SC-900

サービスマニュアル
ENGINEER'S MANUAL

Putting sewing systems into operation is prohibited until it has been ascertained that the sewing systems in which these sewing machines will be built into, have conformed with the safety regulations in your country.
Technical service for those sewing systems is also prohibited.

1. Observe the basic safety measures, including, but not limited to the following ones, whenever you use the machine.
2. Read all the instructions, including, but not limited to this Instruction Manual before you use the machine. In addition, keep this Instruction Manual so that you may read it at anytime when necessary.
3. Use the machine after it has been ascertained that it conforms with safety rules/standards valid in your country.
4. All safety devices must be in position when the machine is ready for work or in operation. The operation without the specified safety devices is not allowed.
5. This machine shall be operated by appropriately-trained operators.
6. For your personal protection, we recommend that you wear safety glasses.
7. For the following, turn off the power switch or disconnect the power plug of the machine from the receptacle.
   7-1 For threading needle(s), looper, spreader etc. and replacing bobbin.
   7-2 For replacing part(s) of needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, cloth guide etc.
   7-3 For repair work.
   7-4 When leaving the working place or when the working place is unattended.
   7-5 When using clutch motors without applying brake, it has to be waited until the motor stopped totally.
8. If you should allow oil, grease, etc. used with the machine and devices to come in contact with your eyes or skin or swallow any of such liquid by mistake, immediately wash the contacted areas and consult a medical doctor.

9. Tampering with the live parts and devices, regardless of whether the machine is powered, is prohibited.
10. Repair, remodeling and adjustment works must only be done by appropriately trained technicians or specially skilled personnel. Only spare parts designated by JUKI can be used for repairs.
11. General maintenance and inspection works have to be done by appropriately trained personnel.
12. Repair and maintenance works of electrical components shall be conducted by qualified electric technicians or under the audit and guidance of specially skilled personnel.
    Whenever you find a failure of any of electrical components, immediately stop the machine.
13. Before making repair and maintenance works on the machine equipped with pneumatic parts such as an air cylinder, the air compressor has to be detached from the machine and the compressed air supply has to be cut off. Existing residual air pressure after disconnecting the air compressor from the machine has to be expelled. Exceptions to this are only adjustments and performance checks done by appropriately trained technicians or specially skilled personnel.
14. Periodically clean the machine throughout the period of use.

15. Grounding the machine is always necessary for the normal operation of the machine. The machine has to be operated in an environment that is free from strong noise sources such as high-frequency welder.
16. An appropriate power plug has to be attached to the machine by electric technicians. Power plug has to be connected to a grounded receptacle.

17. The machine is only allowed to be used for the purpose intended. Other used are not allowed.
18. Remodel or modify the machine in accordance with the safety rules/standards while taking all the effective safety measures. JUKI assumes no responsibility for damage caused by remodeling or modification of the machine.

19. Warning hints are marked with the two shown symbols.

Danger of injury to operator or service staff

Items requiring special attention

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1. 仕　様 / SPECIFICATIONS

（1）日本国内仕様

電源電圧	単相100V／三相200V
周波数	50Hz／60Hz
定格電流	4.0A（単相100V）／1.5A（三相200V）
動作温湿度	0〜40°　90%以下

(1) Export specifications

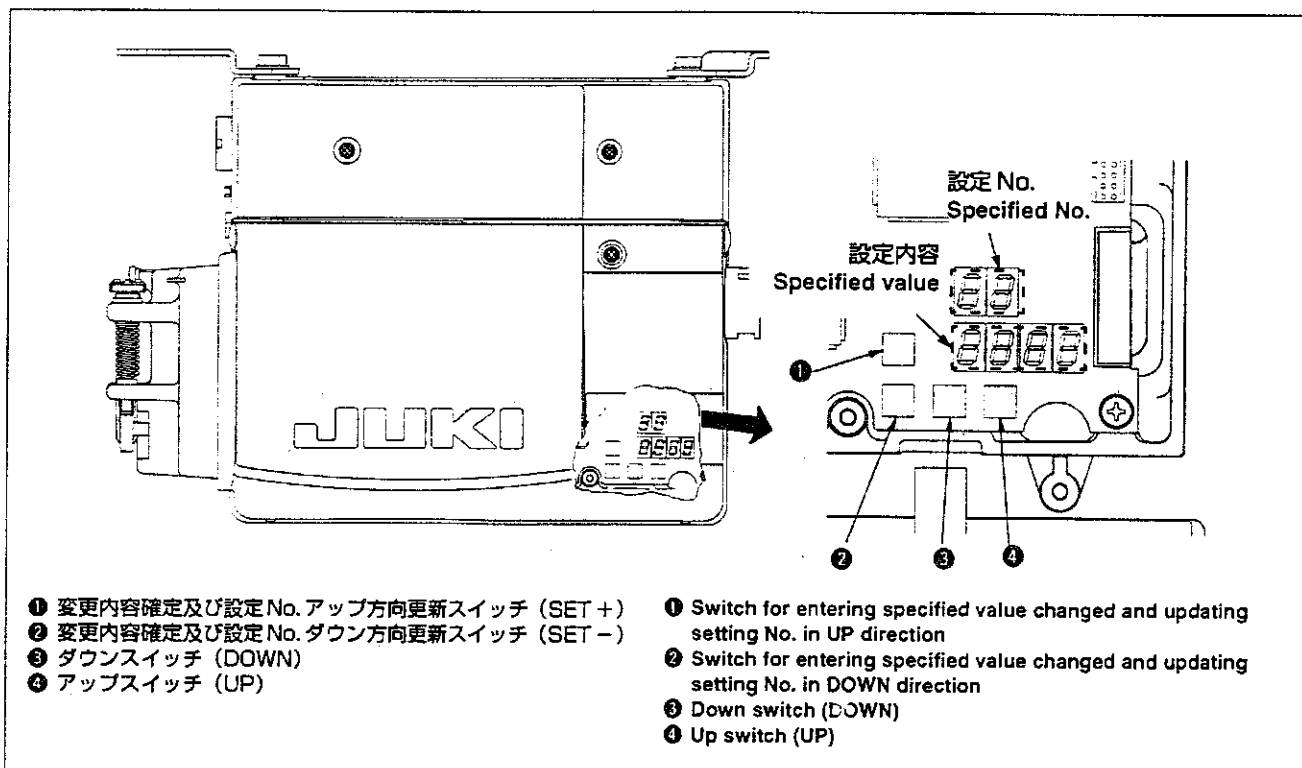| Supply voltage	Single phase 200V / 220V / 240V	3-phase 200V / 220V / 240V
Frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Rated voltage	2.5A / 2.3A / 2.1A	1.4A / 1.3A / 1.2A
Operating environment	Temperature : 0 to 40°C Humidity : 90% or less	

(2) 各部の名称 / CONFIGURATION

❶ 電源スイッチ	⓫ 抵抗パック
❷ 操作パネル	⓬ 糸巻き装置
❸ プーリーカバー	⓭ 糸切り保持板
❹ 糸立装置	⓮ 糸緩め切替えねじ
❺ PSC ボックス	⓯ 微量押え上げねじ
❻ 最高速度調節つまみ	⓰ アンダーカバー
❼ 操作ペダル	⓱ 給油口
❽ タッチバックスイッチ	⓲ エアー抜き
❾ ワイパー装置	⓳ 油量指示窓 (SS,SH)
❿ 脚卓水平調整用ねじ	
（キャスター）	

❶ Power switch	⓫ Resistance pack
❷ Operation panel	⓬ Bobbin winder
❸ Pulley cover	⓭ Thread cutter retainer
❹ Thread stand	⓮ Thread release changeover
❺ PSC box	screw
❻ Max. speed control knob	⓯ Micro lifter screw
❼ Operation pedal	⓰ Under cover
❽ Touch-back switch	⓱ Oil inlet
❾ Wiper device	⓲ Air vent
❿ Screw for leveling table	⓳ Oil amount indicating
and stand (Caster)	window (SS, SH)

2. SC-900 機能設定方法
SETTING FOR FUNCTIONS OF SC-900

SC-900フロントカバー内の4つの設定スイッチと表示器により各種機能の選択および設定を行うことができます。

Functions can be selected and specified by means of the four setting switches and light emitting diode located inside the front cover of the SC-900.

設定 No.
Specified No.

設定内容
Specified value

❶ 変更内容確定及び設定No.アップ方向更新スイッチ（SET＋）
❷ 変更内容確定及び設定No.ダウン方向更新スイッチ（SET－）
❸ ダウンスイッチ（DOWN）
❹ アップスイッチ（UP）

❶ Switch for entering specified value changed and updating setting No. in UP direction
❷ Switch for entering specified value changed and updating setting No. in DOWN direction
❸ Down switch (DOWN)
❹ Up switch (UP)

（注意）・ 以降の説明の中に記載の操作以外のスイッチ操作は行わないでください。
　　　　・ 電源スイッチの再投入は必ず、1秒以上経過した後行ってください。切断後すぐに電源を投入するとミシンが正常に動作しない場合があります。その場合は再度電源を入れ直してください。

(Caution) • Do not perform switch operations other than those described in the following explanations.
　　　　　 • Be sure to re-turn the power switch ON after one second or more has passed. If the power is turned ON immediately after turning it OFF, the sewing machine may not work normally. In this case, turn ON the power again.
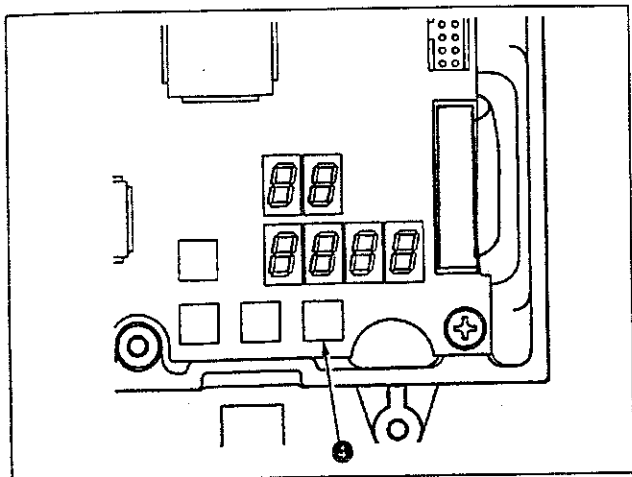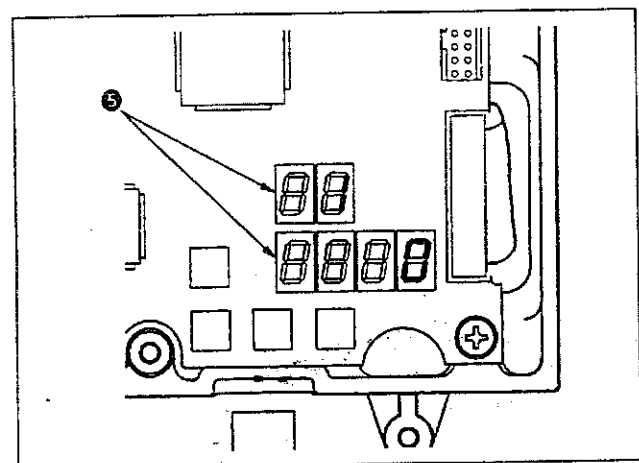
機能設定モードへの切換えの方法

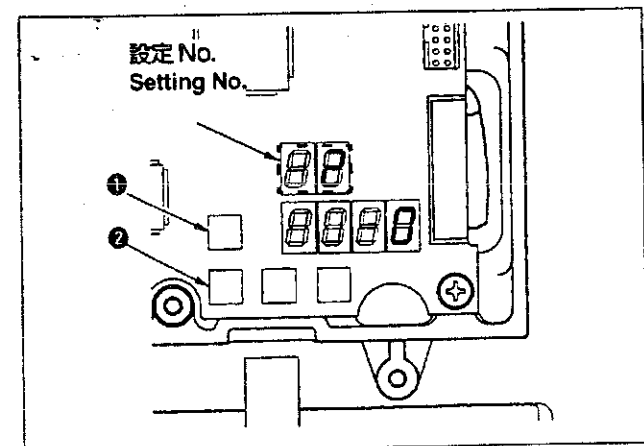1) 電源を OFF します。
2) フロントカバーを開けます。
3) スイッチ❹を押しながら電源を ON します。

How to change over to the function setting modo

1) Turn OFF the power to the unit.
2) Open the front cover.
3) Pressing switch ❹ , turn ON the power to the unit.

4) 画面表示は❺の表示になります。（画面表示がかわらない場合は、再度1）、3）の操作をやり直してください。）

4) Indication ❺ will be shown on the display. (If the indication fails to change, re-perform the procedures 1) and 3).

5) 設定No.を進めたいときは、スイッチ❶を押して設定No.を進めてください。
   設定No.を戻したいときは、スイッチ❷を押して設定No.を戻してください。

(注意) スイッチ❶（スイッチ❷）を押し続けると設定No.は連続的に進みます。（戻ります）
   設定No.を進ませる（戻す）と1つ前（1つ後）の内容が確定されますので、内容を変更した（アップ、ダウンSWに触れた）ときは十分注意してください。

設定No.
Setting No.

5) When you want to advance the setting No., press switch ❶ to advance the setting No.
   When you want to return the setting No., press switch ❷ to return the setting No.

(Caution) Keep pressing switch ❶ or switch ❷ , and the setting No. will advance (return) continuously. When the setting No. is advanced (returned), the contents which are before by one (after by one) will be etemined. So be careful when changing the contents (up / down switch is touched.)
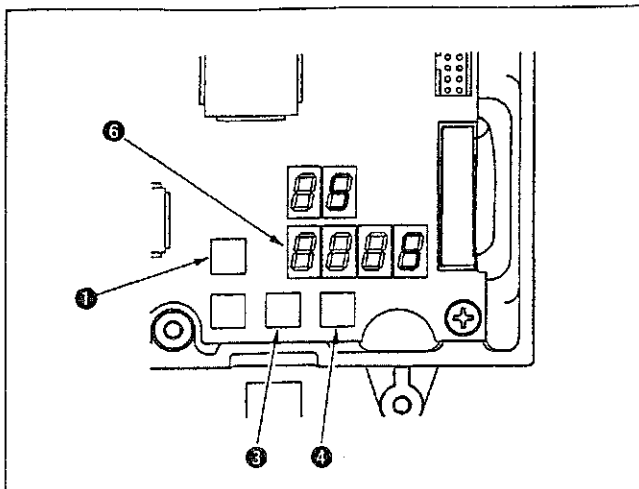
例）フリッカ軽減機能（設定No.5）の変更
スイッチ❶を4回押して設定No.を "5" に合わせます。
現在の設定値がLED❻に表示されます（標準は "0"）のでスイッチ❹を5回押して、"5" に変更します。

（注意）スイッチ❹（スイッチ❸）を押し続けると設定値を連続的に変更できます。

EXAMPLE) CHANGING THE FLICKER REDUCING FUNCTION (SETTING No. 5)
Press switch ❶ four times to set the setting No. to "5".
Press switch ❹ five times to change the set No. to "5" since the current set value is displayed on LED ❻.
(Standard : "0")
(Caution) Keep pressing switch ❹ or switch ❸, and the setting vaue can be changed continuously.
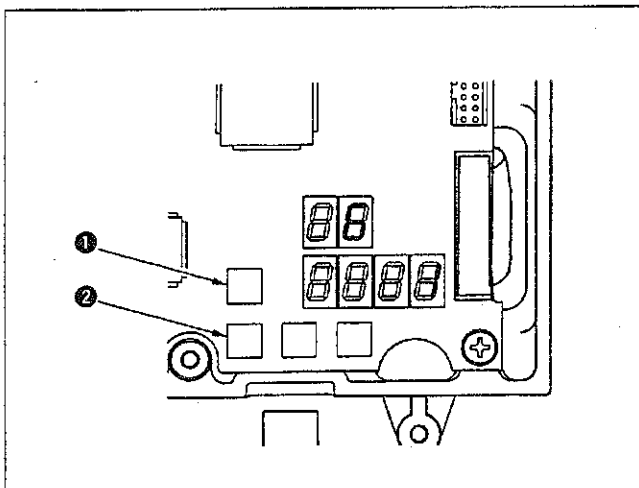
6) 変更が完了したらスイッチ❶または❷を押し更新した値を確定させます。

（注意）1. この作業を行う前に電源を OFF にすると変更した内容は更新されません。
　　　　2. スイッチ❶を押すと、画面表示は次の設定 No. 内容にかわります。
　　　　3. スイッチ❷を押すと、画面表示は1つ前の設定 No. 内容に変わります。
操作終了後は、電源をOFFし、フロントカバーを元に戻して再度電源を ON することにより通常運転に戻ります。

6) When the change has been completed, press switch ❶ or ❷ to specify the changed value.
(Caution) 1. When turning OFF the power before performing this work, the contents which have been changed are not updated.
　　　　2. Press switch ❶, and screen display will change to the contents of next setting No.
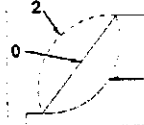　　　　3. Press switch ❷, and screen display will change to the contents of previous setting No.
After completing the operation, turn OFF the power, and return the front cover to the original position. The machine returns to the normal operation by turning ON the power again.

