





ENGLISH

**DLU-5494N-7/SC-922/M51N/IT-100A
INSTRUCTION MANUAL**

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1. PREFACE

For setup or handling of DLU-5494N-7 (1-needle, bottom and variable top feed lockstitch machine with automatic thread trimmer), refer to the Instruction Manual for DLU-5494N-7.

In addition, for the details of handling of SC-922 (sewing machine controller) and IT-100, similarly, refer to the respective Instruction Manuals.

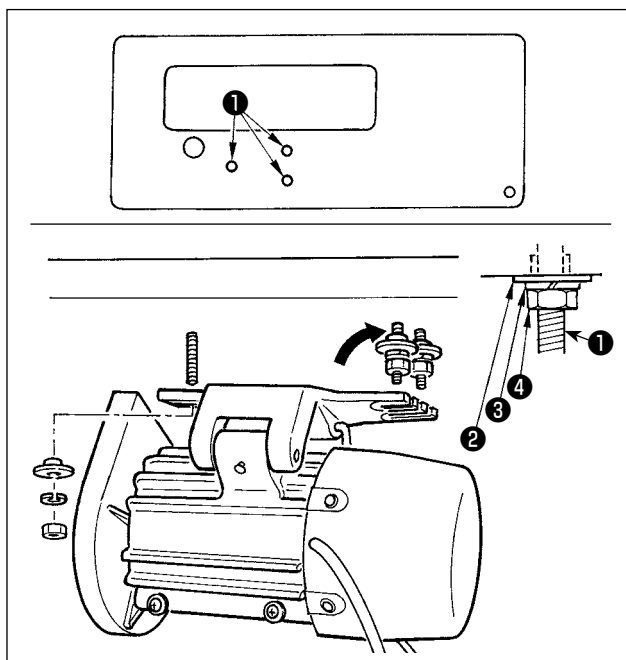
2. SET-UP

The SC-922 can be used with the direct-motor type machine head as a stand-alone control box.

It can also be used with the belt-driven type machine head by installing on the motor unit.

Install the control box on the motor unit following the instructions given below.

(1) Installing the motor unit

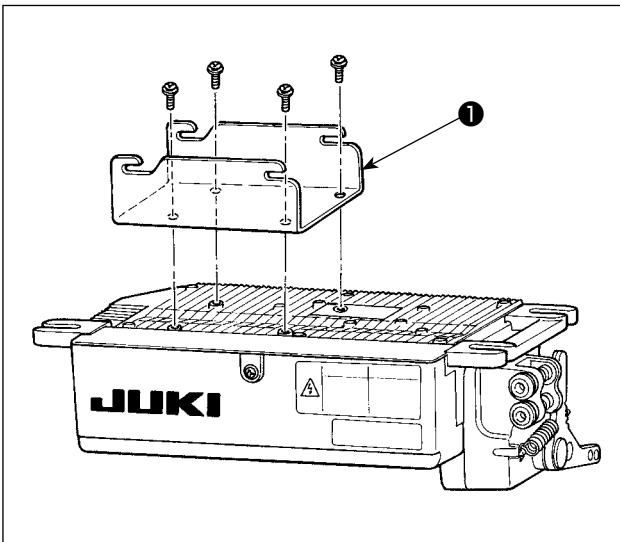


Install the motor unit on the table with the fitting bolt (asm.) supplied with the unit as accessories.

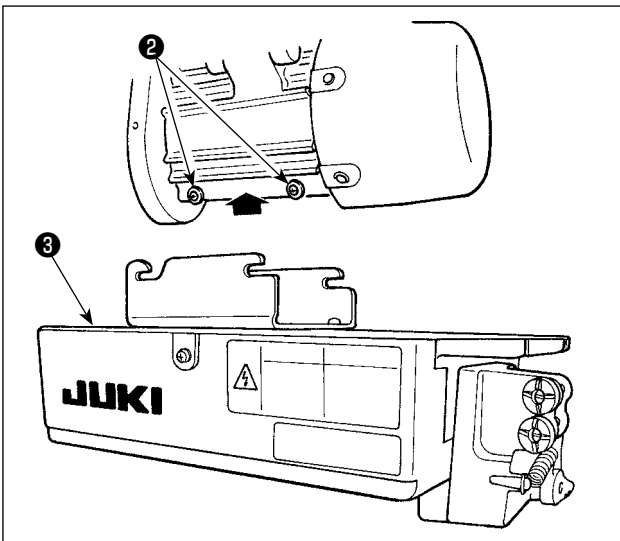
At this time, insert the nuts and washers supplied with the unit as accessories as shown in the figure so that the motor unit can be securely fixed on the table.

- 1) Press three bolts **1** supplied with the unit as accessories into the motor hanging bolt hole in the table and fix them.
- 2) Temporarily tighten convex washer **2** , spring washer **3** and nut **4** on the side where two bolts are attached.
- 3) Hang the motor unit to the washer which has been temporarily tightened, and attach convex washer **2** , spring washer **3** and nut **4** to the other bolt on the opposite side.
- 4) After adjusting the installing position of the motor, securely tighten the respective nuts **4** .

(2) Installing the control box

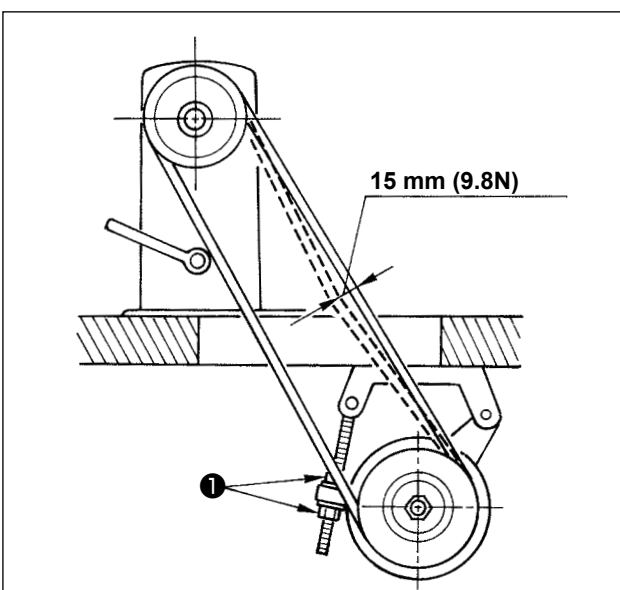


- 1) Attach bracket ❶ supplied with the unit using four supplied screws (M5 × 10) as shown in the figure.



- 2) Loosen four screws ❷ supplied with the motor unit as accessories, tighten screws ❷ after hanging control box unit ❸ to the screws, and fix control box unit ❸.

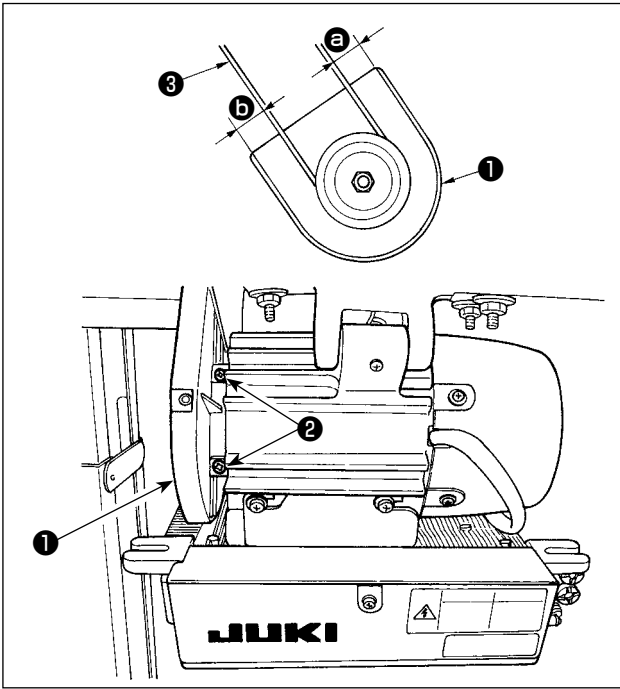
(3) Installing the belt



- 1) The belt distance, between sewing machine pulley and motor pulley, must be parallel.
- 2) The belt tension should be adjusted by turning the tension adjust nuts ❶ to change height of the motor, so that the belt sinks down by about 15 mm (9.8N) when it is depressed by band at the center of the belt span.

If the belt tension is not tight, speed is unstable at low-speed or medium-speed operation, and the needle will not stop exactly in position.

(4) Adjusting the pulley cover



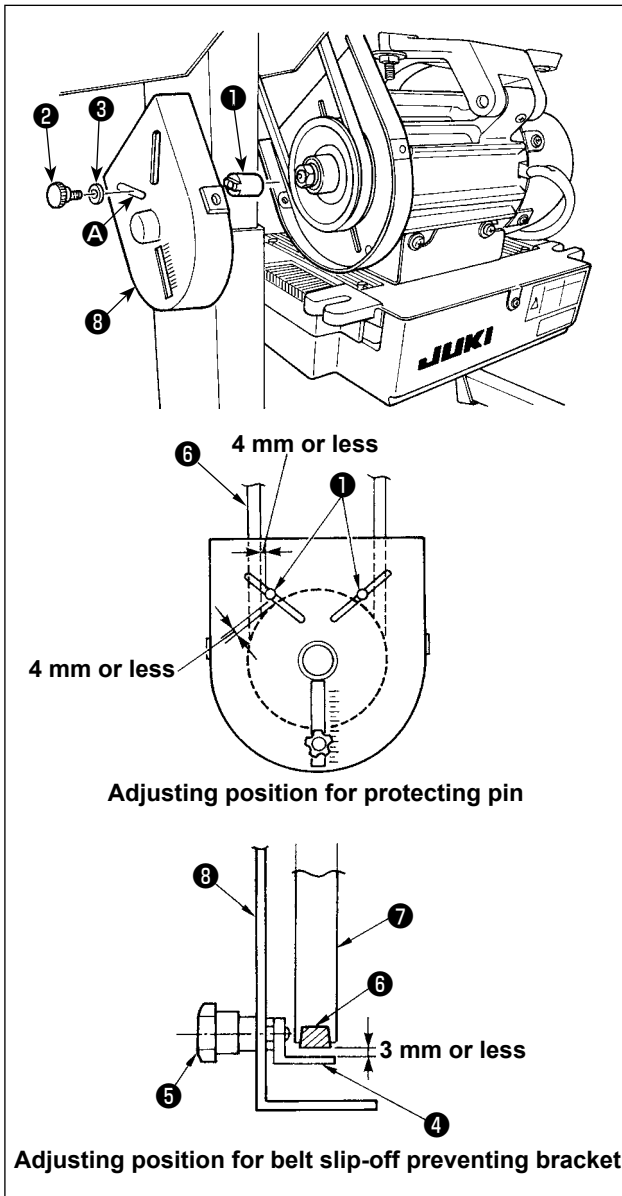
- 1) After adjusting the belt tension, adjust the pulley cover **1** so that the clearances between the belt **3** and the pulley cover **1**, **a** and **b** should be the same.
- 2) After the completion of adjustment, tighten screws **2** located on the side of pulley cover **1** and securely fix the pulley cover **1** so that it does not slip out of position.

(5) Installation and adjustment for the protecting pin and the belt slip-off preventing bracket



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) Attaching hole for the protecting pin
Fit protecting pin ① in mounting hole A of motor pulley cover ⑧ with accessory screw ② and washer ③ supplied with the unit.
- 2) Adjustment for the protecting pin and the belt slip-off preventing bracket
Adjust the position of protecting pin ① and belt slip-off preventing bracket ④ in accordance with the figure on the left.
 - a) Adjusting the protecting pin
Loosen screw ② and adjust so that protecting pin ① is positioned at the location indicated in the figure on the left.
 - b) Adjusting belt slip-off preventing bracket
Loosen screw ⑤ and adjust so that belt slip-off preventing bracket ④ is positioned at the location indicated in the figure on the left.
If protecting pin ① is not properly adjusted, it is possible that your fingers may be caught in the clearance provided between the pulley ⑦ and the belt ⑥ resulting in injury.
If belt slip-off preventing bracket ④ is not properly adjusted, it is possible to allow the belt ⑥ to slip off causing safety hazard.
- 3) After the adjustment, tighten screws ② and ⑤ so as to secure protecting pin ① and belt slip-off preventing bracket ④ to prevent these components to fluctuate because of vibration.
- 4) Before starting the operation of the sewing machine, ascertain that protecting pin ① and belt slip-off preventing bracket ④ do not come in contact with the pulley ⑦ and the belt ⑥ .

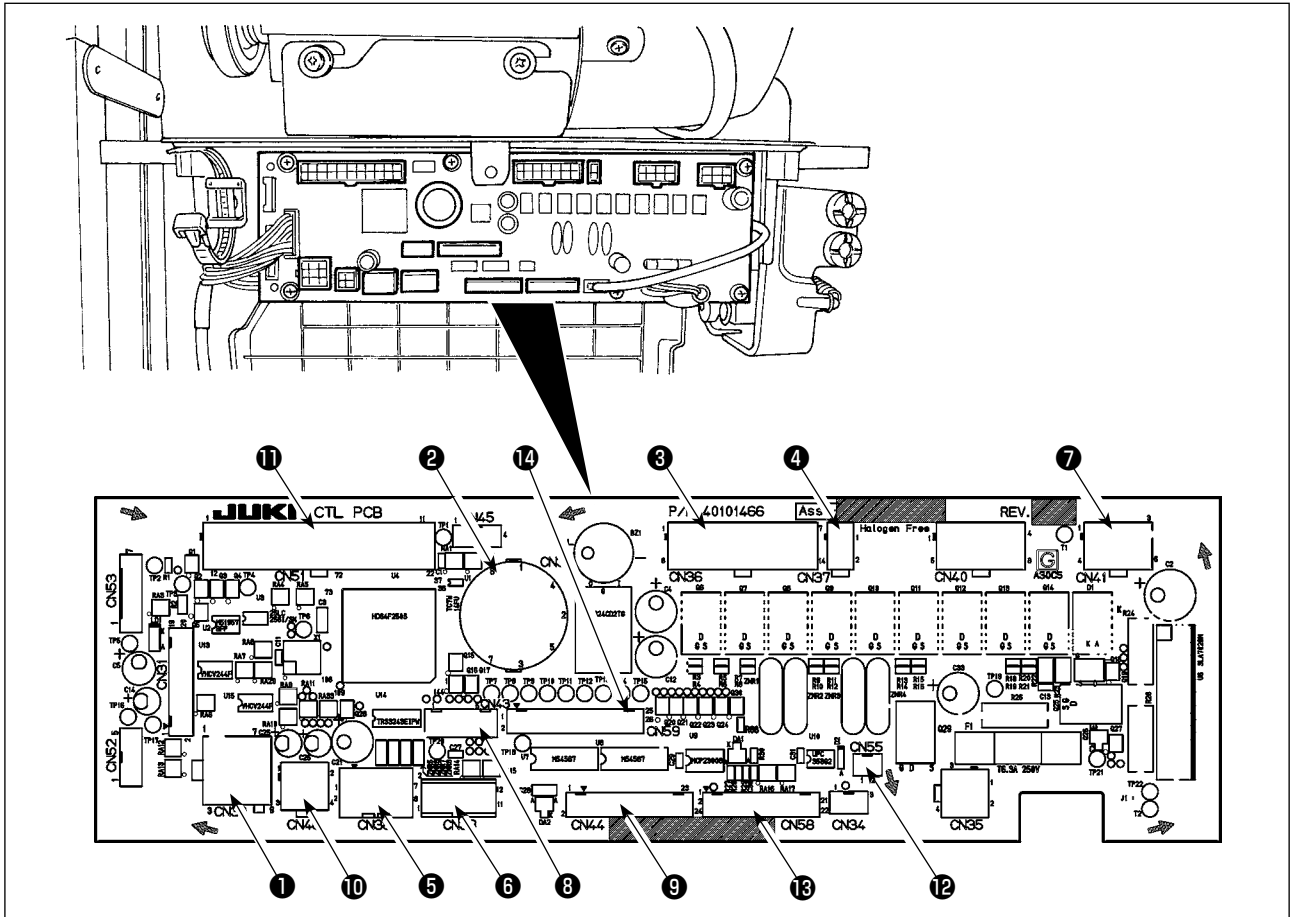
(6) Connecting the cords



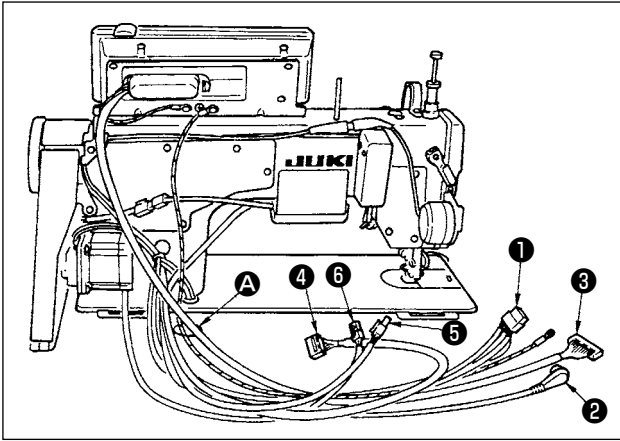
WARNING :

- 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.
- To prevent damage of device caused by maloperation and wrong specifications, be sure to connect all the corresponding connectors to the specified places.
- To prevent personal injury caused by maloperation, be sure to lock the connector with lock.
- As for the details of handling respective devices, read carefully the Instruction Manuals supplied with the devices before handling the devices.

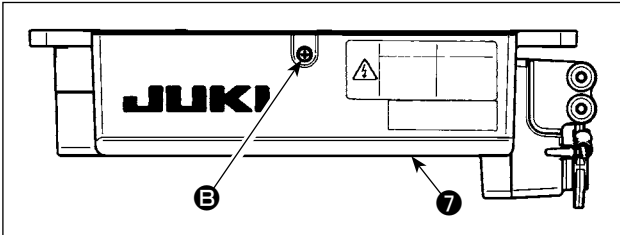
Following connectors are prepared on the SC-922. Connect the connectors coming from the machine head to the corresponding places so as to fit the devices mounted on the machine head.



