yamato®

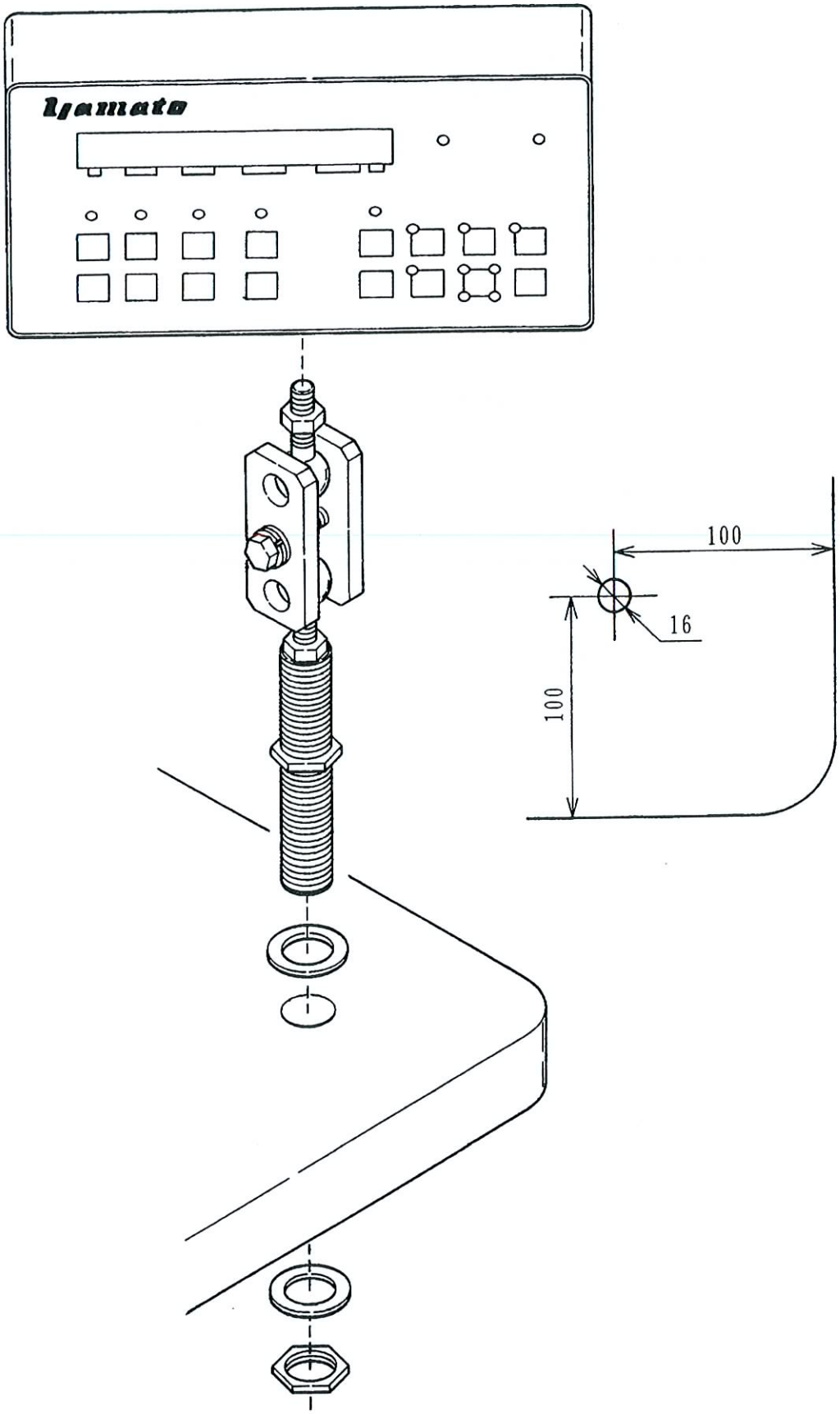
INSTRUCTIONS
FOR
AZ8451/K2/MC

No. 1

YAMATO SEWING MACHINE MFG. CO.,LTD.