No.	Item	Description	Setting range	Indication of standard 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 : Soft-start function is not operative.	0 to 9 (Stitches)	□ 1 □ □ □ 0	
2	Material end sensor function	Material end sensor function (used with the CP-60 panel or in case of without panel) 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	□ 2 □ □ □ 0	
3	Thread trimming function by material end sensor	Thread trimming function by material end sensor (used with the CP-60 panel or in case of without panel) 0 : Automatic thread trimming function after detection of material end is not operative. 1 : After detecting material end, the specified number of stitches (No. 4) will be sewn, and the sewing machine will stop and perform automatic thread trimming.	0/1	□ 3 □ □ □ 0	
4	Number of stitches for material end sensor	Number of stitches for material end sensor (used with the CP-60 panel or in case of without panel) Number of stitches from detection of material end to stop of the sewing machine.	0 to 19 (Stitches)	□ 4 □ □ □ 5	
5	Flicker reducing function	Flicker reducing function (If the hand lamp flickers.) 0 : Flicker reducing function is not operative. 1 : Less effective → 8 : Highly effective	0 to 8	□ 5 □ □ □ 0	
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	□ 6 □ □ □ 1	
7	Unit of bobbin thread counting down	Unit of bobbin thread counting down 0 : Count/10 stitches 1 : Count/15 stitches 2 : Count/20 stitches	0 to 2	□ 7 □ □ □ 0	
8	Number of rotation of reverse feed stitching	Sewing speed of reverse feed stitching	180 to 3,000 (s.p.m.)	□ 8 1 9 0 0	
9	Thread trimming prohibiting function	Thread trimming prohibiting function (used with the CP-60 panel) 0 : Thread trimming prohibiting function is not operative. 1 : Thread trimming is prohibited. (Output of solenoid is prohibited. : Thread trimmer and wiper)	0/1	□ 9 □ □ □ 0	
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	1 0 □ □ □ 0	
11	Click sound of key switch mounted on PSC	Click sound of key switch mounted on PSC is specified. 0 : Click is not operative. 1 : Click is operative.	0/1	1 1 □ □ □ 1	
12	Optinal switch function selection	Switching of function of optional switch. 0 : No function 1 : Needle up/down compensating stitching 2 : Back compensating stitching 3 : Function of canceling once reverse feed stitching at the end of sewing 4 : Thread trimming function 5 : Presser foot lifting function 6 : One stitch compensating stitching	0 to 6	1 2 □ □ □ 0	
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.	0/1	1 3 □ □ □ 0	
14	Sewing counter	Counting function of sewing (number of completion of process) 0 : Sewing counter function is not operative. 1 : Sewing counter function is operative.	0/1	1 4 □ □ □ 1	
15	Number of times of detection of run-out of bobbin thread remaining amount	Number of times of detection of run-out of bobbin thread remaining amount 0 : Function of bobbin thread remaining amount is not operative. 1 to 19 : Number of times during which the signal is not made even if run-out of bobbin thread remaining amount is detected.	0 to 19	1 5 □ □ □ 1	
18	Bird's nest prevention function	It is realized with effective in combination with (optional unit B is necessary). 0 : Bird's nest prevention function is not operative. 1 : Bird's nest prevention function is operative.	0/1	1 8 □ □ □ 1	

No.	Item	Description	Setting range	Indication of standard function setting	Ref. page
19	Needle thread release function at the sewing start	It is realized with effective in combination with (optional unit B is necessary). 0 : Needle thread release function is not operative. 1 : Needle thread release function is operative.	0/1	`1` `9` `0`	
20	Number of condensation stitches	It is realized with effective in combination with (optional unit B is necessary). 0 : Condensation function is not operative. 1 to 9 : Number of condensation stitches	0 : Function OFF 1 to 9 stitches	`2` `0` `0`	
22	Function of changeover of compensating switch on the operation panel function	Function of needle up/down compensating switch on the operation panel can be changed. 0 : Needle up/down compensation 1 : One stitch compensation	0/1	`2` `2` `0`	
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	`3` `0` `0`	
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)	`3` `1` `4`	
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 the sewing machine stops. 1 : Function is operative when the sewing machine stops.	0/1	`3` `2` `0`	
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	`3` `3` `0`	
35	Number of rotation at a low speed	Lowest speed by pedal	20 to 400 (s.p.m.)	`3` `5` `2` `0` `0`	
36	Number of rotation of thread trimming	Thread trimming speed	20 to 250 (s.p.m.)	`3` `6` `2` `1` `0`	
37	Number of rotation of soft-start	Sewing speed at the start of sewing (soft-start)	130 to 2000 (s.p.m.)	`3` `7` `8` `0` `0`	
38	One-shot speed	One-shot speed (The max. value depends on the number of rotation of the sewing machine head.)	200 to MAX (s.p.m.)	`3` `8` `2` `5` `0` `0`	
39	Pedal stroke at the start of rotation	Position where the sewing machine starts rotating from pedal neutral position (Pedal stroke)	10 to 50 (0.1 mm)	`3` `9` `3` `0`	
40	Low speed section of pedal	Position where the sewing machine starts accelerating from pedal neutral position (Pedal stroke)	10 to 100 (0.1 mm)	`4` `0` `6` `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)	`4` `1` `-` `2` `1`	
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 (0.1 mm)	`4` `3` `-` `5` `1`	

No.	Item	Description	Setting range	Indication of standard function setting	Ref. page
44	Pedal stroke for reaching the maximum number of rotation	Position where the sewing machin reaches its highest sewing speed from pedal neutral position (Pedal stroke)	10 to 150 (0.1 mm)	4 4 / 1 5 0	
45	Compensation of neutral point of the pedal	Compensation value of the pedal sensor	−15 to 15	4 5 / 0	
46	Auto-lifter selecting function	Auto-lifter selection 0 : Solenoid drive system 1 : Pneumatic drive system	0/1	4 6 / 0	
47	Holding time of lifting auto-lifter	Limitation time of waiting for lifting solenoid type auto-lifter device	60 to 600 (second)	4 7 / 6 0	
48	Pedal stroke 1 for starting thread trimming	Position where thread trimming starts from pedal neutral position (Standard pedal) (Pedal stroke)	−60 to −10 (0.1 mm)	4 8 / - 3 5	
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°)	5 1 / - 8	
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°)	5 2 / - 5	
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°)	5 3 / - 1	
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	5 5 / 1	
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	5 6 / 0	
57	Bobbin thread remaining amount detection function	Function of detecting bobbin thread remaining amount at the time of (after thread trimming 0 : Not provided with the function of detecting bobbin thread remaining amount 1 : Provided with the function of detecting bobbin thread remaining amount	0/1	5 7 / 0	
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 position of the needle bar	0/1	5 8 / 0	
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	5 9 / 1	
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	6 0 / 0	
61	Function of starting prohibition of the sewing machine by detection of bobbin thread remaining amount	Function of starting prohibition of the sewing machine by detection of bobbin thread remaining amount 0 : This function does not stop the sewing machine when counting is out (-1 or less). 1 : This function stops the sewing machine when counting is out (-1 or less).	0 1	6 1 / 1	

No.	Item	Description	Setting range	Indication of standard function setting	Ref. page
64	Change-over speed of condensation stitch or EBT (end back tack)	Initial speed when starting condensation stitch or EBT	0 to 250 (s.p.m.)	6 4 / □ 1 8 0	
65	On-timing of solenoid for condensation stitch (when condensation stitch is performed by 1 stitch.)	Starting (compensation) timing of solenoid for compensation stitch : -1 Compensation value of starting the solenoid when condensation stitch is performed by 1 stitch.	−36 to 0 (10°)	6 5 / - □ 1 5	
66	On-timing of solenoid for condensation stitch (when condensation stitch is performed by 2 stitches.)	Starting (compensation) timing of solenoid for condensation stitch : -2 Compensation value of starting the solenoid when condensation stitch is performed by 2 stitches.	−36 to 0 (10°)	6 6 / - □ 1 5	
67	Number of air blow times at the sewing start	Optional unit B is necessary. Effective when it is combined with the sewing machine head provided with air clampless specifications.	0 to 9 (Stitches)	6 7 / □ □ □ 2	
68	Starting angle of air blow	Optional unit B is necessary. Effective when it is combined with the sewing machine head provided with air clampless specifications.	0 to 35 (10°)	6 8 / □ □ 2 7	
69	Ending angle of air blow	Optional unit B is necessary. Effective when it is combined with the sewing machine head provided with air clampless specifications.	0 to 35 (10°)	6 9 / □ □ 1 2	
73	Retry function	This function is used when needle cannot pierce materials with the machine head for heavy-weight materials. 0 : Normal 1 : Retry function is provided.	0/1	7 3 / □ □ □ 0	
75	Rotating direction of motor	Normal rotating direction of motor 0 : Clockwise 1 : Counterclockwise	0/1	7 5 / □ □ □ 0	
76	Function to select the start-up speed of the sewing machine	Starting curve of the sewing machine is selected. 0 : Normal curve 1 : More sharp curve	0/1	7 6 / □ □ □ 0	
87	Function of pedal curve selection	Pedal curve is selected. (Improving pedal inching operation) Number of rotations / Pedal stroke	0/1/2	8 7 / □ □ □ 0	
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	9 1 / □ □ □ 1	
92	Function of reducing speed of reverse feed 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	9 2 / □ □ □ 0	
93	Function added to needle up/down compensating switch	Operation of needle up/down compensating switch is changed after turning ON the power or 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)	0/1	9 3 / □ □ □ 0	
94	Continuous stitching + one-shot stitching non-stop function	In CP-360 program functions, a function that does not stop the sewing machine by combining continuous stitching with one-shot stitching when the step is changed. 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	9 4 / □ □ □ 0	
96	Max. number of rotation setting	Max. number of rotation of the sewing machine head can be set. * Setting varies in accordance with resistance pack to be connected.	50 to MAX (rpm)	9 6 / 4 0 0 0	

− 13 −

4. 各選択機能の詳細について
DETAILED EXPLANATION OF SELECTION OF FUNCTIONS

① ソフトスタート機能の選択（機能設定 No.1）

縫いピッチが細かい時、または、針が太い時などに、縫い始め上糸と下糸が絡まない場合に、縫い始めのミシンのスピードを制限することにより、縫いの安定性を向上させる機能です。

☐ ☐1　　　0：機能非選択
☐ ☐ ☐0　　1～9：ソフトスタートをかける針数

また、ソフトスタート時のスピード制限値も変更することができます。（機能設定 No.37）

3 7　　設定可能範囲
☐ 8 0 0　　130～2,000〔rpm〕〈10/rpm〉

① **Selection of the soft-start function (Function setting No. 1)**

The needle thread may fail to interlace with the bobbin thread at the start of sewing when the stitching pitch (stitch length) is small or a thick needle is used. To solve such problem, this function (called "soft-start") is used to limit the sewing speed, thereby assuring successful formation of the starting stitches.

☐ ☐1　　0：　　The function is not selected.
☐ ☐ ☐0　　1 to 9：　The number of stitches to be sewn under the soft-start mode.

The sewing speed limited by the soft-start function can be changed. (Function setting No. 37)

3 7　　Data setting range
☐ 8 0 0　　130 to 2,000 rpm <10 rpm>

② 布端センサ（ED：オプション）機能（機能設定 No.2～4）

布端センサ（ED）を取り付け時、可能となります。
詳細は、布端センサ取扱説明書を参照してください。

（注意）布端センサ無しの時および、CP-160以上のパネルを接続しているときでは設定内容は無効となります。

② **Material end sensor (ED : optional) function (Function setting Nos. 2 to 4)**

This function is possible when the material end sensor (ED) is attached.
As for the details, refer to the instruction manual for the material end sensor.

(Caution)　Setting will be invalid when the material end sensor is not attached, or CP-160 or higher class model is connected.

③ フリッカ軽減機能（機能設定 No.5）

ミシン立上がり時の手もとランプのちらつき（フリッカ）を軽減する機能です。設定値を大きくする程、軽減効果は高くなります。

☐ ☐5　　　設定範囲
☐ ☐ ☐0　　　0～8
　　　　　　　　　0：軽減効果なし
　　　　　　　　　⋮
　　　　　　　　　8：効果大

（注意）軽減効果を高くしていく程（数定を大きくする程）、ミシンの立上がりスピードは、遅くなります。

③ **Flicker reducing function (Function setting No. 5)**

The function reduces flickering of the hand lamp at the start of sewing. The higher the set value increases, the more effective the function will work.

	5

			0

Setting range
0 to 8

0 : Flicker reducing function does not work.

to

8 : Flickering is effectively reduced.

(Caution) **The more effective the flicker reducing function works (the more the set value is made), the lower the start-up speed of the sewing machine will become.**

④ 下糸カウント機能 （機能設定 No.6）

操作パネル （CP-160以上） 使用時に、予め設定された値より減算していき、下糸の使用量を表示する機能です。

詳細は、操作パネルの取扱説明書を参照してください。

（注意） 設定を０にすると、操作パネル上の液晶表示が消えて、下糸カウント機能は無効となります。

④ **Bobbin thread counting function (Function setting No. 6)**

When the control panel (CP-160 or higher class model) is used, the function subtracts from the predetermined value and indicates the used amount of bobbin thread.

For the details, refer to the instruction manual for the control panel.

(Caution) **If "0" is set, the LCD indication on the control panel will go out and the bobbin thread counting function will be invalid.**

⑤ 下糸カウントダウンの単位 （機能設定 No.7）

下糸カウンタのカウントダウン （減算） 単位を変更することができる。

	7

			0

０：１０針で１カウントダウン
１：１５針で１カウントダウン
２：２０針で１カウントダウン

⑤ **Unit of bobbin thread counting down (Function setting No. 7)**

Unit of bobbin thread counting down (subtraction) can be changed.

	7

			0

0 : 1 count-down by 10 stitches
1 : 1 count-down by 15 stitches
2 : 1 count-down by 20 stitches

⑥ 下糸カウント・ミシン起動禁止機能（機能設定 No.13）
下糸カウンタの値が－１以下になったらミシンを起動禁止させる機能である。

```
[1][3]
[ ][ ][ ][0]
```

０：カウントアウト時（－１以下）でもミシン起動禁止機能無し
１：カウントアウト時ミシン停止（縫製中は、工程完了後ミシン起動禁止となる）

⑥ Function of prohibiting start of the sewing machine by bobbin thread counting (Function setting No. 13)
This function prohibits start of the sewing machine when the bobbin thread counting value becomes - (minus) 1 or less.

```
[1][3]
[ ][ ][ ][0]
```

0 : Function to prohibit starting of the sewing machine is not provided even when counting out (-1 or less).
1 : The sewing machine stops when counting out (start of the sewing machine is prohibited after completion of the process during sewing).

