

***ENGLISH***

**MF-7524  
INSTRUCTION MANUAL**

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## I . SPECIFICATIONS

Model name	High-speed, flat-bed coverstitch machine
Model	MF-7524
Stitch type	ISO standard 607
Example of application	Lap seam to knits and jersey products
Sewing speed	Max. 4200 sti/min (at the time of intermittent operation) Speed of stitch at the delivery. 3500 sti/min (at the time of intermittent operation)
Needle gauge	4-needle ... 6.0 mm
Differential feed ratio	1 : 0.7 to 1 : 2 (stitch length : less than 2.5 mm) Micro-differential feed adjustment mechanism is provided. (Micro-adjustment)
Stitch length	1.2 mm to delivery adjustment 3.6 mm (can be adjusted up to 4.4 mm)
Needle	SMX1014B #9S to #12S (standard #10S)
Needle bar stroke	31 mm (33 mm: In the case the eccentric pin is changed over)
Dimensions	(Height) 451 x (Width) 515 x (Length) 263
Weight	46kg
Lift of presser foot	4 mm (with top covering) Micro-lifter mechanism is provided.
Feed adjustment method	Main feed ... dial type stitch pitch adjustment method Differential feed ... lever adjustment method (micro-adjustment mechanism is provided.)
Looper mechanism	Spherical rod drive method
Lubricating system	Forced lubrication method by gear pump
Lubricating oil	JUKI GENUINE OIL 18
Oil reservoir capacity	Oil gauge lower line : 600 cc to upper line : 900 cc
Installation	Semi-submerged type
Noise	- Equivalent continuous emission sound pressure level ( $L_{pA}$ ) at the workstation : A-weighted value of 75.5 dB; (Includes $K_{pA} = 2.5$ dB); according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,200 sti/min.



### III . INSTALLATION



**WARNING :**

Do not insert the power plug of the motor into the receptacle until all works have been completed. There is a danger of injury by being caught in the machine.

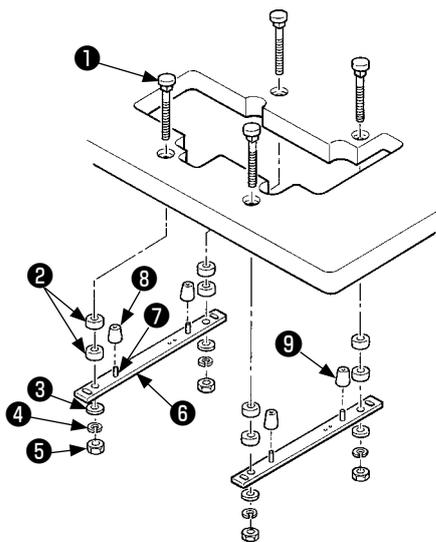
#### 1. Installing the machine head onto the table



**WARNING :**

The weight of the sewing machine is more than 46 kg. Be sure to perform the work with two persons or more in case of unpacking, transportation or installation.

**Semi-submerged type**

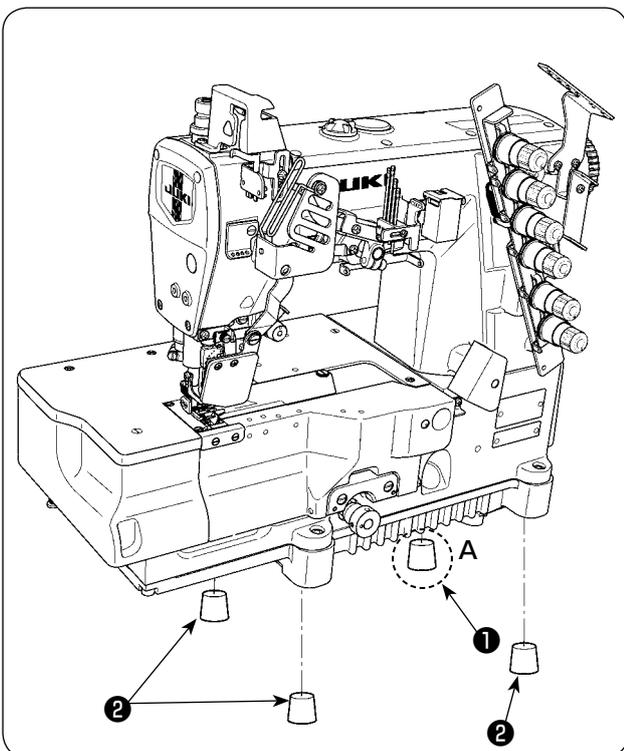


**[For the V-belt type]**

Attach the supporting board and the rubber seats as shown in the illustration and properly install the sewing machine.

- ① Bolt
- ② Spacer
- ③ Washer
- ④ Spring washer
- ⑤ Nut
- ⑥ Supporting board
- ⑦ Spring pin
- ⑧ Rubber cushion (Black) × 3
- ⑨ Rubber cushion (Gray) × 1

#### ■ Installing the rubber cushion



Install the gray dust-proof rubber to section A only.

**[For the V-belt type]**

	Part No.	Part name	Q'ty
①	40072505	Dust-proof rubber (Gray)	1
②	13155403	Dust-proof rubber (Black)	3



## 2. Selecting the motor pulley and the belt

### Motor pulley and belt

Sewing speed (sti/min)	50Hz		60Hz	
	Pulley size	Belt size	Pulley size	Belt size
2,000	∅ 45	M-32	∅ 35	M-31
2,500	∅ 55	M-32	∅ 45	M-32
3,000	∅ 65	M-33	∅ 55	M-32
3,200	∅ 70	M-34	∅ 60	M-33
3,500	∅ 75	M-34	∅ 65	M-33
3,800	∅ 80	M-34	∅ 70	M-33
4,200	∅ 90	M-35	∅ 75	M-34

\* The table shows the numbers when a 3-phase 2-pole 400 W clutch motor (1 / 2 HP) is used.

\* The commercially-available motor pulley near to the counted value is designated since the outside diameter of the commercially-available motor pulley counts by 5 mm.



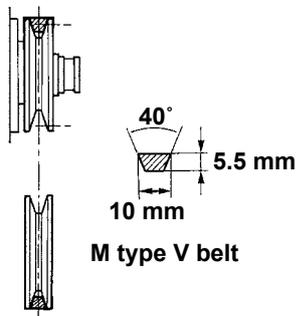
When you use a new sewing machine, use the machine at a speed of 3,200 sti/min or less for the first 200 hours (approximately one month). A good result can be obtained in terms of the durability.



Use a motor pulley which is adaptable to this sewing machine. The sewing speed exceeds the max. sewing speed of this sewing machine and machine trouble will be caused unless a motor pulley which is adaptable to this sewing machine is used.

## 3. Installing the motor

Lower pulley



Motor pulley

M type V belt

Use a clutch motor of 3-phase, 2-pole, 400 W (1/2HP).  
Use the M type V belt.

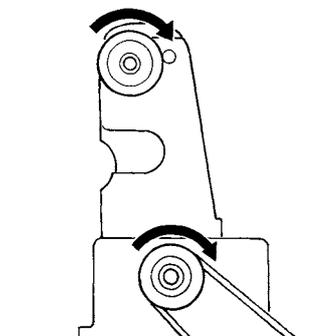
1) The motor pulley shifts to the left-hand side when depressing the pedal. At this time, install the motor so that the centers of motor pulley and lower pulley align with each other.

\* For the installing procedure of the motor pulley, refer to the Instruction Manual for motor.

2) Install the motor so that the pulley rotates clockwise.



If the machine pulley rotates in the reverse direction, normal lubrication cannot be performed. As a result, machine trouble will be caused.

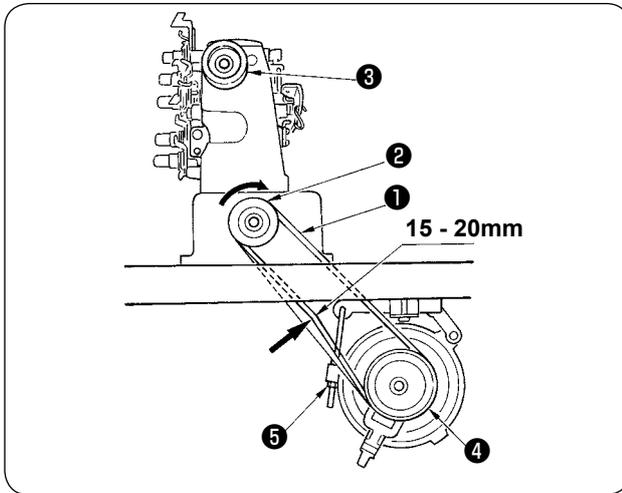


## 4. Setting the belt



### WARNING :

When replacing the belt, be sure to turn OFF the power to the motor and ascertain that the motor has totally stopped rotating before starting the work. There is a danger of injury since hands or clothes may be caught in the belt.



- 1) Fit belt ① to lower pulley ②.
- 2) Turning upper pulley ③, set the other side of the belt to motor pulley ④.
- 3) Adjust the belt tension so that the belt sags 15 to 20 mm when the center of the belt is pressed with an approximate 10N (1.02 kgf) load.
- 4) Securely fix the belt with lock nut ⑤ when the belt has been set.



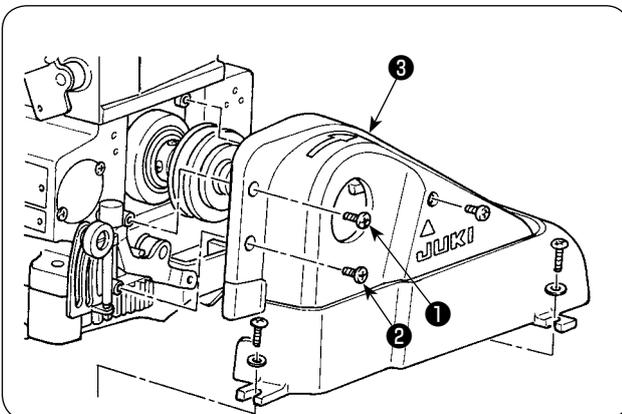
If the deflection of the belt is excessive when the sewing machine is operated, check again the belt tension.

## 5. Installing the belt cover



### WARNING :

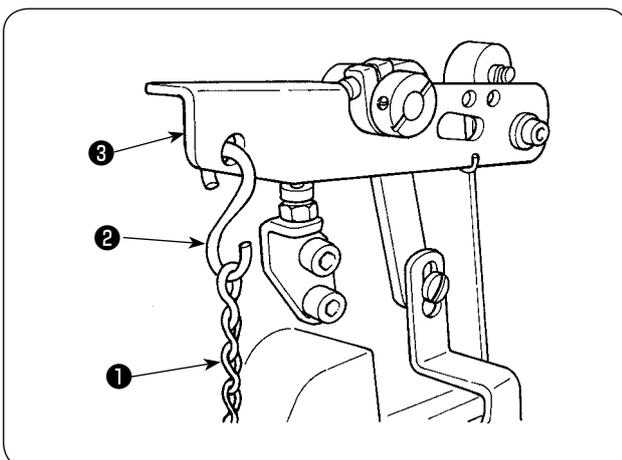
Be sure to install the belt cover. If it is not installed, there is a danger of injury since hands or clothes may be caught in the machine or a danger of damage of the machine since sewing products may be caught in the machine.



