

HIGH-SPEED 1-NEEDLE LOCKSTITCH MACHINE

**DDL-5550 DDL-5530****INSTRUCTION MANUAL**

Congratulations on your purchase of a JUKI sewing machine.

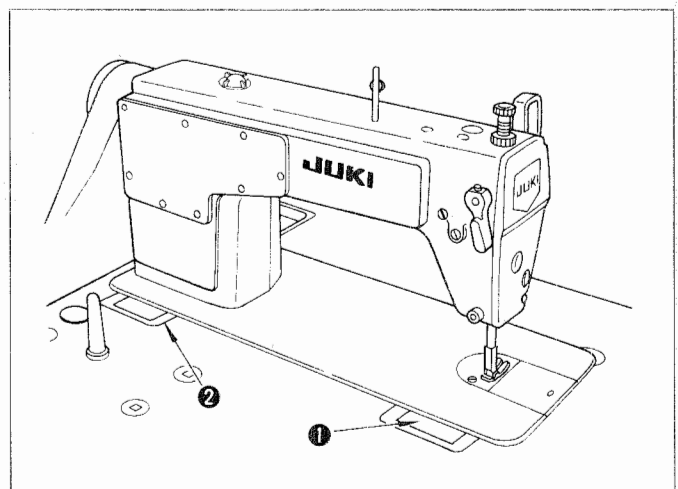
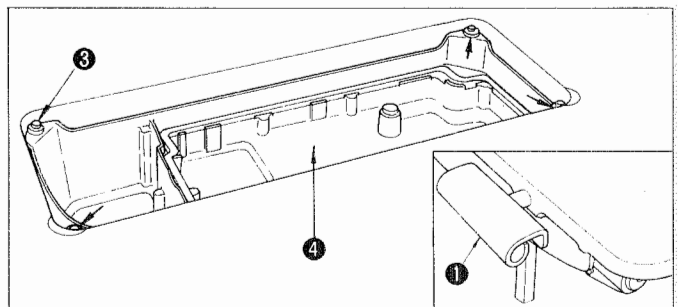
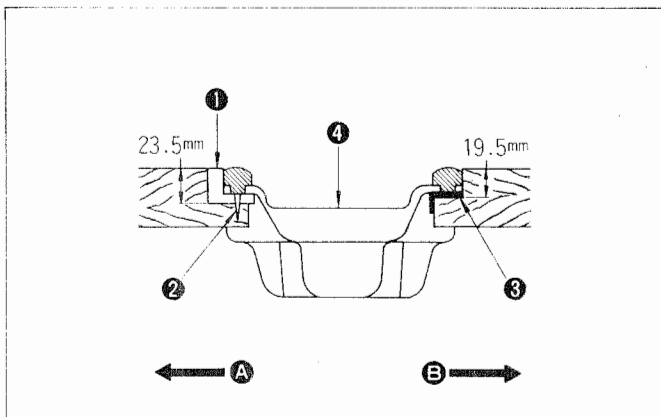
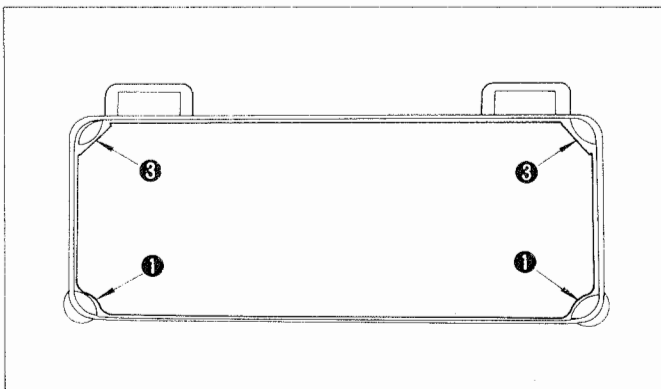
Please read this Instruction Manual carefully before using the unit in order to get the most out of it and to enjoy using it for a long time.

