

***ENGLISH***

**MF-7500(D)/UT37  
INSTRUCTION MANUAL**

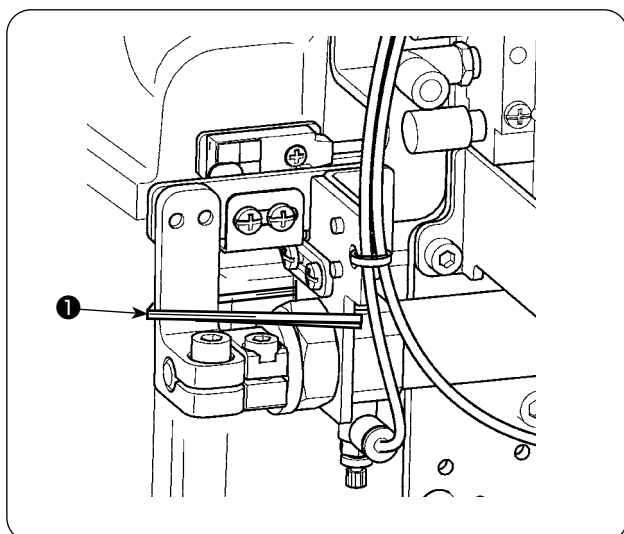
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## I. SPECIFICATIONS

Model name	High-speed, flat-bed coverstitch machine	Semi-dry head, high-speed, flat-bed coverstitch machine
Model	MF-7500 series	MF-7500D series
Stitch type	ISO standard 406, 407, 602, and 605	
Example of application	Hemming and covering for knits and general knitted fabrics	
Sewing speed	Max. 6,500 sti/min (at the time of intermittent operation) V-belt type Max. 6,000 sti/min (at the time of intermittent operation) Direct-drive type Speed of stitch at the delivery: 4,500 sti/min (at the time of intermittent operation)	Max. 5,000 sti/min (at the time of intermittent operation) V-belt type Max. 5,000 sti/min (at the time of intermittent operation) Direct-drive type Speed of stitch at the delivery: 4,000 sti/min (at the time of intermittent operation)
Needle gauge	3-needle ..... 4.8 mm, 5.6 mm, and 6.4 mm 2-needle ..... 3.2 mm and 4.0 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 3.6 mm (can be adjusted up to 4.4 mm)	
Needle	UY128GAS #9S to #14S (standard #10S)	UY128GAS #9S to #12S (standard #10S)
Needle bar stroke	31 mm (33 mm when the eccentric pin is changed over)	
Dimensions	(Height) 451 x (Width) 523 x (Length) 279	
Weight	49 kg (With pneumatic type thread trimmer) , 46 kg	
Lift of presser foot	8 mm (needle gauge : 5.6 mm without top covering), and 5 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 <sub>pA</sub> ) at the workstation : A-weighted value of 76.5 dB; (Includes K <sub>pA</sub> = 2.5 dB); according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,500 sti/min.	- Equivalent continuous emission sound pressure level (L <sub>pA</sub> ) at the workstation : A-weighted value of 74.0 dB; (Includes K <sub>pA</sub> = 2.5 dB); according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,000 sti/min.

## II. AT THE BEGINNING



Remove fixed band ❶ for transportation before setting up the sewing machine.

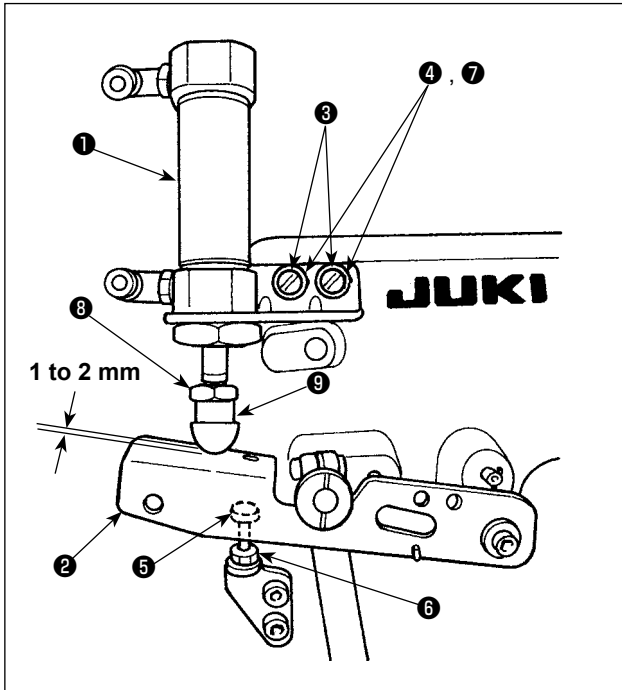
### III. INSTALLING THE ACCESSORIES



**WARNING :**

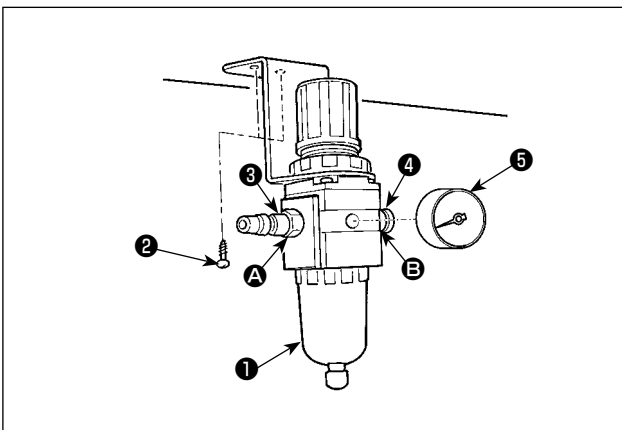
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

#### 1. Installing the presser lifting cylinder



- 1) Install presser lifting cylinder asm. ① to the sewing machine with screws ③ , washers ④ and spring washers ⑦ .
- 2) Tighten screw ③ in such manner that a clearance of 1 to 2 mm is provided between cap ⑨ at the top end of presser lifting cylinder asm. ① and presser lifting lever ② .  
If the clearance cannot be adjusted to 1 to 2 mm, adjust the height of nut ⑧ and cap ⑨ to obtain the correct clearance between the cap and lever.
- 3) Adjust the height of screw ⑤ referring to the Instruction Manual for MF-7500 (VI-15. **Adjusting the presser foot lift** ), and tighten nut ⑥ .
- 4) Stroke of cylinder asm. ① is 30 mm. Make sure that presser lifting lever ② comes in contact with screw ⑤ within the range of cylinder stroke.

