

ENGLISH

PS-810
Tension controller No. 3
INSTRUCTION MANUAL



CAUTION :

This Instruction Manual gives a description of the tension controller No. 3.
Be sure to read carefully and fully understand the contents of "Safety precautions" in the Instruction Manual for the sewing machine to which the tension controller No. 3 is to be installed.

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Introduction

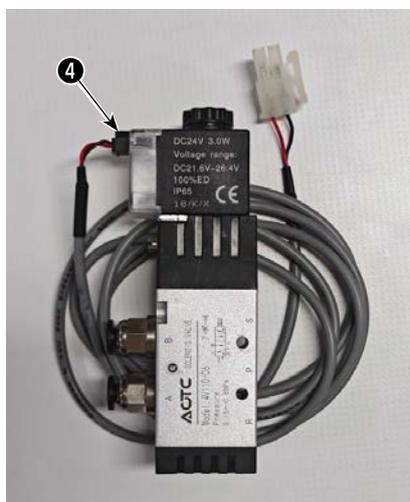
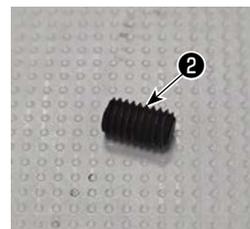
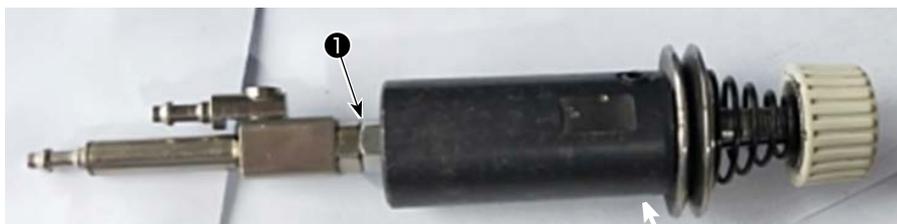
Congratulations on your purchase of a part for JUKI industrial sewing machines.

The tension controller No. 3 works to add an extra tension to the needle thread. It is therefore possible to change the thread tension according to the thickness of material (i.e., at multi-layered portions of material) and according to the direction of sewing by turning the tension controller No. 3 ON / OFF.

1. Specifications

Usable thread tension	0 to 40N (0 to 400g)
Working air pressure	0.2 to 0.7Mpa
Working voltage	24V

2. List of parts comprising the suction device



40313596 Tension controller No. 3

No.	Part name	Qty	Description
①	Cylinder asm.	1	
②	Setscrew	1	
③	Air tube	2	Numbered:17、 18
④	Solenoid valve	1	Fixing screws and connector included

3. Installing the part

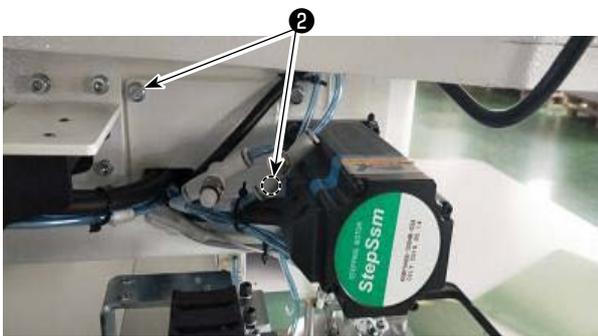


WARNING :

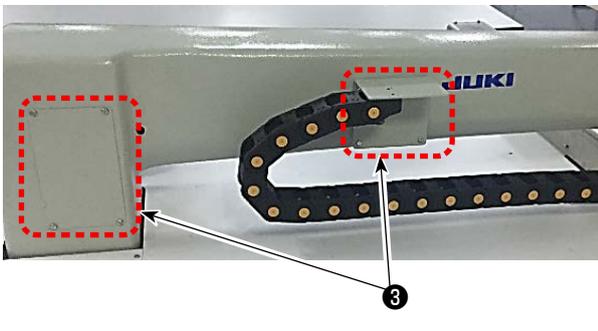
To prevent personal injury caused by abrupt start of the sewing machine, carry out the work after turning OFF the power switch and a lapse of 5 minutes or more.