**BEFORE OPERATION**

1. Never operate the machine unless its oil pan has been filled with oil.
2. After setting up the machine, check the direction of motor rotation. To check it, turn the handwheel by hand to bring the needle down, and turn the power switch ON while observing the handwheel. (The handwheel should turn counterclockwise as observed from the handwheel side.)
3. Do not use a larger motor pulley for the first one month.
4. Confirm that the voltage and phase (single- or 3-phase) are correct by checking them against the ratings shown on the motor nameplate.

**OPERATION PRECAUTIONS**

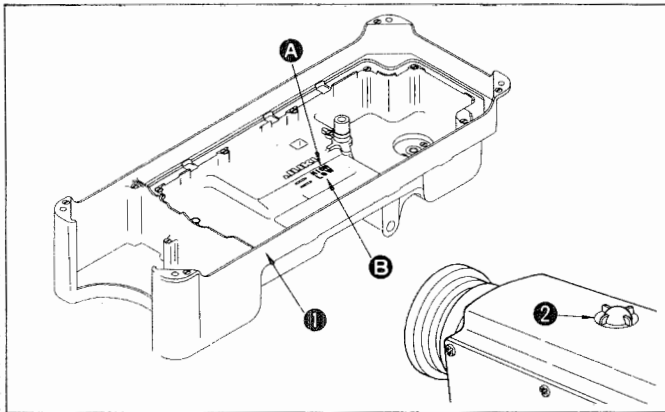
1. Keep your hands away from the needle when you turn the power switch ON or while the machine is operating.
2. Do not put your fingers into the thread take-up cover while the machine is operating.
3. Be sure to turn the power switch OFF before tilting the machine head or removing the V belt.
4. When an operator leaves from the machine, make sure to turn off the power.
5. During operation, be careful not to allow your or any other person's head or hands to come close to the handwheel, V belt, bobbin winder or motor. Also, do not place anything close to them. Doing so may be dangerous.
6. If your machine is provided with a belt cover, finger guard or any other protectors, do not operate your machine with any of them removed.

**1. INSTALLATION****1. Installing the oil pan**

- 1) The oil pan should rest on the four corners of the machine table groove.
- 2) 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 oil pan ④ on the fixed seats.

- 1) 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.

## 2. LUBRICATION



### 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 E , 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.
- 4) Note that the amount of the splashing oil is unrelated to the amount of the lubricating oil.

**(Precaution)** When you first operate your machine after setup or after an extended period of disuse, run your machine at 3,000s.p.m. to 3,500 s.p.m. for about 10 minutes for the purpose of break-in.

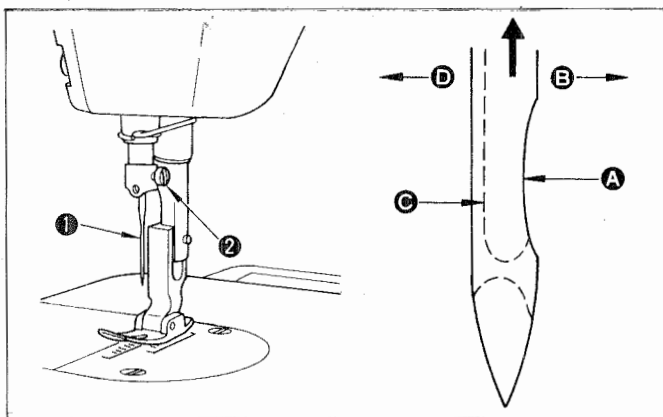
### 2. Adjusting the amount of oil supplied to the face plate parts

- 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 .

### 3. Adjusting the amount of oil supplied to the hook

- 1) More oil is supplied as oil amount adjust screw ③ mounted on the hook driving shaft is turned toward ⊕ in direction A .
- 2) As the oil amount adjust screw ③ is turned toward ⊖ in direction B , the amount of oil supplied will be decreased.