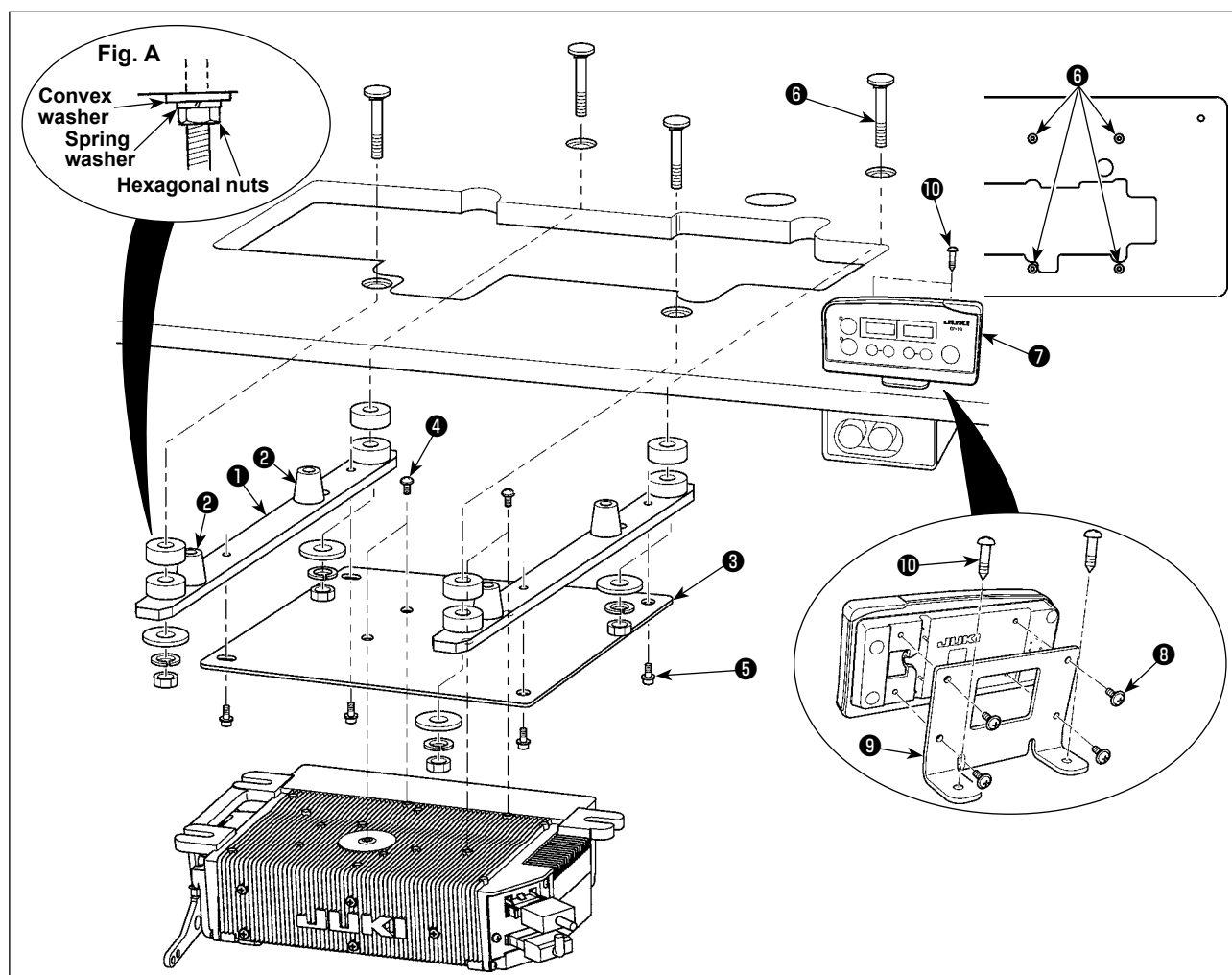
#### 2. Installing the air regulator



- 1) Install pressure gauge ⑤ to regulator main body ① .
- 2) Attach joint ③ to air intake port A, and joint ④ to exhaust port B.
- 3) Install air regulator main body ① under the table with wood screw ② .

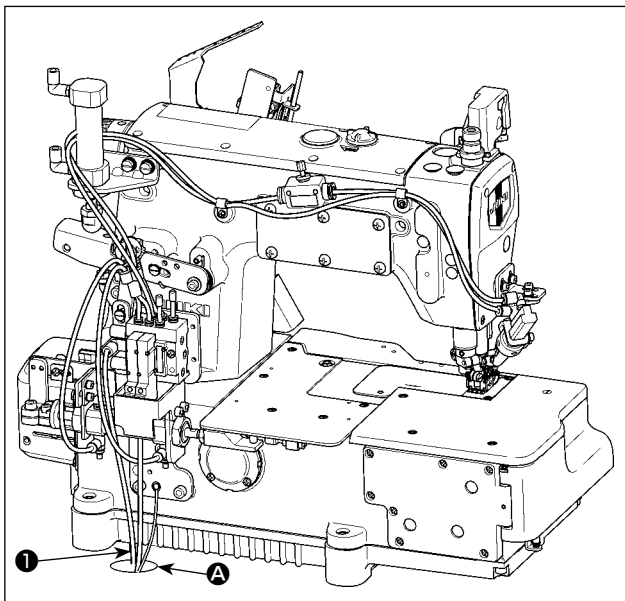
### 3. Installation and setting SC-921

#### (1) Installing the SC-921 on the table ( Semi-submerged type )

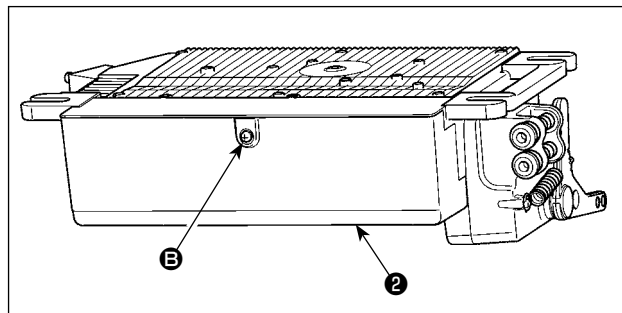


- 1) Install right and left support plates ① and two rubber seats ② of the respective support plates.
- 2) Install control box mounting plate ③ on the control box with four screws ④ .
- 3) Install the parts assembled in Step 2) on the underside of support plates ① with four screws ⑤ .
- 4) Install support plates ⑥ and the control box on the table with mounting bolts asm. ① supplied with the unit. At this time, insert the nuts and washers supplied with the unit as illustrated in Fig. A so that the support plates and the control box are securely fixed.
- 5) Install the control box (or the one equipped with a small sized motor unit) on the table. Then, install the sewing machine head on the table. (Refer to the Instruction Manual for the sewing machine.)
- 6) Install the mounting plate ⑨ on the CP-18 panel ⑦ with four tapping screws ⑧ supplied with the unit. At this time, take care not to allow the cable to be caught under the mounting bracket.
- 7) Install CP-18 panel ⑦ on the table with wood screw ⑩ .

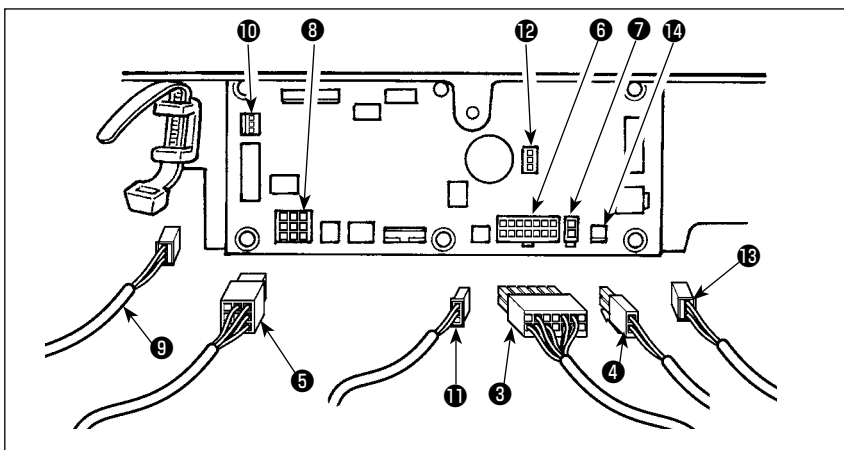
## (2) Connecting the cords



- 1) Pass cords 1 of the thread trimming solenoid, reverse-stitching solenoid, etc. and the cord from the motor through hole A in the table to route them down under the machine table.



- 2) Loosen screw B in cover 2 with a screwdriver to open the cover.



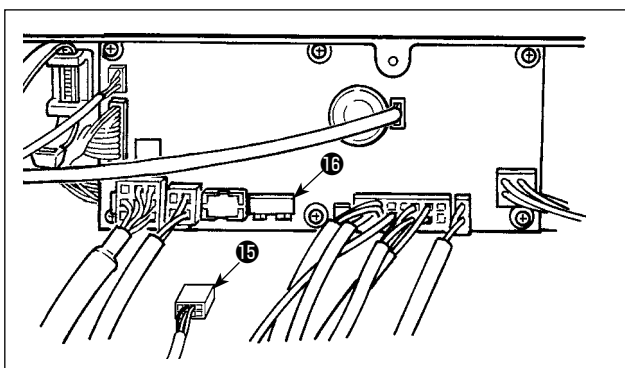
- 3) Connect 14P code 3 coming from the machine head to connector 6 (CN36).
- 4) Insert 3P cord 9 coming from the machine head into connector 10 (CN42).
- 5) Insert presser foot lifter cord 2P 4 into connector 7 (CN37).
- 6) Connect connector 5 coming from the motor to connector 8 (CN30) on the circuit board.

- 7) Insert pedal sensor cable 11 into connector 12 (CN34).
- 8) Insert motor fan cord 13 into connector 14.



Be sure to securely insert the respective connectors after checking the inserting directions since all connectors have the inserting directions. (When using a type with lock, insert the connectors until they go to the lock.) The sewing machine is not actuated unless the connectors are inserted properly. In addition, not only the problem of error warning or the like occurs, but also the sewing machine and the control box are damaged.

### [Connecting the connector for the operation panel]



The connector for the operation panel is provided. Paying attention to the orientation of the connector 15, connect it to connector (CN38) 16 located on the circuit board. After the insertion, securely lock the connectors to prevent them from coming off easily.

