

JUKI[®]

SC-922

ENGINEER'S MANUAL

40104022
No.E399-01

PREFACE

This Engineer's Manual is written for the technical personnel who are responsible for the service and maintenance of the machine.

The Instruction Manual for these machines intended for the maintenance personnel and operators at an apparel factory contains operating instructions in detail.

It is advisable to use the Instruction Manual and Parts List for CP-18,CP-180 and Machine heads together with this Engineer's Manual when carrying out the maintenance of these machines.

This manual gives the "Standard Adjustment" on the former section under which the most basic adjustment value is described and on the latter section the "Results of Improper Adjustment" under which stitching errors and troubles arising from mechanical failures and "How To Adjust" are described.

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1. SPECIFICATIONS

Supply voltage	Single phase 100 to 120V	3-phase 200 to 240V	Single phase 200 to 240V
Frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
Operating temperature range	Temperature : 0 to 40°C	Temperature : 0 to 40°C	Temperature : 0 to 40°C
Operating humidity range	Humidity : 90% or less	Humidity : 90% or less	Humidity : 90% or less
Power consumption	310VA	310VA	310VA
Mass	3 kg	3 kg	3 kg

* The power consumption is a reference value when LU-1510N-7 is used as a sewing machine.
The power consumption varies depending on a sewing machine head to be selected.

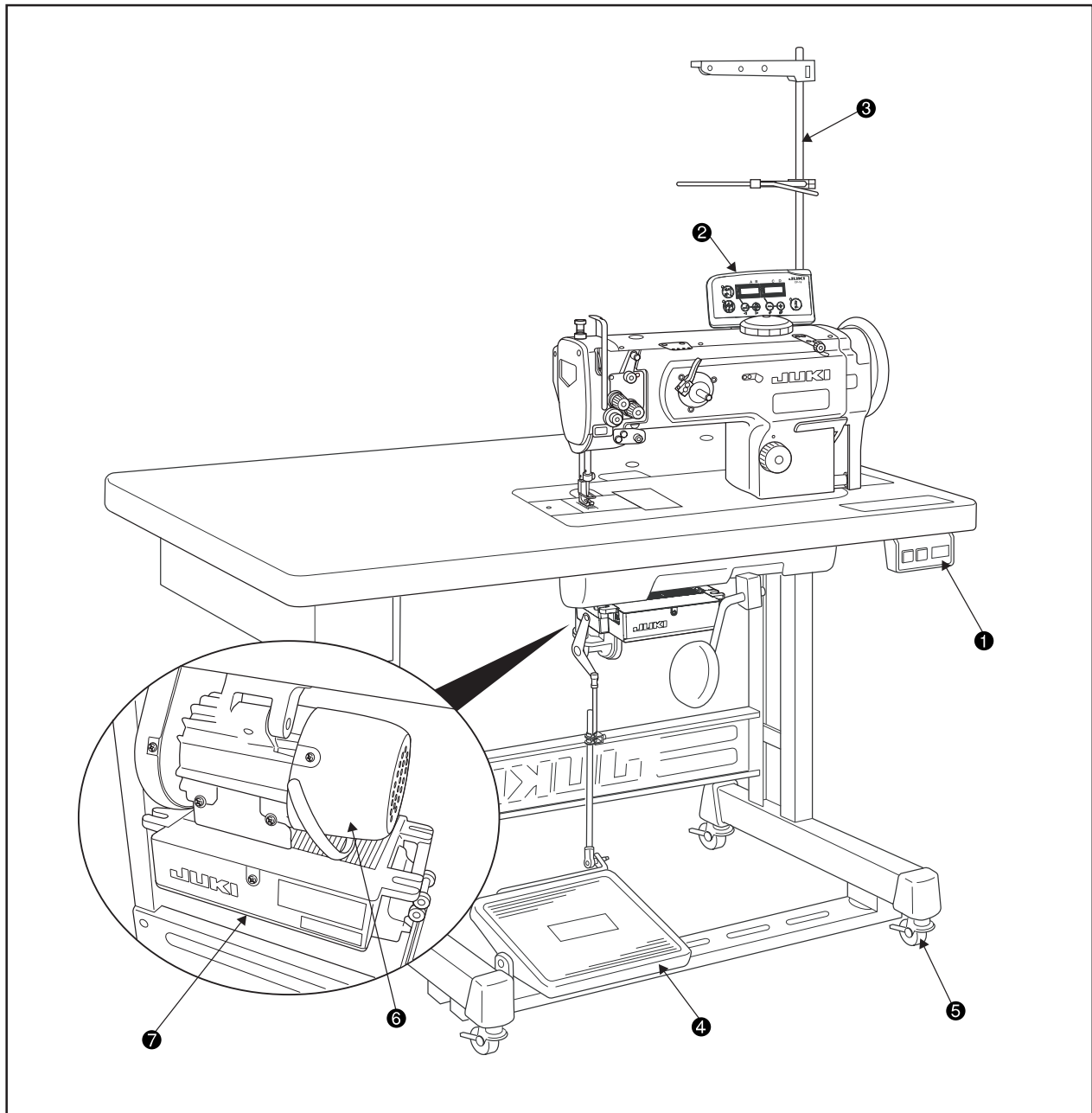
2. OUTLINE

(1) Features

- 1) Voltage changeover function of single phase 100 to 120V/3-phase 200 to 240V is provided.
The control box with voltage changeover function can be used either for single phase 100 to 120V or for 3-phase 200 to 240V by replacing the power cord up to the power switch and changing the voltage changeover connector inside the box.
In addition, it can be used for single phase 200 to 240V.
- 2) By using CP-180, CP-18 the sewing management information such as output display, etc. can be used.
- 3) The conventional JUKI optional devices should be used upon confirmation of distributor.
- 4) By using the flash ROM for CPU, the future version-up can be adapted.
- 5) Connection of the motor unit (M51N) allows SC-922 to be used for a (belt) drive machine head.

3. NAME OF EACH COMPONENT

(1) LU-1510N-7/SC-922

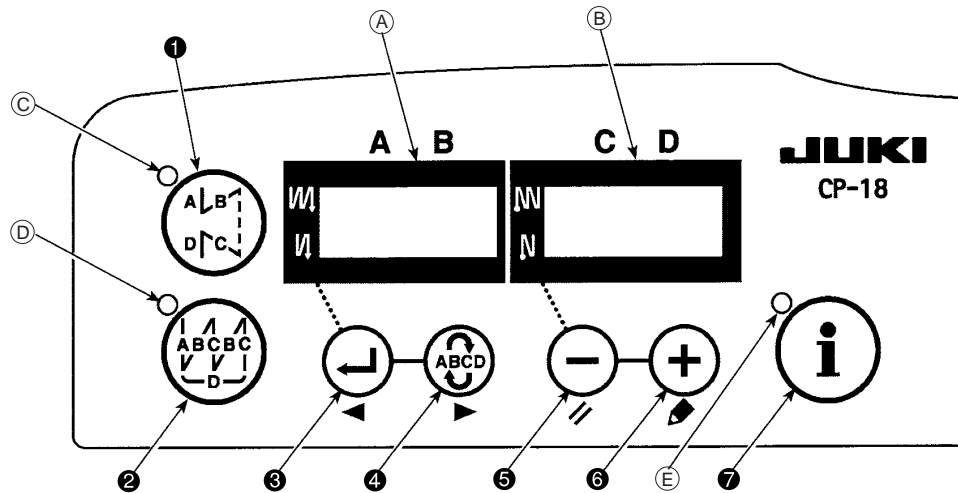


- ❶ Power switch
- ❷ Operation panel (CP-18 or CP-180)
- ❸ Thread stand
- ❹ Operation pedal
- ❺ Table stand level adjusting screw or caster
- ❻ Motor (M51N)
- ❼ Control box (SC-922)

- ❶ Power switch
This switch turns on and off the power to the head unit motor, electric components, and operation panel.
- ❷ Operation panel (CP-18 or CP-180)
This panel allows users to conduct the settings of automatic reverse stitching, head sewing, sewing speed, and more. (Cannot work without panel)
- ❸ Thread stand
- ❹ Operation pedal
This pedal allows users to conduct machine speed control, thread trimming, presser lifting motion (only for AK type), and more by depressing the front or back part of the pedal.
- ❺ Table stand level adjusting screw or caster
Adjust it in accordance with the workplace floor to eliminate any rattle and reduce vibration as much as possible.
- ❻ Motor (M51N)
The motor drives the sewing machine at high, medium, or low speeds in response to output signals from the control box.
- ❼ Control box (SC-922)
The control box contains the circuit that controls the machine head and motor, the output circuit that operates each output (thread trimming solenoid, back solenoid, wiper solenoid, etc.), pedal sensor for detecting pedal operation, and the power circuit that activates each function.

4. EXPLANATION OF OPERATION PANEL

(1) List of operation panels of CP-18



- 1
A|B
D|C
 switch : Used for changing over effective/ineffective of the reverse feed stitching pattern.
- 2
A|B
V|V
D
 switch : Used for changing over effective/ineffective of the overlapped stitching pattern.
- 3
↶
 switch : Used for confirming the contents of setting and for changing over effective/ineffective of the reverse feed stitching at sewing start.
- 4
ABCD
 switch : Used for selecting the process (A, B, C, D) the number of stitches for which is to be changed.
 * The selected process flashes on and off.
- 5
-
 switch : Used for changing the content of the selected display (flashing section) and for changing over effective/ineffective of the reverse stitch at sewing end.
- 6
+
 switch : Used for changing the content of the selected display (flashing section).
- 7
i
 switch : Used for calling the production support function (by keeping the switch held pressed for two seconds).

Indicators ① and ② : Various pieces of information are displayed.

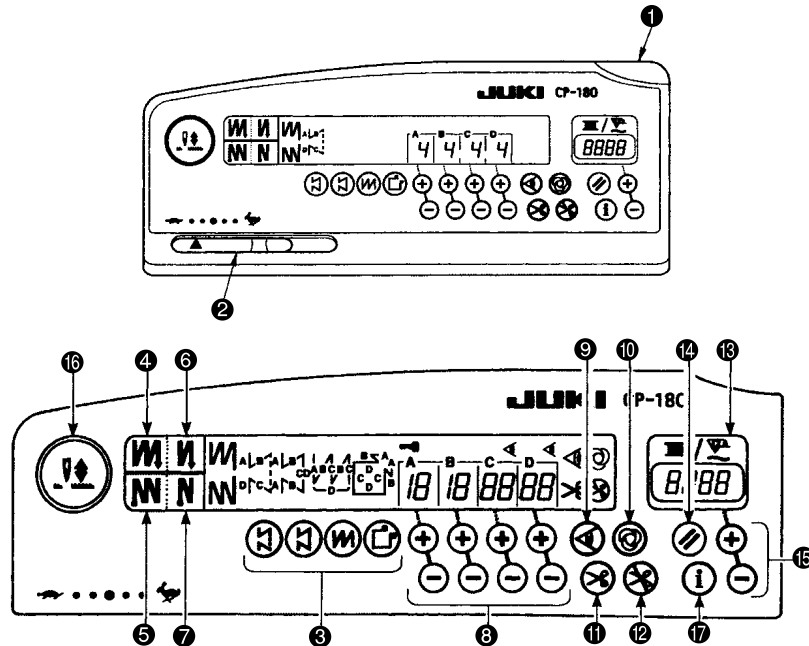
LED ③ : Lights up when the reverse feed stitching pattern is effective.

LED ④ : Lights up when the overlapped stitching pattern is effective.

LED ⑤ : Lights up when the production support function is displayed.

Blinks when calling the one-touch setting.

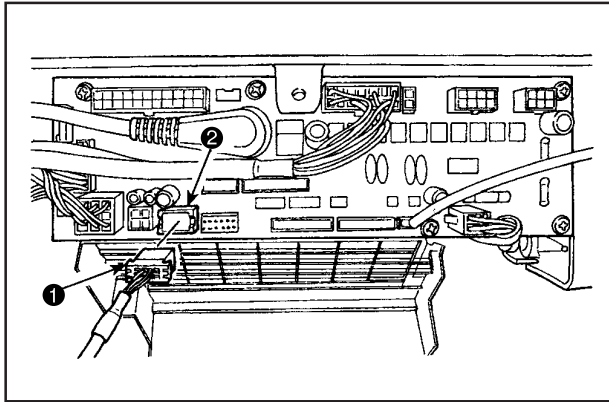
(2) List of operation panels of CP-180



No.	Description
①	Power indication LED : Lights up when the power switch is turned ON.
②	Max. speed limit variable resistor : Maximum speed is limited when this resistor is moved in the left direction ().
③	Pattern selector switch : Used for selecting a pattern from among the four different patterns.
④	Automatic double reverse stitching at the start of sewing switch : Used for turning ON / OFF the automatic double reverse stitching at the start of sewing.
⑤	Automatic double reverse stitching at the end of sewing switch : Used for turning ON / OFF the automatic double reverse stitching at the end of sewing.
⑥	Automatic reverse stitching at the start of sewing switch : Used for turning ON / OFF the automatic reverse stitching at the start of sewing.
⑦	Automatic reverse stitching at the end of sewing switch : Used for turning ON / OFF the automatic reverse stitching at the end of sewing.
⑧	Switches for setting the number of stitches : Used for setting the number of stitches to be sewn in processes A through D.
⑨	Material edge sensor ON / OFF switch : Rendered effective when the material edge sensor is installed on the machine. Used for setting whether or not the material edge sensor is used during sewing.
⑩	One-shot automatic stitching switch : Rendered effective when the material edge sensor is installed on the machine or when the sewing machine is operated under the constant-dimension stitching mode. Start the sewing machine with this switch, and the sewing machine will run automatically until the material edge is detected or the end of a constant-dimension stitching is reached.
⑪	Automatic thread trimming switch : Rendered effective when the material edge sensor is installed on the machine or when the sewing machine is operated under the constant-dimension stitching mode. Even keep depressing the front part of the pedal, the sensor can detect the material edge, or after the completion of the constant-dimension stitching mode, the machine will automatically perform thread trimming.
⑫	Thread trimming prohibition switch : Used for prohibiting thread trimming at any occasion.
⑬	Bobbin thread counter/thread trimming counter : Bobbin thread counter/thread trimming counter can be changed over by the function of the control box main body. Bobbin thread counter : Indicates the amount detecting device is installed on the machine, the counter indicates the number of times of detecting. Thread trimming counter : Every time thread trimming is performed, the counter value is added.
⑭	Counter reset switch : Used for returning the value shown on the bobbin thread counter to the initial value. [0] is selected for the setting when thread trimming counter is selected.
⑮	Bobbin thread amount setting switch : Used for setting the amount of bobbin thread.
⑯	Needle bar stop position changeover function to be available when the needle up/down compensating switch/pedal is in neutral state. Needle up/down compensating switch : This switch is used for each needle up/down compensating stitching. [Changeover selection of needle bar stop position when the pedal is in its neutral position] Pressing the needle up/down compensation switch, turn ON the power to the machine, and the needle bar stop position when the pedal is in its neutral position is changed over to down position/up position. Confirmation of the stop position can be performed on the panel. When up position stop is specified : " nP UP " When down stop position is specified : " nP Lo "
⑰	Information switch Used for calling the production support function (by keeping the switch held pressed for one seconds).

(3) Operation of the connection panel

1) Connecting procedure of CP-18/180

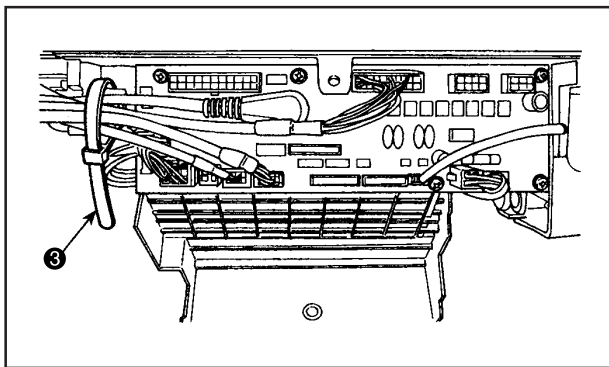


[Connection of the connector for CP panel]

Exclusive connectors are prepared for connection of the connector for CP-18/180.

Paying attention to the orientation of the connector ① connect it to connector ② (CN38) located on the circuit board. After connecting, securely lock the connector.

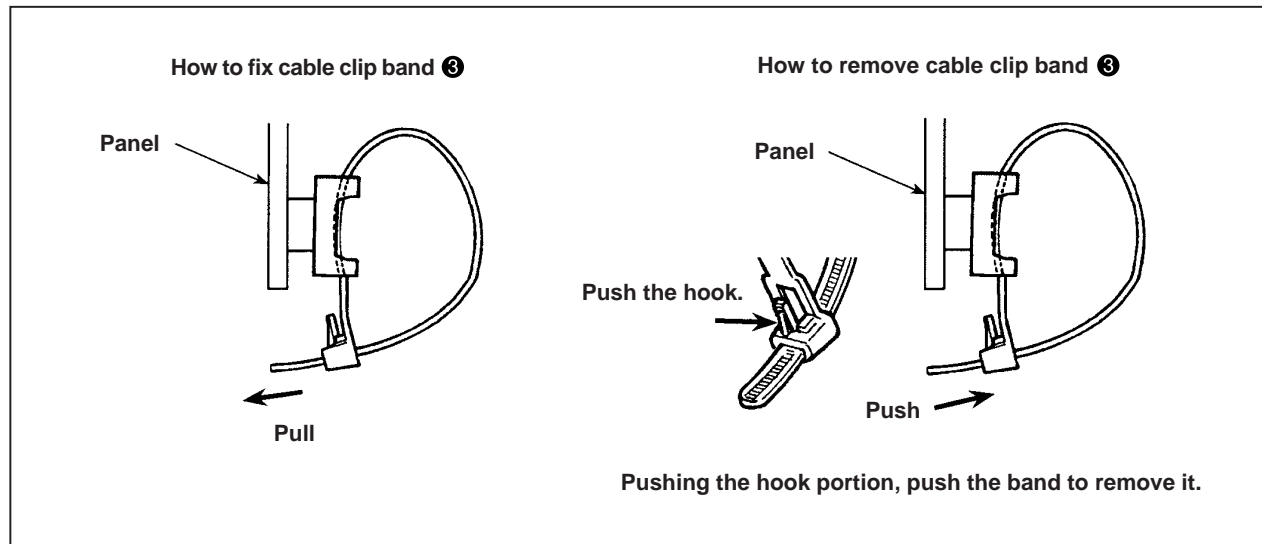
(Caution) Be sure to turn OFF the power before connecting the connector.



1. After inserting the connector, put all cords together with cable clip band ③ located on the side of the box.

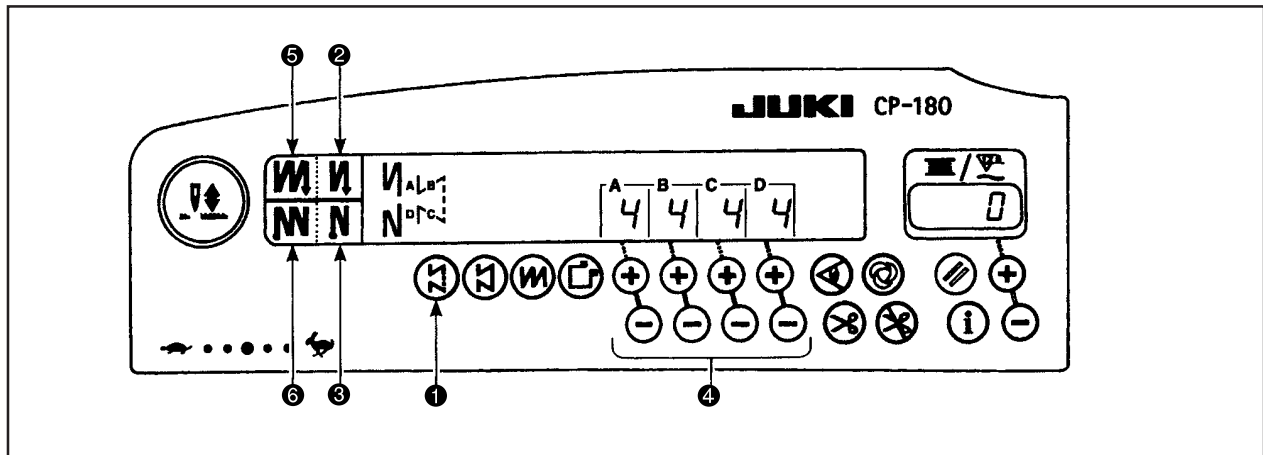
(Caution) 1. Fix the cord clamp and the cable clip band ③ following the attaching procedure. (Refer to Instruction Manual)

2. When removing the connector, remove it from the cable clip band while pressing the hook of the cable clip band ③.



(4) Explanation of operation panel CP-180

1) Reverse stitching pattern

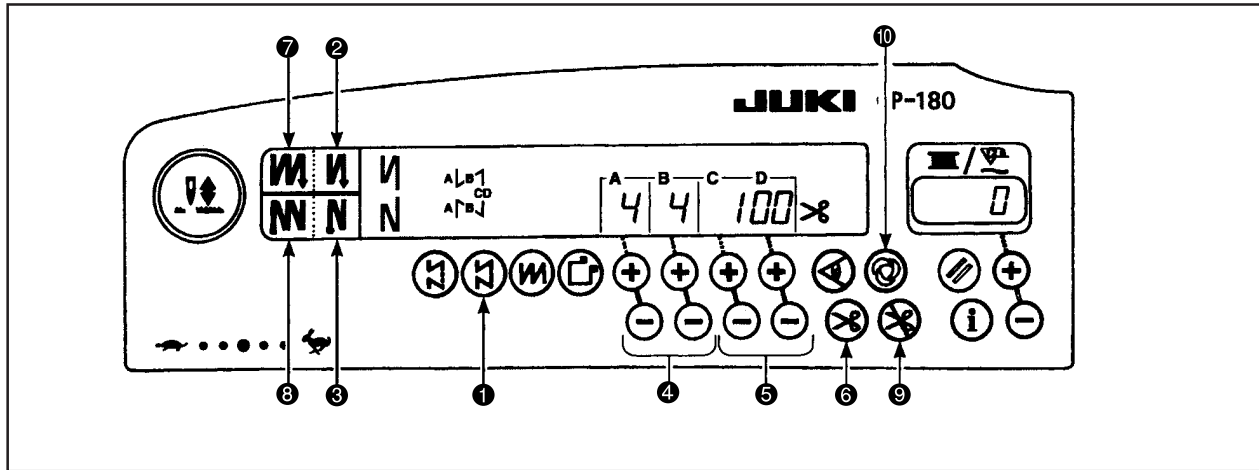


* In regard to the description about the CP-18 operator panel, refer to the Instruction Manual for the SC-922.

②		OFF	ON	OFF	ON
Sewing pattern					
③		OFF	OFF	ON	ON

1. Press reverse stitching pattern switch ① to specify the reverse stitching pattern.
2. The reverse stitching pattern is selected, and the number of stitches and data on reverse stitching which have already been specified are shown on the panel.
3. If you want to change the number of stitches, operate the "+" or "-" switch of switches ④ for setting the number of stitches A through D.
(The range of the number of stitches that can be changed : 0 to 19 stitches)
4. Four different stitching patterns can be performed by matching the ON and OFF settings of automatic reverse stitching (for start) switch ② and automatic reverse stitching (for end) switch ③.
5. Furthermore, the double reverse stitching can be selected by operating double reverse stitching (for start) switch ⑤ and double reverse stitching (for end) switch ⑥.

2) Constant-dimension stitching pattern

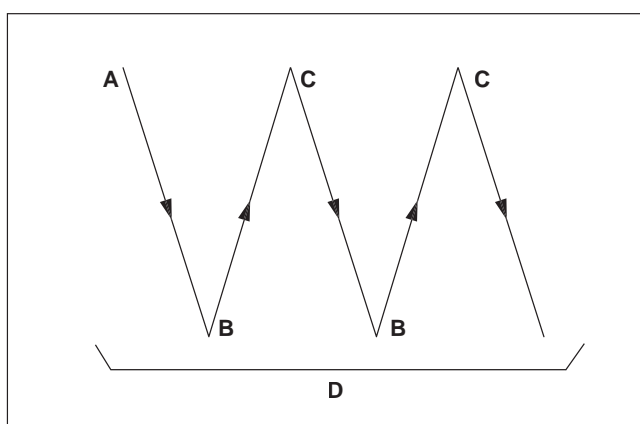
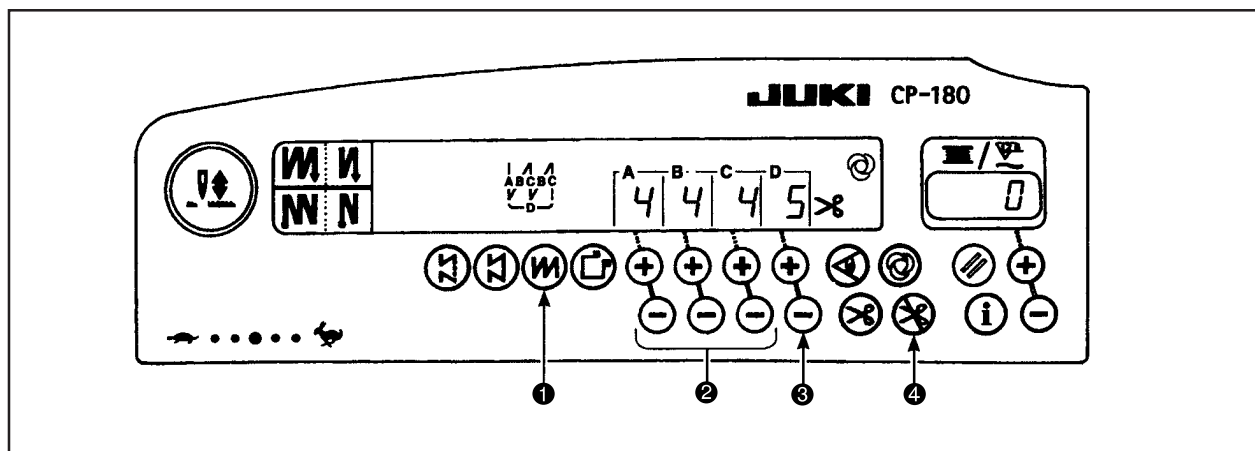


②		OFF	ON	OFF	ON
Sewing pattern					
③		OFF	OFF	ON	ON

1. Press constant-dimension stitching pattern switch ① on the control panel to select the constant-dimension stitching pattern.
2. The constant-dimension stitching pattern is selected. Now, the predetermined number of stitches and the state of reverse stitching function are shown on the control panel.
3. To change the number of stitches of the processes in the constant-dimension stitching pattern, change the number of stitches for processes C and D by operating switches ⑤ for setting the number of stitches for processes C and D. Select the reverse feed stitching accordingly. To change the number of reverse-feed stitches, operate switches ④ for setting the number of stitches for processes A and B.
 (Adjusting range : A, B = 0 to 19 stitches
 C, D = 0 to 500 stitches)

4. Four different kinds of stitching patterns can be performed according to the combination of ON/OFF settings of automatic reverse stitching (for start) switch ② and automatic reverse stitching (for end) switch ③.
5. Furthermore, the double reverse stitching mode can be specified by operating double reverse stitching (for start) switch ⑦ and double reverse stitching (for end) switch ⑧.
6. If automatic thread trimming switch ⑥ is turned ON, the sewing machine will automatically perform thread trimming after it finishes the predetermined number of stitches between C and D. (If the automatic reverse feed stitching (for end) is selected, the sewing machine will automatically perform thread trimming after it finishes the automatic reverse stitching (for end) even when the automatic thread trimming switch is not selected.)
 If automatic thread trimming switch ⑥ is turned OFF, operate the touch-back switch after the completion of processes C and D. Then the machine runs at a low speed (stitch compensation operation).
 Also, if the pedal is returned to its neutral position and depressed its front part again, the sewing can be continued regardless of the setting of number of stitches.
7. If thread trimming prohibiting function ⑨ is chosen, the machine will stop with the needle up without performing thread trimming.
8. If one-shot automatic stitching function ⑩ is chosen, the machine will automatically perform sewing at a stretch, at the specified speed by depressing the front part of the pedal.

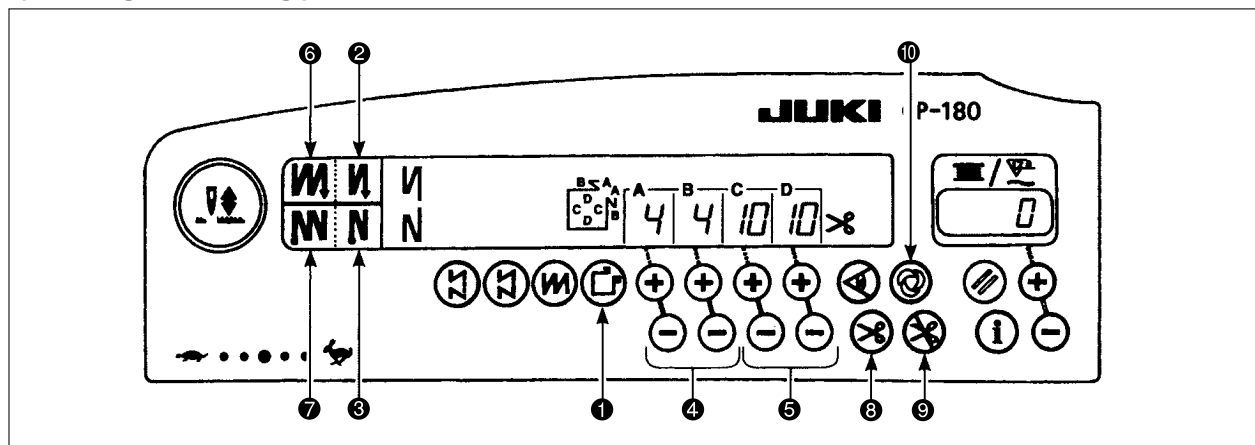
3) Overlapped stitching pattern



1. Press overlapped stitching pattern switch **1** to specify the overlapped stitching pattern.
2. The overlapped stitching pattern is selected, and the number of stitches and data on overlapped stitching which have already been specified are shown on the panel.
3. If you want to change the number of stitches, operate number of stitches setting switches **2** for processes A through C, and to change the number of repeated processes, operate the “+” or “-” switch of switch **3** for setting the number of processes D.