## 3. ATTACHING THE NEEDLE

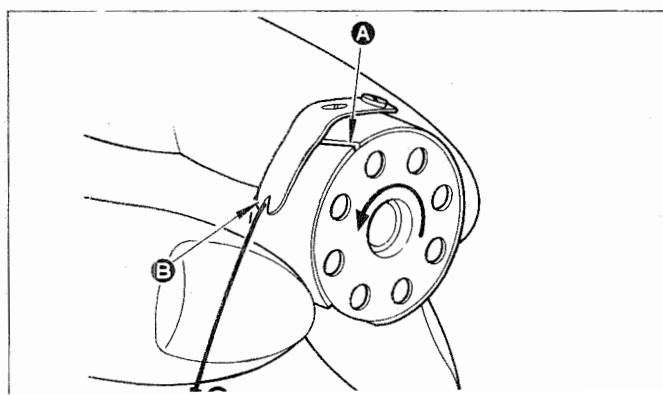


\* Turn the motor power OFF before starting to attach the needle.

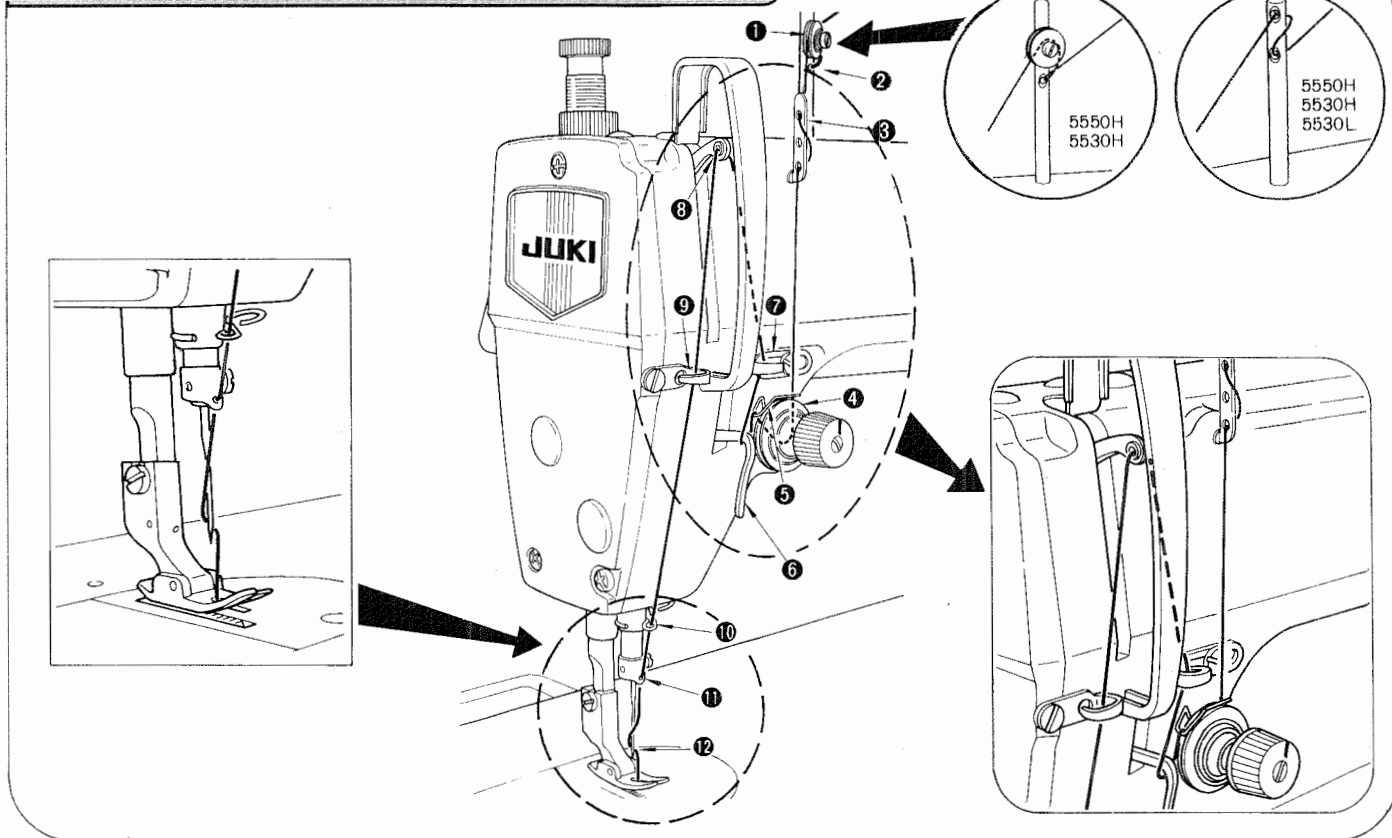
A needle of DB x 1 (DA x 1 for DDL-5530A or -5550A) should be used. Select a proper needle size according to the count of thread and the type of material used.