⑦ 返し縫い回転数（機能設定 No.8）
縫い始め返し縫い、縫い終わり返し縫いおよび、重ね縫い時のミシン回転数を設定する。

```
[ ][8]
[1][9][0][0]
```

設定範囲
１80～3000[spm]<１0/spm>

⑦ Number of rotation of reverse feed stitching (Function setting No. 8)
This function sets sewing speed of reverse feed stitching at the sewing start, reverse feed stitching at sewing end and super imposed stitching.

```
[ ][8]
[1][9][0][0]
```

Setting range
180 to 3000 [rpm]<10/rpm>

⑧ 糸切り禁止機能（機能設定 No.9）
糸切り動作時に、糸切りソレノイドおよびワイパーソレノイド出力をoffする機能です。〔操作パネル（CP-160以上）と組み合わせ時は、操作パネル側の設定に従います。〕
これにより糸を切らずに別の縫製物をつなげて縫うことができます。

```
[ ][9]
[ ][ ][ ][0]
```

０：off　糸切り有効（糸が切れます）
１：on　糸切り禁止（糸が切れません）

⑧ Thread trimming prohibiting function (Function setting No. 9)
This function turns OFF thread trimming solenoid output and wiper solenoid output when thread trimming is actuated.
[If the control panel (CP-160 or higher class model) is used with the sewing machine, this function will work in accordance with the function setting on the control panel.]
By this function, separate sewing material can be spliced and sewn without trimming thread.

```
[ ][9]
[ ][ ][ ][0]
```

0 : off　Thread trimming is operative. (thread can be trimmed).
1 : on　Thread trimming is inoperative. (thread can not be trimmed).

⑨ ミシン停止時の針棒位置指定（機能設定 No.10）
ペダル中立時の針棒の停止位置を指定します。

1	0

			0

0：Down　下位置停止
1：Up　　上位置停止

（注意）上位置停止を選択した場合の糸切り動作は、一度下位置に下降後、糸切りを実行します。

⑨ Setting of the needle bar stop position when the sewing machine stops (Function setting No. 10)
The position of the needle bar when the pedal is in its neutral position is specified.

1	0

			0

0 : Down　The needle bar stops in the lowest position of its stroke.
1 : Up　　The needle bar stops in the highest position of its stroke.

(Caution)　If the stop position of the needle bar is set to the highest position, the thread trimming action will be taken after the needle bar comes down once to the lowest position.

⑩ PSC 搭載キー SW クリック音（機能設定 No.11）
PSC ボックスの４つのキー SW 操作時の音の有無を選択できます。

1	1

			1

0：off　クリック音なし
1：on　クリック音あり

⑩ Sound of click of the key switch mounted on the PSC box (Function setting No. 11)
This function selects whether the sound is effective or ineffective when operating the four key switches mounted on the PSC box.

1	1

			1

0 : off　The sound of click is ineffective.
1 : on　The sound of click is effective.

⑪ オプションスイッチ機能選択（機能設定 No.12）：オプションスイッチ付頭部との組み合わせ時のみ使用します。
オプションスイッチに割り当てる機能を下記の中から選択できます。

1	2

			0

0：機能設定なし（標準設定状態）
1：半針補正縫い：SW を押す度に半針分正送りします。（操作パネルの半針補正縫い
　　　　　　　　 SW と同じ動作です。）
2：バック補正縫い：SW を押している間、低速にて返し縫いを行います。
　　　　　　　　 （CP-160パネル以上で定寸縫いパターン選択時のみ有効です。）
3：終り返し縫い１回キャンセル機能：
　　　　　　　　 SW を押した後のペダル踏み返しにて終り返し縫いの動作を１回非
　　　　　　　　 実行とします。
4：糸切り機能：糸切り SW として動作します。
5：押え上げ機能：押え上げ SW として動作します。
6：１針補正縫い：SW を押す毎に、１針縫い動作を実行します。

⑪ **Optional switch function selection (Function setting No. 12) : It is used only when it is combined with the machine head provided with the optional switch.**

Functions to be assigned to the optional switch can be selected from the following functions.

1	2

☐ ☐ ☐ **0**

0 : No function (Standard setting)

1 : 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 : Back compensating stitching : Reverse feed stitching is performed at low speed while the switch is held pressing. (It is effective only when constant dimension sewing pattern is selected with the CP-160 or higher class model.)

3 : 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 : Thread trimming function : This function is actuated as the thread trimming switch.

5 : Presser foot lifting function : This function is actuated as the foot lifter switch.

6 : One stitch compensating stitching : Every time the switch is pressed, one stitch stitching operation is executed.

⑫ 縫製カウント機能（機能設定 No.14）

糸切りごとにカウントアップし、縫製プロセスの完了数をカウントする機能です。
CP-360 パネルと合わせて実現できます。操作パネルの説明を参照してください。

1	4

☐ ☐ ☐ **1**

1：on　縫製カウント機能有り

0：off　縫製カウント機能無し
（CP-360 パネル上の表示も消灯します。）

⑫ **Sewing counting function (Function setting No. 14)**

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

This can be realized together with the CP-360 control panel. Refer to the explanation of the control panel.

1	4

☐ ☐ ☐ **1**

1 : on　Sewing counting function is operative.

0 : off　Sewing counting function is inoperative.
(Indication on the CP-360 contorl panel will go out as well.)

⑬ 下糸残量無し検知回数（機能設定 No.15）

下糸残量検知装置で、下糸残量が少なくなったことを検知後、ブザーにて報知するまでの検知回数を設定する。

（CP-160、360 パネルでは、パネル上の下糸カウンタ 三 の設定が優先する。）

1	5

☐ ☐ ☐ **1**

0：　下糸残量検知機能停止

1～19：　下糸残量無しを検知してからブザーで報知するまでの回数

⑬ **Number of times of detection of run-out of bobbin thread remaining amount (Function setting No. 15)**

This function sets number of times of detection from detecting decrease of bobbin thread remaining amount by the bobbin thread remaining amount detector to information by buzzer.

(For CP-160 and -360 panels, setting of bobbin thread counter 三 on the panel is prior to that of this function.

1	5

☐ ☐ ☐ **1**

0 : Bobbin thread remaining amount is not operative.

1 to 19 : Number of rotation from detecting run-out of bobbin thread remaining amont to information by buzzer.

⑭ 鳥の巣防止機能（機能設定No.18～20、65、66）
縫い始めの糸絡みを防止する機能です。
鳥の巣防止仕様頭部と組み合わせたときのみ使用します。（使用にあたってはオプションユニットＢが必要です。）
① 鳥の巣防止機能（機能設定No.18）

| 1 | 8 |

| | | | 1 |

1：鳥の巣防止機能有効
0：鳥の巣防止機能無効

機能設定No.19～20、65、66の設定は無効となります。

② 縫い始めの上糸解放機能（機能設定No.19）

| 1 | 9 |

| | | | 0 |

0：縫い始めの上糸解放機能なし（通常）
1：縫い始めの上糸解放機能あり

③ コンデンス針数（機能設定No.20）
縫い終りにコンデンス縫いを行う針数が設定できます。

| 2 | 0 |

| | | | 0 |

設定範囲
1～9針＜1/針＞
0：コンデンス機能無効

④ コンデンス・ソレノイドオンタイミング（コンデンス1針時）（機能設定No.65）
コンデンス1針時のソレノイド起動タイミングを10°単位で角度補正できます。

| 6 | 5 |

| - | | 1 | 5 |

調整範囲
-36～0＜1/10°＞

⑤ コンデンス・ソレノイドオンタイミング（コンデンス2針以上）（機能設定No.66）
コンデンス2針以上のソレノイド起動タイミングを10°単位で角度補正できます。

| 6 | 6 |

| - | | 1 | 5 |

調整範囲
-36～0＜1/10°＞

---

⑭ Bird's nest prevention function (Function setting Nos. 18 to 20, 65, 66)
This function prevents the thread from being entangled at the sewing start.
This function is used only when it is combined with the sewing machine head with bird's nest prevention specifications.
(When using this function, the optional unit B is necessary.)
① Bird's nest prevention function (Function setting No. 18)

| 1 | 8 |

| | | | 1 |

1 : Bird's nest prevention function is effective.
0 : Bird's nest prevention function is ineffective.

Setting of function setting Nos. 19 to 20, 65 and 66 becomes ineffective.

② Needle thread release function at the sewing start ((Function setting No. 19)

| 1 | 9 |

| | | | 0 |

0 : Not provided with needle thread release function at the sewing start (Normal)
1 : Provided with needle thread release function at the sewing start

③ Number of condensation stitches at the sewing start (Function setting No. 20)
Number of condensation stitches at the sewing end can be set.

| 2 | 0 |

| | | | 0 |

Setting range
1 to 9 stitches <1/stitch>
0 : Condensation function is ineffective.

④ On-timing of solenoid for condensation stitch (when condensation stitch is performed by 1 stitch.) (Function setting No. 65)
Starting timing of solenoid for condensation of 1 stitch can be corrected by angle at the unit of 10fl.

| 6 | 5 |

| - | | 1 | 5 |

Adjusting range
-36 to 0 <1/10°>

⑤ On-timing of solenoid for condensation stitch (when condensation stitches are performed by 2 stitches or more.) (Function setting No. 66)
Starting time of solenoid for condensation of 2 stitches or more can be corrected by angle at the unit of 10fl.

| 6 | 6 |

| - | | 1 | 5 |

Adjusting range
-36 to 0 <1/10°>

⑮ パネル補正SWの機能切換え機能（機能設定No.22）

CP-160及びCP-360のパネル上の補正SW機能を半針または、1針に切り換える事ができます。

2	2		
			0

0：半針補正
1：1針補正

⑮ Function of changeover of compensating switch on the operation panel function (Function setting No. 22)

Function of compensation switch on the operation panel of CP-160 or CP-360 can be changed over to needle up/down compensating stitching or one stitch compensating stitching.

2	2		
			0

0 : Needle up / down compensating stitching
1 : One stitch compensating stitching

⑯ 途中返し縫い機能（機能設定No.30～33）

頭部のタッチバックスイッチに、縫い目数の制限と糸切り指令の機能を加えることができます。

機能設定No.30　　途中返し縫い機能を選択します。

3	0		
			0

0：off　通常のバックタック機能
1：on　途中返し縫い機能有効

機能設定No.31　　返し縫い針数を設定します。

3	1		
			4

設定範囲
0～19針 〈1／針〉

機能設定No.32　　途中返し縫い有効条件

3	2		
			0

0：off　ミシン停止時無効（ミシン回転中のみ途中返し縫いが機能する。）
1：on　ミシン停止時有効（ミシン回転中、停止中ともに途中返し縫いが機能する。）

（注意）回転中はどちらかの条件に於いても有効です。

機能設定No.33　　途中返し縫い終了時、糸切り実行

3	3		
			0

0：off　糸切りせず
1：on　糸切り実行

各設定状態による動作

用途	機能設定			出力機能
	No.30	No.32	No.33	
①	0	0または1	0または1	通常のタッチバックSWとして動作します。
②	1	0	0	ペダル前踏み時にタッチバックスイッチを操作すると機能設定No.31によって設定された縫い目数だけ返し縫いを行います。
③	1	1	0	ミシン停止時でもペダル前踏み時でもタッチバックスイッチを操作すると機能設定No.31によって設定された縫い目数だけ返し縫いを行います。
④	1	0	1	ペダル前踏み時にタッチバックスイッチを操作すると機能設定No.31によって設定された縫い目数だけ返し縫いを行った後、自動糸切りを行います。
⑤	1	1	1	ミシン停止時でもペダル前踏み時でもタッチバックスイッチを操作すると機能設定No.31によって設定された縫い目数だけ返し縫いを行った後、自動糸切りを行います。

① 通常の返し縫いタッチバックスイッチとして使用

② ブーツの補強縫い（押え縫い）として使用。（ミシン回転中だけ作動する。）

③ ブーツの補強縫い（押え縫い）として使用。（ミシン停止中でも作動する。）

④ 終り返し縫いの起動スイッチとして使用。（ペダル踏み返し糸切りの代わりとして使用。ミシン回転中だけ作動する、立ちミシンとして使用時、特に有効。）

⑤ 終り返し縫いの起動スイッチとして使用。（ペダル踏み返し糸切りの代わりとして使用。ミシン停止中でも回転中でも作動する、立ちミシンとして使用時、とくに有効）

⑯ **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

Function of reverse feed stitching on the way is selected.

| 3 | 0 |

| | | | 0 |

0 : off   Normal back-tack function
1 : on   Function of reverse feed stitching on the way

Function setting No. 31   Number of stitches performing reverse feed stitching is set.

| 3 | 1 |

| | | | 4 |

Setting range
0 to 19 stitches <1 / stitch>

Function setting No. 32   Effective condition of reverse feed stitching on the way

| 3 | 2 |

| | | | 0 |

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

| 3 | 3 |

| | | | 0 |

0 : off   Without thread trimming
1 : on   Thread trimming is executed.

Actions under each setting state

Application	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.

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.)

⑰ ワンショット縫い回転数（機能設定No.38）
一度のペダル操作にて、指定針数または、布端を検知するまで運針を続けるワンショット縫いの縫い速度を設定します。

| 3 | 8 |
| 2 | 5 | 0 | 0 |

設定範囲
200 ～ MAX. rpm 〈50/rpm〉

（注意）1. ワンショット縫いの設定は、CP-160 以上の操作パネルにて設定します。
2. ワンショット縫いの最高回転数は、頭部により制限を受けます。

⑰ **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 |
| 2 | 5 | 0 | 0 |

Setting range
200 to MAX. rpm. <50 / rpm>

(Caution) 1. Setting of the one-shot stitching is made by the control panel of the CP-160 or higher class model.
2. The max. number of rotation of one-shot stitching is limited by the model of the sewing machine head.

⑱ ペダルストローク調整（機能設定No.39、40、41、43、44、48）
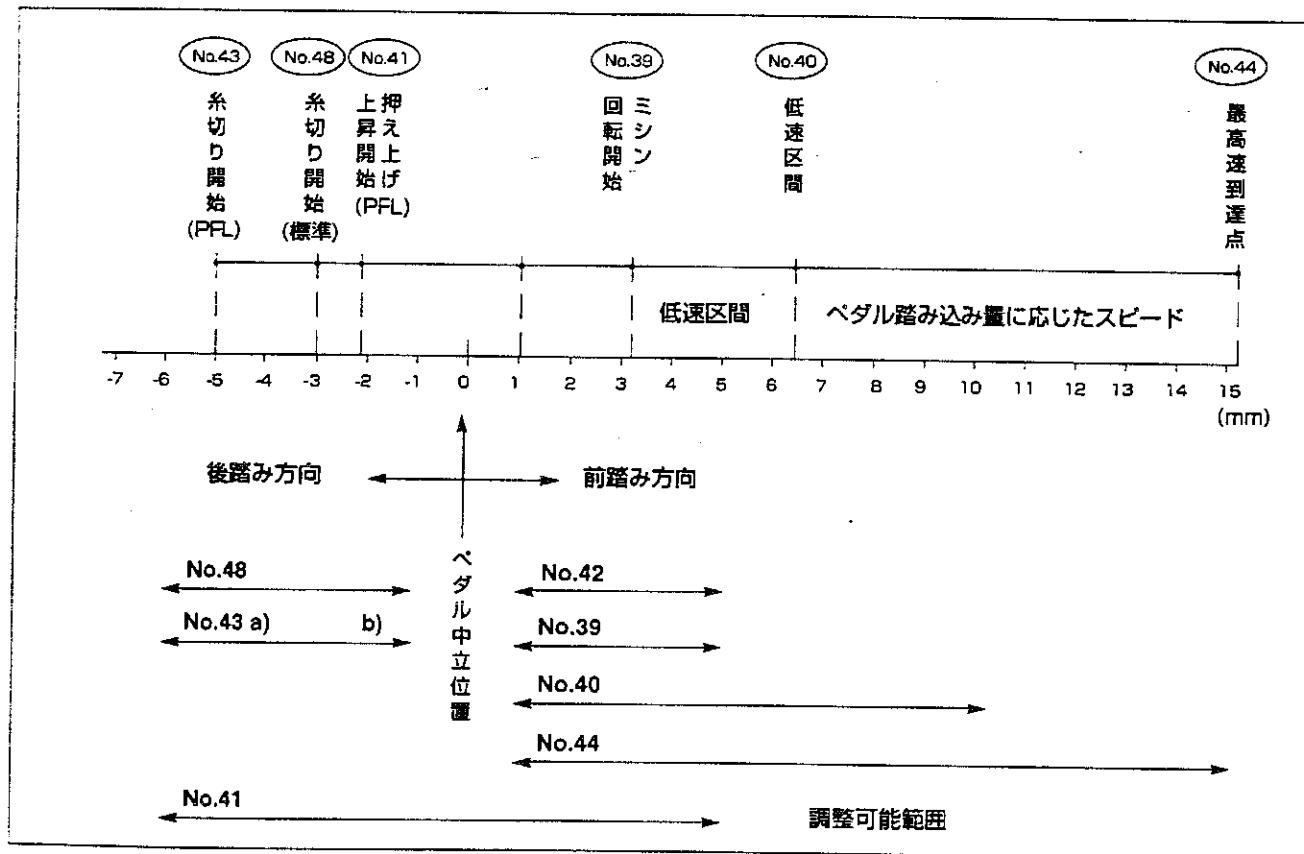
ペダル中立点の補正（機能設定No.45）
ペダル中立点の補正値を表示する。ペダル中立点の補正値の設定は、ペダル中立位置自動補正にて行う。

| 4 | 5 |
| | | | 0 |

設定範囲
－15 ～ 15

ペダル中立位置自動補正
ペダルセンサやばね等を交換した時は必ず、以下の操作を実施してください。

⑱ Pedal stroke adjustment (Function setting Nos. 39, 40, 41, 43, 44 and 48)