1) Detach rubber plug ❶ locating next to the hand pulley.



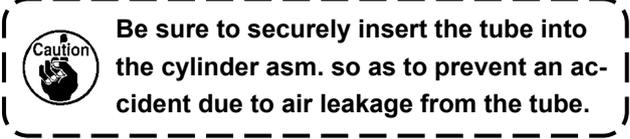
2) Loosen setscrews ❷ (two pieces) of the rear-side cover. Detach the cover.



3) Loosen setscrews ❸ (eight pieces) at the middle and rear portions of machine head. Detach the cover.

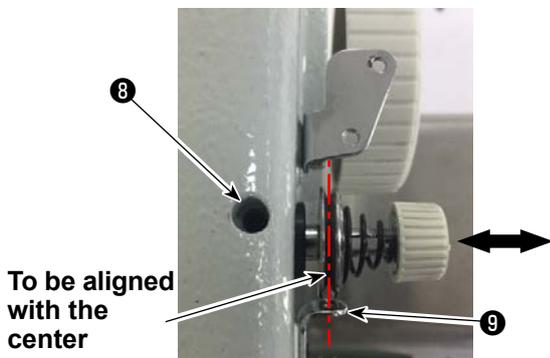


4) Insert tube ③ (No.17、 18) into cylinder asm. ④ .

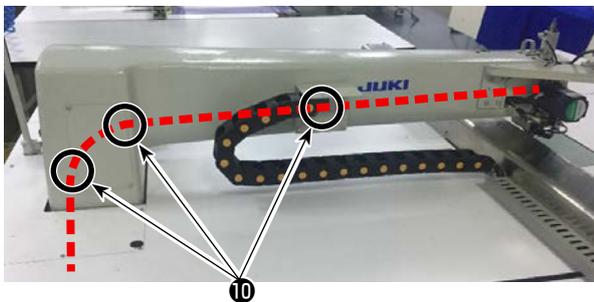


5) Pass tube ③ (No.17、 18) through arm hole ⑦ and insert the tube into hole in cylinder asm. ④ .

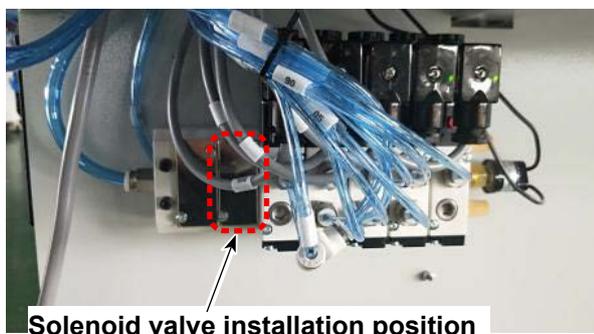
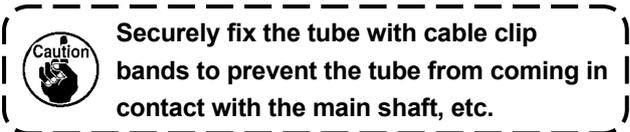
6) Put setscrew ⑧ in the arm and secure the tip of screw on flat portion A of cylinder asm. ④ .



7) Adjust the longitudinal position of cylinder asm. ④ to allow the contact plane between two disks to be aligned with the center of hole ⑨ in the thread guide for tension controller No. 1 on the near side. After the adjustment, tighten setscrew ⑧ .

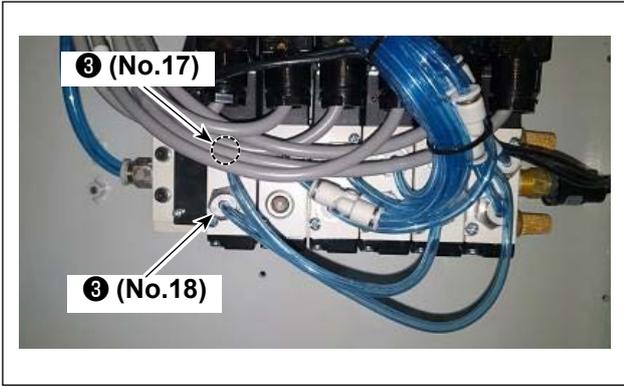


8) Pull tube ③ (No.17、 18) to pass it through inside the machine head.
Secure the tube at three locations with cable clip bands ⑩ .



