

***ENGLISH***

**DDL-9000B  
INSTRUCTION MANUAL**

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<b>S :</b>	<b>Micro-quantity lubrication</b>
<b>M :</b>	<b>Semi-dry</b>
<b>D :</b>	<b>Dry</b>

# DDL-9000B-△△

<b>S :</b>	<b>Medium-weight materials</b>
<b>H :</b>	<b>Heavy-weight materials</b>
<b>A :</b>	<b>Light weight materials</b>

## SPECIFICATIONS

	-SS	-MS	-DS	-SH	-MA <sup>*3</sup>
Max. sewing speed	5,000sti/min		4,000 sti/min	4,500 sti/min	5,000 sti/min
Thread trimming speed	500 sti/min (100 to 500sti/min)				
Stitch length	5mm <sup>*1</sup>				4mm
Presser foot lift (by knee lifter)	10 mm (standard) 15 mm (max.)				
Needle <sup>*2</sup>	1738 Nm65 to 110 (DB×1 #9 to 18)		1738 Nm125 to 160 (DB×1 #20 to 23)		1738 SAN10 Nm60 to 75 (DB×1 SF#8 to 11)
	134 Nm65 to 110 (DP×5 #9 to 18)		134 Nm125 to 160 (DP×5 #20 to 23)		134 Nm60 to 75 (DP×5 #8 to 11)
Lubricating oil	JUKI NEW DEFRIX OIL No. 1 or JUKI MACHINE OIL #7		-	JUKI NEW DEFRIX OIL No. 1 or JUKI MACHINE OIL #7	
Noise	SS, MS, MA ; <sup>1</sup> - Equivalent continuous emission sound pressure level (L <sub>pA</sub> ) at the workstation: A-weighted value of 77 dBA ; (Includes K <sub>pA</sub> = 2.5 dBA) ; according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,000 sti/min. SH ; <sup>1</sup> - Equivalent continuous emission sound pressure level (L <sub>pA</sub> ) at the workstation: A-weighted value of 77 dBA ; (Includes K <sub>pA</sub> = 2.5 dBA) ; according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,000 sti/min. DS ; <sup>1</sup> - Equivalent continuous emission sound pressure level (L <sub>pA</sub> ) at the workstation: A-weighted value of 79 dBA ; (Includes K <sub>pA</sub> = 2.5 dBA) ; according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,000 sti/min.				

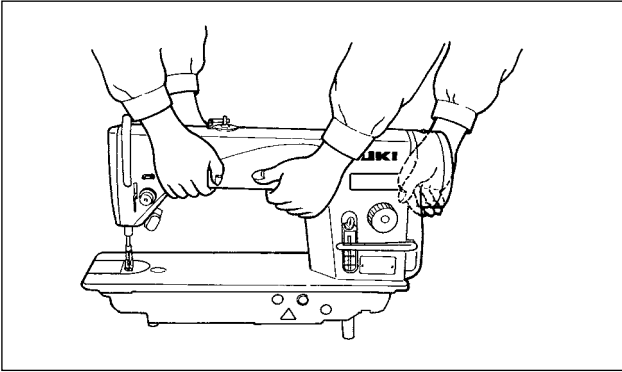
- The sewing speed will vary depending on the sewing conditions. The sewing speed preset at the time of shipping is 4,000sti/min. The thread trimming speed can be changed within the range of ( ). The thread trimming speed preset at the time of shipping is 500sti/min.

\*1 : When stitch length exceeds 4 mm or more, set the max. sewing speed to 4,000 sti/min or less for use.

\*2 : Needle used depends on the destination.

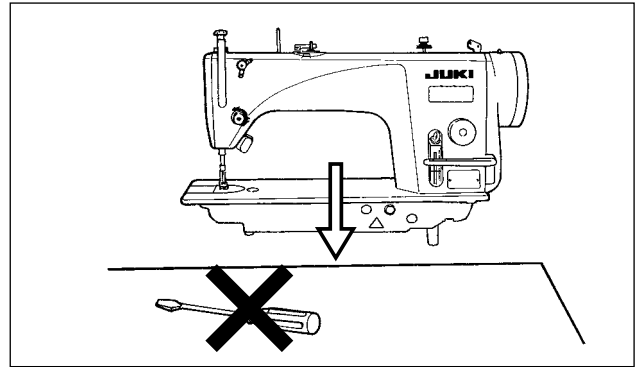
\*3 : MA type is for light-weight materials. In the case the sewing machine is used with its speed of stitch set at 4,000 sti/min or higher, the presser regulating spring and thread tension spring should be changed with △S type ones.

# 1. INSTALLATION

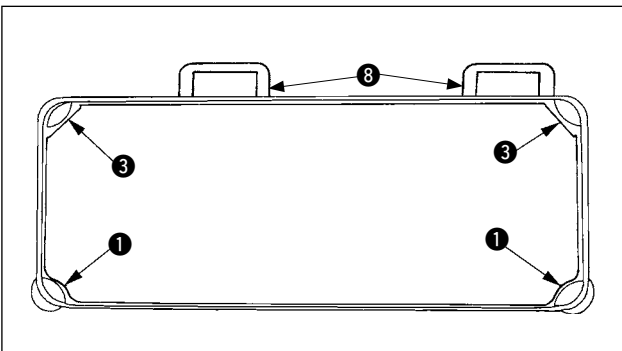


1) Carry the sewing machine with two persons as shown in the figure above.

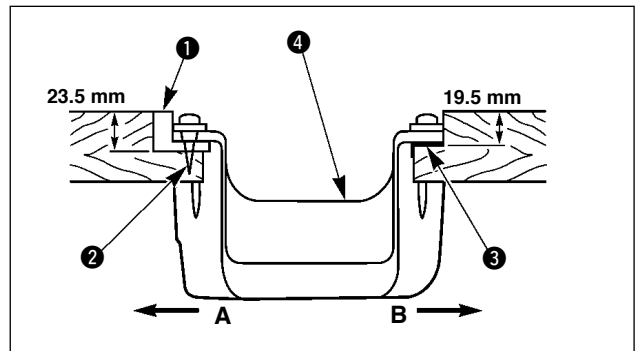
**(Caution) Do not hold the handwheel.**



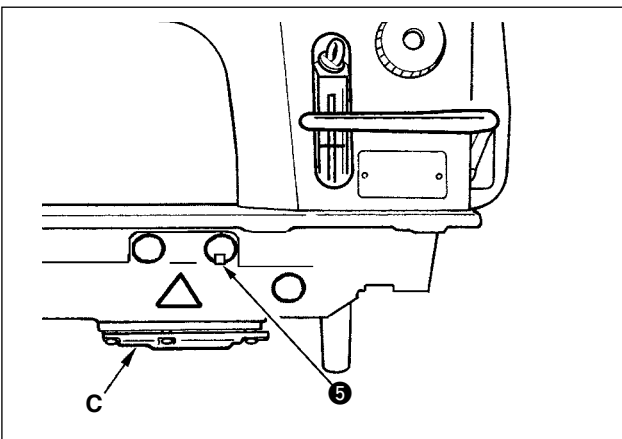
2) Do not put protruding articles such as the screwdriver and the like at the location where the sewing machine is placed.



3) The under cover should rest on the four corners of the machine table groove. Mount rubber hinge seat **3** on the table and fix it on the table with a nail.



4) Fix two rubber seats **1** on side **A** (operator's side) using nails **2** as illustrated above. Fix two cushion seats **3** on side **B** (hinged side) using a rubber-based adhesive. Then place under cover **4** on the fixed seats.

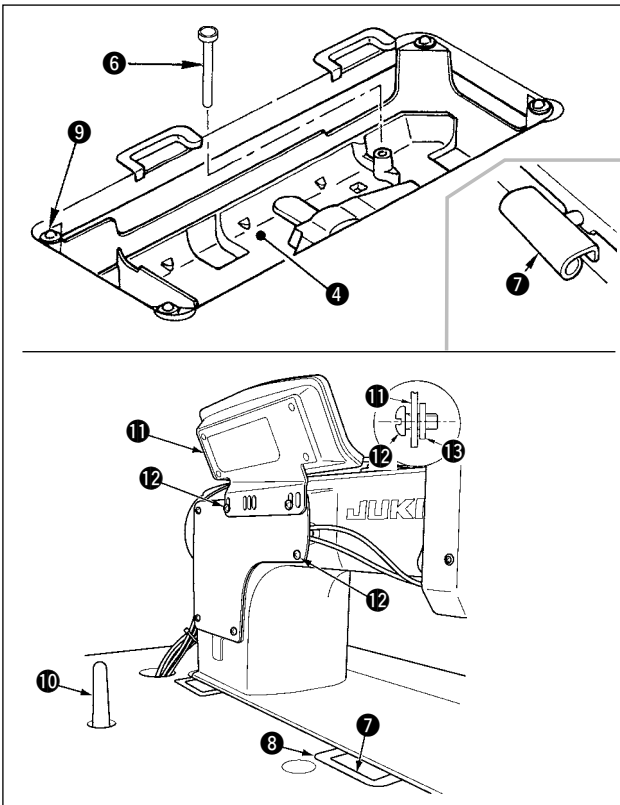


5) Remove air vent cap **5** attached to the machine bed.

**(Caution)**

1. If the sewing machine is operated without removing air vent cap **5**, oil leakage from gear box portion **C** may occur.

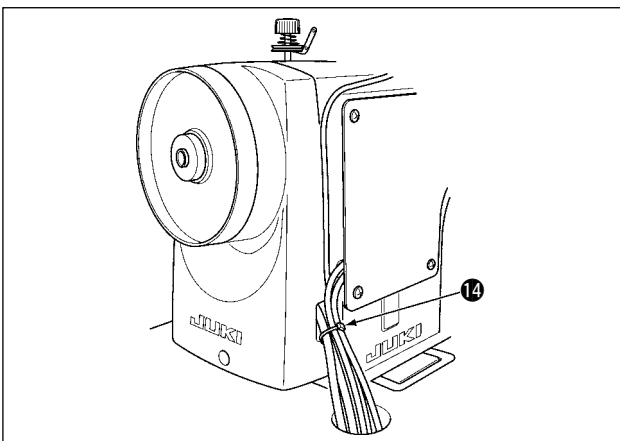
2. Be sure to attach cap **5** when transporting the machine head in the state that the machine head is removed from the machine table.



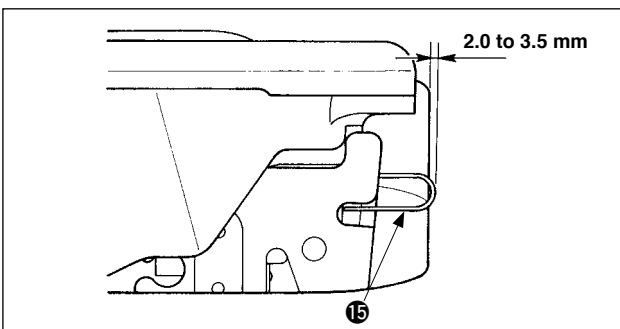
- 6) Fit knee lifter pressing rod **6**. Fit hinge **7** into the opening in the machine bed, and fit the machine head to table rubber hinge **8** before placing the machine head on cushions **9** on the four corners.
- 7) Securely attach head support rod **10** to the table until it goes no further. Regarding the control panel **11**, remove two side plate fixing screws **12**, place the rubber packing **13**, which is one of the accessories of the control panel **11**, between the head section and control panel **11**, then fix them together.