(No.43) (No.48) (No.41)

Start of thread trimming (PFL)

Start of thread trimming (Standard)

Start of lifting presser foot (PFL)

(No.39) Start of rotation of sewing machine

(No.40) Low speed section

(No.44) Position where sewing machine reaches its highest sewing speed

Low speed section | Speed corresponding to depressing amount of pedal

-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 (mm)

Direction when depressing back part of pedal ← → Direction when depressing front part of pedal

Pedal neutral position

No.48
No.43 a) b)
No.42
No.39
No.40
No.44
No.41

Adjustable range

Compensation of neutral point of the pedal (Function setting No. 45)

This function displays compensation value of the neutral point of the pedal. Setting of compensation value of the neutral point of the pedal is performed by automatic compensation of neutral position of the pedal.

| 4 | 5 |

| | | | 0 |

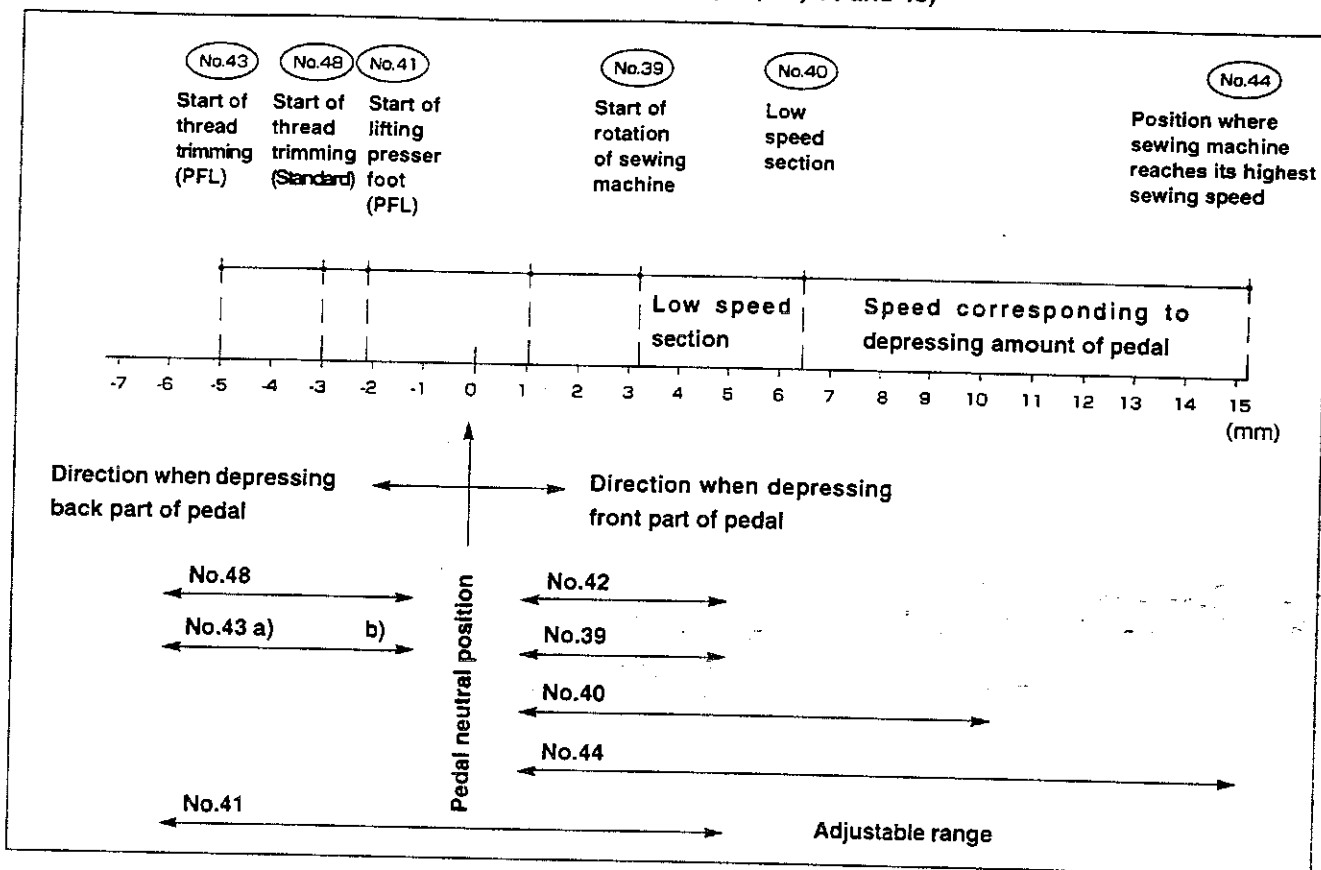Setting range
-15 to 15

Automatic compensation of neutral position of the pedal

Be sure to execute the following operation when pedal sensor, spring, etc. are replaced.

⑲ 押え上げ上昇保持時間 （機能設定 No.47）

ソレノイド式押え上げの場合（No.46　0）押え上げ上昇保持制限時間を調整できます。

押え上げ上昇後、設定 No.47 で設定した時間が経過すると自動的に押えを下降させます。

エアー式押え上げ選択時（No.46　1）は、設定に関係なく無制限となります。

| 4 | 7 |

| | | 6 | 0 |

設定範囲
60〜600 sec 〈10/sec〉

⑲ Holding time of lifting presser foot (Function setting No. 47)

Solenoid type presser foot lifter (No. 46 0) can adjust the holding time control of lifting presser foot.

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 (No. 46 1) is selected, the holding time control of lifting presser foot is limitless regradless of the set value.

| 4 | 7 |

| | | 6 | 0 |

Setting range
60 to 600 sec <10 / sec>

⑳ 返し縫いソレノイドタイミング補正（機能設定 No. 51～53）

自動返し縫い動作において、正・逆の縫い目がそろわない場合、バックソレノイドの ON/OFF タイミングを変更し、これを補正する機能です。

① 始め返し縫いのソレノイドオンタイミング補正（機能設定 No.51）

始め返し縫いのソレノイドオンタイミングを角度単位で補正することができます。

5 1
− □ □ 8

調整範囲
−36～36＜1/10°＞

設定値	角度補正	補正針数
−36	−360°	−1
−18	−180°	−0.5
0	0°	0
18	180°	0.5
36	360°	1
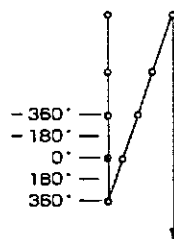
※ 1針手前を0°として
　 前後に360°（1針）
　 まで補正可能

② 始め返し縫いのソレノイドオフタイミング補正（機能設定 No.52）

始め返し縫いのソレノイドオフタイミングを角度単位で補正する事が出来ます。

5 2
− □ □ 5

調整範囲
−36～36＜1/10°＞

設定値	角度補正	補正針数
−36	−360°	−1
−18	−180°	−0.5
0	0°	0
18	180°	0.5
36	360°	1
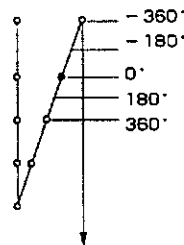
③ 終り返し縫いのソレノイドオフタイミング補正（機能設定 No.53）

終り返し縫いのソレノイドオフタイミングを角度単位で補正することが出来ます。

5 3
− □ □ 1

調整範囲
−36～36＜1/10°＞

設定値	角度補正	補正針数
−36	−360°	−1
−18	−180°	−0.5
0	0°	0
18	180°	0.5
36	360°	1
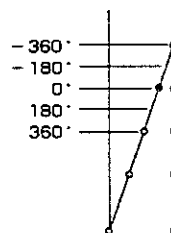
㉑ Compensation of timing of the solenoid for reverse feed stitching (Function setting Nos. 51 to 53)

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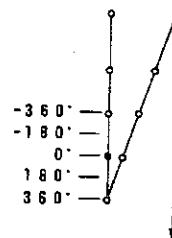
① Compensation of on-timing of solenoid for reverse feed stitching at the start of sewing (Function setting No. 51)

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

| 5 | 1 |

| − | | | 8 |

Adjusting range
−36 to 36 <1/10˚>

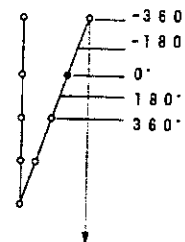| Set value	Compensation angle	Number of sitches of compensation
-36	−360˚	−1
-18	−180˚	−0.5
0	0˚	0
18	180˚	0.5
36	360˚	1

※ **When the point before 1 stitch is regarded as 0˚, compensation is possible by 360˚ (1 stitch) in front and in the rear.**

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 |

| − | | | 5 |

Adjusting range
−36 to 36 <1/10˚>

Set value	Compensation angle	Number of sitches 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 |

| − | | | 1 |

Adjusting range
−36 to 36 <1/10˚>

Set value	Compensation angle	Number of sitches of compensation
-36	−360˚	−1
-18	−180˚	−0.5
0	0˚	0
18	180˚	0.5
36	360˚	1
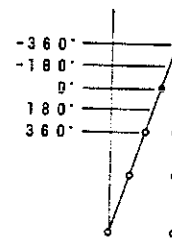
㉑ 糸切り後の布押え上昇機能（機能選択 No.55）

糸切り後に、押えを自動的に上昇させる機能です。AK 装置と組み合わせた時のみ有効となります。

5	5		
			1

0：off　自動上昇機能なし（糸切り後押えを自動上昇しない）

1：on　自動上昇機能あり（糸切り後押えを自動上昇する）

㉑ 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.

5	5		
			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.

㉒ 糸切り時の逆転針上げ機能（機能選択 No.56）

糸切り後ミシンを逆転させて、針棒を上死点付近まで上昇させます。
厚物等の縫製時、押え下部に針が出ていて、縫製物をひっかける時等に使用してください。

5	6		
			0

0：off　糸切り後の逆転針上げ機能なし

1：on　糸切り後の逆転針上げ機能あり

（注意）針棒上死点位置まで逆転させるため、糸抜けがしやすくなる可能性があります。糸切り後の糸残り量を調整してください。

㉒ 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.

5	6		
			0

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.

㉓ 下糸残量検知機能（機能設定 No.57、No.61）

下糸ボビンの使用量を検知して、下糸ボビンの交換時期を知らせる、下糸残量検知装置（AE）を取り付けている時のみ使用します。
詳細は、下糸残量検知装置の取扱説明書を参照ください。

5	7		
			0

（注意）AE 装置を取り付けていない時は、必ず設定 No.57 を無効（"0"）としてください。
（"E43" を表示してミシンが起動しなくなります。）

㉓ Bobbin thread remaining amount detection function (Function setting No. 57, No. 61)

This function detects the amount of the bobbin thread used and informs of the time of replacement of the bobbin. This function is used when the bobbin thread remaining amount detection device (AE) is attached.
As for the details, refer to the instruction manual for the bobbin thread remaining amount detection device.

5	7		
			0

(Caution)　Be sure to set the setting No. 57 to ineffective ("0") when the AE device is not attached.
("E43" is displayed, and the sewing machine is not actuated.)

㉔ 針棒上下定位置保持機能（機能設定　No.58）
針棒が上位置又は下位置のときに弱めにブレーキをかけ保持します。

| 5 | 8 |
| | | | 0 |

0：off　針棒上下定位置保持機能無し
1：on　針棒上下定位置保持機能有り

㉔ 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.

| 5 | 8 |
| | | | 0 |

0：off　Function of holding predetermined upper/lower position of the needle bar is ineffective.
1：on　Function of holding predetermined upper/lower position of the needle bar is effective.

㉕ 始め返し縫い速度　自動／ペダル指示切換え機能（機能設定 No.59）
始め返し縫いの速度を機能設定No.8にて設定された速度にて一気に縫製を行うか、ペダル踏み速度により、縫製を行うかを選択します。

| 5 | 9 |
| | | | 1 |

0：Manu　ペダル操作指示による
1：Auto　設定スピードにて自動縫製

（注意）　1. 始め返し縫い速度の最大値は、ペダルに関係なく機能設定 No.8 の速度にて制限されます。
　　　　　2. "0" 選択時は、返し縫い目が合わなくなる恐れがあります。

㉕ 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.

| 5 | 9 |
| | | | 1 |

0：Manu　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.

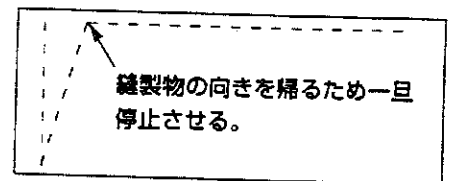㉖ 始め返し縫い直後の停止機能（機能設定 No.60）
始め返し縫い工程が完了したときにペダル前踏みのままでも一旦ミシンを停止させます。
始め返し縫いにて短い長さを縫製する場合に使用します。

| 6 | 0 |
| | | | 0 |

0：始め返し縫い直後の一旦停止機能なし
1：始め返し縫い直後の一旦停止機能あり

縫製物の向きを帰るため一旦停止させる。

㉖ 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.

| 6 | 0 |
| | | | 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
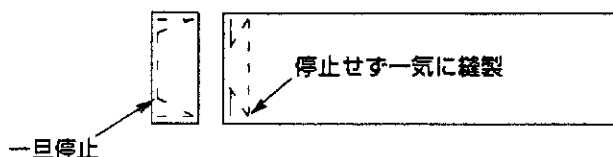1： Provided with the function of temporary stop of the sewing machine immediately after the reverse feed stitching at the start of sewing

Stop the sewing machine temporarily to change direction of sewing products.
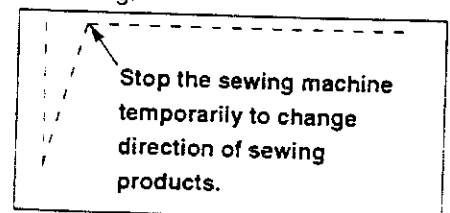
㉗ 始め返し縫い減速機能（機能設定 No.92）

始め返し縫い完了時に減速させる機能。：ペダルの状態により通常使用（一気に最高速まで加速する）一旦
停止を使い分ける場合に使用。（カフスとカフス付け）

9	2

|			0

0：減速しない
1：減速する

停止せず一気に縫製

一旦停止

㉗ 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 acceralated 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.

Sew without stopping without a break.

Temporary stop
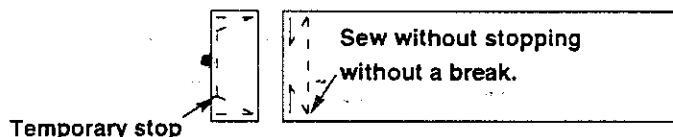
㉘ リトライ機能（機能設定 No.73）

厚物仕様頭部と組み合わせた時のみ有効となります。
縫製物が厚く針が貫通しないときに、リトライ機能を使用すると針が貫通しやすくなります。

7	3

			0

0：通常
1：リトライ機能あり

㉘ Retry function (Function setting No. 73)

This function is effective only when it is used in combination with the sewing machine head with heavy-weight specifications.