Install belt cover ③ as shown in the illustration.

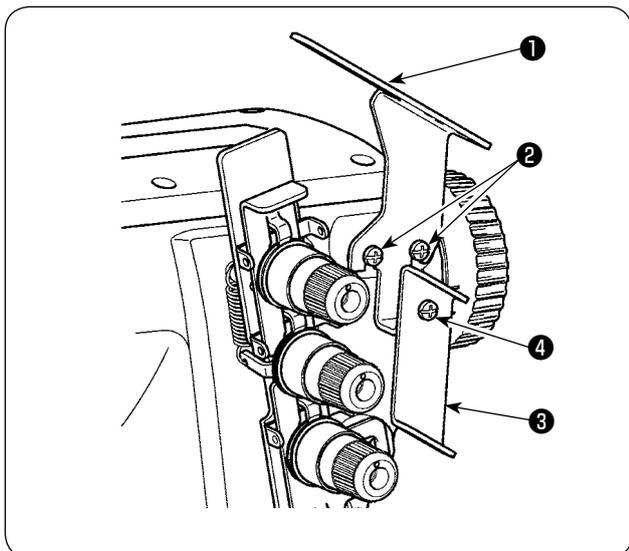
① and ② are the fixing screws for belt cover ③.

## 6. Installing the chain



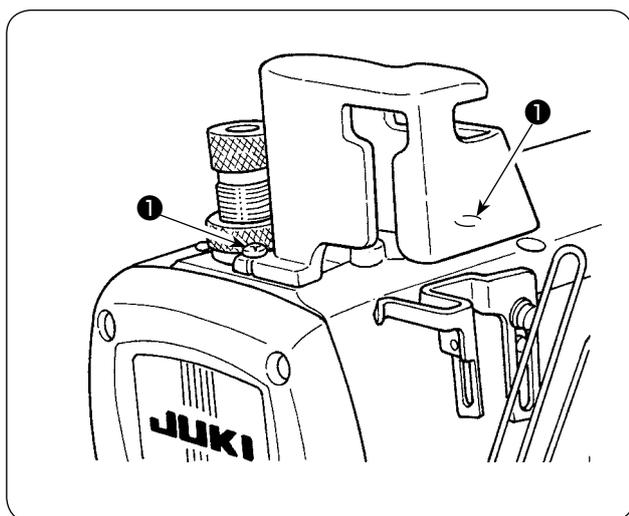
- 1) Hang hook ② of chain ① to presser bar lifting lever ③.
- 2) Hook the other side of the chain ① to the pedal.

## 7. Installing the thread guide



- 1) Install thread guide No. 1 **1** supplied as accessories on the machine arm with screws (black, screw shank length 6 mm) **2**.
- 2) Install thread guide **3** on thread guide No. 1 **1** with screw (black, screw shank length 6 mm) **4**.

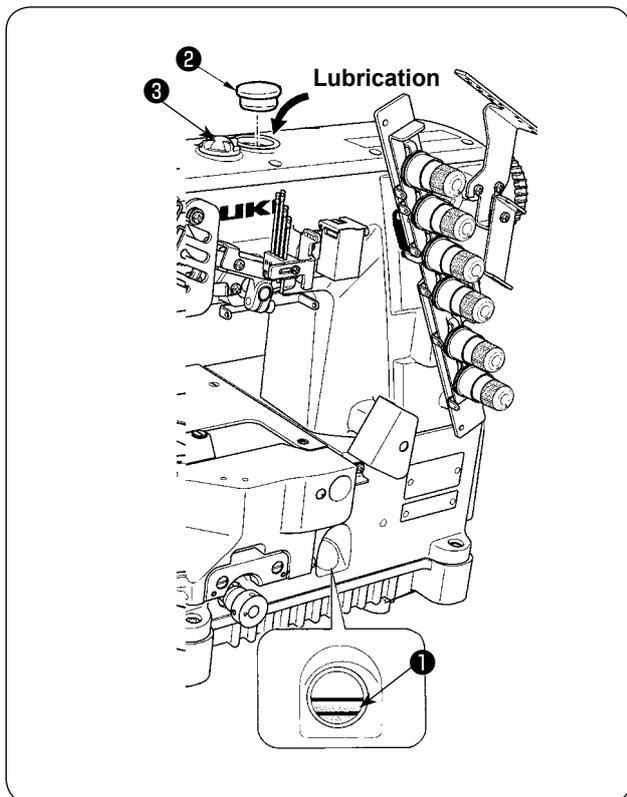
## 8. Installing the needle bar thread take-up cover



Install the needle bar thread take-up cover supplied with the unit on the machine arm with two screws **1**.

## IV . LUBRICATION AND OILING

### 1. Lubricating oil



#### <When using the sewing machine for the first time>

Lubricating oil has been taken out at the time of delivery. Be sure to supply lubricating oil before using the sewing machine for the first time.

• Oil used : JUKI GENUINE OIL 18



Do not use oil addition agent since deterioration of lubricating oil or machine trouble will be caused.

To add oil, remove first the oil inlet cap ② indicated as "OIL". Then, add oil from the oil inlet until the oil surface reaches the middle of the upper and lower marker lines on oil gauge ①.

#### <Checking before using the sewing machine>

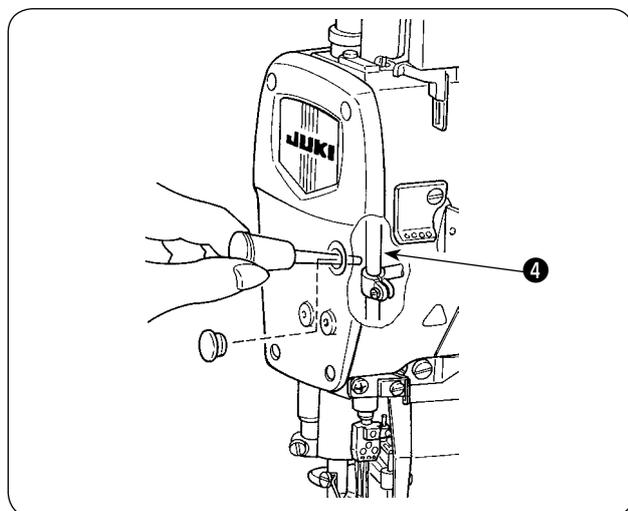
- 1) Check oil gauge ① and make sure that lubricating oil level is between the upper and lower two lines. When lubricating oil level lowers below the lower line, supply lubricating oil.
- 2) Make sure that lubricating oil comes out from the nozzle of oil circulation identification window ③ when rotating the sewing machine. When lubricating oil does not come out, perform "VII-3. Inspecting and replacing the oil filter". (See page 32.)

### 2. Oiling



#### WARNING :

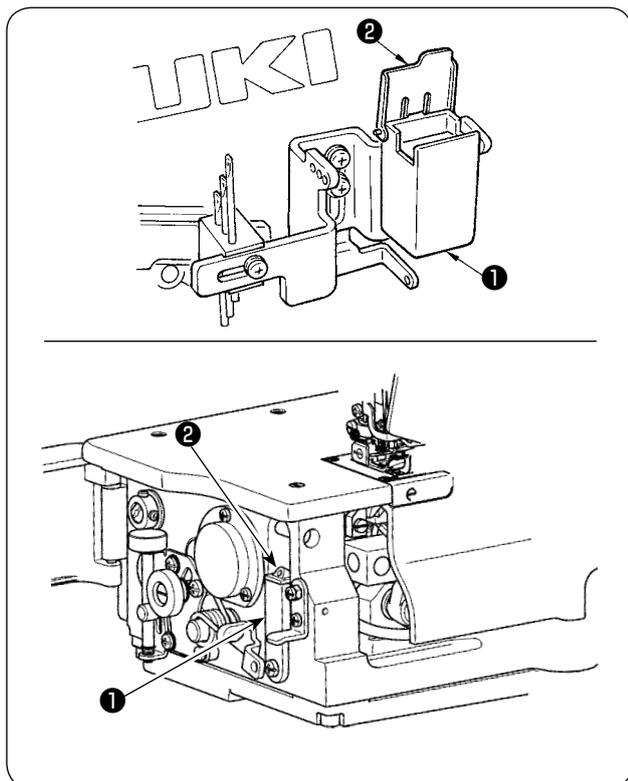
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



When you operate the sewing machine for the first time or after an extended period of disuse, be sure to apply 2 to 3 drops of lubricating oil to needle bar ④.

For the lubricating oil, use JUKI GENUINE OIL 18.

### 3. Silicon oil lubricating unit



This sewing machine is provided with the silicon oil lubricating unit as standard. In case of sewing at a high speed, or using chemical thread or chemical fabric, use the silicon oil lubricating unit to prevent thread breakage or stitch skipping.

Oil used is silicon oil (dimethyl silicon).

Open cover ② of silicon container ① and make sure that silicon oil enters needle thread, needle tip and silicon oil lubricating unit. If silicon oil is insufficient there, supply it (dimethyl silicon).



When silicon oil adhered to the components other than the silicon oil lubricating unit, be sure to wipe it out. If the components to which silicon oil adhered are kept without wiping out the oil, sewing machine trouble will be caused.

## V . OPERATION

### 1. Needle

Japan No.	9	10	11	12
German No.	65	70	75	80

The needle used for this sewing machine is SM1014B.

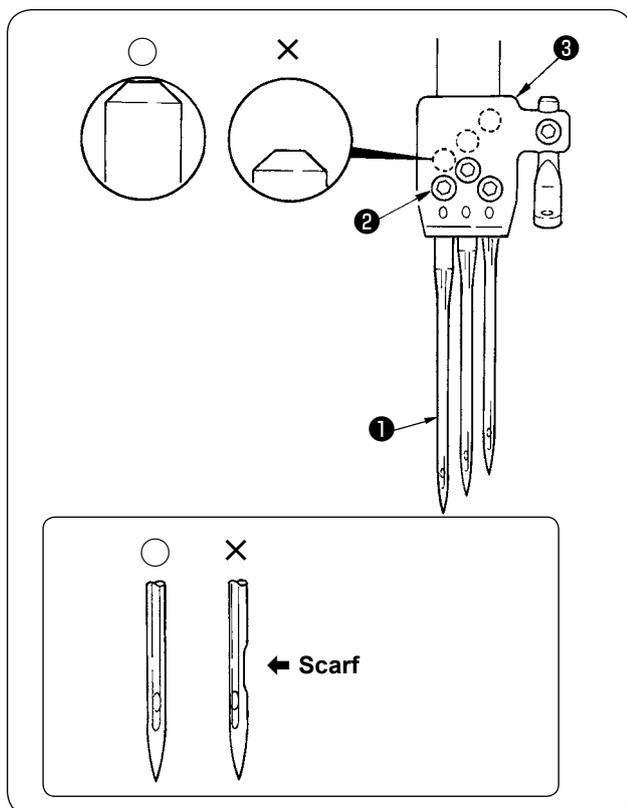
For the needle No., select a proper needle in accordance with the sewing conditions.