- 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 in the direction of the arrow until it will go no further.
- 4) Securely tighten screw ② .
- 5) Check that long groove C of the needle is facing exactly to the left in direction D .

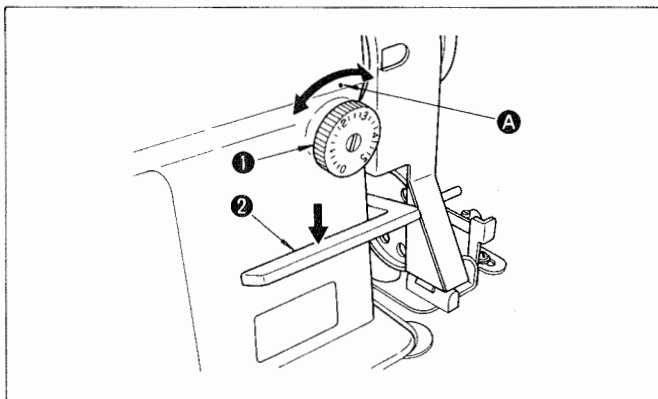
## 4. SETTING THE BOBBIN INTO THE BOBBIN CASE



- 1) Hold the bobbin in a way that the thread open end is directed to the left as observed from you, and set the bobbin into the bobbin case.
- 2) Pass the thread through thread slit A , and pull the thread in direction B . 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 C is pulled.