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

7	3

			0

0 : Normal
1 : Retry function is provided.

㉙ エアークランプレス機能（機能設定 No.67～69）

エアークランプレス仕様頭部と組み合わせた時、有効となります。
使用にあたってはオプションユニット B が必要。

❶ 縫い始めのエアー吹出し回数（機能設定 No.67）

6	7

			2

調整範囲
0～9（針）通常 2 回

細糸（テトロン #80 相当）使用時は設定値を 0 にしてください。

（注意）設定値は 0 または 2 です。0、2 以外の値を設定しないでください。

❷ エアー吹出し開始角度（機能設定 No.68）

6	8

		2	7

調整範囲
0～35（10°）通常 27（270°）

❸ エアー吹出し終了角度（機能設定 No.69）

6	9

		1	2

調整範囲
0～35（10°）通常 12（120°）

㉙ **Air clampless function (Function setting Nos. 67 to 69)**
This function is effective when it is combined with the sewing machine head with the air clampless specifications. When using this function, the optional unit B is necessary.

❶ Number of air blow times at the sewing start (Function setting No. 67)

| 6 | 7 |

| | | | 2 |

Adjusting range
0 to 9 (stitch) Normally two times

When using thin thread (equivalent to tetoron thread #80), set the set value to "0".

(Caution) Set value is "0" or "2". Do not set the value other than "0" or "2".

❷ Starting angle of air blow (Function setting No. 68)

| 6 | 8 |

| | | 2 | 7 |

Adjusting range
0 to 35 (10˚) Normally 27 (270˚)

❸ Ending angle of air blow (Function setting No. 69)

| 6 | 9 |

| | | 1 | 2 |

Adjusting range
0 to 35 (10˚) Normally 12 (120˚)

㉚ ミシン立ち上がり選択機能（機能選択No.76）
ミシンスピードをより早く立ち上げたい場合に選択する機能です。（約1割立ち上がり時間短縮）

| 7 | 6 |

| | | | 0 |

0：通常のカーブ
1：より急峻なカーブ

（注意）設定を "1" にすると、モータの動きがギクシャクする場合があります。また、ミシン動作時の音
が大きくなる場合があります。

㉚ **Function to select the start-up speed of the sewing machine (Function setting No. 76)**
This function is selected in the case where the speed of the sewing machine is desired to be more at the time of start-up. (Time required to start is shortened by approximately 10%.)

| 7 | 6 |

| | | | 0 |

0 : Normal curve
1 : More sharp curve

(Caution) If "1" is set, motor may move irregularly. In addition, noise may occur when the sewing machine is running or noise may increase when the sewing machine is running.

㉛ ペダルカーブ選択機能（機能選択No.87）
ペダルの踏み込み量に対するミシン回転数のカーブの選択ができます。
インチング操作がやりにくい、ペダルの応答性が遅い等を感じた場合に切り換えてください。

| 8 | 7 |

| | | | 0 |

0：ペダルの踏み込みに対して直線状に
　回転数が上がる。
1：ペダルの踏み込みに対して中間速の
　反応が遅くなります。
2：ペダルの踏み込みに対して中間速の
　反応が早くなります。

回転数（rpm）

ペダルストローク（mm）
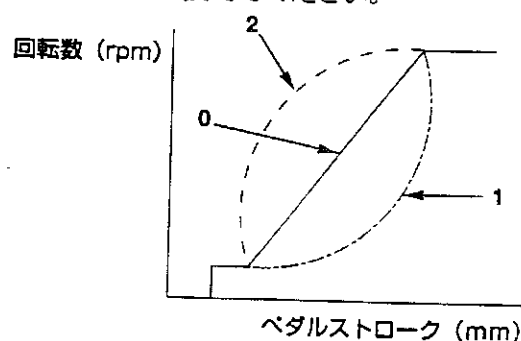
㉛ **Function of pedal curve selection (Function setting No. 87)**

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.
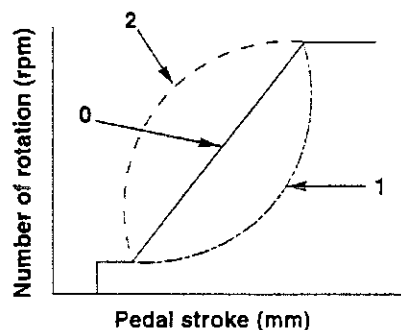
㉜ **半針補正 SW 付加機能 (機能設定 No.93)**

電源SW ON直後の上停止、及び糸切り直後の上停止時に半針SWを押した場合のみ1針動作を行います。

9	3

			0

0：通常（すべて半針補正動作のみ）

1：上記のときのみ1針補正動作（上停止→上停止）をする。

㉜ **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.

㉝ **連続＋ワンショット無停止機能 (機能設定 No. 94)**

CP-360 プログラム機能にて連続縫いとワンショットを組み合わせて縫製する際にステップの最後でミシンを停止させることなく次のステップへ進めるための機能です。

9	4

			0

0：通常（ステップ完了にて停止）

1：ステップ完了後ミシン停止せずに次ステップへ進む

㉝ **Continuous stitching + one shot stitching nonstop function (Function setting No. 94)**

In CP-360 program functions, this is a function that does not stop the sewing machine at the last of a step and proceeds to the next step when performing sewing by combining continuous stitching with one shot stitching.

Select this function when you desire to execute the overlapped stitching of 19 stitches or more.

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.

㉞ **頭部最高回転数設定 (機能設定 No.96)**

頭部の使用したい最高回転数を設定する機能です。

接続する頭部により設定値の上限は異なります。

9	6

4	0	0	0

50 ～ Max [rpm]

㉞ **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.

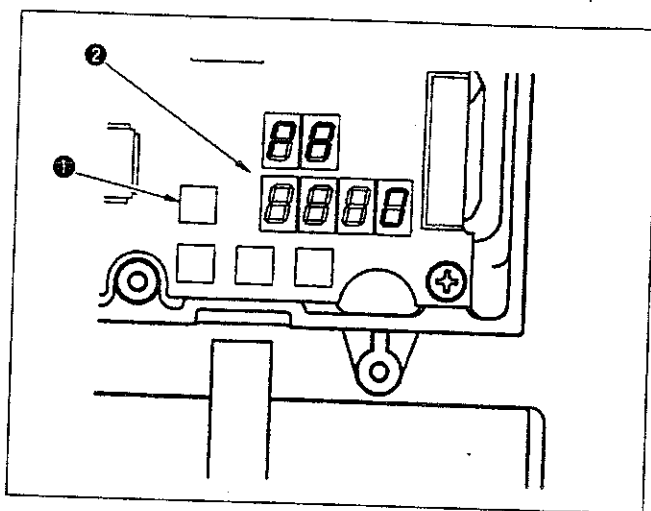Upper limit of the set value varies in accordance with the sewing machine head to be connected.

9	6

4	0	0	0

50 to Max. [rpm]

5. ペダルセンサ中立自動補正
AUTOMATIC COMPENSATION TO MAKE THE PEDAL SENSOR NEUTRAL

ペダルセンサやばね等を交換した時は必ず以下の操作を実施してください。

Whenever the pedal sensor, spring, etc. are replaced, be sure to perform following operation :

1) スイッチ❶を押しながら電源スイッチをONします。

2) 画面表示は❷のとおりとなります。この時、4桁の7セグメントに表示される値が補正値です。

（注意）この時、ペダルがふまれていたりすると正しく動作しません。ペダルの上には足や物をのせないでください。

3) 一旦電源スイッチをOFFし、フロントカバーを閉じた後、電源スイッチをONすると通常に戻ります。

1) Pressing switch ❶, turn ON the power switch.

2) Indication on the screen will be as illustrated in ❷. At this time, the value indicated in the 7 segments of four figures is the compensation value.
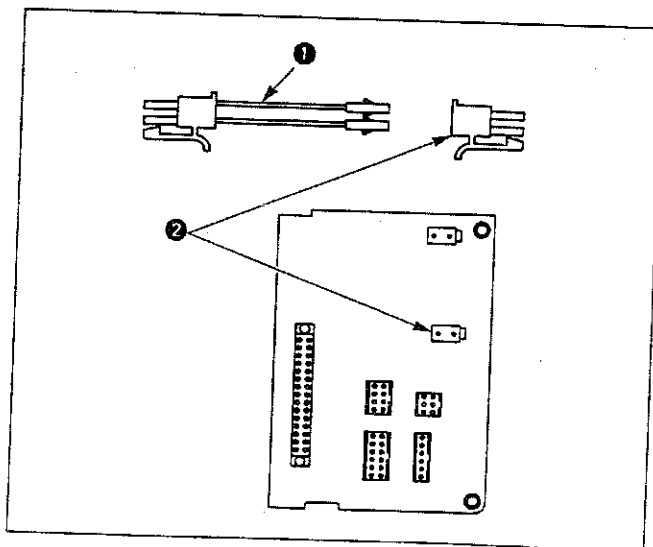
(Caution)

At this time, the pedal sensor does not work properly if the pedal is depressed. Do not place the foot or any object on the pedal.

3) Turn OFF the power switch once, and turn ON the power switch after closing the front cover to return to the normal mode.

6. 下糸残量検知装置 AE-8 使用について
USE OF THE BOBBIN THREAD REMAINING AMOUNT DETECTION DEVICE AE-8


AE-8付属のソレノイドコード❶は、オプション基板に付属の2Pプラグ（赤）❷に挿入して使用ください。

（注意）SC-1と異なり、頭部からの14Pプラグに挿入しても動作しませんのでご注意ください。

Insert solenoid cord ❶ supplied with the AE-4 into 2P plug (red) ❷ supplied with the optional circuit board.

(Caution)

The SC-800 is different from the SC-1. The AE-8 does not work even if the solenoid cord coming from the sewing machine head is inserted into the 14P connector on the circuit board. So, be careful.

7. ペダル仕様の選択 /Selection of the pedal specifications
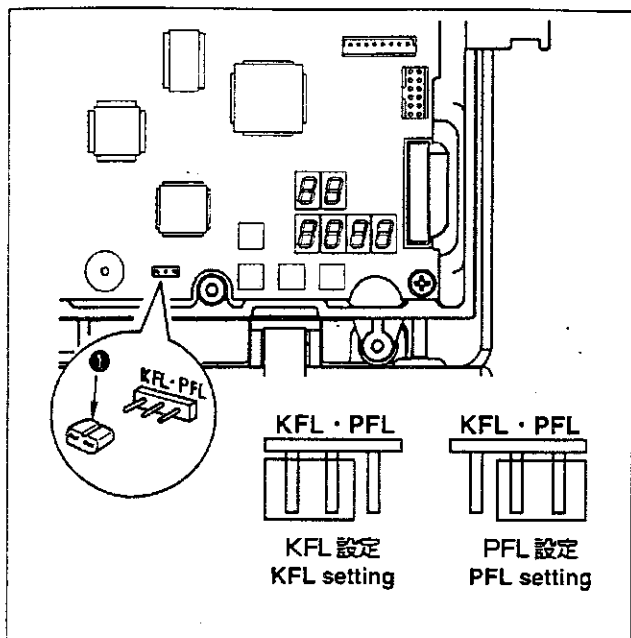
ペダルセンサを変更した場合は（KFL→PFL、または PFL→KFL）変更したペダル仕様に合わせてジャンパ ❶を差し替えてください。

（注意）・ ペダルセンサは、踏み返しばねが2本のタイプがPFLで、1本のタイプがKFLです。ペダルの踏み返し操作で押え上げる場合は、PFLに設定してください。

・ ジャンパを切り換える場合は必ず電源をOFFした後行ってください。電源ONのまま切り換えても設定が変わりません。本体を破損する危険があります。

KFL・PFL　　　KFL・PFL

KFL 設定　　　　PFL 設定
KFL setting　　　PFL setting

When the pedal sensor is changed (KFL → PFL or PFL → KFL), replace jumper ❶ to fit the pedal spcifications changed.

(Caution) • Pedal sensor with two springs located at the back part of the pedal type is PFL, and that with one spring type is KFL. Set the pedal sensor to PFL when lifting the presser foot by depressing the back part of the pedal.

• When changing the jumper, be sure to do the work after turning OFF the power. If the jumper is changed while the power is ON, the setting does not change. The main unit may be broken.

8. 立ちミシンペダルの接続方法
Connection of the pedal of standing-work machine
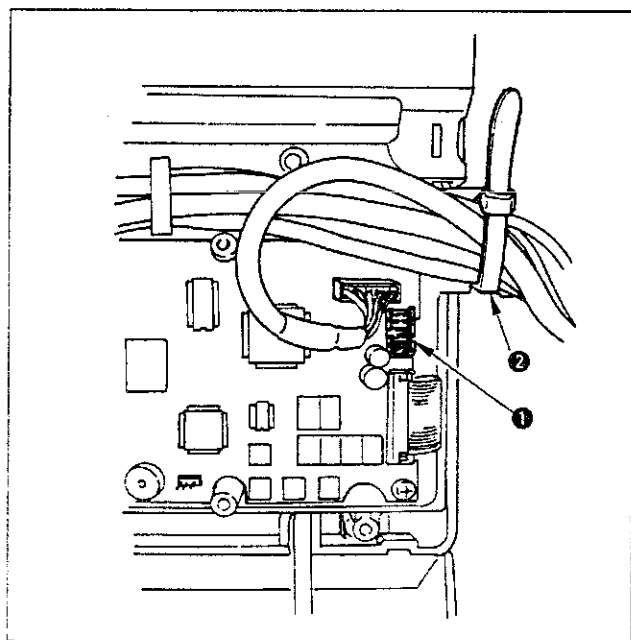
1）PK70コネクタをSC-900のコネクタ❶（CN19 12P）に差し込みます。

2）ボックス側面に取り付けてある束線バンド❷にて PK70のコードもまとめて締め付けてください。

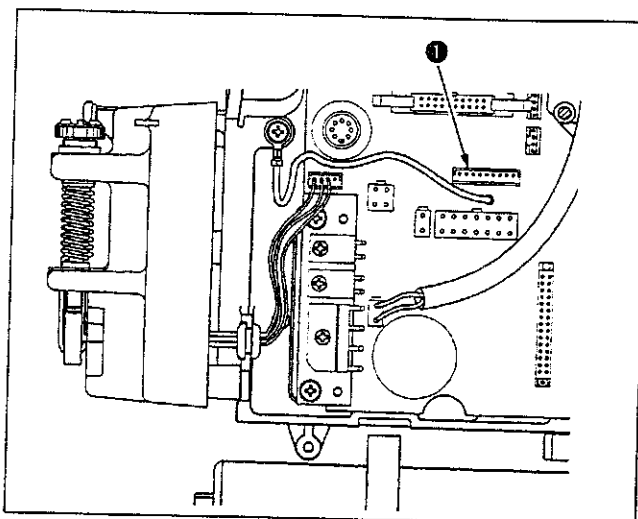（注意）接続する時は必ず電源をOFFしてから行ってください。

1) Connect the connector of PK70 to connector ❶ (CN19 12P) of SC-900.

2) Tighten the cord of PK70 together with other cords with cable clip band ❷ attached to the side of the box.

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

9. 外部入出力コネクタ /External input / output connector

カウンタ等を外付けする場合に便利な下記の信号を準備しています。

（注意）使用にあたっては、電気的知識のある技術者の方に相談ください。

The following signals that are convenient when installing counter or the like outside are prepared.

(Caution) When using the signals, consult engineers who have electrical knowledge.