### 2. Attaching the needle



#### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Loosen setscrew **2** of needle **1** with a screwdriver.
- 2) Hold the new needle with indented part facing to the rear and insert it into the hole in needle clamp **3** until the end of hole is reached.
- 3) Securely tighten setscrew **2** of the needle **1**.

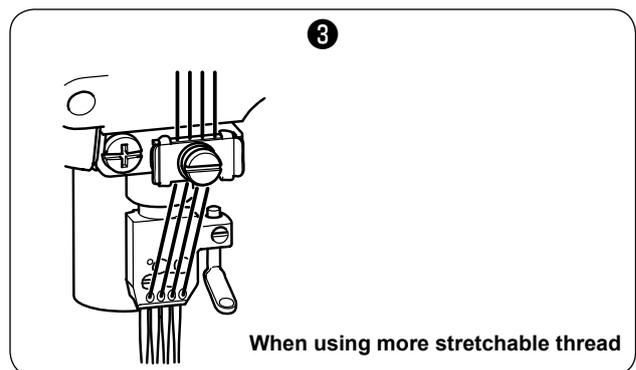
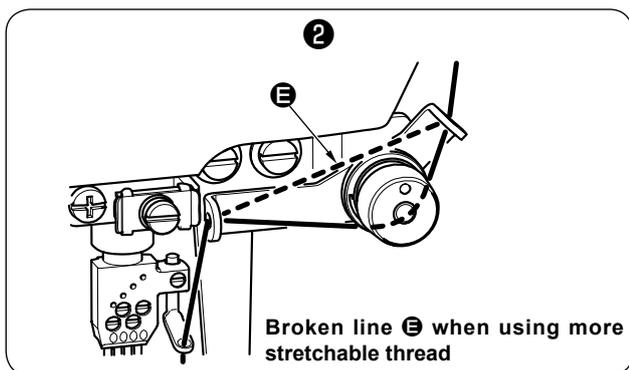
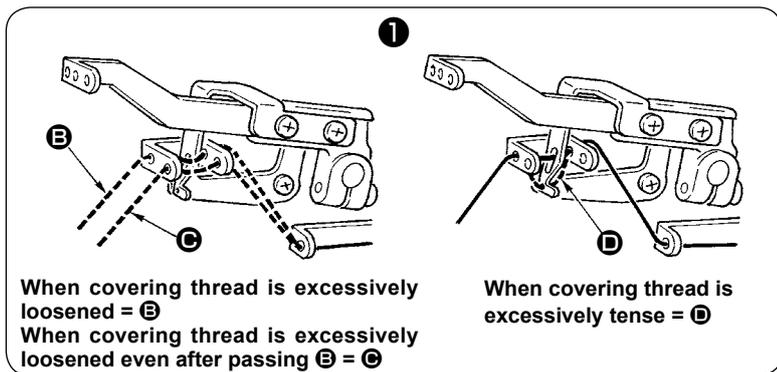
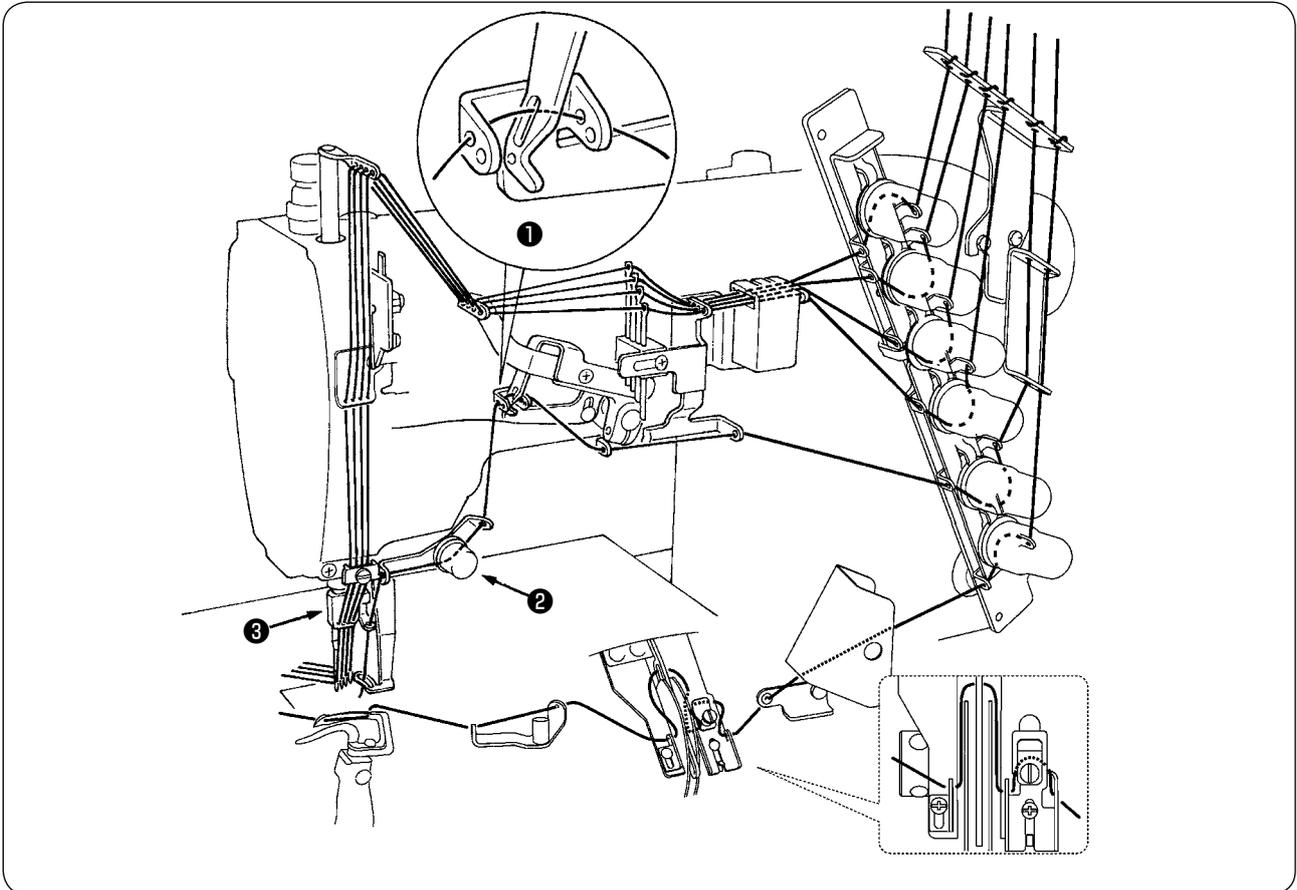
### 3. Threading the machine head



**WARNING :**

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest. If threading is wrong, stitch skipping, thread breakage, needle breakage or irregular stitches will be caused. So, be careful.

Thread the machine head according to the following threading illustrations.

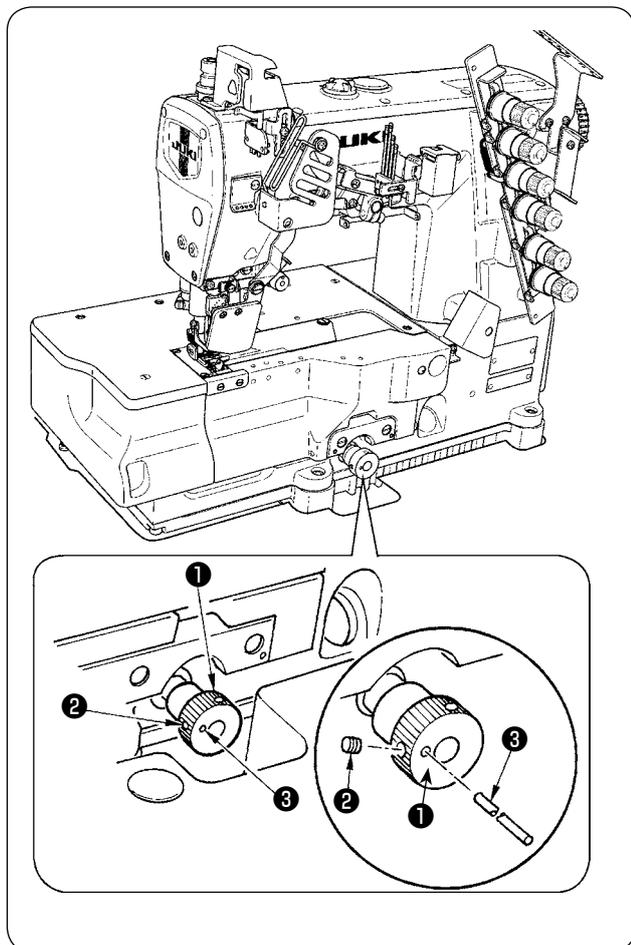


## 4. Adjusting the stitch length



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



The stitch length can be infinitely adjusted from 1.2 mm to 3.6 mm.

\* The actually sewn stitch length varies in accordance with kind and thickness of the materials.

### [How to change the stitch length]

Turn clockwise feed regulating knob ① to increase the stitch length.

Turn it counterclockwise to decrease the stitch length.

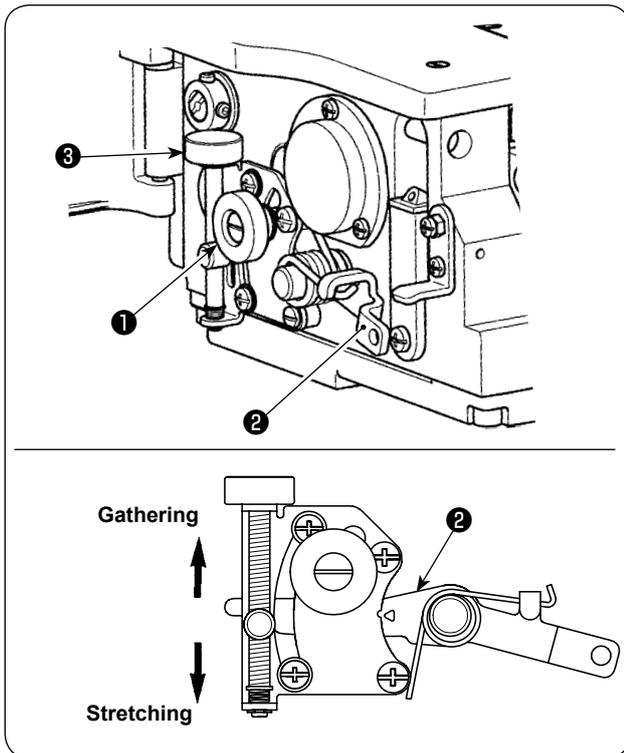
#### • When making the stitch length 3.6 mm or more

Loosen screw ② and turn clockwise feed regulating knob ① to regulate the stitch length.