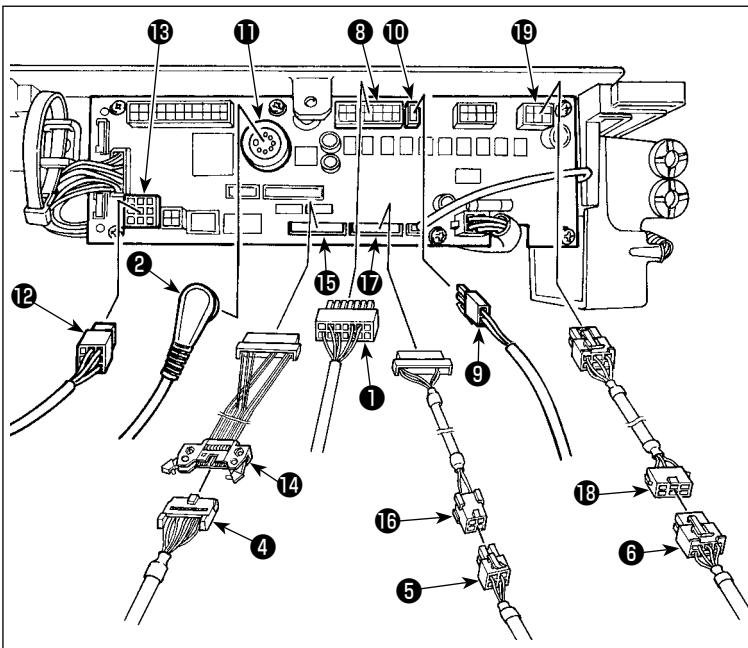
- ① CN30 Motor signal connector
- ② CN33 Needle bar position detector (+5V type): It detects the needle bar position.
- ③ CN36 Machine head solenoid: Provided with solenoids for thread trimming, reverse feed stitching, one-touch type reverse feed switch.
- ④ CN37 Presser foot lifting solenoid (Only for the automatic presser foot lifter type)
- ⑤ CN38 Operation panel: Various kinds of sewing can be programmed.
- ⑥ CN39 Standing machine pedal : JUKI standard PK70, etc. Sewing machine can be controlled with external signals.
- ⑦ CN41 Stepping motor: It is used only with the DLU-5494N-7.
- ⑧ CN43 Synchronizer (+12V type) : It detects the needle bar position.
- ⑨ CN44 Hand switch: Hand switch other than the touch-back switch.
- ⑩ CN48 Safety switch (standard) : When tilting the sewing machine without turning the power OFF, the operation of the sewing machine is prohibited so as to protect against danger.
OPTION switch: Input function can be changed by changing over the internal function with this switch.
- ⑪ CN51 Extended input/output connector
- ⑫ CN55 LED lamp (+5V type): The LED lamp can be connected optionally. (Refer to "Instruction Manual for SC-922" for how to adjust the quantity of light.)
- ⑬ CN58 Top-feed amount origin detector (+5V type): This detector detects the origin of the top feed amount.
Extended input connector (for the sensor input, etc.)
- ⑭ CN59 Extended output connector (for the solenoid valve output)



- 1) Pass through table hole **A** under the table cords **1** of thread trimmer solenoid, reverse feed stitching solenoid, etc., synchronizer cord **2** , IT panel cord **3** , operation display panel cord **4** , top feed detection cord **5** and motor control cord **6** .



- 2) Loosen screw **B** in cover **7** with a screwdriver to open the cover **7** .



- 3) Connect 14P code **1** coming from the machine head to connector **8** (CN36).
When the optional AK device is attached, connect 2P connector **9** coming from the AK device to connector **10** (CN37).
Insert connector **2** coming from the detector into connector **11** (CN33).
Connect 9P connector **12** coming from the motor to connector **13** (CN30) on the circuit board.

Relay 14P cord **4** coming from the operation display panel to sub-panel junction cord (asm.) **14** (40148262) and insert the former into connector **15** (CN44).

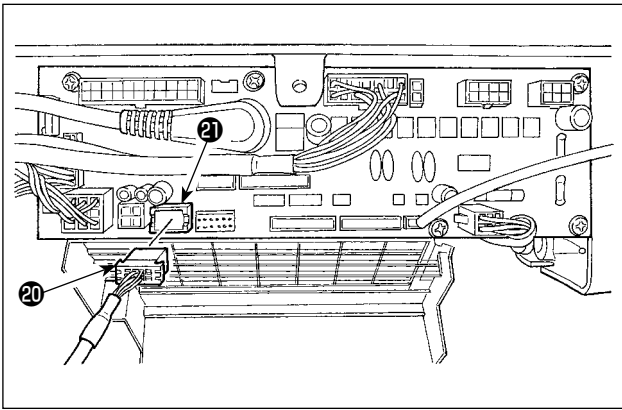
Relay top-feed detection 4P cord **5** to origin detector junction cord (asm.) **16** (40148267) and insert the former into connector **17** (CN58).

Relay 6P cord **6** coming from the stepping motor to stepping motor junction cord (asm.) **18** (40148268) and insert the former into connector **19** (CN41).



When using the AK device, set whether to use the AK device after confirming how to select the auto-lifter function. (Refer to "Instruction Manual for SC-922".)

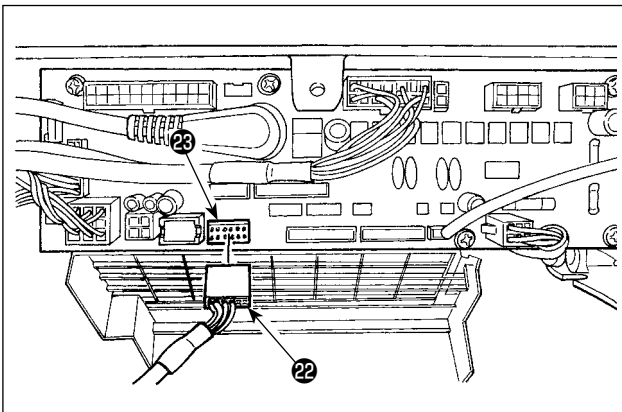
[Connecting the connector for the operation panel]



- 4) The connector for the operation panel is provided. Paying attention to the orientation of the connector 20, connect it to connector 21 (CN38) located on the circuit board. After connecting, securely lock the connector.

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

[Connection of the pedal of standing-work machine]

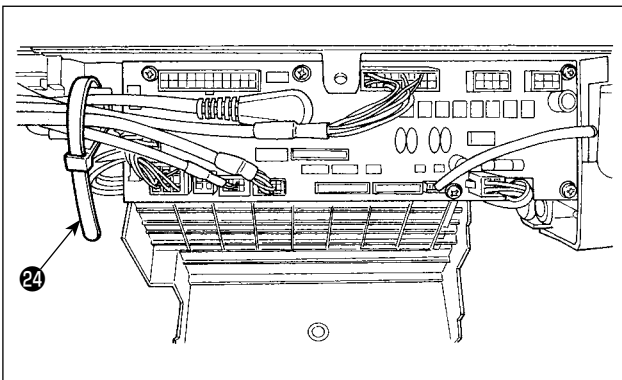


- 5) To use the pedal unit with the sewing machine for standing work, insert PK70 connector 22 into connector 23 (CN39: 12P) on the PCB.

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

Caution 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.

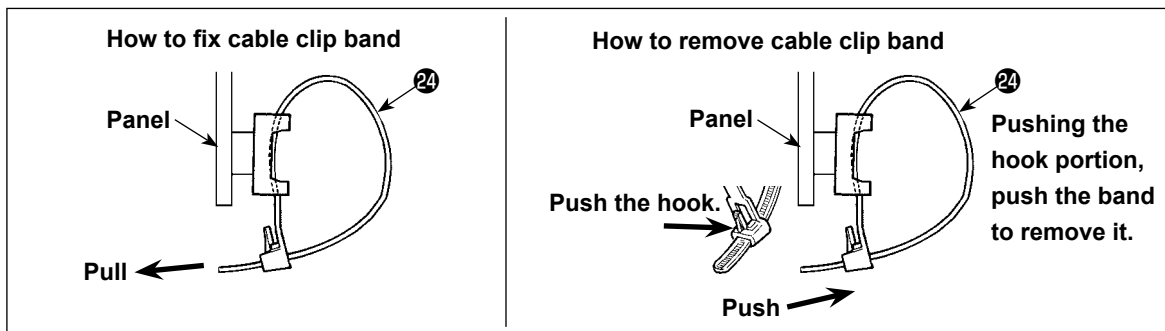
[How to bundle all cords]

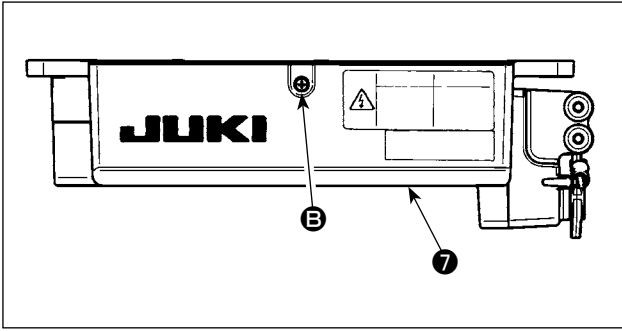


- 6) After inserting the connector, put all cords together with cable clip band 24 located on the side of the box.

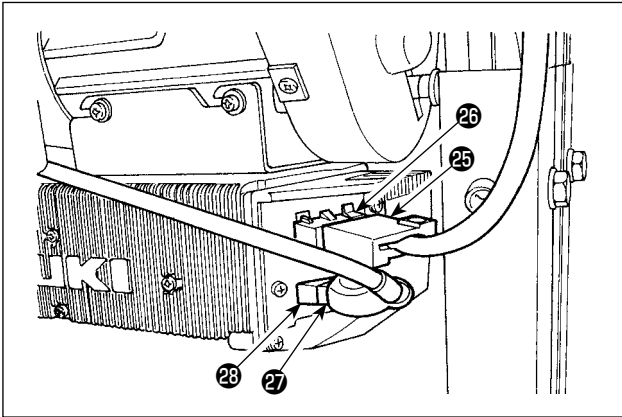
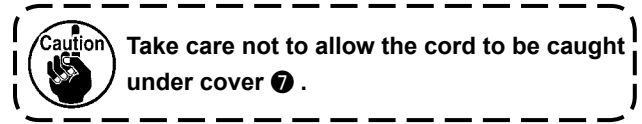
Caution

1. Fix the cord clamp and the cable clip band 24 following the attaching procedure.
2. When removing the connector, remove it from the wire saddle and remove it while pressing the hook of the cable clip band 24.





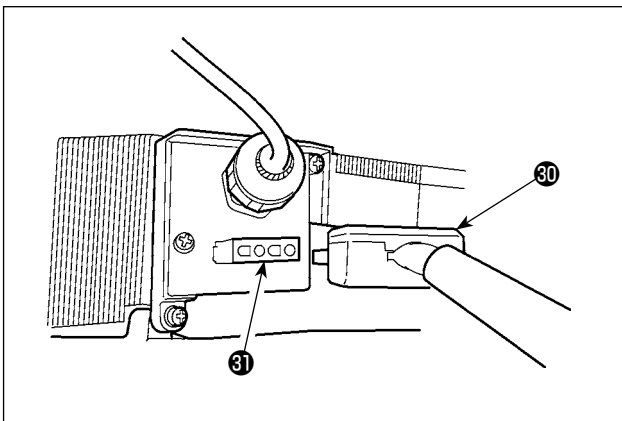
7) Close cover 7 and fix the cover by tightening screw B with a screwdriver.



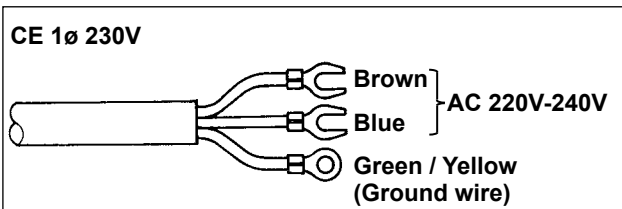
8) Connect 4P connector 25 to connector 25 located on the side of the box.

9) Connect motor output cord 27 of the power switch to connector 25.

[For CE specifications only]



Connect motor output cord 30 to connector 31 located on the side of the box.



Installing power switch

Connect power supply cord to the power switch.

[CE specifications]

Single phase 230V :

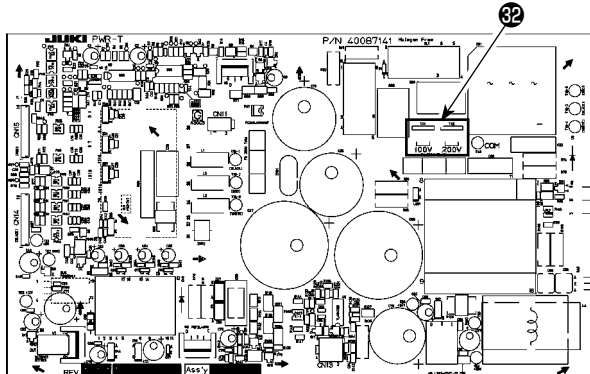
Power supply cords : Brown, Blue, and green/yellow (ground wire)

[Changing over the voltage between 100 V and 200 V]



WARNING :

To prevent personal injuries caused by electric shock hazards or abrupt start of the sewing machine, carry out the work after turning OFF the power switch and a lapse of 5 minutes or more. To prevent accidents caused by unaccustomed work or electric shock, request the electric expert or engineer of our dealers when adjusting the electrical components.



* The illustration below shows the PWR-T PCB.
The type of PCB differs by destination.

By making the following two changes, the SC-922 can be used with three different power supplies, i.e., single-phase 100 - 120 V, single-phase 200 to 240 V and 3-phase 200 to 240 V.

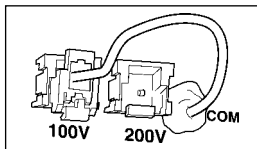
* Only the control box which uses PWR-T PCB can be changed.

- ① Replacement of the power cords
- ② Changing-round of connector 32 on the PWR PCB
 - 1) Turn OFF the power with the power switch after checking that the sewing machine has stopped.
 - 2) Draw out the power cord from the power receptacle after checking that the power switch has been turned OFF. Then wait for 5 minutes or more.
 - 3) Loosen the screws which are used to secure the rear lid of the control box cover. Carefully open the rear cover.
 - 4) Changing procedure of the power voltage



If the supply power changing is carried out in a wrong manner, the control box can break. Be extremely careful when taking the supply voltage changing procedure.

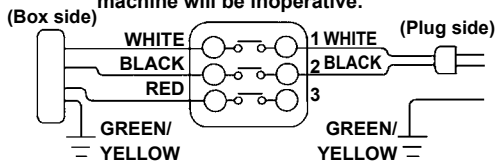
A



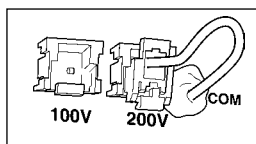
Wiring for the single-phase 100 V

Be sure to connect the wire between 1 and 2.

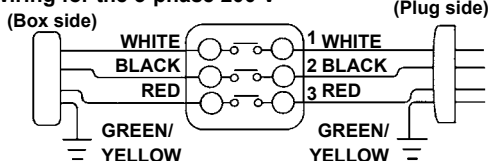
If it is connected between 1-3 or 2-3, the sewing machine will be inoperative.



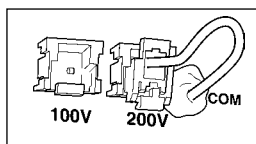
B



Wiring for the 3-phase 200 V



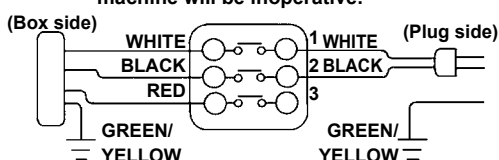
C



Wiring for the single-phase 200 V

Be sure to connect the wire between 1 and 2.

If it is connected between 1-3 or 2-3, the sewing machine will be inoperative.

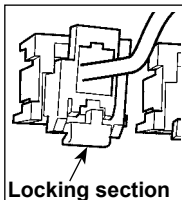


A. To change over the supply voltage from 200 - 240 V to 100 - 120 V

- Change the power cord with the JUKI genuine cord with the part number (M90355800A0). Change the earth cord with the one with the part number (M90345800A0).
- Change over supply voltage changeover connector 32 mounted on the PWR PCB with the connector for 100 V.
- Connect the crimp style terminal of AC input cord to the power plug as shown in the figure A.

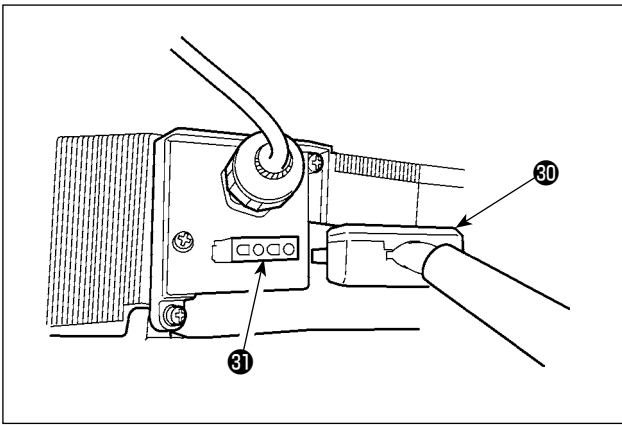
B,C. To change over the supply voltage from 100 - 120 V to 200 - 240 V

- Change the power cord with the JUKI genuine cord with the part number (M90175800A0).
 - Change over supply voltage changeover connector 32 mounted on the PWR PCB with the connector for 200 V.
 - Connect the crimp contact of the AC input cord to the power plug as illustrated in Fig. B for the 3-phase power supply or as illustrated in Fig. C for the single-phase one.
- 5) Before closing the rear lid of the cover, ascertain again that the relevant parts have been correctly changed without fail.
 - 6) Close the rear lid while pressing it, taking care not to allow the wiring to be caught between the rear lid of the cover and the main body of the control box. Then, secure the lid with the screws.

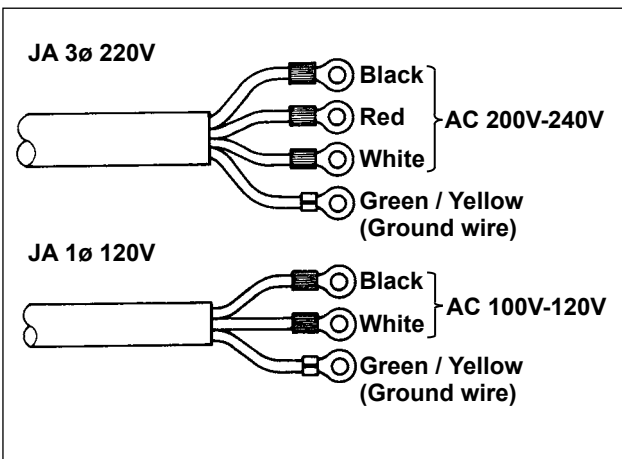


Be sure to remove the connector while holding its locking section with your fingers. Be extremely careful not to pull the connector forcibly.

[In case of using the power switch for LA]



Connect motor output cord ③⑩ to connector ③① located on the side of the box.



Installing power switch

Connect power supply cord to the power switch.

[JA specifications]

3-phase 220 V :

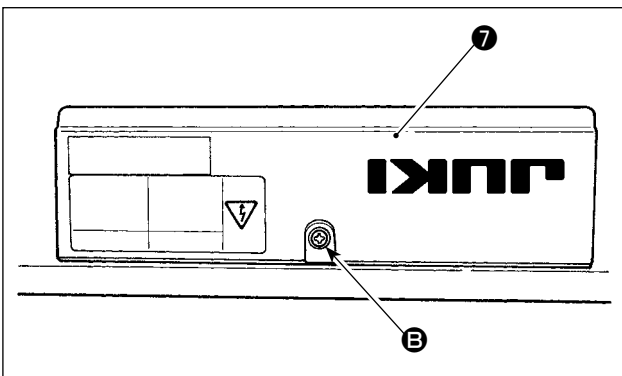
Power supply cords : black, white, red and green/yellow (ground wire)

Single phase 120V :

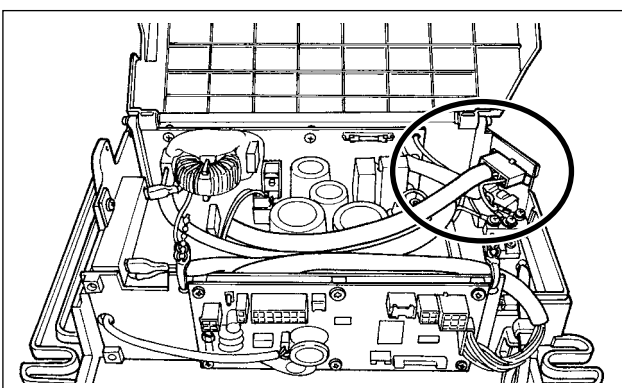
Power supply cords : black, white, and green/yellow (ground wire)

When the metallic conduit is used, be sure to change over the power cord section following the steps of procedure described below.

