

ENGLISH

**MF-7900,7900D/UT59
INSTRUCTION MANUAL**

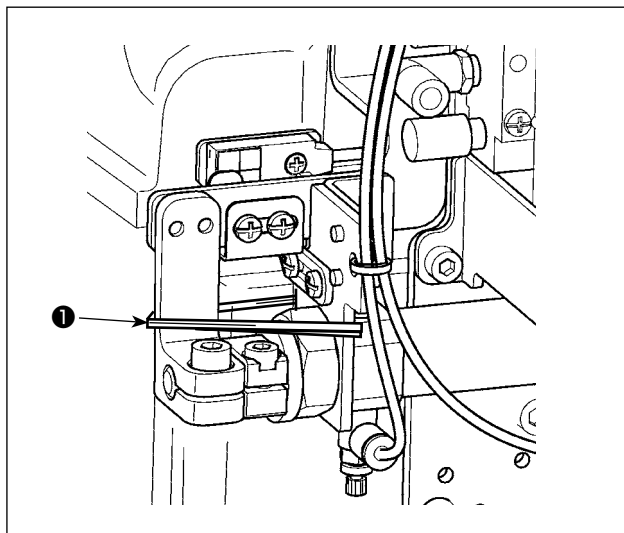
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I. SPECIFICATIONS

Model name	High-speed, cylinder-bed coverstitch machine
Model	MF-7900 series
Stitch type	ISO standard 406, 407, 602, and 605
Example of application	For preventing thread from raveling at the end of hemming or other processes
Sewing speed	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)
Needle gauge	3-needle 5.6 mm and 6.4 mm 2-needle 4.0 mm and 4.8 mm
Differential feed ratio	1 : 0.9 to 1 : 1.4 (stitch length : less than 2.5 mm) * Only for H23 (1 : 0.6 to 1 : 1.1, when the differential link hinge screw is changed) Micro-differential feed adjustment mechanism is provided. (Micro-adjustment)
Stitch length	0.9 mm to 3.6 mm (can be adjusted up to 4.5 mm)
Needle	UY128GAS #9S to #14S (standard #10S)
Needle bar stroke	31mm (33 mm when the eccentric pin is changed over)
Dimensions	(Height) 450 x (Width) 456 x (Length) 299
Weight	45 kg (With pneumatic type thread trimmer)
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	Table-mount type, Semi-submerged type
Noise	- Equivalent continuous emission sound pressure level (L_{pA}) at the workstation: A-weighted value of 79.5 dB; (Includes $K_{pA} = 2.5$ dB); according to ISO 10821- C.6.2 -ISO 11204 GR2 at 4,500 sti/min.

II. AT THE BEGINNING



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

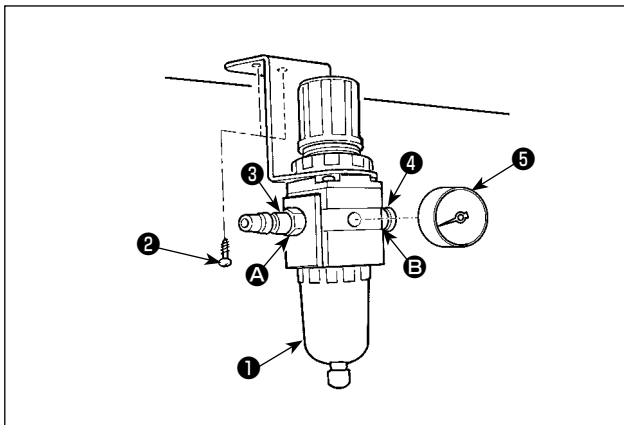
III. INSTALLING THE ACCESSORIES



WARNING :

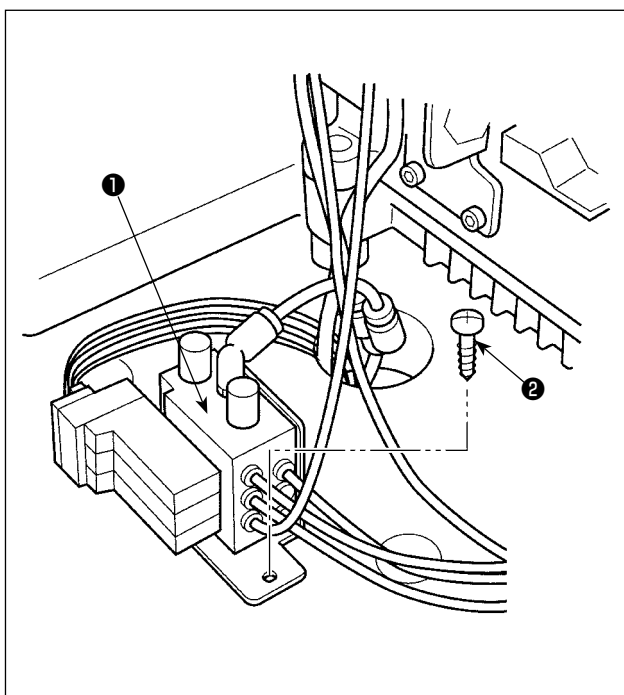
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.