The range of the number of stitches A, B and C that can be changed : 0 to 19 stitches.
 The range of the number of processes D that can be changed : 0 to 9 times.
4. Depress the front part of the pedal once, and the sewing machine will repeat the normal stitching and reverse stitching by the predetermined times. Then, the sewing machine will automatically make the thread trimmer actuate and will stop to complete the overlapped stitching procedure. (The one-shot automatic stitching cannot be turned OFF.)
5. If thread trimming prohibiting function **4** is chosen, the machine will stop with the needle up upon completion of the overlapped stitching procedure without performing thread trimming.

4) Rectangular stitching pattern



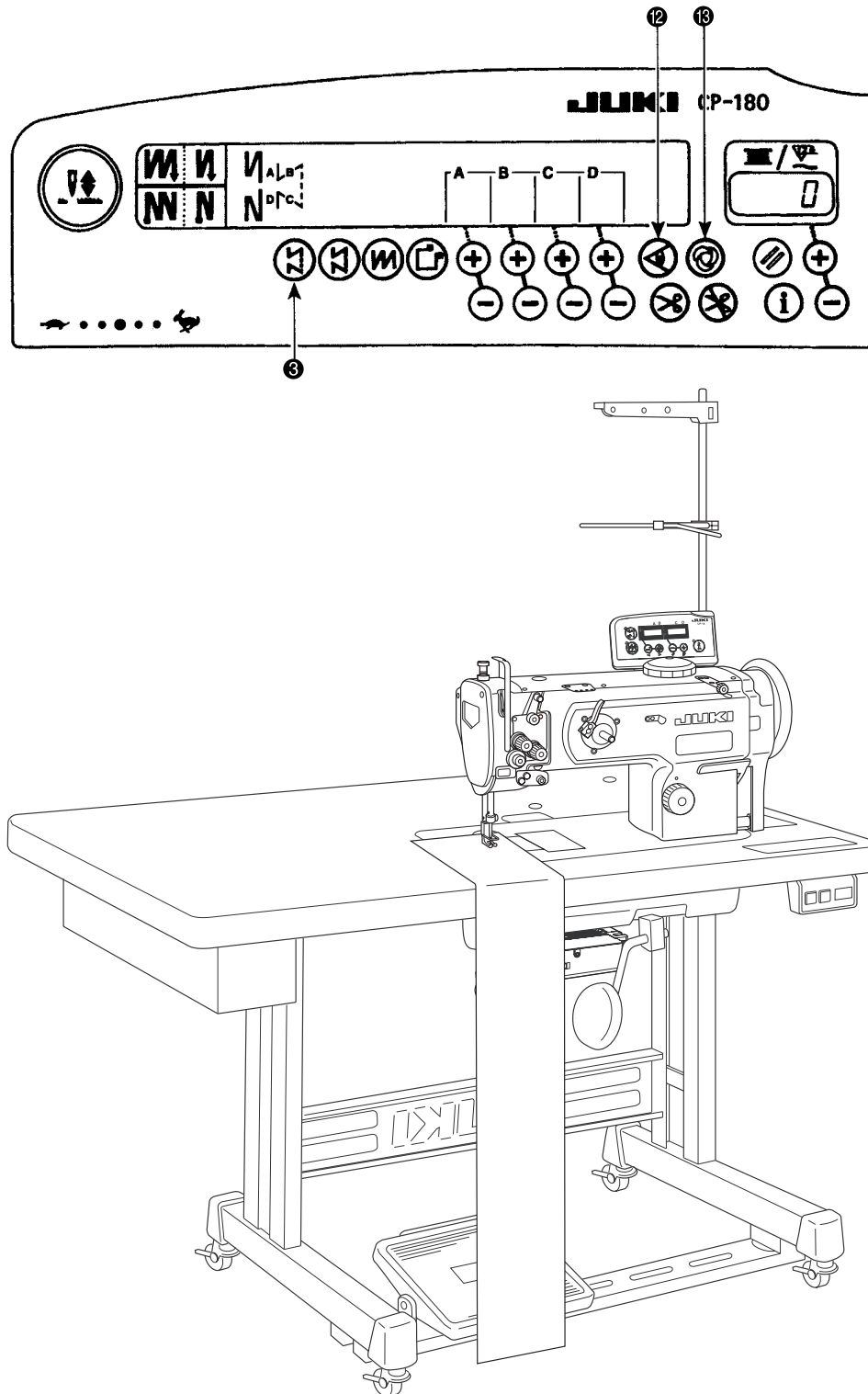
②	OFF	ON	OFF	ON
Sewing pattern				
③	OFF	OFF	ON	ON

1. Press rectangular stitching pattern switch ① on the control panel to select the rectangular stitching pattern.
2. The rectangular stitching pattern is selected. Now, the predetermined number of stitches and other sewing data are shown on the control panel.
3. To change the number of stitches of the processes in the rectangular stitching pattern, operate switches ⑤ (for processes C and D) to change the number of stitches for processes C and D. Select the reverse feed stitching accordingly. To change the number of reverse-feed stitches, operate switches ④ for setting the number of stitches for processes A and B. (Adjustable range : A, B = 0 to 19 stitches, C, D = 0 to 99 stitches)
4. Four different kinds of stitching patterns can be performed according to the combination of ON/OFF settings of automatic reverse stitching (for start) switch ② and automatic reverse stitching (for end) switch ③.
5. Furthermore, the double reverse stitching mode can be specified by operating double reverse stitching (for start) switch ⑥ and double reverse stitching (for end) switch ⑦. When the touchback switch is operated at this time, the sewing machine runs at a low speed (compensating stitching). In the final step, sewing can be continued regardless of the setting of the number of switches when the pedal is returned to its neutral position and its front part is depressed again.
6. If automatic thread trimming switch ⑧ is turned ON, the sewing machine will automatically perform thread trimming after the completion of the last process. (If the automatic reverse stitching (for end) is selected, the sewing machine will automatically perform thread trimming after it finishes the automatic reverse stitching (for end).)
7. If thread trimming prohibiting function ⑨ is chosen, the machine will stop with the needle up without performing thread trimming.
8. If one-shot automatic stitching function ⑩ is chosen, the machine will automatically perform sewing at a stretch until the number of stitches specified is reached, at the predetermined sewing speed by depressing the pedal while the sewing machine is engaged in the sewing of process C or D. The machine performs thread trimming in the last process of one-shot automatic stitching pattern.
9. For the sewing machine equipped with an auto-lifter, the presser foot will automatically go up after the completion of each sewing process.

(5) Example of application

1) When the CP-180 is used together with the material end sensor it can be used as a small edge-controller.

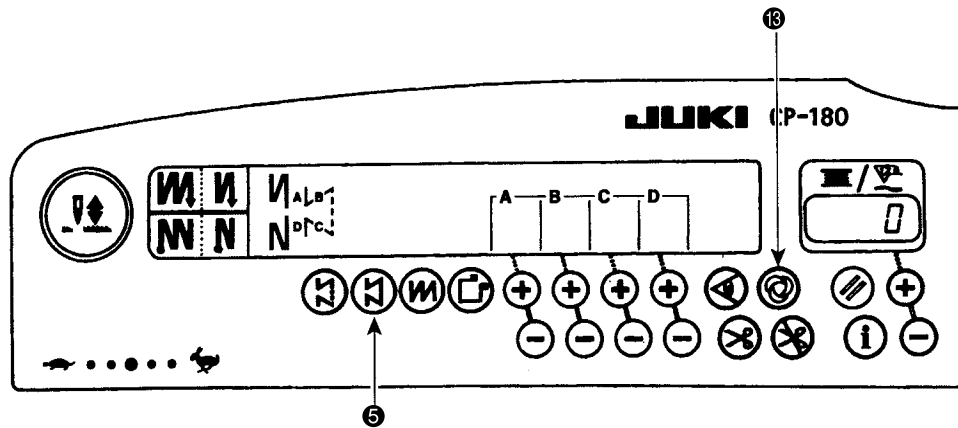
(Method) Adjust the position to (H) mark ③ of the CP-180, turn ON material end sensor ON/OFF switch ⑫ of the turn ON (C) mark ⑬ of the automatic one-shot stitching.



(Caution) Number of rotations of the automatic one-shot stitching can be changed by the function setting (No. 38).

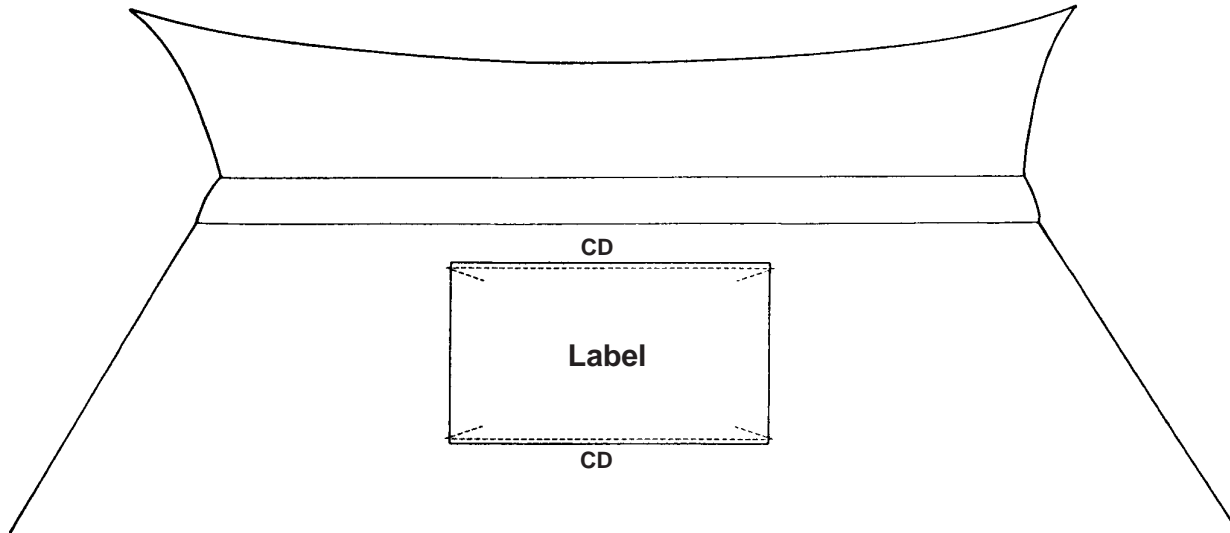
2) Label attaching is performed by the automatic one-shot stitching with the CP-180

(Method) Select (M) mark (5) on the CP-180, and turn ON (C) mark (13) of the automatic one-shot stitching.



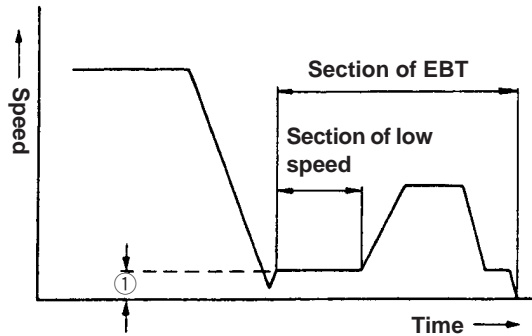
(Explanation) Number of stitches at the section CD can be set up to 500 stitches. If the stitch length is 2 mm, it is possible to sew approximately 1,000 mm (1 m).

This function can perform the automatic one-shot stitching without using the material end sensor. Therefore, the sewing machine performs the sewing to the last according to the sewing pattern even if the label is not located at the end of material when the pedal is depressed once.



3) Seam joining of the reverse feed stitching at the end of sewing (For thick materials)

Especially some sewing machine heads for thick materials are likely to fail joining the seam at the section of the following figure even if the timing of reverse feed stitching at the end of sewing is compensated.



- ① At the timing to move to the reverse feed stitching action, the rotating speed at the section where the sewing machine is rotated at a low speed can be changed.
Function setting No. 64

Example) Use for reference.

Standard

Condition	Machine head of LU-1510N-7 (for thick materials)	Condition	Machine head of LU-1510N-7 (for thick materials)
	Stitch length 6 mm		Stitch length 6 mm
	Number of stitches 4 stitches		Number of stitches 4 stitches
	ITEM No. 64 180sti/min		ITEM No. 64 0sti/min

5. CONTROL BOX (SC-922)

(1) Connecting the cords



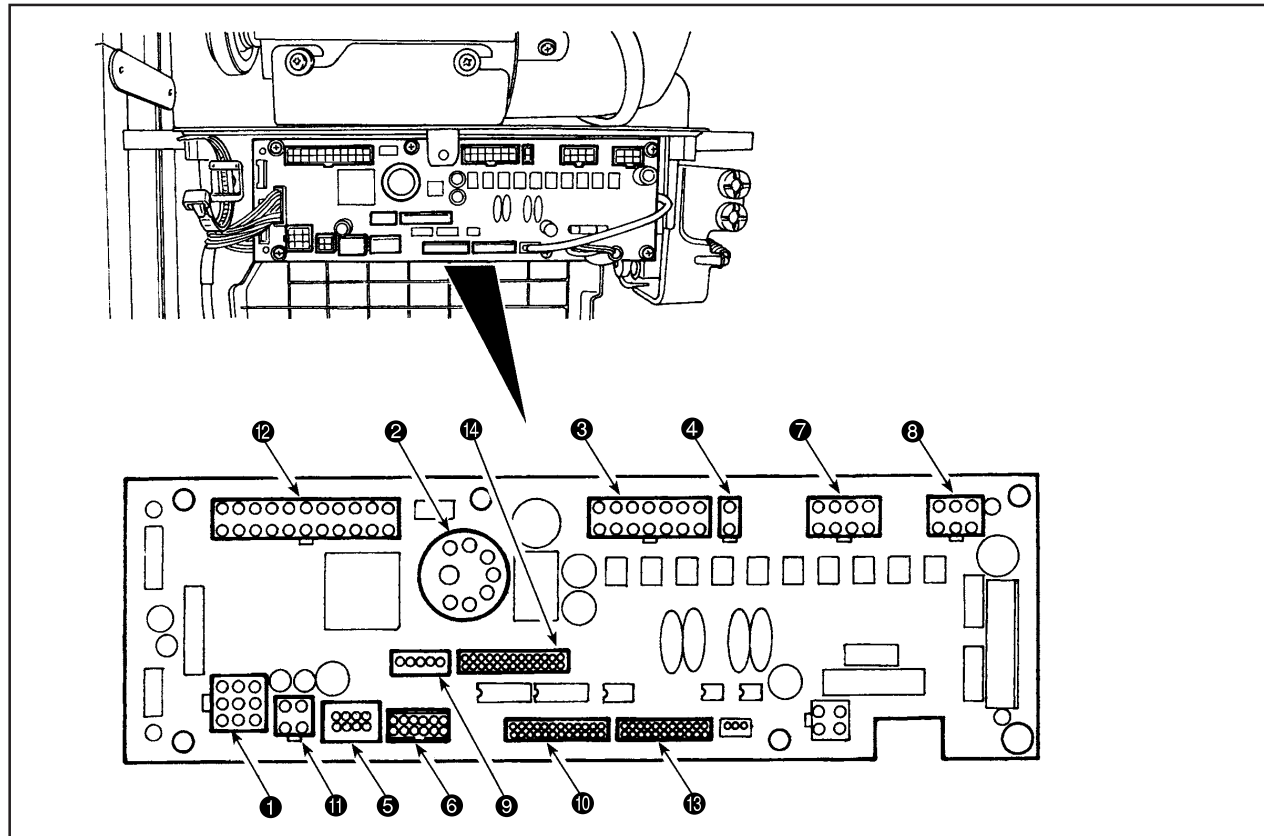
WARNING :

- 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. (If any of the connectors is inserted into a wrong connector, not only the device corresponding to the connector can break but also it can start abruptly, inviting the risk of personal injury.)
- 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 front face of 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.

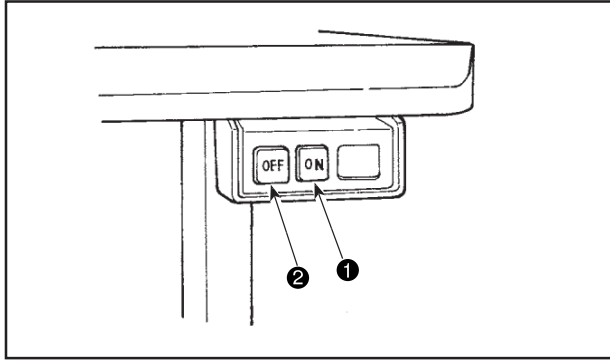
For the SC-922, the machine head to be used with is to be selected in the course of the function setting procedure.

To prevent an insertion error, remove the resistor pack for the machine head selection before use.



- | | | | |
|--------|--|--------|---|
| ① CN30 | Motor signal connector | ⑧ CN41 | Stepping motor: It is used only with the DLU-5494N-7. |
| ② CN33 | Needle bar position detector (+5V type): It detects the needle bar position. | ⑨ CN43 | Synchronizer (+12V 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. | ⑩ CN44 | Hand switch: Hand switch other than the touch-back switch. |
| ④ CN37 | Presser foot lifting solenoid (Only for the automatic presser foot lifter type) | ⑪ 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. |
| ⑤ CN38 | Operation panel: Various kinds of sewing can be programmed. (For details of the operation panel other than CP-18, refer to the Instruction Manual for the panel to be used.) | | OPTION switch: Input function can be changed by changing over the internal function with this switch. |
| ⑥ CN39 | Standing machine pedal: JUKI standard PK70, etc. Sewing machine can be controlled with external signals. | ⑫ CN51 | Extended input/output connector |
| ⑦ CN40 | Separately driven-needle control solenoid: It is used with the LH-4100 sewing machine provided with a separately driven-needle control device. | ⑬ CN58 | Extended input connector (for the sensor input, etc.) |
| | | ⑭ CN59 | Extended output connector (for the solenoid valve output) |

(2) Operating procedure

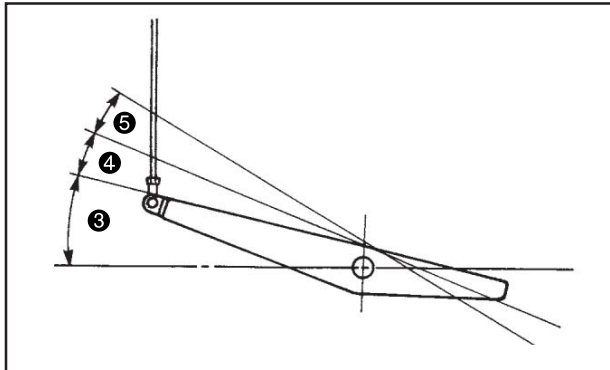


1. Press ON button ❶ of the power switch to turn ON the power.

(Caution) When the power display LED does not light up even when the power switch is turned ON, immediately cut OFF the power and check the voltage. In addition, re-turn ON the power switch in such a case when 5 minutes or more have passed after turning OFF the power switch. (When overvoltage is entered, the protecting circuit works and the re-turning ON in the state that the power is not completely turned OFF is not accepted.)

2. When the needle bar is not in the up position, it may be automatically placed in the up position depending on the machine head to be mounted.

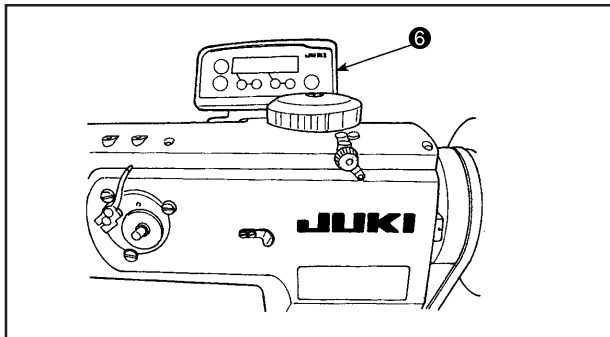
(Caution) When the power is turned on for the first time, the startup may be slightly delayed due to initialization to be performed. Use caution not to place your hands or any object under the needle because the needle bar may move when the power is turned on.



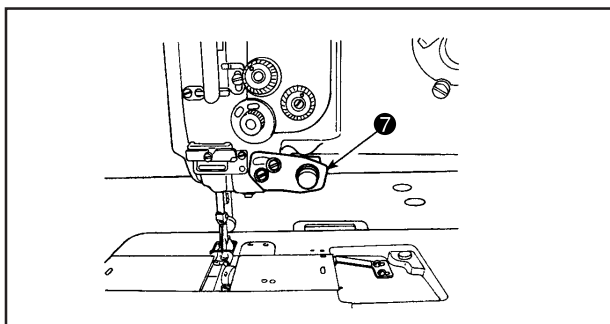
3. When depressing front part ❸ of the pedal, the sewing machine rotates at the number of revolutions in accordance with the depressing amount. When the pedal is returned to the neutral position, the sewing machine stops.
4. When lightly depressing back part ❹ of the pedal, the presser goes up. (PFL type only)
5. When strongly depressing back part ❺ of the pedal, thread trimming is performed.

(Caution) For KFL and PFL types, thread trimming entering point is different from each other.

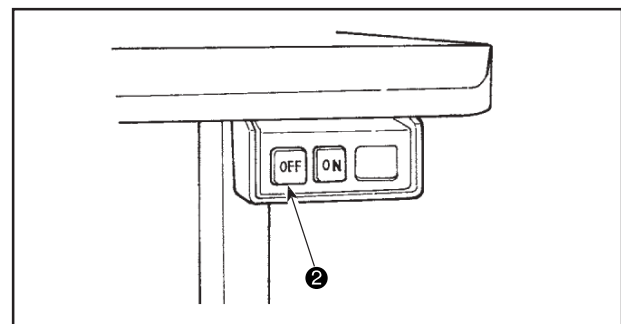
	PFL	KFL
Presser foot operation by pedal	Enabled	Disabled
Pedal depressing depth for thread trimming	Deep	Shallow



6. A wide variety of sewing patterns such as reverse feed stitchings at sewing start and end are programmable on the operation panel. Refer to "III.-3 Operating procedure of the sewing patterns" of Instruction Manual for CP-18 ❹ and "4. Operation panel" for the other operation panels. (The illustration represents the case of LU-1510N-7)



7. When pressing touch-back switch ❺, reverse feed can be performed.

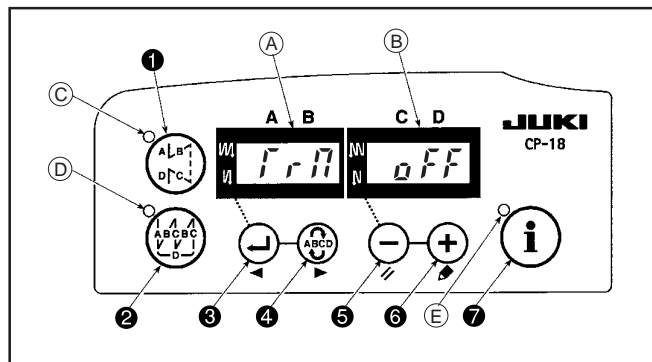


8. When sewing is completed, press OFF button ❷ of the power switch to turn OFF the power switch after confirming that the sewing machine has stopped.

(3) One-touch setting

A part of function setting items can be easily changed in the normal sewing state.

(Caution) For the setting of functions other than those covered in this part, refer to “5.-(4) Setting of functions”.



[One-touch setting procedure]

1. Keep **(i)** switch **⑦** held pressed for one second to place the panel in the function setting mode. When the function setting mode is on, LED **(E)** blinks.
2. Change over the item to be set by using **(←)** switch **③** or **(ABCD)** switch **④**. Then, the set value can be changed by using **(-)** switch **⑤** and **(+)** switch **⑥**.
3. To return to the normal sewing state, press **(i)** switch **⑦**.

(Caution) The setting is confirmed by pressing **(i) switch **⑦**.**

① Thread trimming function (*T r n*)

o f f : Thread trimming operation is not performed (solenoid output prohibition: Thread trimmer, wiper)
o n : Thread trimming operation is effective.

② Wiper function (*W i p*)

o f f : Wiper does not operate after thread trimming *o n* : Wiper operates after thread trimming

③ One-shot automatic stitching function (*S h o t*)

o f f : One-shot automatic stitching function is ineffective. *o n* : One-shot automatic stitching is effective.

(Caution) This function is rendered effective when the material end sensor function is set. It is not possible to prohibit the one-shot operation during overlapped sewing operation. The number of revolution is the value which is set for setting No. 38.

④ Setting of the max. speed of stitch (*S p d*)

The highest speed of stitch of the machine head is set. The upper limit of the set value differs with the type of machine head to which the SC is connected.

Setting range : 150 - Max. value [sti/min]

⑤ Material end sensor function (*E d*)

o f f : Material end sensor function is ineffective.

o n : Once the material end is detected, the sewing machine stops running after having sewn the number of stitches set with **⑦** (*E d S r*).

* The function setting No. 12 activates the material end sensor at setting.

⑥ Thread trimming function by material end sensor (*E d T r*)

The function setting No. 12 activates the material end sensor at setting.

o f f : Automatic thread trimming function after the detection of material end is ineffective.

o n : Once the material end is detected, the sewing machine performs thread trimming after having sewn the number of stitches set with **⑦** (*E d S r*).

* The function setting No. 12 activates the material end sensor at setting.

⑦ Number of stitches for material end sensor (*E d S r*)

The number of stitches to be sewn from the detection of material end to the stop of the sewing machine

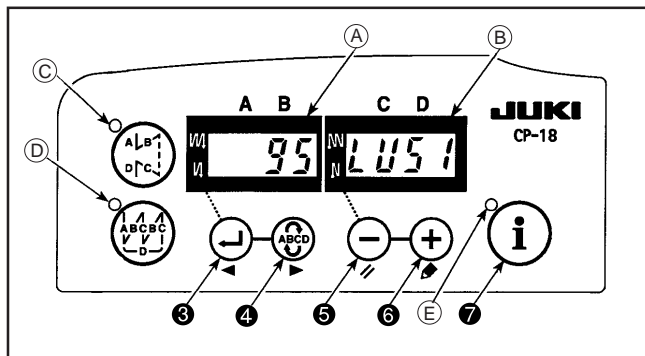
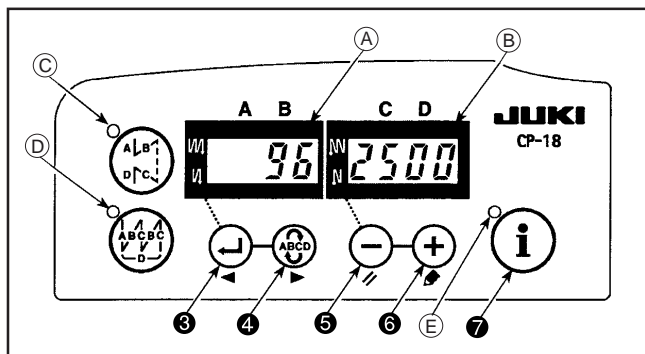
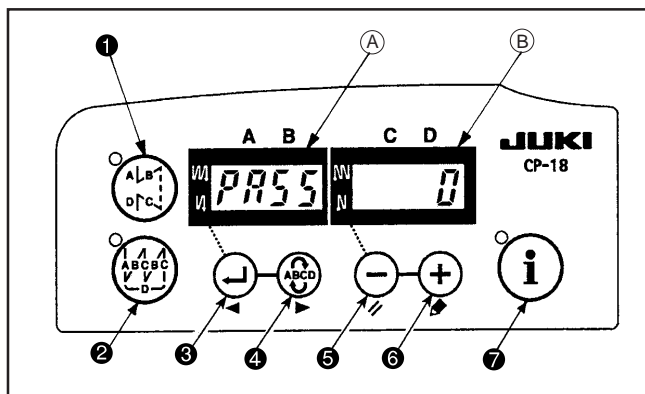
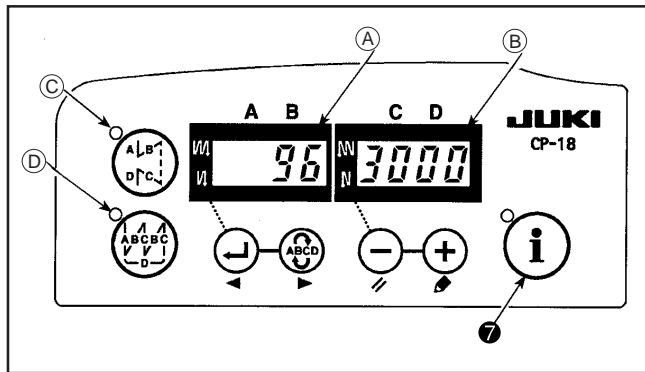
Number of stitches that can be set: 0 to 19 (stitches)

(Caution) If the number of stitches specified is inadequate, the sewing machine can fail to stop within the preset number of stitches depending on the number of revolutions of the sewing machine.