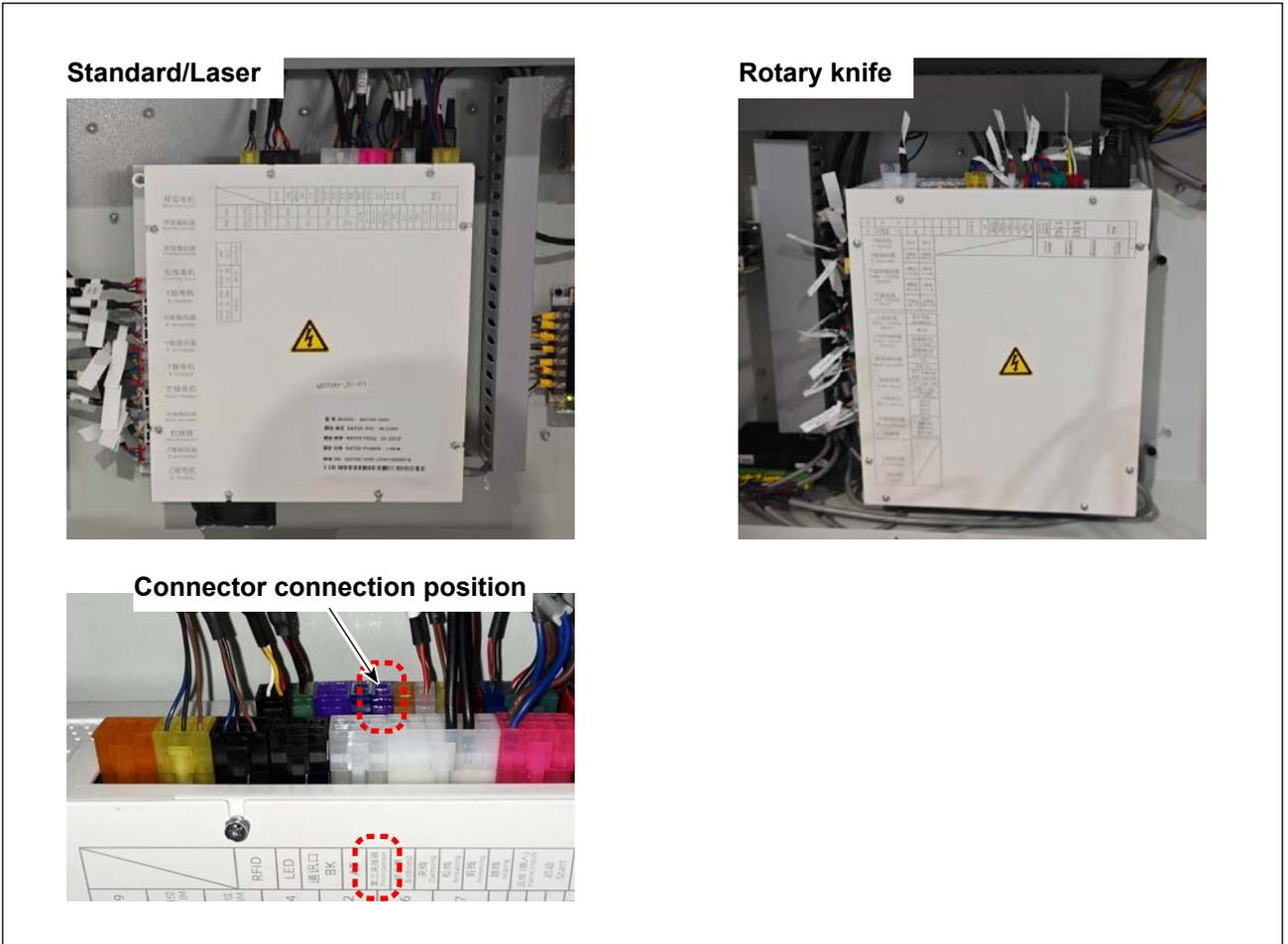
9) Install covers (three pieces) in position.