1. Installing the air regulator



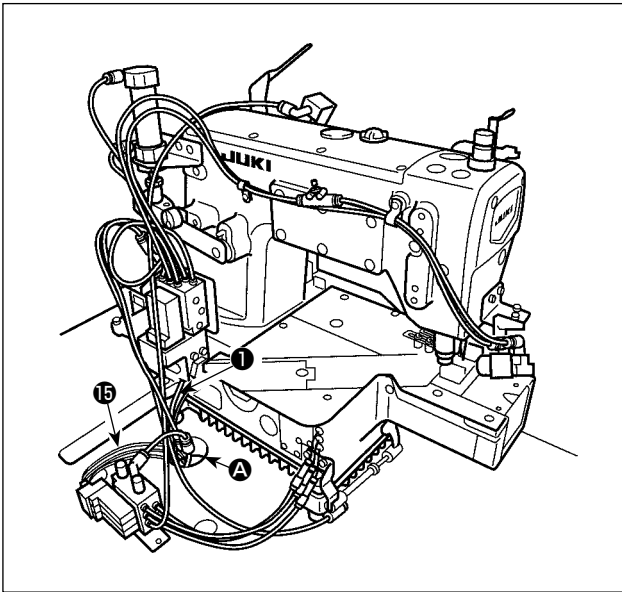
- 1) Install pressure gauge **5** to regulator main body **1**.
- 2) Attach joint **3** to air intake port **A**, and joint **4** to exhaust port **B**.
- 3) Install air regulator main body **1** under the table with wood screw **2**.

2. Installing the manifold

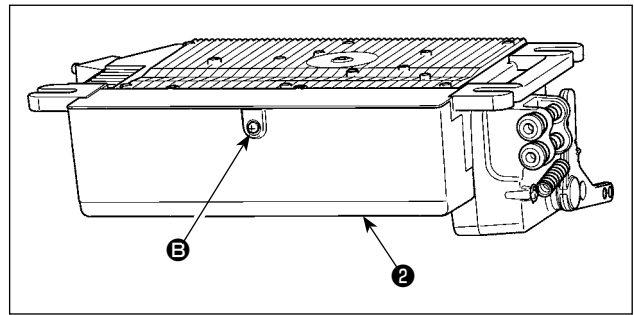


Install manifold asm. **1** on the table with wood screw **2**.

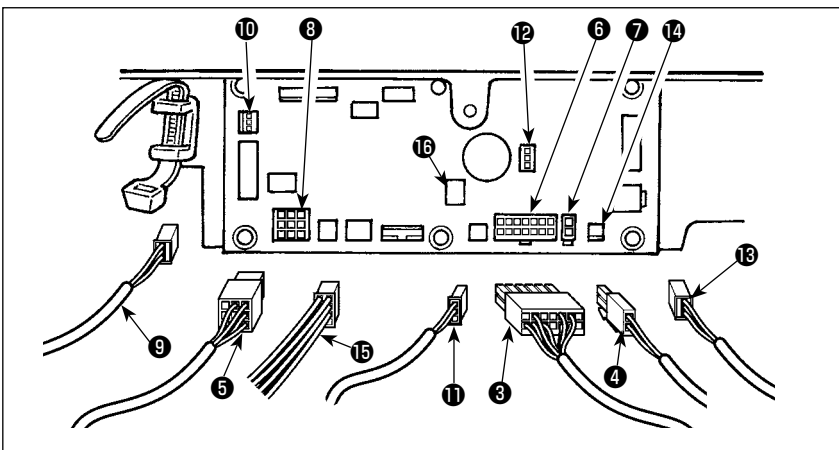
3. Connecting the cords



- 1) Pass cords ① and ⑮ of the thread-trimming solenoid, reverse feed stitching, motor signal etc. and the motor cord through the hole ① in the table to route them to the underside of the table.



- 2) Loosen screw ③ in cover ② with a screwdriver to open the cover.



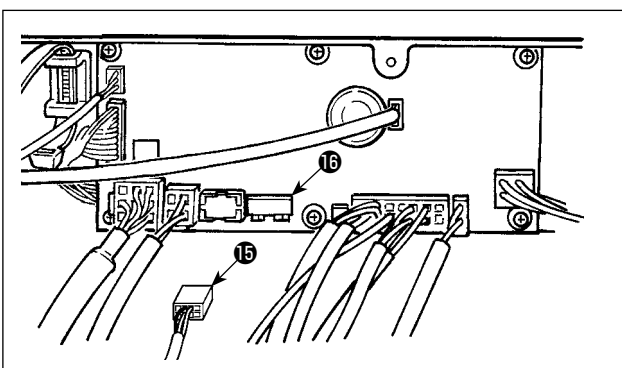
- 3) Connect 14P code ③ coming from the machine head to connector ⑥ (CN36).
- 4) Insert 3P cord ⑨ coming from the machine head into connector ⑩ (CN42).
- 5) Insert presser foot lifter cord 2P ④ into connector ⑦ (CN37).
- 6) Connect connector ⑤ coming from the motor to connector ⑧ (CN30) on the circuit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

- 7) Insert pedal sensor cable ⑪ into connector ⑫ (CN34).
- 8) Insert motor fan cord ⑬ into connector ⑭.
- 9) Insert 8P cord ⑮ to connector ⑯ (CN56).



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.

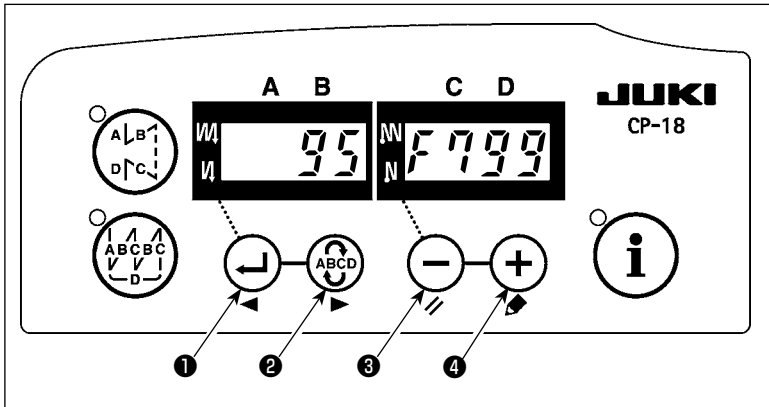


Be sure to turn OFF the power before connecting the connector.