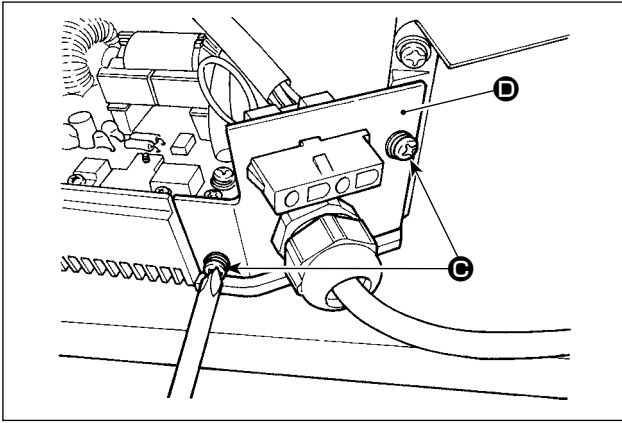
Caution Be sure to carry out this procedure before installing the control box on the machine table.



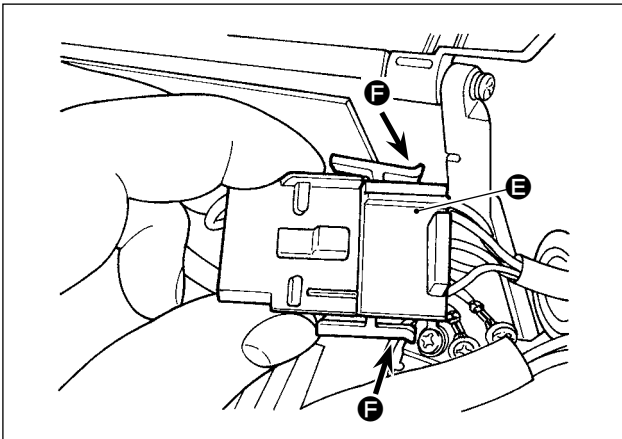
- ① Place the control box with its frame side down on the machine table as illustrated in the sketch.
- ② Loosen screw ⑤ in underside cover ⑦ to open the cover.



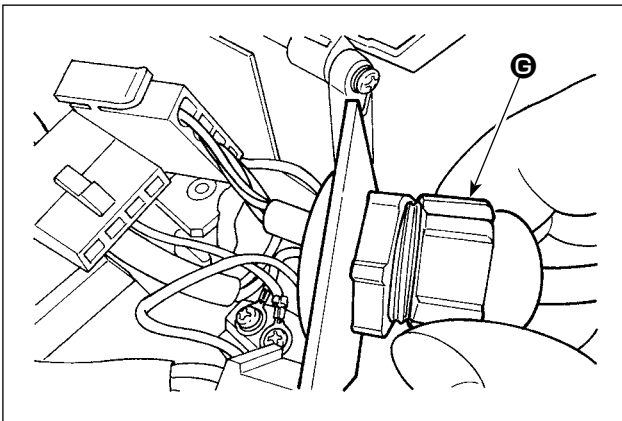
- ③ Change over the cord shown in the red-line circle following the steps of procedure described below.



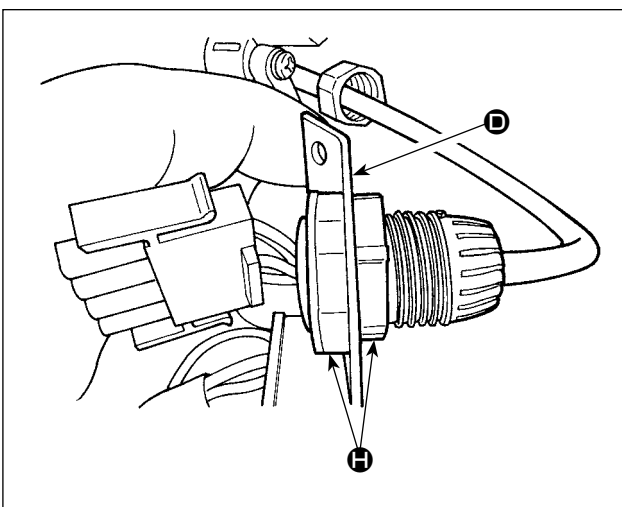
- ④ Remove two screws **C** to remove clamping plate **D** from the main body of the control box.



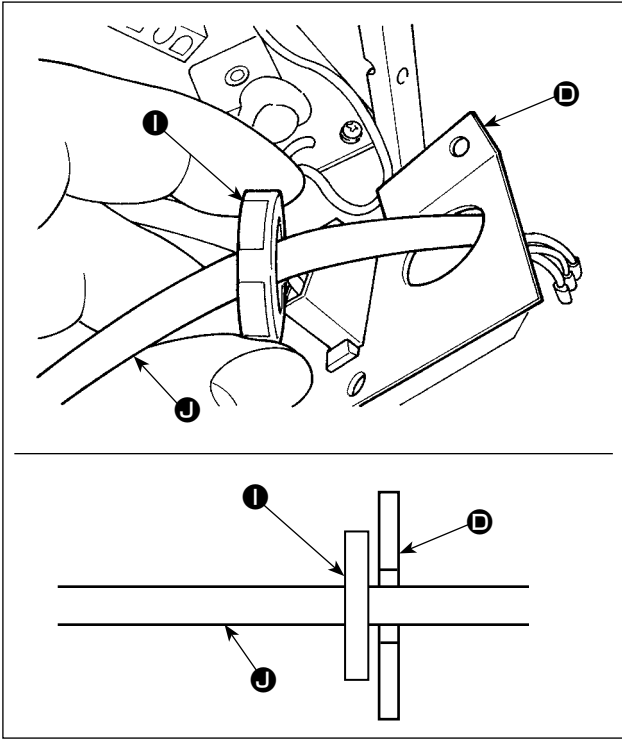
- ⑤ Remove connector **E** while holding its locking section **F** with your fingers.



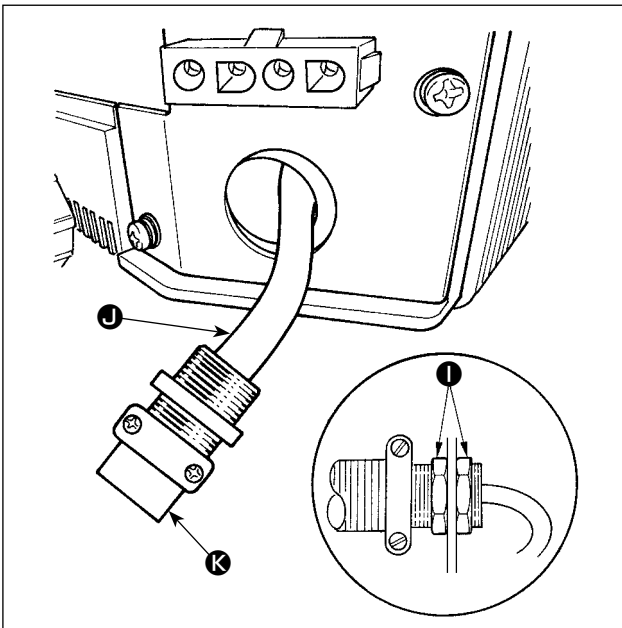
- ⑥ Turn connector **G** to remove the cord locking section.



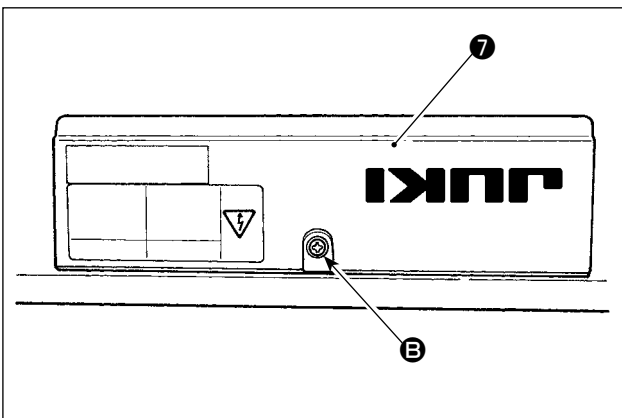
- ⑦ Loosen nut **H** to remove the connector from clamping plate **D**.



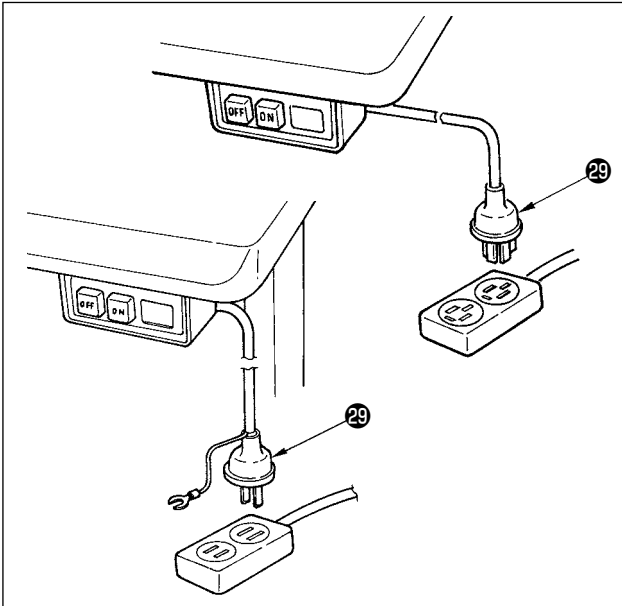
- ⑧ Put locknut **1** on the power cord and draw out the cord **J** from inside clamping plate **D**.



- ⑨ Install clamping plate **D** back to the control box.
 ⑩ Pass power cord **J** through conduit **K**.
 ⑪ Fix conduit **K** with locknuts **1** with clamping plate **D** placed between the locknuts.



- ⑫ Close underside cover **7** and secure the cover with screw **B**.



10) Make sure that the power switch is turned OFF and insert power supply cord coming from the power switch into the power plug socket.



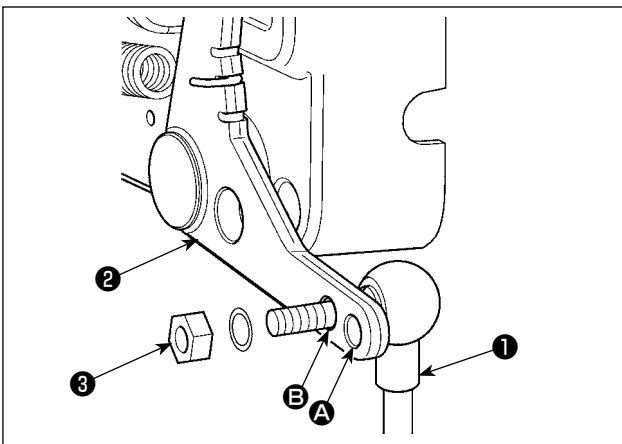
1. Top end of power supply cord varies in accordance with destination or supply voltage. Check again the supply voltage and the voltage designated on the control box when installing the switch.
2. Be sure to prepare power plug 29 conformed to the safety standard.
3. Be sure to connect the ground wire (green / yellow).

(7) Attaching the connecting rod



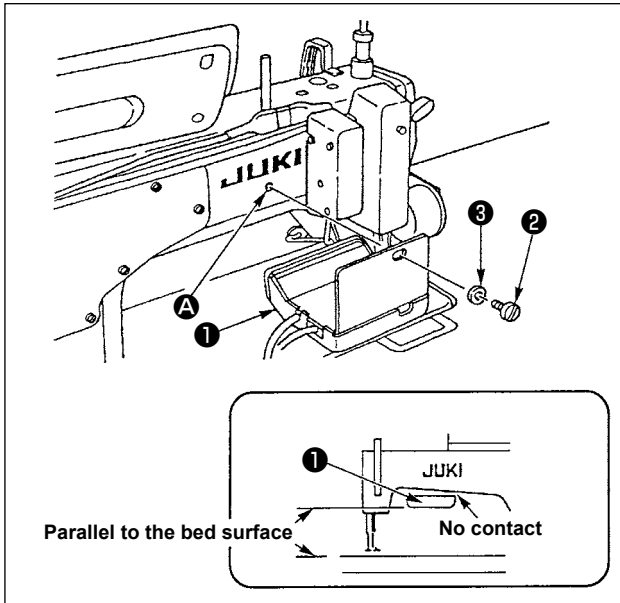
WARNING :

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 a lapse of 5 minutes or more.



- 1) Fix connecting rod 1 to installing hole B of pedal lever 2 with nut 3 .
- 2) Installing connecting rod 1 to installing hole A will lengthen the pedal depressing stroke, and the pedal operation at a medium speed will be easier.

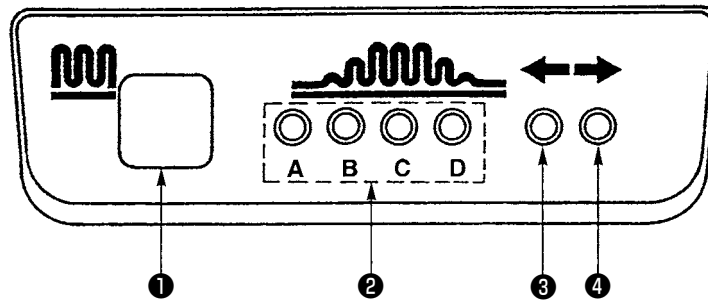
(8) Installing the operation display panel



- 1) Fix operation display panel ① in tapped hole ① in the rear section of the machine arm using screw ② and washer ③ .
- 2) Attach operation display panel ① to the aforementioned place so that it is in parallel to the bed surface and does not come in contact with the lower section of the machine arm.

(9) How to use the operation display panel

• Operation indication panel



- ① Partial shirring switch
 - This is the switch used to change over the partial shirring process.
- ② Indicator lamp (LED) of the partial shirring process step
 - Indicates the current state of partial shirring process step.

Partial shirring process step	Indicator lamp (LED)			
	A	B	C	D
1	○	●	●	●
2	○	○	●	●
3	○	○	○	●
4	○	○	○	○
5	●	○	○	○
6	●	●	○	○
7	●	●	●	○
8	●	●	●	●

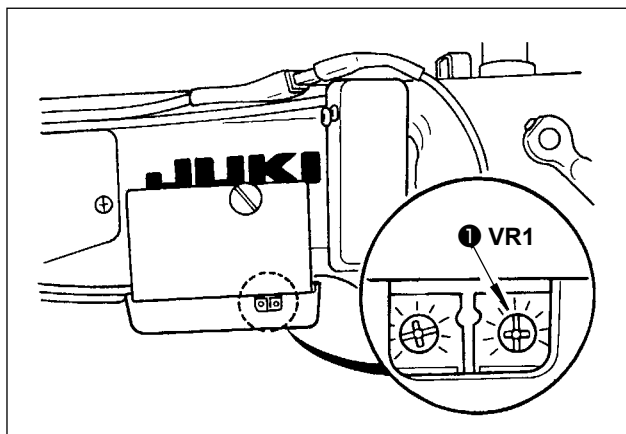
(Note)

-Lights up
-Goes out

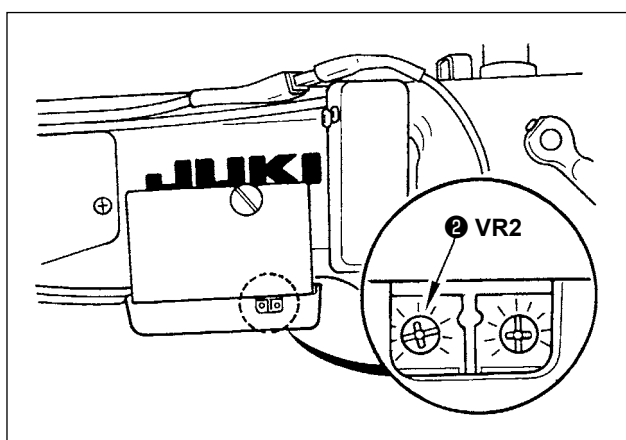
- ③ , ④ Partial shirring pattern indicator lamps (LEDs) under the alternate stitching mode
 - If partial shirring pattern ① or ② is selected under the alternate stitching mode, LED ③ will light up.
 - If partial shirring pattern ③ or ④ is selected under the aforementioned mode, LED ④ will light up.
 - If the machine is not operated under the alternate stitching mode, both LEDs ③ and ④ will go out.

(10) Adjusting the bottom feed pitch display

When the display of the bottom feed pitch does not correspond with the scale of the pitch dial, perform the setting below.



- 1) Adjust the scale of the bottom feed pitch dial to "0".
- 2) Turn the variable resistor VR1 ❶ located on the right side of the rear of the operation display panel, and adjust so that the bottom feed display is set to the minimum display.



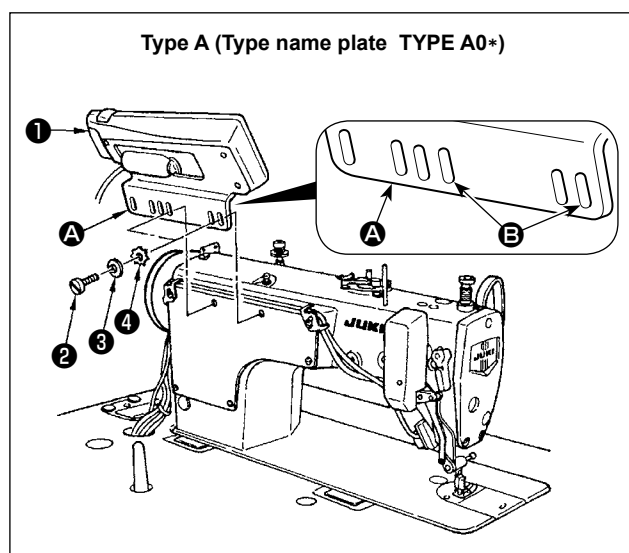
- 3) Adjust the scale of the bottom feed pitch dial to "5".
- 4) Turn the variable resistor VR2 ❷ located on the right side of the rear of the operation display panel, and adjust so that the bottom feed display is set to "5.0".

3. INSTALLING THE OPERATION PANEL



WARNING :

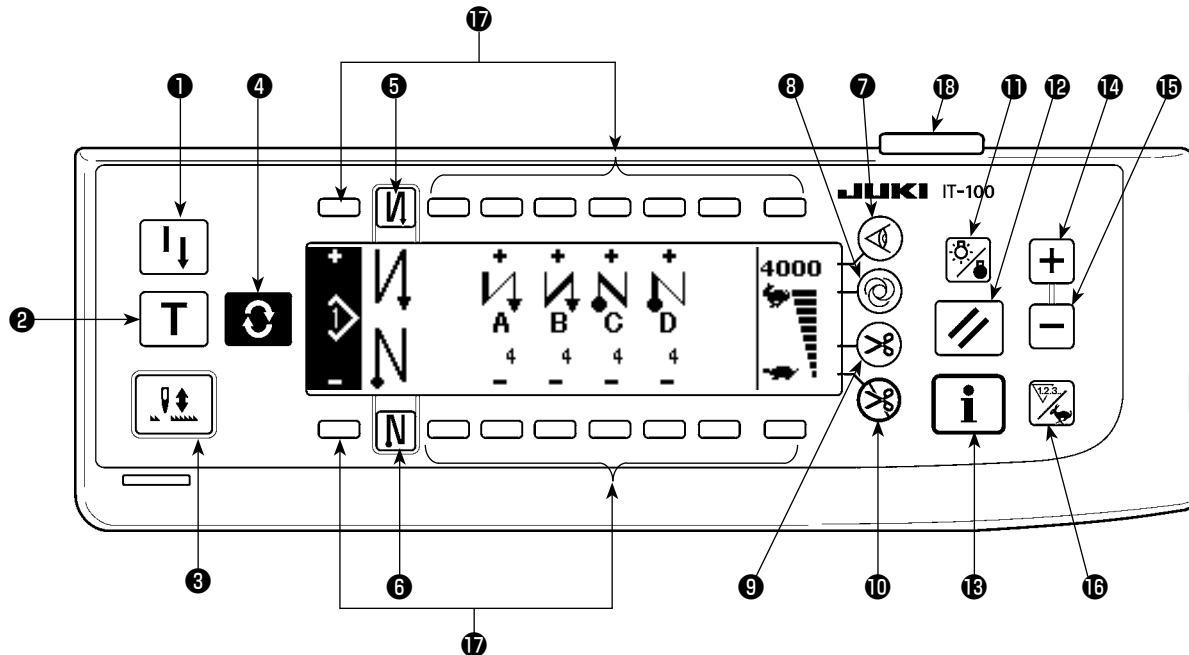
To protect against possible personal injury due to abrupt start of the machine, be sure to start the following work after turning the power off and ascertaining that the motor is at rest.