コネクタと信号の割付表

CN18	信号名	入出力	説明	電気仕様
1	+5V	—	電源	DC5V、100mA
2	LSWINH	入力	"L" 信号を入力の間、ペダルによる回転を禁止します。	DC5V、-5mA
3	SOFT	入力	"L" 信号を入力の間、回転スピードはソフトスピードに制限されます。	DC5V、-5mA
4	DDET	出力	針棒下位置のとき "L" を出力します。	DC5V、1mA
5	UDET	出力	針棒上位置のとき "L" を出力します。	DC5V、1mA
6	S.STATE	出力	ミシン停止状態のときに "L" を出力します。	DC5V、1mA
7	SGND	—	0V	
8	HS	出力	ミシン回転に合わせてパルス出力します。(45/回転)	DC5V、1mA
9	N.C.		未接続	

JUKI 純正品番

コネクタ
　品番　HK 024910090

ピンコンタクト
　品番　HK 032040000

Table of assignment of connector and signal

CN18	Signal name	Input/output	Description	Electric spec.
1	+5V	—	Power source	DC5V, 100mA
2	LSWINH	Input	Rotation by pedal is prohibited while inputting "L" signal.	DC5V, -5mA
3	SOFT	Input	Rotating speed is limited to soft speed while inputting "L" signal.	DC5V, -5mA
4	DDET	Output	"L" is output when the needle is in its lower position.	DC5V, 1mA
5	UDET	Output	"L" is output when the needle is in its upper position.	DC5V, 1mA
6	S.STATE	Output	"L" is output when the sewing machine is in stopping state.	DC5V, 1mA
7	SGND	—	0V	
8	HS	Output	Pulse is output in accordance with rotation of sewing machine. (45/rotation)	DC5V, 1mA
9	N.C.		Not connected.	

JUKI genuine part No.
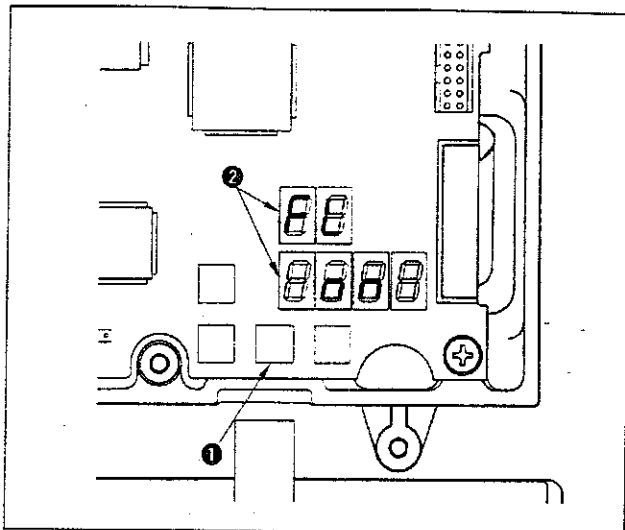
Connector
　Part No. HK024910090

Pin contact
　Part No. HK032040000

10. 自動押え上げ機能選択方法 /How to select the function of auto-lifter

自動押え上げ装置（AK）を取り付けたとき、自動押え上げ機能を働かせます。
1) コントロールボックス内のスイッチ❶を押しながら電源スイッチをONします。
2) "ピ"と音とともにLEDが表示❷（FL ON）になり自動押え上げ機能が有効となります。
3) 一旦電源スイッチをOFFし、フロントカバーを閉じて、電源スイッチをONにすると通常に戻ります。

FL ON ： 自動押え上げ装置が有効となります。
FL OFF ： 自動押え上げ機能は、働きません。
　　　　　（標準出荷状態）
　　　　　（プログラム縫い完了時も同様に押え上げは自動上昇しません。）
4) 1）～3）の操作を再度くり返すとLED表示が"FL OFF"となり、自動押え上げ機能が働かなくなります。

（注意）1. 電源の入れ直しは、必ず1秒以上経過してから行なってください。
　　　　　（電源のON／OFF動作が早いと設定がうまく切り換わらない場合があります。）
　　　　2. 本機能を正しく選択しないと自動押え上げは動作しません。
　　　　3. 自動押え上げ装置を取り付けずに"FL ON"を選択すると縫い始めに一瞬起動が遅れます。また、タッチバックスイッチが動作しなくなることがありますので、自動押え上げ装置を取り付けてない時は、必ず"FL OFF"を選択してください。

When the auto-lifter device (AK) is attached, this function makes the function of auto-lifter work.
1) Turn ON the power switch while pressing switch ❶ inside the control box.
2) LED display is turned to ❷ (FL ON) with "beep", and the function of auto-lifter becomes effective.
3) Turn OFF the power switch once, and turn ON the power switch after closing the front cover 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.
　　FL ON ： Auto-lifter device becomes effective.
　　FL OFF ： Auto-lifter function does not work.

　　　　(Standard at the time of delivery)
　　　　(Similarly, the presser foot is not automatically lifted when programmed stitching is completed.)

(Caution) 1. To perform re-turning 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.

11. 設定データの初期化方法 /Way of initializing setting data
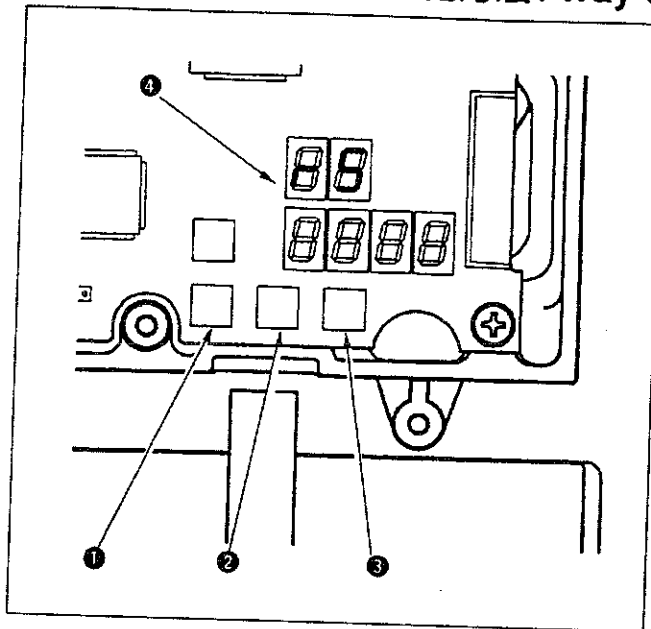
SC-900の機能設定内容をすべて標準設定値に戻すことができます。
1) フロントカバー内のスイッチ❶、❷、❸をすべて押しながら電源スイッチをONします。
2) "ピ"と音とともにLED表示が❹になり初期化が始まります。
3) 約1秒後にブザーが鳴り（単音三回"ピ"、"ピ"、"ピ"）標準設定値に戻ります。

（注意）初期化作業の途中で電源をOFFしないでください。本体のプログラムを破損する危険があります。

4) 電源スイッチをOFFし、フロントカバーを閉じ電源スイッチをONすると通常に戻ります。

（注意）1. この操作を行うとペダルセンサの中立補正値も"0"になるため、使用まえに必ずペダルセンサ中立自動補正操作を実施してください。（22ページ参照）
2. この操作をしても操作パネルで設定した縫製データは初期化されません。

All contents of function setting of SC-900 can be returned to the standard set values.
1) Pressing all switches ❶, ❷ and ❸ inside the front cover, turn ON the power switch.
2) LED displays indication ❹ with the sound "peep", and initialization starts.
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 to return to the normal mode.

(Caution) 1. When this operation is performed, the neutral compensation value of the pedal sensor becomes "0". Accordingly, be sure to execute the operation of automatic pedal sensor neutral compensation before using the sewing machine. (Refer to page 23.)
2. Even when this operation is performed, the sewing data set by the operation panel cannot be initialized.
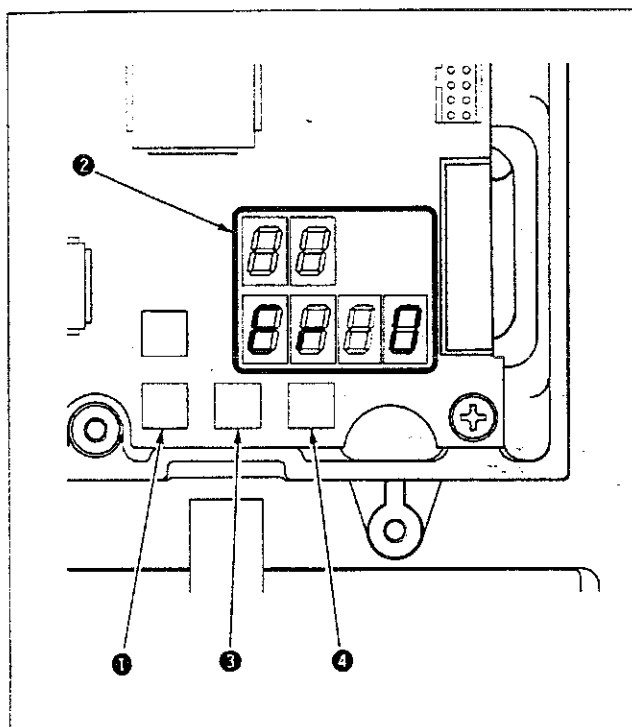
- 35 -

12. エラー履歴の参照方法
WAY OF REFERRING TO THE ERROR HISTORY

過去に発生したエラー情報を確認することができます。
エラー情報は127件まで記録することができます。(127件以上は古い内容より上書きされていきます。)

You can check the error information occurred in the past.
Error information can be recorded up to 127 cases. (Error information more than 127 cases is overwritten from the older one.)

1) フロントカバー内のスイッチ❶を押しながら電源スイッチをON します。
2) "ピ" と音とともにLED表示が最新のエラー情報を表示します。(エラーがない場合は表示❷が "ErO" 表示になります。)
3) スイッチ❸を押すとエラー履歴の古いエラー情報を呼び出せます。(最後までいくと警告音が "ピッピッ" と鳴ります)
4) スイッチ❹を押すとエラー履歴の新しいエラー情報を呼び出せます。(最新情報で警告音が "ピッピッ" となります)
(注意) エラー表示NO.とその意味については、IV. 保守のエラー情報についてを参照ください。

1) Pressing switch ❶ inside the front cover, turn ON the power switch.
2) LED displays the latest error information with the "peep" sound, and the latest information is displayed. (If there is no error, indication ❷ changes to indication "Er0".)
3) When switch ❸ is pressed, old error information in the error history can be called. (When the information reaches the last, an alarm sound "peeps".
4) When switch ❹ is pressed, new error information in the error history can be called. (An alarm sound "peeps" at the latest information.)
(Caution) Refer to the error codes in IV. Maintenance for error code No. and the description.

13. コネクター接続部 / CONNECTOR CONNECTION DIAGRAM

(1) コードの接続方法 / CONNECTING THE CORDS

⚠️ **注意**
- 不意の起動による人身の損傷を防ぐために電源を切り、5分以上経過してから行ってください。
- 誤動作や仕様違いにより装置を破損する恐れがありますので、必ず指定の位置に対応する全てのコネクタを挿入してください。
- 誤動作による人身の損傷を防ぐため、必ずロック付きコネクタはロックを行ってください。
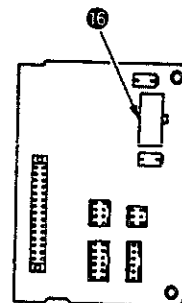- 各装置の取り扱いの詳細については、装置側付属の取扱説明書をよくお読みになった上で取り付けてください。

WARNING :
- To prevent personal injury caused by abrupt start of the sewing machine, carry out the work after turning OFF the power switch and a lapse of 5 minutes or more.
- To prevent damage of device caused by maloperation and wrong specifications, be sure to connect all the corresponding connectors to the specified places.
- To prevent personal injury caused by maloperation, be sure to lock the connector with lock.
- As for the details of handling respective devices, read carefully the Instruction Manuals supplied with the devices before handling the devices.
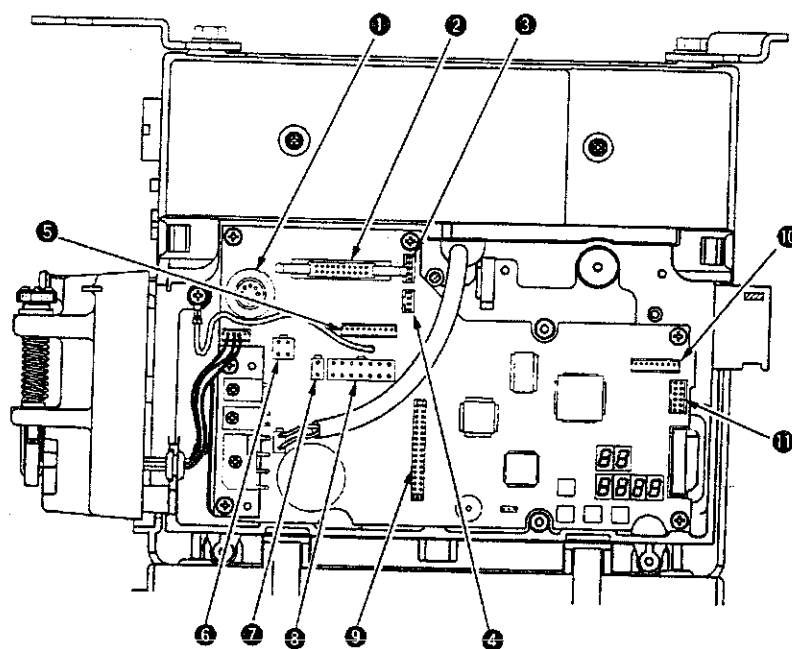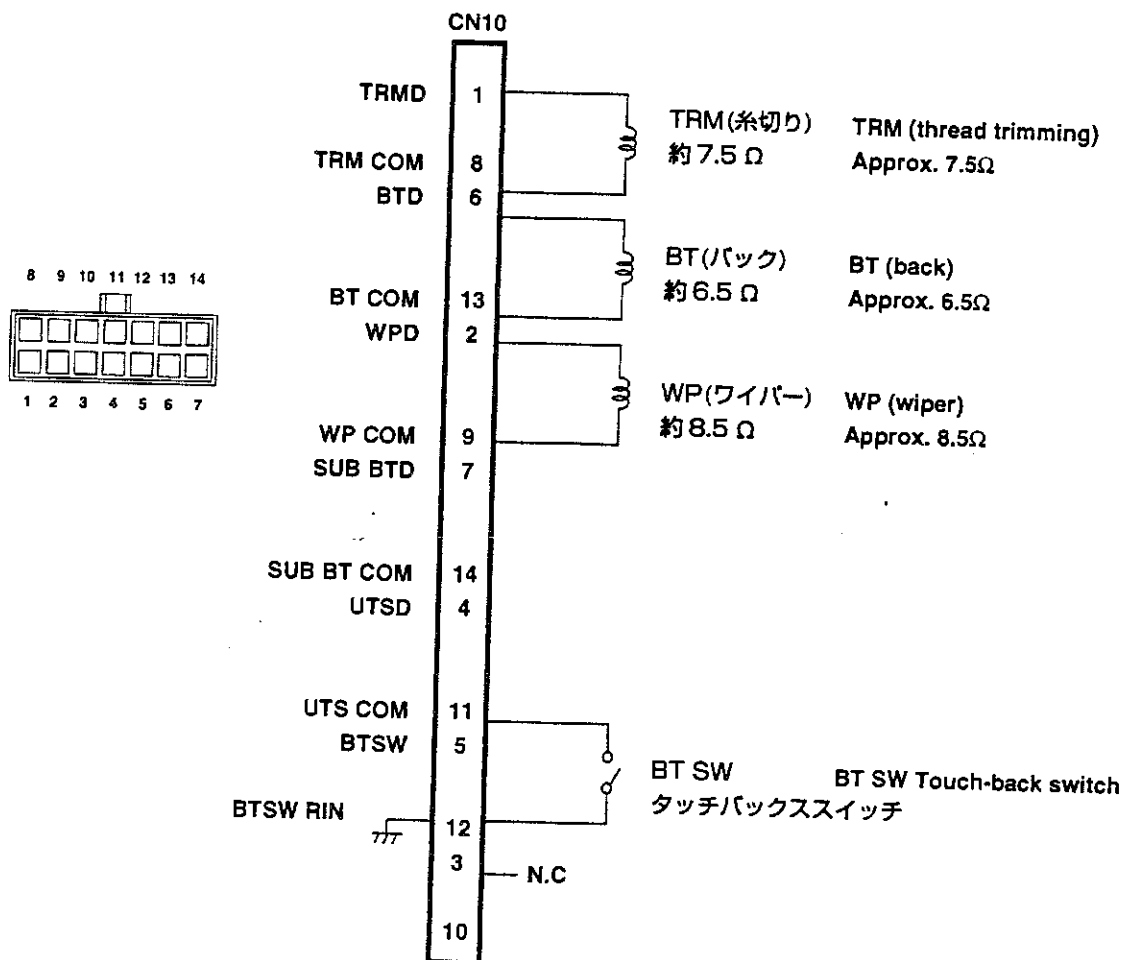