10) Remove the cap of the solenoid valve unit under the table. The cap is located at the solenoid valve installation position.

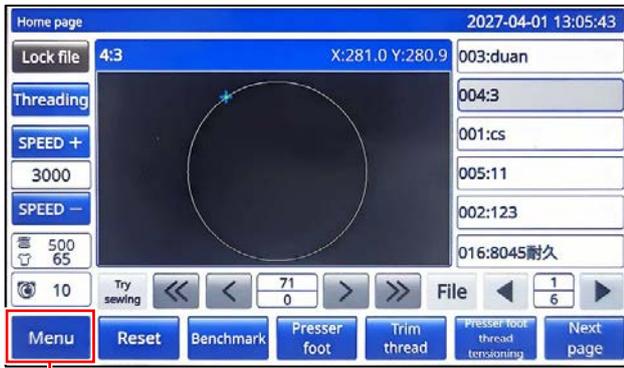


- 11) Attach solenoid valve asm. to the solenoid valve unit with screws (two pieces).
- 12) Insert tube 3 (No.17、18) that has been passed through inside of the machine head into the solenoid valve unit.


Be sure to securely insert the tube into the cylinder asm. so as to prevent an accident due to air leakage from the tube.



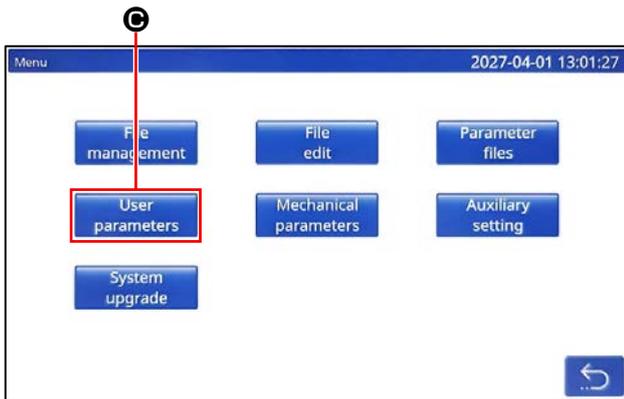
- 13) Connect the connector of solenoid valve to the electrical box.



14) Turn ON the power supply and pneumatic pressure system. Start the sewing machine.

15) Press button **B**.

B



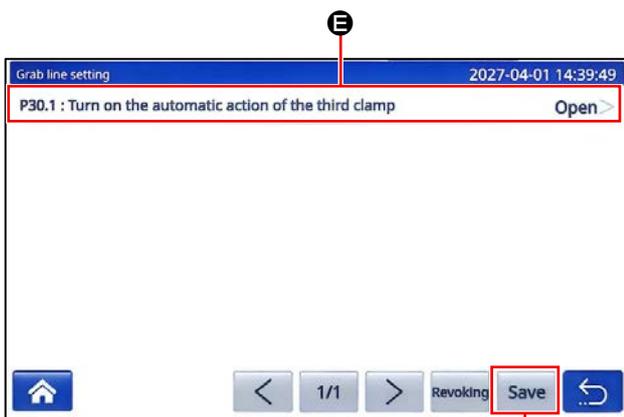
16) Press button **C**, then enter the password "11111111".

C



17) Press button **D**.

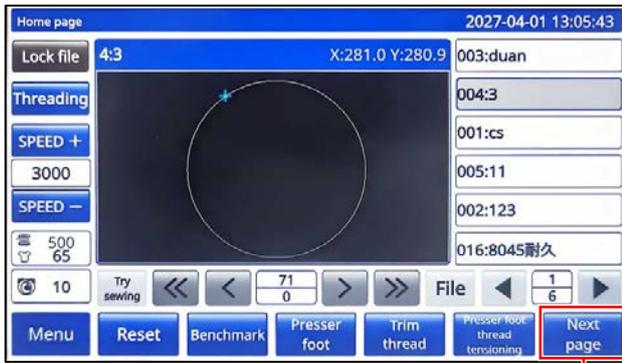
D



18) Set P30.1 to ON and press button **F**.

E

F



19) Press button **G**.