- 1) Attach operation panel ❶ to the machine head using screw ❷, plain washer ❸ and toothed lock washer ❹ supplied with the operation panel.
- 2) Use B hole of bracket A as the operation panel mounting hole.










4. HOW TO USE THE OPERATION PANEL

(1) Names and functions of each components

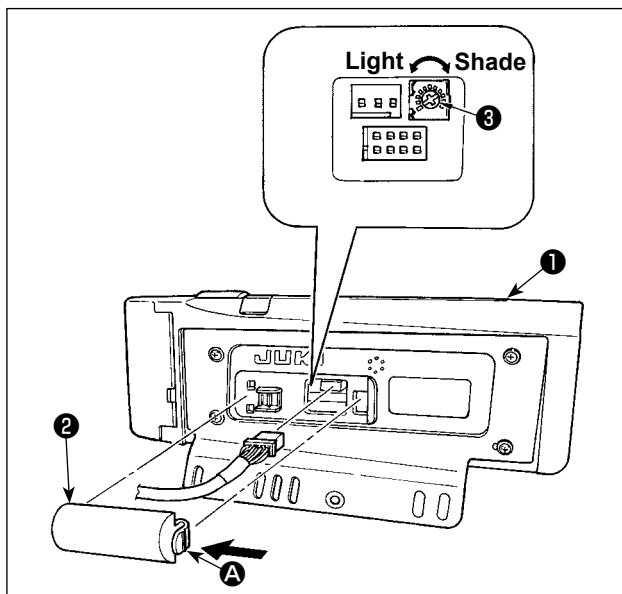


- | | |
|--|---|
| <ul style="list-style-type: none"> ① Re-sewing switch ② Teaching switch ③ Needle up/down compensating switch ④ Screen changeover switch ⑤ With/without reverse feed stitch at sewing start switch ⑥ With/without reverse feed stitch at sewing end switch ⑦ Material edge sensor switch ⑧ One-shot automatic sewing switch | <ul style="list-style-type: none"> ⑨ With/without automatic thread trimmer switch ⑩ Thread trimming prohibiting switch ⑪ Backlight switch ⑫ Reset switch ⑬ Information switch ⑭ + switch ⑮ - switch ⑯ Counter/speed changeover switch ⑰ General-purpose switch ⑱ Power display lamp |
|--|---|

	Switch	Description
①	Re-sewing switch 	This switch is used to continue sewing from the step on the way after replacing bobbin thread when bobbin thread has run out during program stitching step.
②	Teaching switch 	This is the switch to set the setting of the number of stitches with the value of number of stitches which has been actually sewn.
③	Needle up/down compensating switch 	This is the switch to perform needle up/down compensating stitching. (Needle up/down compensating stitching and one stitch compensating stitching can be changed over with function setting No. 22.)
⑤	With/without reverse feed stitch at sewing start switch 	This is the switch to turn ON/OFF automatic reverse feed stitch at sewing start. * This switch cannot be used with the sewing machine which is not provided with automatic reverse feed stitching device.
⑥	With/without reverse feed stitch at sewing end switch 	This is the switch to turn ON/OFF automatic reverse feed stitch at sewing end. * This switch cannot be used with the sewing machine which is not provided with automatic reverse feed stitching device.
⑦	Edge sensor switch 	Selects use/disuse of the material edge sensor in the case the material edge sensor (edge) is installed on the sewing machine.

	Switch		Description
⑧	One-shot automatic sewing switch		When this switch is pressed, the sewing machine automatically operates until the material edge sensor detects the material edge or until the set number of stitches is reached.
⑨	With/without automatic thread trimmer switch		This switch is used to automatically trim the thread when the material edge sensor detects the material edge or until the set number of stitches is reached. * This switch cannot be used with the sewing machine which is not provided with the automatic thread trimming device.
⑩	Thread trimming prohibiting switch		This switch prohibits all thread trimmings. * This switch cannot be used with the sewing machine which is not provided with the automatic thread trimming device.
⑪	Backlight switch		This switch is used to change over the operation of the backlight of the LCD between ON and OFF.
⑫	Reset switch		This is the switch to make the value of bobbin thread counter or sewing counter the set value. This switch is enabled after thread trimming.
⑬	Information switch		This switch is used to change over the screen between the information function screen (sewing common data mode, function setting mode, communication mode, version display, etc.) and the normal sewing screen. This switch is enabled after thread trimming.
⑭	Plus switch		This switch is used to increase the set value of the bobbin thread counter or the number of pcs. counter at the time of setting. It should be remembered that this switch is enabled after thread trimming.
⑮	Minus switch		This switch is used to decrease the set value of the bobbin thread counter or the number of pcs. counter at the time of setting. It should be remembered that this switch is enabled after thread trimming.
⑯	Counter/speed change-over switch		This switch is used to change over the display between the counter display and the maximum sewing speed limitation display.
⑰	General-purpose switch		This switch has different functions depending on the screen.
⑱	Power display lamp		Lights up when the power switch is turned ON.

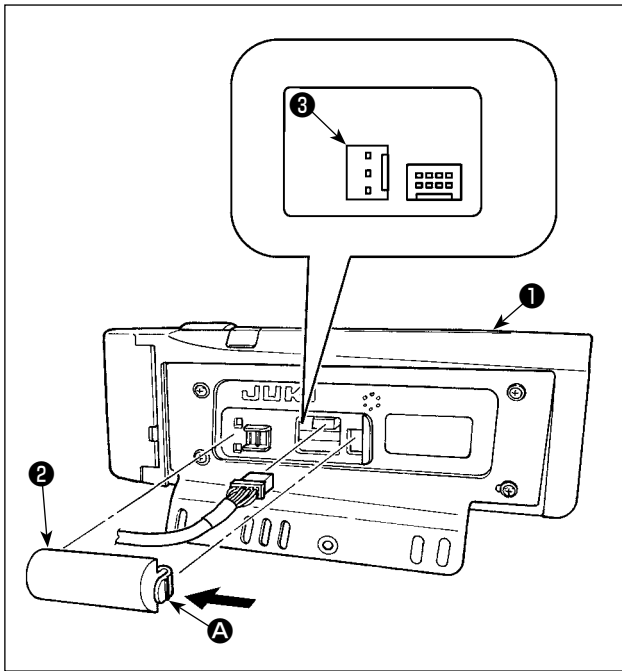
(2) Adjusting the contrast of the operation panel display



- 1) Press in the direction of arrow mark the click of section **A** of cord outlet cover **2** assembled in the rear of operation panel **1** and remove the cover.
- 2) Turn LCD screen display brightness adjustment variable resistor **3** to adjust the brightness (contrast) of LCD screen.

- Caution**
1. To prevent the operation panel from breakage, do not touch the circuit board pattern and the connector terminal.
 2. Do not disassemble the operation panel to prevent it from breakage.

(3) Production control switch connecting connector

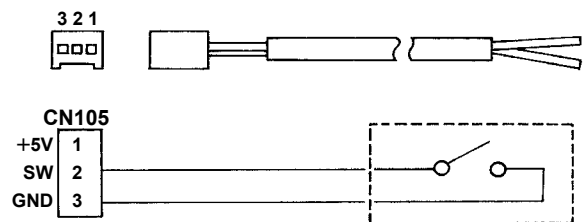


- 1) Press in the direction of arrow mark the click of section **A** of cord outlet cover **2** assembled in the rear of operation panel **1** and remove the cover.
- 2) Connect the optional relay cable connector to CN105 **3** of the production control switch connecting connector.



Prepare the switch main unit by the customers or ask JUKI business office about it.

Optional relay cable A (asm.)
JUKI Part No. : 40008168



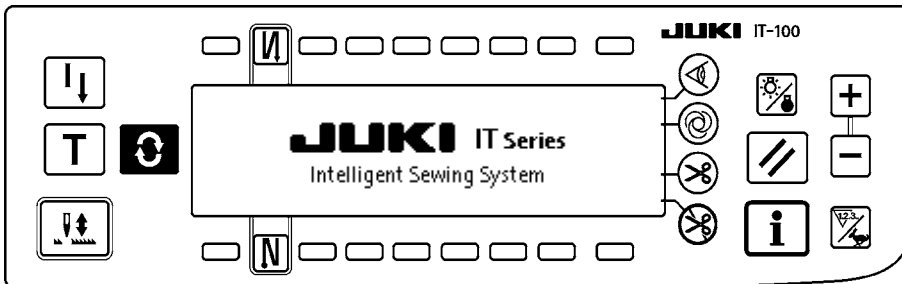
(4) USB port

- ① Precautions to be taken when handling USB devices
 - Do not leave the USB device or USB cable connected to the USB port while the sewing machine is in operation. The machine vibration can damage the port section resulting in loss of data stored on the USB device or breakage of the USB device or sewing machine.
 - Do not insert/remove a USB device during reading/writing a program or sewing data. It may cause data breakage or malfunction.
 - When the storage space of a USB device is partitioned, only one partition is accessible.
 - Some type of the USB device may not be properly recognized by this sewing machine.
 - JUKI does not compensate for loss of data stored on the USB device caused by using it with this sewing machine.
- ② USB specifications
 - Conform to USB 1.1 standard
 - Format supported _____ FAT 32
 - Consumption current _____ The rated consumption current of the applicable USB devices is 500 mA at the maximum.

5. SCREEN LIST

(1) Fundamental screen list

WELCOME screen is displayed immediately after turning ON the power.

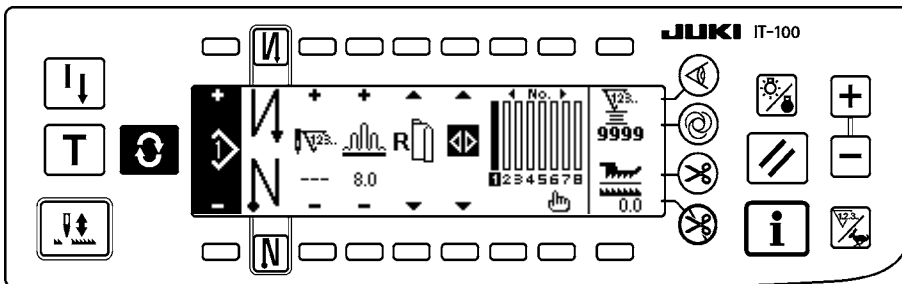


The screen immediately after WELCOME screen becomes the pattern edit screen.

Every time  switch is pressed, the screen changes.

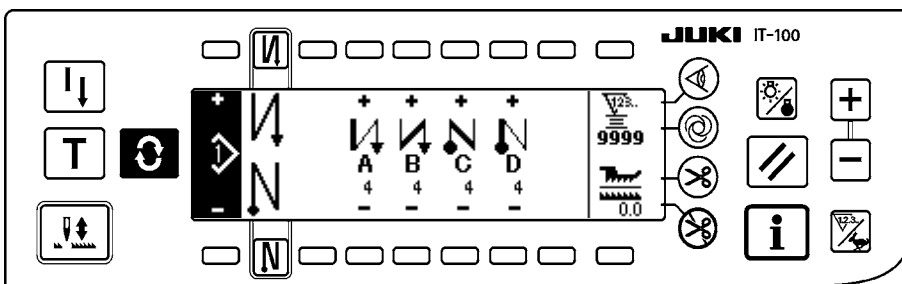
■ Pattern edit screen

Step editing of the pattern is performed.



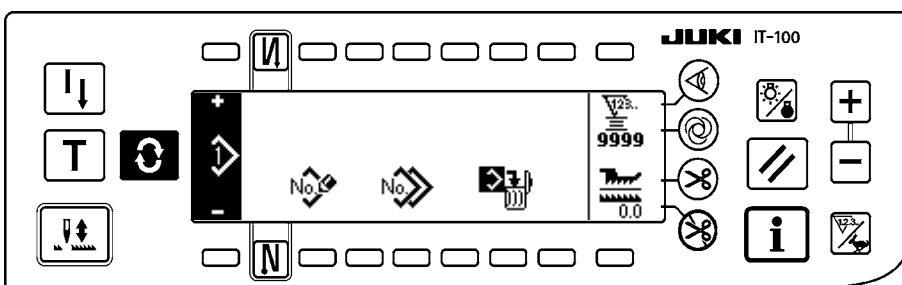
■ Number of stitches of back tuck stitching setting screen

Setting of number of stitches of reverse stitching is performed.



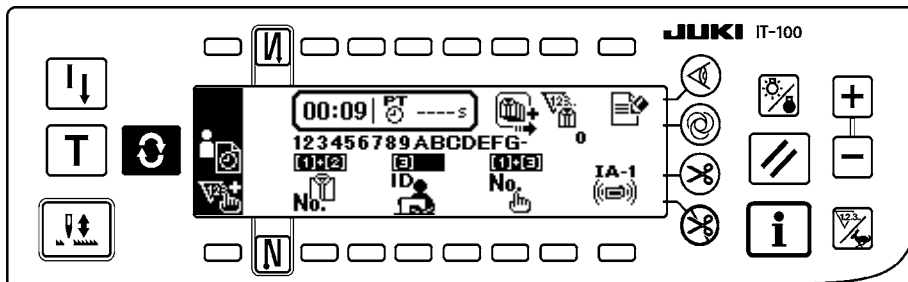
■ Pattern operation screen


Register, copy or deletion of the pattern is performed.



Work management screen

On this screen, the contents of display related to the production support function and those called up by operating the switches can be set or changed.

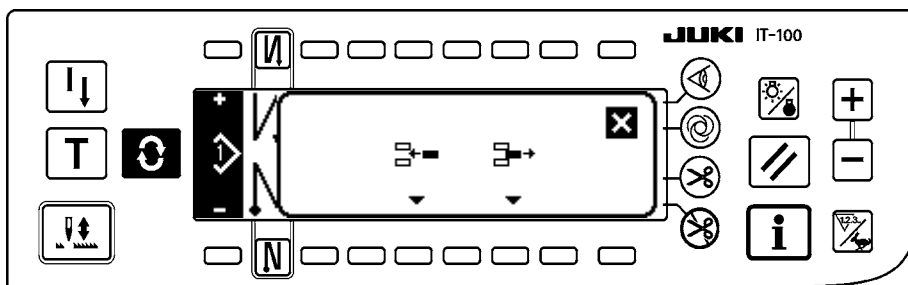


Important When the production support function is enabled under the information mode, the respective production support function screens can be displayed by means of the screen changeover switch  from the work management screen. For the details, refer to "II-2-2. Displays on the screen for the production support function" of Instruction Manual for IT-100.

(2) Pop-up list

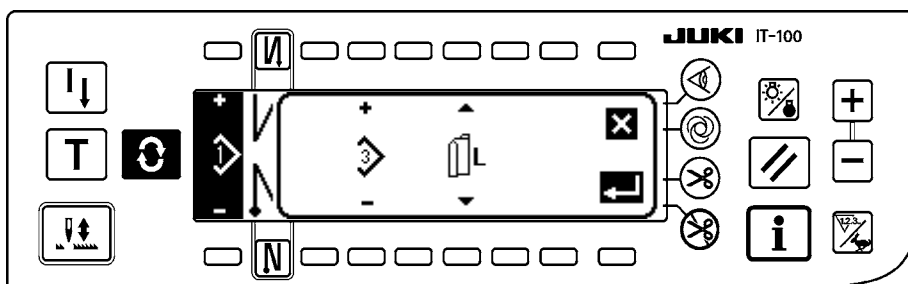
Pattern step insertion/deletion pop-up

Insertion/deletion of the step is performed.



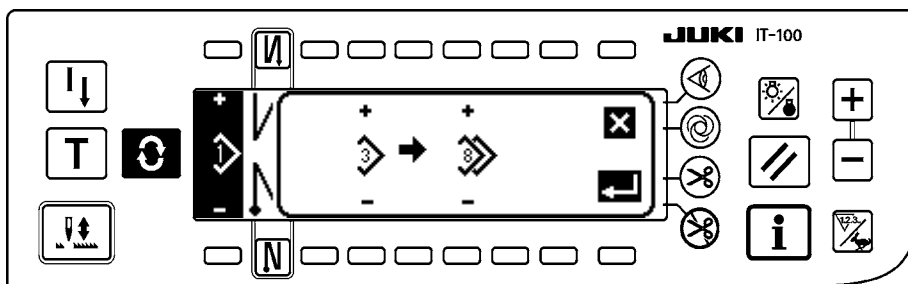
Pattern register pop-up

Selection of the pattern to be registered is performed.



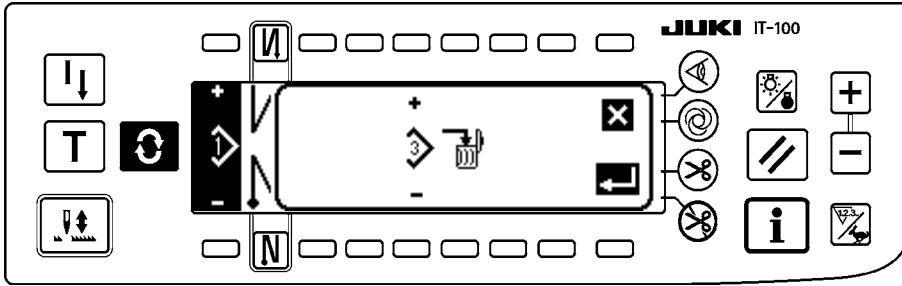
Pattern copy pop-up

Pattern of copy source or pattern of copy destination is selected.




■ Pattern deletion pop-up

Pattern to be deleted is selected.