**(Caution)**

1. Do not use the screws supplied as accessories of control panel **11**.
2. Be sure to mount the machine head support bar on the machine table so that its height from the table surface becomes 55 to 60 mm. For the sewing machine provided with the AK device, be sure to mount the support bar on the table so that its height from the table surface becomes 38 to 43 mm.

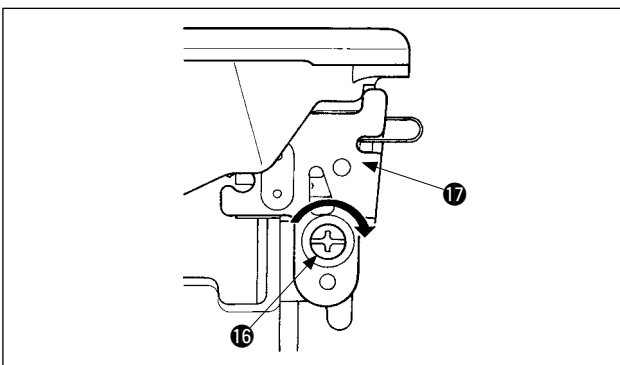


- 8) Bundle cable clip band **14** supplied as accessories of the machine head at the root of the cable.



- 9) Check to be sure that the table and the safety switch arm **15** are engaged with each other by 2.0 mm to 3.5 mm, with the sewing machine slightly tilted.

**(Caution)** If the engagement between the table and the safety switch arm is 2 mm or less, Error 302 may occur at the time of startup. Or, if the aforementioned engagement is 3.5 mm or more, safety switch arm **15** may break.



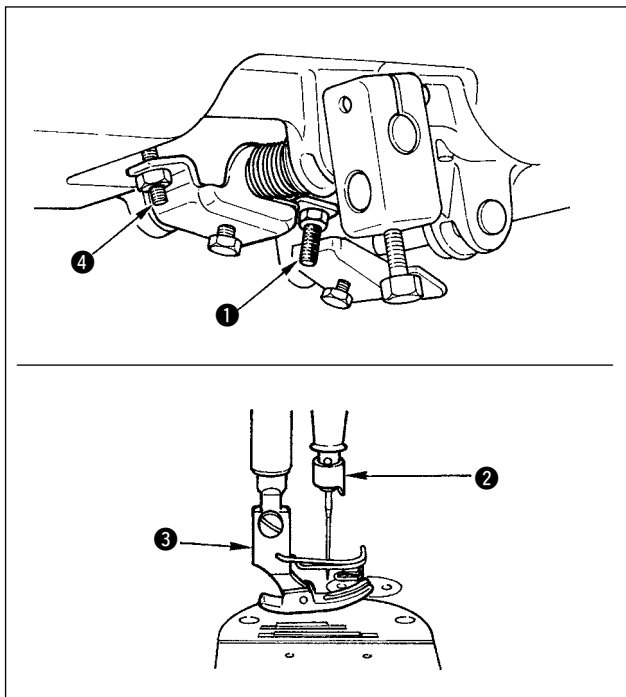
- 10) If the engagement between the table and safety switch arm **15** is outside the range of 2.0 mm and 3.5 mm, loosen safety switch mounting screw **16** and tilt safety switch **17** in the direction of the arrow to adjust the engagement of safety switch arm **15** with the table.

## 2. ADJUSTING THE HEIGHT OF THE KNEE LIFTER



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



The standard height of the presser foot lifted using the knee lifter is 10 mm.

You can adjust the presser foot lift up to 15 mm using knee lifter adjust screw ①.

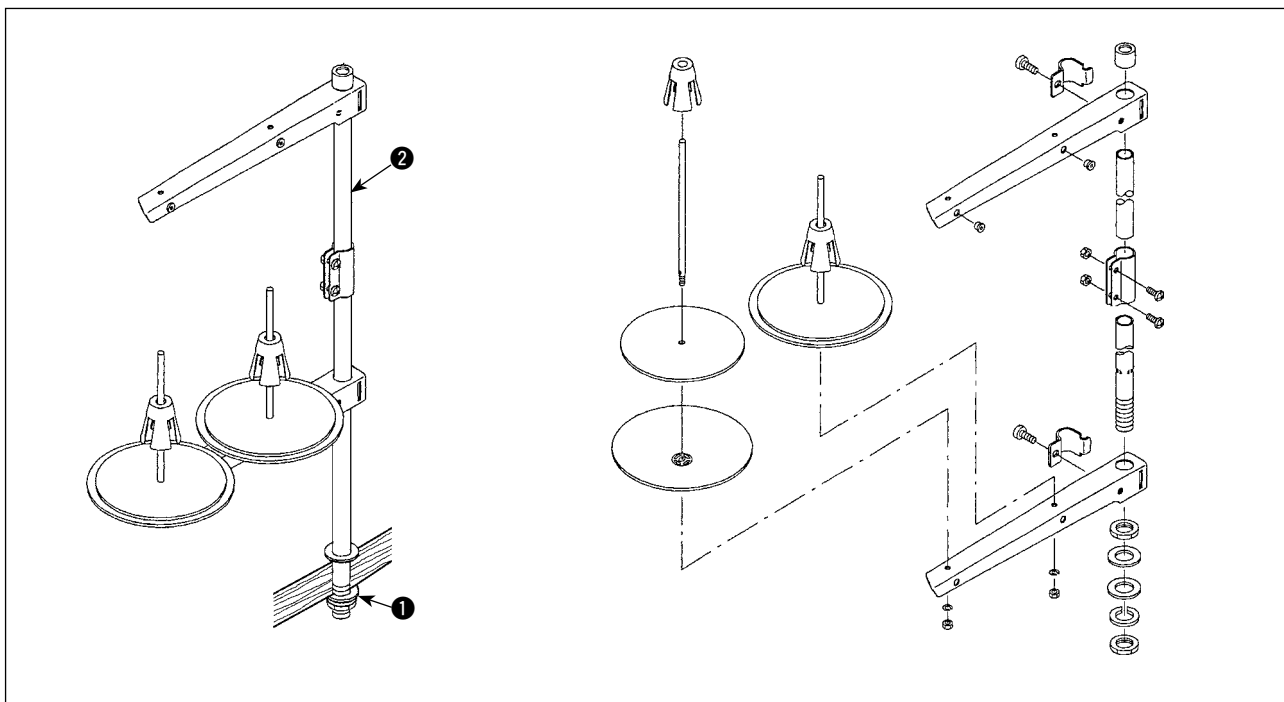
### (Caution)

1. Do not operate the sewing machine in the state that the presser foot ③ is lifted by 10 mm or more since the needle bar ② comes in contact with the presser foot ③.

### 2. Knee lifter initial position

If the adjustment screw ④ is over tightened, the sewing machine will operate in a state where the presser foot is lifted up, causing defective sewing or noise.

## 3. INSTALLING THE THREAD STAND



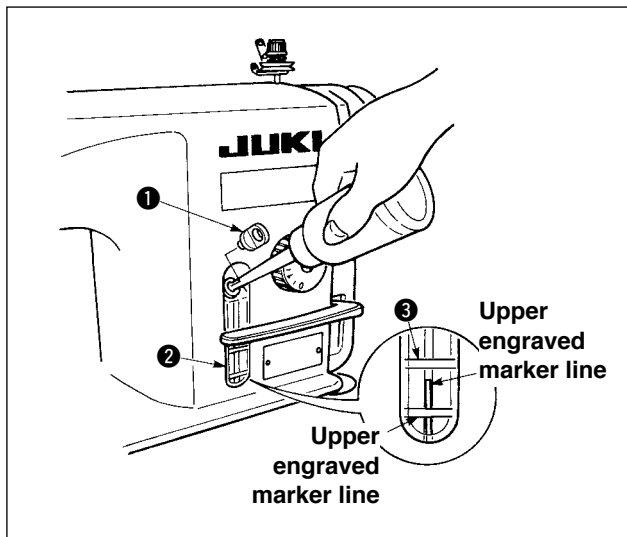
- 1) Assemble the thread stand unit, and insert it in the hole in the machine table.
- 2) Tighten nut ①.
- 3) For ceiling wiring, pass the power cord through spool rest rod ②.

#### 4. LUBRICATION (DDL-9000B-S △, -M △)



##### WARNING :

1. Do not connect the power plug until the lubrication has been completed so as to prevent accidents due to abrupt start of the sewing machine,
2. To prevent the occurrence of an inflammation or rash, immediately wash the related portions if oil adheres to your eyes or other parts of your body.
3. If oil is mistakenly swallowed, diarrhea or vomiting may occur. Put oil in a place where children cannot reach.



Fill the oil tank with oil for hook lubrication before operating the sewing machine.

- 1) Remove oil hole cap ① and fill the oil tank with JUKI NEW DEFRIX OIL No.1 (Part No. : MDFRX1600C0) or JUKI MACHINE OIL #7 (Part No. : MML007600CA) using the oiler supplied with the machine.
- 2) Fill the oil tank with the oil until the top end of oil amount indicating rod ③ comes between the upper engraved marker line A and the lower engraved marker B line of oil amount indicating window ②.

If the oil is filled excessively, it will leak from the air vent hole in the oil tank or proper lubrication will be not performed. In addition, when the oil is vigorously filled, it may overflow from the oil hole. So, be careful.

- 3) When you operate the sewing machine, refill oil if the top end of oil amount indicating rod ③ comes down to the lower engraved marker line of oil amount indicating window ②.

##### (Caution)

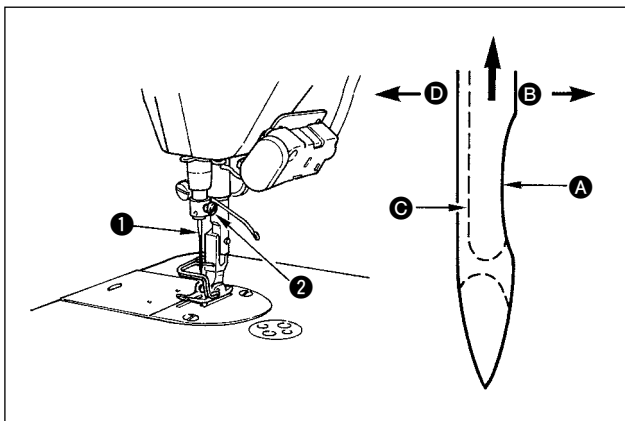
1. When you use a new sewing machine or a sewing machine after an extended period of disuse, use the sewing machine after performing break-in at 2,000 sti/min or less.
2. For the oil for hook lubrication, purchase JUKI NEW DEFRIX OIL No. 1 (Part No. : MDFRX1600C0) or JUKI MACHINE OIL #7 (Part No. : MML007600CA).
3. Be sure to lubricate clean oil.
4. Do not operate the machine with the oil hole cap ① removed. Never remove cap ① from the oil inlet in any case other than oiling. In addition, take care not to lose it.

## 5. ATTACHING THE NEEDLE



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Use the specified needle for the machine. Use the proper needle in accordance with the thickness of thread used and the kinds of the materials.