オプションユニットA
Optional unit A
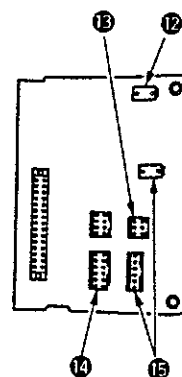
オプションユニットB
Optional unit B

SC-900の前面には下記のコネクタが準備されております。頭部装着の装置に合わせて、該当位置に頭部コネクタを接続してください。

❶ CN2　検出器：針棒位置を検出します。
❷ CN3　CP-160/CP-360パネル：各種プログラム縫いを実行することができます。（機能の詳細はパネル側の取扱説明書を参照ください。）
❸ CN4　CP-60パネル：最高回転数を制限します。（DDL-9000シリーズでは使用しません。）
❹ CN7　頭部コネクタ4P
❺ CN18　外部入出力コネクタ：上下検知信号、回転禁止信号等の入出力を用意してます。
❻ CN17　安全スイッチ（標準）：電源を切断せずにミシンを倒した際、危険防止のためミシン操作を禁止します。
　　　　オプションスイッチ：内部機能を切り換えることにより6種類の機能を選択できます。
❼ CN9　押え上げソレノイド（自動押え上げ仕様のみ）
❽ CN10　頭部ソレノイド：糸切り、返し縫いソレノイド、タッチバックスイッチ等

❾ CN15　オプション基板接続コネクタ：JUKI標準の布端検知センサ、下糸残量センサ等を使用時に必要になります。
❿ CN12　モータ信号コネクタ
⓫ CN19　立ちミシンペダル：JUKI標準のPK70等、外部信号にてミシンを制御できます。
※　オプションユニットの追加により、JUKI標準の以下のオプション装置を接続することができます。
⓬ CN51　+24V外部電源（100mA）
⓭ CN55　布端検知センサ ED-4 等。
⓮ CN56　立ちミシンペダル。SC-900側CN19と同じ。
⓯ CN53、CN57
　　　　下糸残量検知装置 AE-8 等。
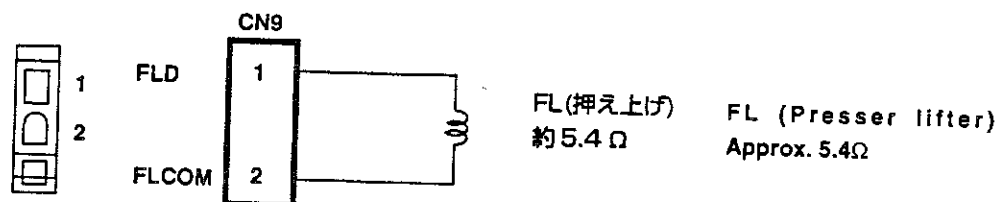⓰ CN52　電磁バルブ用出力：集塵装置用出力（鳥の巣防止仕様頭部のみ）

Following connectors are prepared on the front face of SC-900. Connect the connectors coming from the machine head to the corresponding places so as to fit the devices mounted on the machine head.

❶ CN2　Synchronizer : it detects the needle bar position.
❷ CN3　CP-160/CP-360 panel : Various kinds of programmed sewing can be executed. (Refer to the Instruction Manual for each panel for the details of functions.)
❸ CN4　CP-60 panel : Max. sewing speed can be limited. (Not used for the DDL-9000 series)
❹ CN7　Machine head connector 4P
❺ CN18　External input / output connector : input / output of up / down detection signal, rotation prohibition signal, etc. is prepared.
❻ CN17　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.
　　　　Optional switch : by changing over the internal functions, 6 kinds of functions can be selected. Refer to page ** for the details.
❼ CN9　Presser foot lifter solenoid. (For automatic presser foot lifter type only)

❽ CN10　Machine head solenid : Thread trimming, reverse-stitching solenoid, touch-back switch, etc.
❾ CN15　Optional circuit board connection connector : Required when using JUKI standard material end detection sensor, bobbin thread remaining amount detection sensor, etc.
❿ CN12　Motor signal connector
⓫ CN19　Standing machine pedal : JUKI standard PK-70, etc. Sewing machine can be controlled with the external signal.
•　By adding the optional unit, the following optional devices of JUKI standard can be connected.
⓬ CN51　+24V external power source (100mA)
⓭ CN55　Material end detection sensor ED-4, etc.
⓮ CN56　Standing machine pedal Same as CN19 on SC-900 side
⓯ CN53, CN57
　　　　Bobbin thread remaining amount detection device AE-8, etc.
⓰ CN52　Output for solenoid valve : Output for dust collector (Only for the machine head with bird's nest prevention function)
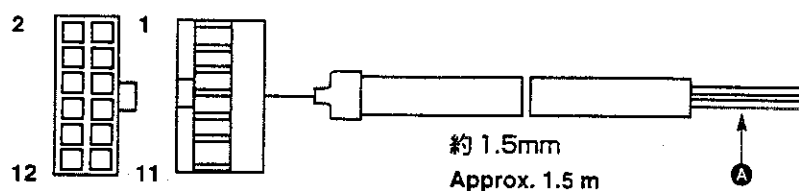
(2) 頭部ソレノイド
(2) Machine head solenoid

CN10

Pin	Signal		
1	TRMD	TRM (糸切り)	TRM (thread trimming)
8	TRM COM	約 7.5 Ω	Approx. 7.5Ω
6	BTD		
13	BT COM	BT (バック)	BT (back)
2	WPD	約 6.5 Ω	Approx. 6.5Ω
9	WP COM	WP (ワイパー)	WP (wiper)
7	SUB BTD	約 8.5 Ω	Approx. 8.5Ω
14	SUB BT COM		
4	UTSD		
11	UTS COM		
5	BTSW	BT SW	BT SW Touch-back switch
12	BTSW RIN	タッチバックスイッチ	
3	N.C		
10			

8 9 10 11 12 13 14
1 2 3 4 5 6 7

(3) 押え上げソレノイド
(3) Presser lifter solenoid

CN9

Pin	Signal		
1	FLD	FL (押え上げ)	FL (Presser lifter)
2	FLCOM	約 5.4 Ω	Approx. 5.4Ω

1
2

オプションコード / Optional cord

(1) 立ミシン用中継コードA組（品番M9701351AA0）
(1) Relay cord A asm. for standing machine (Part No. M9701351AA0)

約 1.5mm
Approx. 1.5 m
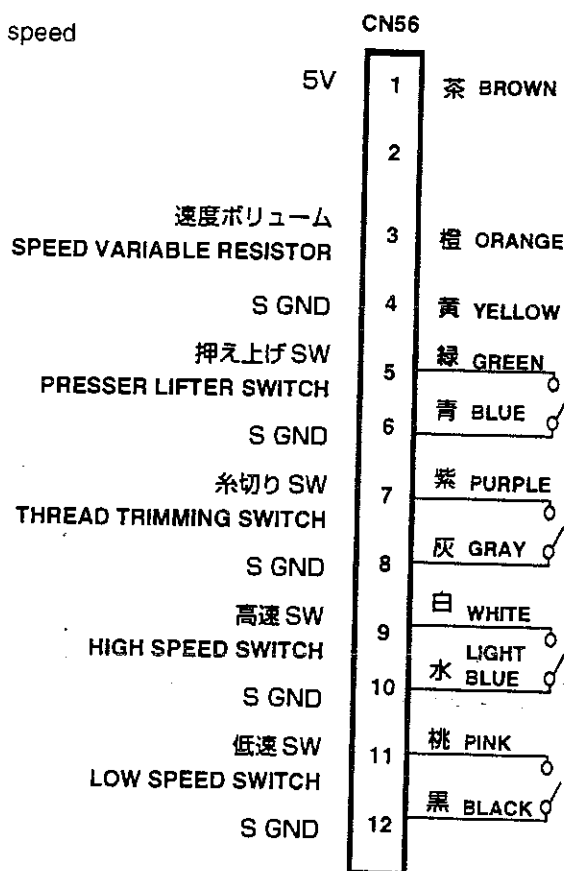
Ⓐ

1）可変ペダルPK-70,71の配線図
1) Wiring diagram of variable pedal PK-70, -71

	CN56			
5V	1	茶 BROWN		
	2			VR(1KΩ)
速度ボリューム SPEED VARIABLE RESISTOR	3	橙 ORANGE		
S GND	4	黄 YELLOW		
押え上げSW PRESSER LIFTER SWITCH	5	緑 GREEN		
S GND	6	青 BLUE		
糸切りSW THREAD TRIMMING SWITCH	7	紫 PURPLE		
S GND	8	灰 GRAY		
高速SW HIGH SPEED SWITCH	9	白 WHITE		
S GND	10	水 LIGHT		
低速SW LOW SPEED SWITCH	11	桃 PINK		
S GND	12	黒 BLACK		

１～2V間の可変で使用
（加減速）
中立位置は１V±0.05V
（3～4間）

To be used with variable between
1 and 2V
(acceleration/retardation)
Neutral position : 1V±0.05V
(between 3 and 4)

・ 立ちミシン用中継コードA組には、信号別に色分けされた電源部分Ⓐが出ていますので、配線図に従っ
てスイッチと速度ボリューム接続を行ってください。
・ PSCボックスの立ちミシンペダルのコネクタ（10.コネクタ接続図⓫CN19）に差し込んで使用して
ください。

・ Power source section Ⓐ sorted by color for each signal appears from the relay cord A asm. for standing
machine. Perform connection of the switches and the speed variable resistor according to the wiring diagram.
・ Use this cord by inserting it into the connector (⓫ CN19 in 10. Connector connection diagram) of pedal for
standing machine in PSC box.

2) 最高速度固定の配線図
2) Wiring diagram of fixed max. speed

CN56

5V	1	茶 BROWN	
	2		
速度ボリューム SPEED VARIABLE RESISTOR	3	橙 ORANGE	
S GND	4	黄 YELLOW	
押え上げSW PRESSER LIFTER SWITCH	5	緑 GREEN	
S GND	6	青 BLUE	
糸切りSW THREAD TRIMMING SWITCH	7	紫 PURPLE	
S GND	8	灰 GRAY	
高速SW HIGH SPEED SWITCH	9	白 WHITE	
S GND	10	水 LIGHT BLUE	
低速SW LOW SPEED SWITCH	11	桃 PINK	
S GND	12	黒 BLACK	

PSC ボックスの立ちミシンペダルのコネクタ
（10.コネクタ接続図⓫ CN19）に差し込んで使用してください。

（注意）高速SW のスピードを下げる場合は、パネル上の最高速度制限ボリュームを使用してください。

* Use this cord by inserting it into the connector (⓫ CN19 in 10. Connector connection diagram) of pedal for standing machine in PSC box.

(Caution) When decreasing the speed of the high speed switch, use the max. speed limitation variable resistor located on the panel.

（2）DC24V 用中継コードA組（品番 M9703351AA0）
(2) Relay cord A asm. for DC24V (Part No. M9703351AA0)

約 1.5m
Approx. 1.5 m
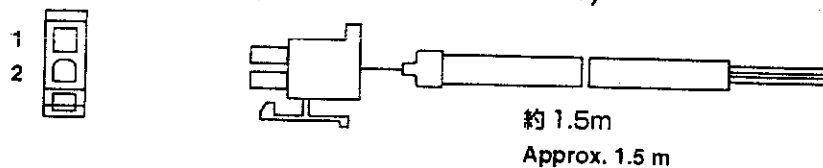
配線図
Wiring diagram
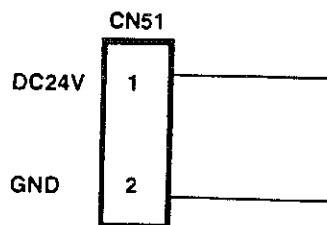
CN51

DC24V	1	
GND	2	

＊ご使用の目安は電磁弁１ヶ程度です。（100mA まで）
* Reference for use is approximately one solenoid valve. (Up to 100mA)

PSC ボックスのDC24V の黄色コネクタ(11.コネクタ接続図⓬ CN51 2P)に差し込んで使用してください。
Use this cord by inserting it into the yellow connector of DC24V (⓬ CN51 2P in 11. Connector connection diagram) in PSC box.

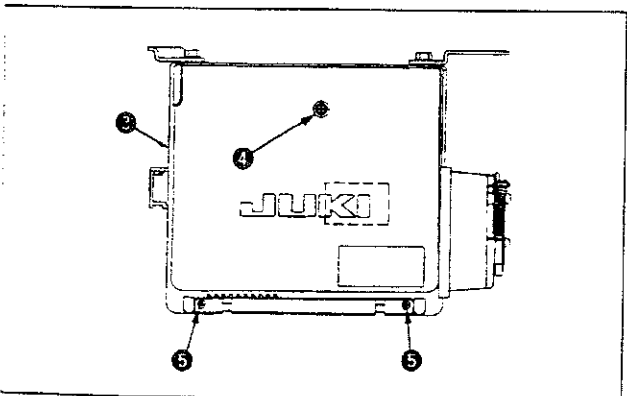# 14.保 守 / MAINTENANCE

(1) リアカバーの外し方 / Moving the rear cover

1) ミシンが停止していることを確認のうえ、電源スイッチのOFFボタンを押して、電源をOFFにしてください。
2) 電源スイッチがOFFになっていることを確認のうえ、電源スイッチからの電源コードを電源コンセントから抜きます。その後5分以上待ちます。

1) Press the OFF button of the power switch to turn OFF the power after confirming that the sewing machine has stopped.
2) Draw out the power cord coming from the power switch from the power plug socket after confirming that the power switch is turned OFF. Then, wait for 5 minutes or more.
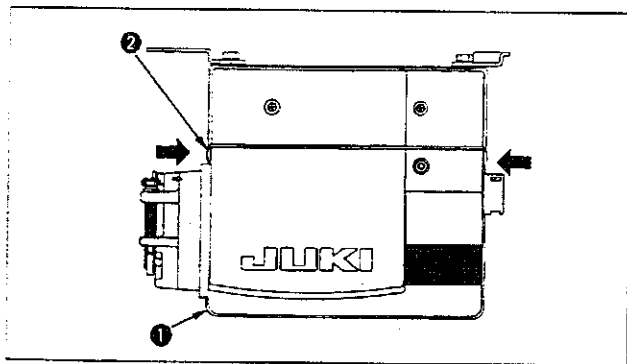

3) フロントカバー❶.を側面のラッチ❷を押しながら開けます。

3) Open front cover ❶ while pressing latch ❷ located on the side face.

4) ねじ❹をゆるめた後、ねじ❺2本をゆるめてリアカバー❸を外します。
リアカバー❸を取り付ける際は、ねじ❹を軽く入れた後、ねじ❺2本を止め再度ねじ❹を止めます。

4) Loosen two screws ❺ after loosening screw ❹ , and remove rear cover ❸ .When attaching rear cover ❸ , tighten two secrews ❺ after lightly entering screw ❹ , and tighten screw ❹ again.