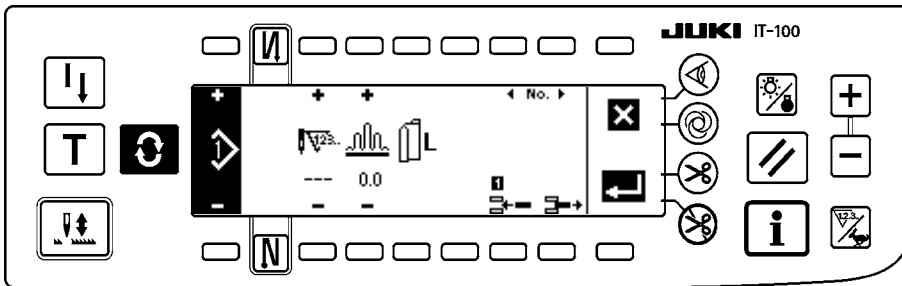


(3) Other screens

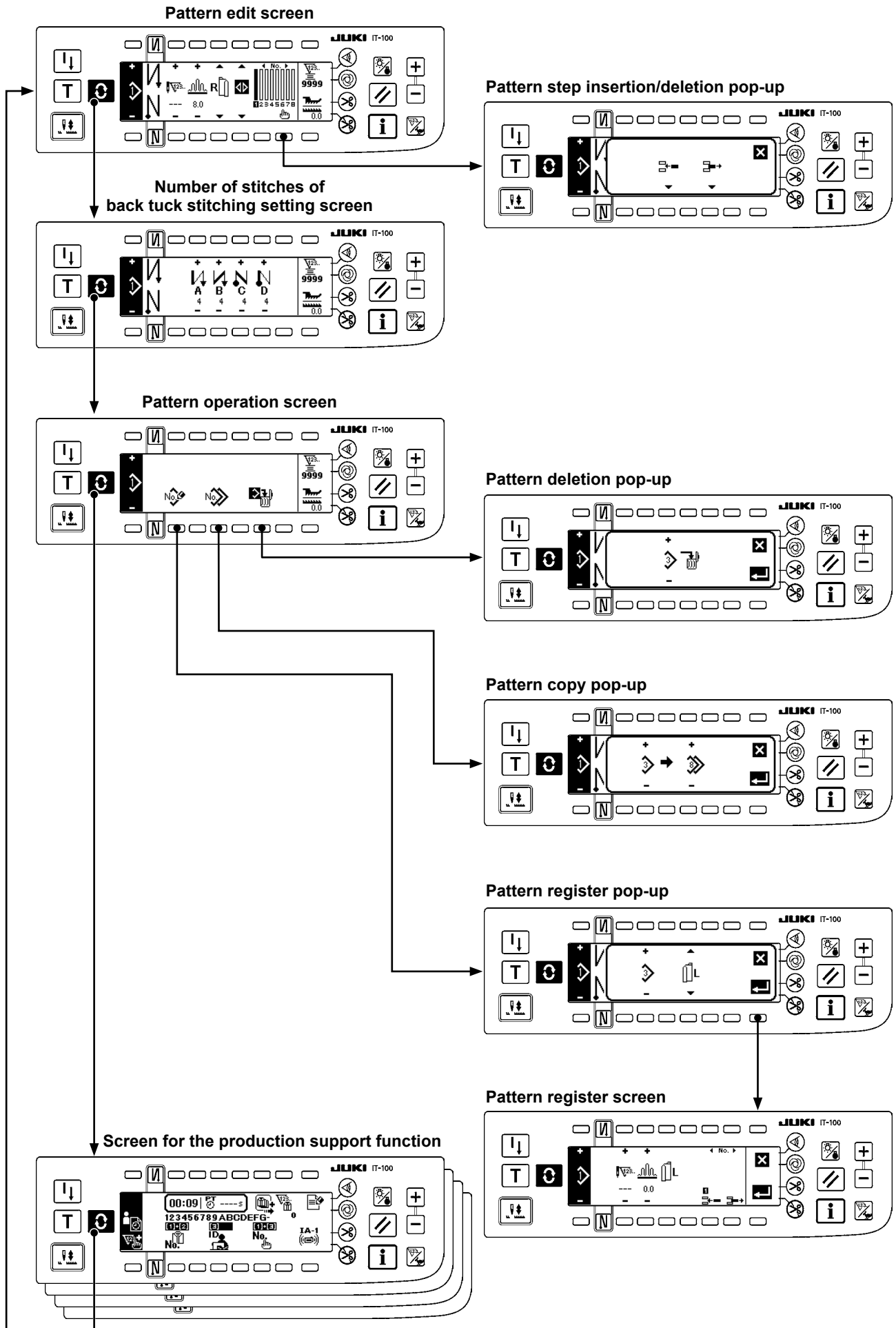
■ Pattern register screen

When DETERMINE  key is pressed at the "pattern register pop-up" of (2) Pop-up list, this screen is displayed.

Register and edit of the pattern is performed in this screen.



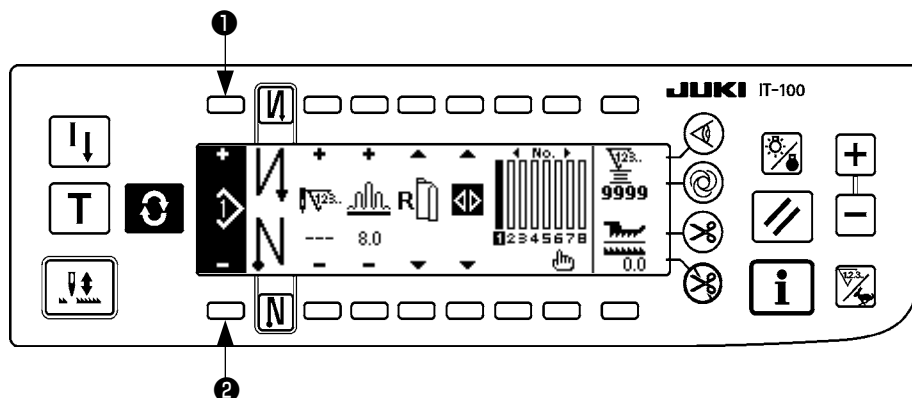
(4) Transition of screen



6. OPERATING PROCEDURE OF THE SEWING PATTERN

(1) Selecting procedure of the sewing pattern

As many as 16 patterns can be held as the sewing patterns.

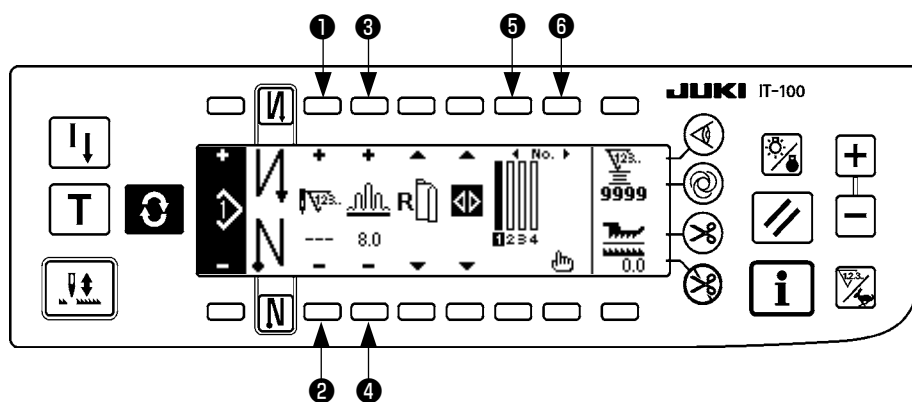


When changing the pattern, change it with pattern change switches ① and ②.

Change of the pattern can be performed not only in the step edit screen but also in the number of stitches of back tuck stitching screen or the pattern operation screen.

(2) Editing procedure of the sewing pattern

Press  switch to display the pattern edit screen.



① and ② Number of stitches of the selected step is set.

(Setting range : 0 to 500 stitches)

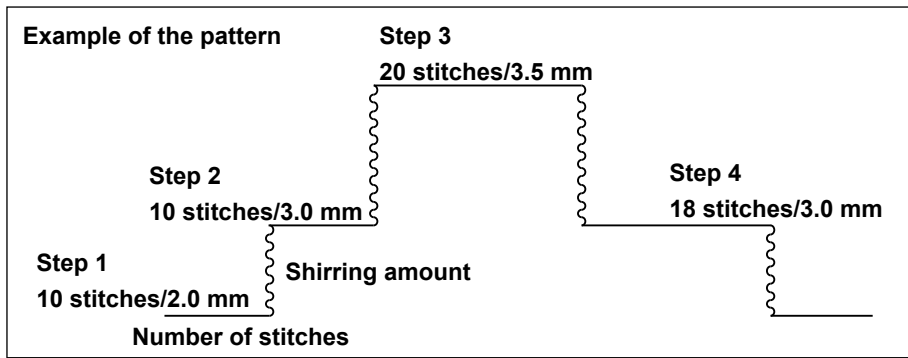


When 0 stitch is registered to the number of stitches, automatic update of the step by the number of stitches is not performed. The step is manually changed over with the shirring step changeover switch located at the jaw section of the machine head.

③ and ④ Shirring amount of the selected step is set.

(Setting range : 0.0 to 8.0 mm)

⑤ and ⑥ Selected step can be moved.

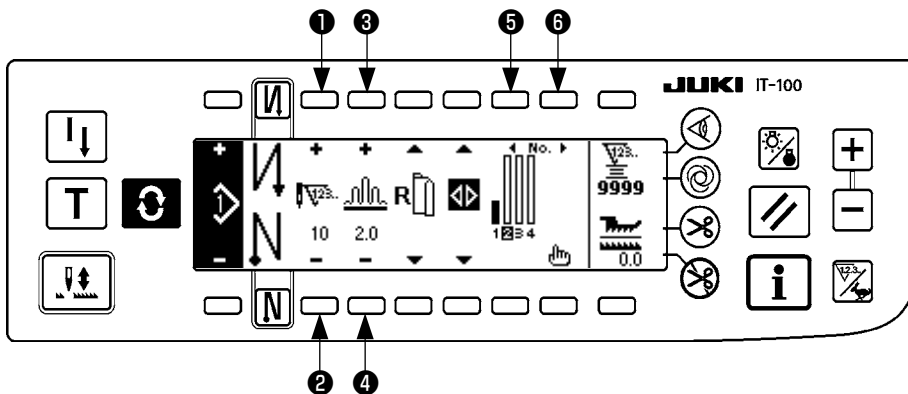


Editing procedure is shown as an example in the pattern on the left-hand side.

[Step 1]

- 1) Confirm that step 1 is selected, and set the number of stitches to 10 using switches ① and ② .
- 2) Set the shirring amount to 2.0 using switches ③ and ④ .
- 3) Select the next edit step using switches ⑤ and ⑥ .

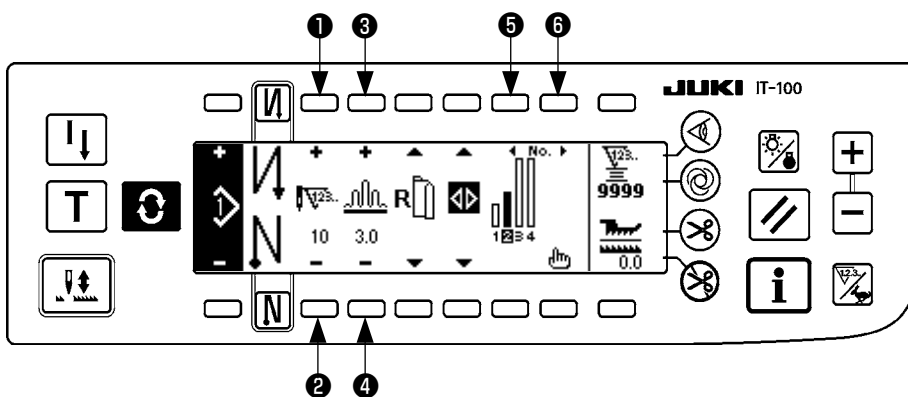
■ After editing step 1



[Step 2]

- 4) Confirm that step 2 is selected, and set the number of stitches to 10 using switches ① and ② .
- 5) Set the shirring amount to 3.0 using switches ③ and ④ .
- 6) Select the next edit step using switches ⑤ and ⑥ .

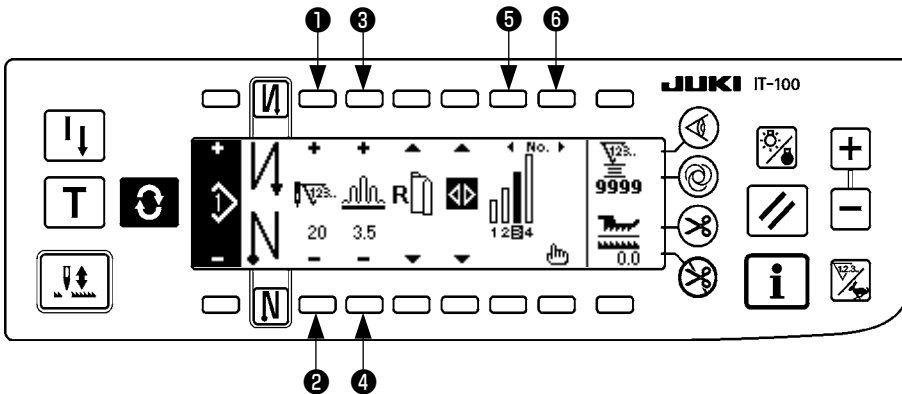
■ After editing step 2



[Step 3]

- 7) Confirm that step 3 is selected, and set the number of stitches to 20 using switches ① and ② .
- 8) Set the shirring amount to 3.5 using switches ③ and ④ .
- 9) Select the next edit step using switches ⑤ and ⑥ .

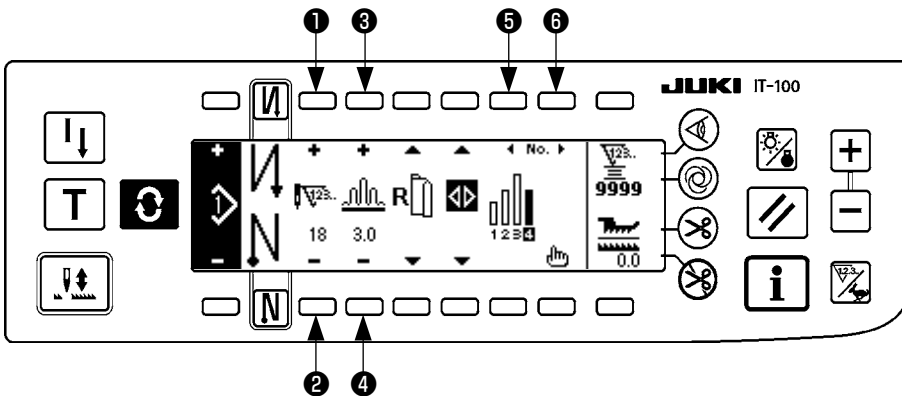
■ After editing step 3



[Step 4]

- 10) Confirm that step 4 is selected, and set the number of stitches to 18 using switches ① and ② .
- 11) Set the shirring amount to 3.0 using switches ③ and ④ .

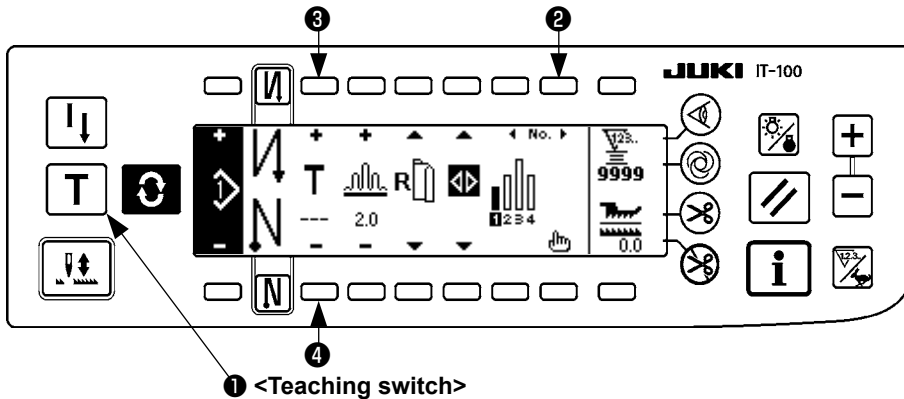
■ After editing step 4



(3) Teaching mode

By using the teaching mode, it is possible to input the number of stitches of the step in a program with the number of stitches that has been actually sewn.

Press  switch to display the pattern edit screen.

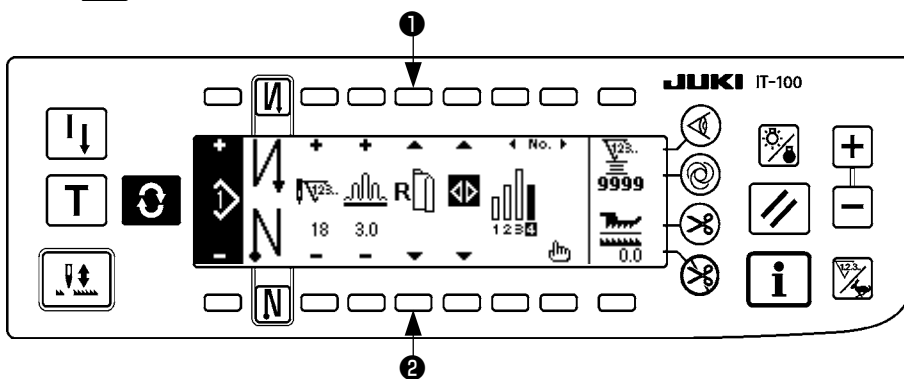


- 1) In the pattern edit screen, press teaching switch **1** to select the teaching mode.
- 2) The indication shown on the number of stitches input section changes to **T**. This shows that the sewing machine has entered the teaching mode.
- 3) Depress the front part of the pedal to make the sewing machine perform sewing until the last stitch of the step. (Caution : the number of stitches is not inputted by manual turning or needle up/down compensating switch.)
- 4) Return the pedal to its neutral position to make the sewing machine stop running, and the number of stitches which has been sewn is displayed.
- 5) Number of stitches can be corrected by pressing switches **3** and **4** in the state that the sewing machine has stopped.
- 6) Proceed to the next step using switch **2** or make the sewing machine perform thread trimming. This completes the input of the number of stitches of step 1.


(4) Selecting the sleeve to be sewn


One sewing pattern has the data on left sleeve and right sleeve.

Press  switch to display the pattern edit screen.



In the pattern edit screen, changeover of data on left sleeve and those on right sleeve can be performed with sleeve selection switches **1** and **2**.

 **L** is displayed while left sleeve is being selected.

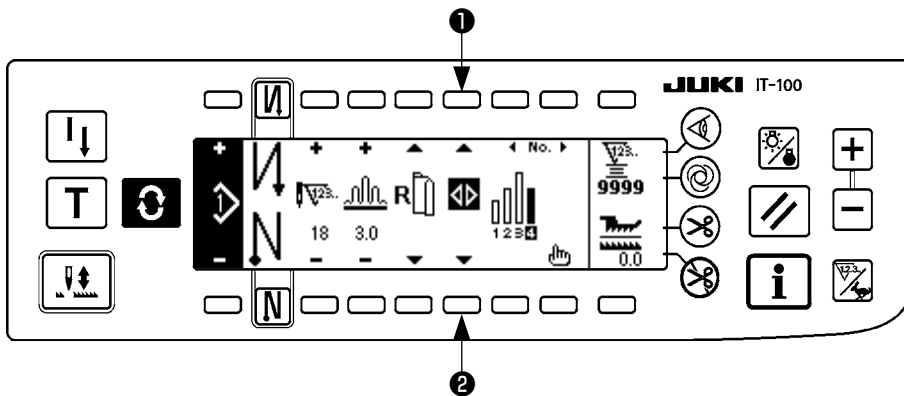
 **R** is displayed while right sleeve is being selected.

Caution When "Without reference" is selected in the data creation reference of the pattern register, the sleeve selection pictograph is not displayed.


(5) Selection of the alternate sewing

There is the alternate sewing function that when performing thread trimming after completion of sewing of one sleeve, the sewing automatically changes to the sewing of the other one.

Press  switch to display the pattern edit screen.



Changeover of alternate sewing function ON/OFF can be performed with alternate sewing selection switches **1** and **2**.

When the alternate sewing function is ON,  is displayed.

When the alternate sewing function is OFF,  is displayed.