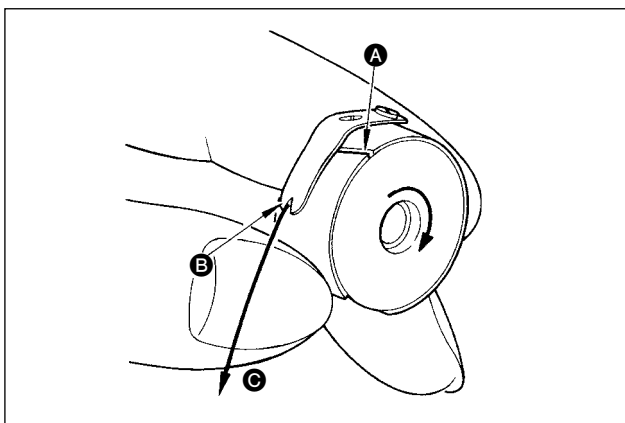
- 1) Turn the handwheel until the needle bar reaches the highest point of its stroke.
- 2) Loosen screw ②, and hold needle ① with its indented part A facing exactly to the right in direction B.
- 3) Insert the needle fully into the hole in the needle bar in the direction of the arrow until the end of hole is reached.

4) Securely tighten screw ②.

5) Check that long groove C of the needle is facing exactly to the left in direction D.

**(Caution)** When polyester filament thread is used, if the indented part of the needle is tilted toward operator's side, the loop of thread becomes unstable. As a result, hangnail of thread or thread breakage may occur. For the thread that such phenomenon is likely to occur, it is effective to attach the needle with its indented part slightly slanting on the rear side.

## 6. SETTING THE BOBBIN INTO THE BOBBIN CASE



- 1) Install the bobbin in the bobbin case so that the thread wound direction is clockwise.
- 2) Pass the thread through thread slit A, and pull the thread in direction C. By so doing, the thread will pass under the tension spring and come out from notch B.
- 3) Check that the bobbin rotates in the direction of the arrow when thread is pulled.



## 7. ADJUSTING THE AMOUNT OF OIL (OIL SPLASHES) IN THE HOOK (DDL-9000B-S $\Delta$ , -M $\Delta$ )



### WARNING :

Be extremely careful about the operation of the machine since the amount of oil has to be checked by turning the hook at a high speed.

### (1) How to confirm the amount of oil (oil splashes)

**① Amount of oil (oil splashes) confirmation paper**

\* Use any paper available regardless of the material.

**② Position to confirm the amount of oil (oil splashes)**

\* Place the amount of oil (oil splashes) confirmation paper under the hook and keep it from the hook by 3 to 10 mm to confirm the amount.

\* When carrying out the procedure described below in 2), confirm the state that the needle thread from the thread take-up lever to the needle and the bobbin thread are removed, the presser foot is lifted and the slide plate is removed. At this time, take extreme caution not to allow your fingers to come in contact with the hook.

- 1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)
- 2) Place the amount of oil (oil splashes) confirmation paper under the hook while the sewing machine is in operation.
- 3) Confirm that oil exists in the oil tank.
- 4) Confirmation of the amount of oil should be completed in five seconds. (Check the period of time with a watch.)

### (2) Sample showing the appropriate amount of oil

**Appropriate amount of oil (small)**

Splashes of oil from the hook

- DDL-9000B-SS, -M $\Delta$  : 0.5 to 1 mm
- DDL-9000B-SH : 1 to 3 mm

**Appropriate amount of oil (large)**

Splashes of oil from the hook

- DDL-9000B-SS, -M $\Delta$  : 1 to 1.5 mm
- DDL-9000B-SH : 2 to 4 mm

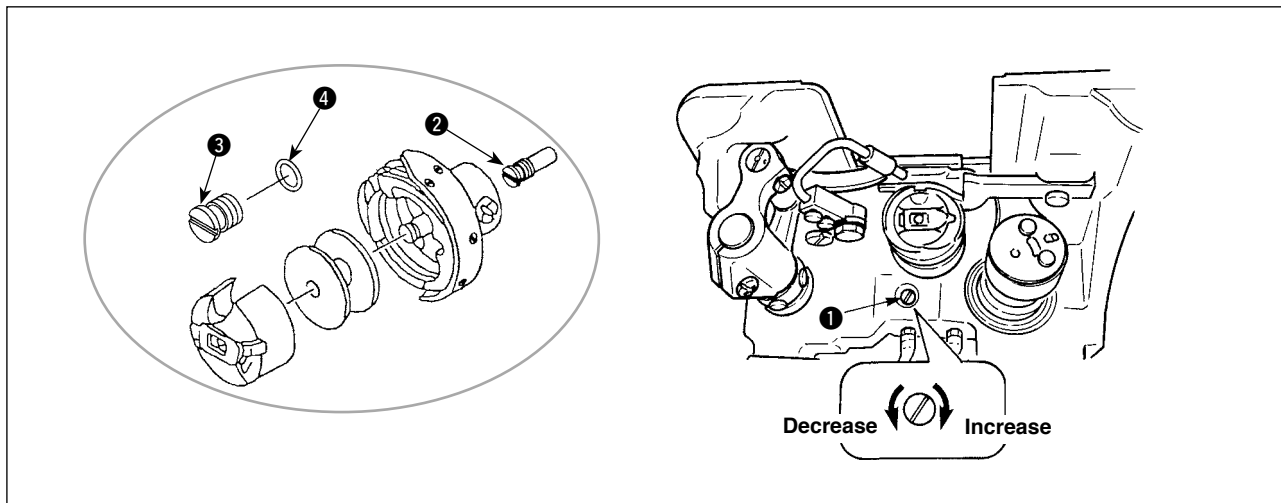
- 1) The state given in the figure above shows the appropriate amount of oil (oil splashes). It is necessary to finely adjust the amount of oil in accordance with the sewing processes. However, do not excessively increase/decrease the amount of oil in the hook. (If the amount of oil is too small, the hook will be seized (the hook will be hot). If the amount of oil is too much, the sewing product may be stained with oil.)
- 2) Check the oil amount (oil splashes) three times (on the three sheets of paper), and adjust so that it should not change.

## 8. ADJUSTING THE AMOUNT OF OIL IN THE HOOK (DDL-9000B-S $\Delta$ , -M $\Delta$ )



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Tighten (turn clockwise) oil amount adjustment screw ❶ to increase the amount of oil in the hook, or loosen (turn counterclockwise) to decrease it.

### (Caution)

[When using RP hook (hook for dry head) for S $\Delta$  or -M $\Delta$  type]

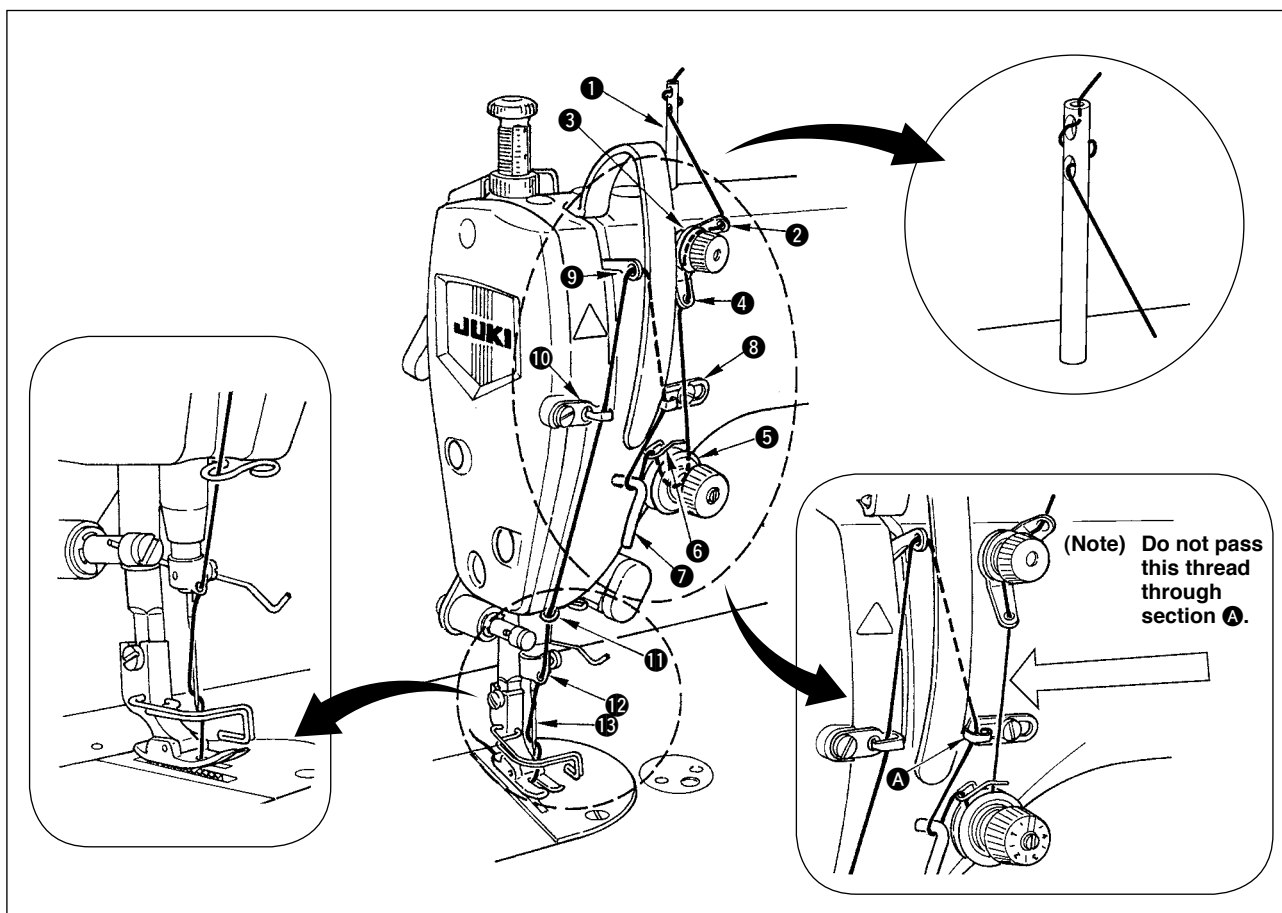
1. Remove hook driving shaft oil wick setscrew ❷ and attach hook driving shaft stopper screw ❸ (Part No. : 11079506) and rubber ring ❹ (Part No. : R0036080200).
2. Loosen oil amount adjustment screw ❶ up to the minimum so as to reduce the oil amount in the hook. However, do not completely stop the oil and be careful not to allow oil adjustment screw ❶ to come off.
3. Never drain the oil in the oil tank even when RP hook (hook for dry head) is used.

