

ENGLISH

**DDL-8100e DDL-8100eH
INSTRUCTION MANUAL**



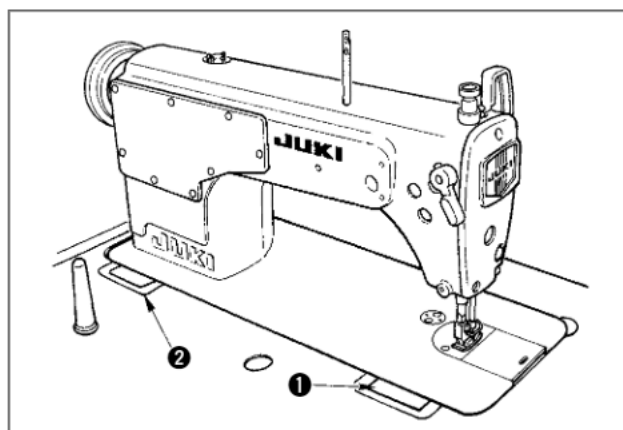
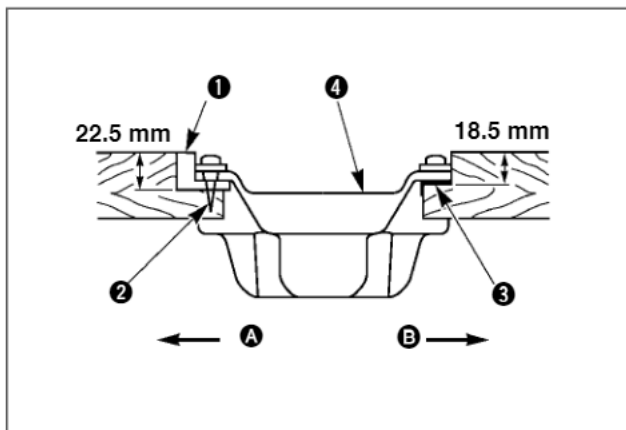
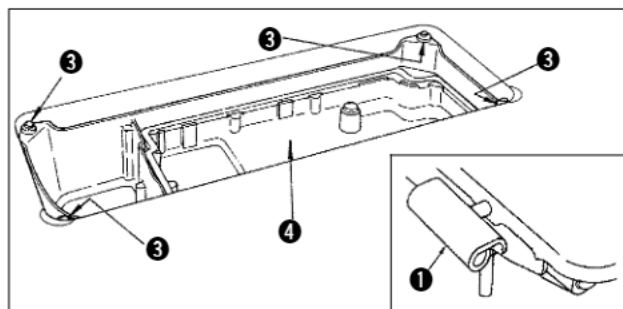
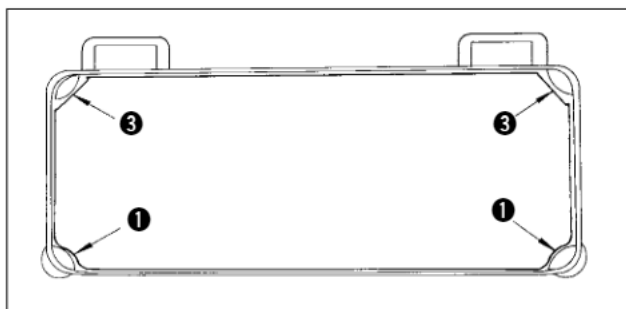
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1. SPECIFICATIONS

	DDL-8100e	DDL-8100eH
Application	General fabrics, light-weight and medium-weight materials	Medium-weight materials, heavy-weight materials
Sewing speed	Max. 4,500 sti/min	Max. 4,000 sti/min
Stitch length	Max. 5 mm	
Needle	DB x 1 #9 to #18	DA x 1 #20 to #23
Presser foot lift (by knee lifter)	10 mm (standard) 13 mm (Max.)	
Lubricating oil	JUKI MACHINE OIL #7	
Noise	- Equivalent continuous emission sound pressure level (L_{pA}) at the workstation: A-weighted value of 80 dB; (Includes $K_{pA}=2.5dB$); according to ISO 10821 - C.6.2-ISO 11204 GR2 at 4,200 sti/min.	