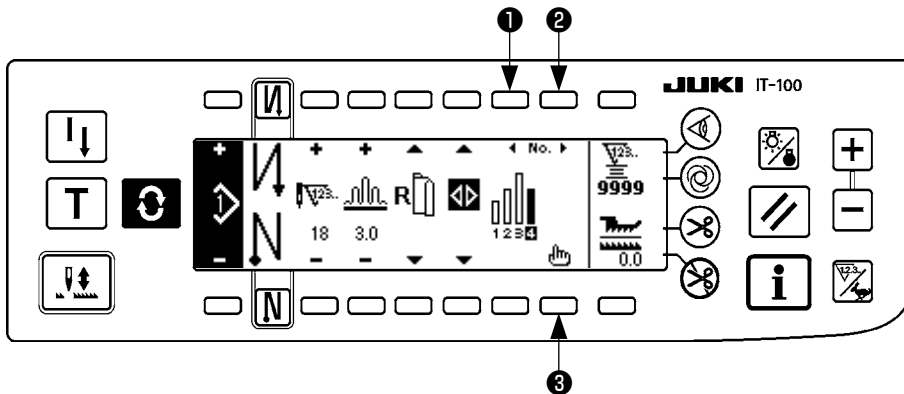


When "Without reference" is selected in the data creation reference of the pattern register, the sleeve selection pictograph is not displayed.

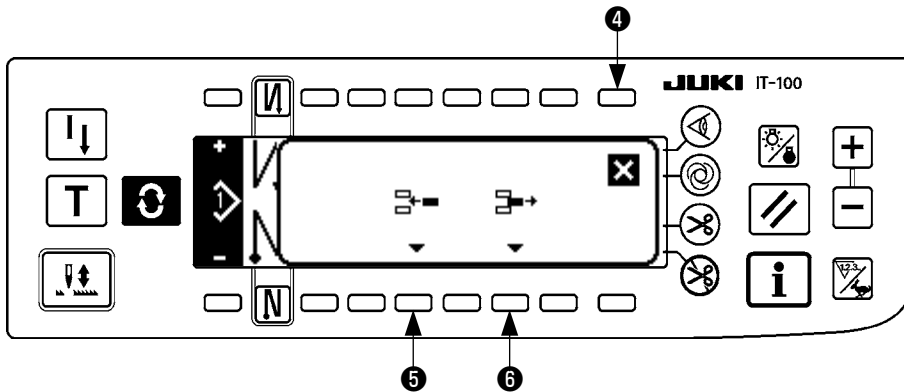
(6) Insertion and deletion of the step

When any insufficient step or any unnecessary step occurs at the time of editing the pattern, insertion or deletion of the step can be performed.

Press  switch to display the pattern edit screen.



■ Step insertion/deletion pop-up



[Common operation]

- 1) Move the step to the position where you desire to insert or delete with step selection switches ① and ② .
- 2) Press step edit switch ③ to display the step insertion/deletion pop-up.
- 3) When the step insertion/deletion pop-up is displayed by mistake or the insertion/deletion position is selected by mistake, press cancel switch ④ .

[In case of insertion]

- 4) When step insertion switch ⑤ is pressed, insertion of the step is executed.
A new step is inserted at the selected position. The steps which are positioned at and after the selected position respectively move backward.

[In case of deletion]

- 5) When step deletion switch ⑥ is pressed, deletion of the step is executed.

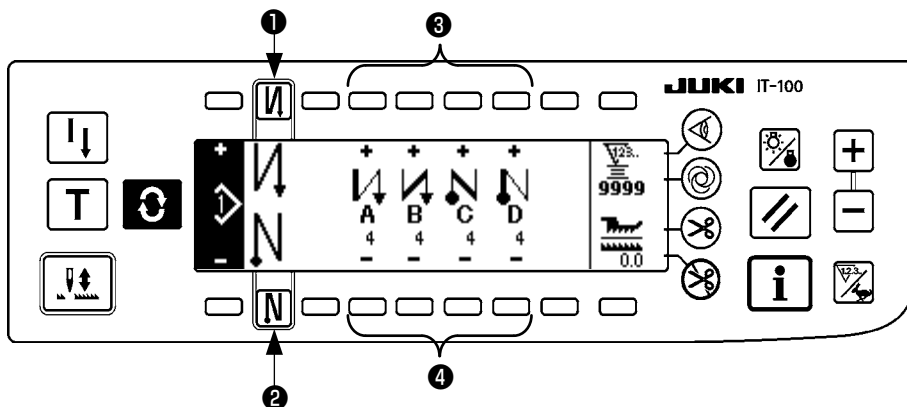
(7) Operating procedure of the number of stitches of the reverse stitching

[Sewing pattern diagram]

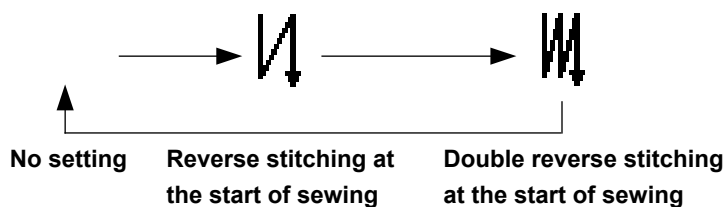
W ①	OFF	ON	OFF	ON
Sewing pattern				
N ②	OFF	OFF	ON	ON

[Operating procedure]

Press **↺** switch to display the number of stitches of reverse stitching setting screen.



- When changing the number of stitches, change it with switches ③ and ④ for setting the number of stitches A through D.
(The range of the number of stitches that can be changed : 0 to 99 stitches)
- Press switch ① to set the reverse stitching at the start of sewing.



- Press switch ② to set the reverse stitching at the end of sewing.

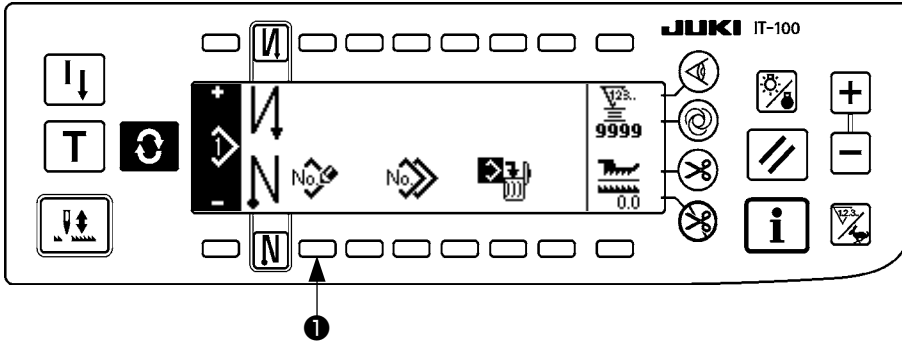


7. PATTERN OPERATION

Creation of the new sewing pattern, copy of the sewing pattern or deletion of the sewing pattern can be performed in the pattern operation screen.

(1) Sewing pattern register

Press  switch to display the pattern edit screen.

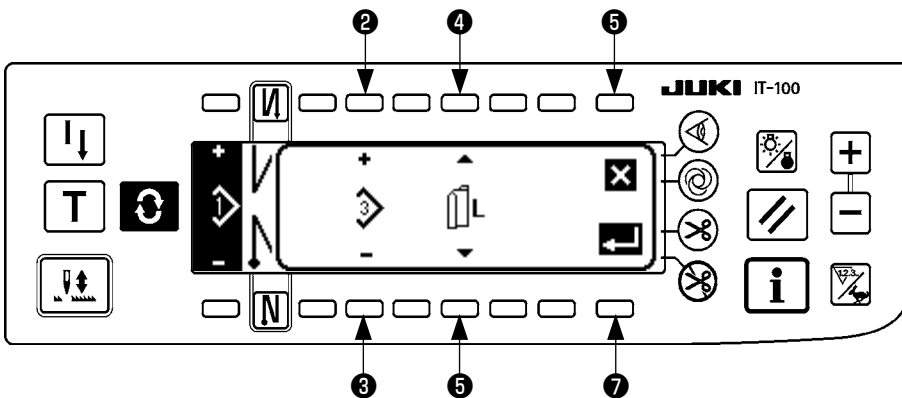


Press sewing pattern register switch ① in the sewing pattern operation screen.



When the information is registered to all patterns, the pattern register pop-up is not displayed.




■ Pattern register pop-up



② and ③ Pattern to be registered is set.

④ and ⑤ Data creation reference at the time of creating the pattern is set.

References below can be selected.

Left reference  L, Right reference  R, Without reference 

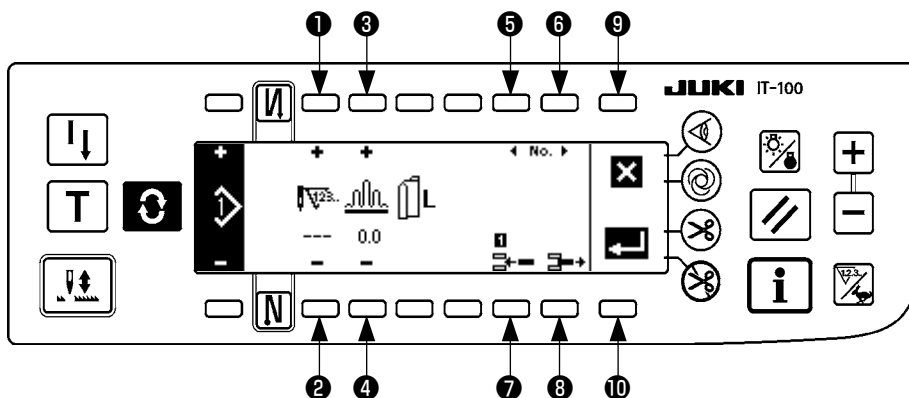
⑥ This is the cancel switch. Screen returns to the pattern operation screen.

⑦ This is the determination switch. Screen moves to the pattern register screen.



The pattern which has been already registered cannot be selected.

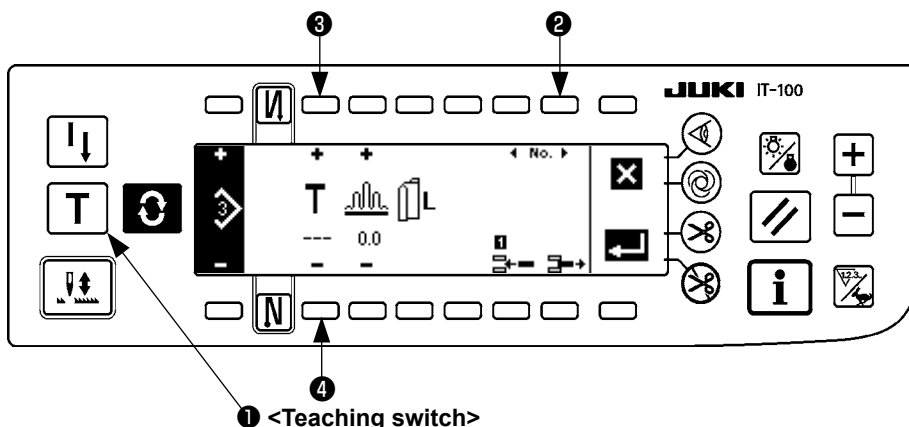
■ Pattern register screen



- ① and ② Number of stitches of the step is set.
- ③ and ④ Shirring amount of the step is set.
- ⑤ and ⑥ Move of the step is performed.
- ⑦ Step is inserted to the selected step.
- ⑧ Selected step is deleted.
- ⑨ Register is cancelled and the screen returns to the pattern operation screen.
- ⑩ Determination of register of the set data is performed. At this time, the data which is inverted to the left or right is automatically registered to the sleeve on the opposite side.

[Teaching mode]

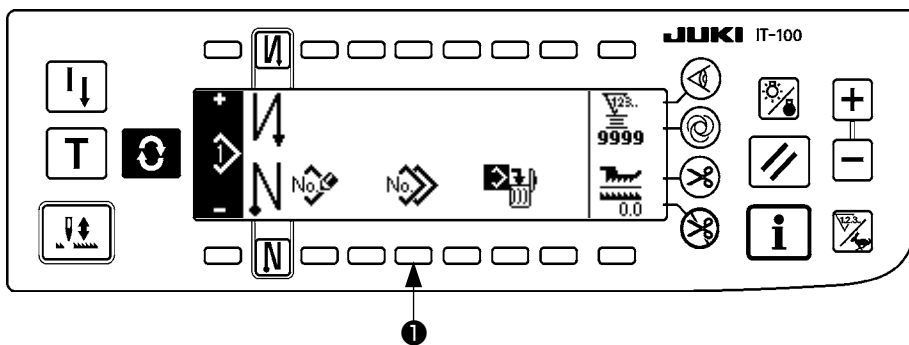
Teaching mode can be used in the pattern register screen.



1. Press teaching switch ① in the pattern register screen, and select the teaching mode.
2. The indication shown on the number of stitches input section changes to **T**. This shows that the sewing machine entered the teaching mode.
3. Depress the front part of the pedal to make the sewing machine perform sewing until the last stitch of the step.
(Caution : the number of stitches is not inputted by manual turning or needle up/down compensating switch.)
4. Return the pedal to its neutral position to make the sewing machine stop running, and the number of stitches which has been sewn is displayed.
5. Number of stitches can be corrected by pressing switches ③ and ④ in the state that the sewing machine has stopped.
6. Proceed to the next step using switch ② or make the sewing machine perform thread trimming. This completes the input of the number of stitches for step 1.

(2) Copy of the sewing pattern

Press  switch to display the pattern edit screen.

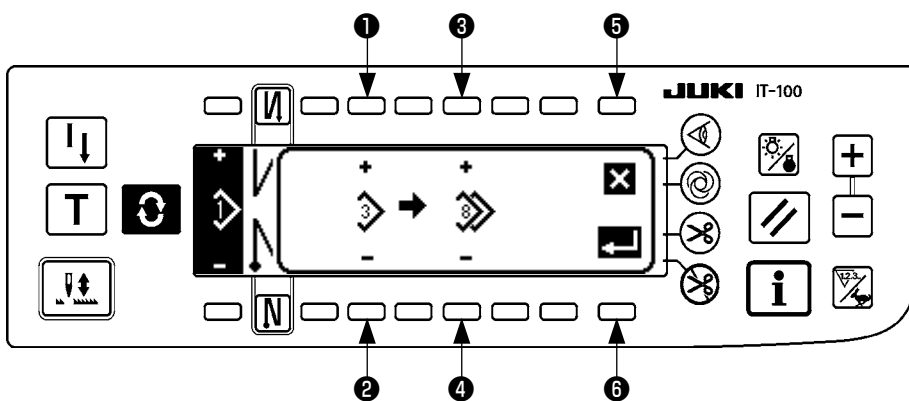


Press sewing pattern copy switch **1** in the sewing pattern operation screen.



When the information is registered to all patterns, the pattern copy pop-up is not displayed.

■ Pattern copy pop-up



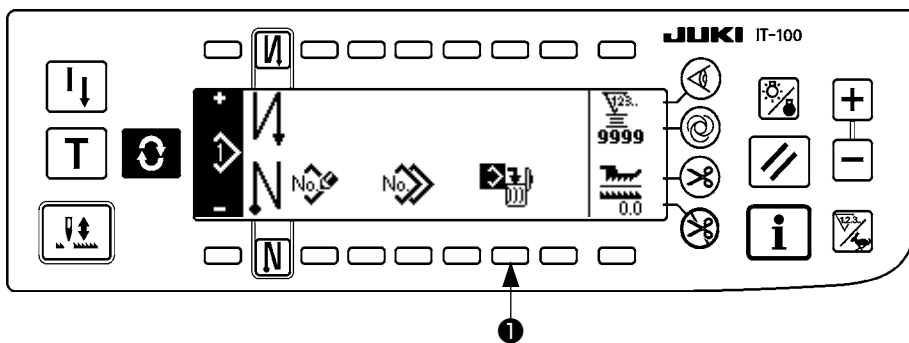
- 1** and **2** Pattern to be the pattern source is set.
- 3** and **4** Pattern to be the pattern destination is set.
- 5** Copy is cancelled.
- 6** Copy is executed.



The pattern which has been already registered cannot be selected to the copy destination.

(3) Deletion of the sewing pattern

Press  switch to display the pattern edit screen.

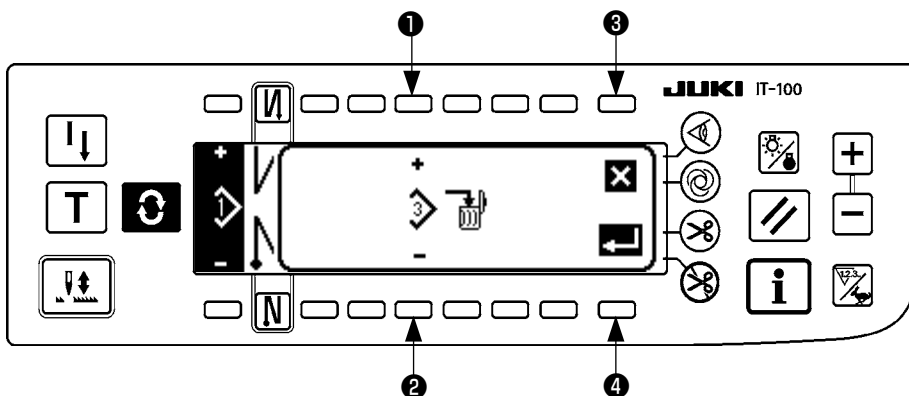


Press sewing pattern deletion switch ① in the sewing pattern operation screen.



When the pattern which has been registered is one, the deletion pop-up is not displayed.

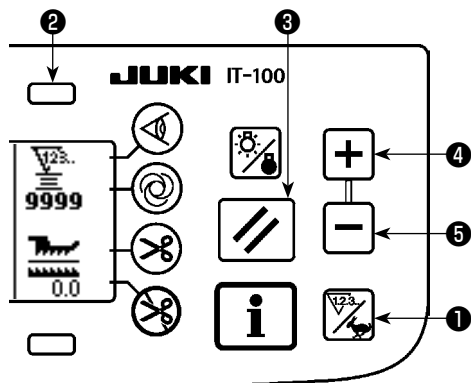
■ Pattern deletion pop-up



- ① and ② Pattern to be deleted is set.
- ③ Deletion is cancelled.
- ④ Deletion is executed.

8. HOW TO USE THE BOBBIN THREAD COUNTER

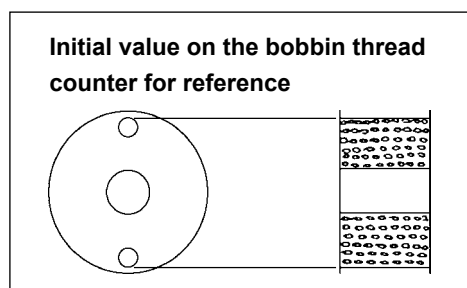
The number of stitches sewn by the sewing machine is detected. The detected number of stitches is decremented from the preset counter value (in units of the number of stitches preset using function setting No. 7 "Unit of bobbin thread counting down"). When the counter value changes from the positive value to the negative value (... → 1 → 0 → -1), the buzzer sounds (3 sets of two consecutive blips) and the notification is shown on the pop-up window to alert the operator to change the bobbin.



- 1) Press counter/speed changeover switch ❶ to change over the screen to the counter screen. Press switch ❷ to select the bobbin counter. Then, press counter reset switch ❸ to return the bobbin counter display to the initial set value (set value at the time of delivery is "0").

Caution The bobbin thread counter cannot be reset during sewing. In this case, make the thread trimmer actuate once.

- 2) Set an initial value using counter value setting switches ❹ and ❺.