## 9. THREADING THE MACHINE HEAD

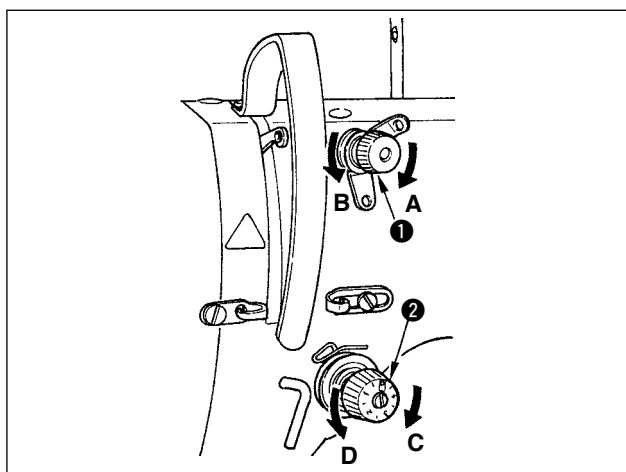


### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

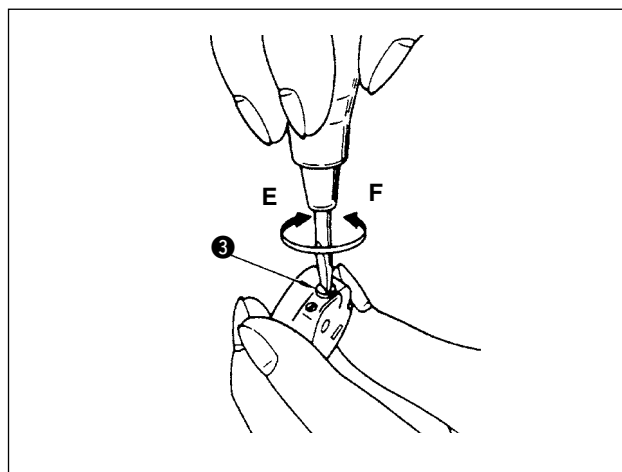


## 10. THREAD TENSION



### (1) Adjusting the needle thread tension

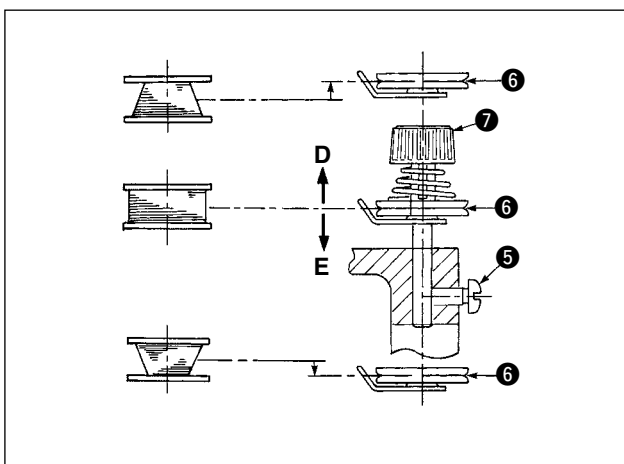
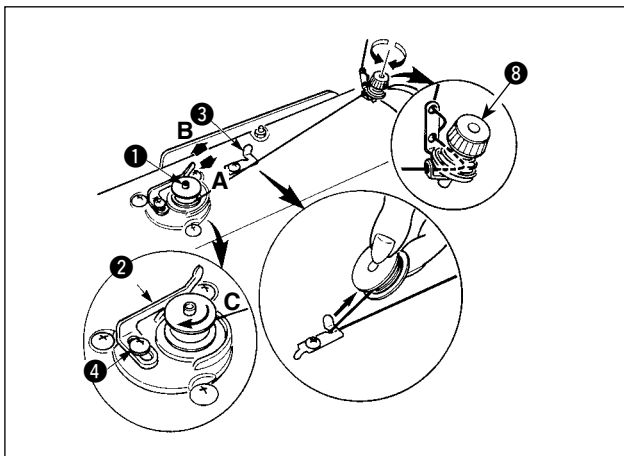
- 1) Turn thread tension No. 1 nut ❶ clockwise (in direction **A**), to shorten the thread length remaining on the needle after thread trimming or counterclockwise (in direction **B**), to lengthen the thread length.
- 2) Turn thread tension nut ❷ clockwise (in direction **C**) to increase or counterclockwise (in direction **D**) to reduce the needle thread tension.



### (2) Adjusting the bobbin thread tension

- 1) Turn tension adjusting screw ❸ clockwise (in direction **E**) to increase or counterclockwise (in direction **F**) to reduce the bobbin thread tension.

## 11. WINDING THE BOBBIN THREAD



- 1) Insert the bobbin deep into the bobbin winder spindle ① until it will go no further.
- 2) Pass the bobbin thread pulled out from the spool rested on the right side of the thread stand following the order as shown in the figure on the left. Then, wind clockwise the end of the bobbin thread on the bobbin several times.  
(In case of the aluminum bobbin, after winding clockwise the end of the bobbin thread, wind counterclockwise the thread coming from the bobbin thread tension several times to wind the bobbin thread with ease.)

- 3) Press the bobbin winder trip latch ② in the direction of A and start the sewing machine. The bobbin rotates in the direction of C and the bobbin thread is wound up. The bobbin winder spindle ① automatically as soon as the winding is finished.

- 4) Remove the bobbin and cut the bobbin thread with the thread cut retainer ③.

- 5) When adjusting the winding amount of the bobbin thread, loosen setscrew ④ and move bobbin winding lever ② to the direction of A or B. Then tighten setscrew ④.

To the direction of A : Decrease

To the direction of B : Increase

- 6) In case that the bobbin thread is not wound evenly on the bobbin, remove the handwheel, loosen screw ⑤ and adjust the height of bobbin thread tension ⑧.

- It is the standard that the center of the bobbin is as high as the center of thread tension disk ⑥.
- Adjust the position of thread tension disk ⑥ to the direction of D when the winding amount of the bobbin thread on the lower part of the bobbin is excessive and to the direction E when the winding amount of the bobbin thread on the upper part of the bobbin is excessive.

After the adjustment, tighten screw ⑤.

- 7) To adjust the tension of the bobbin winder, turn the thread tension nut ⑦.

### (Caution)

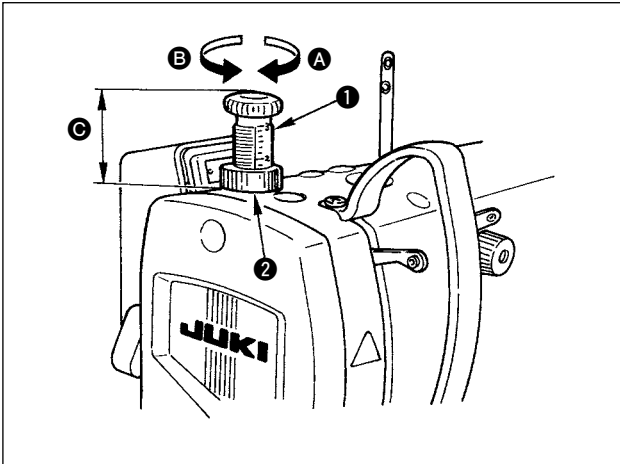
1. When winding the bobbin thread, start the winding in the state that the thread between the bobbin and thread tension disk ⑥ is tense.
2. When winding the bobbin thread in the state that sewing is not performed, remove the needle thread from the thread path of thread take-up and remove the bobbin from the hook.
3. There is the possibility that the thread pulled out from the thread stand is loosened due to the influence (direction) of the wind and may be entangled in the handwheel. Be careful of the direction of the wind.

## 12. PRESSER FOOT PRESSURE



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

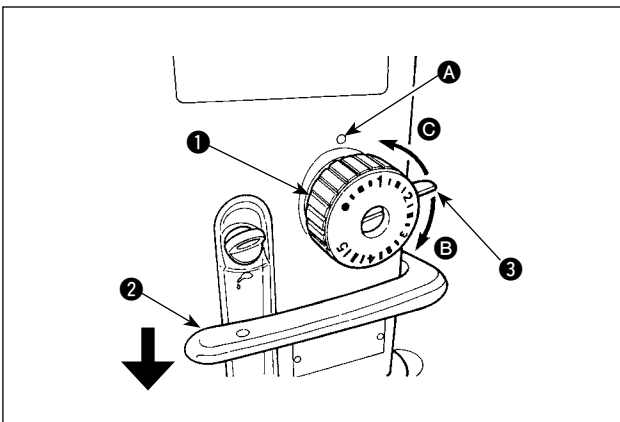


- 1) Loosen nut ②. As you turn presser spring regulator ① clockwise (in direction ①), the presser foot pressure will be increased.
- 2) As you turn the presser spring regulator counter-clockwise (in direction ②), the pressure will be decreased.
- 3) After adjustment, tighten nut ②.

The standard value of the addition ③ of the height of presser spring regulator is as follows :

- S type : 31.5 to 29 mm (Approximately 40 to 45N/4 to 4.5kg)
- H type : 31.5 to 28 mm (Approximately 50 to 60N/5 to 6kg)
- A type : 22 mm (Approximately 20N/2kg)

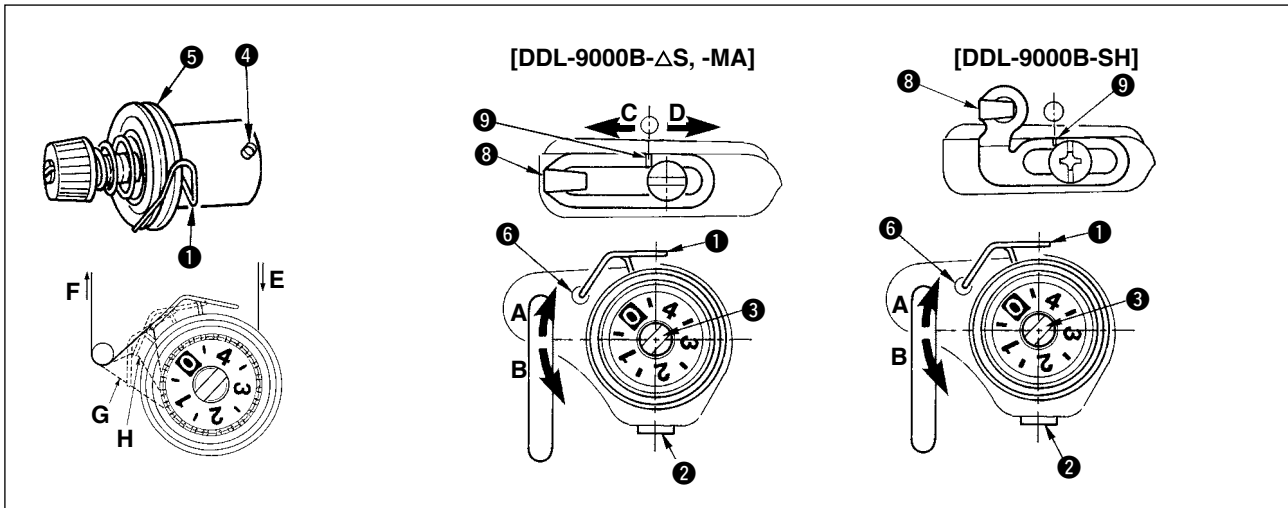
## 13. ADJUSTING THE STITCH LENGTH



\* The dial calibration is in millimeters.

- 1) Turn stitch length dial ① in the direction of the arrow, and align the desired number to marker dot ① on the machine arm.
- 2) When you want to decrease the stitch length, turn stitch length dial ① while pressing feed lever ② in the direction of the arrow.
- 3) If the stopper ③ is turned in the arrow ② direction, the stitch length dial ① will be fixed.
- 4) If the stitch length dial ① is not to be fixed, turn the stopper ③ in the arrow ③ direction and leave it in that state.

## 14. ADJUSTING THE THREAD TAKE-UP SPRING AND THE THREAD TAKE-UP STROKE



### (1) Adjusting the stroke of thread take-up spring ①

- 1) Loosen setscrew ②.
- 2) Turn tension post ③ clockwise (in direction A), the stroke of the thread take-up spring will be increased, and turn the post ③ counterclockwise (in direction B), the stroke will be decreased.