2. INSTALLATION



(1) Installing the oil pan

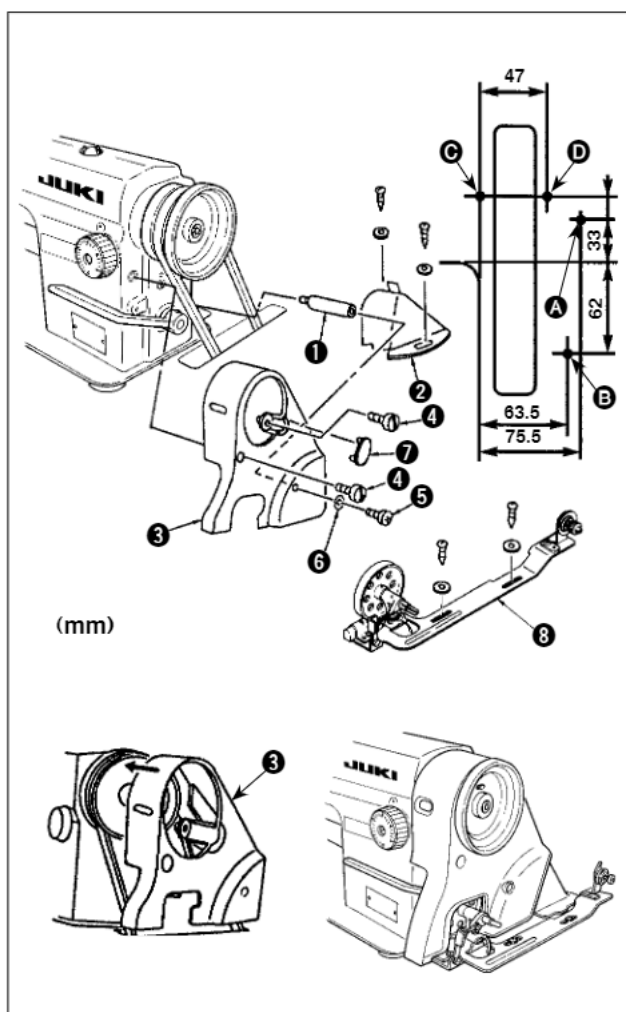
- 1) The under cover should rest on the four corners of the machine table groove.
- 2) Two rubber seats **1** for supporting the head portion on the operator side **A** are fixed on the extended portion of the table by hitting the nail **2**, and the other two rubber cushion seats **3** on the hinge side **B** are fixed by using a rubber-based adhesive. Then, oil pan **4** is placed.
- 3) Fit hinge **1** into the opening in the machine bed, and fit the machine head to table rubber hinge **2** before placing the machine head on cushions **3** on the four corners.

3. INSTALLING THE BELT COVER AND THE BOBBIN WINDER



WARNING :

To avoid possible personal injury due to abrupt start of the machine, turn off the power to the machine and check to be sure that the motor has totally stopped rotating in prior.



(1) Installation procedure

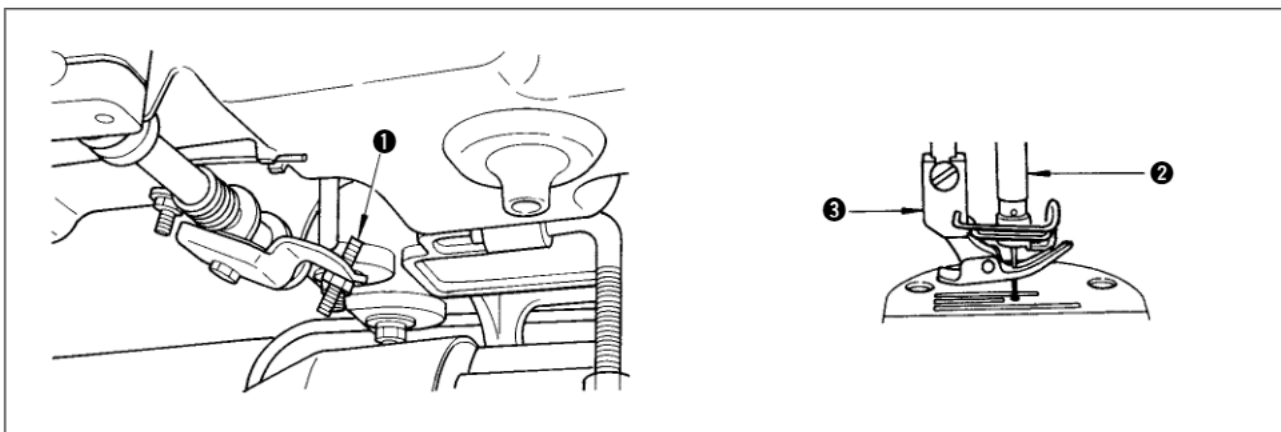
- 1) Drill four guiding holes **A**, **B**, **C** and **D** for wooden screws in the table.
- 2) Insert support **1** of the belt cover in the tapped hole in the arm.
- 3) Pass the handwheel through the hole in belt cover **A** **3**, then set the handwheel on the arm. At this time, you can smoothly install the handwheel diagonally from the rear of the handwheel by tilting belt cover **A** **3** as illustrated in the figure.
- 4) Place belt cover **B** **2** on guiding holes **C** and **D**.
- 5) Fix belt cover **A** **3** on the arm using screws **4**, **5** and washer **6**. At this time, tighten screw **4** with a tightening torque of 300 N·cm and screw **5** with a tightening torque of 250 N·cm. If you tighten further these screws, the securing state of the belt cover will not change.
- 6) Fit cap **7** to the belt cover **A**.
- 7) Move belt cover **B** **2** backward until the rubber section of belt cover **B** **2** comes in contact with belt cover **A** **3**. Then, further move the belt cover **B** in the same direction by 0.5 to 1 mm. Now, fix the belt cover **B** in position using wooden screws and washers.
- 8) Fix bobbin winder **8** in guiding holes **A** and **B** using wooden screws and washers.

4. ADJUSTING THE HEIGHT OF THE KNEE LIFTER



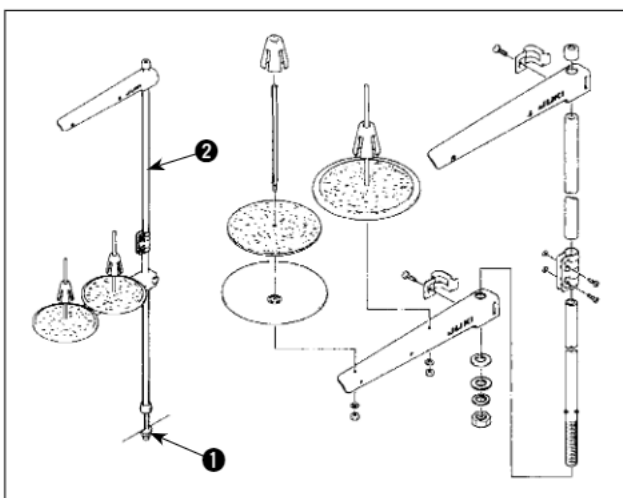
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- 1) The standard height of the presser foot lifted using the knee lifter is 10 mm.
- 2) You can adjust the presser foot lift up to 13 mm using knee lifter adjust screw **1**.
- 3) When you have adjusted the presser foot lift to over 10 mm, be sure that the bottom end of needle bar **2** in its lowest position does not hit presser foot **3**.