G



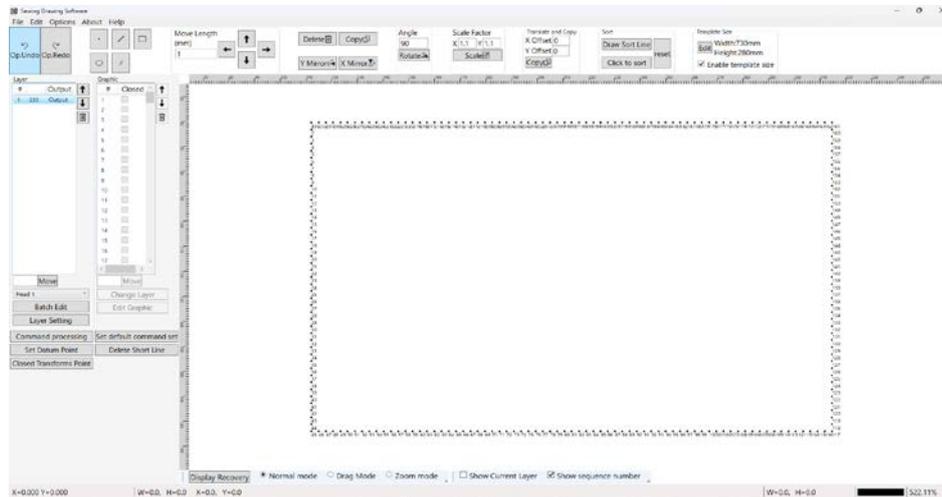
20) Check whether the disk of tension controller No. 3 is actuated by pressing button **H**.
If the disk is not actuated, check the connection between the pneumatic pressure system and the solenoid valve.

H

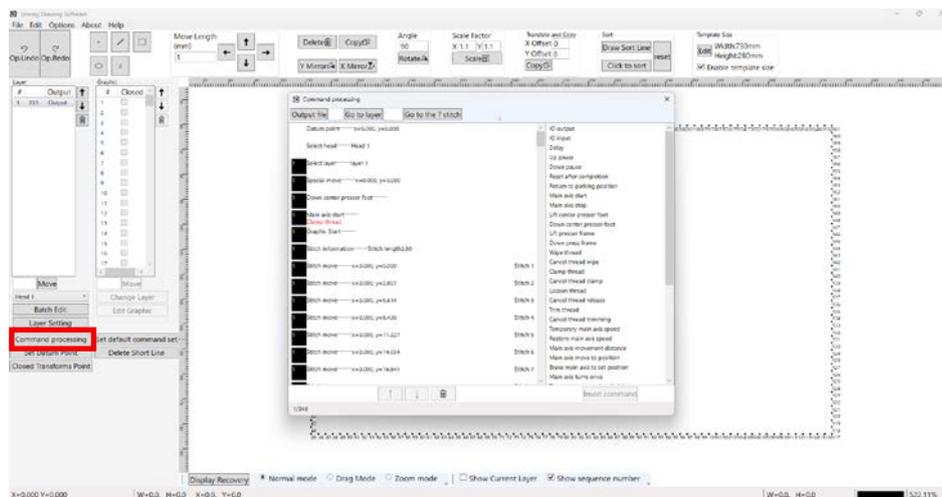
4. Setting the patterns

There are two ways to open the third thread tension: adding it via the pattern editing software, or adding it via the panel.

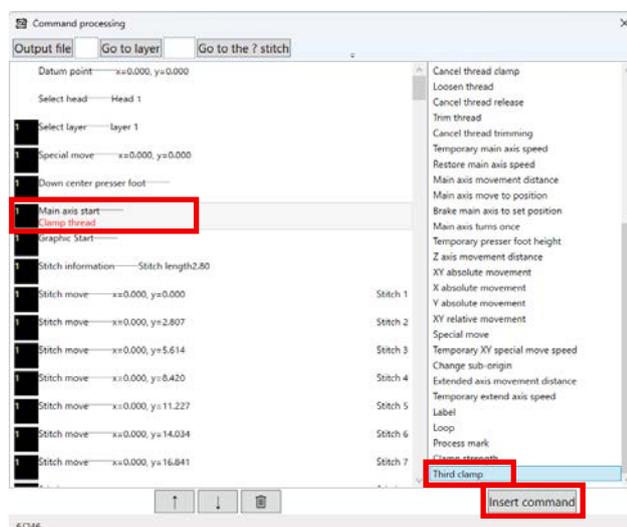
4.1 Adding via the pattern editing software