### (2) Adjusting the pressure of thread take-up spring ①

- 1) Loosen setscrew ②, and remove thread tension (asm.) ⑤.
- 2) Loosen tension post setscrew ④.
- 3) Turn tension post ③ clockwise (in direction A), the pressure will be increased, and turn the post ③ counterclockwise (in direction B), the pressure will be decreased.

#### \* Standard state of the thread take-up spring

The engraved marker line ⑥ on the machine arm is almost aligned with the top of thread take-up spring. (It is necessary to adjust in accordance with materials and processes.)

**(Caution)** For the Model DDL-9000B- DS, the fully-dry hook is adopted. Comparing with the sewing machine using the existing hook, the sewing machine tends to be affected by the adjustment of the thread take-up spring. If the thread take-up spring does not work sufficiently, thread running increases. As a result, thread breakage, balloon stitching, etc. may occur.

To check how the thread take-up spring works, draw out the needle thread in direction F after having adjusted the thread take-up spring pressure to check whether the thread take-up spring exerts force to the thread up to the last moment (state G) just before the thread comes out from E. If the spring fails to exert force to the spring until the last moment (state H), decrease the thread take-up spring pressure. In addition, the stroke of the thread take-up spring is excessively small, the spring does not work properly.

For the general fabrics, a stroke of 10 to 13 mm is proper.

### (3) Adjusting The Thread Take-up Stroke

- 1) When sewing heavy-weight materials, move thread guide ⑧ to the left (in direction C) to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide ⑧ to the right (in direction D) to decrease the length of thread pulled out by the thread take-up.

#### \* Standard state of the thread guide

- - Δ S, -MA: Marker line ⑨ on the thread guide aligns with the center of the setscrew.
- -SH: Marker line ⑨ on the thread guide aligns with the center of the marker line on the machine arm.

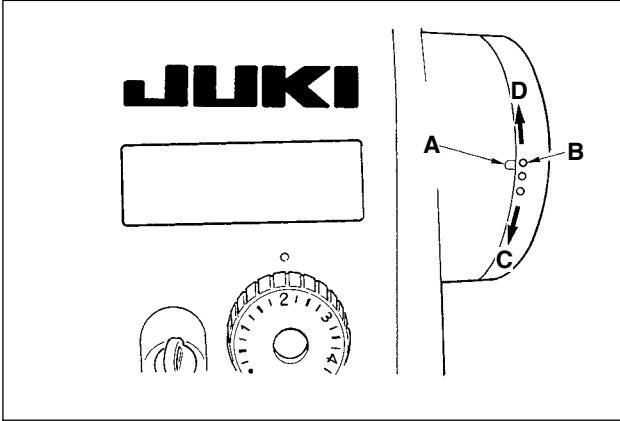
## 15. ADJUSTING THE NEEDLE STOP POSITION

### WARNING :



1. Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.
2. Do not perform switch operations other than those described in the following explanations.
3. Be sure to re-turn the power switch ON after one second or more has passed. If the power is turned ON immediately after turning it OFF, the sewing machine may not work normally. In this case, turn ON the power again.

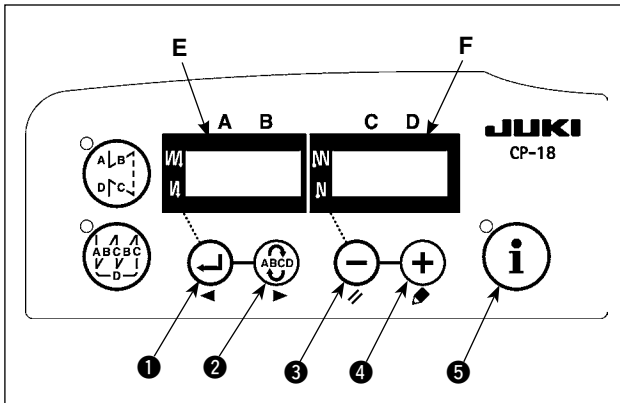
### (1) Stop position after thread trimming



- 1) The standard needle stop position is obtained by aligning marker dot **A** on the pulley cover with white marker dot **B** on the handwheel
- \* For the details, refer to the Instruction Manual for the control box together.

### (2) Adjusting procedure of the needle up/down stop position

- \* When the panel other than CP-18 is used, refer to the explanation of each panel.



- 1) Turn OFF the power to the machine.
- 2) Turn the power ON while pushing the switch **5** on the operation panel.
- 3) The screen display **E** indicates the setting No. 96 and **F** indicates the number of revolution.  
(When the screen display is not changed, operate again steps 1) and 2).
- 4) Update the setting No. by switch **1** or switch **2**.  
Setting No. 121 : Needle UP stop position  
Setting No. 122 : Needle DOWN stop position

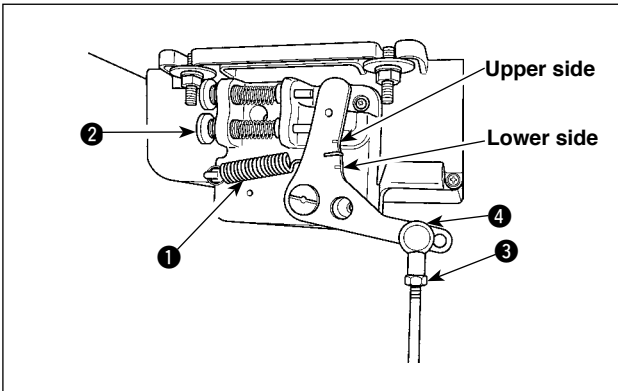
- 5) Specify the setting contents **F** within the range of -15 to 15 with switch **3** or switch **4**.  
(Standard is "0". The numeric of set value indicates the approximate rotating angle. (When the numeric is set to the "+" direction, the needle UP stop position is lowered. (Direction **C**)  
When the numeric is set to "-" direction, the needle UP stop position is raised. (Direction **D**)
- 6) After completion of the setting, press switch **1** or switch **2** to determine the updated value. (When turning OFF the power to the machine before performing this work, the contents are not updated.)
- 7) After completion of the operation, turn OFF the power to the machine. The normal operation can be performed by turning ON the power to the machine again.

## 16. PEDAL PRESSURE AND PEDAL STROKE



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



### (1) Adjusting the pressure required to depress the front part of the pedal

- 1) When the pedal pressure spring ① is hooked to the lower side, the pedal pressure will decrease, and when hooked to the upper side, the pedal pressure will increase.

### (2) Adjusting the pressure required to depress the back part of the pedal

- 1) The pressure increases as you turn reverse depressing regulator screw ② in, and decreases as you turn the screw out.

### (3) Adjusting the pedal stroke

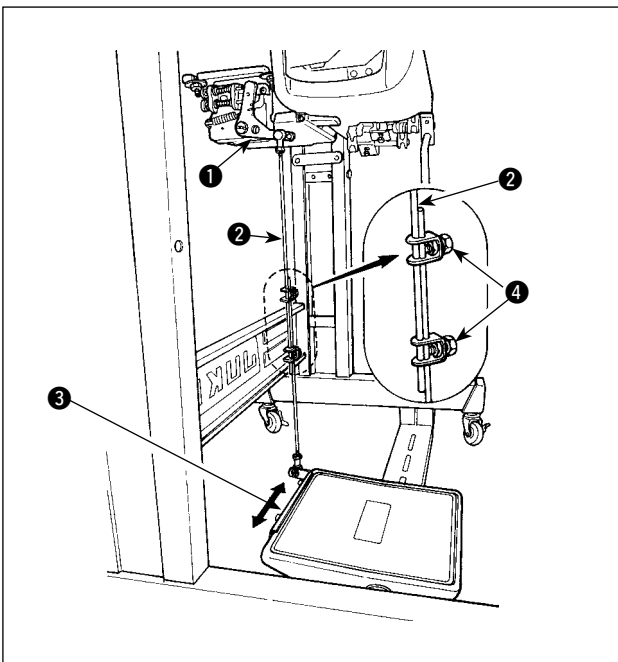
- 1) The pedal stroke decreases when you insert connecting rod ③ into the left hole ④.

## 17. ADJUSTMENT OF THE PEDAL



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



### (1) Installing the connecting rod

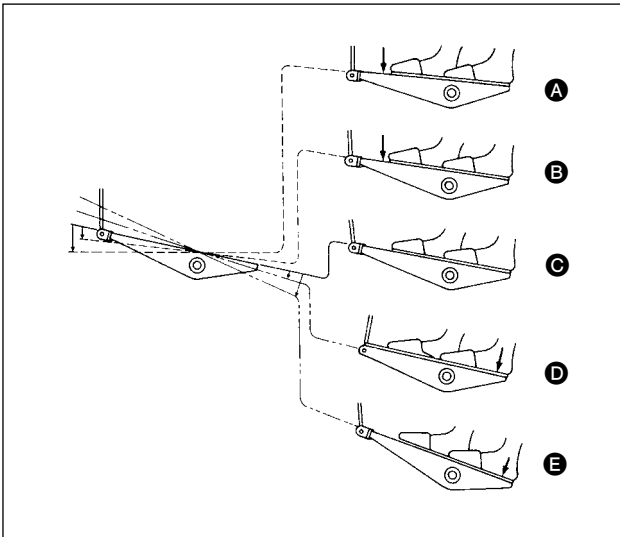
- 1) Move pedal ③ to the right or left as illustrated by the arrows so that motor control lever ① and connecting rod ② are straightened.

### (2) Adjusting the pedal angle

- 1) The pedal tilt can be freely adjusted by changing the length of the connecting rod.
- 2) Loosen adjust screw ④, and adjust the length of connecting rod ②.



## 18. PEDAL OPERATION



The pedal is operated in the following four steps:

- 1) The machine runs at low sewing speed when you lightly depress the front part of the pedal. **B**
- 2) The machine runs at high sewing speed when you further depress the front part of the pedal. **A**  
(If the automatic reverse feed stitching has been preset, the machine runs at high speed after it completes reverse feed stitching.)
- 3) The machine stops (with its needle up or down) when you reset the pedal to its original position. **C**
- 4) The machine trims threads when you fully depress the back part of the pedal. **E**

\* When the auto-lifter (AK device) is used, one more operating switch is provided between the sewing machine stop switch and thread trimming switch.

The presser foot goes up when you lightly depress the back part of the pedal **D**, and if you further depress the back part, the thread trimmer is actuated.

When starting sewing from the state that the presser foot has been lifted with the Auto-lifter and you depress the back part of the pedal, the presser foot only comes down.