(4) Setting for functions

Functions can be selected and specified.

(Caution) For the function setting procedure of any operation panel other than CP-18, refer to the Instruction Manual for the operation panel to be used.



1. Turn ON the power with **(i)** switch **7** held pressed.

Buzzer sounds when push the switch more than three seconds and gets possible to operate the function setting of the service level.

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

When PASS appears at the display item **(A)** at the operation above, enter the password using the switches **(5)** and **(6)** to undo the password lock and then press the switch **(7)** to display the setting No. item.

If the switch is held down for 3 sec. or more, a buzzer sounds and function settings at the service level can be performed.

If you forget your password, function settings cannot be performed. In such a case, initialize the data with reference to "13. Initialization setting data" of Instruction Manual.

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

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

2. To move the setting No. forward, press **(ABCD)** switch **4**. To move the setting No. backward, press **(←)** switch **3**.

(Caution) If the setting No. is moved forward (or backward), the previous (or subsequent) content of the setting is confirmed. Be careful when the content of a setting is changed (when the **(-)** / **(+)** switch is touched).

Example) Changing the maximum number of revolutions (setting No. 96)

Press **(←)** switch **3** or **(ABCD)** switch **4** and match indication department **(A)** with setting No. "96."

The current set value is displayed on indicator **(B)**.

Press **(-)** switch **5** to change the set value to "2500."

* The content of setting of the setting No. returns to the initial value by pressing \ominus switch ⑤ and \oplus switch ⑥ simultaneously.

3. After completion of the changing procedure, press \downarrow switch ③ or \uparrow switch ④ to confirm the updated value.

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

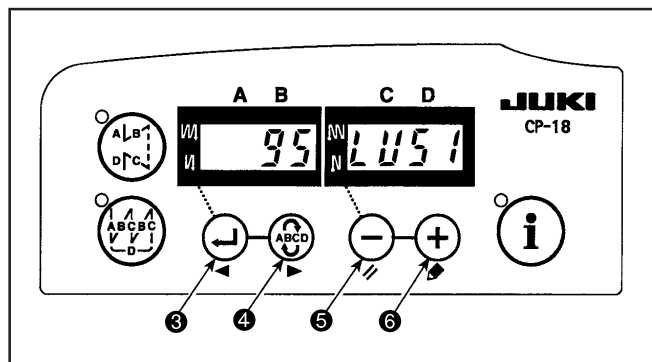
When \downarrow switch ③ is pressed, the display on the panel changes to the previous setting No.

When \uparrow switch ④ is pressed, the display on the panel changes to the subsequent setting No.

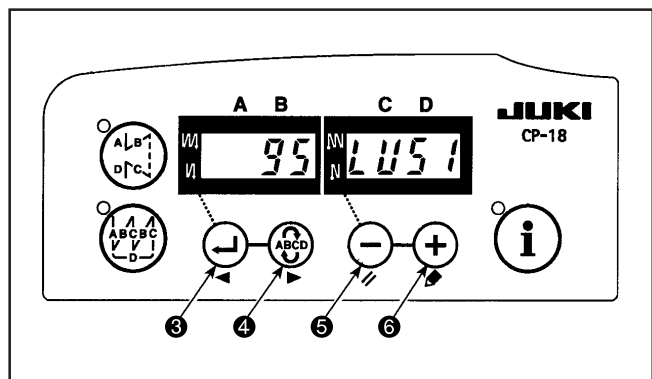
After completion of the operation, the machine is returned to the normal sewing state by turning OFF the power and re-turning it ON.

(5) Setting procedure of the machine head

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

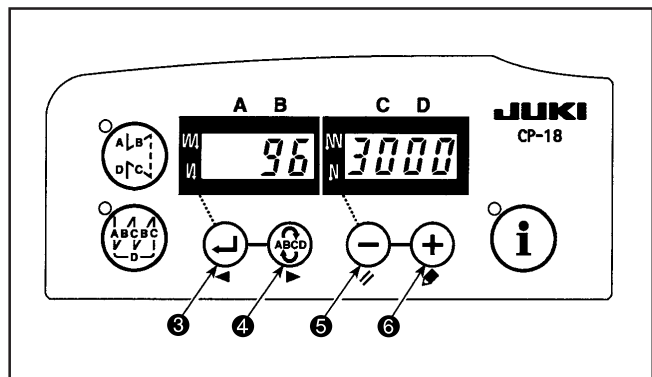


1. Refer to "III-(6) Setting of functions of SC-922 Instruction Manual", and call the function setting No. 95.



2. The type of machine head can be selected by pressing \ominus switch ⑤ (\oplus switch ⑥).

* Refer to "CAUTIONS WHEN SETTING UP THE SEWING MACHINE" or "Machine head list" on the separate sheet for the types of machine heads.



3. After selecting the type of machine head, by pressing \downarrow switch ③ (\uparrow switch ④), the step proceeds to 96 or 94, and the display automatically changes to the contents of the setting corresponding with the type of machine head.

(6) Machine head list

No.	Machine head	Type	Contents of display	Number of revolutions at the time of delivery (sti/min)	Max. number of revolutions (sti/min)
1	LU-2210N/60N (VR type)	LU2v	<i>LU2v</i>	3500	3500
2	LU-2210N/60N (SW type)	LU2r	<i>LU2r</i>	3500	3500
3	LU-2212N (VR type)	LU12	<i>LU12</i>	3500	3500
4	LU-2212N (SW type)	L12r	<i>L12r</i>	3500	3500
5	LU-2216N/66N (VR type)	LU26	<i>LU26</i>	3000	3000
6	LU-2216N/66N (SW type)	L26r	<i>L26r</i>	3000	3000
7	LU-2220N (VR type)	LU22	<i>LU22</i>	3500	3500
8	LU-2220N (SW type)	L22r	<i>L22r</i>	3500	3500
9	LU-1510N	LU51	<i>LU51</i>	3000	3000
10	LU-1510NA	LU5A	<i>LU5A</i>	2000	2000
11	LU-1560N	LU56	<i>LU56</i>	2500	2500
12	PLC-1700	PL70	<i>PL70</i>	2500	2500
13	PLC-1760L	PL7L	<i>PL7L</i>	1800	1800
14	DNU-1541	dnU5	<i>dnU5</i>	3000	3000
15	LS-1342	LS13	<i>LS13</i>	2500	2500
16	DU-141H	dU14	<i>dU14</i>	2000	2000
17	DSU-140	dSU	<i>dSU</i>	2000	2000
18	DSC-240	dSC	<i>dSC</i>	2200	2200
19	LZH-1290	LZH	<i>LZH</i>	2000	2000

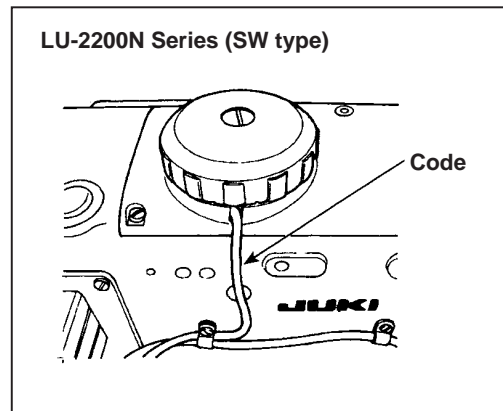
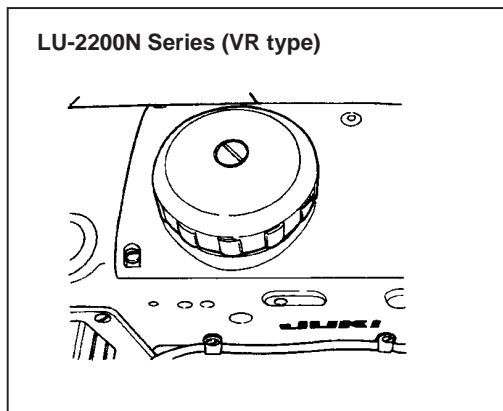


* Machine head set at the time of delivery

Refer to the machine head list (40101504) for the details of each machine head.

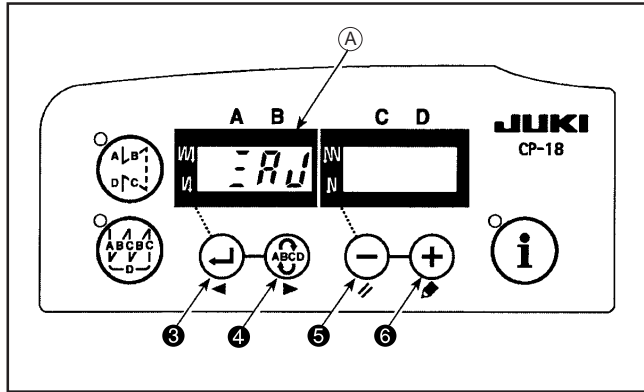
(Caution) 1. When the dry-type machine head is connected, any model other than dry-type one cannot be set.




2. For (VR type) and (SW type) of the heads, refer to the diagram shown below.

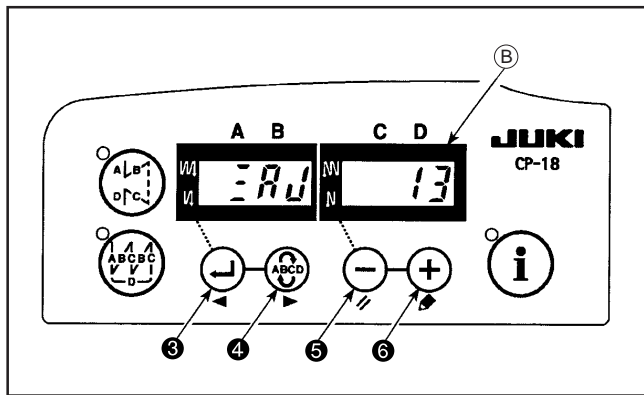


(7) Adjusting the machine head (Direct-drive motor type sewing machine only)

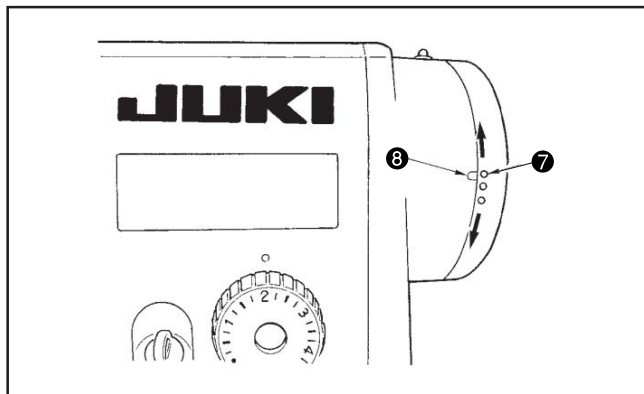
(Caution) When the slip between the white marker dot on the handwheel and the concave of the cover is excessive after thread trimming, adjust the angle of the machine head by the operation below.



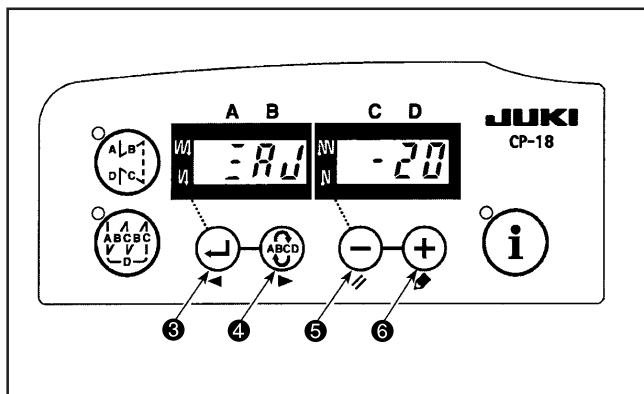
1. Simultaneously pressing  switch **4** and  switch **5**, turn ON the power switch.
2.  is displayed (**A**) in the indicator and the mode is changed over to the adjustment mode.




3. Turn the pulley of the machine head by hand until the main-shaft reference signal is detected. At this time, the degree of an angle from the main-shaft reference signal is displayed on the indicator **B**. (The value is the reference value.)



4. In this state, align the white dot **7** of the handwheel with the concave **8** of the pulley cover as shown the figure.



5. Press  switch **6** to finish the adjustment work. (The value is the reference value.)

(8) Function setting list (Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page	
1	Soft start function	The number of stitches to be sewn at a low speed when the soft-start function is used at the start of sewing. 0 : The function is not selected. 1 to 9 : The number of stitches to be sewn under the soft start mode.	0 to 9 (Stitches)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	31	
2	Material end sensor function	Material end sensor function (to be used only with CP-18). 0 : Material end detection function is not operative 1 : After detecting material end, the specified number of stitches (No. 4) will be sewn, and the sewing machine will stop.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	31	
3	Thread trimming function by material end sensor	Thread trimming function by material end sensor (to be used only with CP-18). 0 : Automatic thread trimming function after detection of material end is not operative. 1 : After detecting the material end, sewing will be carried out for the specified number of stitches (No. 4) and the sewing machine will then stop.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	31	
4	Number of stitches for material end sensor	Number of switches for material end sensor (to be used only with CP-18). Number of stitches from detection of material end to stop of the sewing machine	0 to 19 (Stitches)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/>	31	
5	Flicker reducing function	Flicker reducing function 0 : Flicker reducing function is not operative. 1 : Flicker reducing function is effective.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	31	
6	Bobbin thread counting function	Bobbin thread counting function 0 : Bobbin thread counting function is not operative. 1 : Bobbin thread counting function is operative.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	31 35	
*	7	Unit of bobbin thread counting down	Unit of bobbin the thread counting down 0 : 1 Count/10 stitches 1 : 1 Count/15 stitches 2 : 1 Count/20 stitches 3 : 1 Count/thread trimming	0 to 3	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
*	8	Number of rotation of reverse feed stitching	Sewing speed of reverse feed stitching	150 to 3000 (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="8"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
9	Thread trimming prohibiting function	Thread trimming prohibiting function (to be used only with CP-18). 0 : Thread trimming prohibiting function is not operative. 1 : Thread trimming is prohibited. (Output of solenoid is prohibited. : Thread trimmer and wiper)	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	31	
10	Setting of needle bar stop position when the sewing machine stops	Position of needle bar is specified when the sewing machine stops. 0 : Predetermined lowest position 1 : Predetermined highest position	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	31	
11	Operation confirmation sound for operation panel	Operation confirmation sound for operation panel 0 : Operation confirmation sound is not generated 1 : Operation confirmation sound is generated	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	31	
12	Optional switch function selection	Switching of function of optional switch.		U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value="o"/> <input type="text" value=""/> <input type="text" value="P"/> <input type="text" value=""/> <input type="text" value="T"/>	32	
*	13	Function of prohibiting start of the sewing machine by bobbin thread counter	Function of prohibiting start of the sewing machine by bobbin thread counting 0 : When counting is out (-1 or less) Function of prohibiting start of the sewing machine is not operative. 1 : When counting is out (-1 or less) Function of prohibiting start of the sewing machine is operative. 2 : When counting is out (-1 or less) Function of forcibly prohibiting start of the sewing machine is operative.	0 to 2	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	

* Do not change the set values with asterisk (*) mark as they are functions for maintenance. If the standard set value set at the time of delivery is changed, it is in danger of causing the machine to be broken or the performance to be deteriorated.

(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
14	Sewing counter	Counting function of sewing (number of completion of press) 0 : Sewing counter function is not operative 1 : Sewing counter function is operative (Every time thread trimming is performed) 2 : With the sewing counting switch input function	0 to 2	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	35
15	Thread wiping function after thread trimming	Thread wiping operation after thread trimming is specified. 0 : Thread wiping is not carried out after thread trimming 1 : Thread wiping is carried out after thread trimming	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
21	Function of neutral presser lifting	Function of needle up/down compensating switch on the operation panel can be changed. 0 : Function of neutral automatic presser lifting is not operative. 1 : Function of neutral automatic presser lifting is operative. 2 : Neutral automatic presser lifting is valid and the alternate motion can be performed by depressing the panel backward. (This function is disabled when No. 93 Needle up/down switch additional function setting is "2.")	0 to 2	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	35
22	Needle up/down correction switch changeover function	Function of the needle up/down correction switch is changed over. 0 : Needle up/down compensation 1 : One stitch compensation	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	35
24	Number of rotation of end reverse feed stitching	Sewing speed set of end reverse feed stitching. Set point sews it at the speed that I set with No. 8 in the case of 100.	100 to 3000 (sti/min)	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="0"/>	
25	Thread trimming operation after turning the handwheel by hand	Thread trimming operation after moving the needle away from its upper or lower position by turning the handwheel by hand is specified. 0 : Thread trimming operation is carried out after turning the handwheel by hand 1 : Thread trimming operation is not carried out after turning the handwheel by hand.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
26	Function selection of reverse feed stitching switch	Change the function of the reverse feed stitching switch. 0 : It is always a backstitch function 1 : It is Needle up/down switch function double touch at the time of the stop 2 : It is Needle up/down switch function at the time of the stop 3 : It is Needle lifting switch function at the time of the stop 4 : It is reverse needle lifting switch function at the time of the stop	0 to 4	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
29	Initial time of back-tack	This function sets the suction time of initial motion of back-tack solenoid.	50 to 500 (ms)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="9"/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="5"/> <input type="text" value="0"/>	35
30	Function of reverse feed stitching on the way	Function of reverse feed stitching on the way 0 : Function of reverse stitching on the way is not operative. 1 : Function of reverse feed stitching on the way is operative.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	36
31	Number of stitches of reverse feed stitching on the way	Number of stitches of reverse feed stitching on the way.	0 to 19 (Stitches)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/>	36
32	Effective condition of reverse feed stitching on the way when the sewing machine is stopping	Effective condition of reverse feed stitching on the way 0 : Function is not operative when sewing machine stops. 1 : Function is operative when the sewing machine stops.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	36

* Do not change the set values with asterisk (*) mark as they are functions for maintenance. If the standard set value set at the time of delivery is changed, it is in danger of causing the machine to be broken or the performance to be deteriorated.

(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
33	Thread trimming function by reverse feed stitching on the way	Thread trimming function by reverse feed stitching on the way 0 : Automatic thread trimming function after completion of reverse feed stitching on the way is not operative. 1 : Automatic thread trimming after completion of reverse feed stitching on the way is performed.	0/1	U	<input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	36
34	End reverse feed stitching ineffective Number of stitches	When there is less length that I sewed than the number of the set needles, I do not perform end backstitch.	0 to 19 (Stitches)	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/>	
* 35	Number of rotation at a low speed	Lowest speed by pedal (The MAX value differs by machine head.)	150 to MAX (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="0"/>	
* 36	Number of rotation of thread trimming	Thread trimming speed (The MAX value differs by machine head.)	100 to MAX (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="0"/>	
37	Number of rotation of soft-start	Sewing speed at the start of sewing (soft-start) (The MAX value differs by machine head.)	100 to MAX (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="7"/> <input type="text" value="0"/>	31
38	One-shot speed	One-shot speed (The MAX. value depends on the number of rotation of the sewing machine head.)	150 to MAX (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="8"/> <input type="text" value="1"/> <input type="text" value="5"/> <input type="text" value="0"/> <input type="text" value="0"/>	36
* 39	Pedal stroke at the start of rotation	Position where the sewing machine starts rotating from pedal neutral position (Pedal stroke)	10 to 50 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="9"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="3"/> <input type="text" value="0"/>	
* 40	Low speed section of pedal	Position where the sewing machine starts accelerating from pedal neutral position (Pedal stroke)	10 to 100 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="0"/>	
* 41	Starting position of lifting presser foot by pedal	Position where the cloth presser starts lifting from pedal neutral position (Pedal stroke)	-60 to -10 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="-"/> <input type="text" value="2"/> <input type="text" value="1"/>	
* 42	Starting position of lowering presser foot	Starting position of lowering presser foot Stroke from the neutral position	8 to 50 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="0"/>	
* 43	Pedal stroke 2 for starting thread trimming	Position 2 where the thread trimming starts from pedal neutral position (When the function of lifting presser foot by pedal is provided.) (Pedal stroke)	-60 to -10 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="-"/> <input type="text" value="5"/> <input type="text" value="1"/>	
* 44	Pedal stroke for reaching the maximum number of rotation	Position where the sewing machine reaches its highest sewing speed from pedal neutral position (Pedal stroke)	10 to 150 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="5"/> <input type="text" value="0"/>	
* 45	Compensation of neutral point of the pedal	Compensation value of the pedal sensor	-15 to 15 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
46	Presser rising after turning on the power	Select the presser motion after turning on the power. 0 : Not rising 1 : Rising	0/1	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
47	Holding time of lifting auto-lifter	Limitation time of waiting for lifting solenoid type auto-lifter device	10 to 600 (S)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="0"/>	37
* 48	Pedal stroke 1 for starting thread trimming	Position where thread trimming starts from pedal neutral position (Standard pedal) (Pedal stroke)	-60 to -10 (0.1mm)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="8"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="-"/> <input type="text" value="3"/> <input type="text" value="5"/>	
49	Lowering time of presser foot	Lowering time of presser foot after the pedal has been depressed. (Start of rotation of the sewing machine is delayed during this time.)	0 to 500 (10ms)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="4"/> <input type="text" value="9"/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="4"/> <input type="text" value="0"/>	39

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(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
* 50	Pedal type setting	Set the type of the pedal. 0 : There is presser foot no movement with the pedal (KFL) 1 : There is presser foot movement with the pedal (PFL)	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
51	Compensation of solenoid-on timing of reverse feed stitching at the start of sewing	Compensation of starting the solenoid for reverse feed stitching when reverse feed stitching at the start of sewing is performed.	-36 to 36 (10°)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="1"/>	37
52	Compensation of solenoid-off timing of reverse feed stitching at the start of sewing	Compensation of releasing the solenoid for reverse feed stitching when reverse feed stitching at the start of sewing is performed.	-36 to 36 (10°)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="3"/>	37
53	Compensation of solenoid-off timing of reverse feed stitching at the end of sewing	Compensation of releasing the solenoid for reverse feed stitching when reverse feed stitching at the end of sewing is performed.	-36 to 36 (10°)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/>	37
* 54	Motor pulley effective diameter	Effective diameter of pulley to be used for motor is set.	400 to 1400 (0.1mm)	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="0"/> <input type="text" value="0"/>	
55	Foot lift after thread trimming	Function of lifting presser foot at the time of (after) thread trimming 0 : Not provided with the function of lifting presser foot after thread trimming 1 : Provided with the function of lifting presser foot automatically after thread trimming	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	38
56	Reverse revolution to lift the needle after thread trimming	Function of reverse revolution to lift the needle at the time of (after) thread trimming 0 : Not provided with the function of reverse revolution to lift the needle after thread trimming 1 : Provided with the function of reverse revolution to lift the needle after thread trimming	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	38
58	Function of holding predetermined upper/lower position of the needle bar	Function of holding predetermined upper/lower position of the needle bar 0 : Not provided with the function of holding predetermined upper/lower position of the needle bar 1 : Provided with the function of holding predetermined upper/lower of the needle bar (holding force is medium.) 2 : Provided with the function of holding predetermined upper/ lower position of the needle bar (holding force is medium.) 3 : Provided with the function of holding predetermined upper/lower position of the needle bar (holding force is strong.)	0 to 3	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="8"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	38
59	Function of Auto/Manual change/over of reverse feed stitching at the start of sewing	This function can specify the sewing speed of reverse feed stitching at the start of sewing. 0 : The speed will depend on the manual operation by pedal, etc. 1 : The speed will depend on the specified reverse feed stitching speed (No. 8).	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="9"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	38
60	Function of stop immediately after reverse feed stitching at the start of sewing	Function at the time of completion of reverse feed stitching at the start of sewing 0 : Not provided with the function of temporary stop of the sewing machine at the time of completion of reverse feed stitching at the start of sewing 1 : Provided with the function of temporary stop of the sewing machine at the time of completion of reverse feed stitching at the start of sewing	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	38

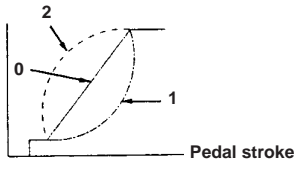
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(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
61	Retention time of needle bar at fixed position	The period from sewing machine stop to the beginning of retaining the needle bar at the fixed position is specified 0 : Function disabled (always retention activated) 100 to 3000ms	0 : Disabled 100 to 3000 (ms)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	38
62	Overlapped stitching movement selection	Sew a one-shot at the time of the overlapped stitching and set movement. 0 : Change having one-shot stitching or not with an operation panel 1 : Always sew a one-shot	0/1	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
63	Clutch motor mode	Set a function to invalidate pattern selection , thread trimming movement, stop positioning 0 : Normal movement 1 : The pattern selection is invalid (Clutch motor mode)	0/1	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
64	Changeover speed of condensation stitch or EBT (end back tack)	Initial speed when starting condensation stitch or EBT	0 to 250 (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="0"/>	
67	Presser lifter solenoid output duty time setup	While the presser is lifted and held, set up the switching duty time.	10 to 40 (%)	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="0"/>	
70	Function of soft-down of presser foot	Presser foot is slowly lowered. 0 : Presser foot is rapidly lowered. 1 : Presser foot is slowly lowered.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	39
71	Double reverse feed stitching function	Effective/ineffective of double reverse feed stitching is changed over. (to be used only with CP-18) 0 : Ineffective 1 : Effective	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
72	Sewing machine startup selecting function	Current limit at the startup of sewing machine is specified. 0 : Normal (Current limit is applied during startup) 1 : Rapid (Current limit is not applied during startup)	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
73	Retry function	This function is used when needle cannot pierce materials. 0 : Normal 1 : Retry function is provided.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	39
* 74	With/without MF thread trimming device	This function sets with or without the MF thread trimming device. 0 : Without 1 : With	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
* 75	Motor rotation direction	The rotation direction of the motor is switched. 0 : Clockwise 1 : Counterclock wise	0/1	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
76	One-shot function	One-shot operation up to the material end is specified. (to be used only with CP-18) 0 : One-shot operation is not performed. 1 : One-shot operation is performed.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="7"/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	31
* 84	Initial motion suction time of presser foot lifting solenoid	Suction motion time of presser foot lifting solenoid.	50 to 500 (ms)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="8"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="2"/> <input type="text" value="5"/> <input type="text" value="0"/>	39
85	Time of sewing end to start of return stitching	In the case of return stitching after the sewing end, time for low-speed (No.64) section is set up from the presentation of a return stitching instruction signal till the start of back-tack	0 to 250 (ms)	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="8"/> <input type="text" value="5"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="6"/> <input type="text" value="0"/>	
86	Waiting time of start of reverse revolution to lift needle	Delay time from UP stop to start of reverse revolution at the time of control of reverse revolution to lift needle is set.	0 to 250 (ms)	S	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="8"/> <input type="text" value="6"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="0"/>	

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(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
87	Function of pedal curve selection	Pedal curve is selected. (Improving pedal inching operation) 	0/1/2	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="8"/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	39
90	Initial motion up stop function	Automatic UP stop function is set immediately after turning ON the power. 0 : off 1 : on	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	39
91	Function of prohibiting compensation operation after turning handwheel by hand	Function of compensating stitching when turning handwheel by hand at the time of completion of constant-dimension stitching 0 : Function of compensating stitching is effective. 1 : Function of compensating stitching is prohibited.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="1"/>	
92	Function of reducing speed stitching at the start of sewing	Function to reduce speed at the time of completion of reverse feed stitching at the start of sewing. 0 : Speed is not reduced. 1 : Speed is reduced.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	39
93	Function added to needle up/down compensating switch	Operation of needle up/down compensating switch is changed after turning ON the power of thread trimming. 0 : Normal (needle up/down compensating stitching only) 1 : One stitch compensating stitching is performed only when aforementioned changeover is made. (Upper stop → upper stop) 2 : Needle-down function activated after thread trimming 3 : Besides the operation 2, addition of needle-up function activated by lowering the presser bar and needle-up function activated by trimming the thread	0 to 3	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
94	Continuous + One-shot nonstop function	The function that does not stop the sewing machine by combining continuous stitching with one-shot stitching using the program sewing function which is available in the IP operation panel. 0 : Normal (The sewing machine stops when a step is completed.) 1 : The sewing machine does not stop when a step is completed and proceeds to next step.	0/1	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
95	Function of machine head selection	The machine head to be used is selected. * When the machine head is changed, each setting item is modified into initial values for the machine head.		U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="5"/> <input type="text" value="L"/> <input type="text" value="U"/> <input type="text" value="5"/> <input type="text" value="1"/>	
96	Max. number of rotation setting	Max number of rotation of the sewing machine head can be set. (The MAX value differs by machine head.)	150 to MAX (sti/min)	U	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value="9"/> <input type="text" value="6"/> <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>	40
102	Function of pattern stitching	Sew patterns such as the backstitch and set a function. 0 : The operation of the pattern selection is effective. 1 : The operation of the pattern selection is invalid.	0/1	S	<input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
103	Needle cooler output OFF delay time	Delay time from the stop of sewing machine to the output OFF is specified using the needle cooler output function.	100 to 2000 (ms)	U	<input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="0"/> <input type="text" value="0"/>	
104	Input / output Test display	Display function of input/output data is set. 0 : Normal movement 1 : Display the state of the input/output after the next power supply injection.	0/1	S	<input type="text" value=""/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	

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No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
* 105	Back tack solenoid movement prohibition end angle	Back tack solenoid does not work during the movement prohibition end point of view (No. 105) from a movement prohibition start angle (No. 106).	0 to 359 (°)	S	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="2"/>	
* 106	Back tack solenoid movement prohibition start angle	Back tack solenoid does not work during the movement prohibition end point of view (No. 105) from a movement prohibition start angle (No. 106).	0 to 359 (°)	S	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="6"/> <input type="text" value="2"/>	
107	Reversing brake start angle	Stop brake start angle is set for reverse revolution to lift the needle. (0 : Up position end angle)	0 to 359 (°)	S	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
108	Reverse feed stitching one-shot delay	The output delay time at one shot of reverse feed stitching is specified.	0 to 500 (10ms)	S	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="8"/> <input type="text" value=""/> <input type="text" value="5"/> <input type="text" value="0"/>	
110	Brake angle with lowering needle stopped	The brake start angle with the lowering needle stopped at a given position is specified. (0: Angle at end of up position detection) * Activated when the setting value of No. 93 is 2 to 3	0 to 359 (°)	S	<input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
118	Grease up error reset	In the case of grease-up error (E220, E221), this error is cleared by setting the setup description at 1. 0 : Normal condition 1 : Grease-up error reset when the power is turned on for the next time (After grease-up error has been reset, this function is also canceled.) * Prior to resetting the grease-up error, grease-up treatment is always needed.	0/1	S	<input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="8"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
120	Main shaft reference angle compensation	Main shaft reference angle is compensated.	-60 to 60 (°)	U	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
121	UP position starting angle compensation	Angle to detector UP position stating is compensated.	-15 to 15 (°)	U	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="1"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
122	DOWN position starting angle compensation	Angle to detect DOWN position stating is compensated.	-15 to 15 (°)	U	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
123	Voltage change torque improvement function	Improve start torque at the time of the low voltage. (Only DDL-9000B Series) 0 : Normal movement 1 : Improve start torque	0/1	S	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
124	Setting of energy-saving function during standby	Setting to reduce the power consumption while the sewing machine is in standby state 0 : Energy-saving mode is ineffective 1 : Energy-saving mode is effective	0/1	U	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	40
125	Speed limit at the time of the back-tack solenoid	Set a speed limit when back-tack solenoid works. (MAX values are different by the head)	150 to MAX (sti/min)	S	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="5"/> <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>	
* 126	Motor lock detection time	Set time before detecting what the head locks.	500 to 2,000 (ms)	S	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>	
127	Number of stitches of the low speed needles after the beginning backstitch	Set the number of stitches of the needles to sew with backstitch number of revolutions (No. 8) after beginning backstitch was finished.	0 to 20 (0.5 stitches)	S	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="7"/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value="0"/>	
* 132 to 137	Movement setting of back-tack solenoid	Movement setting of back-tack solenoid		S		

* Do not change the set values with asterisk (*) mark as they are functions for maintenance. If the standard set value set at the time of delivery is changed, it is in danger of causing the machine to be broken or the performance to be deteriorated.