5. INSTALLING THE THREAD STAND



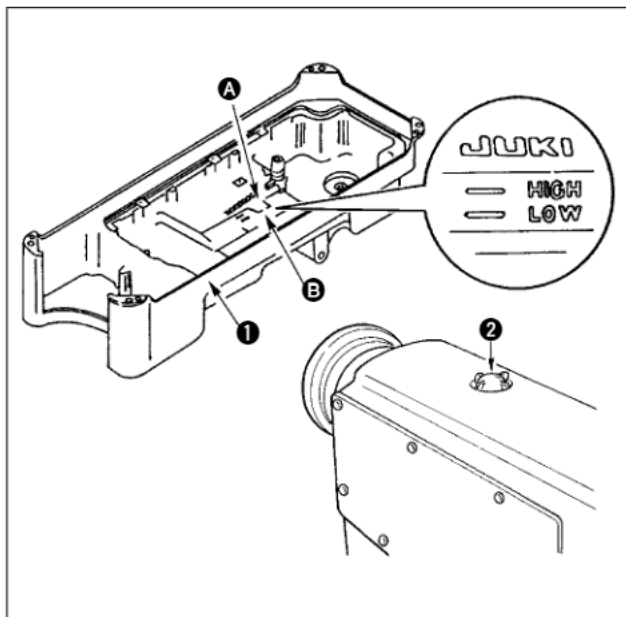
- 1) Assemble the thread stand unit as illustrated in the figure shown on the left, and insert it in the hole in the machine table.
- 2) Tighten locknut **1** enough to fix the thread stand.
- 3) For ceiling wiring, pass the power cord through spool rest rod **2**.

6. LUBRICATION



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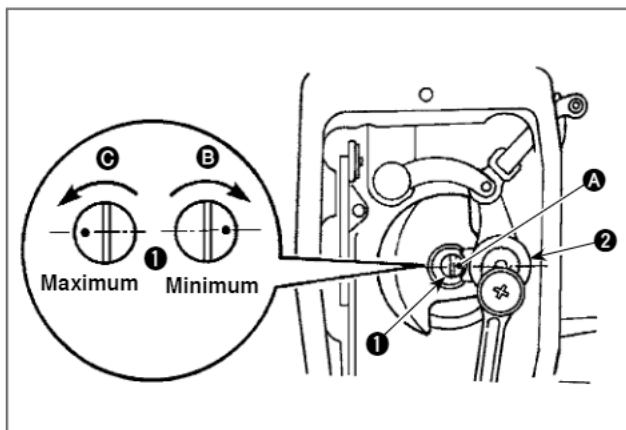
(1) Information on lubrication

- 1) Fill oil pan ① with JUKI New Defrix Oil No. 1 up to HIGH mark A.
- 2) When the oil level lowers below LOW mark B, refill the oil pan with the specified oil.
- 3) When you operate the machine after lubrication, you will see splashing oil through oil sight window ② if the lubrication is adequate.

1. When you first operate your machine after setup or after an extended period of disuse, run your machine at 3,000 sti/min to 3,500 sti/min for about 10 minutes for the purpose of break-in.



2. When the machine is continuously used at a low speed (2,000 sti/min or less), make the machine run idle at a high speed (4,000 sti/min or more) for approximately 5 minutes once a week. Use clean oil and when the oil becomes dirty, replace it with clean oil as soon as possible. When you continue to use the machine with dirty oil, the trouble will be caused.



(2) Adjusting the amount of oil supplied to the face plate parts

- 1) Adjust the amount of oil supplied to the thread take-up and needle bar crank ② by turning adjust pin ①.
- 2) The minimum amount of oil is reached when marker dot A is brought close to needle bar crank ② by turning the adjust pin in direction B.
- 3) The maximum amount of oil is reached when marker dot A is brought to the position just opposite from the needle bar crank by turning the adjust pin in direction C.

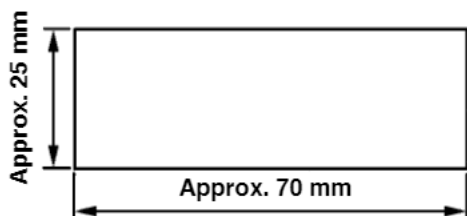
7. ADJUSTING THE AMOUNT OF OIL (OIL SPLASHES) IN THE HOOK



WARNING :

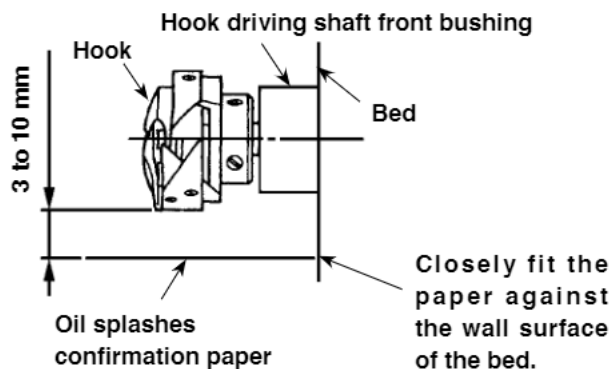
Be extremely careful about the operation of the machine since the amount of oil has to be checked by turning the hook at a high speed.