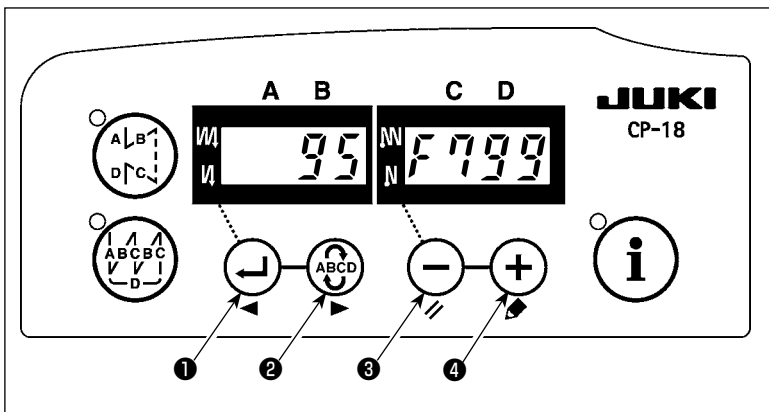
4. Setting procedure of the machine head



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.



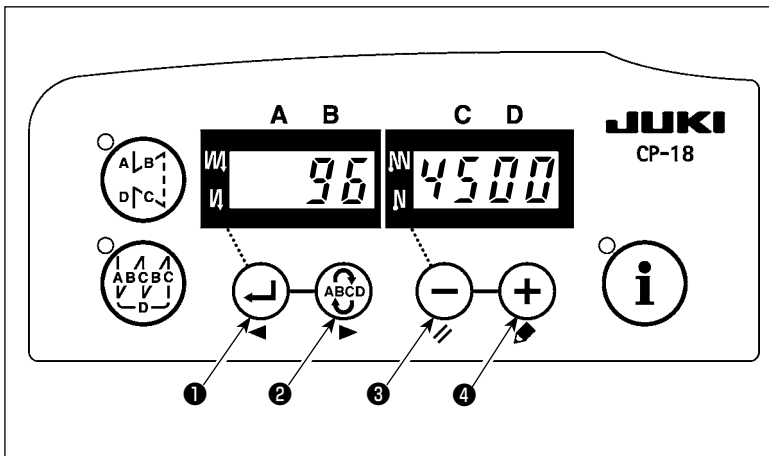
1) Call function setting No. 95.



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
F799	MF-7900/UT59



3) After selecting the type of machine head, by pressing \leftarrow switch ① (\rightarrow 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.