The table below gives the initial setting values for reference when the bobbin is wound with thread to the extent that the pinhole in the outside of the bobbin case is reached as shown in the figure on the left side.

Thread tension rate 100 %		
Thread used	Length of thread wound round the bobbin	Value on bobbin thread counter
Polyester spun thread #50	36 m	1200 (Stitch length : 3 mm)
Cotton thread #50	31 m	1000 (Stitch length : 3 mm)

* The aforementioned values actually vary depending on the material thickness and sewing speed. Adjustment is necessary according to the conditions of use.

- 3) Once the initial value is specified, start the sewing machine.
- 4) When a minus value is shown on the counter, the buzzer beeps three times and the pop-up display appears, replace the bobbin thread.

Bobbin thread replacement warning pop-up



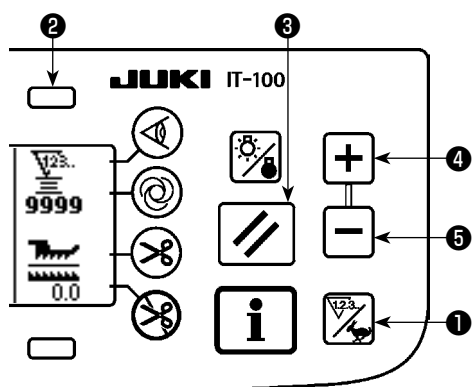
- 5) After the bobbin thread has been properly replaced, press counter reset switch ❸ to return the value on the bobbin thread counter to the initial value. Now, re-start the sewing machine.
- 6) If the remaining amount of bobbin thread is excessive or the bobbin thread runs out before the bobbin thread counter indicates a minus value, adjust the initial value appropriately using counter value setting switches ❹ and ❺.

If the remaining amount of bobbin thread is excessive.....Increase the initial value using the "+" switch.

If the remaining amount of bobbin thread is insufficient....Decrease the initial value using "-" switch.

Caution The remaining amount of thread may vary depending on how the thread is wound on the bobbin and the material thickness. It is therefore better to set the remaining amount of thread with a slight allowance.

9. NO. OF PCS. COUNTER



Press counter/speed changeover switch **1** to change over the screen to the counter screen.

Press switch **2** to select the sewing counter.

The sewing counter works as the thread trimming counter in the case the production volume management function of the IT-100 is disabled, or works as the number of pcs. counter in the case the production volume management function is enabled.

When the sewing counter works as the thread trimming counter, the counter value can be corrected by means of counter-value setting switches **4** and **5**. In addition, the counter value is reset to zero (0) by pressing counter reset switch **3**.

When the sewing counter works as the number of pcs. counter, the counter value cannot be changed since the value displayed on the counter is coupled with the production volume management function.

Once the target production volume is reached under the teaching mode on the pattern registration screen, its notification is given when the target value of the counter is reached after the exit from the pattern registration screen.

Refer to the Instruction Manual for the IT-100 for details of the number of pcs. counter.

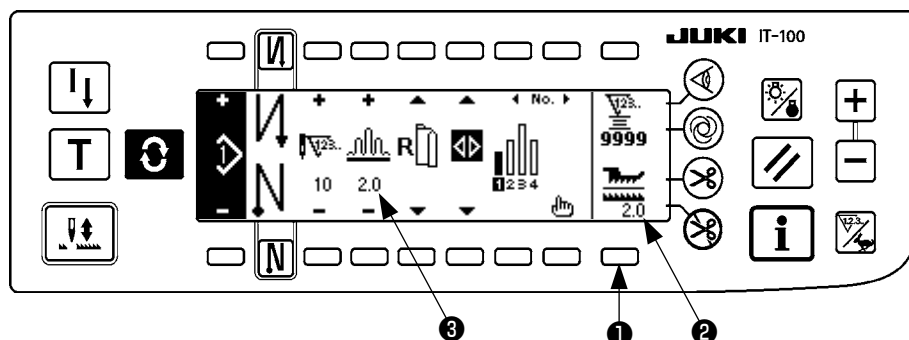
10. PRODUCTION SUPPORT FUNCTION

For the details, refer to "Instruction Manual for IT-100".

11. BOTTOM FEED AMOUNT DISPLAY

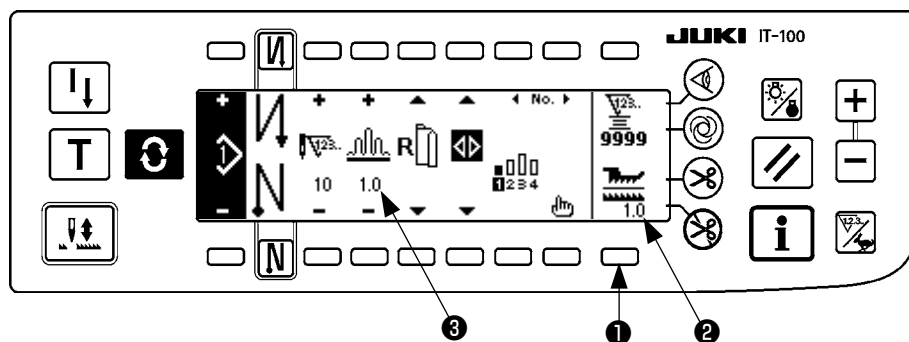
Observation of the bottom feed amount is performed and the value is displayed on the panel. There are the direct display and the ratio display for the way of display.

■ Direct display



For the direct display, the bottom feed amount is displayed at bottom feed amount display section ②, and the set value is displayed at top shirring amount display section ③. When switch ① is pressed, the display changes to the ratio display.

■ Ratio display



For the ratio display, 1.0 (fixed display) is displayed at bottom feed amount display section ②, and the value that the top shirring amount is divided by the bottom feed amount is displayed at top shirring amount display section ③. When switch ① is pressed, the display changes to the direct display.

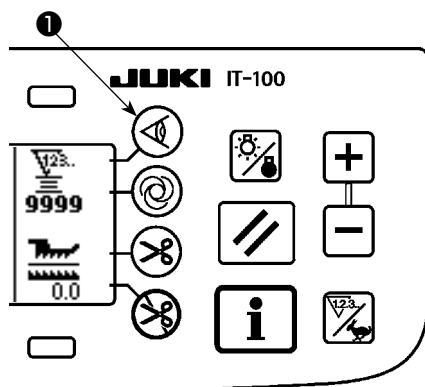
12. RE-SEWING SWITCH

For the details, refer to "Instruction Manual for IT-100".

13. NEEDLE UP/DOWN COMPENSATION SWITCH

For the details, refer to "Instruction Manual for IT-100".

14. ON/OFF SWITCH OF THE MATERIAL EDGE SENSOR

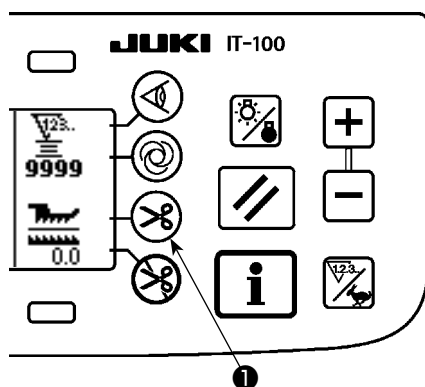


- When material edge sensor **1** is pressed, ON/OFF of the material edge sensor is changed over.
- When the material edge sensor, which is optionally available, is connected to the operation panel, the ON/OFF switch of the material edge sensor becomes effective.
- If the material edge sensor is specified, the sewing machine will automatically stop running or perform thread trimming when the sensor detects the material edge.



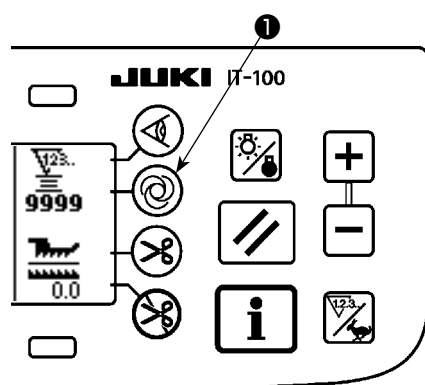
If the material edge sensor is used in combination with the operation panel, carefully read the Instruction Manual for the material edge sensor beforehand.

15. AUTOMATIC THREAD TRIMMING SWITCH



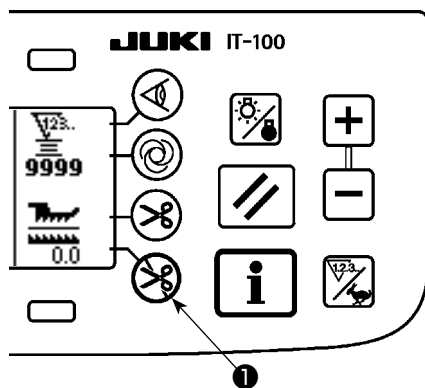
- When automatic thread trimming switch **1** is pressed, ON/OFF of the automatic thread trimming is changed over.
- This is the switch which makes the sewing machine automatically execute thread trimming when the material edge sensor is used. (When the reverse stitching at the end of sewing is specified, the thread trimming is performed after performing the reverse stitching at the end of sewing.)



16. ONE-SHOT AUTOMATIC STITCHING SWITCH



- When one-shot automatic stitching switch **1** is pressed, ON/OFF of the one-shot automatic stitching is changed over.
- This is the switch which makes the sewing machine automatically perform sewing at the specified speed until the material edge is detected when the material edge sensor is used.

17. THREAD TRIMMING PROHIBITION SWITCH



- When thread trimming prohibition switch ❶ is pressed, ON/OFF of the thread trimming prohibition is changed over.
- This switch is used to temporarily make the thread trimming function inoperative.
The other performance of sewing machine is not affected by this switch.
(If the automatic reverse stitching (for end) is specified, the sewing machine will perform the automatic reverse stitching at the end of sewing.)
- If the automatic thread trimming switch  and the thread trimming prohibition switch  are both specified, the machine will not perform thread trimming but stop with its needle up.

18. KEY-LOCK FUNCTION SETTING

In order to prevent the programmed pattern from being edited by mistake, it is possible to activate the key-lock function.

Once the key-lock function is activated, the number of stitches of a step, insertion/deletion of an edit step of shirring amount and the pattern operation (registration, copy and deletion) will be disabled. In addition, edit of processes (A, B, C and D) will also be disabled.

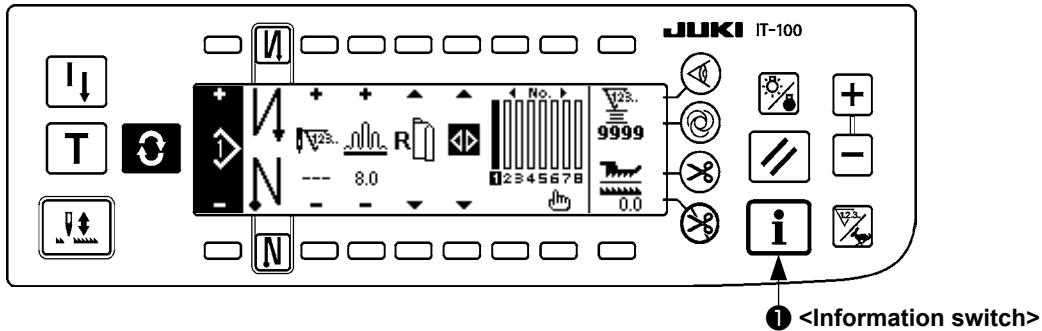
Refer to the Instruction Manual for the IT-100 for how to set the key-lock function.

19. INFORMATION

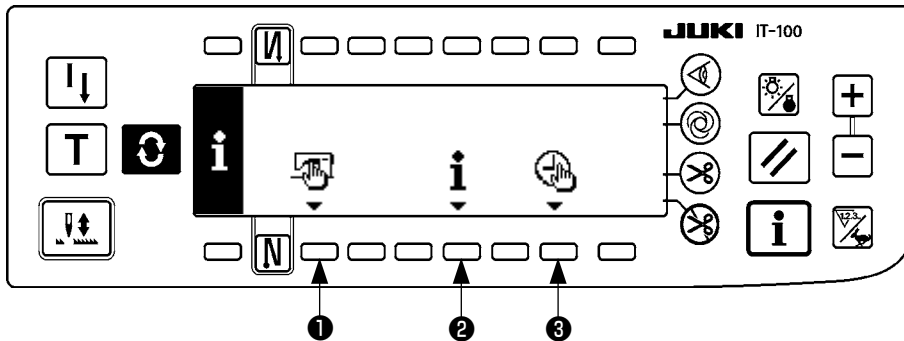
Setting and checking of various data can be performed with the information.

For the information, there are the operator level and the maintenance personnel level.

(1) Information operator level

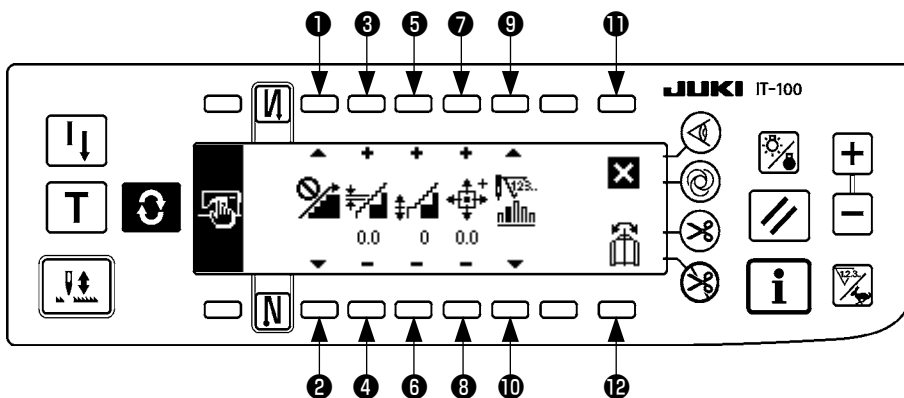


1. Turn ON the power.
2. Press switch ❶ to display the information screen.



- ❶ Sewing common data
- ❷ Sewing management information
- ❸ Time setting

1) Sewing common data




- ❶ and ❷ Shirring smoothing function setting is performed.
- ❸ and ❹ Smoothing shirring pitch setting is performed.
- ❺ and ❻ Smoothing shirring offset setting is performed.
- ❼ and ❽ Stepping motor origin position setting is performed.
- ❾ and ❿ Number of remaining stitches of the step setting is performed.
- ⓫ Setting is completed.
- ⓬ Pattern data mirroring function is performed.

[Explanation of the respective functions]

1. Shirring smoothing function setting

ON/OFF setting of smoothing (shirring between the steps is smoothly changed over) function is performed.

Smoothing function ON  is displayed.

Smoothing function OFF  is displayed.

2. Smoothing shirring pitch setting

This function is used to set the amount of top-feed pitch change per stitch when carrying out smoothing. Setting range is 0.0 to 8.0 [mm].

3. Smoothing shirring offset setting


Offset of the 1st stitch is set when performing the smoothing. Setting range is 0 to 9.

Set value	1	2	3	4	5	6	7	8	9
Ratio to enter 1st stitch	10%	11%	12%	14%	17%	20%	25%	33%	50%

- * When offset is set to "0", the smoothing function does not work.
- * "Ratio to enter first stitch" is the ratio in terms of the difference of shirring amounts between the steps.
- * From the second stitch and beyond, the top-feed pitch will change by the amount of top-feed change set with the smoothing shirring pitch setting function on a stitch-by-stitch basis.

4. Stepping motor origin position setting

Origin compensation of the stepping motor which determines the shirring amount is performed. Setting range is -2.5 to 2.5 [mm].





The motor may fail to properly work. Any person other than the service engineer should not operate the motor.

5. Number of remaining stitches of the step display function

This is the function to display the number of remaining stitches of the number of stitches of the step which is currently being sewn as against the number of stitches which has been set.

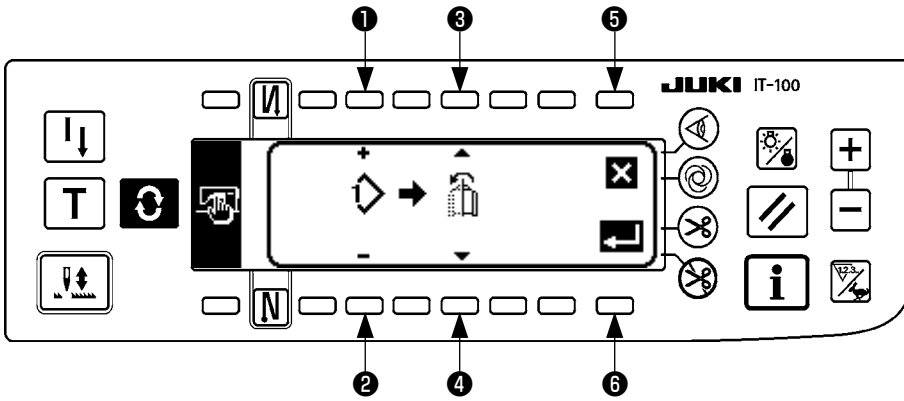
When this function is used, the display is updated every time the sewing machine stops (excluding during the teaching mode).

Number of remaining stitches display function ON  is displayed.

Number of remaining stitches display function OFF  is displayed.


6. Pattern data mirroring function


Mirroring (data inversion) processing of the pattern which has been already registered is performed.



① and ② Pattern to which mirroring is executed is set.

③ and ④ Sleeve to be the reference of mirroring is set.

Mirroring from left sleeve to right sleeve.....  is displayed.

Mirroring from right sleeve to left sleeve.....  is displayed.

⑤ Mirroring processing is cancelled.

⑥ Mirroring processing is executed.

 **The pattern to which mirroring has been performed here is selected as the current pattern.**

7. Completion of setting

Setting of the common data is completed and the screen returns to the information screen.

2) Sewing management information

For the details, refer to "Instruction Manual for IT-100".

3) Time setting

For the details, refer to "Instruction Manual for IT-100".

(2) Setting for functions

1) How to change over to the function setting mode

For the details, refer to "Instruction Manual for IT-100".

2) Function setting list

For the details, refer to "Instruction Manual for IT-100".

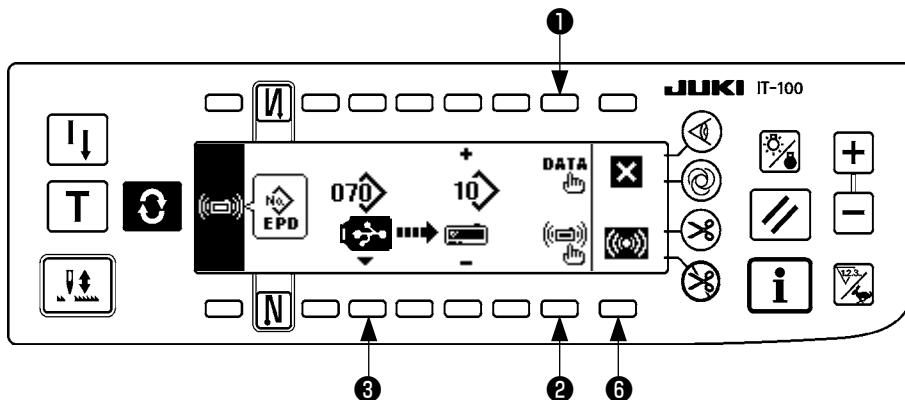
3) Communication mode

For the entering procedure to the communication mode, refer to the item of "Information maintenance personnel level" of Instruction Manual for IT-100.

The matters below can be performed in the communication mode.

1. Parameter data (EPD) from the media can be overwritten to the sewing pattern and registered.
2. Sewing pattern can be uploaded to SU-1 or the media.