① 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)

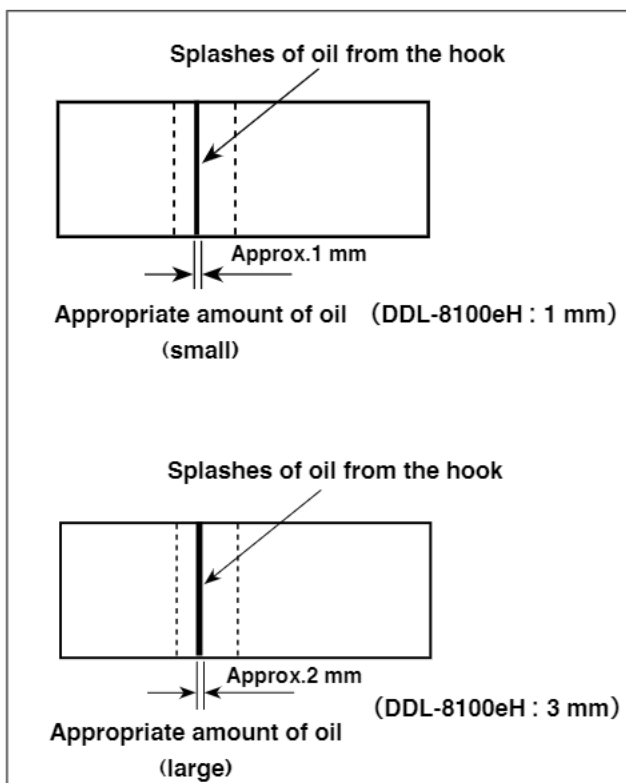


* Place the amount of oil (oil splashes) confirmation paper under the hook.

* When carrying out the procedure described below in 2, remove the slide plate and take extreme caution not to allow your fingers to come in contact with the hook.

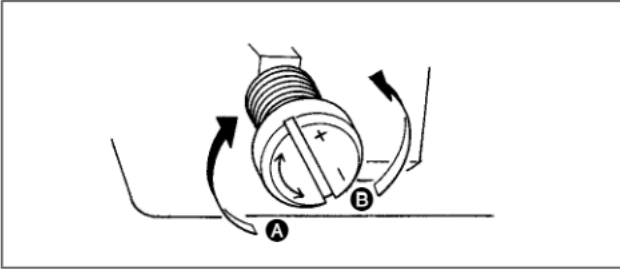
- 1) If the machine has not been sufficiently warmed up for operation, make the machine run idle for approximately three minutes. (Moderate intermittent operation)
- 2) Place the amount of oil (oil splashes) confirmation paper under the hook while the sewing machine is in operation.
- 3) Confirm the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

■ Sample showing the appropriate amount of oil



- 1) The amount of oil shown in the samples on the left should be finely adjusted in accordance with sewing processes. Be careful not to 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) Adjust the amount of oil in the hook so that the oil amount (oil splashes) should not change while checking the oil amount three times (on the three sheets of paper).

■ Adjusting the amount of oil (oil spots) in the hook



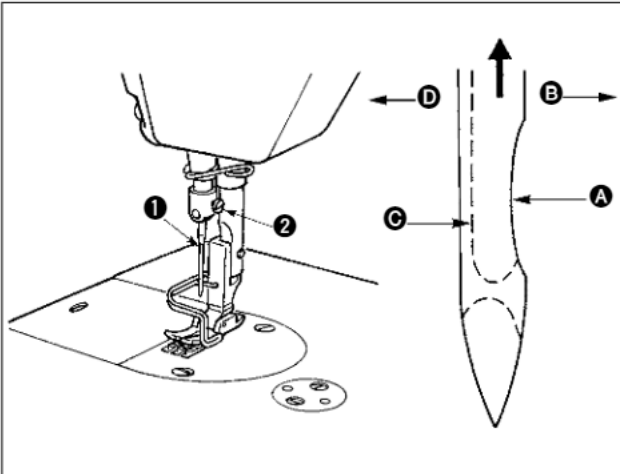
- 1) Turning the oil amount adjustment screw attached on the hook driving shaft front bushing in the “+” direction (in direction **A**) will increase the amount of oil (oil spots) in the hook, or in the “-” direction (in direction **B**) will decrease it.
- 2) After the amount of oil in the hook has been properly adjusted with the oil amount adjustment screw, make the sewing machine run idle for approximately 30 seconds to check the amount of oil in the hook.

8. ATTACHING THE NEEDLE



WARNING :

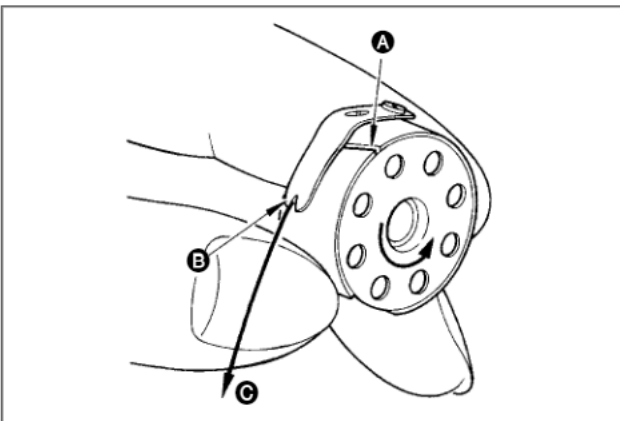
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A needle of DBx1 should be used. Select a proper needle size according to the count of thread and the type of material used.