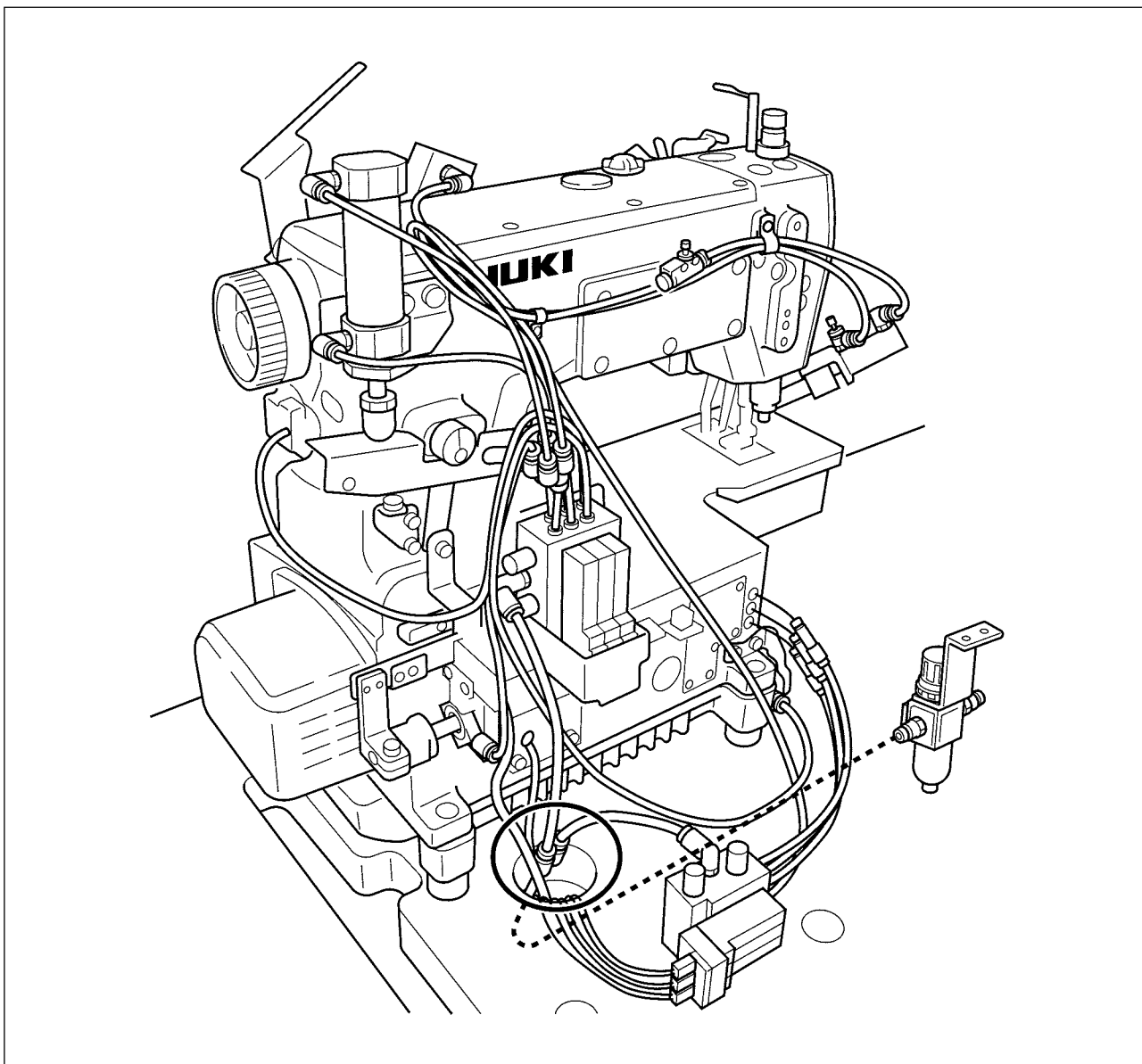
IV. AIR PIPING DRAWING



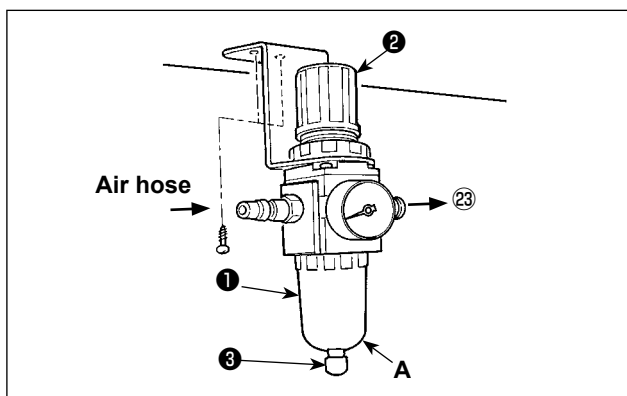
WARNING :

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



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/cm²).
- 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.

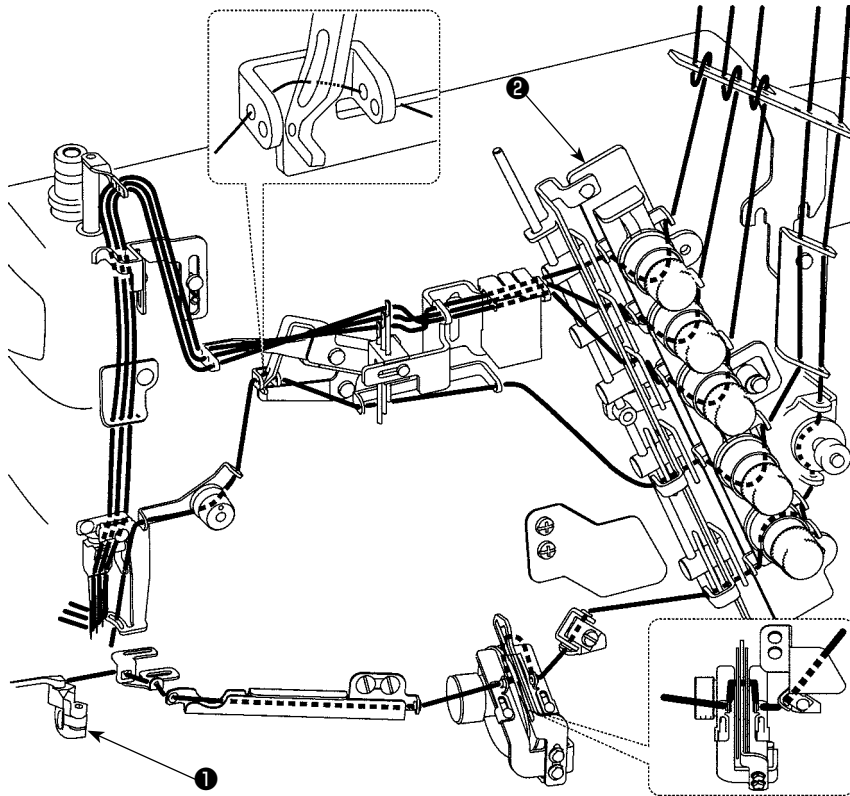
V. THREADING THE MACHINE HEAD



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.

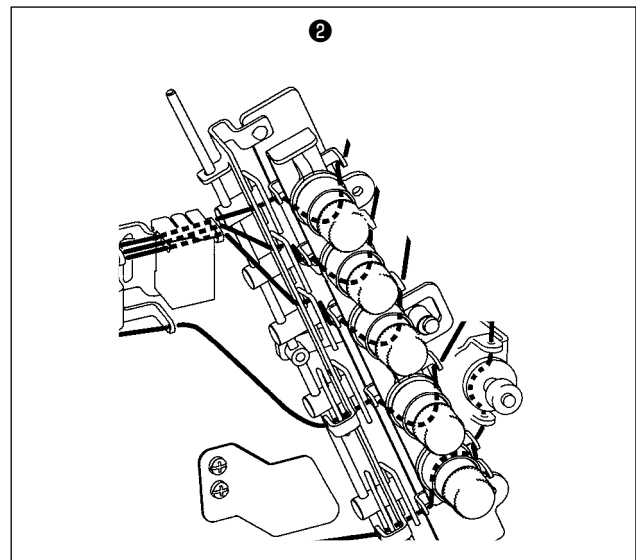
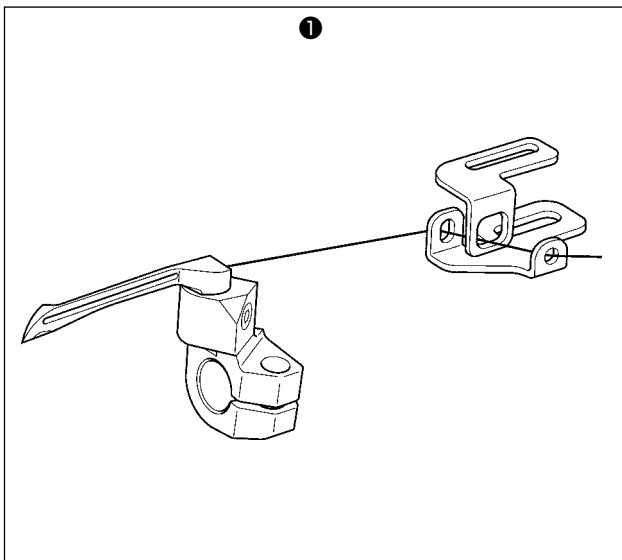
Thread the machine head according to the following threading illustrations.