■ Communication setting screen

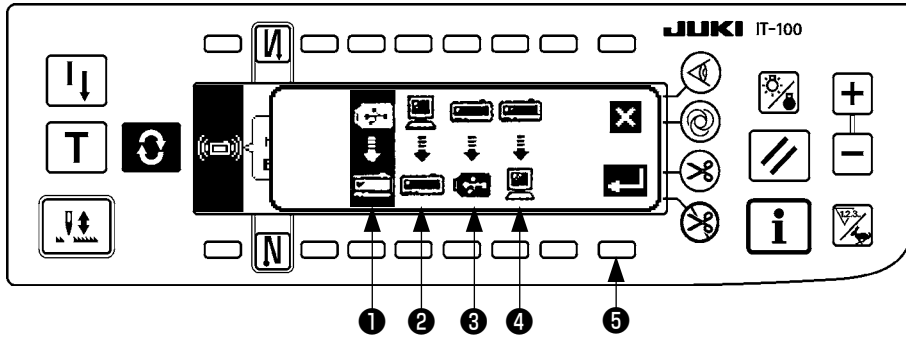


Example of download

Example) Parameter file No. 70 of the media is downloaded to the sewing pattern No. 10.

- ① Open the media cover and insert USB thumb drive from the inserting opening.
- ② Selection of data
EPD is selected from the beginning since the data of EPD form only is handled for DLU-5494.
- ③ Selection of communication method
Press ② in the communication setting screen to display the communication method setting screen.

■ Communication setting screen



Communication method which is selected at present is shown in reverse video.

[Explanation of the pictograph]

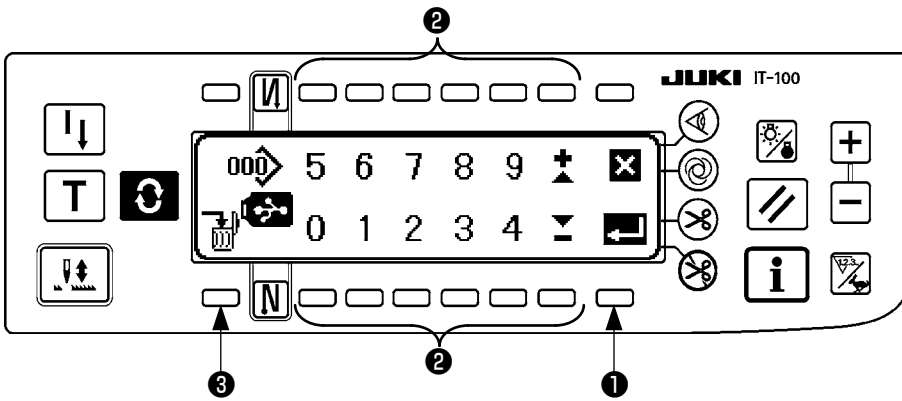
- ① : Down load from the media
- ② : Download from SU-1
- ③ : Upload to the media
- ④ : Upload to SU-1


Press ① to select download from the media. Then press ⑤ to determine.

④ Selection of file No. of the media

Press ③ in the communication setting screen to display the file No. of media input screen.

■ File No. input screen

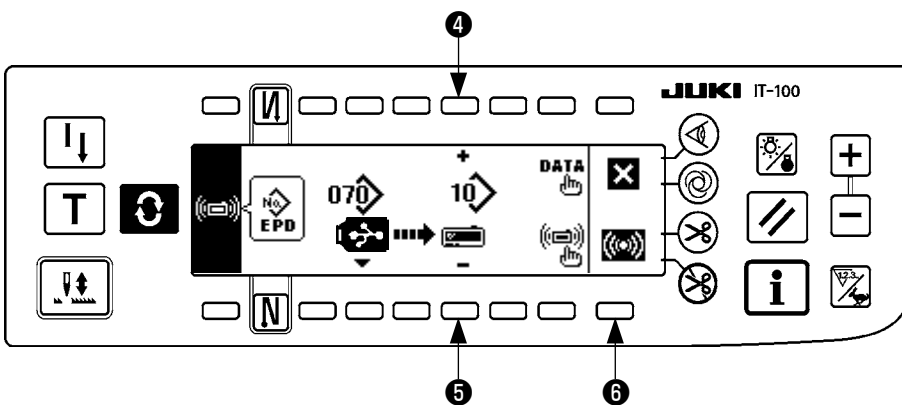


Input file No. of the media at **2**. The file No. which has been inputted is displayed in . The No. is determined with **1** after inputting the file No.

⑤ Custom pattern No. setting

Press **4** and **5** in the communication setting screen to set the custom pattern No.

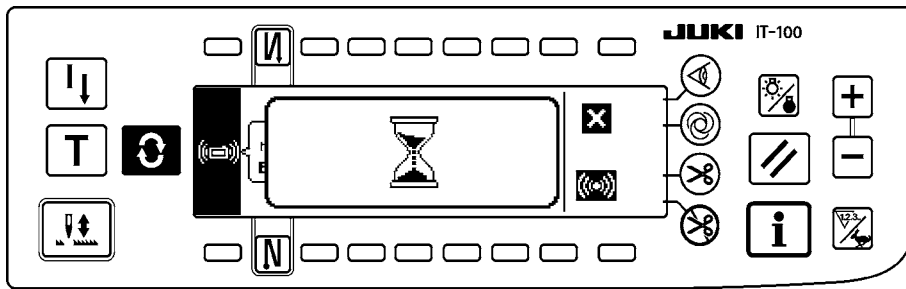
■ Communication setting screen



⑥ Start of download

When all setting procedures have been completed, press **6** in the communication setting screen to start downloading.

■ During communication screen







When the screen returns to the communication setting screen after display of the during communication screen, communication is completed.

Example of upload


Example) Sewing pattern No. 8 is uploaded as the parameter form file No. 15 of the media.

- ① Open the media cover and insert USB thumb drive from the inserting opening.
- ② Selection of data
EPD is selected from the beginning since the data of EPD form only is handled for DLU-5494.
- ③ Selection of communication method
Press ② in the communication setting screen to display the communication method setting screen.

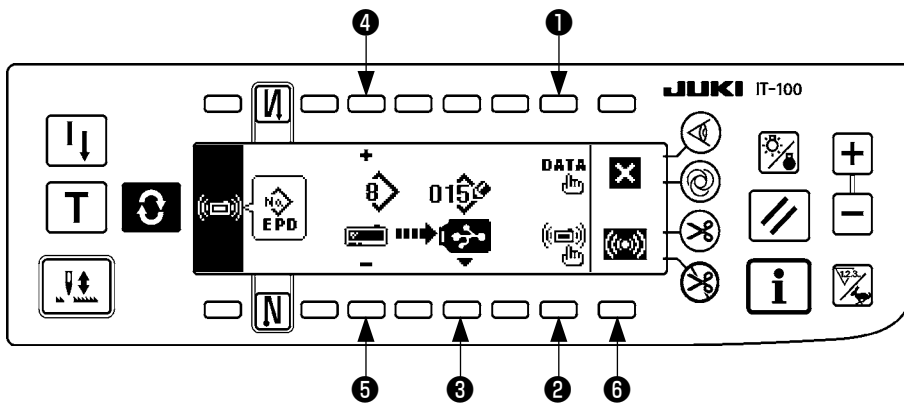
[Explanation of the pictograph]

- ①  Download from the media
- ②  Download from SU-1
- ③  Upload to the media
- ④  Upload to SU-1

Press ③ in the communication setting screen and press ⑤ to determine after selecting upload to the media.

- ④ Setting of the custom pattern No.
Press ④ and ⑤ in the communication setting screen to set the custom pattern No.
- ⑤ Selection of file No. of the media
Press ③ in the communication setting screen to display the file No. of media input screen.
Input the file No. of the media. The inputted file No. is displayed in .
After inputting the file No., determine it with ①.
- ⑥ Start of the upload
When all setting procedures have been completed, press ⑥ in the communication setting screen to start uploading.

■ Communication setting screen

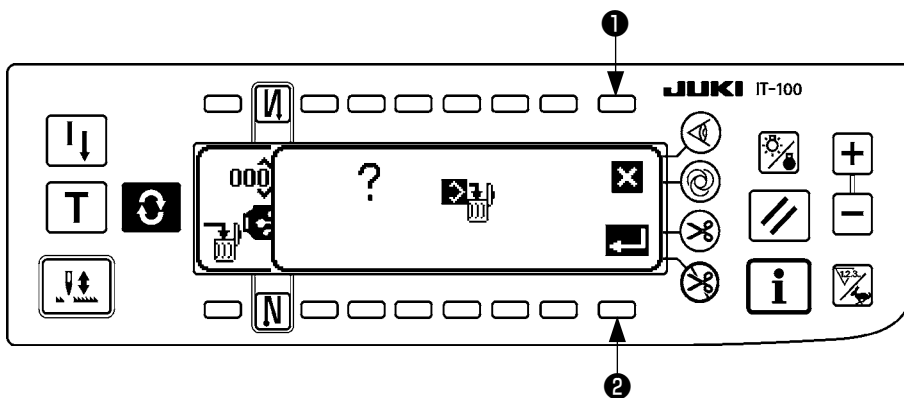


When the screen returns to the communication setting screen after display of the during communication screen, communication is completed.

[How to delete the file of media]

After selecting No. you desire to delete in the file No. of media input screen, press switch of ③. Then the screen moves to the deletion confirmation screen.

■ Deletion confirmation screen



Press ① and the deletion is discontinued. Then the screen returns to the file No. input screen.
Press ② and the deletion is executed. Then the screen returns to the file No. input screen.



The deleted file is not restored. Be very careful when executing the deletion.

(3) External interface

External interface means the section to connect the operation panel and the system which is different from the operation panel.

For the use and details, refer to the Engineer's Manual.

1. Media slot

Media slot is installed in the face cover located on the right side of operation panel.

2. Ethernet port

An Ethernet connector is installed in the face cover located on the right side of operation panel.

3. RS-232C port

RS-232C connector is installed in the rubber cap located on the back side of operation panel.

4. General input port (Production control switch connecting connector)

General input connector, CN105 is installed in the cord outlet cover located on the back side of operation panel.

20. ERROR DISPLAY

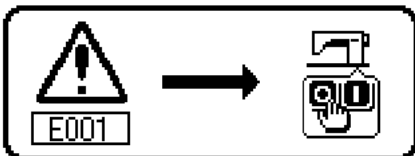


There are two different kinds of errors, those output from the operation panel and those from the SC-922 (control box). Both kinds of errors are notified by the error screen and the buzzer.

Two different kinds of screens of the panel display screen appear due to the difference of the procedures.



- 1) Press the reset switch, and remove the cause of error after erasing the error screen.



- 2) Remove the cause of error after turning OFF the power.

(1) Error code list (Error display in panel)

There are the following error codes in this device. These error codes interlock (or limit function) and inform the problem so that the problem is not enlarged when any problem is discovered. When you request our service, please confirm the error codes.

No.	Description of error detected	Cause of occurrence expected	Items to be checked
E000	Execution of data initialization (This is not the error.)	<ul style="list-style-type: none"> •When the machine head is changed. •When the initialization operation is executed. 	
E003	Disconnection of synchronizer connector	<ul style="list-style-type: none"> •When position detection signal is not input from the sewing machine head synchronizer. •When the synchronizer has broken. 	<ul style="list-style-type: none"> •Check the synchronizer connector (CN33) for loose connection and disconnection. •Check whether the synchronizer cord has broken since the cord is caught in the machine head.
E004	Synchronizer lower position sensor failure		<ul style="list-style-type: none"> •Check the belt tension.
E005	Synchronizer upper position sensor failure	<ul style="list-style-type: none"> •Belt is loose. •Machine head is not proper. •Motor pulley is not proper. 	<ul style="list-style-type: none"> •Check the setting of the machine head. •Check the setting of the motor pulley.
E007	Overload of motor	<ul style="list-style-type: none"> •When the machine head is locked. •When sewing extra-heavy material beyond the guarantee of the machine head. •When the motor does not run. •Motor or driver is broken. 	<ul style="list-style-type: none"> •Check whether the thread has been entangled in the motor pulley. •Check the motor output connector (4P) for loose connection and disconnection. •Check whether there is any holdup when turning the motor by hand.
E008	Undefined machine head is selected	<ul style="list-style-type: none"> •The machine head that does not support the SC-922 is selected. 	<ul style="list-style-type: none"> •Check the machine head selection using function setting No. 95. •Check the Revision of the PWR PCB. If it is Rev. 01, replace the PWR PCB with the one revision of which is Rev. 02 or later.
E011	Media is not inserted.	<ul style="list-style-type: none"> •Media is not inserted. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E012	Read error	<ul style="list-style-type: none"> •Data of media cannot be read. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E013	Write error	<ul style="list-style-type: none"> •Data of media cannot be written. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E014	Write protect	<ul style="list-style-type: none"> •Media is in the state of writing prohibition. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E015	Format error	<ul style="list-style-type: none"> •Formatting cannot be performed. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E016	External media capacity over	<ul style="list-style-type: none"> •Capacity of media is short. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E019	File size over	<ul style="list-style-type: none"> •File is too large. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E032	File interchangeability error	<ul style="list-style-type: none"> •There is no interchangeability of file. 	<ul style="list-style-type: none"> •Turn the power OFF and check the media.
E041	Sewing recorder error	<ul style="list-style-type: none"> •This error number is displayed in the event of a sewing recorder data fault. 	<ul style="list-style-type: none"> •Check whether the data has any fault.
E044	Date and time error	<ul style="list-style-type: none"> •This error number is displayed in the event of operation/data fault concerning date or time of day. 	<ul style="list-style-type: none"> •Check whether the data has any fault.
E053	Notification of production support function initialization (This is not an error)	<ul style="list-style-type: none"> •This error number is displayed after the execution of initialization of the production support function or upgrading of the program. 	
E055	Production management error	<ul style="list-style-type: none"> •This error number is displayed in the event of production management work management data fault. 	<ul style="list-style-type: none"> •Check whether the data has any fault.
E056	Work management error	<ul style="list-style-type: none"> •This error number is displayed in the event of data fault. 	<ul style="list-style-type: none"> •Check whether the data has any fault.

No.	Description of error detected	Cause of occurrence expected	Items to be checked
E057	Pitch time monitor error	•This error number is displayed in the event of pitch time monitor data fault.	•Check whether the data has any fault.
E065	Network transmission failed	•This message is displayed in the case data cannot be sent to the personal computer by way of the network.	•Check whether the network has any fault.
E067	ID reading failed	•This message is displayed in the case data in the ID file is broken.	•Check whether the data has any fault.
E070	Slip of belt	•When the machine head is locked. •Belt is loose.	•Check whether there is any holdup when turning the motor by hand. •Check the belt tension.
E071	Disconnection of motor output connector	•Disconnection of motor connector	•Check the motor output connector for loose connection and disconnection.
E072	Overload of motor at the time of thread trimming motion	•Same as E007	•Same as E007
E204	USB insertion	•This message is displayed in the case the sewing machine is activated with the USB thumb drive inserted.	•Remove the USB thumb drive.
E205	Warning of ISS buffer remaining amount	•This message is displayed in the case the buffer storage for storing the ISS data is almost full. If the sewing machine is continuously used with the buffer storage full, the stored pieces of data will be erased from the earliest one.	•Output the data.
E220	Grease-up warning	•When the predetermined number of stitches has been reached.	•Replenish the specified places with grease and reset. (For the details, refer to the data of the machine head.)
E221	Grease-up error	•When the predetermined number of stitches has been reached and the sewing is not possible.	•Replenish the specified places with grease and reset. (For the details, refer to the data of the machine head.)
E302	Fall detection switch failure (When the safety switch works) (Thread trimming knife sensor)	•When fall detection switch is input in the state that the power is turned ON. •Machine-head tilt detector's connector has come off. •Thread trimming knife position is not correct.	•Check whether the machine head is tilted without turning OFF the power switch (sewing machine operation is prohibited for safety sake). •Check whether the fall detection switch cord is caught in the sewing machine or the like. •Check whether the fall detection switch lever is caught in something. •Check whether the contact of the tilt detection switch lever with the machine table is inadequate. (The table has a dent or the mounting location of the bed strut is too far) •Check the machine-head tilt detector's connector (CN48) for looseness and slip-off. •Positioning of the thread trimming sensor •Set the function setting No. 74 to 0 (zero) when the thread trimmer is not installed on the sewing machine.
E303	Semicircular plate sensor error	•Semicircular plate sensor signal cannot be detected.	•Check whether the machine head corresponds with the machine type setting. •Check whether the motor encoder connector is disconnected.
E499	Simplified program data fault	•Command parameter data is out of specified range.	•Re-enter the relevant simplified program. •Set the simplified program in disable.

No.	Description of error detected	Cause of occurrence expected	Items to be checked
E703	Operation panel is connected to the unexpected sewing machine. (Error of sewing machine model)	•The operation panel and the sewing machine model do not match in the initial communication.	•Connect the operation panel to the correct model of the sewing machine.
E704	System version mismatch	•The system version is different from the correct one in the initial communication.	•Re-write the system version to the one that can be used with the operation panel.
E730	Encoder failure	•When the motor signal is not properly inputted.	•Check the motor signal connector (CN30) for loose connection and disconnection. •Check whether the motor signal cord has broken since the cord is caught in the machine head. •Check whether the inserting direction of the motor encoder connector is wrong.
E731	Motor hole sensor failure		
E733	Inverse rotation of motor	•This error occurs when the motor is running at 500 sti/min or more in the opposite direction of that of rotation indication during motor is running.	•Check whether the machine head corresponds with the machine type setting. •Check whether the main-shaft motor encoder wire is connected incorrectly. •Check whether the main-shaft motor wire for power supply is connected incorrectly.
E799	Thread trimming operation time-out	•The thread trimming control operation is not completed within the predetermined time (within three seconds).	•Check whether the machine head actually installed is different from the machine head selection. •Check whether the motor-pulley diameter does not match its setting (effective diameter). •Check whether the belt has slackened.
E808	Solenoid short circuit	•Solenoid power does not become normal voltage.	•Check whether the machine head cord is caught in the pulley cover or the like.
E809	Holding motion failure	•Solenoid is not changed over to holding motion.	• Check whether the solenoid is abnormally heated. (CTL circuit board asm. Circuit is broken.
E810	Solenoid current abnormality	•Solenoid rare short-circuit.	•Solenoid resistance
E811	Abnormal voltage	•When voltage higher than guaranteed one is inputted. •200V has been inputted to SC-922 of 100V specifications. •JA : 220V is applied to 120V box. •CE : 400V is applied to 230V box.	•Check whether the applied power voltage is higher than the rated voltage + (plus) 10% or more. •Check whether 100V/200V change-over connector is improperly set. In the aforementioned cases, POWER p.c.b is broken.
		•When voltage lower than guaranteed one is inputted. •100V has been inputted to SC-922 of 200V specifications. •JA : 120V is applied to 220V box. •Inner circuit is broken by the applied overvoltage.	•Check whether the voltage is lower than the rated voltage - (minus) 10% or less. •Check whether 100V/200V change-over connector is improperly set. •Check whether fuse or regenerative resistance is broken.
E906	Operation panel transmission failure	•Disconnection of operation panel cord •Operation panel has broken.	•Check the operation panel connector (CN38) for loose connection and disconnection. •Check whether the operation panel cord has broken since the cord is caught in the machine head.
E924	Motor driver failure	•Motor driver has broken.	
E942	Faulty EEPROM	•Data cannot be written on the EEPROM.	•Turn the power OFF.