(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
141	Setting of accessory devices	Selection of accessory devices is performed.	—	S	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 1 <input type="checkbox"/> F <input type="checkbox"/> U <input type="checkbox"/> n <input type="checkbox"/>	40
142	Setting of simplified program	Setting of the simplified program is performed.	—	S	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> P <input type="checkbox"/> r <input type="checkbox"/> o <input type="checkbox"/>	41
143	Brake start angle when the thread trimming stop at the upper position	The reserve brake start angle after thread trimming is specified.	0 to 10 (°)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
144	Setting of stitches count for canceling alternate vertical output	The alternate vertical output is automatically canceled by the predetermined stitching count. 0 : Disabled 1 to 30 stitches	0 to 30 (Stitches)	U	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
145	Alternate vertical output delay time	The delay time from turning on the alternate vertical switch to output start is specified 0 : Disabled 10 to 500 (ms)	0 to 500 (ms)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 <input type="checkbox"/> 0	41
146	Selection of alternate vertical output after thread trimming	The alternate vertical ON/OFF output is forcibly provided after thread trimming. 0: Retention of output state 1 : OFF output 2 : ON output	0 to 2	U	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
147	Alternate vertical initial output	The alternate vertical output at power on can be set to ON or OFF. 0 : Resumes the state when the power was turned off the last time 1 : Output OFF 2 : Output ON	0 to 2	U	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
148	2-pitch output during reverse feed stitching at sewing start or end	The alternate vertical ON/OFF output is forcibly provided after thread trimming. 0 : Retention of output state 1 : OFF output 2 : ON output	0 to 2	U	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 8 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
149	2-pitch inverted output during alternate vertical output	The 2-pitch inverted output in synchronism with the alternate vertical output can be set to present or absent. 0 : Function disabled 1 : Function enabled	0/1	U	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 9 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
150	2-pitch initial output	The 2-pitch output at power on can be set to ON or OFF. 0 : Resumes the state when the power was turned off the last time 1 : Output OFF 2 : Output ON	0 to 2	U	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 0 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	41
151	Tie stitch adjustment function	Stitching temporarily stops at start, end, and each corner of overlapping stitching. 0 : Function disabled 1 : Function enabled	0/1	U	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	42
152	Temporary stop time for tie stitch adjustment	No. 151 : Temporary stop time is specified when the tie stitch adjustment function is active.	0 to 100 0 (ms)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	42
153	Temporary stop brake angle for tie stitch adjustment	The brake angle for temporary stop is specified when the tie stitch adjustment function is active. (0: angle of starting down position detection)	0 to 180 (°)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	42

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(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
154	Function of shortened stitching at start/end	Enabled in combination with a machine head equipped with the function of shortened stitching for trimming remaining short thread Shortened stitching is performed at start and end. (shortened stitching performed instead of automatic reverse feed stitching) 0 : Function disabled 1 : Function enabled	0/1	U	<input type="checkbox"/> <input type="checkbox"/> 1 5 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	42
155	Setting of neutral automatic presser lifting	No. 21 : The setting of neutral automatic presser lifting shall be enabled only at the down position. 0 : Neutral automatic presser lifting always enabled 1 : Neutral automatic presser lifting enabled only at down side stop (No. 93 When the setting value of the function of adding the needle up/down compensating switch is "2" the setting is disabled.)	0/1	U	<input type="checkbox"/> <input type="checkbox"/> 1 5 5 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	35
156	Needle thread clamp function	Enabled in combination with a machine head equipped with the needle thread clamp function Selection of needle thread clamp switch function 0 : Toggles ON and OFF with the operation enabled switch 1 : Needle thread clamp disabled 2 : Forcibly enabled	0 to 2	U	<input type="checkbox"/> <input type="checkbox"/> 1 5 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	42
157	Thread clamp function during thread trimming	Enabled in combination with a machine head equipped with the needle thread clamp function Function of thread clamping when the thread is being trimmed 0 : Function disabled 1 : Function enabled	0/1	S	<input type="checkbox"/> <input type="checkbox"/> 1 5 7 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	
158	Shortened stitching function during thread trimming	Enabled in combination with a machine head equipped with the function of shortened stitching for trimming remaining short thread The shortened stitching output for trimming remaining short thread during control of thread trimming can be set to present or absent. 0 : Function disabled 1 : Function enabled	0/1	U	<input type="checkbox"/> <input type="checkbox"/> 1 5 8 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	
159	Function of lifting presser to up position at reverse revolution after thread trimming	The presser can be lifted before reverse rotation to lift the needle after thread trimming. 0 : Function disabled 1 : Function enabled	0/1	S	<input type="checkbox"/> <input type="checkbox"/> 1 5 9 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	42
160	Thread trimming setting	The parameters related to thread trimming can be specified in detail.	—	S	<input type="checkbox"/> <input type="checkbox"/> 1 6 0 T r M <input type="checkbox"/>	42
161	Setting of one-touch operations	Function settings are added to one-touch setting operations.	—	S	<input type="checkbox"/> <input type="checkbox"/> 1 6 1 S E T <input type="checkbox"/>	42
162	Setting of speed limited by alternate vertical moving amount	Maximum speed limited depending on the alternate vertical moving amount can be specified.	—	S	<input type="checkbox"/> <input type="checkbox"/> 1 6 2 d L S <input type="checkbox"/>	43
163	Function of limiting alternate vertical speed	Maximum speed is limited in accordance with the alternate vertical moving amount. 0 : Disabled	0/1	U	<input type="checkbox"/> <input type="checkbox"/> 1 6 3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	44
164	High-speed switching function by standing pedal input	High-speed operation is always performed when an input is provided from the standing pedal. 0 : Function disabled (input from standing pedal usually) 1 : Function enabled (high-speed operation)	0/1	U	<input type="checkbox"/> <input type="checkbox"/> 1 6 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	
165	Selection of thread trimming switch function	The thread trimming switch function is toggled. 0 : Switch of normal thread trimming 1 : Switch of presser lifting after thread trimmin	0/1	S	<input type="checkbox"/> <input type="checkbox"/> 1 6 5 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	

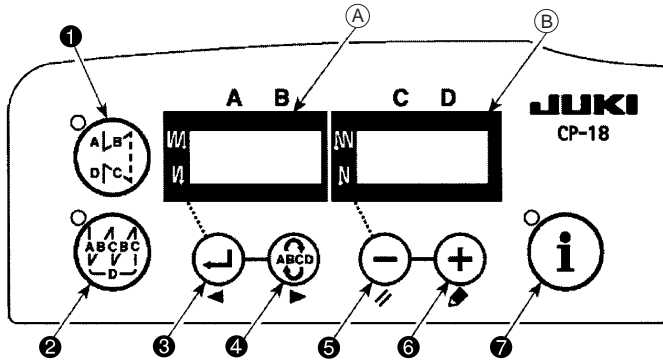
* Do not change the set values with asterisk (*) mark as they are functions for maintenance. If the standard set value set at the time of delivery is changed, it is in danger of causing the machine to be broken or the performance to be deteriorated.

(Start level ; U : User's mode, S : Service mode)

No.	Item	Description	Setting range	Setting level	Indication of function setting	Ref. page
166	Selection of high-speed switch function	The high-speed switch function is toggled. 0 : Switch of normal high speed 1 : Switch of needle up/down compensation with one-touch operation while sewing stops	0/1	S	<input type="checkbox"/> 1 <input type="checkbox"/> 6 <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	
167	Presence/absence of remaining bobbin thread detection	The remaining bobbin thread detection device is used. 0 : Function disabled 1 : Function enabled The bobbin thread counter regularly works regardless of the setting.	0/1	U	<input type="checkbox"/> 1 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1	45
168	Remaining bobbin thread detection function	The function settings of the remaining bobbin thread detection device are performed. Perform the settings with reference to Instruction Manual for the remaining bobbin thread detection device.	0/1	U	<input type="checkbox"/> 1 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	45
169	Time of air blow to remaining bobbin thread detection device	Time of air blow to remaining bobbin thread detection device (after thread trimming)	0 to 2000 (ms)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	45
170	Brake angle at down side stop	The angle when brake is applied at down position stop (from down detection)	0 to 180 (°)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 7 <input type="checkbox"/> 0 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	45
* 190	33 V switching duty setting	Setting of the output duty provided to the machine head supporting 24 V solenoid output (DNU-1541) is performed.	10 to 90 (%)	S	<input type="checkbox"/> 1 <input type="checkbox"/> 9 <input type="checkbox"/> 0 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 <input type="checkbox"/> 0	45
192	Password lock function	Once this function is activated, stitching count, reverse feed stitching, and one-touch operation cannot be specified.	0 to 9999	S	<input type="checkbox"/> 1 <input type="checkbox"/> 9 <input type="checkbox"/> 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0	45

* Do not change the set values with asterisk (*) mark as they are functions for maintenance. If the standard set value set at the time of delivery is changed, it is in danger of causing the machine to be broken or the performance to be deteriorated.

⑧ Selection of the optional input/output function (Function setting No. 12)



□ □ 1 2 o P T _

Select function No. 12 in the steps 1 to 3 of the operation procedure for function settings.

o P T _ _ E n d
i n _ _
o u T _

Select the items of “End”, “in” and “ouT” with keys ⑤ and ⑥.

[When “in” is selected]

□ i 0 1 □ * * *

Use the key ③ or ④ to specify the display No. after the display No. of input function setting connector appears on the indicator ①. Use the key ⑤ or ⑥ to select the function of the connector pin corresponding to the display No.

□ i 3 2

The function code and abbreviation are alternately displayed on the indicator ②. (Refer to the attached table for the relationship between display Nos. and connector pin arrangement.)

[When “ouT” is selected]

□ o 0 1 □ * * *

Use the key ③ or ④ to specify the display No. after the display No. of output function setting connector appears on the indicator ①. Use the key ⑤ or ⑥ to select the function of the connector pin corresponding to the display No.

□ o 3 2

The function code and abbreviation are alternately displayed on the indicator ②. (Refer to the attached table for the relationship between display Nos. and connector pin arrangement.)

*** Example) Thread trimming function selected for display No. i01 (CN44-4) of input function setting connector**

□ □ 1 2 o P T _

1. Select function No. 12 in the steps 1 to 3 of the operation procedure for function settings.

o P T _ i n _ _

2. Select the items of “in” with keys ⑤ and ⑥.

□ i 0 1 □ n o P

3. Select display No. “i01” using the key ④.

□ i 0 1 □ T S W

4. Select the thread trimming function, “TSW” with keys ⑤ and ⑥.

↑ Lighting alternately
L □ □ 4

5. Determine the thread trimming function, “TSW” with key ④.

□ i 0 1 L □ □ 4

6. Set ACTIVE of the signal with keys ⑤ and ⑥.

↑
H □ □ 4

Set the display to “L” when the signal is “Low” and performing thread trimming. and set the display to “H” when the signal is “High” and performing thread trimming.

□ i 0 2 □ n o P

7. Determine the aforementioned function with key ④.

o P T _ □ □ i n

8. Finish the optional input with key ④.

□ E n d

9. Select the item of “End” with keys ⑤ and ⑥ to return to the function setting mode.

Input function list

Function code	Abbreviation	Function item	Remarks
0	noP	No function	(Standard setting)
1	HS	Needle up/down compensating stitching	Every time the switch is pressed, normal feed stitching by half stitch is performed. (Same operation as that of up / down compensating stitching switch on the panel.)
2	bHS	Back compensating stitching	Reverse feed stitching is performed at low speed while the switch is held pressing. (It is effective only when a constant-dimension sewing is selected.)
3	EbT	Function of canceling once reverse feed stitching at the end of sewing	By depressing the back part of the pedal after pressing the switch, operation of reverse feed stitching is canceled once.
4	TSW	Thread trimming function	This function is actuated as the thread trimming switch.
5	FL	Presser foot lifting function	This function is actuated as the foot lifter switch.
6	oHS	One stitch compensating stitching	Every time the switch is pressed, one stitch stitching operation is executed.
7	SEbT	Function of cancel of reverse feed stitching at start/end	By operating the optional switch, ineffective/effective can be alternately changed over.
8	PnFL	Presser lifting function when pedal is neutral	Every time the switch is pressed, the function whether automatically lifting the presser foot when the pedal is neutral or not can be selected.
9	Ed	Material edge sensor input	This function works as the input signal of material edge sensor.
10	LinH	Function of prohibiting depressing front part of pedal	Rotation by pedal is prohibited.
11	TinH	Function of prohibiting thread trimming output	Output of thread trimming is prohibited.
12	LSSW	Low speed command input	This function works as low speed switch for standing sewing machine.
13	HSSW	High speed command input	This function works as high speed switch for standing sewing machine.
14	USW	Needle lifting function	UP stop motion is performed when switch is pressed during DOWN stop.
15	bT	Reverse feed stitching switch input	Reverse feed stitching is output as long as the switch is held pressed.
16	SoFT	Soft start switch input	The speed of stitch is limited to the predetermined soft-start speed as long as the switch is held pressed.
17	oSsw	One-shot speed command switch input	This function works as one-shot speed command as long as the switch is pressed.
18	bKoS	Backward one-shot speed command switch input	Reverse feed stitching is performed in accordance with the one-shot speed command as long as the switch is held pressed.
19	SFSW	Safety switch input	Rotation is prohibited.
20	MES	Thread trimming safety switch input	It operates as an input signal of the thread trimmer safety switch.
21	AUbT	Automatic reverse feed stitching cancellation/addition switch	Every time the switch is pressed, reverse feed stitching at sewing start or reverse feed stitching at sewing end is cancelled or added.
22	CUnT	Sewing counter input	Every time the switch is pressed, the sewing counter value is increased.
23	rSW	Reverse-rotation needle-up function	When the switch is pressed while the sewing machine is at rest with its needle up, the machine rotates in reverse direction and brakes to stop at the specified angle. When the switch is pressed while the sewing machine is at rest with its needle down, the machine rotates in normal direction and brakes to stop at the specified angle.
24	vErT	Alternate up/down amount conversion panel switch input	Alternate up/down conversion output is inverted every time the switch is pressed.
25	vSW	Alternate up/down amount conversion knee switch input	Alternate up/down conversion is output as long as the switch is held pressed
26	2PiT	2-pitch alternate input	2-pitch output is inverted every time the switch is pressed
27	2PSW	2-pitch momentary switch input	2-pitch is output as long as the switch is held pressed
28	bbCG	Bobbin replacement switch input	Startup of the sewing machine is disabled when the switch is turned ON for the first time. (Bobbin replacement) The presser foot is lowered and the normal operation is restored when the switch is turned ON for the second time.
29	CGUd	Center guide switch input	Center guide output is inverted every time the switch is pressed.
30	TCSW	Thread grasping switch input	Thread clamp function is enabled while the switch is pressed.
31	ALFL	Presser lifter alternate switch input	Presser lifter output is inverted every time the switch is pressed.
32	CABT	S/EBT 1-time cancellation input	Reverse feed stitching at the beginning or end of sewing, to be performed after a press on the switch, is cancelled once.
33	SToP	Stop switch input	The sewing machine is stopped and the operation is prohibited as long as the switch is held pressed.
34	bCGP	Bobbin replacement P-switch input	When the switch is turned ON for the first time, the sewing machine stops with its needle up, then presser foot goes up and the start-up of the sewing machine is disabled. (Bobbin replacement) The presser foot is lowered and the normal operation is restored when the switch is turned ON for the second time.

Output function list

Function code	Abbreviation	Function item	Remarks
0	noP	No function	(Standard setting)
1	TrM	Thread trimming output	Output of thread trimming signal
2	WiP	Thread wiper output	Output of thread wiper signal
3	TL	Thread release output	Output of thread release signal
4	FL	Presser lifter output	Output of presser lifting signal
5	bT	Reverse feed stitching output	Output of reverse feed stitching signal
6	EbT	EBT cancel monitor output	State of one time cancel of reverse feed stitching at end function is output.
7	SEbT	Reverse feed stitching at start/end cancel monitor output	State of cancel of reverse feed stitching at start/end is output.
8	AUbT	Sewing start/end cancellation/addition monitor output	State of cancel or addition of automatic reverse feed stitching is output.
9	SSTA	Sewing machine stop state output	Sewing machine stop state is output.
10	Cool	Needle cooler output	Output for needle cooler
11	bUZ	Buzzer output	It is output when the bobbin counter set value has been exceeded, an error has occurred or the bobbin thread remaining amount is detected.
12	LSWo	Revolution command output	Revolution demanding command state is output.
13	vErT	Alternate up/down amount conversion (monitor) output	Alternate up/down amount conversion signal is output.
14	2PiT	2-pitch output	2-pitch signal is output.
15	bCGo	Bobbin replacement monitor output	Sewing machine start-up prohibition state during bobbin replacement is output.
16	TC	Thread grasping enabled state monitor output	Thread grasping enabled state is output.
17	CAbT	S/EBT 1-time cancellation monitor output	One-time cancellation state of the reverse feed stitching at the beginning or end sewing is output.
18	SToP	Stop state monitor output	Sewing machine operation prohibition state is output.
19	AEbo	Remaining check device air blow output	Air blow output when using the remaining check device
20	UdET	Up position output	Up state output
21	ddET	Down position output	Down state output

Input function setting connectors

Connector No.	Pin No.	Display No.	Initial value of function setting
CN44	4	i01	Machine head switch 1 input
	5	i02	Machine head switch 2 input
	6	i03	Machine head switch 3 input
	7	i04	Machine head switch 4 input
	8	i05	Machine head switch 5 input
	9	i06	Machine head switch 6 input
	10	i07	Machine head switch 7 input
	11	i08	Machine head switch 8 input
CN58	15	i09	Option 1 input
	16	i10	Option 2 input
	17	i11	Option 3 input
	18	i12	Option 4 input
	19	i13	Option 5 input
	20	i14	Option 6 input
	21	i15	Option 7 input
	22	i16	Option 8 input
CN51	4	i17	Option 9 input
	5	i18	Option 10 input
	6	i19	Option 11 input
	7	i20	Option 12 input
	8	i21	Option 13 input
	9	i22	Option 14 input
	10	i23	Option 15 input
CN39	11	i24	Option 16 input
	7	i25	TSW (thread trimming switch input)
	11	i26	LSSW (low speed switch)
	9	i27	HSSW (low speed switch)
CN48	5	i28	FL (presser lifter switch input)
	2	i29	SFSW (safety switch input)
CN36	1	i30	noP (no function is assigned)
	4	i31	FL (presser lifter switch input)
	5	i32	bT (reverse feed stitching switch input)

Output function setting connectors

Connector No.	Pin No.	Display No.	Initial value of function setting
CN44	15	o01	Machine head LED 1 output
	16	o02	Machine head LED 2 output
	17	o03	Machine head LED 3 output
	18	o04	Machine head LED 4 output
	19	o05	Machine head LED 5 output
	20	o06	Machine head LED 6 output
	21	o07	Machine head LED 7 output
	22	o08	Machine head LED 8 output
CN59	11	o09	Option 1 output
	12	o10	Option 2 output
	13	o11	Option 3 output
	14	o12	Option 4 output
	15	o13	Option 5 output
	16	o14	Option 6 output
	17	o15	Option 7 output
	18	o16	Option 8 output
	19	o17	Option 9 output
	20	o18	Option 10 output
	21	o19	Option 11 output
	22	o20	Option 12 output
	23	o21	Option 13 output
	24	o22	Option 14 output
	25	o23	Option 15 output
	26	o24	Option 16 output
CN51	15	o25	Option 17 output
	16	o26	Option 18 output
	17	o27	Option 19 output
	18	o28	Option 20 output
	19	o29	Option 21 output
	20	o30	Option 22 output
	21	o31	Option 23 output
	22	o32	Option 24 output

⑨ **Sewing counting function (only CP-180) (Function setting No. 14)**

This function count up every time thread trimming is completed and counts the number of completion of the sewing process.

1 4 1

0 : off Sewing counting function is in operative.

1 : on Sewing counting function is operative. (Every time thread trimming is performed)

2 : on External sewing counter switch input.

(Caution) The sewing counter can only be operative when the CP-180 is used with the sewing machine.

The counter indication changes as shown below according to the combination of setting No.6 and setting No.14.

Setting No. 6	Setting No. 14	Counter
1	1 or 2	Bobbin counter
1	0	Bobbin counter
0	1 or 2	Sewing counter (only with CP-180)
0	0	Counter function is ineffective.

⑩ **Neutral automatic presser lifting function (with AK device only) (Function setting No.21 and No.155)**

This function can automatically lift the presser foot when the pedal is in the neutral position.

The automatic lifting time depends on the No.47 Automatic presser foot lifter retaining time. In the case the presser foot automatically comes down, the presser foot automatically goes up by bringing it to the neutral position after it has moved away from that position (solenoid type only)

(Caution) This function is disabled when No. 93 Needle up/down switch additional function setting is "2."

Function of automatic presser foot lifting at neutral position of pedal (function setting No. 21)

0 : Not provided with the function of automatic presser foot lifting at neutral position of pedal

2 1 0

1 : Provided with selectable function of automatic presser foot lifting at neutral position of pedal

2 : Provided with the function of automatic presser foot lifting at neutral position of pedal when enabled and added with the function of conducting alternate operation by depressing the back part of pedal

(Caution) The alternate function is carried out regardless of the setting of No. 155.

Setting of the position of carrying out automatic presser foot lifting at neutral position of pedal (function setting No. 155)

1 5 5 0

0 : The function of automatic presser foot lifting at neutral position of pedal is enabled at all times

1 : The automatic presser foot lifting at neutral position of pedal is only enabled when the sewing machine stops with its needle down

⑪ **Needle up/down switch function changeover function (Function setting No.22)**

The needle up/down switch function can be changed over between the needle up/down compensation and one stitch compensation.

2 2 0

0 : Needle up /down compensating stitching

1 : One stitch compensating stitching

⑫ **Setting of the suction time of the back-tack solenoid (Function setting No.29)**

This function can change the suction time of the back-tack solenoid.

It is effective to decrease the value when the heat is high.

(Caution) When the value is excessively decreased, failure of motion or defective pitch will follow.

Be careful when changing the value.

2 9 2 5 0

Setting range : 50 to 500 ms <10 ms>

⑬ Function of reverse feed stitching on the way (Function setting Nos. 30 to 33)

Functions of the limit of number of stitches and thread trimming command can be added to the touch back switch on the sewing machine head.

Function setting No. 30

3 0 0

Function of reverse feed stitching on the way is selected.

0 : off Normal back-tack function

1 : on Function of reverse feed stitching on the way

Function setting No. 31

3 1 4

Number of stitches performing reverse feed stitching is set.

Setting range

0 to 19 stitches

Function setting No. 32

3 2 0

Effective condition of reverse feed stitching on the way

0 : off Inoperative when the sewing machine stops.

(Reverse feed stitching on the way functions only when the sewing machine is running.)

1 : on Operative when the sewing machine stops.

(Reverse feed stitching on the way functions both when the sewing machine is running and stops.)

(Caution) Either condition is operative when the sewing machine is running.

Function setting No. 33

3 3 0

Thread trimming is performed when reverse feed stitching on the way is completed.

0 : off Without thread trimming

1 : on Thread trimming is executed.

Appli- cation	Function setting			Output function
	No. 30	No. 32	No. 33	
①	0	0 or 1	0 or 1	It works as normal touch-back switch.
②	1	0	0	When operating touch-back switch at the time of depressing front part of the pedal, reverse feed stitching as many as the number of stitches specified by the function setting No. 31 can be performed.
③	1	1	0	When operating touch-back switch at the time of either stop of the sewing machine or depressing front part of the pedal, reverse feed stitching as many as the number of stitches specified by the function setting No. 31 can be performed.
④	1	0	1	When operating touch-back switch at the time of depressing front part of the pedal, automatic thread trimming is performed after reverse feed stitching as many as the number of stitches specified by the function setting No. 31 has been performed.
⑤	1	1	1	When operating touch-back switch at the time of either stop of the sewing machine or depressing front part of the pedal, automatic thread trimming is performed after reverse feed stitching as many as the number of stitches specified by the function setting No. 31 has been performed.

Actions under each setting state

- ① Used as the normal reverse feed stitching touch-back switch.
- ② Used for reinforcing seam (press sewing) of the pleats. (It works only when the sewing machine is running.)
- ③ Used for reinforcing seam (press sewing) of the pleats.
(It works either when the sewing machine stops or when the sewing machine is running.)
- ④ Used as starting switch for reverse feed stitching at the sewing end.
(Used as the substitute for thread trimming by depressing back part of the pedal. It works only when the sewing machine is running. It is especially effective when the sewing machine is used as the standing-work machine.)
- ⑤ Used as starting switch for reverse feed stitching at the sewing end.
(Used as the substitute for thread trimming by depressing back part of the pedal. It works either when the sewing machine stops or when the sewing machine is running. It is especially effective when the sewing machine is used as the standing-work machine.)

⑭ Number of rotation of one-shot stitching (Function setting No. 38)

This function can set, by the pedal operation of one time, the sewing speed of one-shot stitching when the sewing machine continues stitching until completing the number of stitches specified or detecting the material end.

3 8 1 5 0 0

Setting range

150 to MAX. sti/min. <50 sti/min >

(Caution) The max. number of rotation of one-shot stitching is limited by the model of the sewing machine head.

⑮ **Holding time of lifting presser foot (Function setting No. 47)**

This function automatically lowers the presser foot when the time set with the setting No. 47 has passed after lifting the presser foot.

When the pneumatic type presser foot lifter is selected, the holding time control of lifting presser foot is limitless regardless of the set value.

4 **7** **6** **0**

Setting range
10 to 600 sec <10 sec>

⑯ **Compensation of timing of the solenoid for reverse feed stitching (Function setting No. 51 to 53)**

When the normal and reverse feed stitches are not uniform under the automatic reverse feed stitching action, this function can change the ON / OFF timing of the solenoid for back tack and compensate the timing.

(Caution) These functions will be activated when function setting No. 151, the tie stitch adjustment function, is set to OFF.

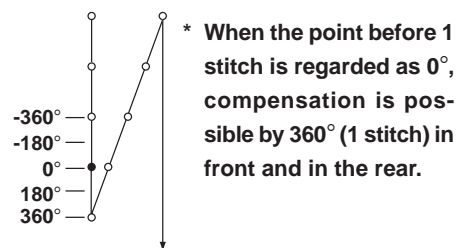
① Compensation of on-timing of solenoid for reverse feed stitching at the start of sewing (Function setting No. 51)

On-timing of solenoid for reverse feed stitching at the start of sewing can be compensated by the unit of angle.

5 **1** **1** **1**

Adjusting range
-36 to 36 <1 / 10°>

Set value	Compensation angle	Number of stitches of compensation
-36	-360°	-1
-18	-180°	-0.5
0	0°	0
18	180°	0.5
36	360°	1



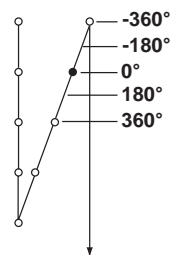
② Compensation of off-timing of solenoid for reverse feed stitching at the start of sewing (Function setting No. 52)

Off-timing of solenoid for reverse feed stitching at the start of sewing can be compensated by the unit of angle.