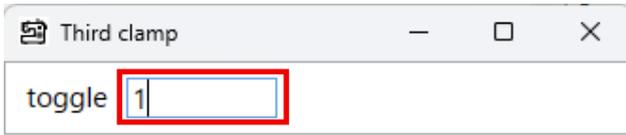
- 1) Start the pattern editing software with the PC. Read patterns.



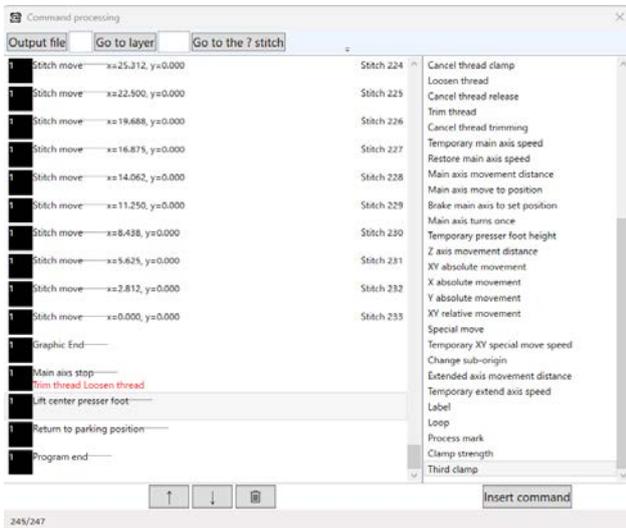
- 2) Press the "Command processing" button to display the "Command processing" screen.



- 3) From the list on the left, select the command for which you want to set the third thread tension function. From the list on the right, select "Third clamp", and then press the "Insert command" button.



- 4) When the “Third clamp” screen appears:
- ON/OFF button: Select 1, and press the “OK” button.
- The tension controller No. 3 function is turned ON.

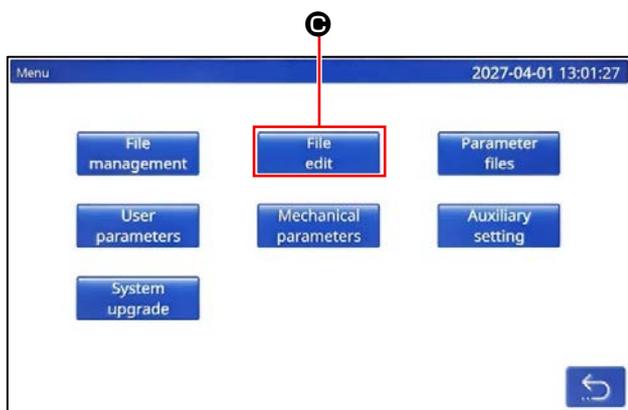


- 5) To turn OFF the third thread tension function, enter the command “ON/OFF button: 0” below the command you want to set.
- * For operation commands from ON/OFF button: 1 to ON/OFF button: 0, the third thread tension function is enabled.
- 6) Add the position at which you want to use the tension controller No. 3 following the aforementioned steps of procedure.
- 7) At the final step of procedure, set a pattern following the normal-sewing pattern output procedure.