(2) 電源ヒューズの交換方法 / Replacing the fuse
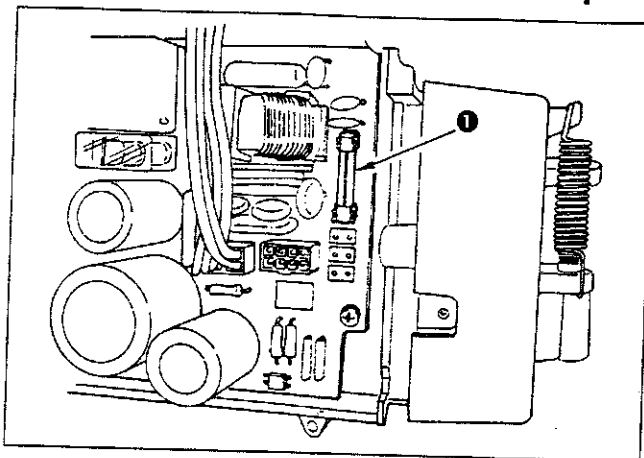
3) ヒューズ❶のガラス部をつかんで取り外します。
4) ヒューズの容量は、指定の容量のものをご使用ください。
　　日本国内仕様：4A/250V（タイムラグタイプ）
　　　　　　　　　　（HF0079040P0）
　　輸出仕様：2A/250 V（タイムラグタイプ）
　　　　　　　　（HF0079020P0）

3) Grasp the glass part of the fuse ❶ and remove it.
4) Use the fuse of which capacity is specified.
　　For Japanese market : 4A/250V (Time-lag type)
　　　　　　　　　　　　　(HF0079040P0)
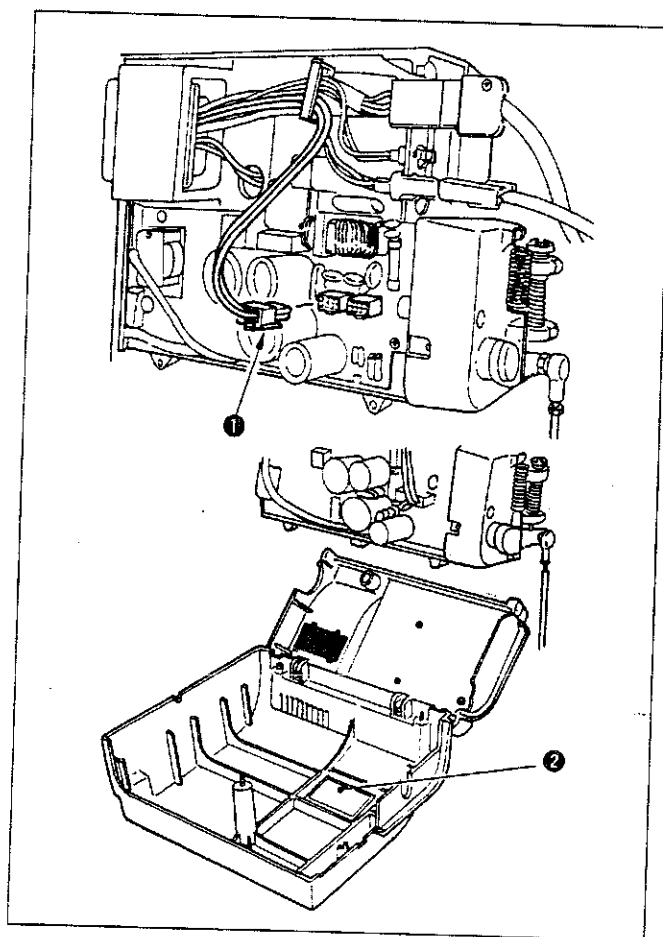　　For export : 2A/250V (Time-lag type)
　　　　　　　　　(HF0079020P0)

(3) 100 ⇔ 200 の変更方法（日本国内仕様）
CHANGE OVER OF 100 ⇔ 200V (japanese specification)

⚠️ **注意**　感電、不意の起動による人身の損傷を防ぐために電源を切り、5分以上経過してからカバーを外してください。不慣れによる事故、感電事故を防ぐため、電気関係の調整は電気の専門知識のある人、または、当社販売店の技術者に依頼してください。

日本国内向け電装ボックスは電源コード（SC BOX）の交換とコネクタの切替えで、単相100V/三相200V切り換え機能を持っており、電源スイッチのプラグ側コードと、リアカバー内の切り換えコネクタ❶の差し替えにより三相200Vで使用していたものを単相100Vで使用することが可能です。またその逆も可能です。リアカバー内側の注意シール❷の指示に従い間違えないように接続してください。

JUKI 純正品番
100 V仕様を、200 V仕様に変更する場合
　　品番　M6102461AAA
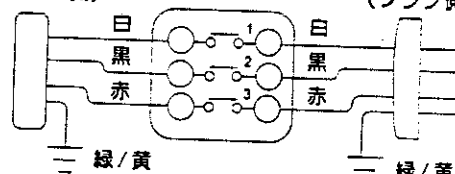
200 V仕様を、100 V仕様に変更する場合
　　品番　M6102461JAA

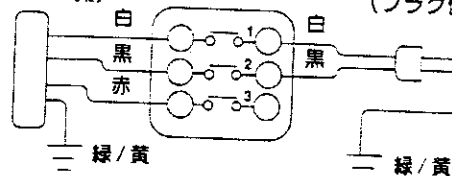**(注意)** 電源電圧とコネクタの切換えを間違うと電装ボックスを破損します。

電源SW内部の配線は以下のとおり接続願います。
200V 配線
（ボックス側）　　　　　　　　　　（プラグ側）

100V 配線　　必ず1・2間に接続してください。
1-3・2-3 の配線では動作しません。
（ボックス側）　　　　　　　　　　（プラグ側）

(注意) 電源コードを外すため、電源SWを開ける場合は、必ず電源コンセントを外してから行ってください。

(3) Changing over the transformer input (export specification)

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.
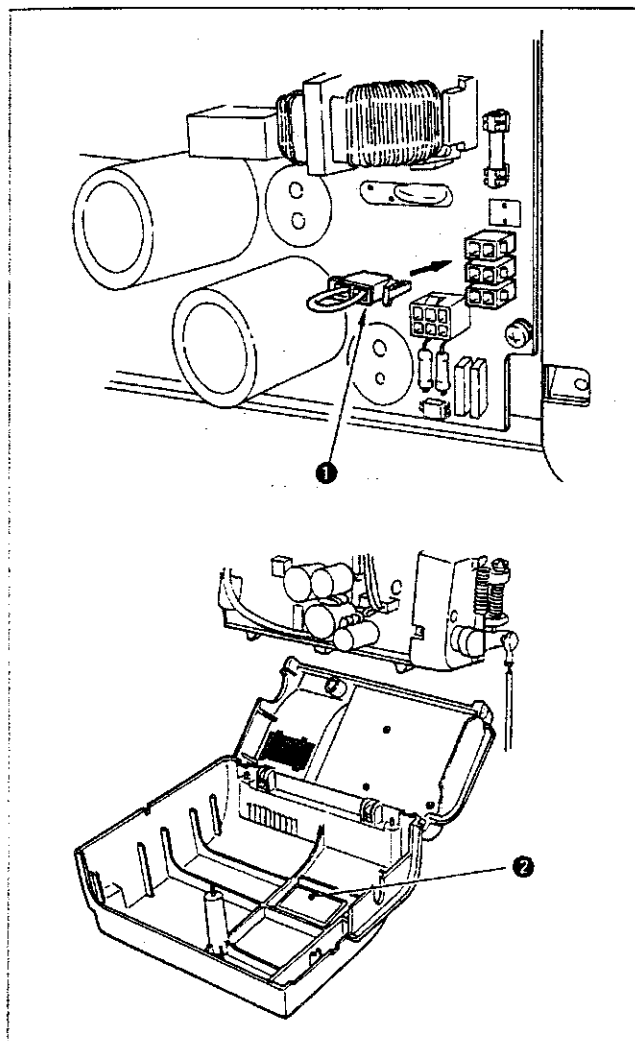
Replacing the fuse and changing over of the taps, 200, 220, 240 V for the overseas market are separately described.

Change over connector ❶ (blue) for changing over the input voltage of transformer inside the rear cover according to the input supply voltage, and use it.

(Caution) 1. When changing over the input voltage of transformer, be sure to turn OFF the power to the unit.
2. It is impossible to operate the thread trimming solenoid or the like with this connector ❶ removed.
3. Refer to caution seal ❷ for voltage change-over inside the rear cover for the way of change-over.

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.

Error code list

| No.	Description of error detected	Cause of occurrence expected	Items to be checked
E0	Execution of data initialization (This is not the error.)	• When the machine head is changed.	
E1	Phase missing of power	• When 3-phase input is missing and single phase operation is performed. • When input voltage is less than the guaranteed voltage.	• Check the power plug and receptacle for loose connection and disconnection. • Check the power switch terminal for loose connection and disconnection. • Check whether power fuse has blown. • Check whether input voltage is lower by -10% or less than the rated voltage.
E2	Fall detection switch failure	• When fall detection switch is input in the state that the power is turned ON.	• 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.
E3	Disconnection of synchronizer connector	• When position detection signal is not input from the sewing machine head synchronizer. • When the synchronizer has broken.	• Check the synchronizer connector (CN2) for loose connection and disconnection. • Check whether the synchronizer cord has broken since the cord is caught in the machine head.
E4	Synchronizer lower position sensor failure		
E5	Synchronizer upper position sensor failure		
E6	Operation panel transmission failure	• Disconnection of operation panel cord • Operation panel has broken.	• Check the operation panel connector (CN3) for loose connection and disconnection. • Check whether the operation panel cord has broken since the cord is caught in the machine head.
E7	Overload of motor	• When the machine head is locked. • When sewing extra-heavy material beyond the guarantee of the machine head. • When the motor does not run.	• Check whether the thread has been entangled in the motor pulley. • Check the motor output connector (4P) for loose connection and disconnection.
E8	Machine head connector failure	• When the machine head connector is not properly read.	• Check the machine head connector (CN7) for loose connection and disconnection.
E10	Solenoid short-circuit	• When the short-circuited solenoid is desired to be driven.	• Check whether the solenoid is short-circuited.
E11	Overvoltage	• When voltage higher than guaranteed one is inputted.	• Check whether the applied power voltage is higher than the rated voltage + (plus) 10% or more.
E13	Low voltage	• When voltage lower than guaranteed one is inputted.	• Check whether the voltage is lower than the rated voltage - (minus) 10% or less.
E20	Defective gate array failure	• Judge by output/input test when turning ON the power. In case of NG (no good) : (Check only when turning ON the power.)	• Soldering failure of components on CTL printed circuit board (bridge, crack, etc.) • Oscillator failure
E22	Impossible to control motor	• When rotation is abnormal in terms of the specified number of rotation.	• Breaking of wire or short circuit of motor siganl cord
E24	Motor driver failure	• Motor driver has broken.	
E30	Encoder failure	• When the motor signal is not properly inputted.	• Check the motor signal connector (CN12) for loose connection and disconnection. • Check whether the motor signal cord has broken since the cord is caught in the machine head.
E31	Motor hole sensor failure		
E33	Reverse rotation of motor	• When abnormal reverse rotation amount of motor is detected.	• Breaking of wire or short circuit of motor signal cord • Motor failure
E41	Gate array failure	• When reading input signal twice does not match with each other for 10 seconds or more.	• Soldering failure of components on CTL printed circuit board (bridge, crack, etc.)
E42	EEPROM failure	• When position of detecting bar of AK device is out of its home position.	• Soldering failure of components on CTL printed circuit board (bridge, crack etc.)
E43	Bobbin thread remaining amount sensor unit failure	• When the position of the detection bar of the AE device is shifted from the home position.	• Check whether the detection bar of the AE device has returned to the correct position. • Check whether the function setting No. 57 has been mistakenly set. • Check the AE device connectors (CN53, CN57) for loose connection and disconnection. • Check whether the AE device cord has broken since the cord is caught in the machine head

(4) ERROR CODES

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

Phenomenon	Cause	Corrective measure
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.
Solenoids for thread trimming, reverse feed, wiper, etc. fail to work. Hand lamp does not light up.	When the fuse of transformer has blown.	Check the fuse of transformer.
	When insertion of the changeover connector of transformer has been forgotten.	Check the voltage used and insert connector into the corresponding position.
Hand lamp does not light up.	Hand lamp fuse has blown. (Export specification)	Check the fuse located inside hand lamp fuse holder.
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.
The sewing machine does not stop even when the pedal is returned to its neutral position.		
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.
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.	Change the jumper to PFL setting to lift the presser foot by depressing the back part of the pedal.
	Cord of auto-lifter device is not connected to connector (CN9).	Connect the cord properly.
Touch-back switch fails to work.	Presser foot is going up by auto-liter 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.
Sewing machine fails to run.	Motor output cord (4P) is disconnected.	Connect the cord properly.
	Connector (CN12) of motor signal cord is disconnected.	Connect the cord properly.

(1) 国内（AC100,200V）
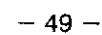
(2) For overseas (AC 200 to 240V)
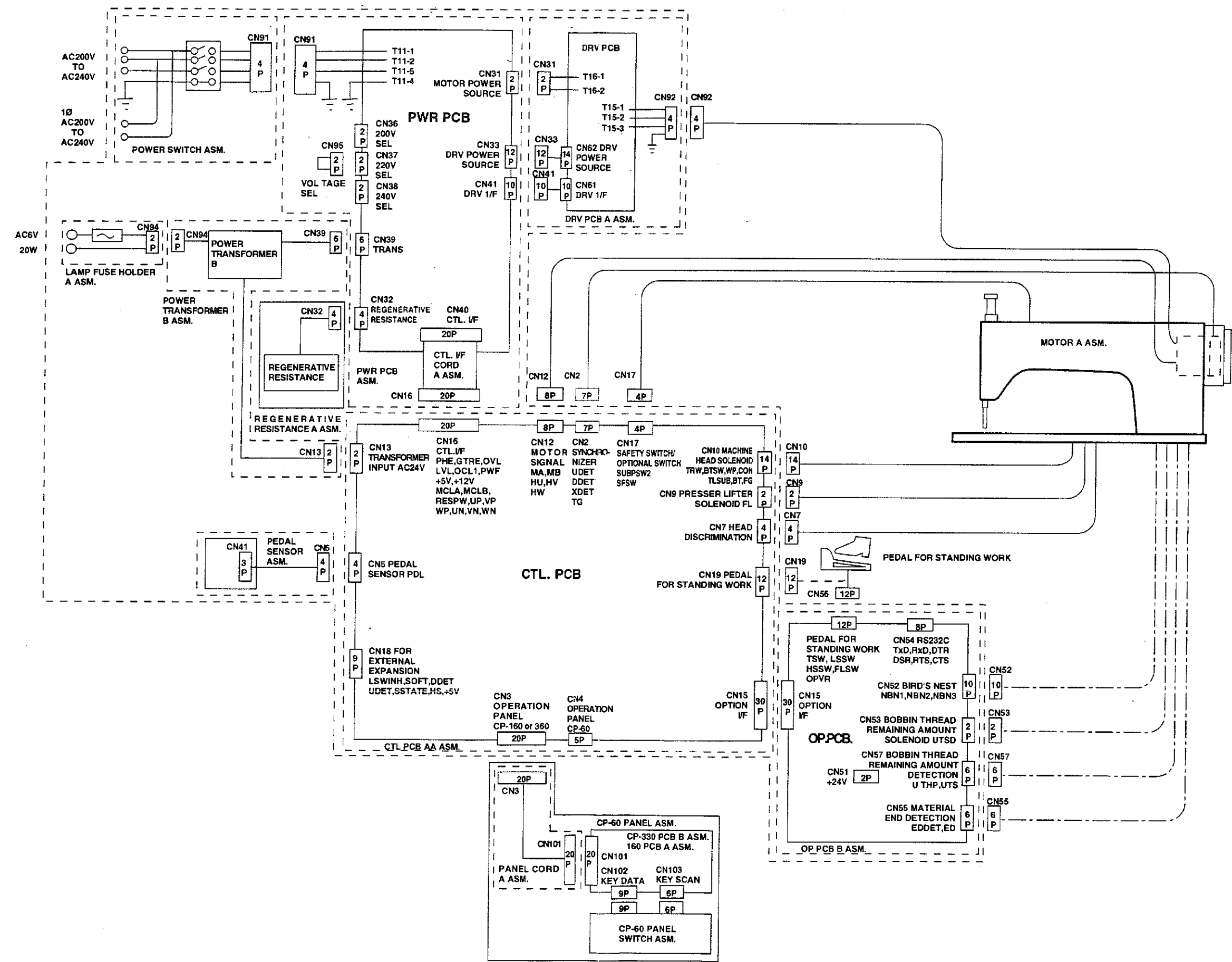
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＊The description covered in this parts list is subject to change for improvement of the commodity without notice.

※このパーツリストは、2002年7月 現在の商品仕様で編集したものです。
＊This parts list is edited in accordance with the product specifications as of July 2002.

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