5 **2** **1** **3**

Adjusting range
-36 to 36 <1 / 10°>

Set value	Compensation angle	Number of stitches of compensation
-36	-360°	-1
-18	-180°	-0.5
0	0°	0
18	180°	0.5
36	360°	1



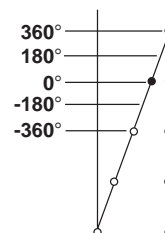
③ Compensation of off-timing of solenoid for reverse feed stitching at the end of sewing (Function setting No. 53)

Off-timing of solenoid for reverse feed stitching at the start of sewing can be compensated by the unit of angle.

5 **3** **5**

Adjusting range
-36 to 36 <1 / 10°>

Set value	Compensation angle	Number of stitches of compensation
-36	-360°	-1
-18	-180°	-0.5
0	0°	0
18	180°	0.5
36	360°	1



17 Foot lift function after thread trimming (Function setting No. 55)

This function can automatically lift the presser foot after thread trimming. This function is effective only when it is used in combination with the AK device.

- | | | |
|--|---------|---|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 | 0 : off | Function of automatically lifting the presser foot is not provided.
(Presser foot does not automatically go up after thread trimming.) |
| | 1 : on | Function of automatically lifting the presser foot is provided.
(Presser foot automatically goes up after thread trimming.) |

18 Reverse revolution to lift the needle after thread trimming (Function setting No. 56)

This function is used to make the sewing machine rotate in the reverse direction after thread trimming to lift the needle bar almost to highest position. Use this function when the needle appears under the presser foot and it is likely to make scratches on the sewing products of heavy-weight material or the like.

- | | | |
|---|---------|---|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 | 0 : off | Function of making the sewing machine rotate in the reverse direction to lift the needle after thread trimming is not provided. |
| | 1 : on | Function of making the sewing machine rotate in the reverse direction to lift the needle after thread trimming is provided. |

(Caution) The needle bar is raised, by rotating the machine in the reverse direction, almost to the highest dead point. This may result in slip-off of the needle thread. It is therefore necessary to adjust the length of thread remaining after thread trimming properly.

19 Function of holding predetermined upper / lower position of the needle bar (Function setting No. 58)

When the needle bar is in the upper position or in the lower position, this function holds the needle bar by applying a brake slightly.

- | | | |
|---|---------|---|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 <input type="checkbox"/> 8 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0 | 0 : off | Not provided with the function of holding predetermined upper/lower position of the needle bar |
| | 1 : on | Provided with the function of holding predetermined upper/lower position of the needle bar (holding force is weak.) |
| | 2 : on | Provided with the function of holding predetermined upper/lower position of the needle bar (holding force is medium.) |
| | 3 : on | Provided with the function of holding predetermined upper/lower position of the needle bar (holding force is strong.) |

Needle-bar home position retaining time (function setting No. 61)

This function automatically cancels the function No. 58 after the lapse of the set time when the latter is in the ON state.

This function should be used when you want to turn the sewing machine pulley after the completion of sewing.

- | | | |
|---|--------------------------|---|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> 1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0 | 0 : Function is disabled | The needle-bar up/down home position retaining function is enabled at all time. |
| | | 100 to 300 ms |

20 Change-over function of AUTO / Pedal for sewing speed of the reverse feed stitching at the start of sewing (Function setting No. 59)

This function selects whether the reverse feed stitching at the start of sewing is performed without a break at the speed set by the function setting No. 8 or the stitching is performed at the speed by the pedal operation.

- | | | |
|---|------------|--|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 <input type="checkbox"/> 9 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 | 0 : Manual | The speed is indicated by the pedal operation. |
| | 1 : Auto | Automatic stitching at the specified speed |

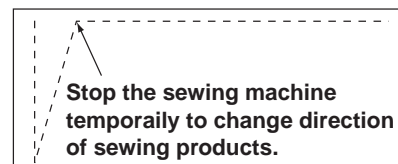
**(Caution) 1. The max. sewing speed of the reverse feed stitching at the start of sewing is limited to the speed set by the function setting No. 8 regardless of the pedal.
2. When "0" is selected, stitches of reverse feed stitching may not match those of normal feed stitching.**

21 Function of stop immediately after the reverse feed stitching at the start of sewing (Function setting No. 60)

This function temporarily stops the sewing machine even when keeping depressing the front part of the pedal at the time of completion of process of reverse feed stitching at the start of sewing.

It is used when sewing a short length by reverse feed stitching at the start of sewing.

- | | |
|---|--|
| <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> 0 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 0 | 0 : Not provided with the function of temporary stop of the sewing machine immediately after the reverse feed stitching at the start of sewing |
| | 1 : Provided with the function of temporary stop of the sewing machine immediately after the reverse feed stitching at the start of sewing |



⑫ **Function of soft-down of presser foot (with AK device only) (Function setting Nos. 70 and 49)**

This function can softly lower the presser foot.

This function can be used when it is necessary to decrease contact noise, cloth defect, or slippage of cloth at the time of lowering the presser foot.

(Caution) Change the time of function setting No. 49 together at the time of selecting the function of soft-down since the sufficient effect cannot be obtained unless the time of function setting No. 49 is set longer when lowering the presser foot by depressing the pedal.

4 9 **1 4 0**

0 to 500 ms <10ms>

7 0 **0**

0 : Function of soft-down of presser foot is not operative. (Presser foot is rapidly lowered.)

1 : Selection of function of soft-down of presser foot

⑬ **Function of reducing speed of reverse feed stitching at the start of sewing (Function setting No. 92)**

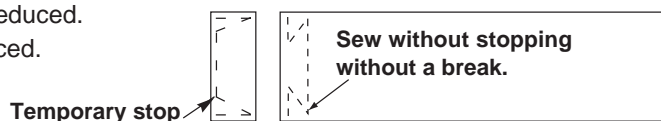
Function to reduce speed at the time of completion of reverse feed stitching at the start of sewing : Normal use depending on the pedal condition (Speed is accelerated to the highest without a break.)

This function is used when temporary stop is used properly. (Cuff and cuff attaching)

9 2 **0**

0 : Speed is not reduced.

1 : Speed is reduced.



⑭ **Retry function (Function setting No. 73)**

When the retry function is used, if the sewing material is thick and not pierced with needle, this function makes the needle pierce in the material with ease.

7 3 **1**

0 : Normal

1 : Retry function is provided.

⑮ **Presser foot lifting solenoid suction time setting (Function setting No. 84)**

Suction time of presser foot lifting solenoid can be changed. When heating is great, it is effective to lessen the value.

(Caution) When the value is excessively small, malfunction will be caused. So, be careful when changing the value.

8 4 **2 5 0**

Setting range : 50 to 500ms <10ms>

⑯ **Function of pedal curve selection (Function setting No. 87)**

This function can perform the selection of the curve of number of rotation of the sewing machine against the depressing amount of the pedal.

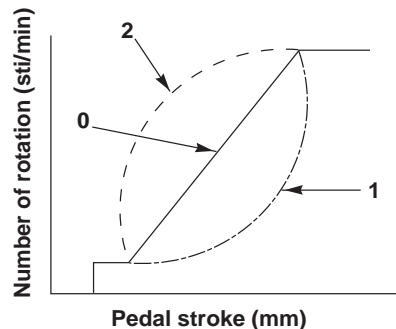
Change to this function when you feel that inching operation is hard or that pedal response is slow.

8 7 **0**

0 : Number of rotation of the sewing machine in terms of the depressing amount of the pedal increases linearly.

1 : Reaction to intermediate speed in terms of the depressing amount of the pedal is delayed.

2 : Reaction to intermediate speed in terms of the depressing amount of the pedal is advanced.



⑰ **Initial motion up stop position move function (Function setting No. 90)**

Effective/ineffective of automatic return to UP stop position immediately after turning ON the power can be set.

9 0 **0**

0 : Ineffective

1 : Effective

28) Function added to the needle up/down compensating switch (Function setting No.93)

One stitch operation can be performed only when the needle up / down compensating switch is pressed at the time of upper stop immediately after turning ON the power switch or upper stop immediately after thread trimming.

9 **3** **0**

0 : Normal (Only needle up / down compensating stitching operation)

1 : One stitch compensating stitching operation (upper stop → upper stop) is performed only when aforementioned changeover is made.

2 : Needle-down function operates after thread trimming.

3 : Function of needle-down with operation of “2:” plus presser lowering operation and needle-up with thread trimming operation is added.

29) Continuous stitching + one shot stitching nonstop function (Function setting No. 94)

This function is used to proceed a step to the next one without stopping the sewing machine at the end of the step when performing sewing with the continuous sewing and one-shot sewing combined using the programming function of the operation panel IP.

9 **4** **0**

0 : Normal (Stop when a step has completed.)

1 : The sewing machine proceeds to next step without stopping after a step has completed.

30) Setting of max. number of rotation of the sewing machine head (Function setting No. 96)

This function can set the max. number of rotation of the sewing machine head you desire to use. Upper limit of the set value varies in accordance with the sewing machine head to be connected.

9 **6** **3** **0** **0** **0**

150 to Max. [sti/min] <50 sti/min>

31) Reversing brake start angle (Function setting No. 107)

Brake start angle of function of reverse revolution to lift needle after thread trimming can be set. Set value determines the angle from the end of up position detection.

1 **0** **7** **0**

0 : Invalid (Brake function starts from the end of up position detection.)

Setting range : 1 to 359 <1°>

1 to 359: After rotating, brake works in the range of set angle.

As to angle: It indicates the angle of normal rotation from OFF signal of up position detection when the sewing machine rotates in the normal direction.

32) Main shaft reference angle compensation (Function setting No. 120)

Main shaft reference angle is compensated

1 **2** **0** **0**

Setting range : -60 to 60° <1°>

33) UP position starting angle compensation (Function setting No. 121)

Angle to detect UP position starting is compensated.

1 **2** **1** **0**

Setting range : -15 to 15° <1°>

34) DOWN position starting angle compensation (Function setting No. 122)

Angle to detect DOWN position starting is compensated.

1 **2** **2** **0**

Setting range : -15 to 15° <1°>

35) Setting of energy saving function during standby (Function setting No.124)

It is possible to reduce power consumption while the sewing machine is in standby state. It should be noted that the startup of the sewing machine may delay for a moment if this function is set.

1 **2** **4** **0**

0 : Energy-saving mode is ineffective.

1 : Energy-saving mode is effective.

36) Setting of accessory devices (Function setting No. 141)

Accessory devices to be mounted on the machine head are selected.

1 **4** **1** **F** **U** **n** **_**

Settings of the devices to be mounted as standard are automatically performed. Refer to “10. Thread trimming • Setting of accessory devices (2)” for further information on settings.

⑳ Simplified program setting (Function setting No. 142)

Operations of simplified programs are enabled or disabled, and settings of simplified program entry, simplified program change, and other operations are performed.

1 4 2 P r o

Refer to "11. How to use simplified program function (2)" for further information on settings.

㉑ Brake angle when the needle stops at the up position at thread trimming (Function setting No. 143)

The brake start angle when the needle stops at the up position at thread trimming is specified.

1 4 3 0 0 to 10 degrees (0: angle of starting to detect up position)

㉒ Setting of automatic cancellation of alternate vertical output by stitching count (Function setting No. 144)

The alternate vertical output is automatically canceled in accordance with stitching count. (0: automatic cancellation disabled) The alternate vertical output is set to OFF when the predetermined stitching count ends. If "0" is selected, this function is disabled. (However, the stitching count may exceed the predetermined count depending on sewing speed.)

1 4 4 0 0 : Automatic cancellation disabled
1 to 30 stitches

㉓ Alternate vertical output delay time (Function setting No. 145)

The delay time from when the alternate vertical change switch is pressed to when an output starts to be provided is specified.

1 4 5 1 0 0 to 500 (ms)

㉔ Selection of alternate vertical output after thread trimming (Function setting No. 146)

The alternate vertical output is forcibly set to ON or OFF after thread trimming.

If this function is disabled, the alternate vertical output stays in the state before thread trimming.

If "1" is selected, the alternate vertical output is set to OFF. If "2" is selected, the alternate vertical output is set to ON.

1 4 6 0 0 : Disabled
1 : OFF
2 : ON

㉕ Selection of alternate vertical initial output (Function setting No. 147)

The alternate vertical output at power on is forcibly set to ON or OFF.

If this function is disabled, the alternate vertical output resumes the state when the power was turned off the last time.

If "1" is selected, the alternate vertical output is set to OFF. If "2" is selected, the alternate vertical output is set to ON.

1 4 7 0 0 : Disabled
1 : OFF
2 : ON

㉖ 2-pitch output during reverse feed stitching at sewing start and end (Function setting No. 148)

The 2-pitch output is set to ON during control of reverse feed stitching at sewing start and end.

1 4 8 0 0 : Function OFF
1 : Function ON

㉗ 2-pitch output inversion during alternate vertical output (Function setting No. 149)

The inverted 2-pitch output is provided in synchronism with the alternate vertical output.

When the 2-pitch output is set to "ON" or "OFF" at switching of the alternate vertical output, the output is switched to "OFF" or "ON", respectively.

1 4 9 0 0 : Function OFF
1 : Function ON

㉘ Selection of 2-pitch initial output (Function setting No. 150)

The 2-pitch output at power on is forcibly set to ON or OFF.

If this function is disabled, the 2-pitch output resumes the state when the power was turned off the last time.

When "1" or "2" is selected, the 2-pitch output is set to "OFF" or "ON", respectively.

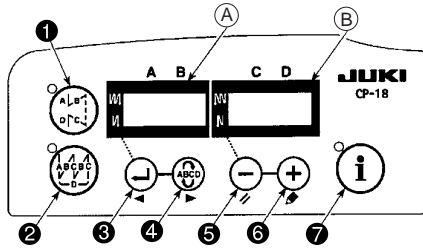
1 5 0 0 0 : Disabled
1 : OFF
2 : ON

⑫ **Function of limiting alternate vertical speed (Function setting Nos. 162 and 163)**

Maximum speed is limited in accordance with the alternate vertical moving amount.

Speed is limited by a lower speed limit resulting from comparing with a speed limit that is specific to a machine head.

Refer to the instruction manual of the machine head to be used for the machine-head-specific speed limit.



Select function No. 162 for operation methods of function settings 1 to 3.

Use the key ⑤ or ⑥ to select “_End”, “dL_”, or “SPd_”.

[When “dL” is selected] (only for LU-2200VR type machine head)

Use the key ③ or ④ to select the alternate vertical moving amount, 1 or 2, after “dL1” appears on the indicator A. Use the key ⑤ or ⑥ to enter the alternate vertical moving amount.

[When “SPd” is selected] (for LU-2200VR type machine head)

Use the key ③ or ④ to select the setting speed, 1 or 2, after “Spd1” appears on the indicator A. Use the key ⑤ or ⑥ to specify the speed to be set.

[When “SPd” is selected] (for the heads other than the above)

Use the key ③ or ④ to select the setting speed, 1 to 4, after “Spd1” appears on the indicator A. Use the key ⑤ or ⑥ to specify the speed to be set.

Setting examples (for LU-2200VR type machine head)

The speed is set to 3500 sti/min for alternate vertical moving amount 3, and the speed is set to 1500 sti/min for alternate vertical moving amount 5.

1. Select function No. 162 for operation methods of function settings 1 to 3.

2. Use the key ⑤ or ⑥ to select the “dL” item.

3. Use the key ④ to select “dL1”.

4. Use the key ⑤ or ⑥ to set the value of dL1 to “3”.

5. Use the key ④ to determine the set value and select “dL2”.

6. Use the key ⑤ or ⑥ to set the value of dL2 to “5”.

7. Use the key ④ to determine the set value.

8. Use the key ⑤ or ⑥ to select the “SPd” item.

9. Use the key ④ to select “SPd1”.

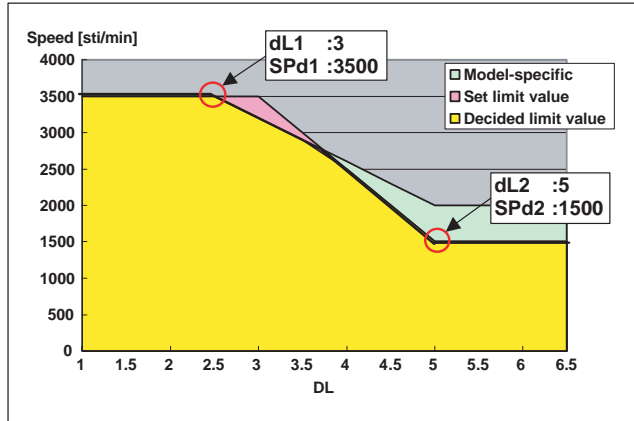
10. Use the key ⑤ or ⑥ to set the value of SPd1 to “3500”.

11. Use the key ④ to determine the set value and select “SPd2”.

S P d 2 1 5 0 0
d L S _ S P d _
d L S _ _ E n d
1 6 2 d L S _
1 6 3 0
1 6 3 1

12. Use the key 5 or 6 to set the value of SPd2 to "1500".
13. Use the key 4 to determine the set value.
14. Use the key 5 or 6 to select "_End".
15. Use the key 3 or 4 to end the setting, and the function setting mode resumes.
16. Use the key 4 to display function setting No. 163.
17. Use the key 5 or 6 to select "1" for the setting value, which enables the limit.

A graph of the speed limit at the settings above is displayed.



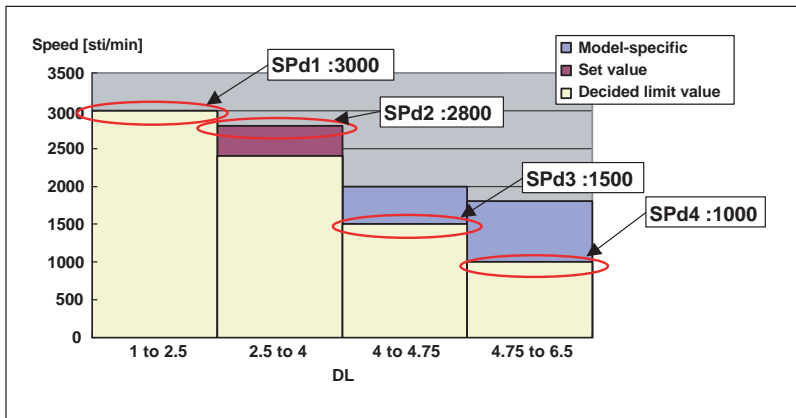
Setting examples (for LU-1510N machine head)

The speed is set to 3000 sti/min, 2800 sti/min, 1500 sti/min, and 1000 sti/min, respectively.

1 6 2 d L S _
d L S _ S P d _
S P d 1 1 5 0
S P d 1 3 0 0 0
S P d 2 1 5 0
S P d 2 2 8 0 0
S P d 3 1 5 0
S P d 3 1 5 0 0
S P d 4 1 5 0
S P d 4 1 0 0 0
d L S _ S P d _
d L S _ _ E n d
1 6 2 d L S _
1 6 3 0
1 6 3 1

1. Select function No. 162 for operation methods of function settings 1 to 3.
2. Use the key 5 or 6 to select the "SPd_" item.
3. Use the key 4 to select "SPd1".
4. Use the key 5 or 6 to set the value of SPd1 to "3000".
5. Use the key 4 to determine the set value and select "SPd2".
6. Use the key 5 or 6 to set the value of SPd2 to "2800".
7. Use the key 4 to determine the set value and select "SPd3".
8. Use the key 5 or 6 to set the value of SPd3 to "1500".
9. Use the key 4 to determine the set value and select "SPd4".
10. Use the key 5 or 6 to set the value of SPd4 to "1000".
11. Use the key 4 to determine the set value.
12. Use the key 5 or 6 to select "_End".
13. Use the key 3 or 4 to end the setting, and the function setting mode resumes.
14. Use the key 4 to display function setting No. 163.
15. Use the key 5 or 6 to select "1" for the setting value, which enables the limit.

A graph of the speed limit at the settings above is displayed.



⑤③ **Remaining thread detection function (Function setting Nos. 167, 168, and 169)**

The setting is performed in the case of using the remaining bobbin thread detection device.

Function setting No. 167

Remaining bobbin thread detection, enabled/disabled

0 : Disabled

1 : Enabled

Function setting No. 168

Remaining bobbin thread detection function

Refer to the instruction manual for further information on setting values.

Function setting No. 169

Time of air blow to remaining thread detection device

0 to 3000 ms Air blow time after thread trimming is specified.

⑤④ **Stop brake angle setting (Function setting No. 170)**

This function allows the lowering needle to stop later than the normal stop if the lowering needle stop is active.

0 : Function disabled

1 to 180 degrees Brake delayed angle

⑤⑤ **33 V switching duty setting (Function setting No. 190)**

Setting of the output duty provided to the machine head supporting 24 V solenoid output (DNU-1541) is performed.

(Caution) If an excessively small value is selected for this setting, malfunction or defective pitch will be caused. Therefore, extreme caution should be exercised when the value is changed.

10% to 90%

⑤⑥ **Password lock function (Function setting No. 192)**

Once this function is activated, stitching count, reverse feed stitching, and one-touch operation cannot be specified.

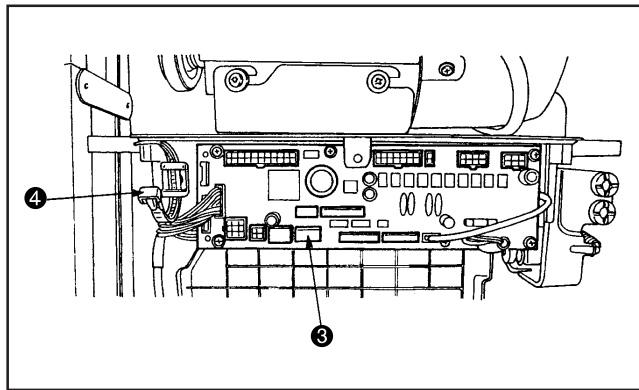
Password entry is required when function setting is performed.

0 : Function disabled

1 to 9999 Password

6. CONNECTING PROCEDURE OF OPTIONAL DEVICE

(1) Connection of the pedal of standing-work machine (PK)

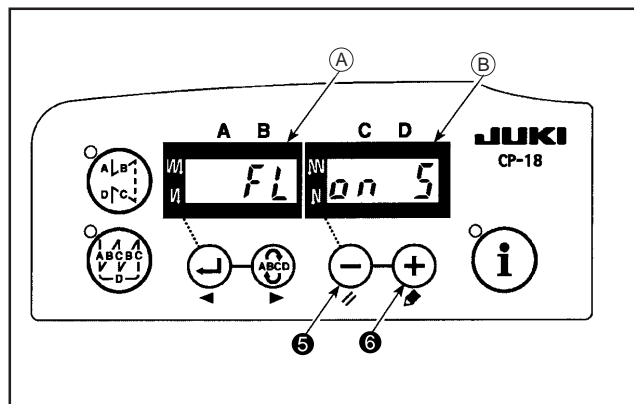


- 1) Connect the connector of PK70 to connector ③ (CN39 :12P) of SC-922.
- 2) Tighten the cord of PK70 together with other cords with cable clip band ④ attached to the side of the box after passing it through the cable clamp.

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

(2) Setting of the auto lifter function

When the auto-lifter device (AK) is attached, this function makes the function of auto-lifter work



- 1) Turn ON the power switch with switch ⑤ held pressed.
- 2) "FL ON" is displayed on indicators ① and ② with a blip to make the auto lifter function effective.
- 3) Turn OFF the power switch, and turn ON the power switch again to return to the normal mode.
- 4) Repeat the operation 1) to 3), and LED display is turned to (FL OFF).

Then, the function of auto-lifter does not work.

Solenoid drive display (+33V)

Air drive display (+24V)

FL ON : Auto-lifter device becomes effective. Selection of the auto-lifter device of solenoid drive (+33V) or of air drive (+24V) can be performed with switch ⑥.

(Changeover is performed to drive power +33V or +24V of CN37.)

FL OFF : Auto-lifter function does not work. (Similarly, the presser foot is not automatically lifted when programmed stitching is completed.)



WARNING :

When the solenoid is used with the air drive setting, the solenoid may be burned out. So, do not mistake the setting.

(Caution) 1. To perform re-returning ON of the power, be sure to perform after the time of one second or more has passed.

(If ON / OFF operation of the power is performed quickly, setting may be not changed over well.)

2. Auto-lifter is not actuated unless this function is properly selected.
3. When "FL ON" is selected without installing the auto-lifter device, starting is momentarily delayed at the start of sewing. In addition, be sure to select "FL OFF" when the auto-lifter is not installed since the touch-back switch may not work.

7. EXTERNAL INPUT / OUTPUT CONNECTOR

A switchable general-purpose input/output is provided at function setting No. 12 for an external output connector ❶ (CN51).

(Caution) When using the connector, note that the engineer who has the electrical knowledge has to work.

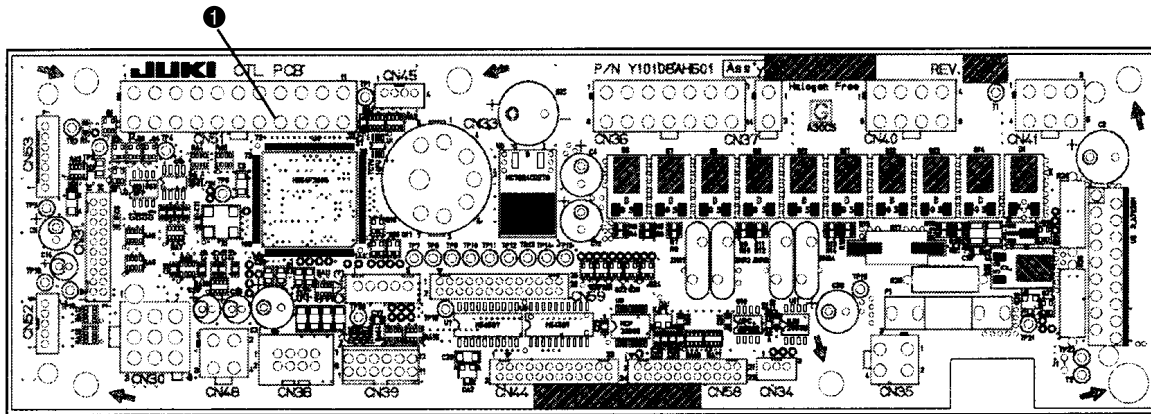


Table of assignment of connector and signal

CN51	Signal name	Input/output	Description	Electric spec.
1	GND		GND	
2	GND		GND	
3	MA	Output	Rotation signal 360 pulses/rotation	DC5V
4	OPI9	Input	Option 9 input	DC5V, -5mA
5	OPI10	Input	Option 10 input	DC5V, -5mA
6	OPI11	Input	Option 11 input	DC5V, -5mA
7	OPI12	Input	Option 12 input	DC5V, -5mA
8	OPI13	Input	Option 13 input	DC5V, -5mA
9	OPI14	Input	Option 14 input	DC5V, -5mA
10	OPI15	Input	Option 15 input	DC5V, -5mA
11	OPI16	Input	Option 16 input	DC5V, -5mA
12	+24V		Power source	
13	+24V		Power source	
14	+5V		Power source	
15	OPO17	17	Option 17 output	NPN open collector
16	OPO18	18	Option 18 output	NPN open collector
17	OPO19	19	Option 19 output	NPN open collector
18	OPO20	20	Option 20 output	NPN open collector
19	OPO21	21	Option 21 output	NPN open collector
20	OPO22	22	option 22 out put	NPN open collector
21	OPO23	23	Option 23 output	NPN open collector
22	OPO24	24	Option 24 output	NPN open collector

JUKI genuine part No.

Connector : Part No. HK034610220

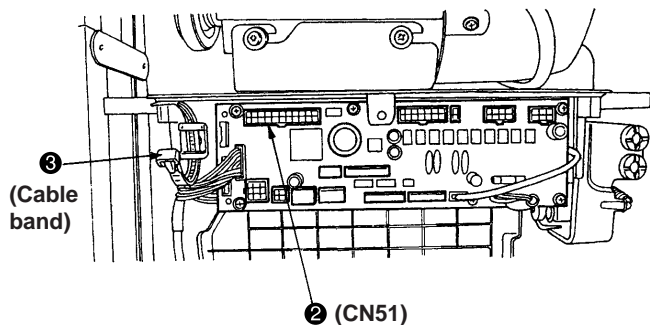
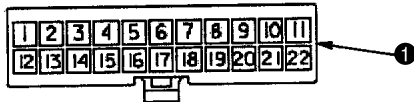
Pin contact : Part No. HK03464000A

8. EXAMPLE OF MATERIAL END SENSOR CONNECTION

For SC-922, a commercially available photoelectric sensor can be connected and used as a material end sensor. A connection example is shown below.

Pin No.	Signal	Remarks
2	GND	0V
11	OPI16	Sensor input
13	+24V	Power source

2-wire system
3-wire system



1. Connect the material end sensor to the connector ❶ (Molex, 22P).

For 2-wire system, connect 0 V and the sensor input to pin 2 and pin 11, respectively.

For 3-wire system, connect 0 V, the sensor input, and 24 V to pin 2, pin 11, and pin 13, respectively.