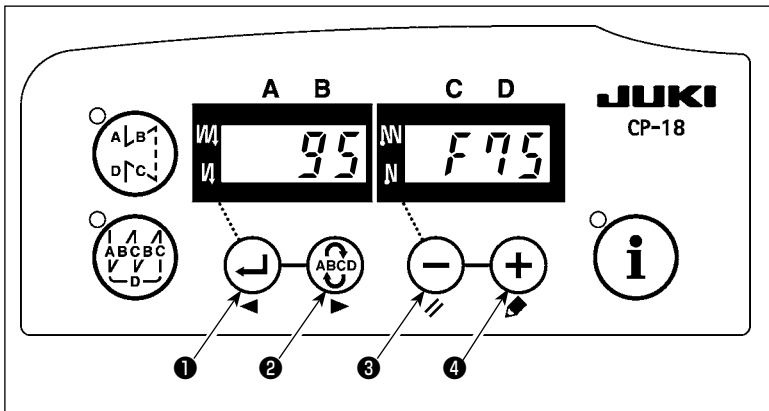


Be sure to turn OFF the power before connecting the connector.

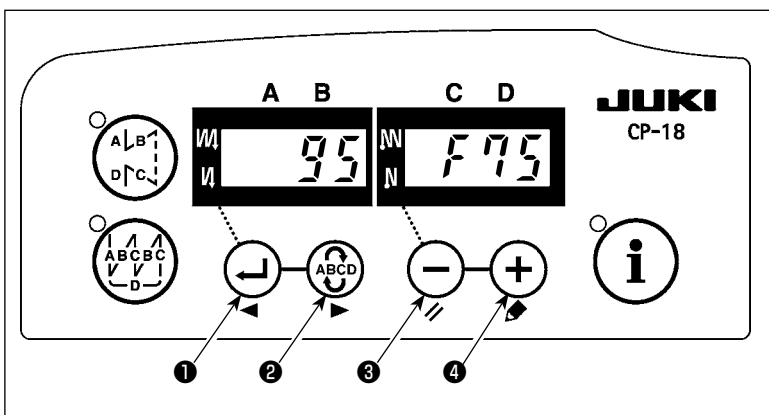
### (3) Setting procedure of the machine head



For the operation panel other than CP-18, refer to the Instruction Manual for the operation panel to be used for the setting procedure of the machine head.



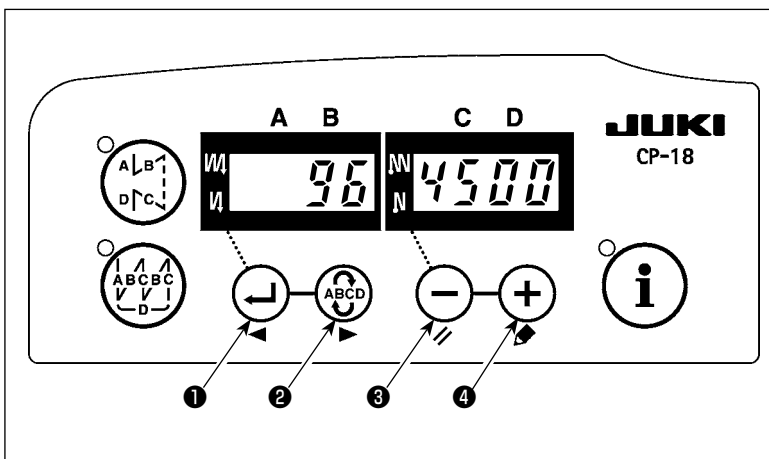
1) Call function setting No. 95.



2) The type of machine head can be selected by pressing  $\ominus$  switch ③ ( $\oplus$  switch ④).

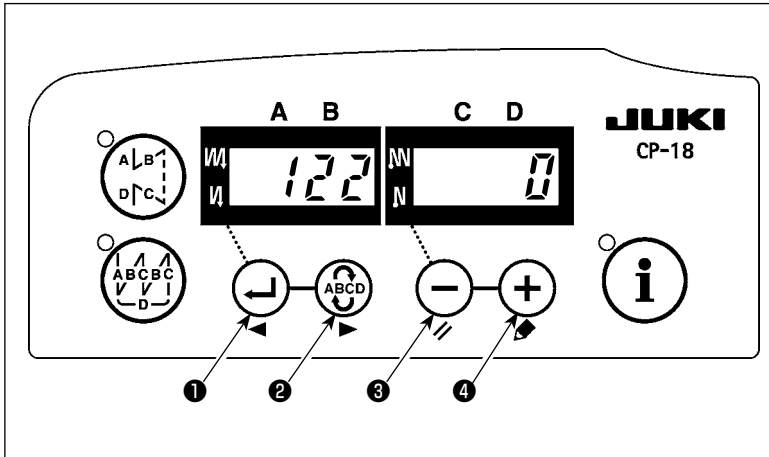
\* Refer to the "MACHINE HEAD LIST" on the separate sheet or the Instruction Manual for the machine head of your sewing machine for the type of the machine head.

Type of machine head	Model name
F75	MF-7500/UT35 MF-7500/UT37
F75d	MF-7500D/UT35 MF-7500D/UT37

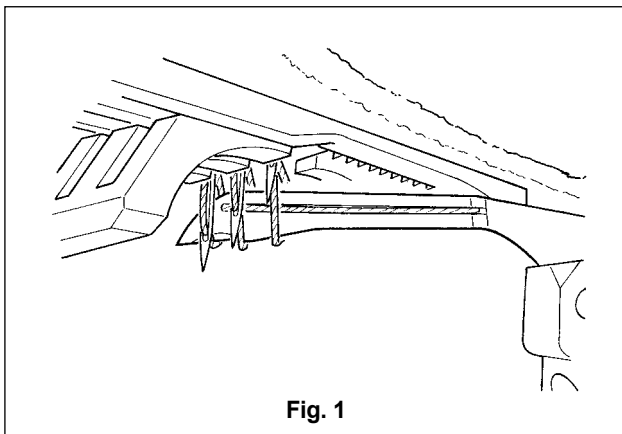


3) After selecting the type of machine head, by pressing  $\leftarrow$  switch ① ( $\text{ABCD}$  switch ②), the step proceeds to 96 or 94, and the display automatically changes to the contents of the setting corresponding with the type of machine head.

#### (4) Setting the lower stop position of the needle bar



Call function setting No. 122. Check to be sure that the lower stop position of the needle bar is as shown in **Fig. 1**. If not, adjust the lower stop position of the needle bar properly using function setting No. 122. (Adjustment can be made within the range of  $\pm 15^\circ$ ).