* For the adjustment procedure other than the above, refer to the Instruction Manual for MF-7900.



When the small thread tension in the face plate is used for the machine with the thread trimmer device, the length of remaining needle thread after thread trimming becomes short and slip-off of thread at the start of sewing may occur.

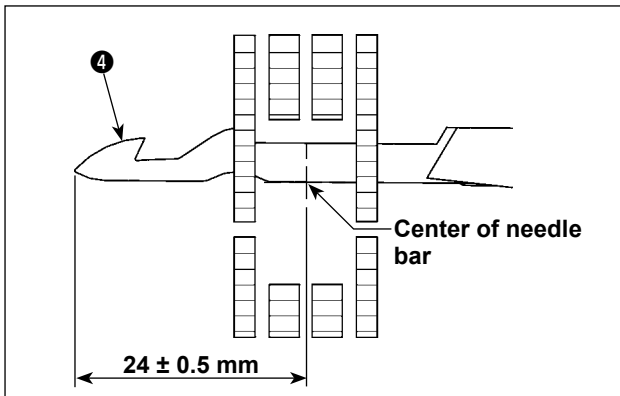


VI. ADJUSTING THE LOOPER THREAD TRIMMER MECHANISM



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. Initial position of the looper thread trimmer mechanism

When lower knife ④ is located at its leftmost position, the top end of the lower knife ④ has to be spaced 24 ± 0.5 mm from the center of needle bar.



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

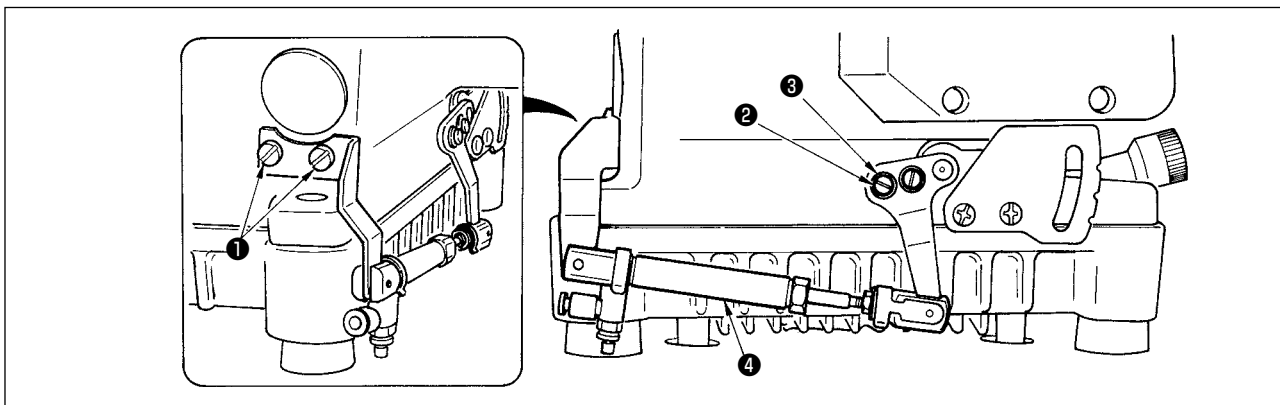
VII. INSTALLING THE SS LEVER UNIT



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 SS lever unit



- 1) Install SS lever unit ④ using SS lever unit setscrews 1 ① , SS lever unit setscrews 2 ② and SS lever unit washers ③ supplied as accessories.

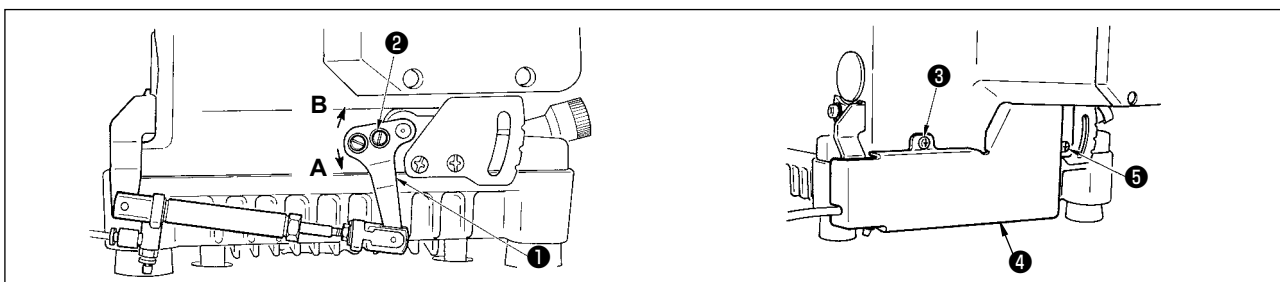
* **Temporarily tighten SS lever unit setscrews 2 ② at the center position of the slot and securely tighten the setscrews after performing the trial sewing and adjusting the stitch pitch of the short stitch. In addition, install the SS cover after finishing the work of securely tightening of the setscrews. Refer to "2. Adjusting the SS lever unit" p.8 for how to adjust and install the SS lever unit.**

2. Adjusting the SS lever unit



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) Loosen setscrews ② in SS lever ① , move the lever up and down to adjust the position, and the stitch pitch of the short stitch can be adjusted.