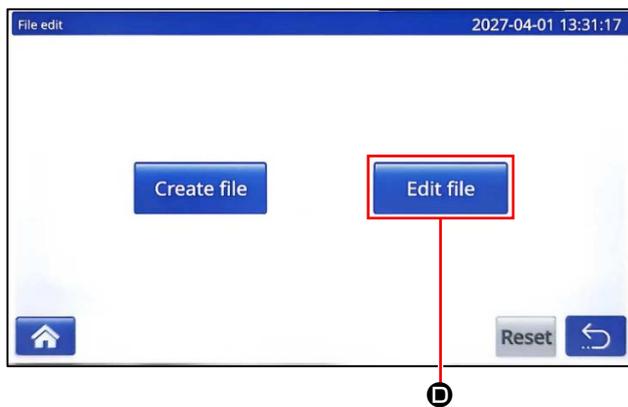
4.2 Adding via the panel



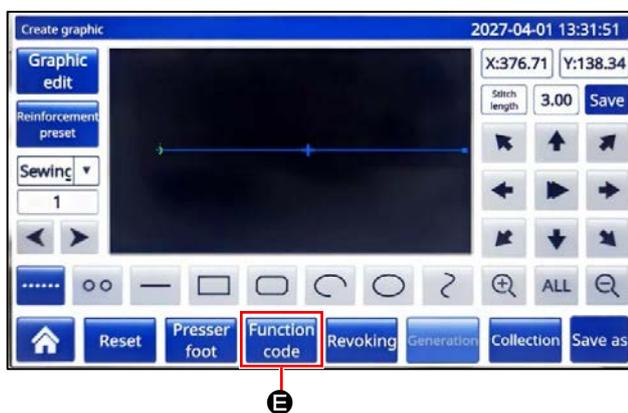
1) Click pattern **A** that requires the additional function, and then press button **B**.



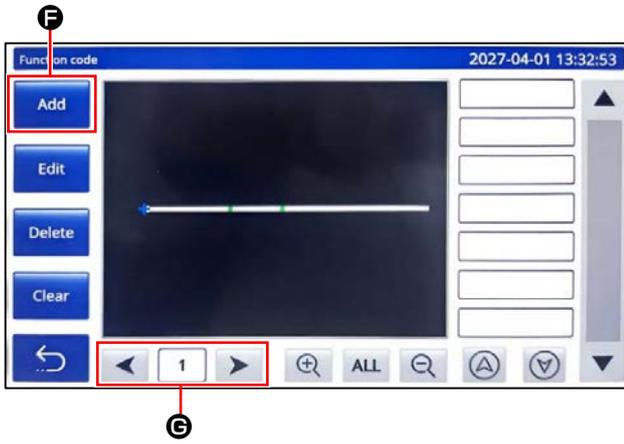
2) Press button **C**.



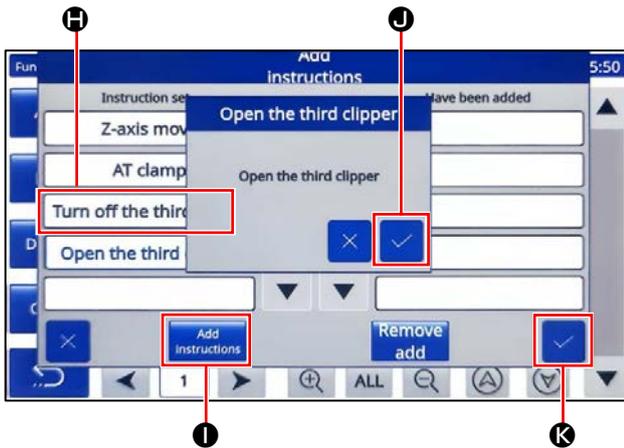
3) Press button **D**.



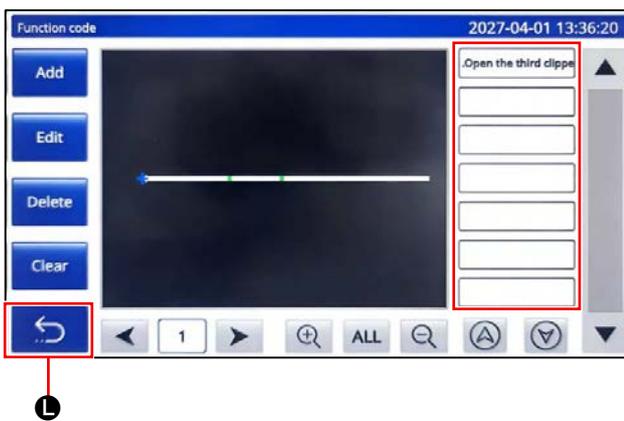
4) Press button **E**.