## IV. AIR PIPING DRAWING

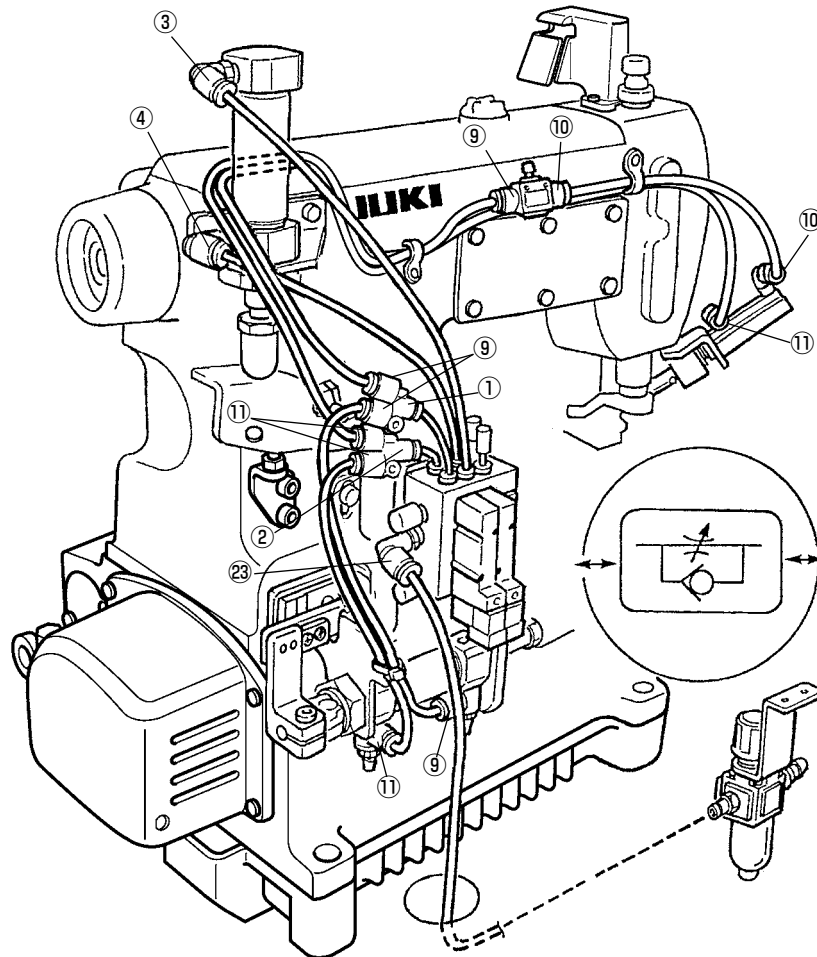


### WARNING :

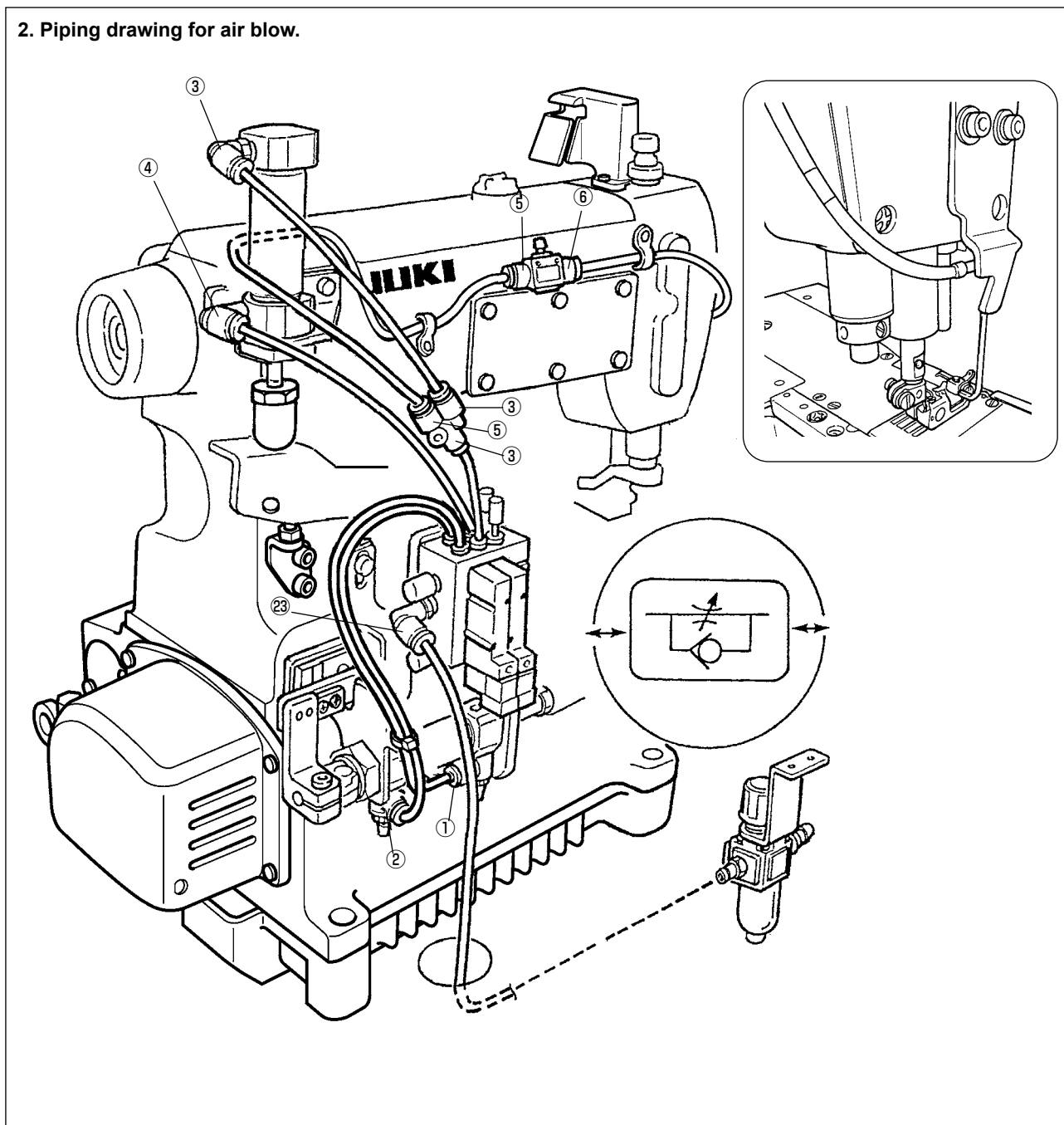
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest. In addition, cut the air supply from air compressor.

### 1. Piping of the thread trimmer device

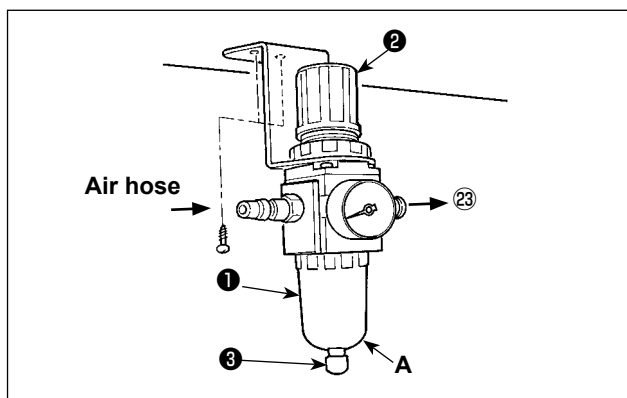
1. Piping drawing with the needle thread trimmer.



## 2. Piping drawing for air blow.



## 2. Adjusting the air regulator



- 1) Insert the air hose to air regulator ① .
- 2) Use the air pressure at 0.4 to 0.5 MPa (4 to 5 kgf/cm<sup>2</sup>).
- 3) Draw up regulator knob ② , turn knob ② and adjust the pointer to 0.4 to 0.5 MPa to adjust the air pressure.
- 4) After the adjustment, press downward regulator knob ② .
- 5) When drainage is collected at section A of regulator ① during using, press drain cock ③ to discharge the drainage.