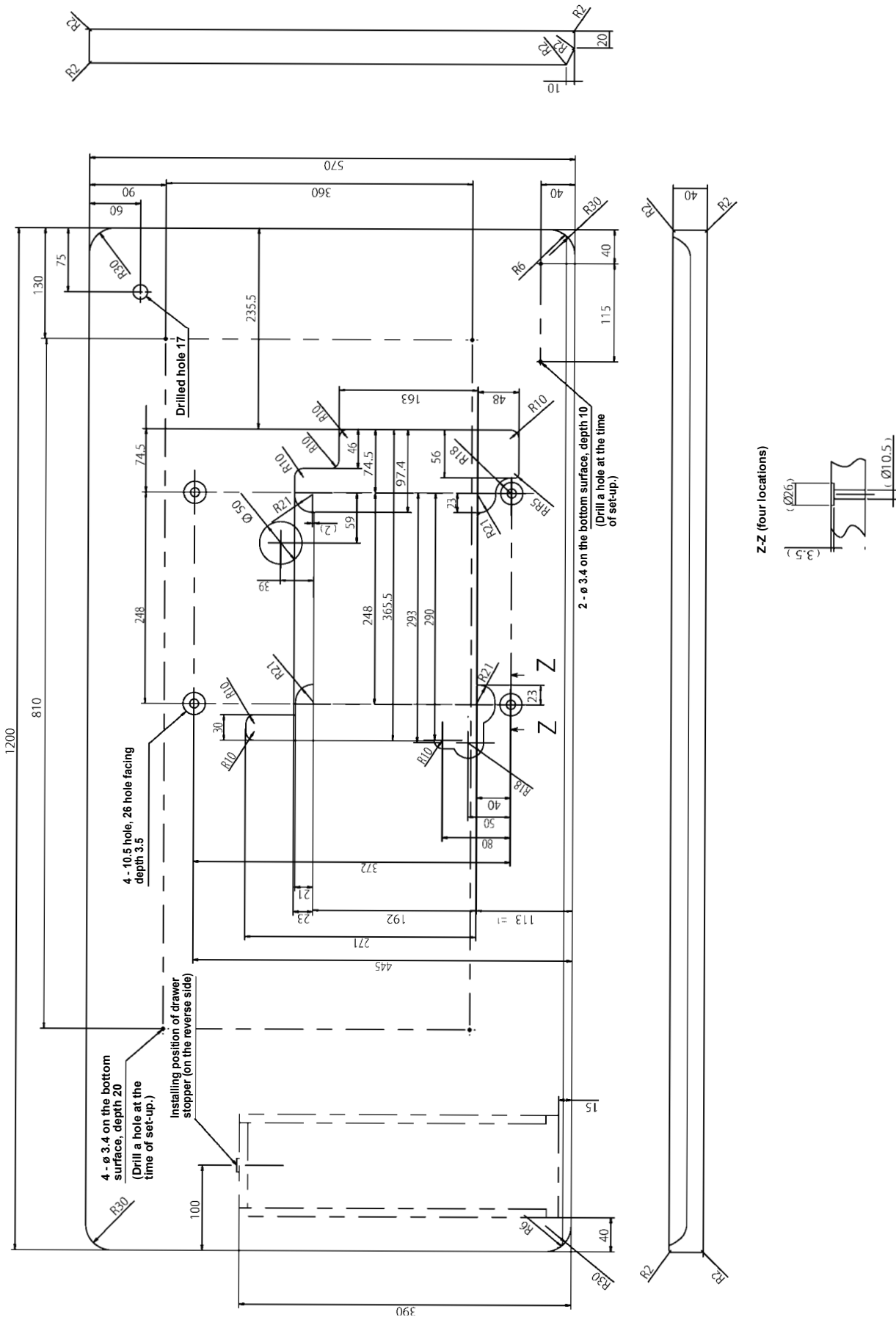
* **Commendable stitch pitch is 1.4 mm. (The center position of the slot of SS lever is the standard.)**

Turn SS lever ① in the direction of **A** to increase the stitch pitch, and turn it in the direction of **B** to decrease the stitch pitch.

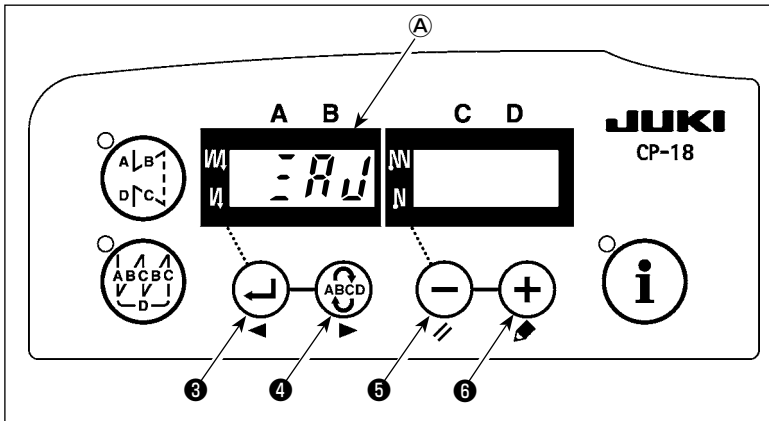
- 2) When the adjustment is completed, install SS cover ④ using setscrew ③ supplied as accessories. Setscrew ⑤ has to be tightened together with the pitch scale plate.