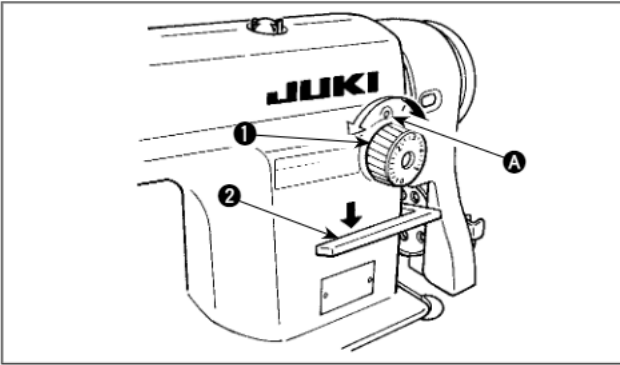
- 1) Turn the handwheel until the needle bar reaches the highest point of its stroke.
- 2) Loosen screw **2**, and hold needle **1** with its indented part **A** facing exactly to the right in direction **B**.
- 3) Insert the needle fully into the hole in the needle bar in the direction of the arrow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

9. SETTING THE BOBBIN INTO THE BOBBIN CASE



- 1) Install the bobbin in the bobbin case so that the thread wound direction is counterclockwise.
- 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.

10. ADJUSTING THE STITCH LENGTH



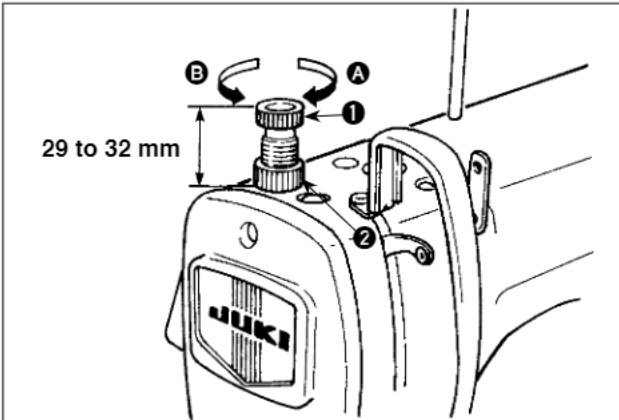
- 1) Turn stitch length dial **1** in the direction of the arrow, and align the desired number to marker dot **A** on the machine arm.
- 2) The dial calibration is in millimeters.
- 3) When you want to decrease the stitch length, turn stitch length dial **1** while pressing feed lever **2** in the direction of the arrow.

11. PRESSER FOOT PRESSURE



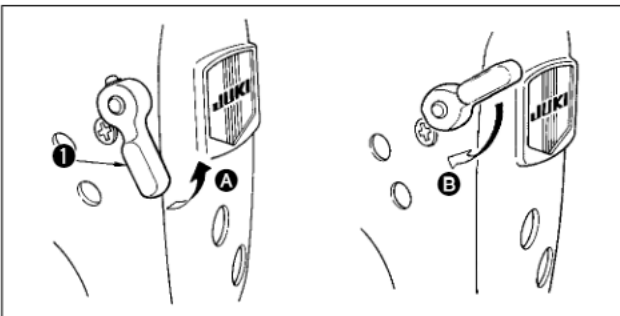
WARNING :

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- 1) Loosen nut **2**. As you turn presser spring regulator **1** clockwise (in direction **A**), the presser foot pressure will be increased.
- 2) As you turn the presser spring regulator counter-clockwise (in direction **B**), the pressure will be decreased.
- 3) After adjustment, tighten nut **2**.
- 4) For general fabrics, the standard height C of the presser spring regulator is 29 to 32 mm (39.2N). (68.6N for DDL-8100eH)

12. HAND LIFTER



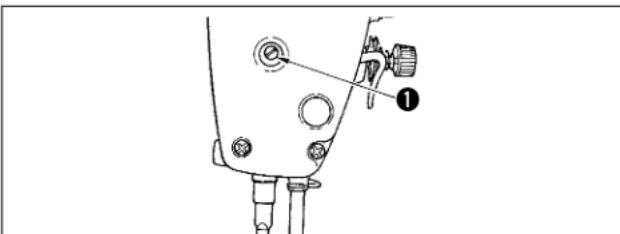
- 1) To stop the machine with its presser foot up, turn hand lifter **1** in direction **A**.
- 2) The presser foot will go up about 5.5 mm and stop. The presser foot will go back to its original position when hand lifter is turned down in direction **B**.
- 3) Using the knee lifter, you can get the standard presser foot lift of about 10 mm and the maximum lift of about 13 mm