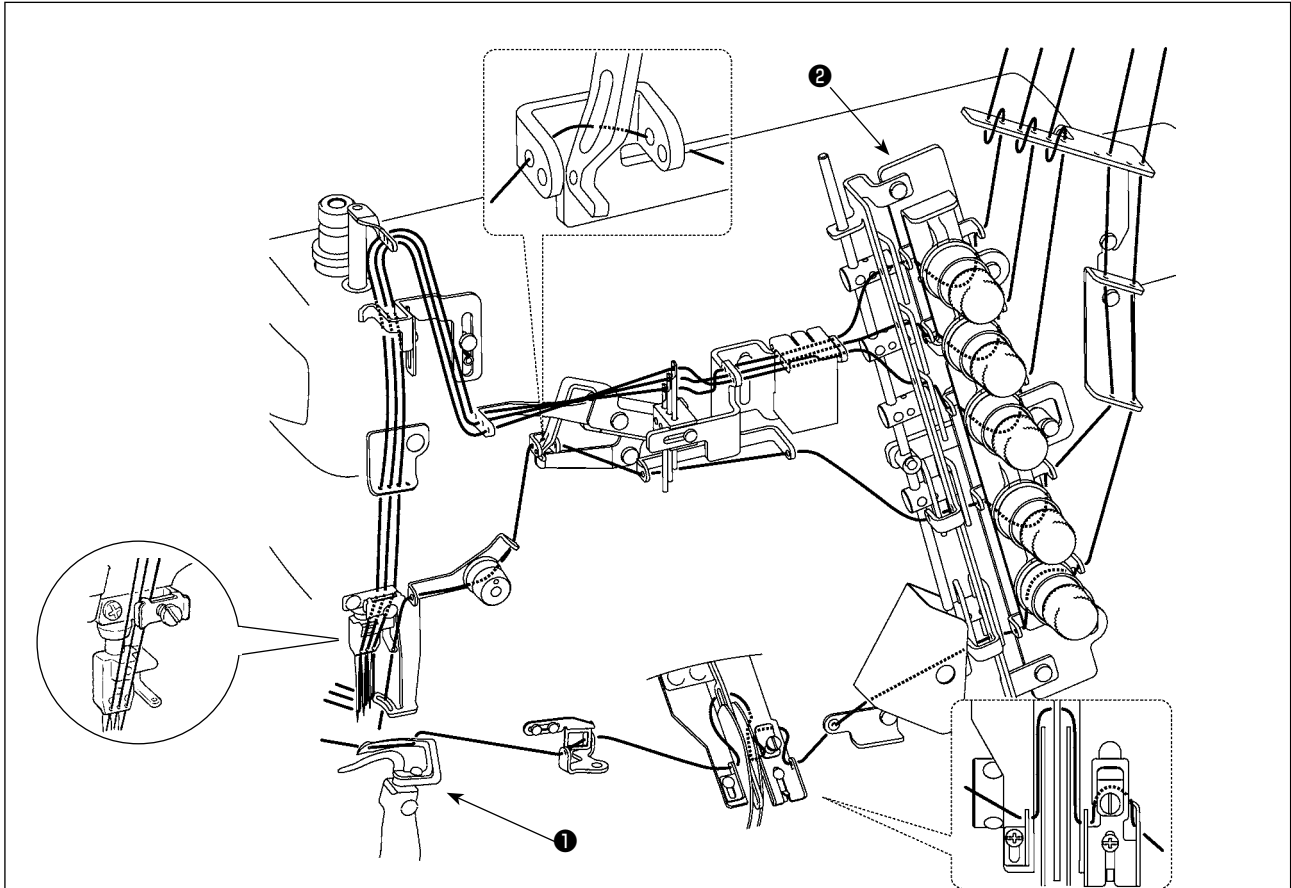
## V. THREADING THE MACHINE HEAD



### 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.

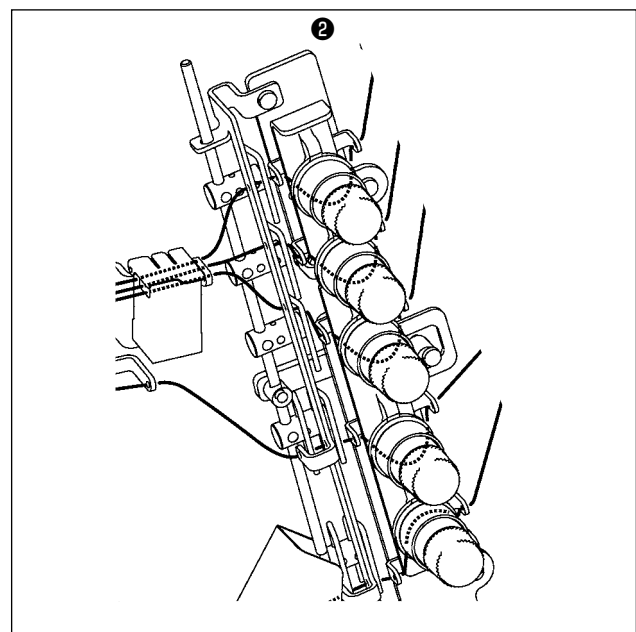
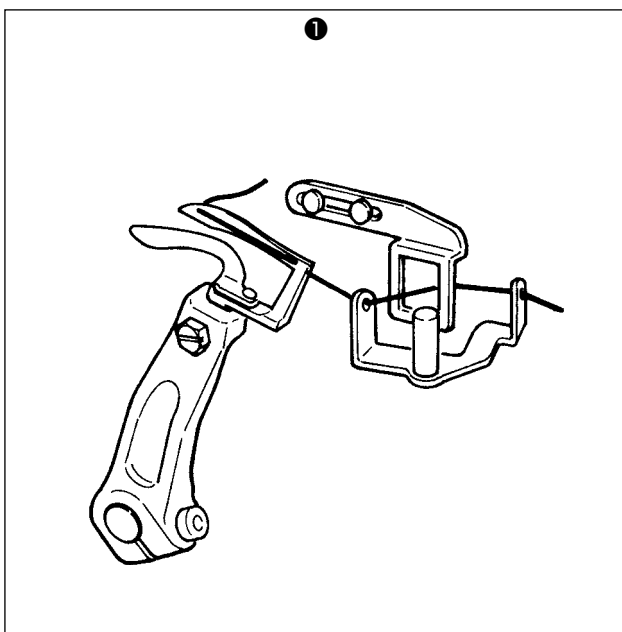
Thread the machine head according to the following threading illustrations.



\* For the adjustment procedure other than the above, refer to the Instruction Manual for MF-7500.



When the thread tension located in the face plate section is used for the machine with automatic thread trimmer, the length of needle thread remaining on the needle is shortened and slip-off of the thread at the start of sewing may occur.

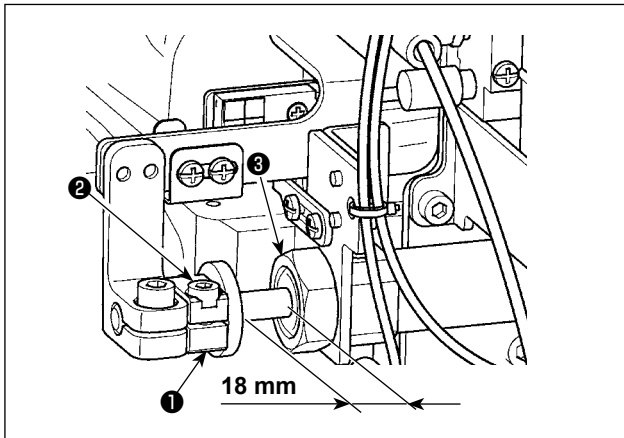


## VI. ADJUSTING THE LOOPER THREAD TRIMMER MECHANISM



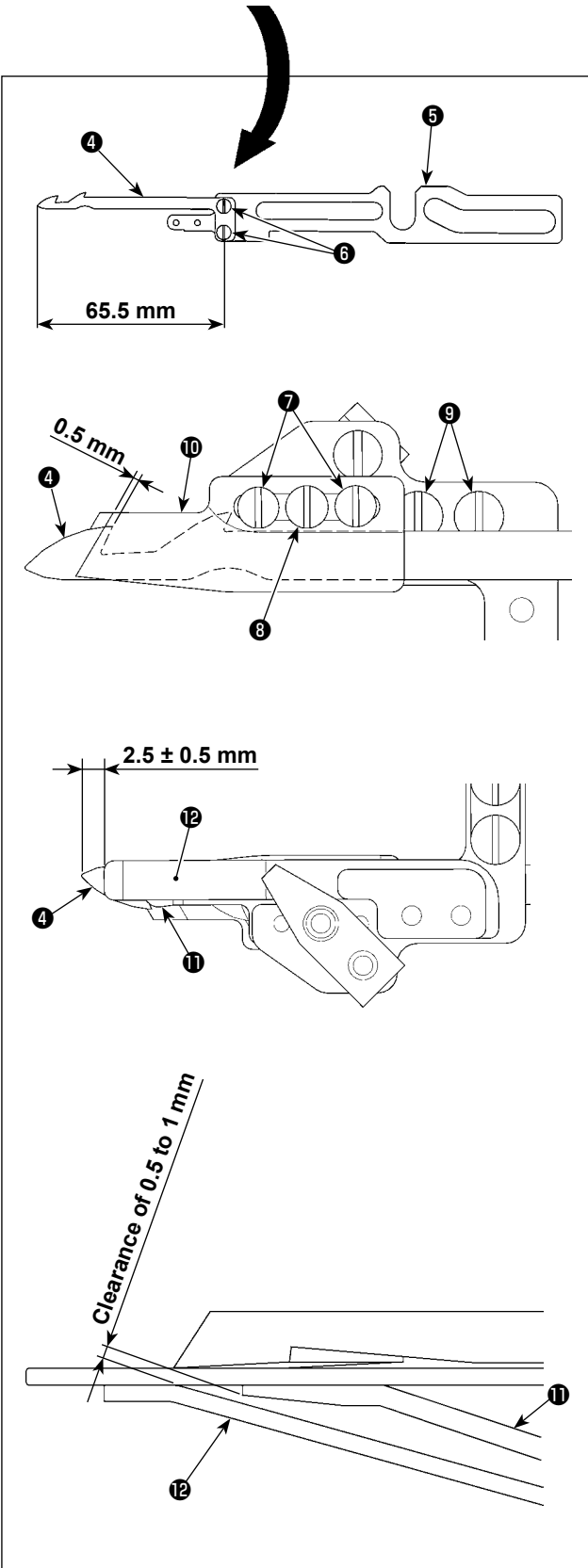
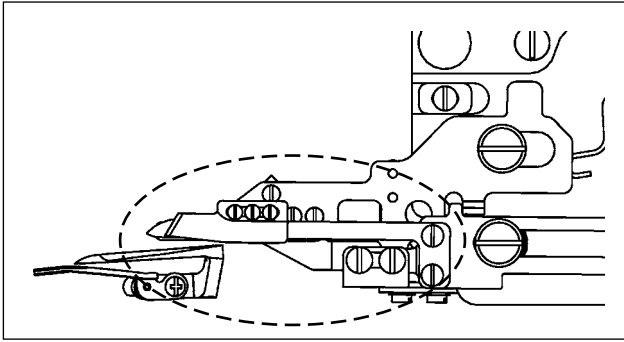
### WARNING :

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 addition, cut the air supply from air compressor.