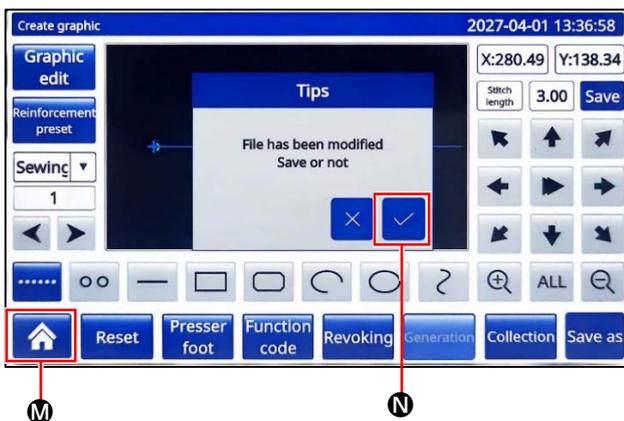
5) Press button **G** to select the additional function point, and then press button **F**.



6) Select "Open the third thread tension" **H**, press button **I**, then press button **J**, and finally press button **K** to insert the function code for opening the third thread tension at the appropriate location.

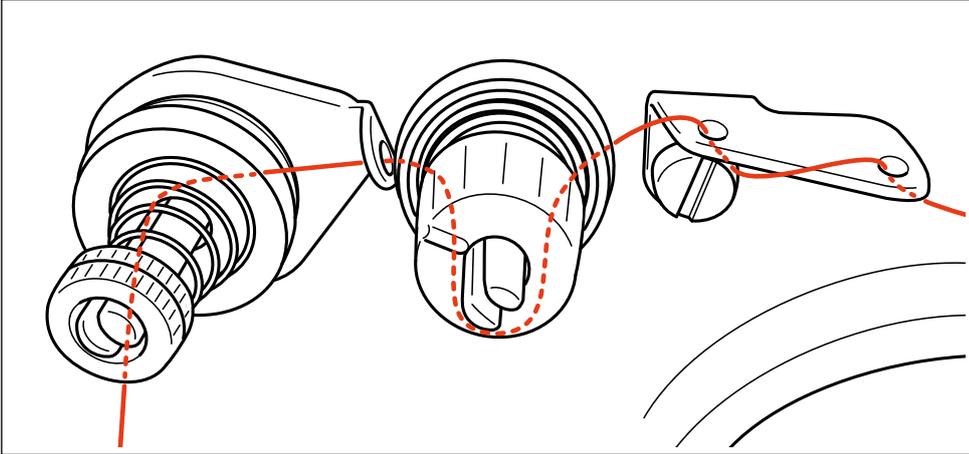


7) Confirm that "Open the third thread tension" appears in the list on the right, and press button **L**. As in steps 5) to 7), insert "Close the third thread tension" at the point where the third thread tension needs to be closed.



8) Press button **M**, and then press button **N**.

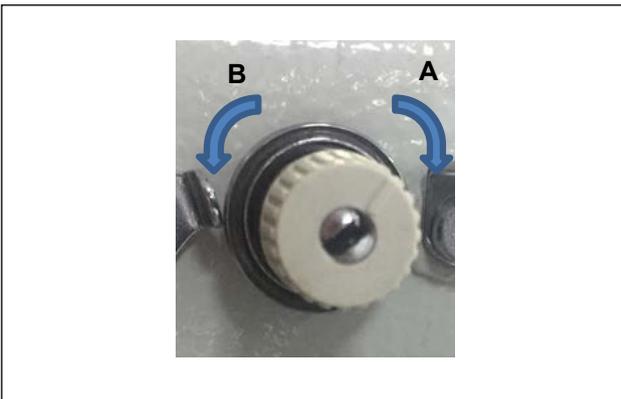
5. Threading



Thread the tension controller No. 3 as illustrated in the figure.

If the tension controller No. 3 is not thread as illustrated in the figure, the needle thread will be likely to slip off the tension controller No. 3.

6. Adjusting the tension



The tension is increased by turning the nut of tension controller No. 3 clockwise (direction **A**) or decreased by turning the nut counterclockwise (direction **B**).