13. ADJUSTING THE HEIGHT OF THE PRESSER BAR



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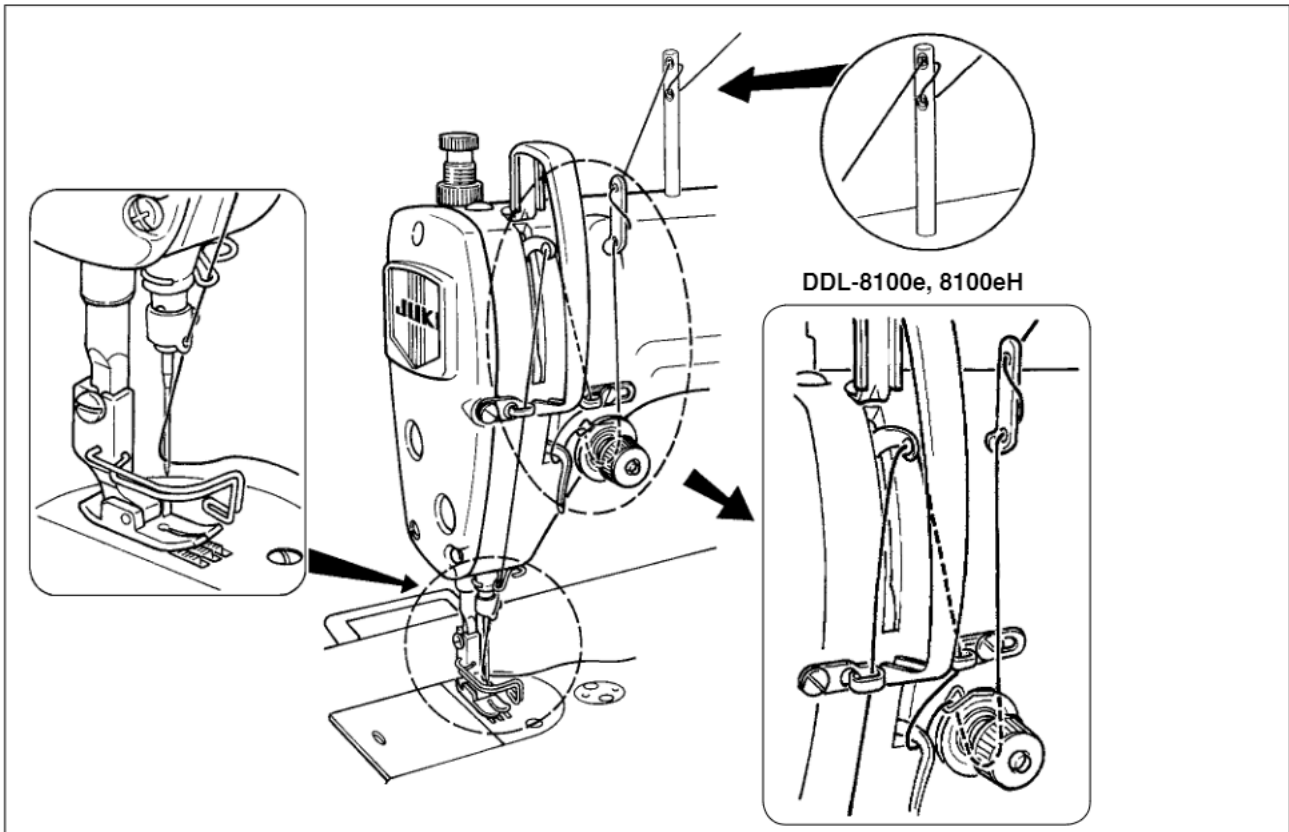
- 1) Loosen setscrew **1**, and adjust the presser bar height or the angle of the presser foot.
- 2) After adjustment, securely tighten the setscrew **1**.

14. THREADING THE MACHINE HEAD

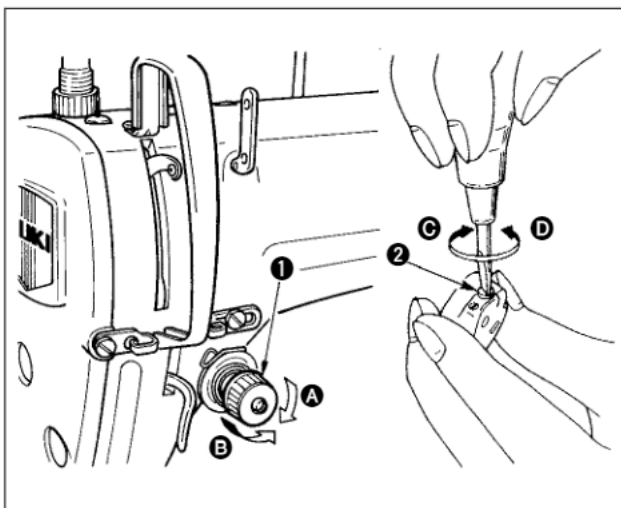


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15. THREAD TENSION



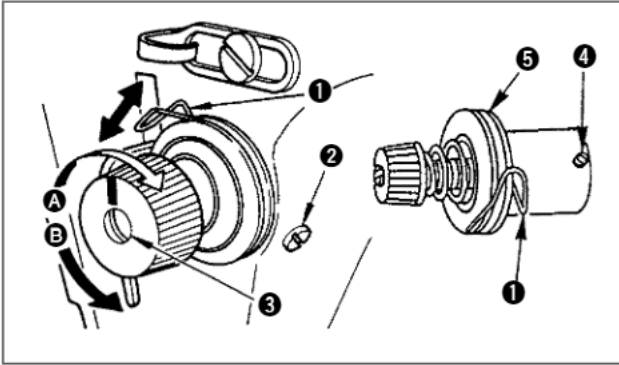
(1) Adjusting the needle thread tension

- 1) As you turn thread tension nut ① clockwise (in direction **A**), the needle thread tension will be increased.
- 2) As you turn nut ① counterclockwise (in direction **B**), the needle thread tension will be decreased.