Push pin ③ until it goes to the end, and fix it with screw ②.

Use the machine within the range where feed dogs or feed dog and throat plate do not come in contact with each other.

## 5. Adjusting the differential feed ratio



Loosen differential lock nut ① and move lever ② up to increase the differential feed ratio. Then the sewn material is gathered.

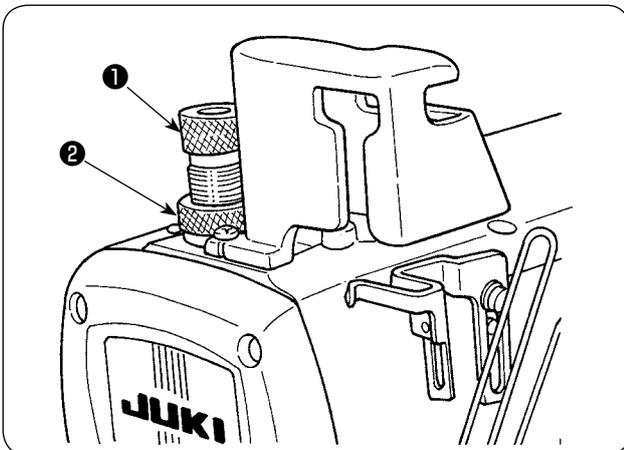
Move lever ② down to decrease the differential feed ratio. The differential feed ratio becomes 1 : 1 at the position where the pointer of lever ② is on the long scale. Note that two scales on the upper side show 1 : 1.4 and 1 : 2 respectively, and one on the lower side 1 : 0.7.

Fine adjustment of the differential feed ratio can be performed with micro-adjustment knob ③.



There is a case where feed dogs or feed dog and throat plate come in contact with each other by the aforementioned adjustment according to the relation between the stitch length and the differential feed ratio. So, be very careful.

## 6. Adjusting the presser foot pressure



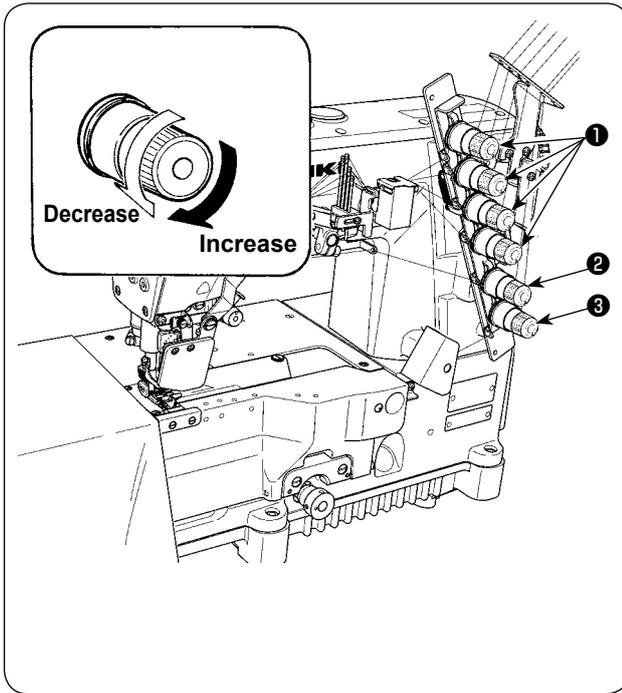
Decrease the presser foot pressure as low as possible to such an extent that stitches are stabilized.

To adjust the pressure, loosen lock nut ② of presser spring regulator ① and turn presser spring regulator ①. After the adjustment, tighten lock nut ②.

Turning it clockwise to increase the pressure.

Turning it counterclockwise to decrease the pressure.

## 7. Adjusting the thread tension



Adjust the thread tension with the following thread tension nuts.

- ❶ Needle thread tension nut
- ❷ Top covering thread tension nut
- ❸ Looper thread tension nut

Turn clockwise to increase the thread tension.

Turn counterclockwise to decrease the thread tension.

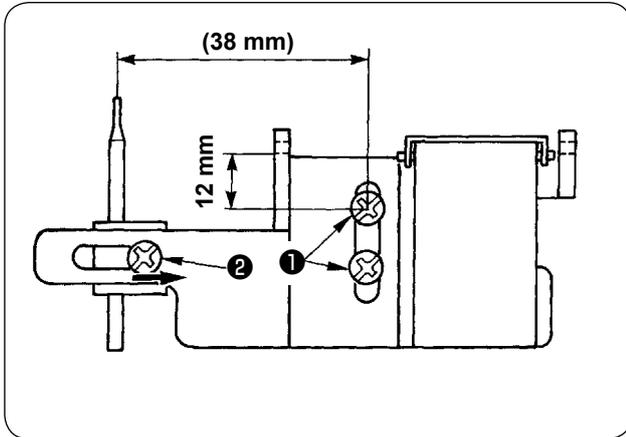
## VI . ADJUSTING THE SEWING MACHINE

### 1. Adjusting the silicon container thread guide

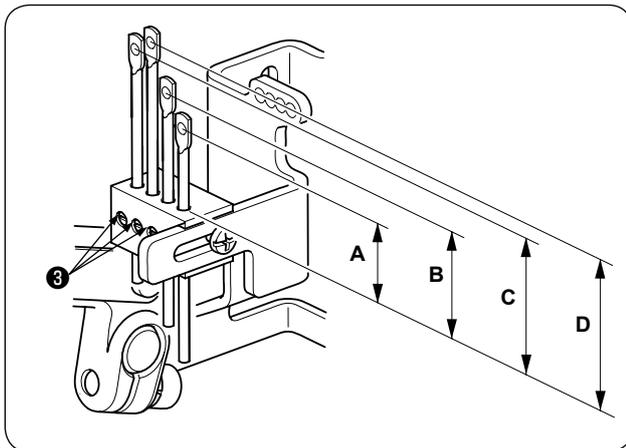


#### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Loosen setscrews ❶, adjust so that 12 mm is given from the center of the upper screw to the top surface of thread guide, and tighten the thread guide with setscrews ❶.
- 2) Loosen setscrew ❷ and adjust the position from the center of screws ❶ to the center of needle thread guide rod to the extreme right position (38 mm). Then tighten screw ❷ to fix the thread guide rod.



- 3) Loosen setscrews ❸ and adjust so that the heights of the respective needle thread guide rods are the dimensions as shown in the illustration. Then tighten screws ❸ to fix the thread guide rods.

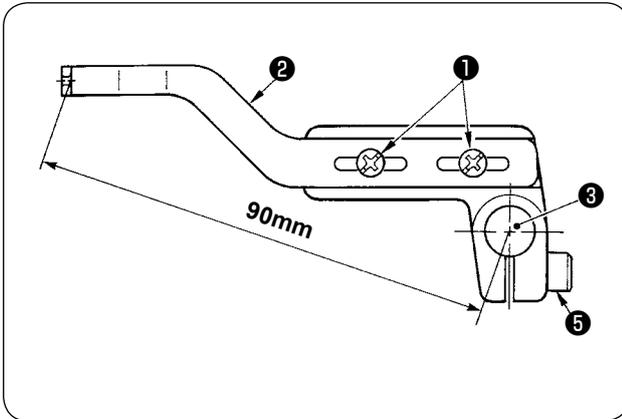
A	B	C	D
17mm	22mm	28mm	31mm

## 2. Adjusting the rocking thread take-up



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



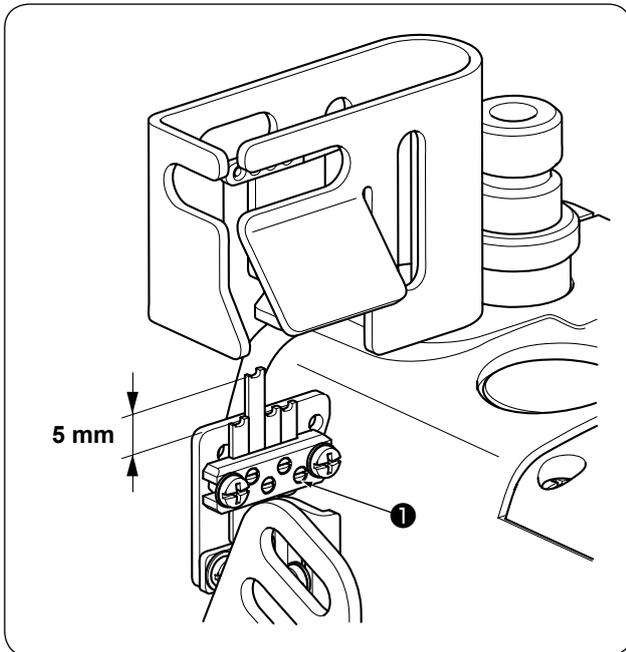
- 1) Loosen setscrews ❶, move rocking thread take-up ❷ to the right and left, adjust so that 90 mm is given from the thread hole to the center of rocking thread take-up shaft ❸, and fix setscrews ❶ as shown in the figure.
- 2) Adjust rocking thread take-up base ❹ so that it is positioned horizontally when the rocking thread take-up is in its lowest point, and fix it with screw ❺.

### 3. Adjusting the rocking thread take-up thread receiver



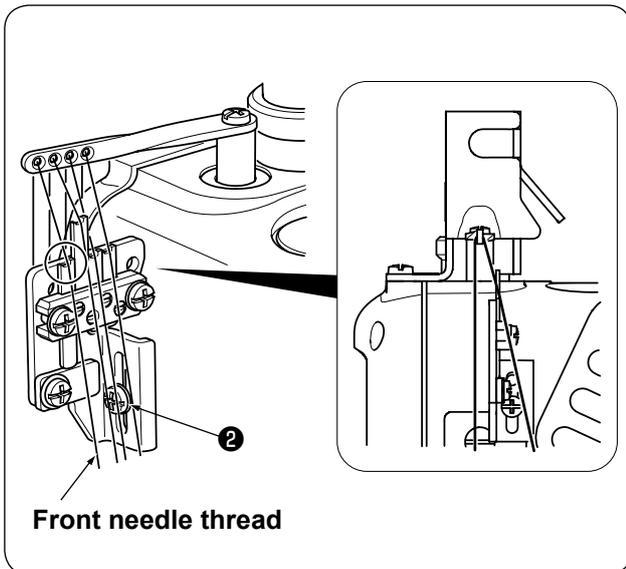
#### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Loosen four setscrews ❶ in the needle thread receiver plate, and adjust the height. Adjust the left medium needle only to 5 mm and securely tighten the setscrews.