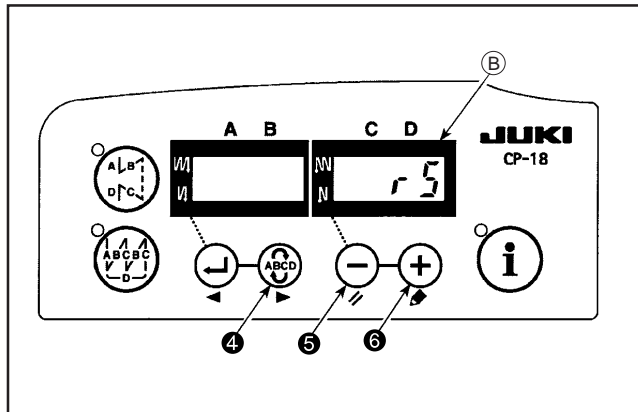
2. Insert the connector ❶ that was connected in the step 1 into the connector ❷ (CN51, 22P) of SC-922.
3. Pass these cables through the cable clamp and fasten them with the cord of the material end sensor with the cable band ❸ mounted on the side face of the box.
4. Assign CN51-11 (display No. 924) to the material end sensor input with reference to “5-(9)-❸ Selection of optional input/output function (function setting No. 12)”.





(Caution) 1. Be sure to turn off the power before connection.

2. Use a 24 V-ready material end sensor.
3. Refer to “5.-(3) One-touch setting” for how to use a material end sensor.

9. INITIALIZATION OF THE SETTING DATA

All contents of function setting of SC-922 can be returned to the standard set values.



- 1) Turn ON the POWER switch with all of switch  4, switch  5 and  6 held pressed.
- 2) "rS" is displayed on indicator  B with a blip to start initialization.
- 3) The buzzer sounds after approximately one second (single sound three times, "peep", "peep", and "peep"), and the setting data returns to the standard setting value.

(Caution) Do not turn OFF the power on the way of initializing operation. Program of the main unit may be broken.

- 4) Turn OFF the power switch and turn ON the power switch after closing the front cover. The machine returns to the normal motion.

- (Caution)**
1. When you carry out the aforementioned operation, the neutral position correction value for the pedal sensor is also initialized. It is therefore necessary to carry out automatic correction of the pedal sensor neutral position before using the sewing machine. (Refer "Instruction Manual Automatic compensation of neutral point of the pedal sensor")
 2. When you carry out the aforementioned operation, the machine-head adjustment values are also initialized. It is therefore necessary to carry out adjustment of the machine head before using the sewing machine. (Refer "5.-(7) Adjusting the machine head")
 3. Even when this operation is performed, the sewing data set by the operation panel cannot be initialized.

10. THREAD TRIMMING • SETTING OF ACCESSORY DEVICES

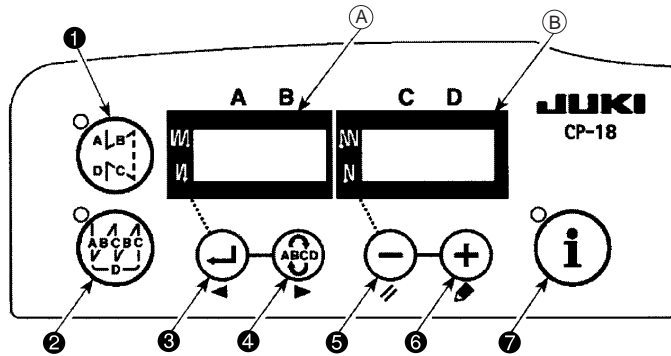
(1) Thread trimming setting

For SC-922, optimal thread trimming is automatically selected by the selected machine head. In case of trouble such as uncut thread, however, fine operation adjustment can be performed.

1. Displayed contents and setting method

Activate the setting mode with reference to “5.-(4) Function setting” and select function No. 160.

When function No. 160 is selected, the following are displayed.



1 6 0 TrM _

TrM _ _ End

PrM _

Use the key 5 or 6 to select “_End” or “PrM_” item.
 (“_End” or “PrM_” unselectable for some machine heads)

Tr 1 * * * *

Tr * * * *

When “PrM_” is selected, use the key 3 or 4 to select the item number of thread trimming setting after “Tr1” appears on the indicator (A).

Use the key 5 or 6 to enter the parameter to be set.

(Refer to “10.-(1), 2. Thread trimming parameter list” for settable parameters.)

2. Thread trimming parameter list

Thread trimming setting No. 160				Parameter setting																				
Indicator (A)		Indicator (B)		Applicable model		Indicator (A)		Indicator (B)		Parameter details		Remarks												
T	r	M	_	_	E	n	d	T	r	M	_	P	r	M	_	T	r	M	_	d	A	A		
Setting disabled				LU-151* type machine head				T	r	1	d	3	0	Thread trimming instantaneous stop time	30ms									
								T	r	2	A	1	8	1	Thread trimming OFF angle	181 degrees: from point departing from up position								
								T	r	3	A	2	6	5	Thread release ON angle	265 degrees: from point departing from up position								
LU-22** type machine head								T	r	1	d	3	0	Thread trimming instantaneous stop time	30ms									
								T	r	2	A	5	4	Thread trimming OFF angle	54 degrees: from point departing from up position									
								T	r	3	A	1	8	8	Thread release ON angle	188 degrees: from point departing from up position								
LU-2212								T	r	1	A	9	0	Thread trimming OFF angle	90 degrees: from point departing from up position									
								T	r	2	A	2	6	0	Thread release ON angle	260 degrees: from point departing from up position								
PLC-1700								T	r	1	d	3	0	Thread trimming instantaneous stop time	30ms									
								T	r	2	A	1	7	6	Thread trimming OFF angle	176 degrees: from point departing from up position								
								T	r	3	A	2	5	0	Thread release ON angle	250 degrees: from point departing from up position								
								T	r	4	d			0	Thread clamp OFF angle	0ms								
LU-2220								T	r	1	S	4	0	Shortened stitching speed	400sti/min									
								T	r	2	A	1	2	5	Thread trimming ON angle	125 degrees: from point departing from up position								
								T	r	3	A	1	5	8	Thread clamp ON angle	158 degrees: from point departing from up position								
								T	r	4	A	1	7	3	Thread clamp OFF angle	173 degrees: from point departing from up position								
								T	r	5	A	2	7	8	Thread release ON angle	278 degrees: from point departing from up position								
								T	r	6	d	1	0	Thread trimming return ON time	10ms : after up position stop									
								T	r	7	d	1	0	Thread release OFF angle	10ms : after thread trimming return									

(2) Setting of accessory devices

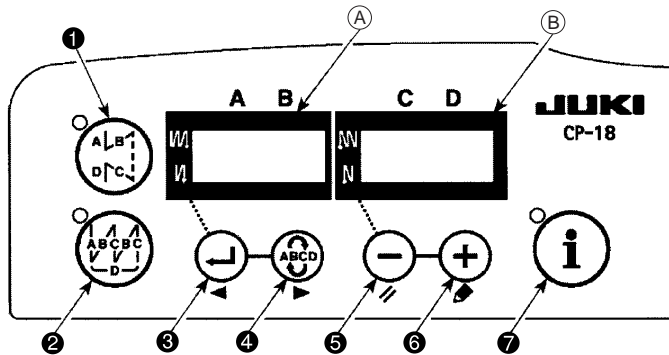
SC-922 can be equipped with a needle thread clamp device, a center guide device, and the like as accessory equipment on its machine head.

Even operations of some devices can be finely adjusted.

1. Displayed contents and setting method

Activate the setting mode with reference to "5.-(4) Function setting" and select function No. 141.

When function No. 141 is selected, the following are displayed.



1 4 1 F U n _

F U n _ _ E n d

U T 1 _

U T 2 _

Use the key ⑤ or ⑥ to select "_End", "UT1_" or "UT2_" item.

U 1 0 * * * *

U * * * * * *

When "UT1" or "UT2" is selected, use the key ③ or ④ to select the item number of accessory device setting after "U1 0" or "U2 0" appears on the indicator (A).

Use the key ⑤ or ⑥ to enter the parameter to be set.

(Refer to "10.-(2), 2. Accessory device parameter list" for settable parameters.)

2. Accessory device parameter list

Device setting No. 141				Parameter setting			
Indicator (A) F U n _		Indicator (B) _ E n d U T 1 _ U T 2 _		Device setting details Setting disabled Accessory device 1 Accessory device 2			
Indicator (A) U 1 0		Indicator (B) n o P		Device setting details Setting disabled			
U 1 0		C L 2 2		Selection of needle thread clamp device for LU-2220			
U 1 0		F L 2 2		Selection of presser lifting device for LU-2220			
U 1 0		C G 0 1		PLC-1700 center guide (BT/FL interlocking)			
U 1 0		C G 0 2		PLC-1700 center guide (BT/DL interlocking, FL initialized)			
Indicator (A) U 2 0		Indicator (B) n o P		Device setting details Setting disabled			
U 2 0		C L 2 2		Selection of needle thread clamp device for LU-2220			
U 2 0		F L 2 2		Selection of presser lifting device for LU-2220			
U 2 0		C G 0 1		PLC-1700 center guide (BT/FL interlocking)			
U 2 0		C G 0 2		PLC-1700 center guide (BT/DL interlocking, FL initialized)			

Indicator (A)		Indicator (B)		Parameter details							
U 1 1	U 1 2	U 1 3	U 1 4	d 7 3	d 2 0 0	d 5 5	d 6 0	Needle thread clamp On1	Needle thread clamp Off1	Needle thread clamp On2	Needle thread clamp Off2
U 1 1	U 1 2	U 1 3	U 1 4	d 5 0	d 5 3	d 1 5	d 6 0	Presser lifting 2 On	Presser lifting On	Presser lifting Off	Presser lifting 2 Off

No parameter setting

Indicator (A)		Indicator (B)		Parameter details							
U 2 1	U 2 2	U 2 3	U 2 4	d 7 3	d 2 0 0	d 5 5	d 6 0	Needle thread clamp On1	Needle thread clamp Off1	Needle thread clamp On2	Needle thread clamp Off2
U 2 1	U 2 2	U 2 3	U 2 4	d 5 0	d 5 3	d 1 5	d 6 0	Presser lifting 2 On	Presser lifting On	Presser lifting Off	Presser lifting 2 Off

No parameter setting

11. HOW TO USE SIMPLIFIED PROGRAM FUNCTION

(1) Simplified program function

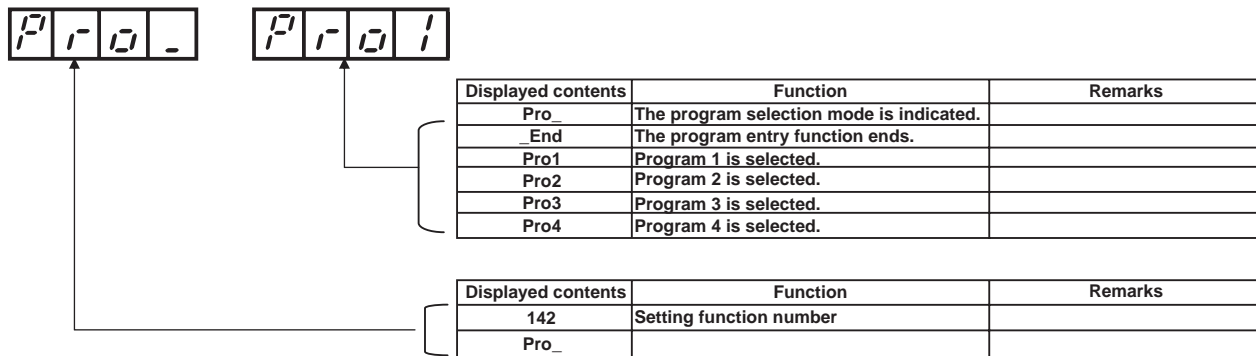
SC-922 is equipped with the function that can create simplified programs to receive external signals, transit signals externally, and control the machine head without using dedicated input device.

1. Specifications

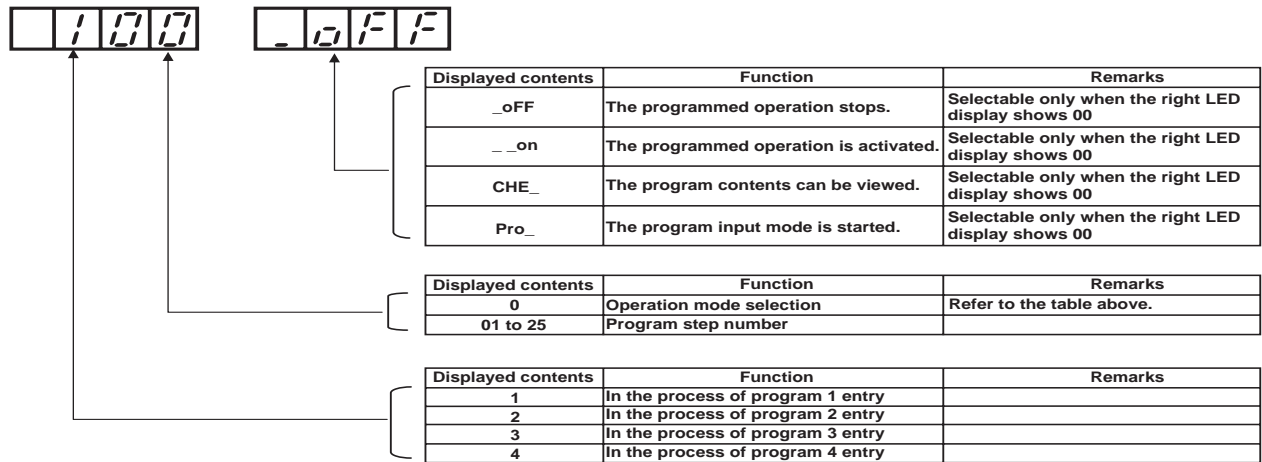
- 1) 4 programmed operations performable at the same time
- 2) 25-step capacity available per 1 program
- 3) Interoperable among 4 programs

2. Displayed contents and function

- 1) Displayed contents at simplified program selected



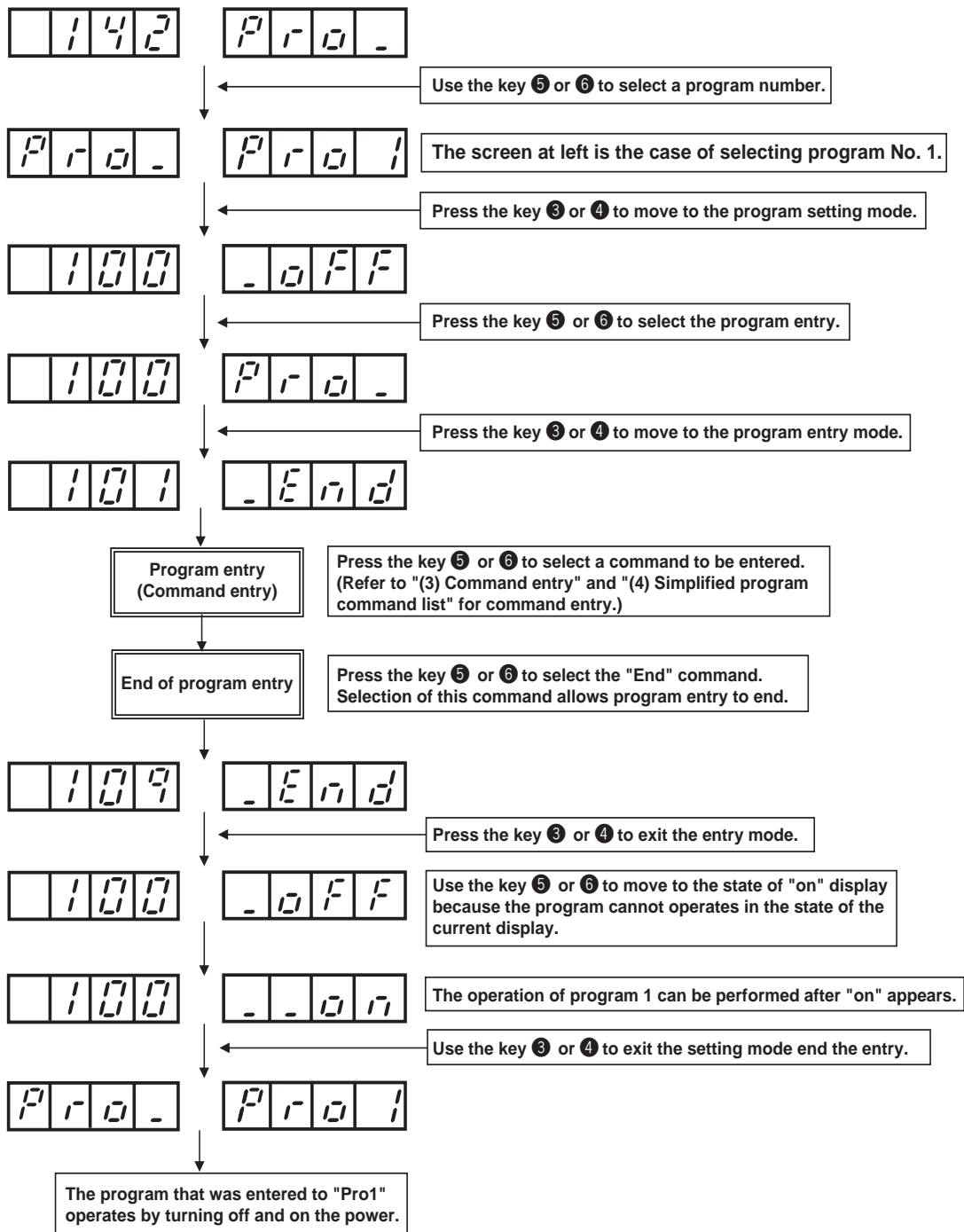
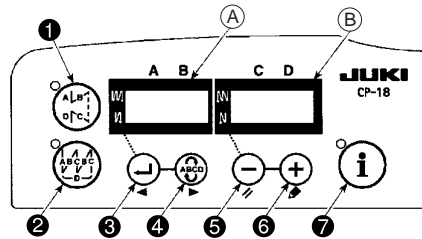
- 2) Displayed contents at program selected



(2) Flow of start & entry

Activate the setting mode with reference to "5.-(4) Function setting" and select function No. 142.

When function No. 142 is selected, the following are displayed.



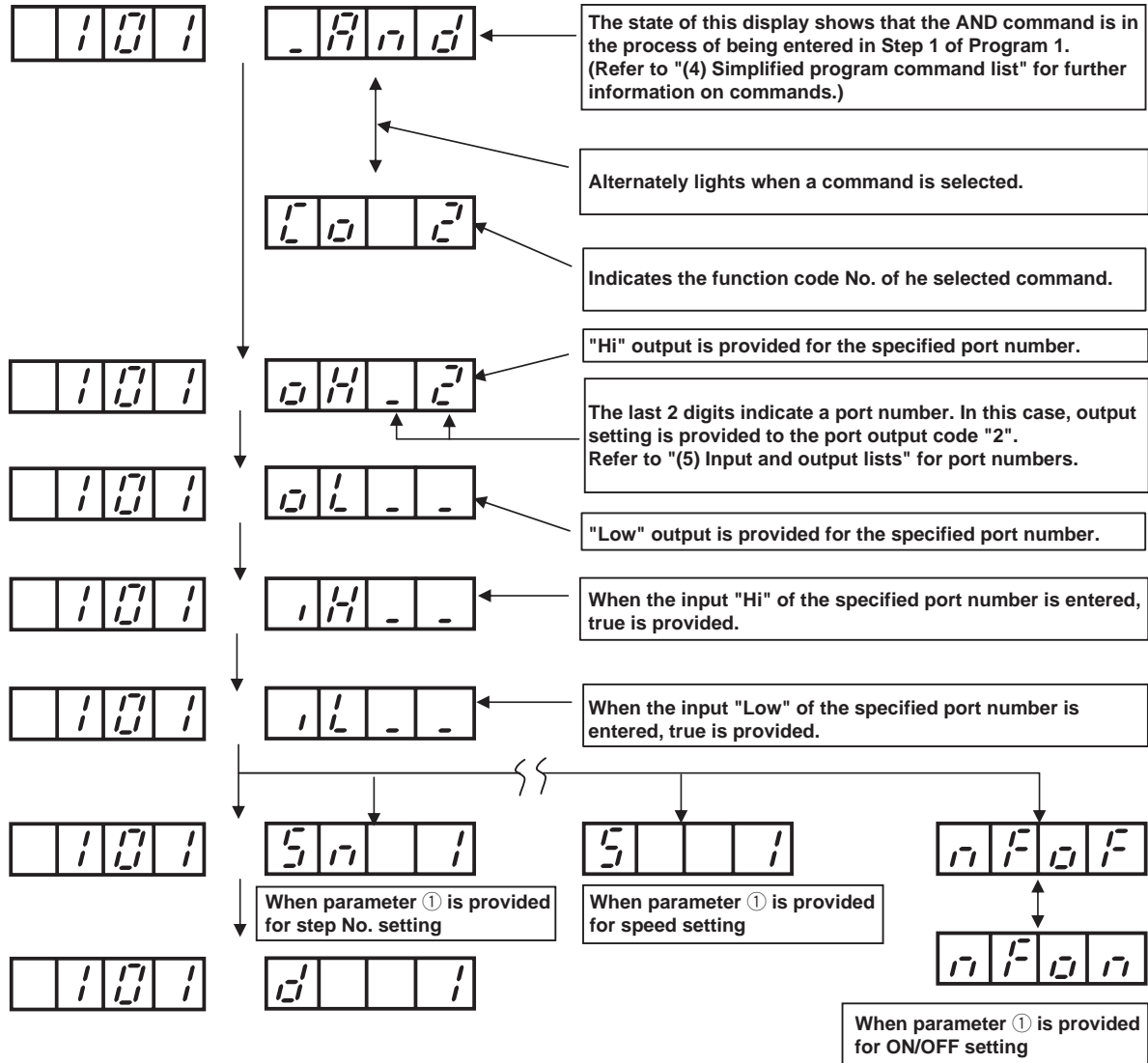
(3) Command entry

The displayed contents and method of command entry are described below.

A program command is entered to each step in the step entry after program selection as shown below. The following flow is a case with respect to 1 command.

Displayed contents and entry items are described below.

1. Flow of command entry



(4) Simplified program command list

The command list and parameter list to be used for simplified program function are provided.

No.	Function code	Abbreviation	Command	Output setting	Setting range	Input setting	Setting range	Parameter ①	Setting range	Parameter ②	Setting range	Remarks
1	0	End	Completion	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Disabled	—	Initial value
2	1	DELY	Delay	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Delay time (d)	0: 1-999 X 1mS	A command is disabled when the delay time is 0. Other than that, transition to the next step is executed after lapse of the delay time.
3	2	And	AND conditional branch	Enable	oH.1 to 32 oL.1 to 32	Enable	iH.1 to 75 iL.1 to 75	Skip destination step No. (Sn)	1 to 25	Delay time (d)	0 : Waiting for input until conditions are met 1-999 X 1mS	When all the conditions specified in the input setting are met (AND input), transition to the next step is executed. When input conditions are not met and the delay time is exceeded, jump to the step specified with the skip destination step number is executed.
4	3	or	OR conditional branch	Enable	oH.1 to 32 oL.1 to 32	Enable	iH.1 to 75 iL.1 to 75	Skip destination step No. (Sn)	1 to 25	Delay time (d)	0 : Waiting for input until conditions are met 1-999 X 1mS	When any one of the conditions specified in the input setting is met (OR input), transition to the next step is executed. When input conditions are not met and the delay time is exceeded, jump to the step specified with the skip destination step number is executed.
5	4	STIA	Stitching count AND conditional branch	Enable	oH.1 to 32 oL.1 to 32	Enable	iH.1 to 75 iL.1 to 75	Skip destination step No. (Sn)	1 to 25	Stitching count (C)	0: Command disabled (1 to 999 stitches)	When all the input setting conditions are met within the setting range of the stitching count setting (AND input), jump to the step specified with the skip destination step number. After the predetermined stitching count ends, transition to the next step is executed.
6	5	STIo	Stitching count OR conditional branch	Enable	oH.1 to 32 oL.1 to 32	Enable	iH.1 to 75 iL.1 to 75	Skip destination step No. (Sn)	1 to 25	Stitching count (C)	0: Command disabled (1 to 999 stitches)	When any one of the input setting conditions are met within the setting range of the stitching count setting (OR input), jump to the step specified with the skip destination step number. After the predetermined stitching count ends, transition to the next step is executed.
7	6	JUMP	Jump repeat counter	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Jump (Sn)	1 to 25	Repeat count value (r)	0: Unlimited (1 to 999)	Jump between specified steps repeats up to the specified repeat number of times. When the setting value is 0, loop is executed endlessly. (Caution) Do not execute nested input of this command.
8	7	SPEd	Rotation speed command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Speed (S)	0 to 999 (X 10st/min)	Delay time (d)	0: Delay time disabled 0 to 999 X 1mS	The machine speed can be set. An operation is always performed when the delay time is 0. Other than that, an operation is performed at specified speed within the delay time, and the speed command is canceled after lapse of the delay time. Actual rotation speed will not be equal to or less than the setting value specified in function setting No. 35, minimum rotation speed, and also will not equal to or more than the setting value specified in function setting No. 96, maximum rotation speed.
9	8	LIM	Speed limit command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Speed limit (S)	0 to 999 (X 10st/min)	Delay time (d)	0: Delay time disabled 0 to 999 X 1mS	The limit value of the maximum speed of the machine can be specified. The speed limit is always enabled when the delay time is 0. Other than that, the specified speed limit is enabled within the delay time, and the speed limit command is canceled after lapse of the delay time. Actual speed limit will not be equal to or less than the setting value specified in function setting No. 35, minimum rotation speed, and also will not equal to or more than the setting value specified in function setting No. 96, maximum rotation speed.
10	9	LinH	Lswh command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	on/off information (on/off)	on/off	Delay time (d)	0: No delay 1 to 999 X 1mS	The command is executed without the delay time when the delay time is 0. Other than that, LSW is disabled within the specified delay time, and LSW input is enabled after lapse of the delay time.
11	10	TfM	Thread trimming command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Delay time (d)	0: No delay 1 to 999 X 1mS	Thread trimming is executed. The command is disabled when the delay time is 0. Other than that, the thread trimming command is provided within the specified delay time.
12	11	TinH	Tswh command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	on/off information (on/off)	on/off	Delay time (d)	0: No delay 1 to 999 X 1mS	Thread trimming output is delayed. The command is executed without the delay time when the delay time is 0. Other than that, the thread trimming delay command is provided within the specified delay time, and canceled after lapse of the delay time.
13	12	UP	Up stop command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Delay time (d)	0: No delay 1 to 999 X 1mS	Up position stop is executed. Even if speed is specified by other command, the command is ignored. The command is executed without the delay time when the delay time is 0. Other than that, the up position stop command is enabled within the specified delay time, and disabled after laps of the delay time.
14	13	HS	Needle up/down command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Delay time (d)	0: No delay 1 to 999 X 1mS	When the command is executed, positive rotation is performed to make the needle move to the up position if it is at the down position or to make the needle move to the down position if it is at the up position. Even if speed specified by other command, the command is ignored. The command is executed without the delay time when the delay time is 0. Other than that, the command is enabled within the specified delay time, and disabled after lapse of the delay time.
15	14	rSW	Rsw command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Delay time (d)	0: No delay 1 to 999 X 1mS	Stop is executed by applying brake in a reverse rotation from the angle specified in function setting No. 107, reversing brake start angle. The command is executed without the delay time when the delay time is 0. Other than that, the command is enabled within the specified delay time, and disabled after laps of the delay time.
16	15	AnGA	Angle AND conditional branch	Enable	oH.1 to 32 oL.1 to 32	Enable	iH.1 to 75 iL.1 to 75	Skip destination step No. (Sn)	1 to 25	Angle (A)	0: No delay 1 to 359 degree	After lapse of the specified angle, transition to the next step is executed. When all the conditions for input are met before lapse of the specified angle (AND input), transition to the skip destination step No. is executed. (A reference angle is an angle from the point departing from the up position for a machine head using a belt and an angle from the upper needle dead point for a direct motor type machine head.)
17	16	AnGo	Angle OR conditional branch	Enable	oH.1 to 32 oL.1 to 32	Enable	iH.1 to 75 iL.1 to 75	Skip destination step No. (Sn)	1 to 25	Angle (A)	0: No delay 1 to 359 degree	After lapse of the specified angle, transition to the next step is executed. When any one of the input conditions is met before lapse of the specified angle (OR input), transition to the skip destination step No. is executed. (A reference angle is an angle from the point departing from the up position for a machine head using a belt and an angle from the upper needle dead point for a direct motor type machine head.)
18	17	SToP	Stop command	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Disabled	—	Delay time (d)	0: No delay 1 to 999 X 1mS	Sewing machine stop is executed. Transition to the next step is immediately executed when the delay time is 0. Other than that, transition to the next step is executed after lapse of the specified time.
19	18	bT	BTsw command (Reverse feed stitching output)	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	on/off information (on/off)	on/off	Delay time (d)	0: No delay 1 to 999 X 1mS	The reverse feed stitching switch is set to on/off. The command is executed without the delay time when the delay time is 0. Other than that, the back tack output is set to "on" within the specified time, and is set to "off" after lapse of the specified time.
20	19	FL	FLsw command (Presser lifting output)	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	on/off information (on/off)	on/off	Delay time (d)	0: Disabled 1 to 999 X 1mS	The presser lifting switch command is set to on/off. The command is executed without the delay time when the delay time is 0. Other than that, the presser lifting output is set to "on" within the specified time, and is set to "off" after lapse of the specified time.
21	20	rEST	Program reset	Enable	oH.1 to 32 oL.1 to 32	Disabled	—	Program No. (Sn)	1 to 4	Disabled	—	Initialization of the step of a specified program number is executed. The step of a specified program is forcibly returned to the initial step.