(2) Adjusting the bobbin thread tension

- 1) As you turn tension adjust screw ② clockwise (in direction **C**), the bobbin thread tension will be increased.
- 2) As you turn screw ② counterclockwise (in direction **D**), the bobbin thread tension will be decreased.

16. THREAD TAKE-UP SPRING



(1) Changing the stroke of thread take-up spring ①

- 1) Loosen setscrew ②.
- 2) As you turn tension post ③ clockwise (in direction ④), the stroke of the thread take-up spring will be increased.
- 3) As you turn the post ③ counterclockwise (in direction ⑤), the stroke will be decreased.

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

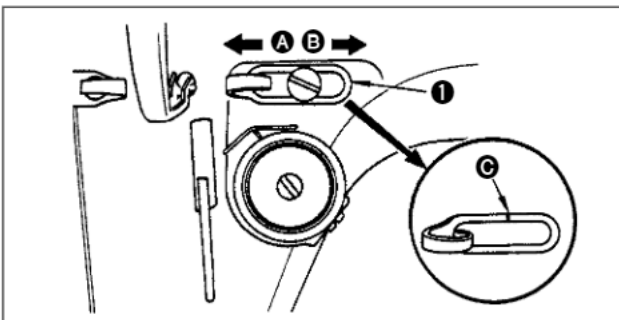
- 1) Loosen setscrew ②, and remove thread tension (asm.) ⑤.
- 2) Loosen setscrew ④.
- 3) As you turn tension post ③ clockwise (in direction ④), the pressure will be increased.
- 4) As you turn the post ③ counterclockwise (in direction ⑤), the pressure will be decreased.

17. ADJUSTING THE THREAD TAKE-UP STROKE



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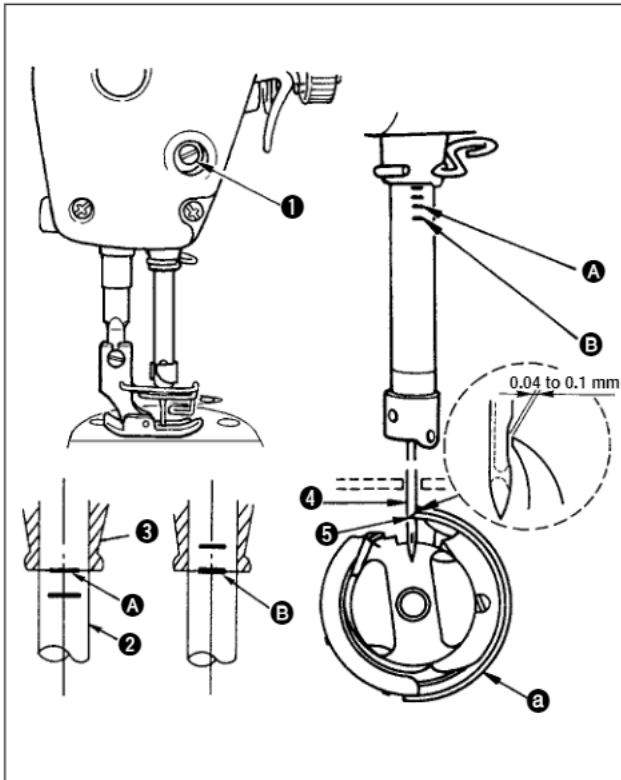
- 1) When sewing heavy-weight materials, move thread guide ① to the left (in direction ④) to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide ① to the right (in direction ⑤) to decrease the length of thread pulled out by the thread take-up.
- 3) Normally, thread guide ① is positioned in a way that marker line ⑥ is aligned with the center of the screw.

18. NEEDLE-TO-HOOK RELATIONSHIP



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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 set-screw ❶.

(Adjusting the needle bar height)

- 2) This machine uses the DB needle. To use the DB needle, align engraved marker line ❶ of needle bar ❷ with the lower end of needle bar lower bushing ❸ and tighten needle bar connecting stud setscrew ❶.

(Adjusting position of the hook a)

- 3) This machine uses the DB needle. To use the DB needle, loosen two hook setscrews, turn the handwheel to move needle bar ❷ upward its engraved marker line ❷ is aligned with the lower end of needle bar lower bushing ❸.
- 4) After making the adjustments mentioned in the above steps, align hook blade point ❹ with the center of needle ❸. Provide a clearance of 0.04 mm to 0.1 mm (0.06 to 0.12 mm for DDL-8100eH) (reference value) between the needle and the hook, then securely tighten setscrews in the hook.



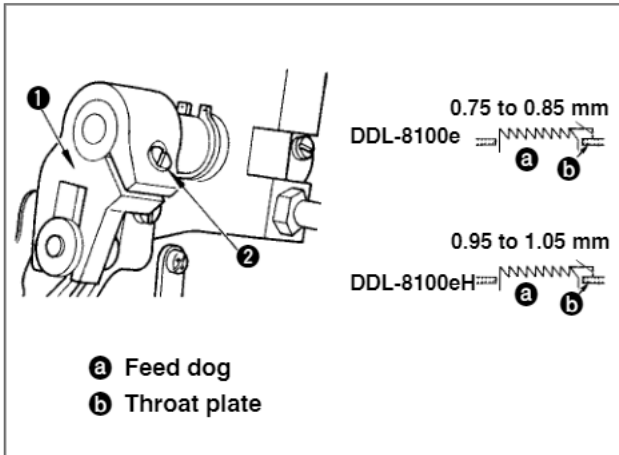
If the clearance between the blade point of hook and the needle is smaller than the specified value, the blade point of hook will be damaged. If the clearance is larger, stitch skipping will result.