Align the height of the other needle thread receiving plates with the needle thread receiving base and fix. The size of needle thread loop can be changed by adjusting the height according to the kinds of needle thread.



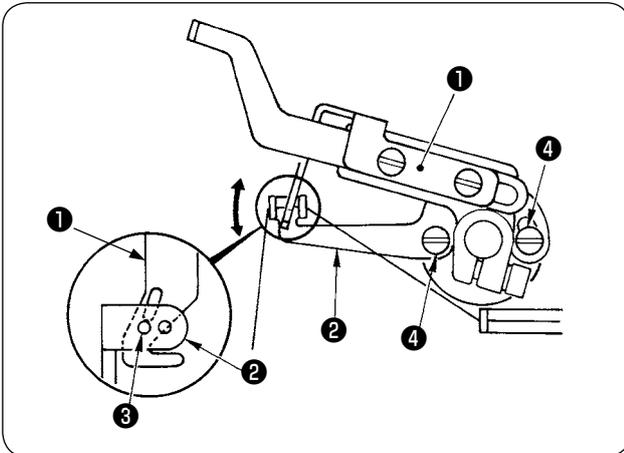
- 2) Bring the needle bar to its lowest position, loosen setscrew ❷ to adjust so that the needle thread comes in contact with the thread receiver of the front needle thread, and fix the thread receiver with setscrew ❷.

#### 4. Adjusting the spreader thread guide



##### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



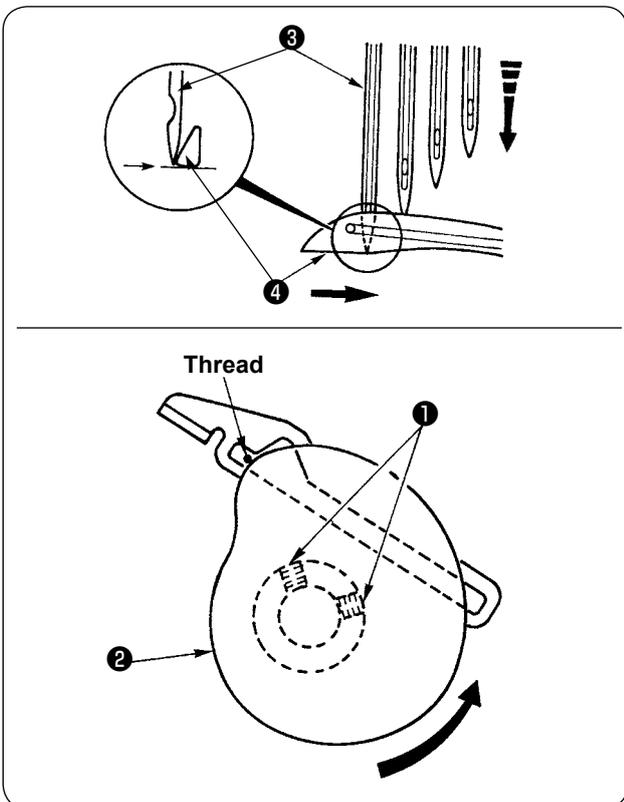
Adjust so that the top end of thread guide thread path (rear) ③ of spreader thread guide ② aligns with the bottom surface of slot of spreader thread take-up ① when spreader thread take-up ① is in its highest position. Then tighten screw ④ to fix the spreader thread guide.

#### 5. Adjusting the looper thread cam



##### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



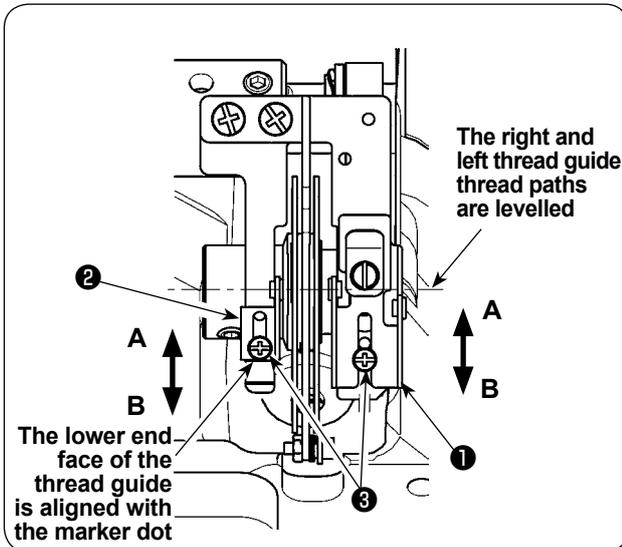
Adjust so that thread comes off from the highest place of looper thread cam ② when needles come down and the top end of left needle ③ aligns with the bottom surface of looper ④. Then tighten screws ① to fix the looper thread cam.

## 6. Adjusting the looper thread cam eyelet



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



When the thread drawing amount is desired to be decreased in case of 2-needle machine or the like, loosen screws ③, move upward thread guides ① and ② and tighten screws ③ to fix them.

A = Decrease

B = Increase

Standard adjustment is achieved in the following state:

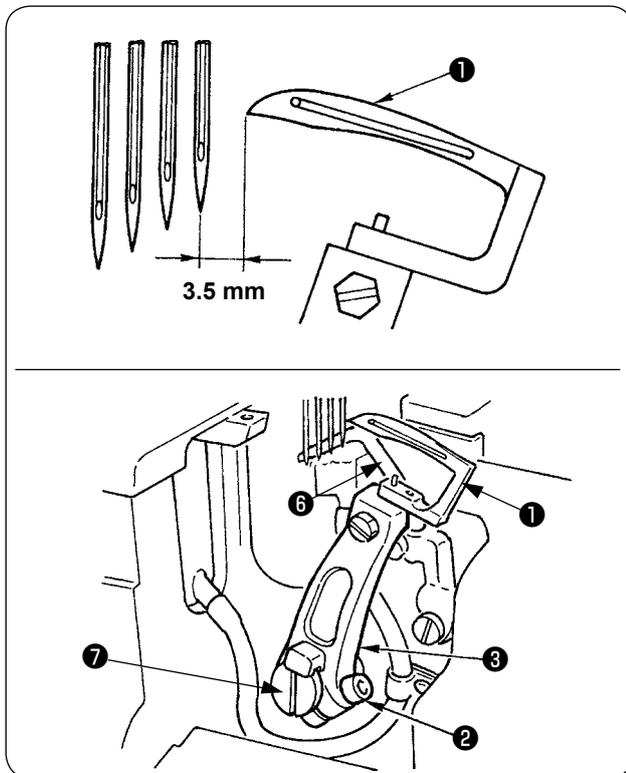
- ① The lower end face of the thread guide is aligned with the marker dot
- ② The right and left thread guide thread paths are levelled

## 7. Adjusting the looper



### WARNING :

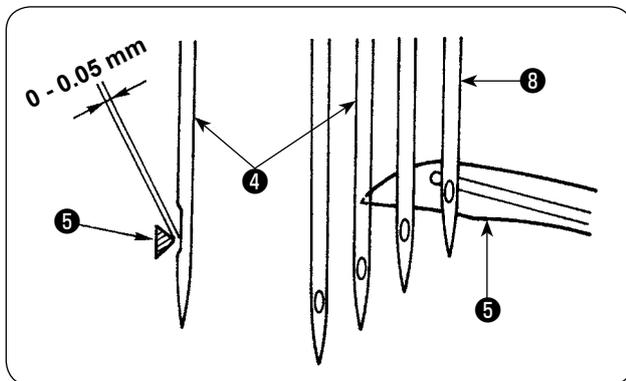
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



### [Lateral position]

Clearance between looper ① and the center of right needle (looper return amount) is 3.5 mm.

Loosen clamp screw ② and adjust looper supporting arm ③ to the right and left.



### [Longitudinal position]

Adjust so that the clearance between blade point ⑤ of the looper and left medium needle ④ is 0 to 0.05 mm when the top end of looper passes 4 needles from the right extreme point.

Turn adjusting screw ⑦ to adjust the longitudinal position. Turn clockwise to move the looper supporting arm to the rear side and counterclockwise to move it to the front side.

After the adjustment, tighten clamp screw ② to fix the looper.

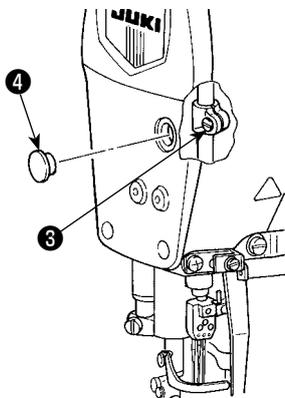
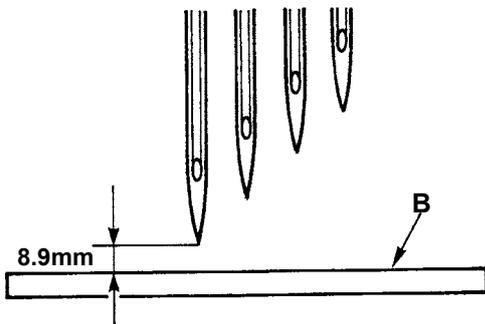
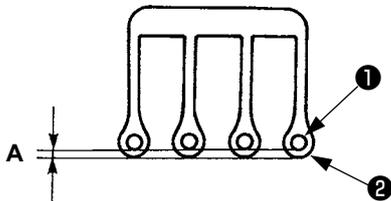
\* The blade point ⑤ of the looper comes in contact with the right-hand needle ⑥ when rear needle guard ⑥ does not work. So, be careful.

## 8. Adjusting the height of the needle



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



1) Equally adjust clearance **A** between needles **1** and needle holes **2** in the throat plate.

2) When the needle is in the highest dead point, the height from top surface **B** of the throat plate to the top end of left needle is 8.9 mm.

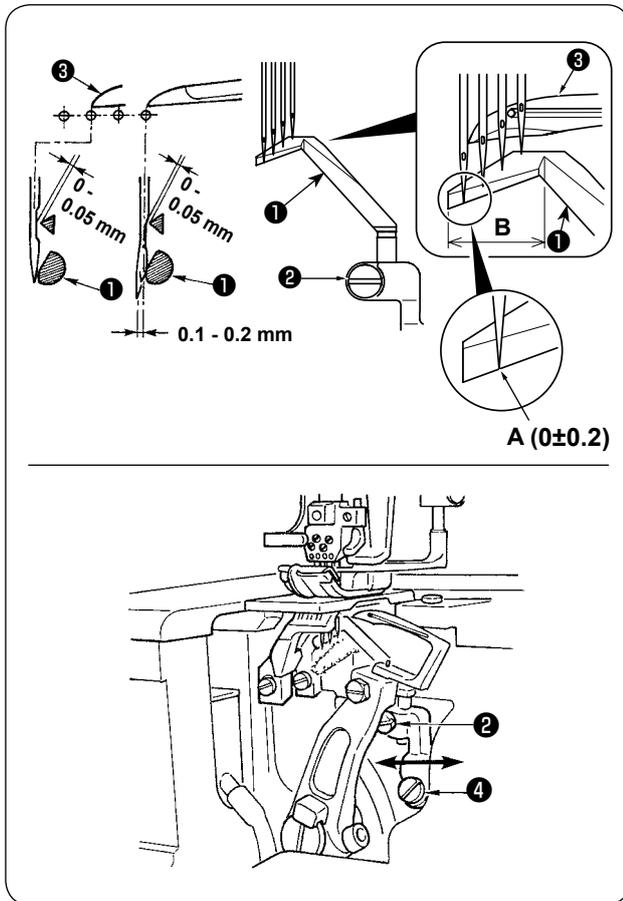
3) After adjusting the height of needle and the clearance between the needle and the needle hole of throat plate, tighten needle bar bracket setscrew **3** and attach rubber cap **4**.