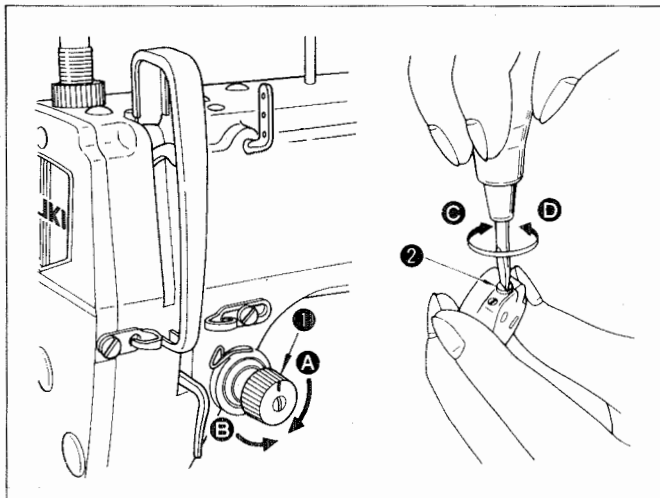


## 6. ADJUSTING THE STITCH LENGTH



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

## 7. THREAD TENSION



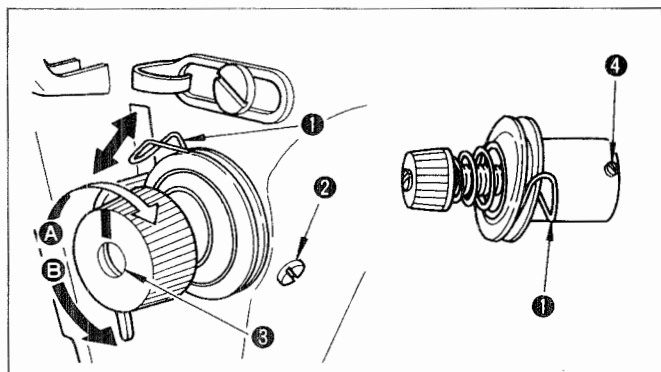
### 1. Adjusting the needle thread tension

- 1) Adjust the needle thread tension using tension adjust nut ① according to the sewing specifications.
- 2) As you turn nut ① clockwise (in direction A), the needle thread tension will increase.
- 3) As you turn nut ① counterclockwise (in direction B), the tension will decrease.

### 2. Adjusting the bobbin thread tension

- 1) As you turn tension adjust screw ② clockwise (in direction C), the bobbin thread tension will increase.
- 2) As you turn screw ② counterclockwise (in direction D), the bobbin thread tension will decrease.

## 8. THREAD TAKE-UP SPRING



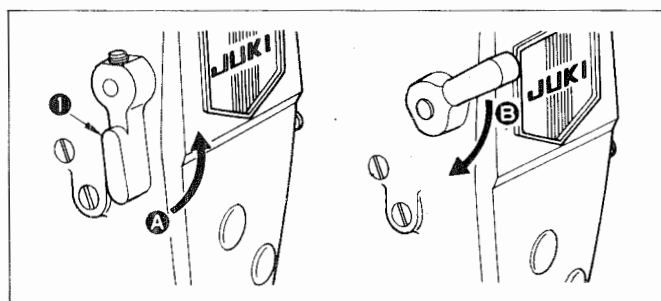
### 1. Changing the stroke of thread take-up spring ①

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

### 2. Changing the pressure of thread take-up spring ①

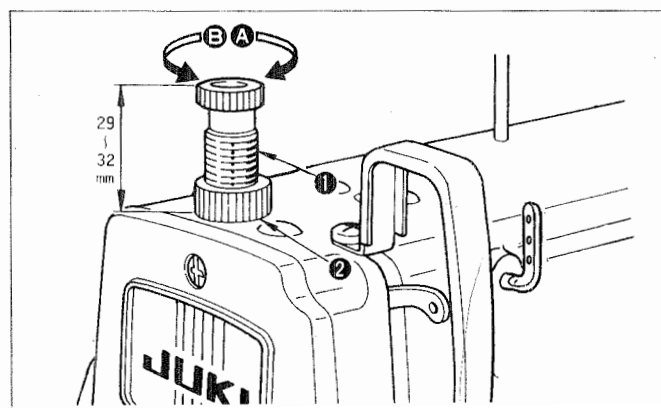
- 1) Loosen setscrew ②, and remove tension post ③.
- 2) Loosen setscrew ④.
- 3) As you turn tension post ③ clockwise (in direction A), the pressure will be increased.
- 4) As you turn the post counterclockwise (in direction B), the pressure will be decreased.

## 9. HAND LIFTER

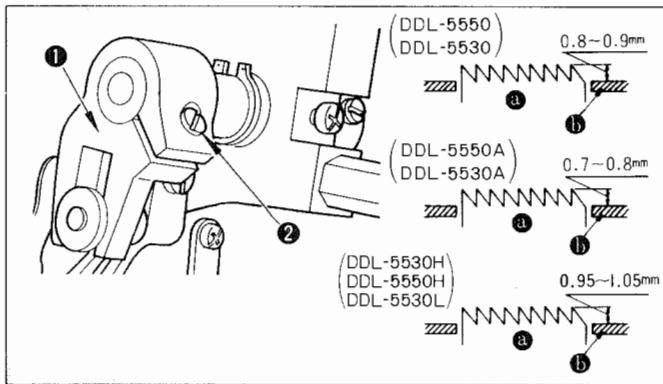


- 1) To stop the machine with its presser foot up, turn hand lifter ① in direction A.
- 2) The presser foot will go up about 5.5 mm and stop.
- 3) The presser foot will go back to its original position when hand lifter B is turned down in direction B.
- 4) Using the knee lifter, you can get the standard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