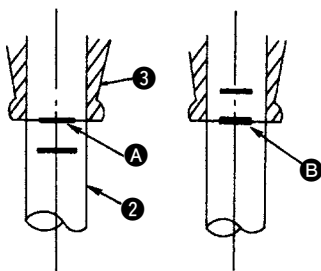
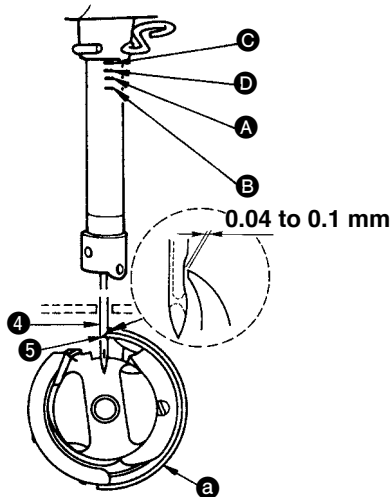
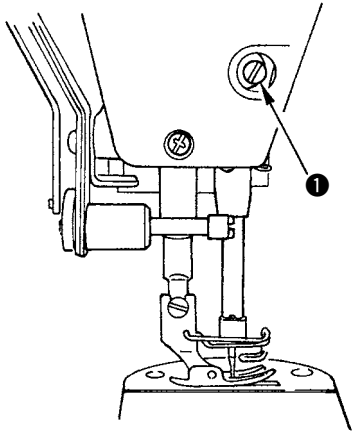
- If you reset the pedal to its neutral position during the automatic reverse feed stitching at seam start, the machine stops after it completes the reverse feed stitching.
- The machine will perform normal thread trimming even if you depress the back part of the pedal immediately following high or low speed sewing.
- The machine will completely perform thread trimming even if you reset the pedal to its neutral position immediately after the machine started thread trimming action.

## 19. NEEDLE-TO-HOOK RELATIONSHIP



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Adjust the timing between the needle and the hook as follows :

- 1) Adjusting the needle bar height.  
Turn the handwheel to bring the needle bar down to the lowest point of its stroke, and loosen setscrew ①.
- 2) Adjusting the needle bar height. Align marker line (For a DB needle : marker line ①, For a DA needle : marker line ③) on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ①.
- 3) Position the needle and the hook ①.  
Loosen the three hook setscrews, turn the handwheel in normal rotation and align marker line (For a DB needle : marker line ②, For a DA needle : marker line ④) on ascending needle bar ② with the bottom end of needle bar lower bushing ③.
- 4) In this state, align hook blade point ⑤ with the center of needle ④. Provide a clearance of 0.04 mm to 0.1 mm (reference value) between the needle and the hook, then securely tighten the three hook setscrews.

**(Caution)** If the clearance between the blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skipping will result.

- RP hook (dry hook) is used for the hook of DDL-9000B-DS type. When replacing, use the part No. described below. There are two kinds of Part Nos. of the hooks classified by the regions.

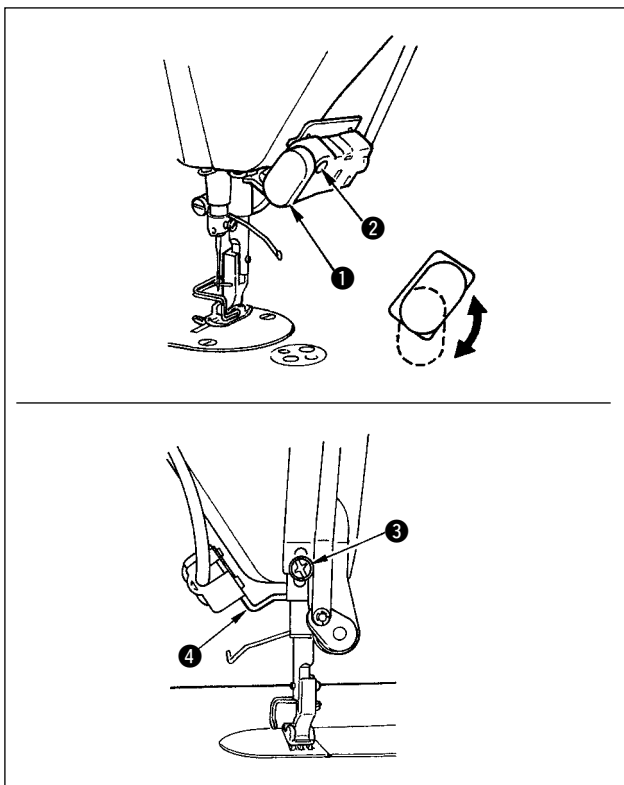
22890206

22890404 (For Europe)

**(Caution)** Periodically clean RP hook (dry hook) since the hook rolls up thread waste or cloth waste and failure of the machine or defective sewing may be caused.

**(Caution)** Because the needle bar ② of DDL-9000B-MS and DS is black colored, sometimes it is hard to see the engraved lines. Make the working area bright by bringing a light or by other method.

## 20. ONE-TOUCH TYPE REVERSE FEED STITCHING MECHANISM



The moment switch lever ① is pressed, the machine performs reverse feed stitching.

The machine resumes normal feed stitching the moment the switch lever is released.



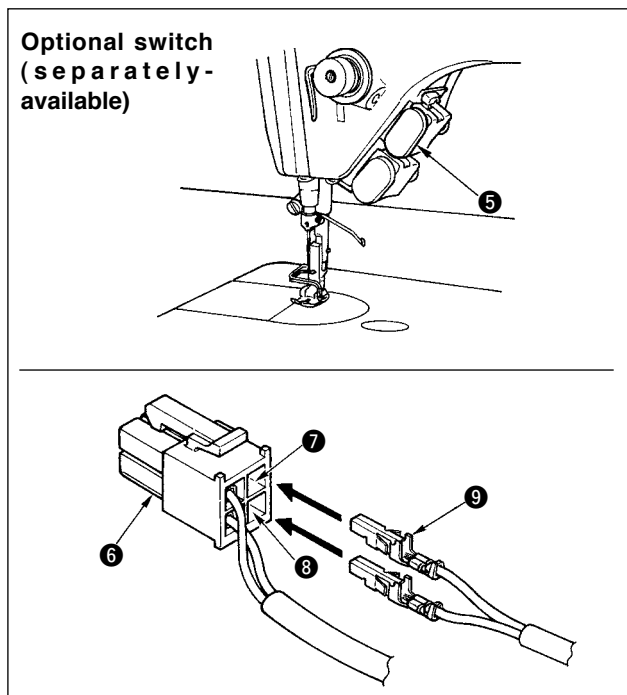
### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

### [Adjusting the position of switch]

- 1) Loosen setscrew ② and move the switch itself up and down to adjust the height.
- 2) Switch ① can be used in two positions by turning it.
- 3) In addition, when you desire to lower the position of switch ①, loosen setscrew ③ located in the back of the machine head and lower switch base ④.

The following functions can be performed by one-touch operation using optional switch (23632656) ⑤.



Optional switch  
(separately-  
available)

1. Needle up/down compensating stitching ... Every time the switch is pressed, needle up/down compensating stitching is performed.
2. Back compensating stitching ... Every time the switch is pressed, reverse feed stitching is performed at low speed. (It is effective only when a constant-dimension stitching pattern is selected on the panel.)
3. Function to cancel once reverse feed stitching at the end of sewing ... When the switch is pressed, the next automatic reverse feed stitching at the end of sewing only can be canceled once.
4. Thread trimming function ... When the switch is pressed, thread trimming is performed.
5. Presser lifting function ... When the switch is pressed, automatic presser lifting can be executed.
6. One stitch compensating stitching ... Every time the switch is pressed, one stitch compensating stitching is performed.

\* When using the optional switch, it is necessary to set the function with the control box. For the details, see the Instruction Manual for the control box.



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

### [Connection of the optional switch]

Insert the cord of the optional switch into ⑦ and ⑧ of 4P connector ⑥ coming from the machine head. (There is no polarity.)

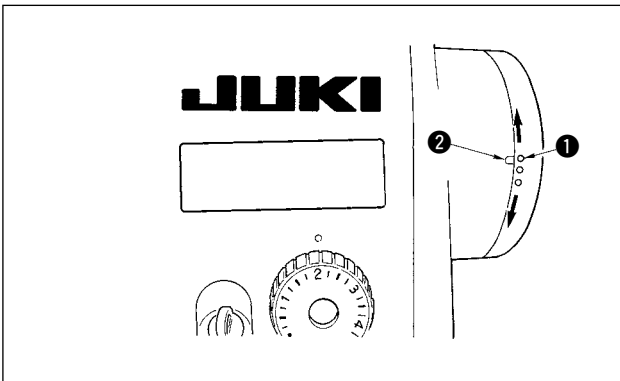
The pin is provided with the inserting direction. Insert it with protruding portion ⑨ upward.

## 21. ADJUSTING THE POSITION OF THE WIPER (DDL-9000B-△△-WB, -0B)



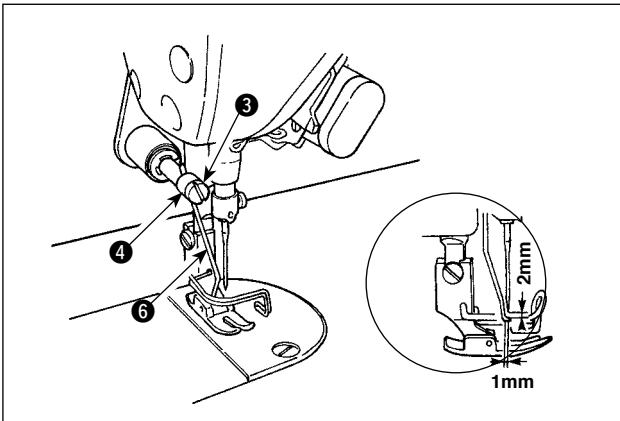
### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



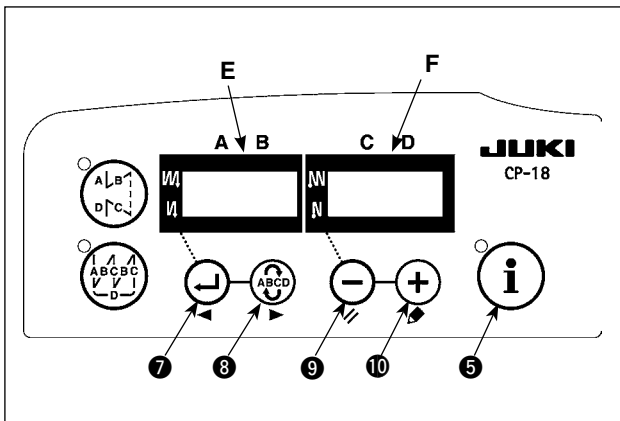
Adjust the position of the wiper (6) according to the thickness of the material sewn.

- 1) Turn the handwheel in the normal direction of rotation to align white marker dot (1) on the handwheel with marker dot (2) on the machine arm.



- 2) Adjust so that a clearance of 1 mm is provided between the flat section of the wiper and the side face of the needle. Tighten wiper adjust screw (3) so that the wiper (6) is pressed and fixed by wiper collar (4).

\* When there is no need to use the wiper, set the wiper operation OFF according to the following procedure. This setting can be made while the power is being turned ON. (One touch setting function.)



- 1) Keep pushing switch (5) for 2 seconds. The display will change to the function setting mode.
- 2) Change the setting No. E to  $\overline{H}$  or  $\overline{P}$  using switch (7) or switch (8).
- 3) Change the setting of F from "on" to "OFF" using switch (9) or switch (10).
- 4) In order to return to normal sewing state, push switch (5).