VIII. DRAWING OF THE TABLE

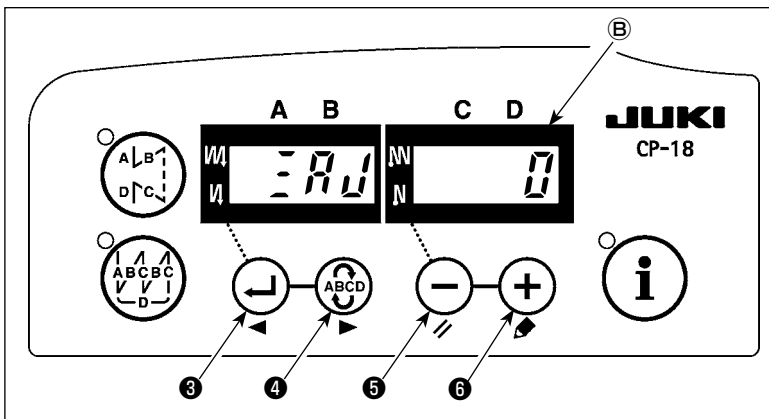
DRAWING OF TABLE (SEMI-SUBMERGED TYPE) H22/23-UT59 DIRECT-DRIVE TYPE



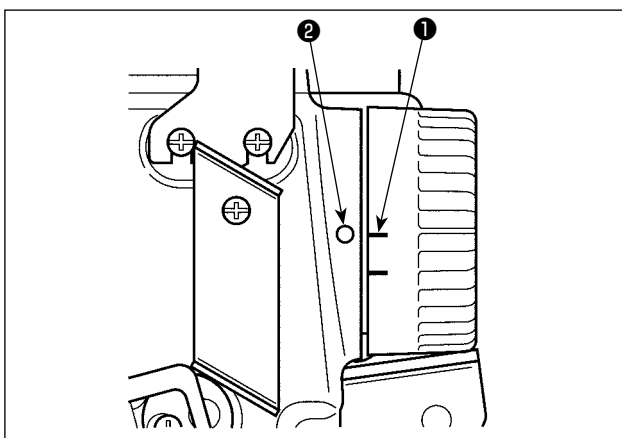
IX. SETTING THE UPPER STOP POSITION OF THE NEEDLE BAR



- 1) Simultaneously pressing switch and , turn ON the power switch.
- 2) is displayed () in the indicator and the mode is changed over to the adjustment mode.

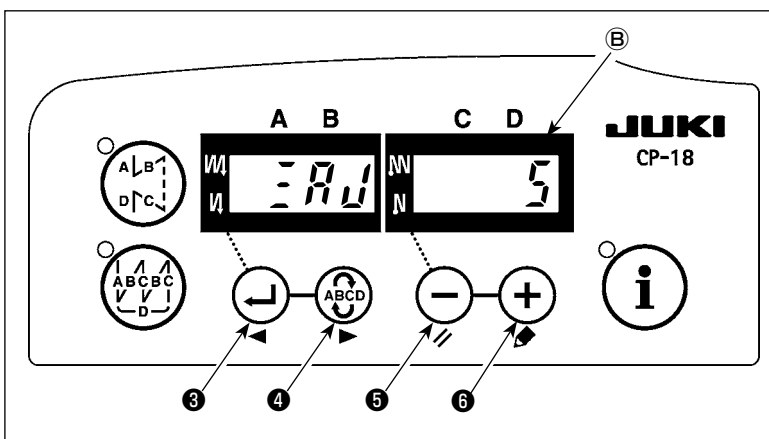


- 3) Give the pulley of the machine head a turn by hand. Then, the main shaft reference signal is detected. The degree of an angle given by the main shaft reference signal is indicated on display section with a blip. (The value is the reference value.)

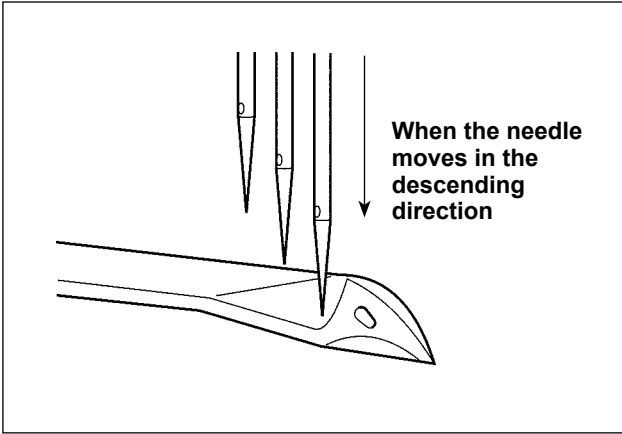


- 4) In this state, give the pulley of the machine head another turn by hand to align marker line on the hand pulley with recess in the frame as shown in the figure.

The direction of rotation is clockwise. If the pulley is turned counterclockwise, the degree of the aforementioned angle can differ by approximately two degrees.