(5) List of simplified program information input setting codes and connector location list

The following list shows port input codes indicated on the 7-segment LED at input, connector numbers on the substrate, pin assignment, functions, etc.

Input list

No.	Port input code	Terminal names used in SQ Editor	Signal	Function	Connector number and pin number on substrate	Pin No.	Remarks
1	0	—	—	Disabled	—	—	Input is disabled.
2	1	O01	hied1	At-hand LED 1	—	—	The output signal of the at-hand LED 1 can be internally entered.
3	2	O02	hied2	At-hand LED 2	—	—	The output signal of the at-hand LED 2 can be internally entered.
4	3	O03	hied3	At-hand LED 3	—	—	The output signal of the at-hand LED 3 can be internally entered.
5	4	O04	hied4	At-hand LED 4	—	—	The output signal of the at-hand LED 4 can be internally entered.
6	5	O05	hied5	At-hand LED 5	—	—	The output signal of the at-hand LED 5 can be internally entered.
7	6	O06	hied6	At-hand LED 6	—	—	The output signal of the at-hand LED 6 can be internally entered.
8	7	O07	hied7	At-hand LED 7	—	—	The output signal of the at-hand LED 7 can be internally entered.
9	8	O08	hied8	At-hand LED 8	—	—	The output signal of the at-hand LED 8 can be internally entered.
10	9	O09	opo1	OP output 1	—	—	The output signal of the optional output 1 can be internally entered.
11	10	O10	opo2	OP output 2	—	—	The output signal of the optional output 2 can be internally entered.
12	11	O11	opo3	OP output 3	—	—	The output signal of the optional output 3 can be internally entered.
13	12	O12	opo4	OP output 4	—	—	The output signal of the optional output 4 can be internally entered.
14	13	O13	opo5	OP output 5	—	—	The output signal of the optional output 5 can be internally entered.
15	14	O14	opo6	OP output 6	—	—	The output signal of the optional output 6 can be internally entered.
16	15	O15	opo7	OP output 7	—	—	The output signal of the optional output 7 can be internally entered.
17	16	O16	opo8	OP output 8	—	—	The output signal of the optional output 8 can be internally entered.
18	17	O17	opo9	OP output 9	—	—	The output signal of the optional output 9 can be internally entered.
19	18	O18	opo10	OP output 10	—	—	The output signal of the optional output 10 can be internally entered.
20	19	O19	opo11	OP output 11	—	—	The output signal of the optional output 11 can be internally entered.
21	20	O20	opo12	OP output 12	—	—	The output signal of the optional output 12 can be internally entered.
22	21	O21	opo13	OP output 13	—	—	The output signal of the optional output 13 can be internally entered.
23	22	O22	opo14	OP output 14	—	—	The output signal of the optional output 14 can be internally entered.
24	23	O23	opo15	OP output 15	—	—	The output signal of the optional output 15 can be internally entered.
25	24	O24	opo16	OP output 16	—	—	The output signal of the optional output 16 can be internally entered.
26	25	O25	opo17	OP output 17	—	—	The output signal of the optional output 17 can be internally entered.
27	26	O26	opo18	OP output 18	—	—	The output signal of the optional output 18 can be internally entered.
28	27	O27	opo19	OP output 19	—	—	The output signal of the optional output 19 can be internally entered.
29	28	O28	opo20	OP output 20	—	—	The output signal of the optional output 20 can be internally entered.
30	29	O29	opo21	OP output 21	—	—	The output signal of the optional output 21 can be internally entered.
31	30	O30	opo22	OP output 22	—	—	The output signal of the optional output 22 can be internally entered.
32	31	O31	opo23	OP output 23	—	—	The output signal of the optional output 23 can be internally entered.
33	32	O32	opo24	OP output 24	—	—	The output signal of the optional output 24 can be internally entered.
34	33	I33	hedsw1	At-hand SW 1	CN44	4	
35	34	I34	hedsw2	At-hand SW 2	CN44	5	
36	35	I35	hedsw3	At-hand SW 3	CN44	6	
37	36	I36	hedsw4	At-hand SW 4	CN44	7	
38	37	I37	hedsw5	At-hand SW 5	CN44	8	
39	38	I38	hedsw6	At-hand SW 6	CN44	9	
40	39	I39	hedsw7	At-hand SW 7	CN44	10	
41	40	I40	hedsw8	At-hand SW 8	CN44	11	
42	41	I41	opi1	OP input 1	CN58	15	
43	42	I42	opi2	OP input 2	CN58	16	
44	43	I43	opi3	OP input 3	CN58	17	
45	44	I44	opi4	OP input 4	CN58	18	
46	45	I45	opi5	OP input 5	CN58	19	
47	46	I46	opi6	OP input 6	CN58	20	
48	47	I47	opi7	OP input 7	CN58	21	
49	48	I48	opi8	OP input 8	CN58	22	
50	49	I49	opi9	OP input 9	CN51	4	
51	50	I50	opi10	OP input 10	CN51	5	
52	51	I51	opi11	OP input 11	CN51	6	
53	52	I52	opi12	OP input 12	CN51	7	
54	53	I53	opi13	OP input 13	CN51	8	
55	54	I54	opi14	OP input 14	CN51	9	
56	55	I55	opi15	OP input 15	CN51	10	
57	56	I56	opi16	OP input 16	CN51	11	
58	57	I57	LSW	Low speed switch input	CN39	7	
59	58	I58	LSSW	Low speed switch input	CN39	11	
60	59	I59	HSSW	High speed switch input	CN39	9	
61	60	I60	FLSW	Presser lifting switch input	CN39	5	
62	61	I61	SFSW	Safety switch	CN48	2	
63	62	I62	OFSW	Optional switch	CN48	1	
64	63	I63	FLD	Knee switch	CN36	4	
65	64	I64	BFSW	Reverse feed stitching switch input	CN36	5	
66	65	F65	TRMD	Thread trimming output	CN36	1	
67	66	F66	WPD	Wiper output	CN36	2	
68	67	F67	TLSUBD	Thread release output	CN36	7	
69	68	F68	RTD	Reverse feed stitching output	CN36	6	
70	69	F69	FLD	Presser lifting output	CN37	1	
71	70	F70	S STATE	Output of stop state	—	—	
72	71	F71	UDET	Up position input	CN33	6	
73	72	F72	DDET	Down position output	CN33	1	
74	73	F73	TRMM	In the process of thread trimming	—	—	In the process of thread trimming
75	74	F74	DDET O	Down position output	—	—	For direct motor type machine head
76	75	F75	UDET O	Up position output	—	—	For direct motor type machine head

The operations of No. 75 and 76 are the function in which an up/down detection signal of the direct motor can be used as a signal in a program.
The operations of No. 2 to 33 are the function in which an output can be internally used as an input signal and also as a signal in a program when an optional output written in a function is used.

Output list

No.	Port input code	Terminal names used in SQ Editor	Signal	Function	Connector number and pin number on substrate	Pin No.	Remarks
1	0	—	—	—	—	—	Output is disabled.
2	1	O01	hied1	At-hand LED 1	CN44	15	
3	2	O02	hied2	At-hand LED 2	CN44	16	
4	3	O03	hied3	At-hand LED 3	CN44	17	
5	4	O04	hied4	At-hand LED 4	CN44	18	
6	5	O05	hied5	At-hand LED 5	CN44	19	
7	6	O06	hied6	At-hand LED 6	CN44	20	
8	7	O07	hied7	At-hand LED 7	CN44	21	
9	8	O08	hied8	At-hand LED 8	CN44	22	
10	9	O09	opo1	OP output 1	CN59	11	
11	10	O10	opo2	OP output 2	CN59	12	
12	11	O11	opo3	OP output 3	CN59	13	
13	12	O12	opo4	OP output 4	CN59	14	
14	13	O13	opo5	OP output 5	CN59	15	
15	14	O14	opo6	OP output 6	CN59	16	
16	15	O15	opo7	OP output 7	CN59	17	
17	16	O16	opo8	OP output 8	CN59	18	
18	17	O17	opo9	OP output 9	CN59	19	
19	18	O18	opo10	OP output 10	CN59	20	
20	19	O19	opo11	OP output 11	CN59	21	
21	20	O20	opo12	OP output 12	CN59	22	
22	21	O21	opo13	OP output 13	CN59	23	
23	22	O22	opo14	OP output 14	CN59	24	
24	23	O23	opo15	OP output 15	CN59	25	
25	24	O24	opo16	OP output 16	CN59	26	
26	25	O25	opo17	OP output 17	CN51	15	
27	26	O26	opo18	OP output 18	CN51	16	
28	27	O27	opo19	OP output 19	CN51	17	
29	28	O28	opo20	OP output 20	CN51	18	
30	29	O29	opo21	OP output 21	CN51	19	
31	30	O30	opo22	OP output 22	CN51	20	
32	31	O31	opo23	OP output 23	CN51	21	
33	32	O32	opo24	OP output 24	CN51	22	

(6) Optional power supply

The following list shows the output pin assignment of optional connector power supply voltage.

1. List of input/output connector voltage output ports

Connector No.	Pin No.	Function
CN44	1	+5V
	2	+5V
	3	+12V
	12	GND
CN51	1	GND
	2	GND
	12	+24V
	13	+24V
	14	+5V
CN58	1	+5V
	2	GND
	3	+5V
	4	GND
	5	+5V
	6	GND
	7	+12V
	8	GND
	9	+24V
	10	GND
	11	+24V
	12	GND
CN59	1	+24V
	2	+24V
	3	+24V
	4	+24V
	5	+24V
	6	+24V
	7	+24V
	8	+24V
	9	+24V
	10	+24V

2. Pin assignment of input/output connector signal system

The following table shows the relationship between optional connectors and port input codes.

Be sure to follow the precautions when using the product.

1) Input connector

The optional input of the input connector can be connected to a transistor output, a relay output, an open collector output, a push button switch, etc. of a PLC.

Connector No.	Pin No.	Port input code	Function
CN44	4	33	Machine head switch 1 input
	5	34	Machine head switch 2 input
	6	35	Machine head switch 3 input
	7	36	Machine head switch 4 input
	8	37	Machine head switch 5 input
	9	38	Machine head switch 6 input
	10	39	Machine head switch 7 input
	11	40	Machine head switch 8 input
CN58	15	41	Optional 1 input
	16	42	Optional 2 input
	17	43	Optional 3 input
	18	44	Optional 4 input
	19	45	Optional 5 input
	20	46	Optional 6 input
	21	47	Optional 7 input
	22	48	Optional 8 input
CN51	4	49	Optional 9 input
	5	50	Optional 10 input
	6	51	Optional 11 input
	7	52	Optional 12 input
	8	53	Optional 13 input
	9	54	Optional 14 input
	10	55	Optional 15 input
	11	56	Optional 16 input

(Caution) 1. Note that the input voltage should not exceed +5 V.

2) Output connector

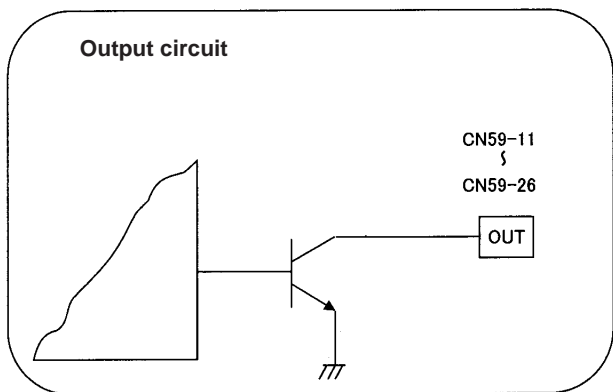
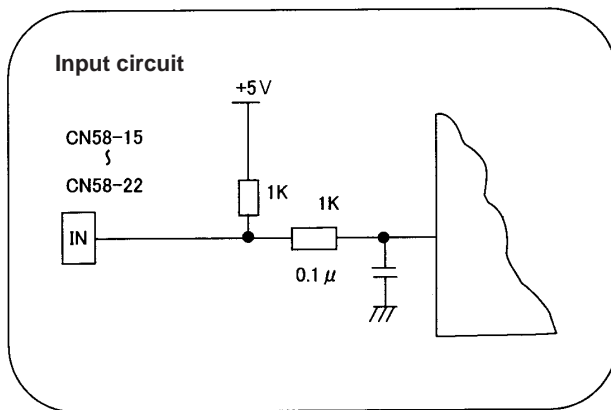
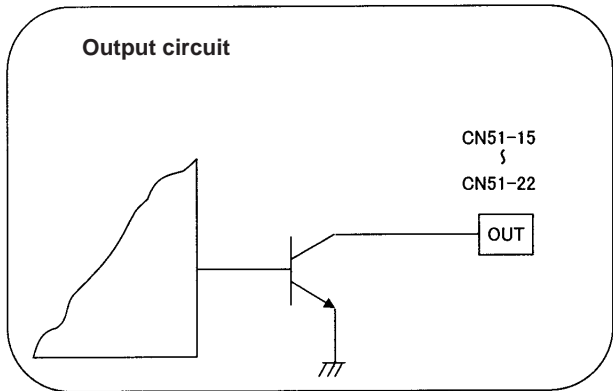
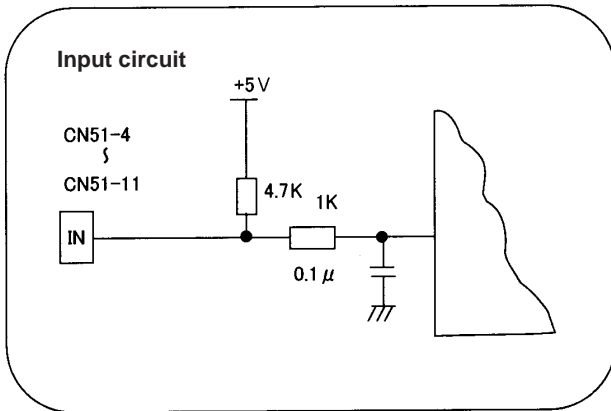
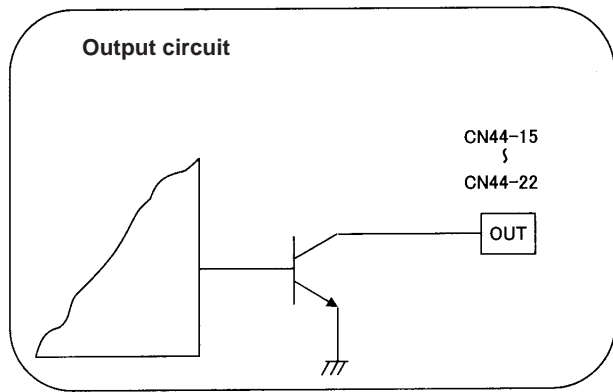
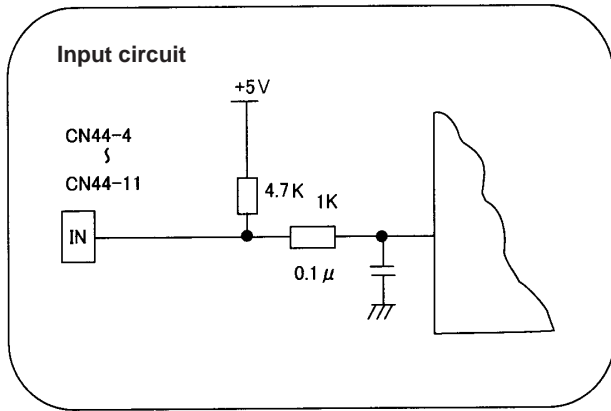
This optional output can be connected to up to a +24 V solenoid valve, an output to a PLC, an LED for display, etc.

Connector No.	Pin No.	Port input code	Function
CN44	15	1	Machine head LED 1 output
	16	2	Machine head LED 2 output
	17	3	Machine head LED 3 output
	18	4	Machine head LED 4 output
	19	5	Machine head LED 5 output
	20	6	Machine head LED 6 output
	21	7	Machine head LED 7 output
	22	8	Machine head LED 8 output
CN59	11	9	Optional 1 output
	12	10	Optional 2 output
	13	11	Optional 3 output
	14	12	Optional 4 output
	15	13	Optional 5 output
	16	14	Optional 6 output
	17	15	Optional 7 output
	18	16	Optional 8 output
	19	17	Optional 9 output
	20	18	Optional 10 output
	21	19	Optional 11 output
	22	20	Optional 12 output
	23	21	Optional 13 output
	24	22	Optional 14 output
	25	23	Optional 15 output
	26	24	Optional 16 output
CN51	15	25	Optional 17 output
	16	26	Optional 18 output
	17	27	Optional 19 output
	18	28	Optional 20 output
	19	29	Optional 21 output
	20	30	Optional 22 output
	21	31	Optional 23 output
	22	32	Optional 24 output

(Caution) 1. When the voltage output port mounted on the input/output connector is used, the current per circuit should be 0.4 A or less.

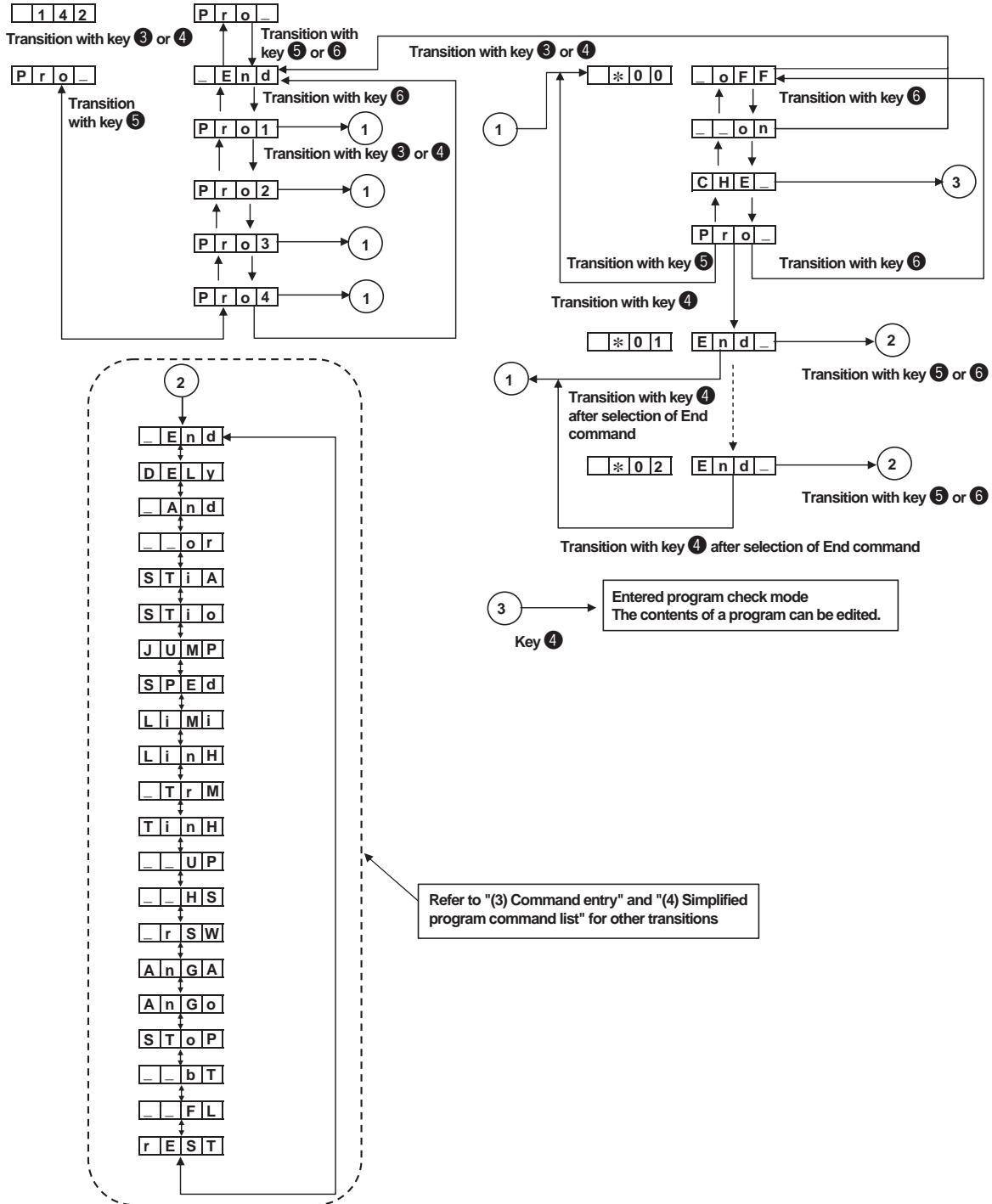
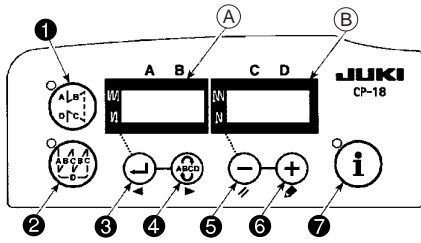
2. An actuator of large counter electromotive force such as a magnet cannot be driven with this output circuit. When an actuator such as a magnet is used, use the output of CN36.

3. Input/output circuits



(7) Flow chart of No. 142 simplified program function

The flow of each input mode is shown below.



12. SETTING OF ONE-TOUCH OPERATIONS

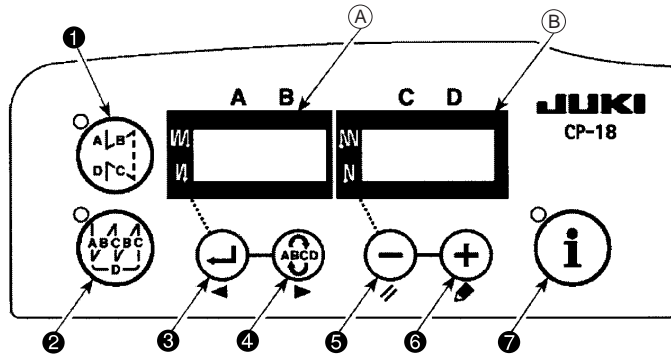
(1) One-touch operations

For SC-922, given functions can be added to settable items by means of the method described in “5.-(3) One-touch setting”.

1. Displayed contents and setting method

Activate the setting mode with reference to “5.-(4) Function setting” and select function No. 161.

When function No. 161 is selected, the following are displayed.



□ 1 6 1 S E T _

S E T _ _ E n d

_ n U M

S E T 1 * * * *

S E T 8 * * * *

Use the key 5 or 6 to select “_End” or “_nUM” item.

When “nUM” is selected, use the key 3 or 4 to select a setting number from SET1 to SET8 after “SET1” appears on the indicator (A).

Use the key 5 or 6 to enter the item number to be set.

(Refer to “12.-(2) One-touch settable item list” for settable parameters.)

Example) When function setting No. 1 soft start function is added to the item of out-touch setting:

□ 1 6 1 S E T _

S E T _ _ n U M

S E T _ _ n o P

S E T 1 □ □ □ 1

↑ Alternately lights
S o F T

S E T 2 □ □ n o P

S E T _ _ n u M

S E T _ _ E n d

□ 1 6 1 S E T _

1. Select function No. 12 for operation methods of function settings 1 to 3.

2. Use the key 6 to select the item of “_nUM”.

3. Use the key 4 to select “SET_”.

4. Use the key 6 to select the No. 1 soft start function.

5. Use the key 4 to determine the setting above.

6. Use the key 4 to end the setting of one-touch operations.

7. Use the key 5 or 6 to select the item of “_End”.

8. Use the key 4 or 5 to return to function setting.

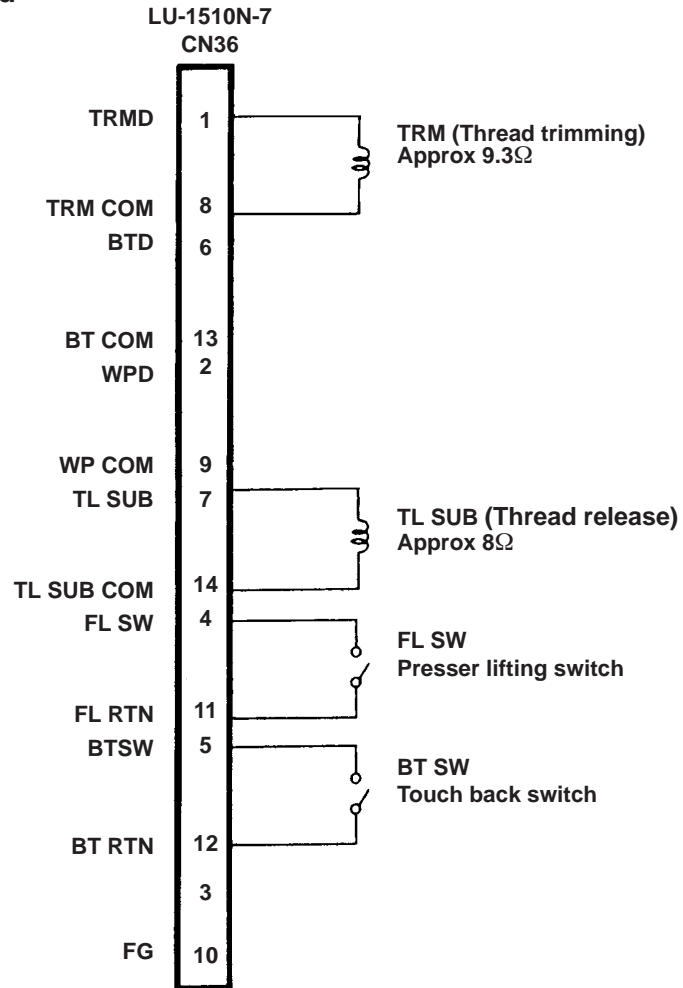
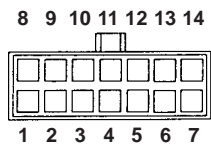
(2) One-touch settable item list

No.	Function item	Abbreviation
0	No function	noP
1	Soft start stitching count	SoFT
2	Material end sensor function	Ed
3	Thread trimming function by material end sensor	EdTr
4	Number of stitches for material end sensor	EdST
6	Bobbin thread count function	bob
7	Unit of bobbin thread counting down	rSTi
8	Rotation count of reverse feed stitching	SbT
9	Thread trimming prohibiting function	TrM
10	Needle bar position specifying at machine stop	nPS
11	Operating sound of operation panel	SUnd
13	Function of prohibiting start of sewing machine by bobbin thread counter	ASCT
14	Sewing counter	nTo
15	Function of thread wiping after thread trimming	WiP
21	Neutral presser lifting function	nPL
22	Function of switching needle up/down compensating switch function	CMSP
25	Thread trimming after rotating handwheel by hand	CUTC
29	Back tack initial motion time	TrSS
30	Function of reverse feed stitching on the way	obT
31	Reverse feed stitching count on the way	nobT
32	Effective condition of reverse feed stitching on the way at machine stop	obTS
33	Thread trimming function by reverse feed stitching on the way	obTT
35	Number of rotation at low speed	SPoS
36	Number of thread trimming rotation	STrM
37	Number of soft start rotation	SSFT
38	One-shot speed	SASS
47	Holding time of automatic presser lifting	TFL
49	Work clamp lowering time	TFLW
50	Setting of pedal specifications	FTr2
51	Solenoid timing on compensation of reverse feed stitching at sewing start	TSon
52	Solenoid timing off compensation of reverse feed stitching at sewing start	TSof
53	Solenoid timing off compensation of reverse feed stitching at sewing end	TEoF
55	Function of work clamp lifting after thread trimming	FLAT
56	Function of lifting needle in a reverse rotation after thread trimming	rATr
58	Function of holding needle bar at predetermined up/down positions	HPoS
59	Function of A/M switching of reverse feed stitching at sewing start	SbTo
60	Function of stop immediately after reverse feed stitching at sewing start	SbTq
61	Time of holding needle bar at predetermined position	THPS
64	Switching speed of condensation and EBT	SEST
70	Work clamp soft down function	SdFL

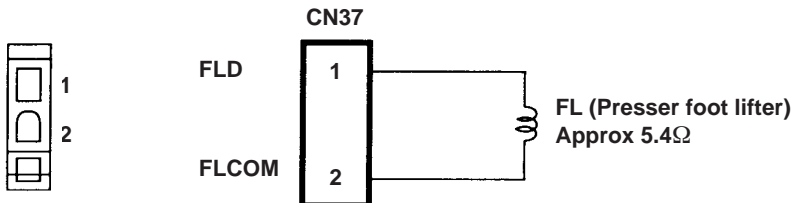
No.	Function item	Abbreviation
71	Double reverse feed stitching function	ACrA
72	Machine startup selection function	FACr
73	Retry function	FrET
74	Function setting of MF thread trimming device	MFTTr
76	One-shot function	SHoT
84	Initial suction time of presser solenoid	TPUT
87	Pedal curve selection function	FPoS
91	Function of prohibiting compensating operation after rotating handwheel by hand	PMAT
92	Function of reducing reverse feed stitching speed at sewing start	dSbT
93	Function of adding the needle up/down compensating switch	MAdF
94	Function of nonstop sewing between continuous stitching and one-shot stitching	SbTC
96	Setting of maximum rotation speed	SPd
103	Delay time of needle cooler output OFF	TndL
124	Setting of energy saving function at standby	SAvE
144	Setting of stitches count for canceling alternate vertical output	dLST
146	Selection of alternate vertical output after thread trimming	TrdL
147	Alternate vertical initial output	dL
148	2-pitch output during reverse feed stitching at start and end	SE2P
149	2-pitch inverted output during alternate vertical output	dL2P
150	2-pitch initial output	2PiT
151	Tie stitch adjustment function	bTP
154	Function of shortened stitching at start and end	SESS
155	Setting of neutral automatic presser lifting	nPLd
156	Thread clamp function	TC
158	Function of shortened stitching during thread trimming	TrSS
163	Alternate vertical speed limit function	FdLS
164	High-speed switching function by standing pedal input	PdHi
168	Remaining bobbin thread detection function	bTd