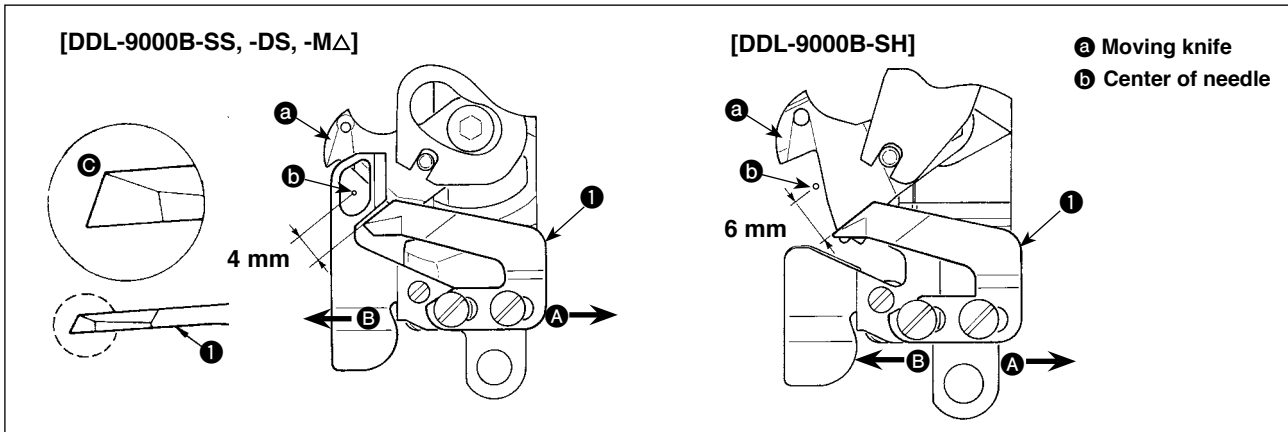
(Caution) When switch (5) is pushed, the setting made will be confirmed.

## 22. CUNTER KNIFE



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



If the knife does not cut thread sharply, immediately re-sharpen counter knife ① as illustrated in Fig. ③ and re-install it properly.

- 1) If the mounting position of the counter knife is moved in direction ④ from the standard mounting position, the thread length after thread trimming will be increased accordingly.
- 2) If the mounting position is moved in direction ⑤, the thread length will be decreased accordingly.

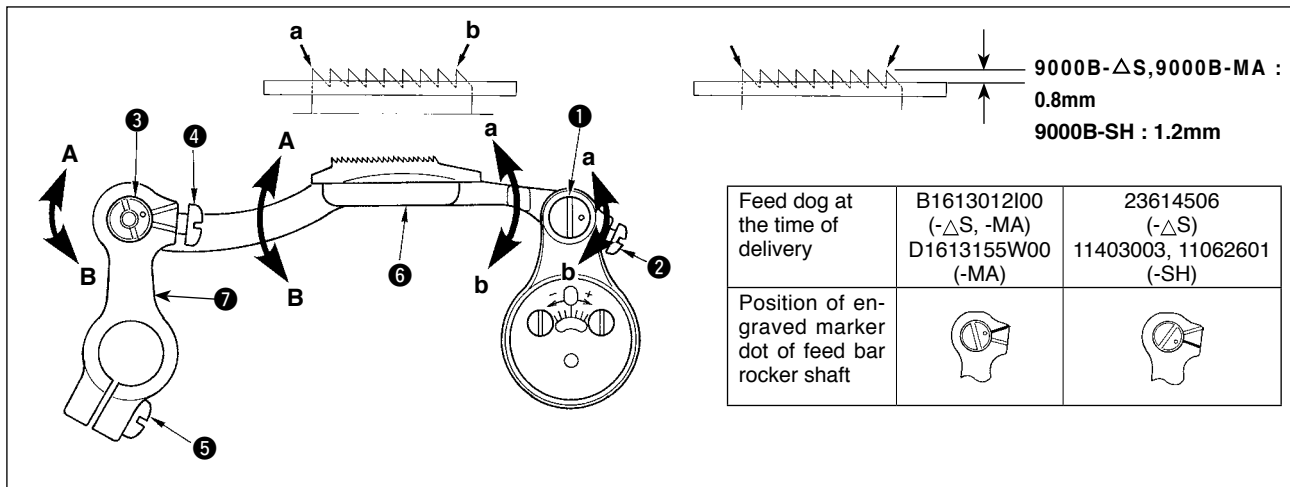
**(Caution) When sharpening again the knife blade, extra special care must be taken on the handling of the knife.**

## 23. HEIGHT AND TILT OF THE FEED DOG



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



### (1) Standard value of the height of the feed dog

Standard feed dog height, when it is lifted to the highest from the top surface of the throat plate, :

9000B-ΔS and 9000B-MA : 0.8 mm

9000B-SH : 1.2 mm

Adjust the feed dog height in accordance with processes and materials.

**(Caution)** Adjust the directions of the engraved marker dot of feed bar driving shaft ① and the engraved marker dot of feed bar rocker shaft ③ on the right side (operator side).

### (2) Adjusting the height and tilt of the feed dog

- Loosen setscrew ② in feed bar driving shaft ① and setscrew ④ in feed bar rocker shaft ③.
- Height and tilt of the feed dog will change by turning both shafts ① and ③ with a screwdriver.
- For the relation between the rotating direction of each shaft and tilt of feed bar ⑥, refer to the figure above.

\* Standard delivery state : The engraved marker dot of feed bar rocker shaft ③ is adjusted to engraved marker lines ⑧ and ⑨ of the feed dog of each type and the height of feed dog is adjusted with feed bar driving shaft ①.

- After the adjustment, securely tighten the setscrews. (Tighten setscrews ② and ④ in the state that shafts ① and ③ are pushed against the handwheel side.)

#### **(Caution)**

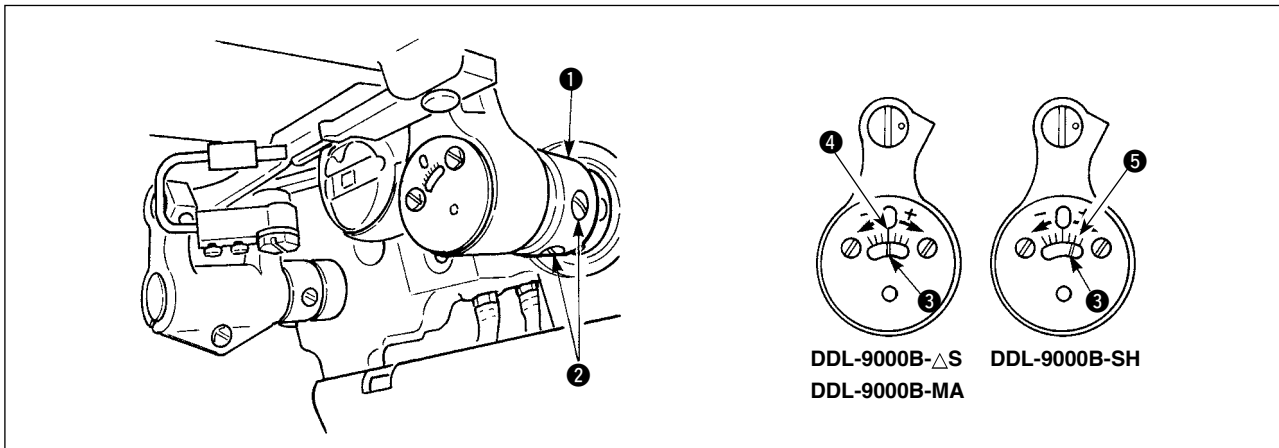
- If the tilt of the feed dog is adjusted with one shaft only, the height of the feed dog changes. Be sure to adjust it with both shafts.
- Movement position of the feed dog may be shifted depending on the adjusting position of the shaft. At this time, loosen setscrew ⑤ in feed rocker shaft arm ⑦ and adjust the movement position.
- The feed dog may interfere with the thread trimmer unit due to the adjustment of height or tilt of the feed dog. So, be careful.

## 24. ADJUSTING THE FEED TIMING



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



Timing of the feed dog can be adjusted by changing the stop position of vertical feed cam ①. Adjusting procedure is as described below.

- 1) Tilt the sewing machine head and loosen two setscrews ② in vertical feed cam ①.
- 2) Turn vertical feed cam ① to change the timing of the feed dog. Align graduation ③ on the feed bar driving arm with engraved marker line ④ on the feed driving shaft.
  - Turn vertical feed cam ① in the direction of ( + )
    - Increases the feed timing.
  - Turn vertical feed cam ① in the direction of ( - )
    - Decreases the feed timing.

#### \* Standard value of the engraved marker line on the feed eccentric cam

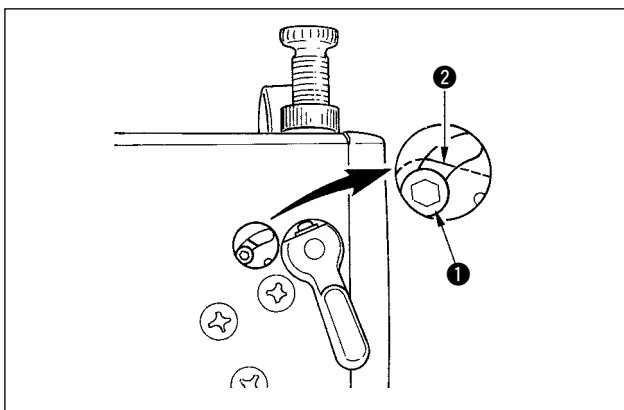
The position of graduation ③ in the standard state : 9000B-ΔS and 9000B-MA : Engraved marker line ④  
9000B-SH : Engraved marker line ⑤ (+20°)

## 25. THREAD TENSION RELEASE RELEASING MECHANISM



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



By means of the thread tension release releasing mechanism, sewing can be performed without slackening the needle thread tension even when the presser foot is lifted during sewing.

(Even when the presser foot is slightly lifted at the thick overlapped section by the knee lifter, this mechanism can prevent the thread tension from being changed.)

#### [How to release]

- 1) Remove the cap in the machine head and loosen thread tension release changeover screw ① using a hexagon wrench.
  - 2) Fix screw ① on the top of thread tension release changeover plate ②.  
The thread tension disk does not rise even when the presser foot is lifted, and the needle thread tension is not loosened. (The thread tension disk rises only when thread trimming is performed.)
- (Caution) Do not use screw ① at any position other than the top or bottom position of the thread tension release changeover plate.

\* The screw has been factory-set to the bottom position at the time of delivery.

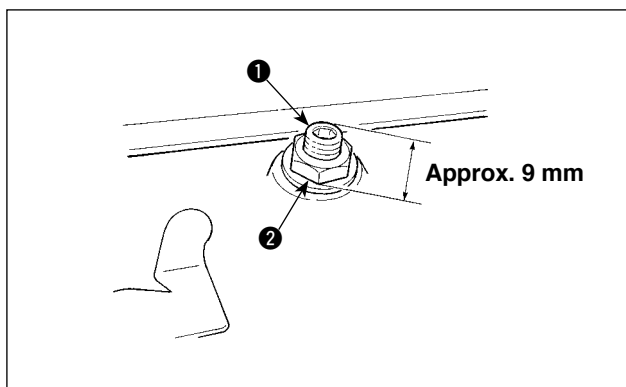
\* In case of the machine with wiper, remove the wiper unit (two setscrews) to adjust.