### 1. Adjusting the thread trimmer air cylinder

- 1) Stroke of air cylinder **3** is 18 mm.  
When adjusting the stroke, loosen setscrew **2** of collar **1** and move collar **1** to the right or left to adjust.



## 2. Adjusting the Lower knife

- 1) Set lower knife **4** and lower knife holder **5** with setscrews **6** at the position of the illustration.

## 3. Adjusting the position of clamp pressure adjusting spring

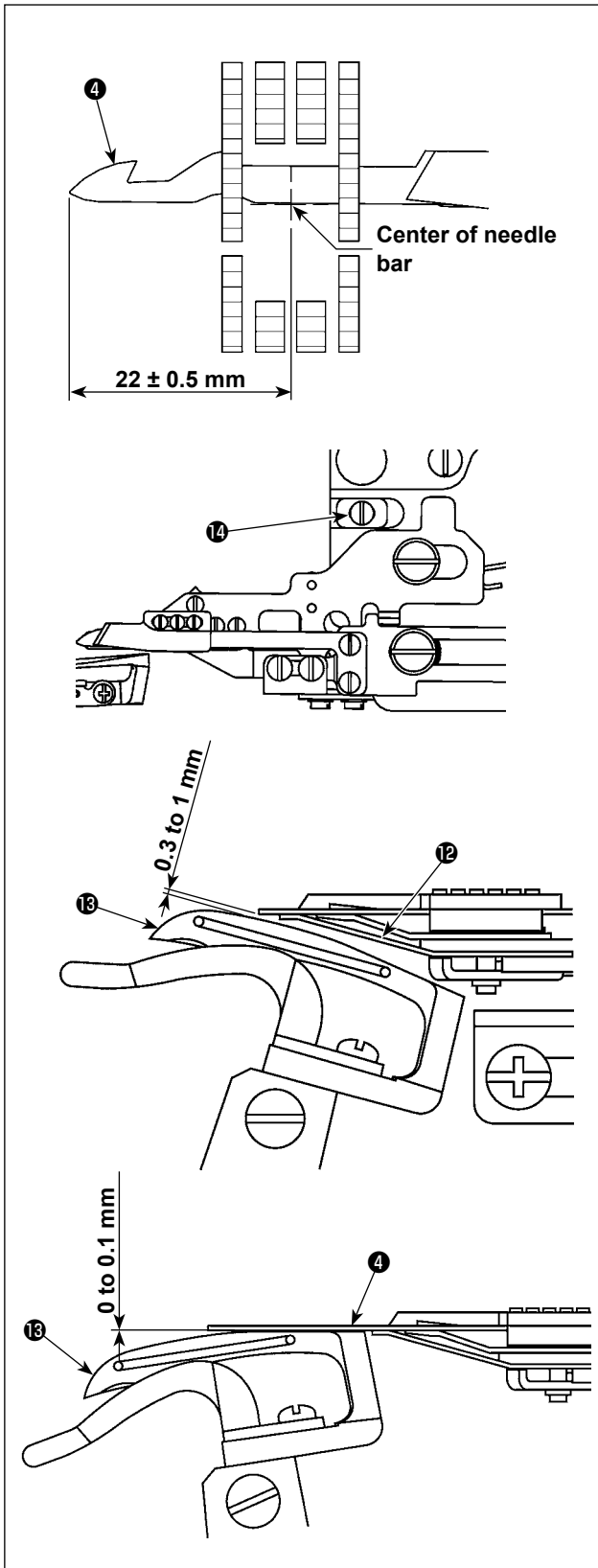
- 1) Loosen screws **9**.
- 2) Adjust so that a clearance of  $2.5 \pm 0.5$  mm is provided between the top end of clamp pressure adjusting spring **12** and the top end of lower knife **4** when the lower knife **4** is brought to the rightmost position.
- 3) After the adjustment, tighten screws **9**.

## 4. Adjusting the knife engagement and the knife pressure adjusting spring

- 1) Loosen screws **7** and **8**, and adjust the position of upper knife **10** so that the engagement of the upper knife **10** with the lower knife is 0.5 mm when lower knife **4** moves to the extreme right.
- 2) At the same time, adjust so that a clearance of 0.5 to 1 mm is provided between knife pressure adjusting spring **11** and clamp pressure adjusting spring **12**.
- 3) After the adjustment, tighten screws **7**.

## 5. Adjusting the pressure of clamp spring

- 1) The looper thread is held by clamp pressure adjusting spring **12** after thread trimming.
- 2) Holding pressure of the looper thread can be adjusted by turning screw **8**.
- 3) When screw **8** is turned clockwise, the holding pressure is increased and turned counterclockwise, the pressure is decreased.
- 4) Make the holding pressure as low as possible within the range of holding the looper thread.



## 6. Initial position of the looper thread trimmer mechanism

When the lower knife ④ is located at its leftmost position, the top end of the lower knife ④ has to be spaced  $22 \pm 0.5$  mm from the center of needle bar.

## 7. Adjusting the stopper

Check the leftmost point with the pneumatic device turned on. Adjustment should be carried out with the air pressure set at 0.5 MPa.

Adjust the position of stopper ⑭ so that a clearance of 0.3 to 1 mm is provided between looper ⑬ and clamp pressure adjusting spring ⑫ when the counter knife is located at its leftmost position (forward end).

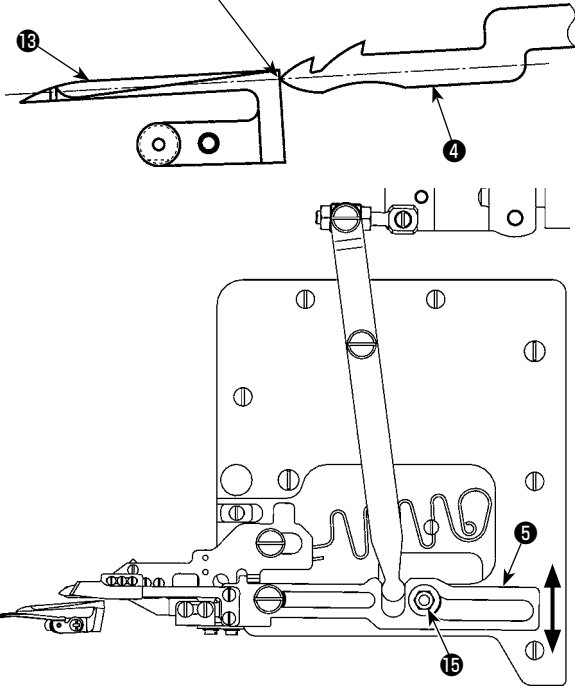
## 8. Adjusting the height of the lower knife

When the needle bar advances from its upper dead point by  $15^\circ$ , the clearance of 0 to 0.1 mm has to be provided between the undersurface of lower knife ④ and the top surface of looper ⑬.



**Perform the work with the needle bar at the highest position when actuating the thread trimmer mechanism by hand.**

Blade point of lower knife is in the center of thickness of looper.