## 10. PRESSER FOOT PRESSURE

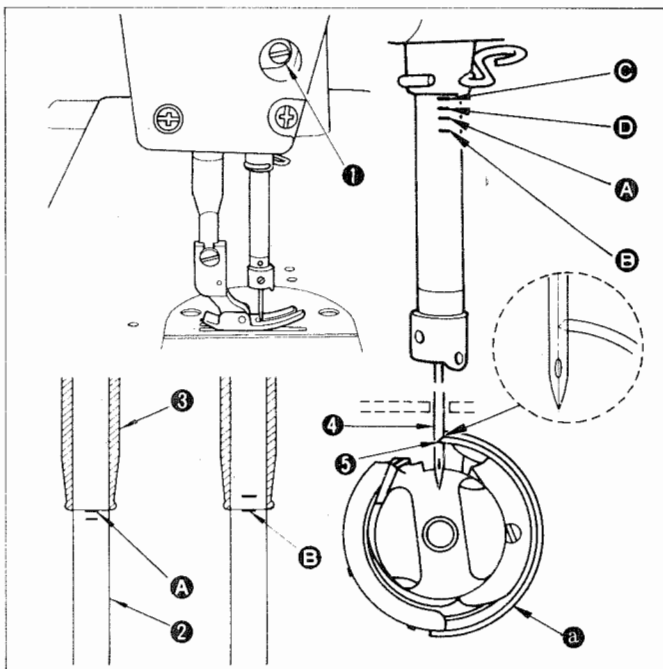


- 1) Loosen nut ②. As you turn presser spring regulator ① clockwise (in direction A), the presser foot pressure will be increased.
- 2) As you turn the presser spring regulator counterclockwise (in direction B), the pressure will be decreased.
- 3) After adjustment, tighten nut ②.
- 4) For general fabrics, the standard height of the presser spring regulator is 29 to 32 mm (5kg) (7kg for the DDL-5530H, -5550H, -5530L).



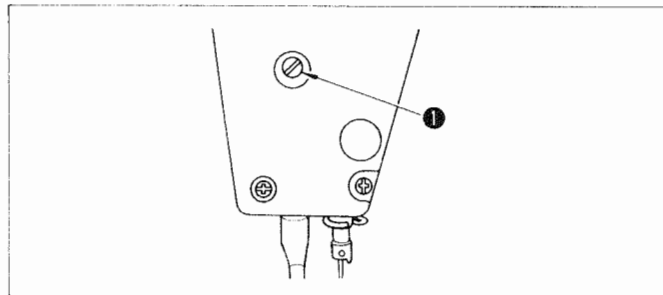
- 1) The feed dog is factory-adjusted so that it juts out from the throat plate surface 0.8 mm to 0.9 mm. For the DDL-5550A and -5530A, it juts out 0.7 mm to 0.8 mm. For the DDL-5530H, -5530L and -5550H, it juts out 0.95mm to 1.05mm.
  - 2) If the feed dog juts out too much, puckering may result when 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 .
- a) Feed dog      b) Throat plate