## 26. MICRO-LIFTING MECHANISM OF THE PRESSER FOOT



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



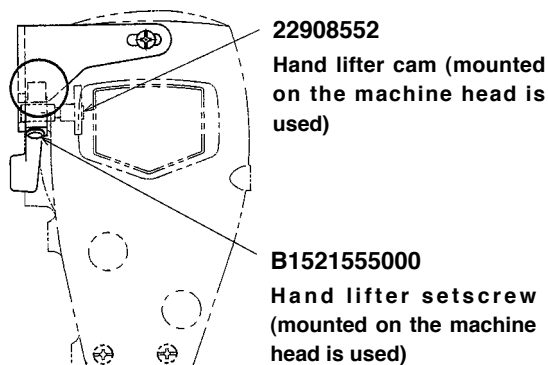
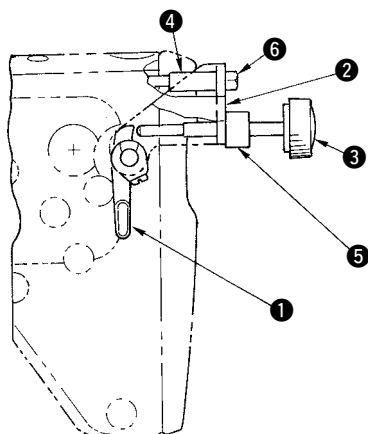
When sewing velvet or the like which is fluffy, slippage of material or damage of material is reduced by using screw ① for presser foot micro-lifting. Lower the presser foot and set the state that the feed dog is lower than the throat plate.

Gradually tighten screw ① for presser foot micro-lifting in the state that nut ② is loosened, finely adjust the position of the presser foot until it matches the material, and fix it with nut ②.

**(Caution)** When the presser foot micro-lifting mechanism is not used, adjust the height of screw ① so that it is higher by approximately 9 mm than the sewing machine. If the sewing machine is operated in the state that the micro-lifting mechanism is working, sufficient feed force cannot be obtained.

For DDL-9000B, the presser foot micro-lifting mechanism is provided as standard. When it is frequently used, however, it is convenient to use the micro-lifting device (separately available) which can be adjusted without using tools.

### Presser foot micro-lifter (asm.) [40056622] (Separately available)



### Presser foot micro-lifter components

No.	Part No.	Description	Q'ty
1	23611106	Hand lifter	1
2	23610504	Stopper base	1
3	23610652	Stopper screw	1
4	D5119206K0K	Collar	2
5	23610702	Nut	1
6	SL6053592TN	Setscrew	1

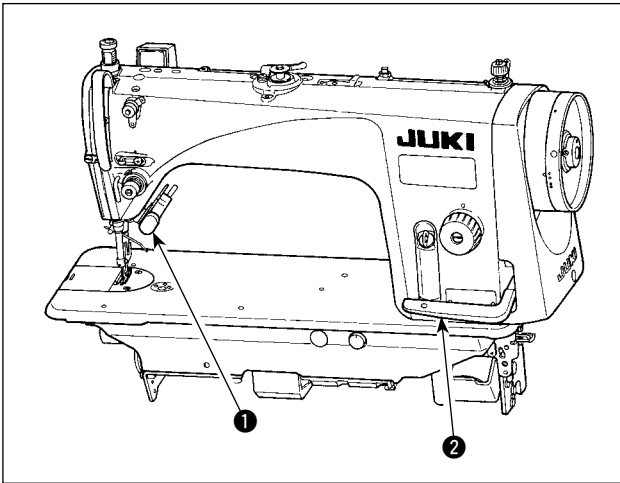


## 27. SEWING CONDENSED STITCHES



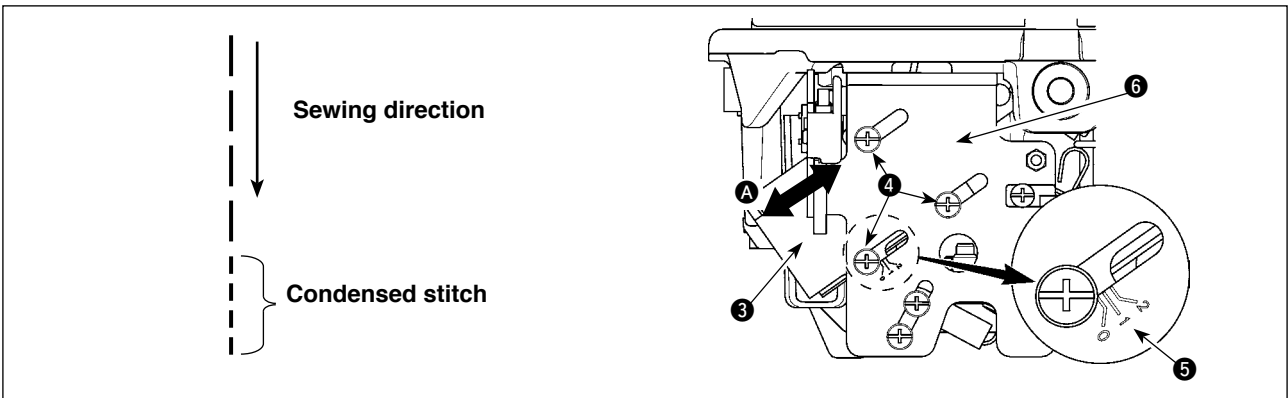
### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



It is possible to change the stitch length of the normal feed pitch by operating switch ① or reverse feed control lever ② during sewing.

- 1) Tilt the machine head, and loosen three fixing screws ④ of the reverse feed solenoid ③.
- 2) Slide reverse feed solenoid ③ in the direction of the arrow to adjust so that the center of screw ④ is aligned with engraved marker line ⑤ representing the condensation stitch length. Then fix the solenoid with setscrews ④.
- 3) To return the stitch length back to the initial setting (to reset), slide reverse feed solenoid ③ in the direction of arrow A until it comes in contact with the end face of slit in bed strut B ⑥. Then, fix the solenoid at that position with setscrews ④.

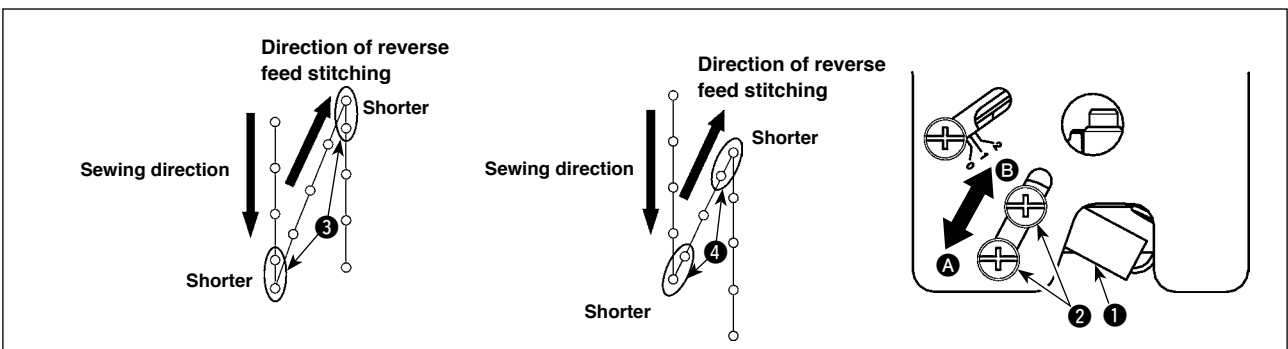


## 28. FEED CONVERSION SPRING MECHANISM (DDL-9000B-S△, -M△)



### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.



In automatic reverse stitching, in case the forward and the reverse stitches do not match, a rough correction can be made by adjusting the feed adjustment spring hook ①.

\* To make a fine correction, the correction of timing of the reverse feed stitching solenoid is necessary by adjusting Function Setting Nos. 51, 52 and 53. Refer to the Instruction Manual for the control box (SC-920) for details of adjustment procedure.

- 1) In case the stitch does not match the target as shown in ③, loosen feed adjustment spring hook fixing screw ②, make ① slide in A direction, and fix using the screws ②.
- 2) In case the stitch does not match the target as shown in ④, loosen feed adjustment spring hook fixing screw ②, make ① slide in B direction, and fix using the screws ②.

## 29. CARE

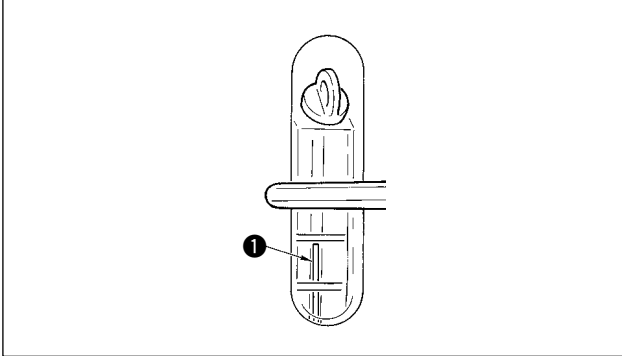


### WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

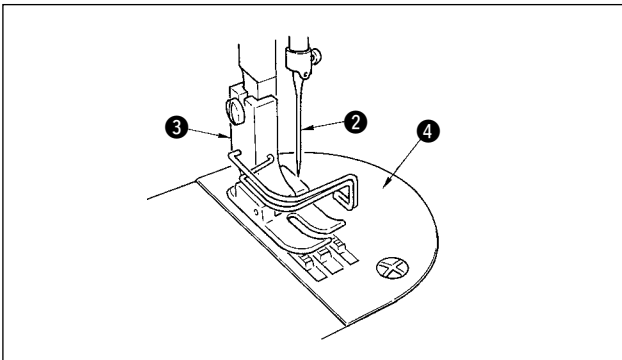
Perform the maintenance below every day for longer use of your machine.

### (1) Confirmation of the amount of oil in the hook oil tank.

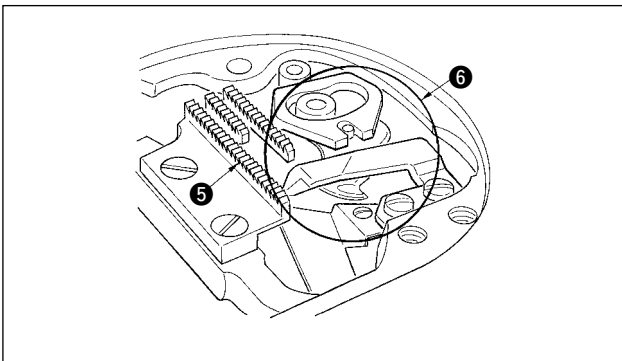


Confirm that the top of oil amount indicating rod **1** is between the upper engraved marker line and the lower engraved marker line of the oil amount indicating window. (For the details, refer to “4. LUBRICATION”.)

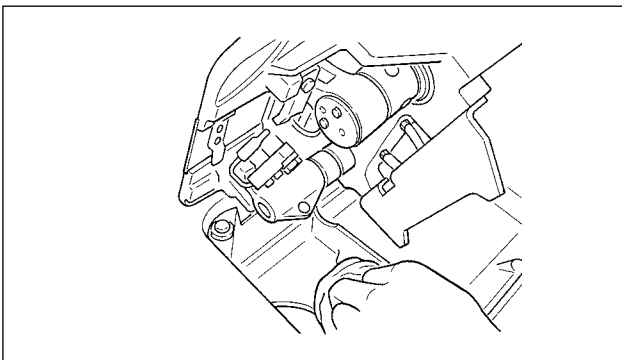
### (2) Cleaning



1) Remove needle **2**, presser foot **3** and throat plate **4**.



2) Remove dust adhered to feed dog **5** and thread trimmer unit **6** with a soft brush or cloth.



3) Tilt the machine head and wipe out the dirt of bobbin case and the like with soft cloth, and confirm that there is no scratch. Wipe out with the cloth dust and hook oil drained in the under cover near the hook.