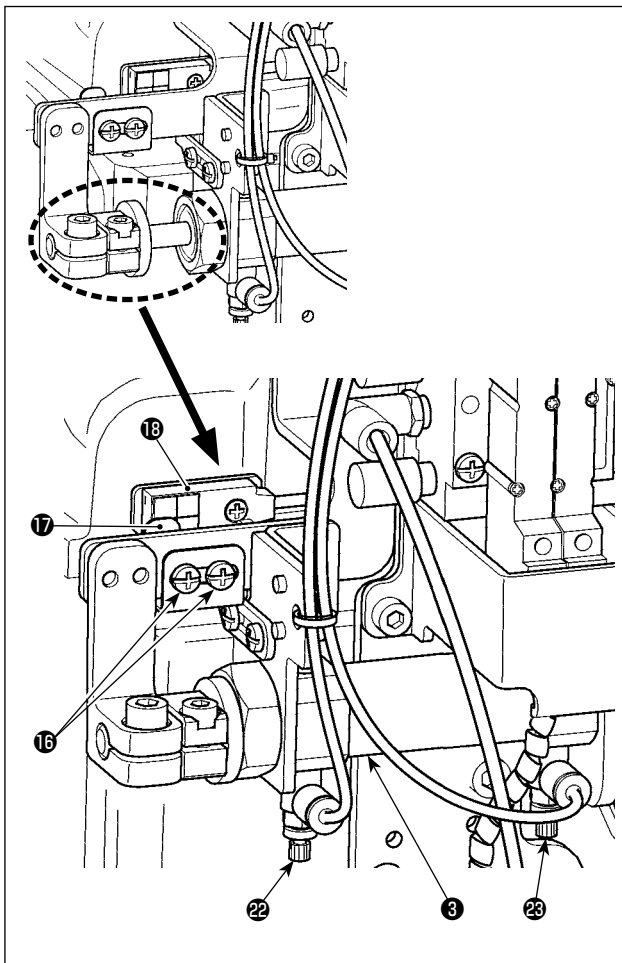


## 9. Adjusting the longitudinal position of the blade point of lower knife

- 1) Advance the needle bar by 15° from its upper dead point.
- 2) Adjust so that the blade point of lower knife ④ is placed at the center of thickness of the looper ⑬ when the lower knife ⑬ is projected until its top end is aligned with the end face of the looper ⑬.
- 3) Loosen nut ⑮, move lower knife holder ⑤ to and fro, and adjust the position of the blade point of lower knife ④.
- 4) After the adjustment, tighten nut ⑮.



Perform the work with the needle bar at the highest position when actuating the thread trimmer mechanism by hand.



## 10. Adjusting the thread trimmer sensor

The safety switch is installed so that the sewing machine does not start unless the looper thread trimmer device returns to its home position.

- 1) Loosen setscrews ⑮.
- 2) Adjust switch plate ⑰ so that LED of thread trimmer sensor ⑯ lights up in the state that the thread trimmer device is fully returned to its home position.
- 3) Tighten setscrews ⑮.



Perform the work with the needle bar at the highest position when actuating the thread trimmer mechanism by hand.

## 11. Adjusting the speed of looper thread trimmer

Speed of the looper thread trimmer device can be changed with speed controllers ⑳ and ㉓ of air cylinder ③.

- 1) When you desire to change the protruding speed of lower knife, loosen the nut of speed controller ㉒, and turn the adjustment screw. When you desire to change the returning speed of lower knife, loosen the nut of speed controller ㉓, and turn the adjustment screw.
- 2) After the adjustment, tighten the nuts of speed controllers ㉒ and ㉓.



- When the protruding speed of lower knife is slow, thread trimming failure will be caused.
- When the returning speed of lower knife is fast, lower thread clamp failure or uneven needle thread remaining length will be caused.

## VII. ADJUSTING THE THREAD RELEASE MECHANISM

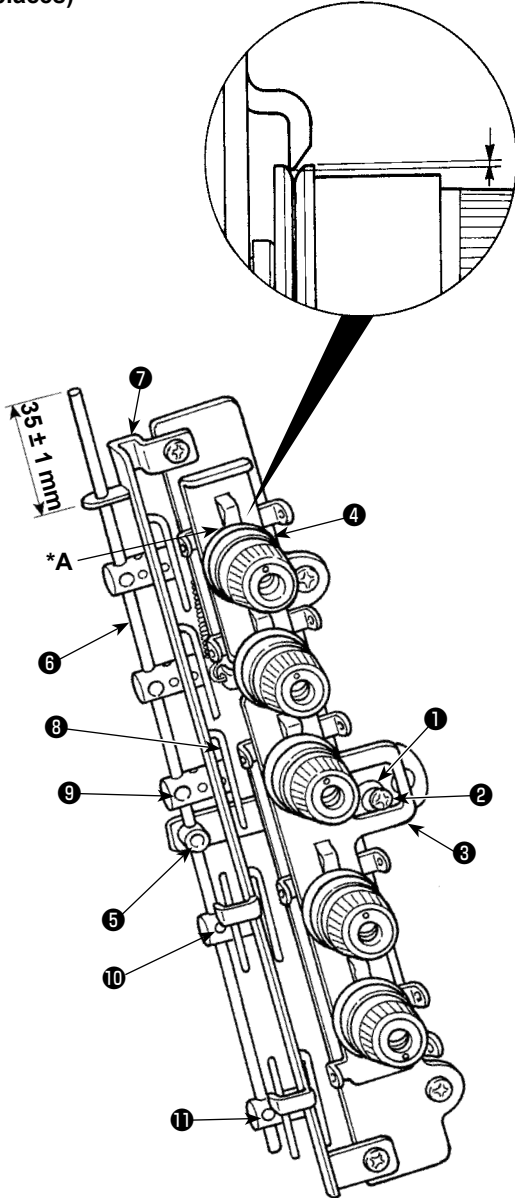


### WARNING :

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 addition, cut the air supply from air compressor.

\*A

Clearance between click and disk is 0.2 to 0.5 mm.  
(5 places)



### 1. Adjusting the disk-rise

- 1) Loosen setscrew ② in adjustment cam ①, turn adjustment cam ① and disk-rise plate ③ moves up or down.
- 2) Adjust the clearance between the click section of disk-rise plate ③ and thread tension disk ④ to 0.2 to 0.5 mm, and tighten setscrew ②.
- 3) If the click section of disk-rise plate ③ comes in contact with thread tension disk ④, sewing trouble will be caused. So, be careful.

### 2. Adjusting the thread release hook

- 1) Loosen setscrew ⑤. Adjust so that the top end of tension release rod ⑥ is spaced  $45 \pm 1$  mm from the top end of take-up thread guide ⑦. Then, tighten setscrew ⑤.
  - 2) Loosen setscrew ⑨, move the position of thread release hook ⑧ up or down, and the thread remaining length at the start of sewing can be adjusted.
- When the position of thread release hook ⑧ is raised, the thread remaining length at the start of sewing is decreased and when it is lowered, the thread remaining length at the start of sewing is increased.
  - If stitch skipping occurs at the beginning of sewing when using non-elastic thread, properly adjust the remaining length of top-covering thread at the start of sewing using setscrew ⑩ and minimize the remaining length of looper thread at the start of sewing using screw ⑪.



When the thread remaining length at the start of sewing is short, stitch skipping or slip-off of thread from needle eyelet at the start of sewing is apt to occur.

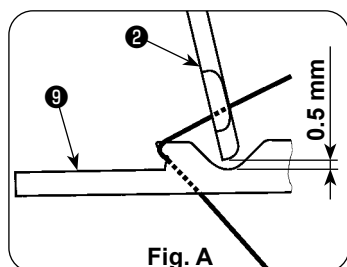
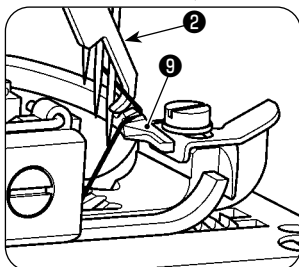
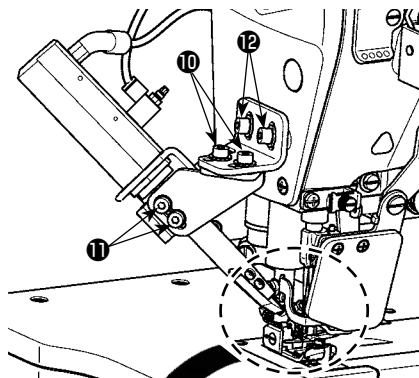
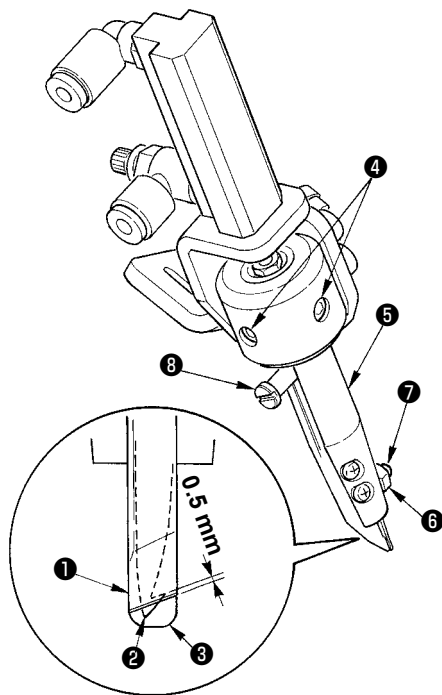


## VIII. ADJUSTING THE TOP COVERING THREAD TRIMMER MECHANISM



### 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 addition, cut the air supply from air compressor.



### 1. Adjusting the engagement of knives

- 1) Adjust so that the engagement of fixed knife **1** with moving knife **2** is 0.5 mm.
- 2) When adjusting the engagement, loosen setscrews **4** and move knife holder **5** up or down to adjust.