## 9. Adjusting the rear needle guard



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Adjust the lateral position of rear needle guard **1** so that it receives the needle within the range of **B** when the needle is in its lowest position.

- 1) When the blade point of looper comes to the right end left needle, adjust the height with setscrew **2** so that the top end of left needle aligns  $0 \pm 0.2$  with the edge line **A**.
- 2) Make rear needle guard **1** slightly come in contact with the left needle so that the clearance between left medium needle and top end **3** of the looper keeps 0 to 0.05 mm when top end **3** of the looper comes to the center of left medium needle at the time of moving of top end **3** of the looper to the left from the extreme right position.

Perform the adjustment with setscrews **2** and **4**.

## 10. Relation between the rocking thread take-up timing and the needle thread loop

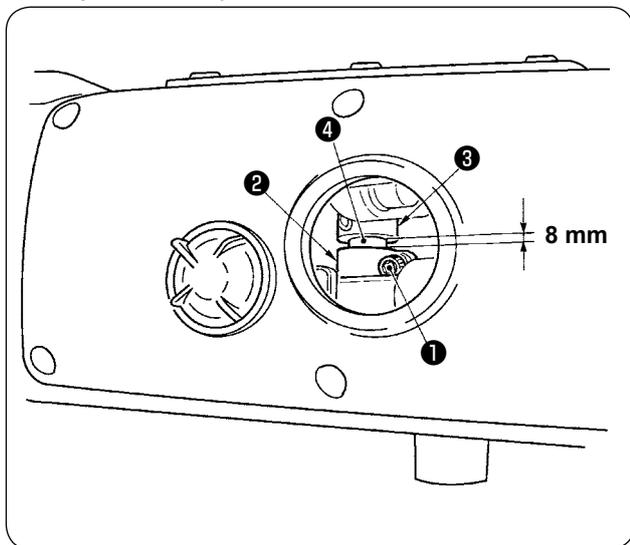


### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

In the case stitch skipping or thread breakage occurs because the needle thread loop is too large or too small, change the needle thread feeding timing of the rocking thread take-up to adjust the size of the needle thread loop.

### (1) Adjustment by means of the crank



- 1) Loosen screw ①.
- 2) Move ② forward or backward. The relation between the moving direction and the size of needle thread loop is as shown in the table below.
- 3) After the adjustment, securely tighten screw ①.
  - \* Clearance between crank ② and thrust collar ③ has been factory-adjusted to 8 mm at the time of delivery. (Engraved marker line on rocking thread take-up shaft ④ aligns with the edge of crank ②.)

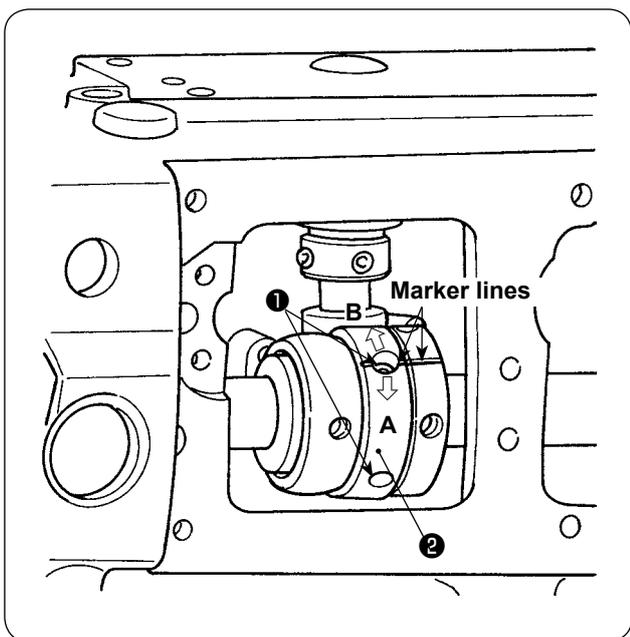
- Size of needle thread loop

Move forward	Move backward
Loop becomes smaller.	Loop becomes larger.



1. When screw ① is loosened, the rocking thread take-up rotates due to the light weight. So, be careful. If it rotates, refer to the item "VI -2. Adjusting the rocking thread take-up"(See page 16.).
2. Do not change the timing other than the aforementioned one since the sewing trouble will be caused.

### (2) Adjustment by the eccentric cam



- 1) Remove the top cover.
- 2) Loosen screw ①.
- 3) Turn the eccentric cam. The direction of turning the eccentric cam and the relation between the eccentric cam and the needle thread loop is shown in the following table.
- 4) After the adjustment, fully tighten screw ①.
  - \* With the factory-adjusted value at the time of shipment, the marker lines are aligned.

- Size of needle thread loop

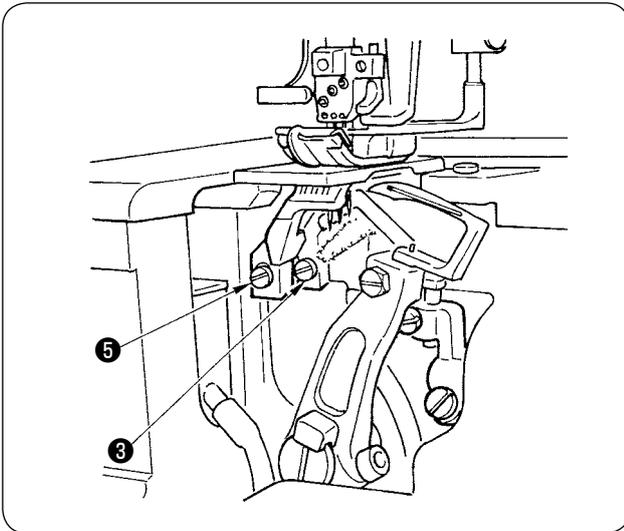
A Move forward	B Move backward
Loop becomes smaller.	Loop becomes larger.

## 11. Adjusting the height of the feed dog



### WARNING :

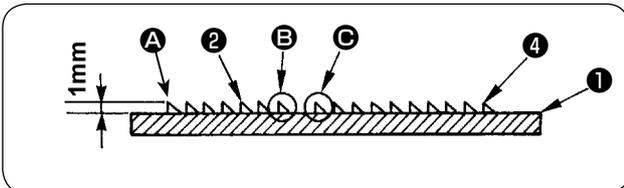
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Adjust the height from the top surface of throat plate ① to the rear end of main feed dog ② to 1 mm when the feed dog comes to its highest position and tighten setscrew ③ to fix the feed dog.

For the height of differential feed dog ④, adjust the height of front end ⑤ of main feed dog ② to that of rear end ⑥ of differential feed dog ④, and tighten setscrew ⑤ to fix the differential feed dog.

It is the standard that throat plate ① is flush with the feed dog when the feed dog is in its highest position.

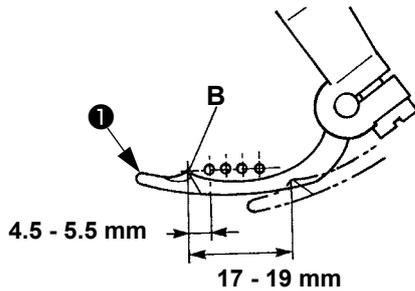
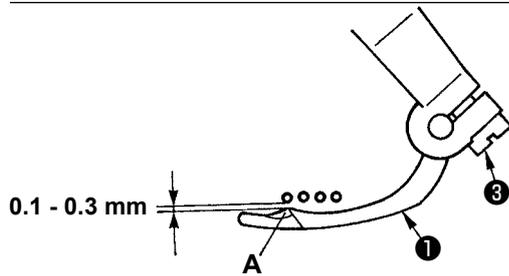
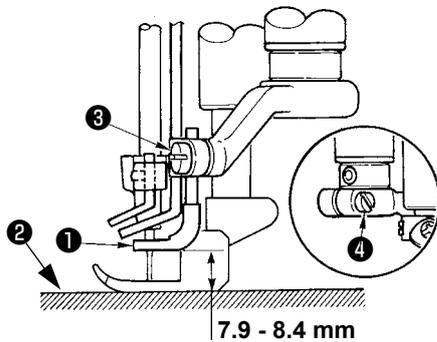


## 12. Installing position of the spreader



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



### [Adjusting the height]

The height of spreader ① is 7.9 to 8.4 mm from the top surface of throat plate ② to the bottom surface of spreader.

Adjust the height with clamp screw ③ and fix the spreader ①.

### [Adjusting the longitudinal position]

Adjust so that the clearance between the spreader ① and left-hand needle is 0.1 to 0.3 mm when spreader ① travels from the extreme left position to the right and section A comes to the front of left-hand needle. Then fix the spreader ① with clamp screw ③.

### [Adjusting the lateral position]

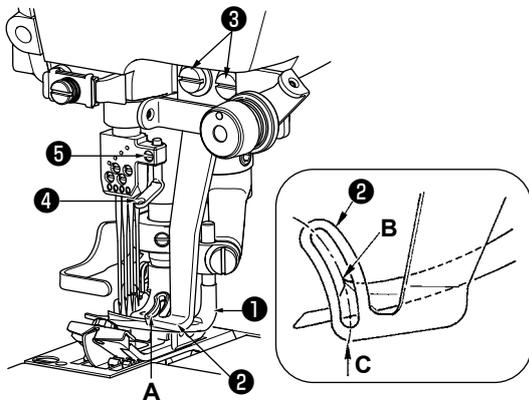
Adjust so that the distance from the center of left-hand needle to section B of the spreader ① is 4.5 to 5.5 mm when the spreader ① is in the extreme left position. Then fix the spreader ① with clamp screw ④.

### 13. Adjusting the spreader thread guide and the needle clamp thread guide



**WARNING :**

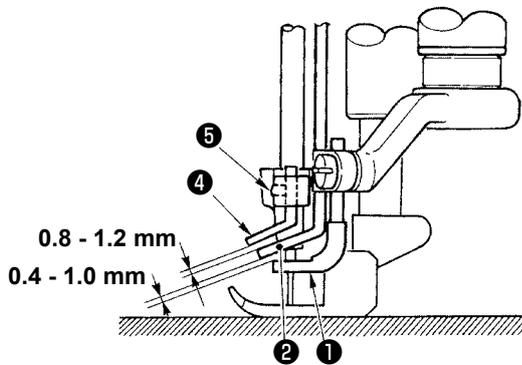
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



**[Spreader thread guide]**

Adjust so that the clearance between spreader thread guide ② and spreader ① is 0.4 to 1.0 mm. Then fix the spreader thread guide with setscrews ③.