19. HEIGHT OF THE FEED DOG



WARNING :

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- 1) The feed dog is factory-adjusted so that it juts out from the throat plate surface 0.75 mm to 0.85 mm (0.95 mm to 1.05 mm for DDL-8100eH) .
- 2) If the feed dog juts out too much, puckering may result when sewing light-weight materials. (Recommended protrusion : 0.7 mm to 0.8 mm)
- 3) To adjust the height of the feed dog :
 - ① Loosen screw ② of crank ①.
 - ② Move the feed bar up or down to make adjustment.
 - ③ Securely tighten screw ②.



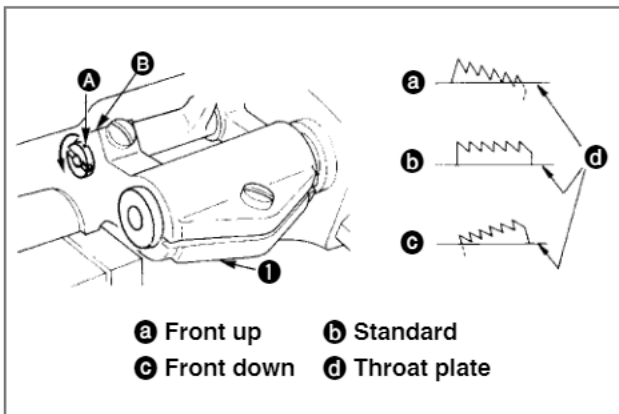
If the clamping pressure is insufficient, the forked portion will wear out.

20. TILT OF THE FEED DOG



WARNING :

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- 1) The standard tilt (horizontal) of the feed dog is obtained when marker dot **A** on the feed bar shaft is aligned with marker dot **B** on feed rocker **1**. (DDL-8100eH, the marker dot **B** inclines forward the feed rocker shaft by 90°, as standard).
- 2) To tilt the feed dog with its front up in order to prevent puckering, loosen the setscrew, and turn the feed bar shaft 90° in the direction of the arrow, using a screwdriver.
- 3) To tilt the feed dog with its front down in order to prevent uneven material feed, turn the feed bar shaft 90° in the opposite direction from the arrow. (The standard tilt for DDL-8100eH.)



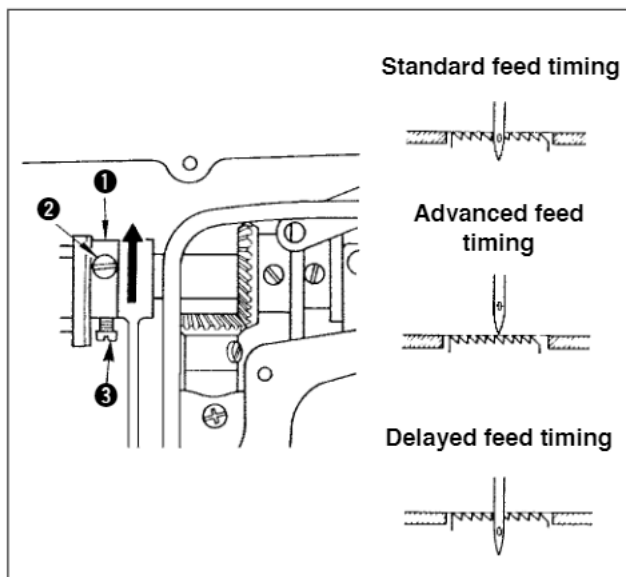
Whenever the feed dog tilt is adjusted, the feed dog height will be changed. So, it is necessary to check the height after tilt adjustment.

21. ADJUSTING THE FEED TIMING



WARNING :

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- 1) Loosen screws ② and ③ in feed eccentric cam ①, move the feed eccentric cam in the direction of the arrow or opposite direction of the arrow, and firmly tighten the screws.
- 2) For the standard adjustment, adjust so that the top surface of feed dog and the top end of needle eyelet are flush with the top surface of throat plate when the feed dog descends below the throat plate.
- 3) To advance the feed timing in order to prevent uneven material feed, move the feed eccentric cam in the direction of the arrow.
- 4) To delay the feed timing in order to increase stitch tightness, move the feed eccentric cam in the opposite direction from the arrow.



Be careful not to move the feed eccentric cam too far, or else needle breakage may result.

22. MOTOR PULLEYS AND BELTS

- 1) A clutch motor with 400W output (1/2 HP) is used as the standard motor.
- 2) An M-type V belt should be used.
- 3) The relationship between the motor pulleys, belt lengths and sewing speeds is shown in the following table :

Motor pulley O.D. (mm)	Motor pulley part No.	Sewing speed (sti/min)		Belt length	Belt part No.
		50 Hz	60 Hz		
110	MTKP0105000	4,440	-	1092 mm (43")	MTJVM004300
105	MTKP0100000	4,250	-	1067 mm (42")	MTJVM004200
100	MTKP0095000	4,000	-		
95	MTKP0090000	3,820	-		
90	MTKP0085000	3,610	4,320	1041 mm (41")	MTJVM004100
85	MTKP0080000	3,390	4,000		
80	MTKP0075000	3,160	3,790		
75	MTKP0070000	2,950	3,520		
70	MTKP0065000	2,740	3,260		

- * The effective diameter of a motor pulley is equivalent to the outside diameter minus 5 mm.
- * The motor should rotate counterclockwise as observed from the handwheel side. Be careful not to allow the motor to rotate in the reverse direction.