13. CONNECTOR CONNECTION DIAGRAM

(1) Solenoid for machine head

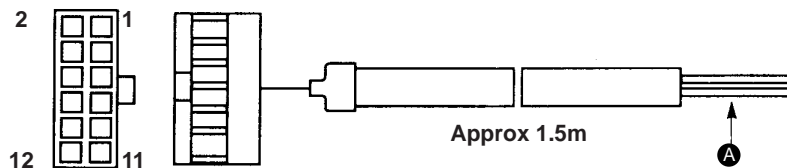


(2) Solenoid for lifting presser foot

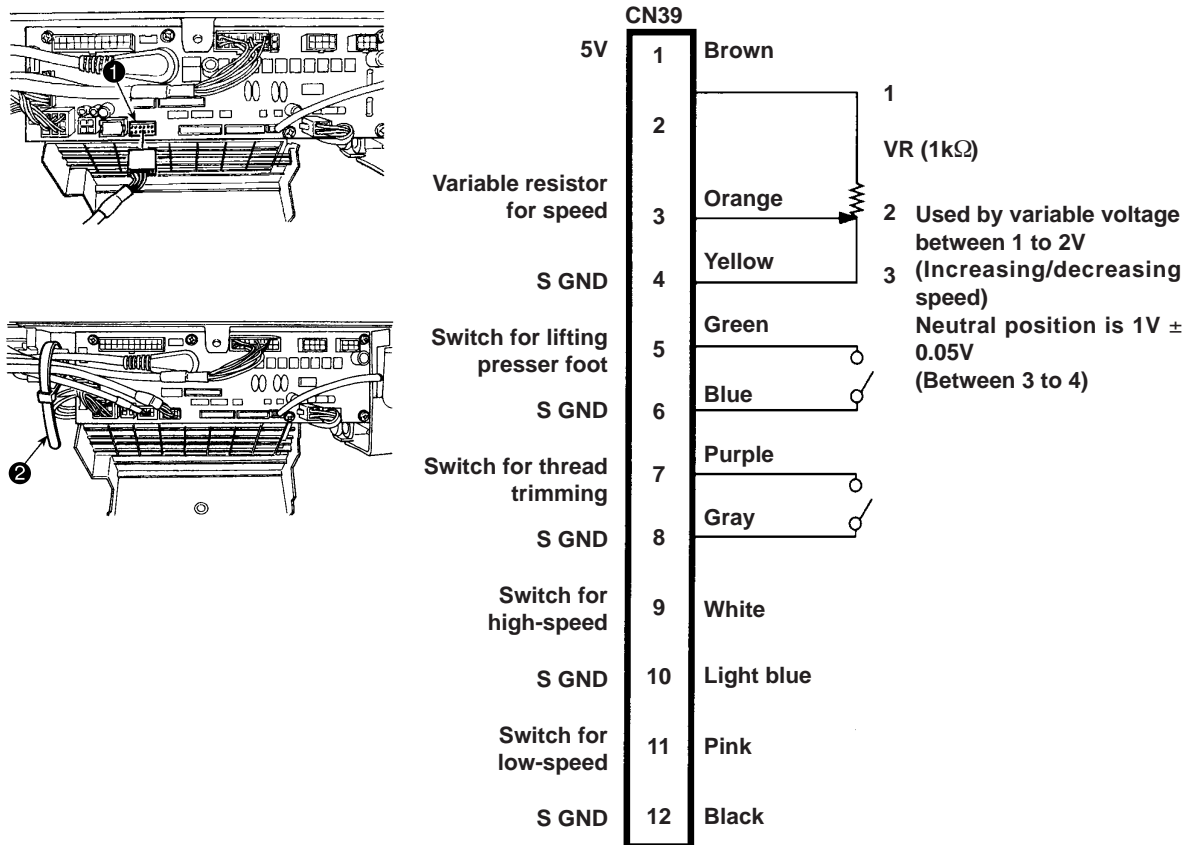


14. OPTIONAL CORD

(1) Relay cord A asm. for the standing sewing machine (Part No. M9701351AA0)



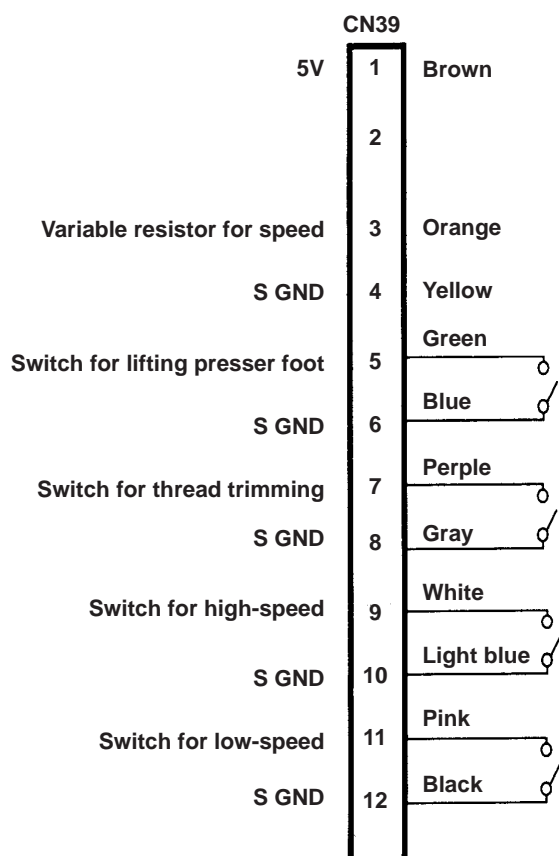
1) Wiring diagram of variable pedal PK-70 and 71



- o Power section **A** which is separated by respective signals with different colors comes out from the relay cord A asm. for the standing sewing machine. Connect switches and variable resistor for speed in accordance with the wiring diagram.
- o Insert to the connector **1** (CN39 : 12P) of standing sewing machine pedal in the control box and use it.
- o Tighten the cord of the PK70 together with other cords with cable clip band **2** attached to the side of the box after passing it through the cable clamp.

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

2) Wiring diagram of fixing max. speed



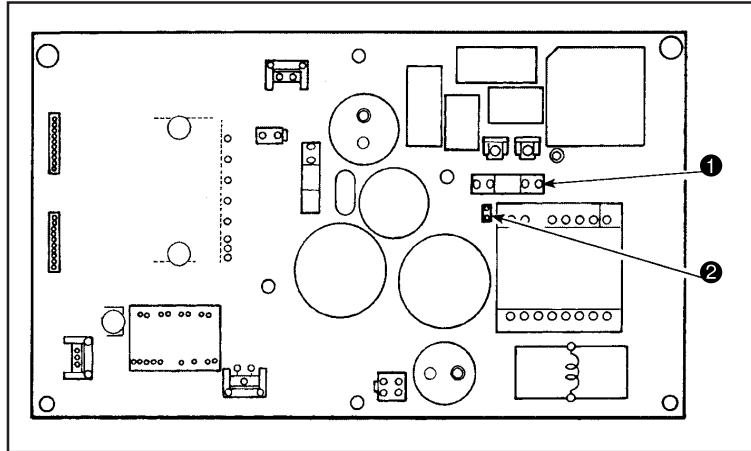
o Insert to the connector (connector ❶ CN39) of standing sewing machine pedal in the control box and use it.

(Caution) In case of decreasing the speed of switch for high-speed, use the variable resistor for max. speed limit mounted on the control panel.

15. MAINTENANCE

(1) Replacing of the fuse

(Caution) The illustration below shows the PWR-T PCB. The type of PCB differs by destination.



- 1) Remove all the cables which are connected to the control box.
- 2) Remove the connecting rod.
- 3) Remove the control box from the table stand.
- 4) Holding the glass section of fuse ❶, remove the fuse.

(Caution) There is a risk of electrical shock when removing the fuse. Be sure to remove the fuse after LED ❷ has totally gone out.

- 5) Be sure to use a fuse with the designated capacity.
❶ : 3.15 A/250 V Time-lag fuse
(Power circuit protective fuse)
Part number: KF000000080
- 6) Install the control box on the table stand. (Refer to Instruction Manual "II-2. Installing to the control box".)
- 7) Connect all the cables to the control box. (Refer to "5.-(1) Connecting the cords".)
- 8) Fit the connecting rod back in place. (Refer to Instruction Manual "II-7. Attaching the connecting rod".)

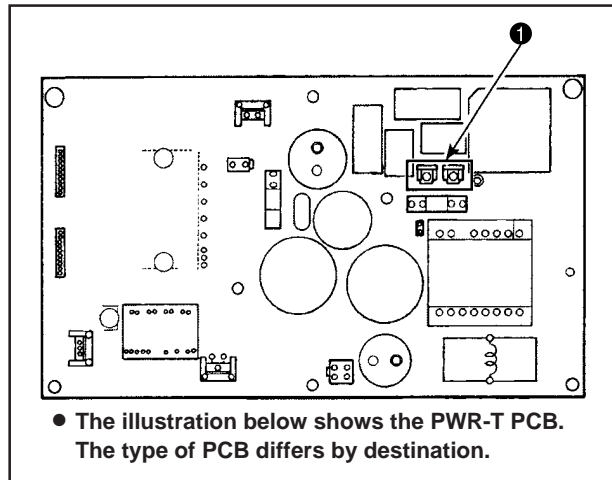
(2) Method of voltage changeover

Changing over the voltage between 100V and 200V



WARNING :

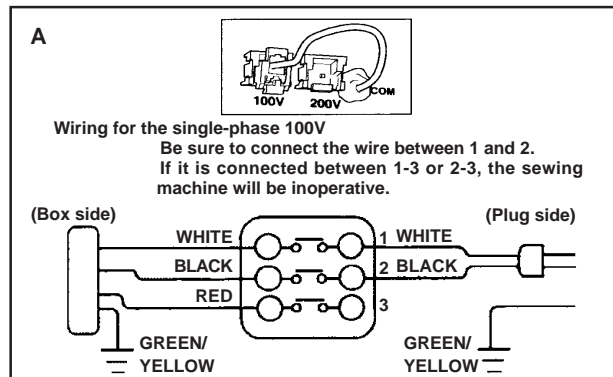
To prevent personal injuries caused by electric shock hazards or abrupt start of the sewing machine, carry out the work after turning OFF the power switch and a lapse of 5 minutes or more. To prevent accidents caused by unaccustomed work or electric shock, request the electric expert or engineer of our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



The supply voltage can be changed over from the single-phase 100 - 120V to the single-phase 200 - 240V or to the 3-phase 200 - 240V through the following two steps:

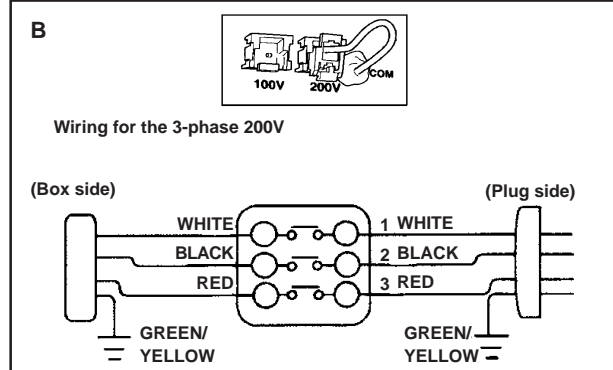
- ① Replacement of the power cords
 - ② Changing-round of connector ❶ on the PWR PCB
- 1) Turn OFF the power with the power switch after checking that the sewing machine has stopped.
 - 2) Draw out the power cord from the power receptacle after checking that the power switch has been turned OFF. Then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

(Caution) 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.



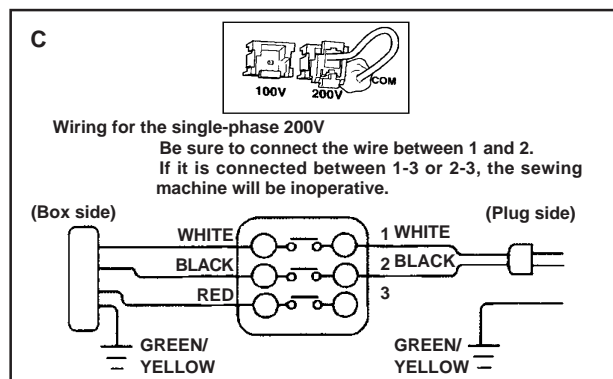
A. To change over the supply voltage from 200 - 240V to 100 - 120V

- 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 ❶ mounted on the PWR PCB with the connector for 100V.
- Connect the crimp style terminal of AC input cord to the power plug as shown in the figure A.

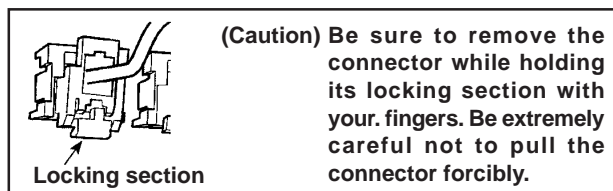


B,C. To change over the supply voltage from 100-120V to 200 - 240V

- Change the power cord with the JUKI genuine cord with the part number (M90175800A0).
- Change over supply voltage changeover connector ❶ mounted on the PWR PCB with the connector for 200V.
- 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) Be sure to ascertain again that the relevant parts have been correctly changed before closing the rear cover.
- 6) Close the rear cover while pressing it, taking care not to allow the wiring to be caught between the rear cover and the main body of the control box.
Then, secure the rear cover with the screws.

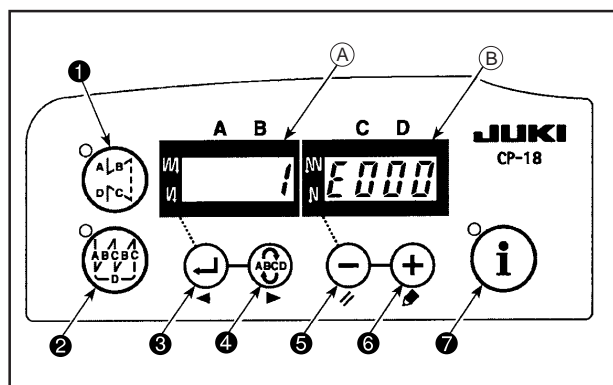


16. REGARDING ERROR DISPLAY

In case of the following, check again before you judge the case as trouble.

No.	Phenomenon	Cause	Corrective measure
1	When tilting the sewing machine, the buzzer beeps and the sewing machine cannot be operated.	When tilting the sewing machine without turning OFF the power switch, Action given on the left side is taken for safety sake.	Tilt the sewing machine after turning OFF the power.
2	Solenoids for thread trimming, reverse feed, wiper, etc. fail to work. Hand lamp does not light up.	When the fuse for solenoid power protection has blown out	Check the fuse for solenoid power protection.
3	Even when depressing the pedal immediately after turning ON the power, the sewing machine does not run. When depressing the pedal after depressing the back part of pedal once, the sewing machine runs.	Neutral position of the pedal has varied. (Neutral position may be shifted when changing spring pressure of the pedal or the like.)	Execute the automatic neutral correction function of the pedal sensor.
4	The sewing machine does not stop even when the pedal is returned to its neutral position.		
5	Stop position of the sewing machine varies (irregular).	When tightening the screw in the handwheel is forgotten at the time of adjustment of needle stop position.	Securely tighten the screw in the handwheel.
6	Presser foot does not go up even when auto-lifter device is attached.	Auto-lifter function is OFF.	Select "FL ON" by auto-lifter function selection.
		Pedal system is set to KFL system.	To lift the presser by depressing the pedal, set the memory switch to the PFL setting.
		Cord of auto-lifter device is not connected to connector (CN37).	Connect the cord properly.
7	Touch-back switch fails to work.	Presser foot is going up by auto-lifter device.	Operate the switch after the presser foot lowered.
		Auto-lifter device is not attached. However, auto-lifter function is ON.	Select "FL OFF" when auto-lifter device is not attached.
8	UP position move fails to work when all lamps on the panel light up.	The mode is in the function setting mode. The switch on the CTL p.c.b. is pressed by the bound cords and the aforementioned mode resulted.	Remove the front cover, and arrange the cords by the regular binding procedure described in the Instruction Manual.
9	Sewing machine fails to run.	Motor output cord (4P) is disconnected.	Connect the cord properly.
		Connector (CN30) of motor signal cord is disconnected.	Connect the cord properly.

In addition, 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.



[Checking procedure of the error code] CP-18

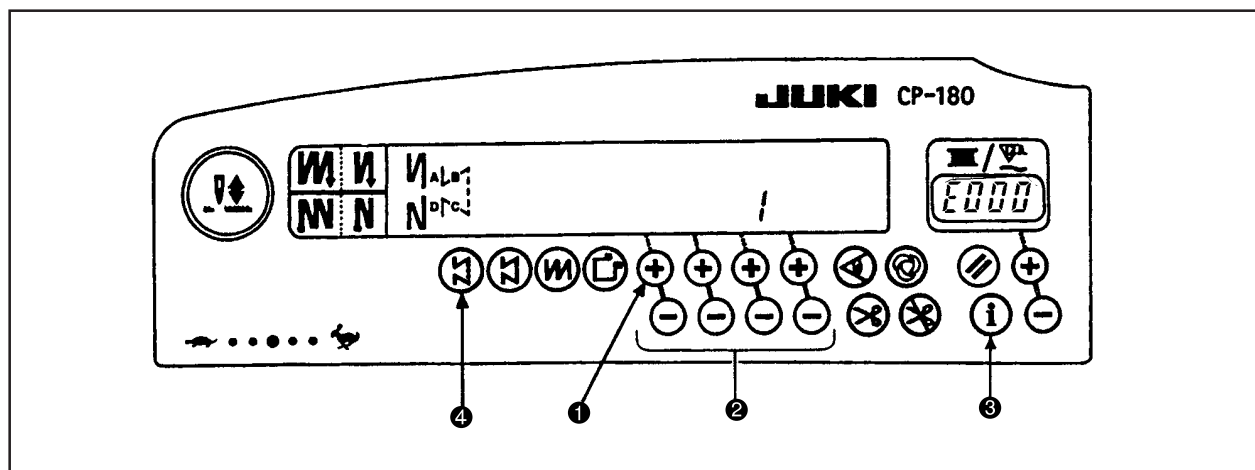
- 1) Turn ON the power switch with switch ③ held pressed.
- 2) The latest error number is displayed on indicator ② with a blip.
- 3) Contents of previous errors can be checked by pressing switch ③ or switch ④.

(When the confirmation of the contents of previous error advanced to the last, the warning sound peeps in single tone two times.)

- 4) When switch ⑦ is pressed, duration of the generated history (in minutes) is displayed.
- 5) When switch ① is pressed, duration of sewing machine operation (in seconds) is displayed while the displayed error is present after the occurrence of the previous error. However, the maximum value of display is 65535 (seconds).

(Caution) When switch ③ is pressed, the previous error code of the currently displayed one is displayed.

When switch ④ is pressed, the next error code of the currently displayed one is displayed.



[Checking procedure of the error code] CP-180

- 1) Turn ON the power switch with switch ① held pressed.
- 2) The latest error number is displayed on indicator with blip.
- 3) Contents of previous errors can be checked by pressing switch ②.
(When the procedure has reached the end, two alarm sounds in single tone will be heard, "blip" "blip".)
- 4) When switch ③ is pressed, duration of the generated history (in minutes) is displayed.
- 5) When switch ④ is pressed, duration of sewing machine operation (in seconds) is displayed while the displayed error is present after the occurrence of the previous error. However, the maximum value of display is 65535 (seconds).

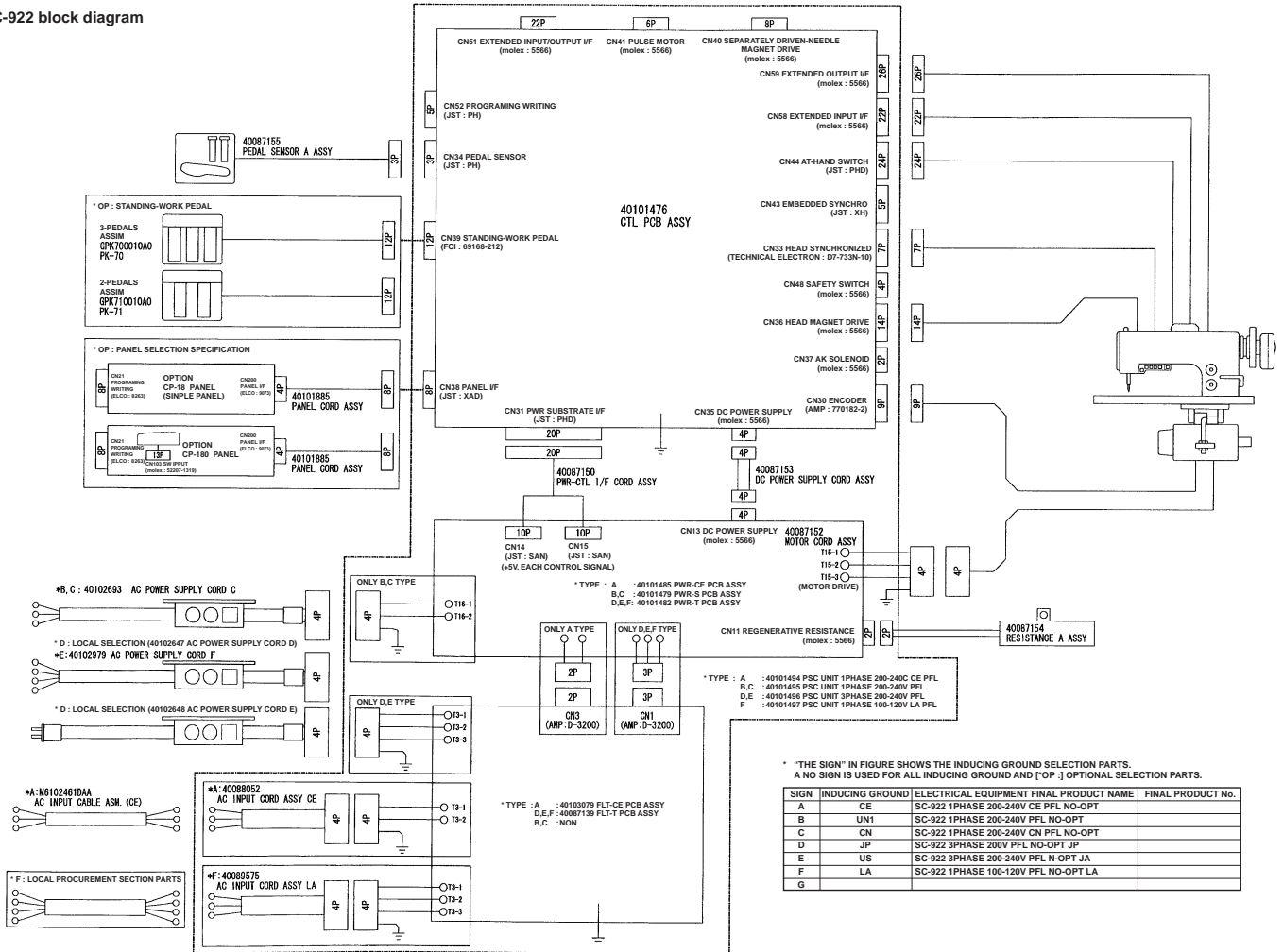
(1) Error code list (SC-922)

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. 	<ul style="list-style-type: none"> Check the synchronizer connector (CN33) for loose connection and disconnection.
E004	Synchronizer lower position sensor failure	<ul style="list-style-type: none"> When the synchronizer has broken. Belt is loose. Machine head is not proper. Motor pulley is not proper. 	<ul style="list-style-type: none"> Check whether the synchronizer cord has broken since the cord is caught in the machine head. Check the belt tension. Check the setting of the machine head. Check the setting of the motor pulley.
E005	Synchronizer upper position sensor failure		
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.
E070	Slip of belt	<ul style="list-style-type: none"> When the machine head is locked. Belt is loose. 	<ul style="list-style-type: none"> Check whether there is any holdup when turning the motor by hand. Check the belt tension.
E071	Disconnection of motor output connector	<ul style="list-style-type: none"> Disconnection of motor connector 	<ul style="list-style-type: none"> Check the motor output connector for loose connection and disconnection.
E072	Overload of motor at the time of thread trimming motion	<ul style="list-style-type: none"> Same as E007 	<ul style="list-style-type: none"> Same as E007
E220	Grease-up warning	<ul style="list-style-type: none"> When the predetermined number of stitches has been reached. 	<ul style="list-style-type: none"> Replenish the specified places with grease and reset. (For the details, refer to the data of the machine head.)
E221	Grease-up error	<ul style="list-style-type: none"> When the predetermined number of stitches has been reached and the sewing is not possible. 	<ul style="list-style-type: none"> 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) (MF : Thread trimming knife sensor)	<ul style="list-style-type: none"> When fall detection switch is input in the state that the power is turned ON. Improper position of the MF thread trimmer 	<ul style="list-style-type: none"> 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) Adjustment of the position of MF thread trimming sensor. When MF head is not mounted with the thread trimming device, set the function setting No. 74 to "0".
E303	Woodruff plate sensor error	<ul style="list-style-type: none"> Woodruff plate sensor signal cannot be detected. 	<ul style="list-style-type: none"> Check whether the machine head corresponds with the machine type setting. Check whether the motor encoder connector is disconnected.
E499	Simplified program data fault	<ul style="list-style-type: none"> Command parameter data is out of specified range. 	<ul style="list-style-type: none"> Re-enter the relevant simplified program. Set the simplified program in disable.
E704	Simplified program, sewing machine data type fault	<ul style="list-style-type: none"> Program data type of which is different has been read. 	<ul style="list-style-type: none"> Turn the power OFF.
E730	Encoder failure	<ul style="list-style-type: none"> When the motor signal is not properly inputted. 	<ul style="list-style-type: none"> 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		

No.	Description of error detected	Cause of occurrence expected	Items to be checked
E733	Inverse rotation of motor	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Connection of the encoder of main shaft motor is wrong. Connection for the electric power of main shaft motor is wrong.
E799	Predetermined time for thread trimming sequence is exceeded	<ul style="list-style-type: none"> Thread trimming sequence control is not completed within the predetermined time (three seconds). 	<ul style="list-style-type: none"> Check whether the machine head actually installed is different from the machine head selection. Check whether the actual motor pulley diameter is different from the motor pulley setting (effective diameter). Check whether the belt has slackened.
E808	Solenoid short circuit	<ul style="list-style-type: none"> Solenoid power does not become normal voltage. 	<ul style="list-style-type: none"> Check whether the machine head cord is caught in the pulley cover or the like.
E809	Holding motion failure	<ul style="list-style-type: none"> Solenoid is not changed over to holding motion. 	<ul style="list-style-type: none"> Check whether the solenoid is abnormally heated. (CTL circuit board asm. Circuit is broken)
E810	Solenoid short-circuit	<ul style="list-style-type: none"> When the short-circuited solenoid is desired to be driven. 	<ul style="list-style-type: none"> Check whether the solenoid is short-circuited.
E811	Abnormal voltage	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> Check whether the applied power voltage is higher than the rated voltage + (plus) 10% or more. Check whether 100V/200V changeover connector is improperly set. <p>In the aforementioned cases, POWER p.c.b is broken.</p> <ul style="list-style-type: none"> Check whether the voltage is lower than the rated voltage - (minus) 10% or less. Check whether 100V/200V changeover connector is improperly set. Check whether fuse or regenerative resistance is broken.
E906	Operation panel transmission failure	<ul style="list-style-type: none"> Disconnection of operation panel cord. Operation panel has broken. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Motor driver has broken. 	
E942	Faulty EEPROM	<ul style="list-style-type: none"> Data cannot be written on the EEPROM. 	<ul style="list-style-type: none"> Turn the power OFF.

17. BLOCK DIAGRAM

(1) SC-922 block diagram



<REFERENCE> TABLE OF DIGITAL DISPLAY

Table of digital display

Numeral	0	1	2	3	4	5	6	7	8	9
Digital display	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
Letter	A	B	C	D	E	F	G	H	I	J
Digital display	<i>A</i>	<i>B</i>	<i>C</i>	<i>d</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>I</i>	<i>J</i>
Letter	K	L	M	N	O	P	Q	R	S	T
Digital display	<i>k</i>	<i>L</i>	<i>M</i>	<i>n</i>	<i>O</i>	<i>P</i>	<i>Q</i>	<i>r</i>	<i>S</i>	<i>T</i>
Letter	U	V	W	X	Y	Z				
Digital display	<i>U</i>	<i>v</i>	<i>W</i>	<i>X</i>	<i>Y</i>	<i>Z</i>				



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- ② Green procurement and green purchasing
- ③ Energy conservation (reduction in carbon-dioxide emissions)
- ④ Resource saving (reduction of papers purchased, etc.)
- ⑤ Reduction and recycling of waste

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JUKI CORPORATION
SEWING MACHINERY BUSINESS UNIT
 2-11-1, TSURUMAKI, TAMA-SHI,
 TOKYO 206-8551, JAPAN
PHONE : (81)42-357-2371
FAX : (81)42-357-2380
<http://www.juki.com>

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