\* Adjust so that the center of slot A of thread guide ② aligns with blade point B of spreader when spreader ① is in the extreme right position. In addition, allow the spreader thread guide ② to come near the needle clamp to such an extent that the spreader thread guide does not interfere with the needle clamp.



**[Needle clamp thread guide]**

Adjust so that the center of thread hole of needle clamp thread guide ④ and spreader thread guide ② aligns with center C of slot A when the needle is in the lowest position.

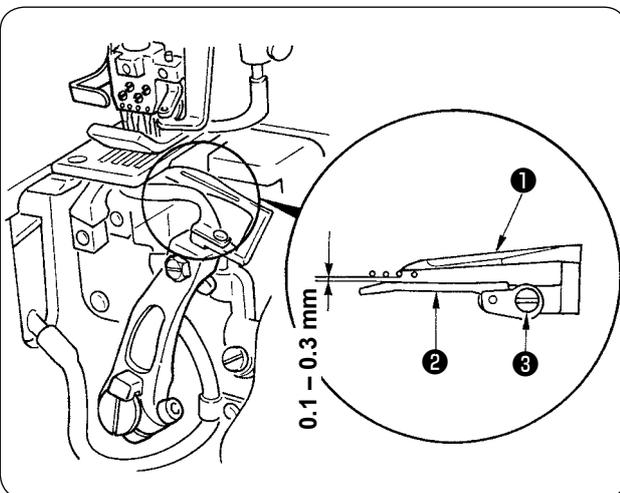
\* At this time, adjust so that the clearance between needle clamp thread guide ④ and spreader thread guide ② is 0.8 to 1.2 mm. Then fix the needle clamp thread guide with setscrew ⑤.

### 14. Adjusting the front needle guard



**WARNING :**

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Adjust so that the clearance between the needles and front needle guard ② is 0.1 to 0.3 mm when looper ① travels from the extreme right position to the left and passes the rear side of the respective needles. Then fix the front needle guard ② with setscrew ③.

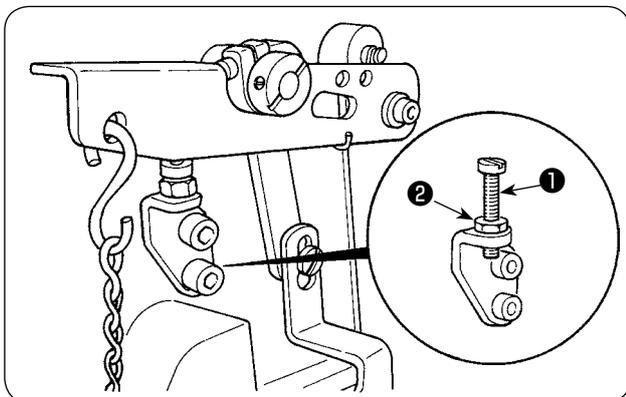
\* Allow front needle guard ② to come to the needle as near as possible within the range where needle thread smoothly passes in accordance with the kind or thickness of thread.

## 15. Adjusting the presser foot lift



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



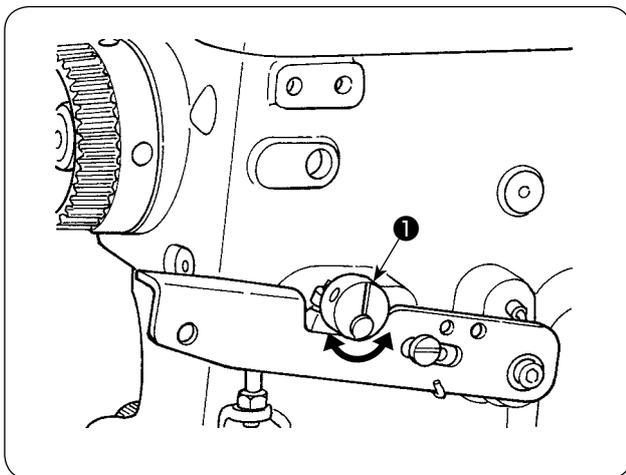
To adjust the height of the presser foot, adjust the height of screw ❶ so that the presser foot does not come in contact with other components and fix the presser foot with nut ❷.

## 16. Adjusting the micro-lifter



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



When the micro-lifter collar ❶ is turned clockwise and counterclockwise, the presser bar lifting lever is pressed down to lift the presser foot.

Adjust the height of the micro-lifter according to the sewing condition.



In the case the micro-lifter is not used, use the sewing machine with the marker line on the micro-lifter collar ❶ faced straight up.

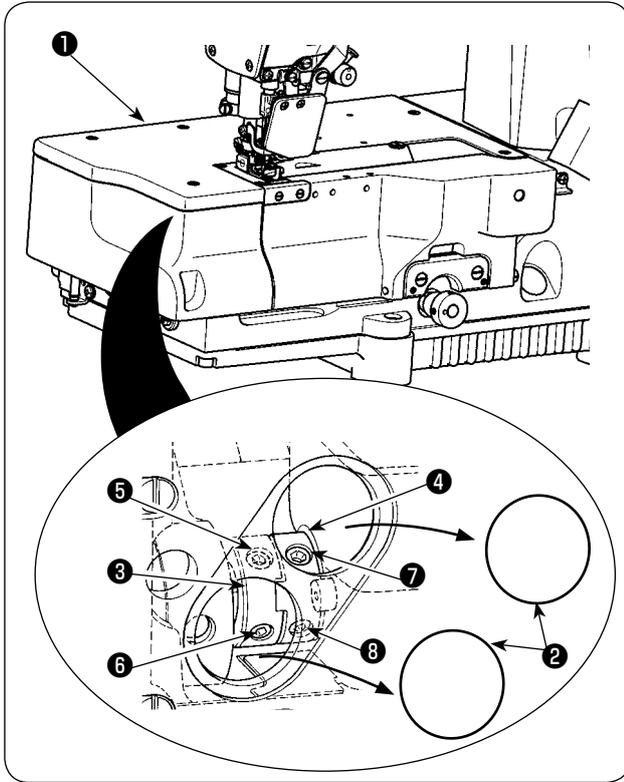
## 17. Adjusting the feed locus



### WARNING :

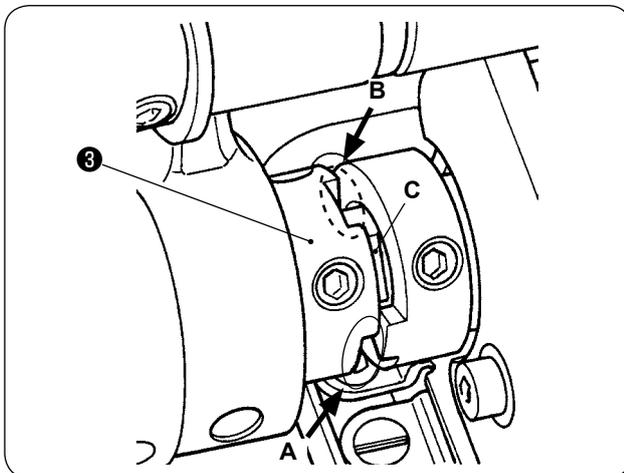
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

### (1) Changing the feed driving movement

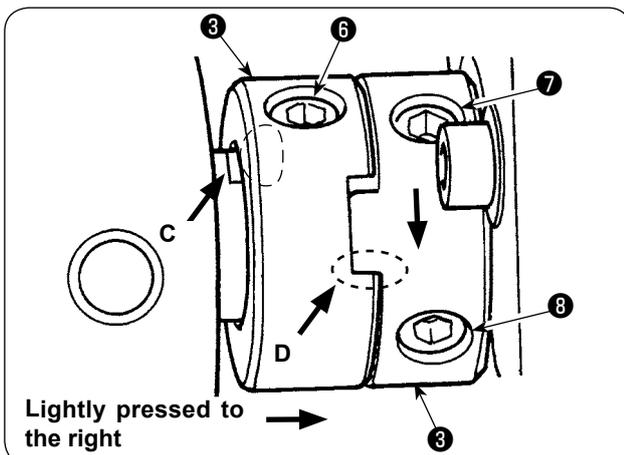


The feed driving eccentric cam **4** can be advanced from the standard adjustment by 10°.

- 1) Remove cloth plate, left **1** and rubber plugs **2**.
- 2) Insert a hexagonal wrench key into the hole from which the rubber plug is removed to loosen two setscrews **5** and **6** of positioning cam **3** and setscrews **7** and **8** of feed driving eccentric cam **4**.



- 3) Shift positioning cam **3** to the left to disengage the convex section from concave section No. 2 **A** and engage it in concave section No. 1 **B**.

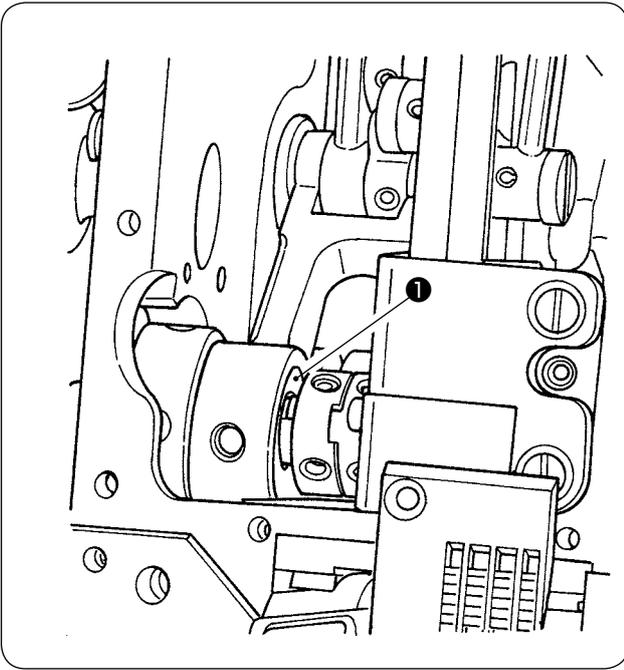


- 4) Fix positioning cam **3** with setscrew No. 1 **6** of the positioning cam with setscrew **6** aligned with flat section **C** of the shaft while lightly pressing the positioning cam to the right.
- 5) Check to be sure that feed driving eccentric cam **4** is movable. Then, tighten setscrew No. 2 **5**.
- 6) Fix feed driving eccentric cam **4** with eccentric cam setscrews No. 1 **7** and No. 2 **8**, while pressing the cam in the opposite direction to its normal movement.