## 12. NEEDLE-TO-HOOK RELATIONSHIP



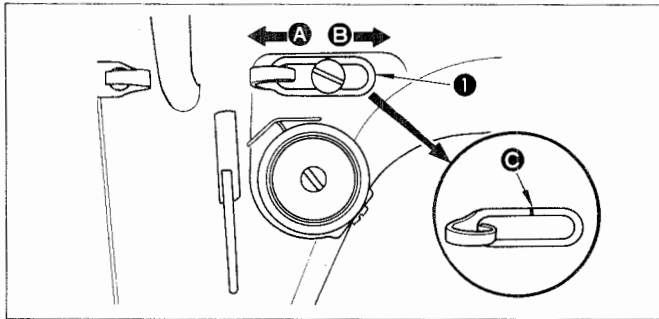
1. Adjust the timing between the needle and the hook as follows:
    - 1) Turn the handwheel to bring the needle bar down to the lowest point of its stroke, and loosen setscrew ① .  
(Adjusting the needle bar height)
    - 2) (For a DB needle) Align marker line A on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ① .  
(For a DA needle) Align marker line C on needle bar ② with the bottom end of needle bar lower bushing ③, then tighten setscrew ① .  
(Adjusting position a of the hook)
    - 3) (For a DB needle) Loosen the two hook setscrews, turn the handwheel, and align marker line E on ascending needle bar ② with the bottom end of needle bar lower bushing ③ .  
(For a DA needle) Loosen the two hook setscrews, turn the handwheel, and align marker line D on ascending needle bar ② with the bottom end of needle bar lower bushing ③ .
    - 4) After making the adjustments mentioned in the above steps, align hook blade point ⑤ with the center of needle ④ . Provide a clearance of 0.04 mm to 0.1 mm between the needle and the hook, then securely tighten the hook setscrews.
- \* When replacing the hook, specify its part No. B18301270A0 (1109259 for DDL-5530H, -5530L, 5550H).

## 13. ADJUSTING THE HEIGHT OF THE PRESSER BAR



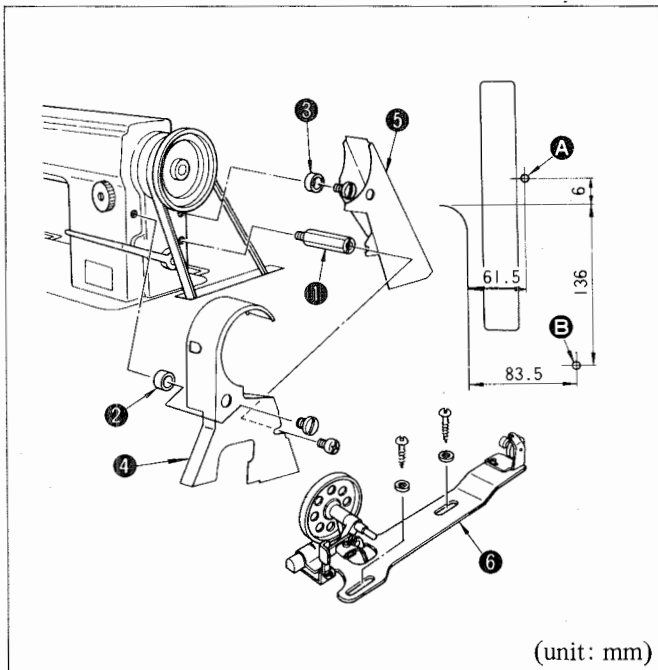
- 1) Loosen setscrew ① , and adjust the presser bar height of the angle of the presser foot.
- 2) After adjustment, securely tighten the setscrew.

## 14. ADJUSTING THE THREAD TAKE-UP STROKE



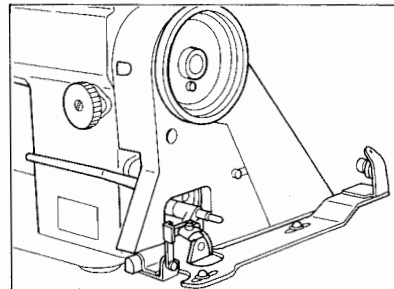
- 1) When sewing heavy-weight materials, move thread guide ① to the left in direction A to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide ① to the right in direction B to decrease the length of thread pulled out by the thread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