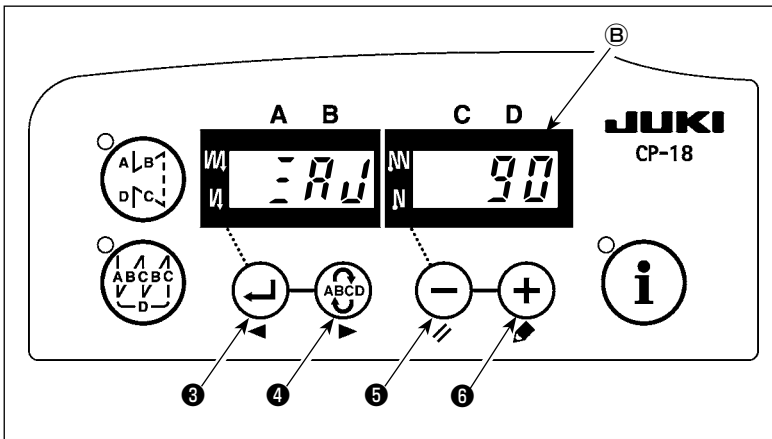


- 5) Press switch . (The value is the reference value.) Take a note of the numeric value shown on display section since it is used for "X. SETTING THE RAVELING PREVENTION PARAMETER" p.12".



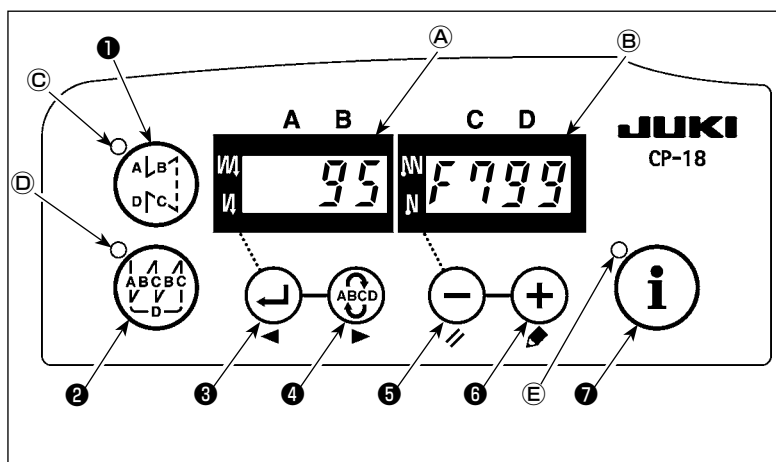
- 6) Remaining in the needle-bar upper stop position setting mode, turn the hand pulley of the machine head by hand to lower the needle until the position where its tip is aligned with the center of the looper is reached. Keeping the needle at that position, take a note of the numeric value shown on display section ②. It is necessary to take a note of the numeric value shown on display section ② since it is used for "X. SETTING THE RAVELING PREVENTION PARAMETER" p.12".

Caution If you press **+** switch ⑥ in this state, the upper stop position of the needle bar is set again. To prevent this, be sure to turn off the power once without pressing any switch.



Caution The direction of rotation is clockwise. If the pulley is turned counterclockwise, the degree of the aforementioned angle can differ by approximately two degrees.

X. SETTING THE RAVELING PREVENTION PARAMETER

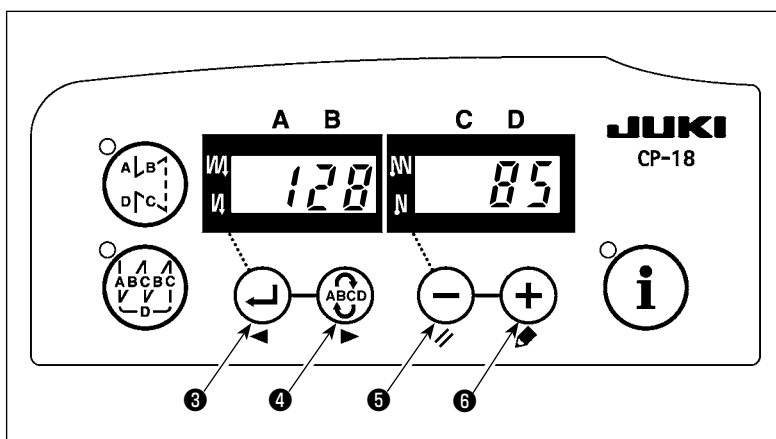


- 1) Turn ON the power with switch **1** held pressed.

(The item which has been changed during the previous work is displayed.)

- * If the screen display does not change, re-carry out operation described in step 1).

(Caution) Be sure to re-turn ON the power switch when one or more seconds have passed after turning it OFF. If the power switch is re-turned ON immediately after turning it OFF, the sewing machine may fail to operate normally. In such a case, be sure to turn ON the power switch again properly.



- 2) Press switch **3** or switch **4**

to set the setting number at 128. The current set value is shown on display section **B**.

Press switch **5** or switch **6**

to lower the left needle until its tip is aligned with the center of the looper. At this time, read the displayed value. Change the value shown on display section **B** to a value which is obtained by subtracting the value shown on display section **C** in 5) "IX. SETTING THE UPPER STOP POSITION OF THE NEEDLE BAR" p.10 from the aforementioned value.

Example) The value shown on display section **B** in 5) "IX. SETTING THE UPPER STOP POSITION OF THE NEEDLE BAR" p.10 is 5. The value displayed when the descending left needle tip is aligned with the center of the looper is 90. Subtract the former value 5 from the latter value 90. (i.e., $90 - 5 = 85$)

Press switch **5** or switch **6** to change the value shown on display section **B** to 85.

- 3) After completion of the changing procedure, press switch **3** or switch **4** to confirm the updated value.

(Caution) If the power is turned OFF before carrying out this procedure, the changed content is not updated.

When switch **3** is pressed, the display on the panel changes to the previous setting No. When switch **4** is pressed, the display on the panel changes to the subsequent setting No. After completion of the operation, the machine is returned to the normal sewing state by turning OFF the power and re-turning it ON.