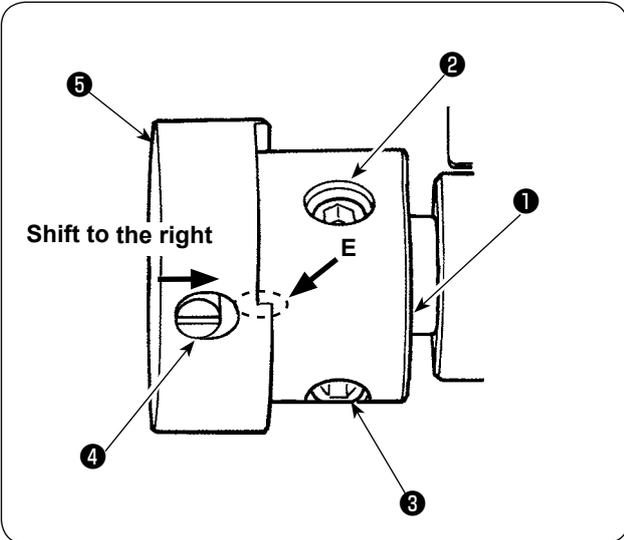


Check to be sure that the "positioning cam **3** is in contact with the feed driving eccentric cam" **4** (section **D**) so as to prevent the setscrews from loosening.

## (2) Changing the feed rock movement



Timing of the feed rock eccentric cam ① can be advanced from the standard adjustment by 10°.



- 1) Align screws ② and ③ of feed rock eccentric cam ① with the holes in the rod.
- 2) Loosen two screws ② and ③.
- 3) Move feed rock eccentric cam ① to shift pin ④ to the right.
- 4) Fix feed rock eccentric cam ① with two screws ② and ③, while pressing the cam against positioning cam ⑤.



Check to be sure that the "pin ④ is in contact with the feed rock eccentric cam" ① (section E) so as to prevent the screws from loosening.

## (3) Restoring to the standard adjustment

To restore the cam timing to the standard adjustment, return the changed positioning of (1) feed driving movement and (2) feed rock movement back to the home position.

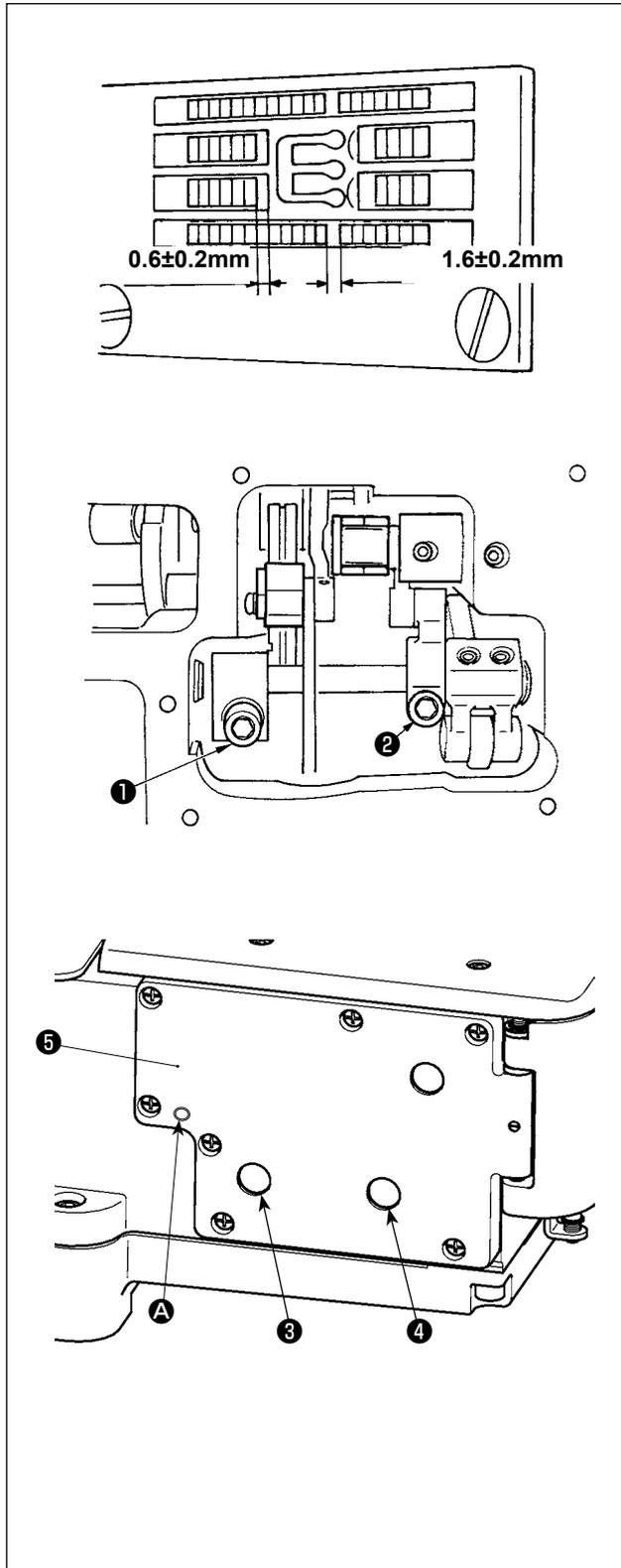
## 18. Adjustment of the feed dog in longitudinal direction



### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

Longitudinal position of the feed dog



### 1) Position of the main feed dog

It is the standard that the position where the clearance from the edge of the slot of the throat plate to the front face of the main feed dog is  $0.6 \pm 0.2$  mm at the position where the main feed dog travels to the extreme front position (operator's side) when feed momentum is set to 3.6 mm (maximum).

When fixing setscrew ② in the main feed lever, adjust the clearance from the edge of the slot of the throat plate to the front face of the main feed dog to  $0.6 \pm 0.2$  mm when the feed dog travels to the extreme front position (operator's side), press the main feed lever to the rocking bar side, and fix it with setscrew.

When the fixing position of the main feed lever slips greatly out of position, abnormal noise or abrasion will be caused.

### 2) Position of the differential feed dog

It is the standard that the position where the clearance provided between main feed dog and differential feed dog is  $1.6 \pm 0.2$  mm when the differential feed ratio is set to 1 : 1 after adjusting the position of the main feed dog.

When fixing setscrew ① in the differential feed lever, set the differential feed ratio to 1 : 1, adjust the clearance provided between the main feed dog and the differential feed dog to  $1.6 \pm 0.2$  mm, press the differential feed lever to the rocking bar side, and fix it with setscrew.

When the fixing position of the differential feed lever slips greatly out of position, abnormal noise or abrasion will be caused.



When the adjustment value changes greatly, feed dog or throat plate will be broken.



Remove rubber plugs ③ and ④ without removing cover ⑤. Then, the feed dog can be adjusted by loosening differential feed lever setscrew ① and main feed lever setscrew ②. Cover ⑤ is applied with sealant. The sealant has to be removed when removing cover ⑤. Remove cover ⑤ while peeling off the sealant by tightening an M4 screw in tapped hole A.

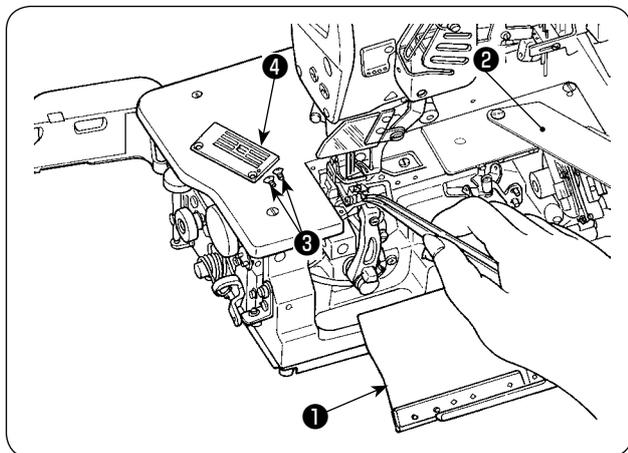
## VII . MAINTENANCE

### 1. Cleaning the sewing machine



#### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



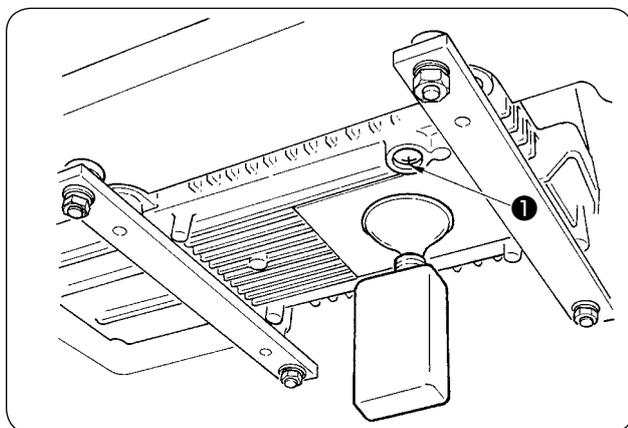
Open front cover ① and slide cover ②, loosen screws ③, remove throat plate ④, and clean the grooves in the throat plate ④, those in the feed dogs, and the peripheries. After cleaning, fix throat plate ④ with setscrews ③.

### 2. Replacing the lubricating oil



#### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



In case of the new sewing machine, replace the lubricating oil (JUKI GENUINE OIL 18) with new one after using it for approximately one month. Then replace the lubricating oil every six months.

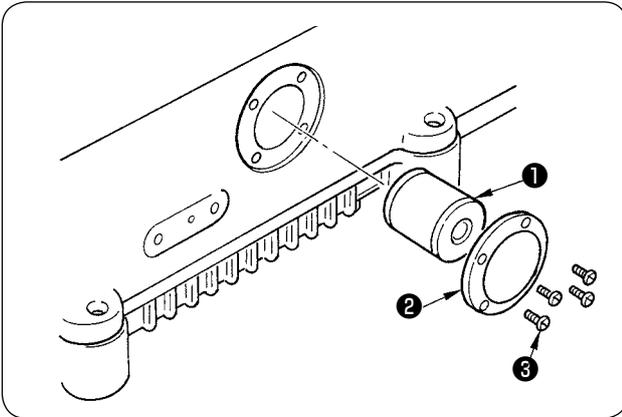
- 1) Set a container to receive the lubricating oil under drain screw ①.
- 2) Remove drain screw ①. The lubrication oil is drained.
- 3) After the drain, wipe out the oil and attach the drain screw ①.

### 3. Inspecting and replacing the oil filter



#### WARNING :

To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



Normal lubrication cannot be performed if dust collects in oil filter ① . Inspect it every 6 months.

- 1) Remove oil filter cap ② , and draw out oil filter ① to inspect it.
- 2) When oil filter ① is clogged with dust, replace it with a new one.
- 3) After the replacement, fix the filter cap ② with screws ③ .



When removing the oil filter cap, lubricating oil collected in the filter will leak out. So, be careful.