread round the needle as illustrated. 
3. Loose stitches	① The thread has not been passed through the notch of the bobbin case tension spring. ② The thread path is poorly finished. ③ The bobbin does not rotate smoothly. ④ The bobbin thread tension is too low. ⑤ The bobbin thread has been wound too tight.	○ Properly thread the bobbin case. ○ Grind it using a fine sand paper or buff. ○ Replace the bobbin or hook. ○ Properly adjust the tension. ○ Decrease the bobbin thread winding tension.

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

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