### 2. Adjusting the pressure of clamp spring

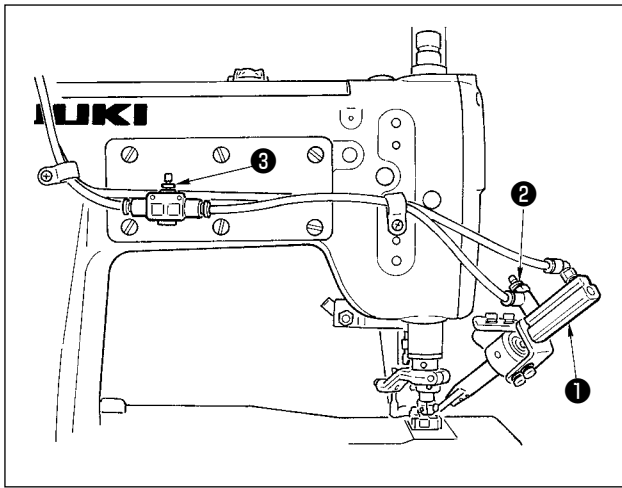
- 1) Top covering thread is held with clamp spring **3** after thread trimming.
- 2) Holding pressure can be adjusted by loosening nut **6** and turning screw **7**.
- 3) Holding pressure is increased when tightening screw **7** and it is decreased when loosening screw **7**.
- 4) After the adjustment, tighten nut **6**.
- 5) Make the holding pressure as low as possible within the range of holding the top covering thread.

### 3. Adjusting the position of the blade point of moving knife

- 1) Bring the needle bar to its highest position.
- 2) When hinge screw **8** is lowered, moving knife **2** lowers together.
- 3) Adjust so that the hook of moving knife **2** enters the recess in the top face of spreader **9** to be brought to the position where the moving knife catches the top covering thread when moving knife **2** is brought to the lowermost position. Then, tighten screws **10**, **11** and **12**.  
Adjust the moving knife vertically so that a clearance of 0.5 mm is provided between the recess section of spreader **9** and the moving knife, and laterally so that the moving knife **2** is brought to the center of the width of recess in spreader, as illustrated in Figure A.
- 4) Screws **12** are for adjusting vertical position of the knife, screws **10** for adjusting lateral position of the knife, and screws **11** for adjusting angle of the knife.



Make sure that the moving knife does not interfere with other components such as presser, needle, spreader, etc. within the working range of moving knife **2**.



#### 4. Adjusting the speed of moving knife

Stroke of air cylinder ① is 20 mm.

Speed of the moving knife can be changed with speed controllers ② and ③ .

- 1) When you desire to change the protruding speed of moving knife, loosen the nut of speed controller ② and turn the adjustment screw.  
When you desire to change the returning speed of moving knife, loosen the nut of speed controller ③ and turn the adjustment screw.
- 2) After the adjustment, tighten the nuts of speed controllers ② and ③ .



- When the protruding speed of moving knife is slow, thread trimming failure will be caused.
- When the returning speed of moving knife is fast, needle thread clamp failure will be caused.

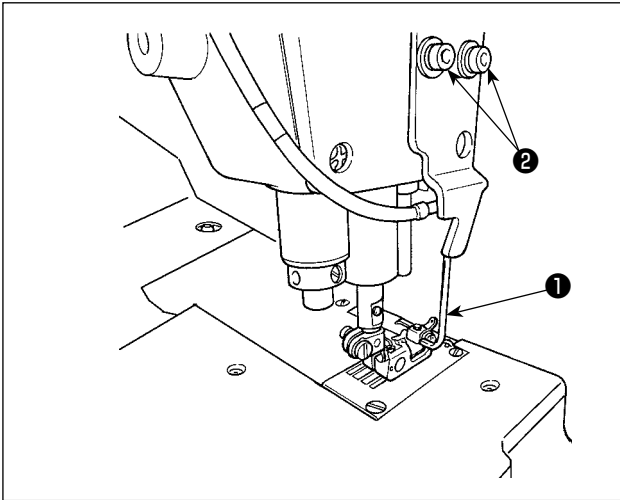
## IX. ADJUSTING THE AIR-BLOW WIPER (ACCESSORIES)



### WARNING :

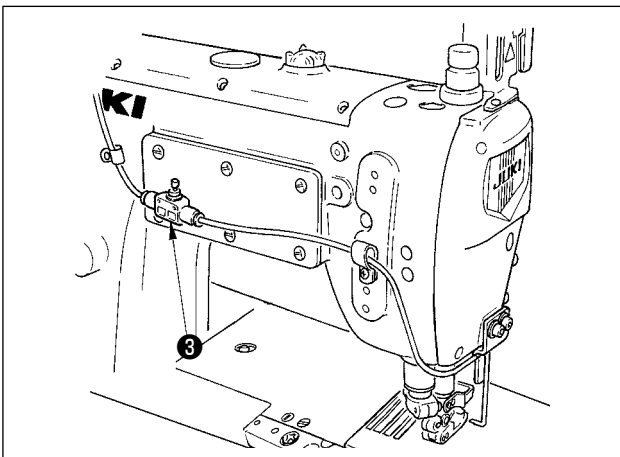
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest. In addition, cut the air supply from air compressor.

### 1. Installing the air-blow wiper



- 1) When using air-blow wiper ❶, remove the top covering thread trimmer device.
- 2) Tighten air-blow wiper ❶ with setscrews ❷.
- 3) Perform piping referring to “IV. AIR PIPING DRAWING” p.7.

### 2. Adjusting the air-blow wiper



Adjust the air-blow position of air-blow wiper ❶.

- 1) Adjust so that the air outlet of air-blow wiper ❶ is positioned in the rear of needle and slightly on the lower side of needle eyelet of the left needle when the needle bar is in the highest position.
- 2) After the adjustment, temporarily tighten setscrews ❷.
- 3) Supply air from the air compressor and turn the power ON.
- 4) When the back part of the pedal of sewing machine is depressed, the presser goes up and simultaneously air blows from air-blow wiper ❶. Re-adjust the position of air-blow wiper ❶ so that air blows only to the needle thread in the rear of the needle eyelet.
- 5) After the re-adjustment, tighten setscrews ❷.



- When air blows in front of the needle, needle thread slips from the needle eyelet. So, be careful.
- Adjust the air-blow strength with speed controller ❸.
- Handwheel may rotate up to the fixed position when turning ON the power. So, be careful.

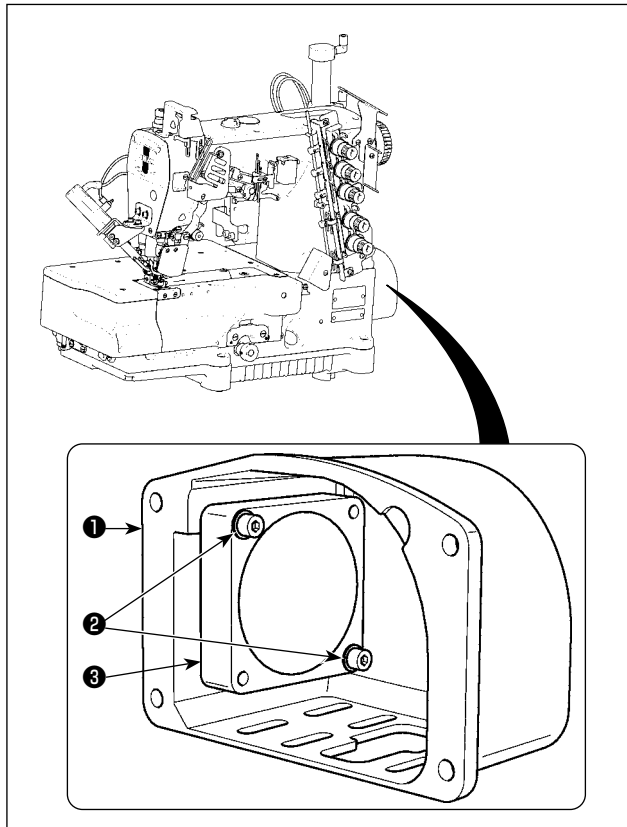
## X. MAINTENANCE



### 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 addition, cut the air supply from air compressor.

### 1. Cleaning the motor fan



Open the motor cover **1** and remove the screws **2** .  
Clean up the periphery of the motor fan **3** and the motor cover **1** .

After the completion of cleaning, re-install the motor fan **3** and the motor cover **1** .