## 15. INSTALLING THE BELT COVER AND THE BOBBIN WINDER

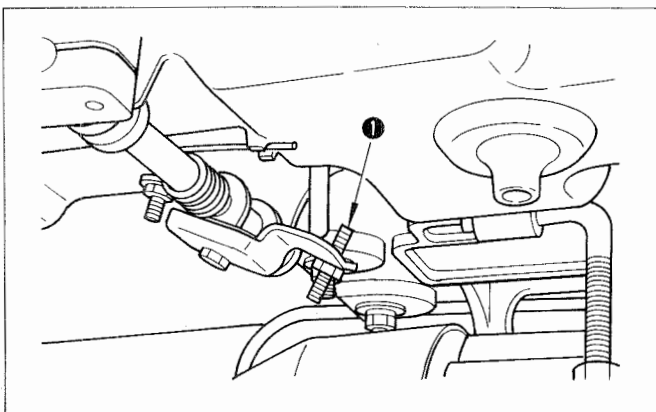


### 1. Installing Procedure

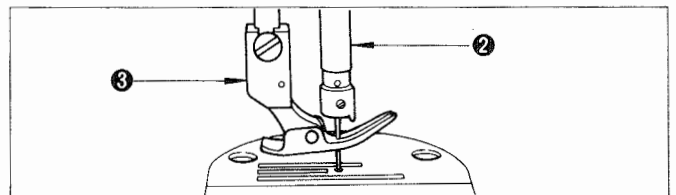
- 1) Drill two wooden screw guide holes A and B in the machine table.
- 2) Insert support ① in the tapped hole in the arm.
- 3) Fix belt cover collars ② and ③ using the belt cover setscrews for preliminary installation.
- 4) Accurately position belt cover B ④, then fix it on collar ②.
- 5) Fix belt cover A ⑤ on collar ③.
- 6) Securely fix belt cover B ④ and belt cover A ⑤ on the support using the belt cover setscrews.
- 7) Fix bobbin winder ⑥ at A and B using the wooden screws.



## 16. ADJUSTING THE HEIGHT OF THE KNEE LIFTER



- 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. (The max. lift should be 9 mm for the A type.)
- 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.



	DDL-5550 DDL-5530	DDL-5550-A DDL-5530-A	DDL-5550-H DDL-5530-H	DDL-5530L
Application	For medium-weight materials	For light-weight materials	For heavy-weight materials	For heavy-weight materials
Sewing speed	DDL-5550 Max. 5,500s.p.m., Normal speed: 5,000s.p.m. DDL-5530 Max. 4,500s.p.m., Normal speed: 4,000s.p.m.	4,000s.p.m.	3,500s.p.m.	3,200s.p.m.
Stitch length	Max. 5 mm	Max. 4 mm	Max. 5 mm	Max. 7mm
Presser foot lift (by knee lifter)	13 mm (max.)	9 mm (max.)	13 mm (max.)	13 mm (max.)
Needle	DB x 1 #9 ~ #18	DA x 1 #9 ~ #11	DB x 1 # 19 ~ #23	DB x # 20 ~# 23
Lubricating oil	JUKI New Defrix Oil No. 1			

## 18. 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 (s.p.m.)		Belt length (in.)	Belt part No.
		50 Hz	60 Hz		
125	MTKP0120000	5,060		44	MTJVM004400
120	MTKP0115000	4,850		43	MTJVM004300
115	MTKP0110000	4,630			
110	MTKP0105000	4,440			
105	MTKP0100000	4,250	5,040	42 *	MTJVM004200 *
100	MTKP0095000	4,000	4,780		
95	MTKP0090000	3,820	4,540		
90 *	MTKP0085000	3,610 *	4,320		
85 *	MTKP0080000	3,390 *	4,000	41 *	MTJVM004100 *
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.
- The specifications marked with asterisks are for the DDL-5550-H and DDL-5530-H types.

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