1. Installation of Control Box

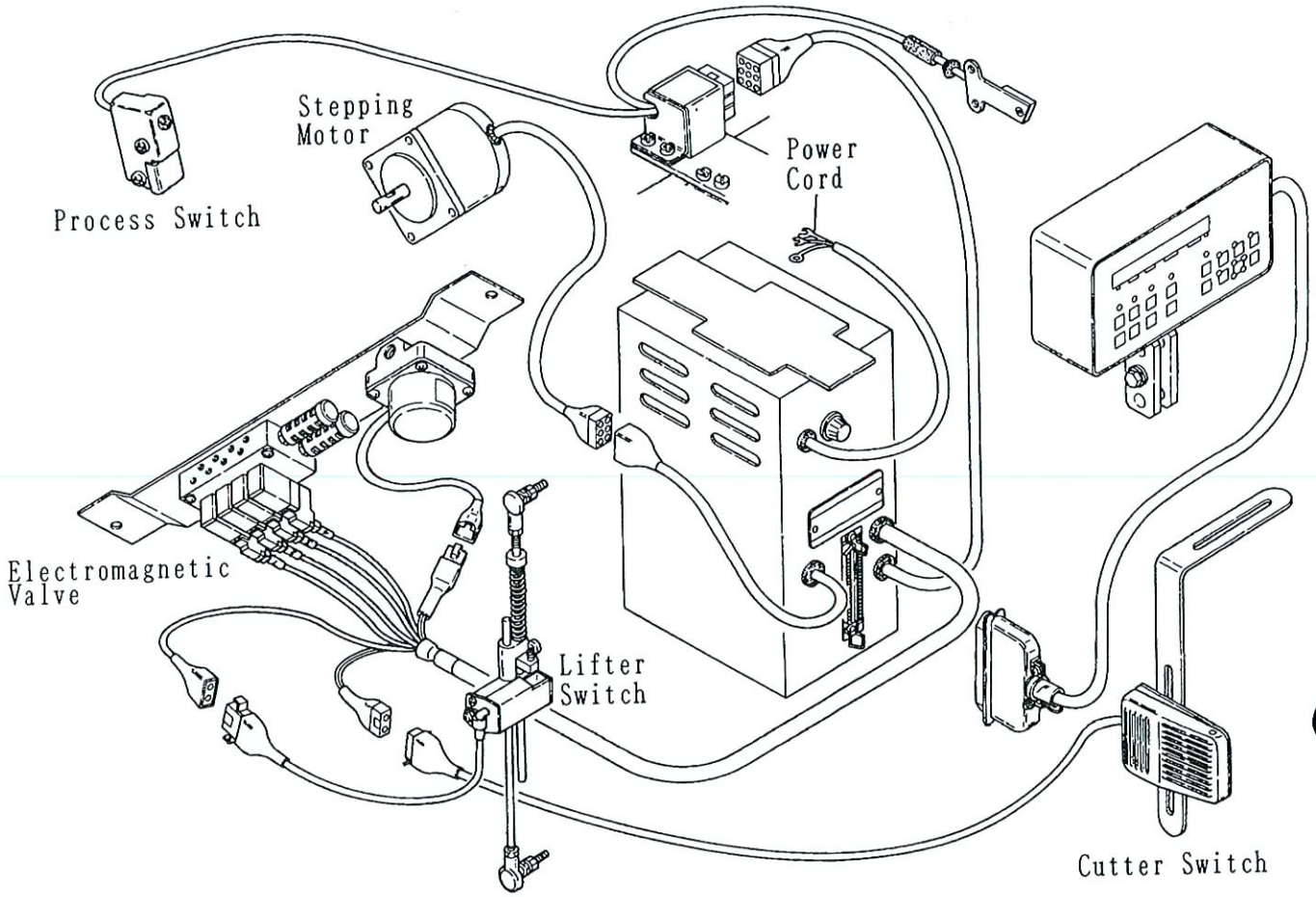
Drill holes (ϕ16) for Control Box and install Control Box.



2. Wiring and piping

2-1 Wiring to Power Box

Connect each connectors to corresponding ones.
The standard power supply voltage is 200V. In case of using different voltage form the standard voltage, exchange pins of transformer.

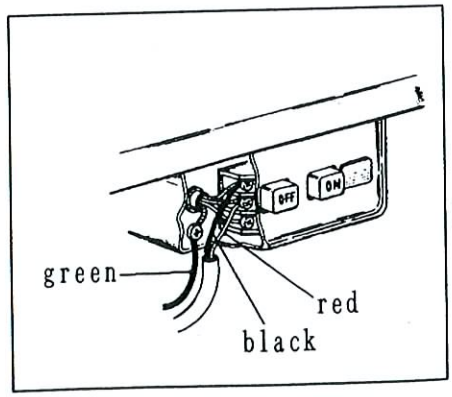


* Connection of power cord
  Connect red and black cords of power cord to Power Switch.
  Green cord is an earth line which should be connected to another screw shown in the illustration below.

  Note : Connect cords to the motor side terminals of Power Switch.

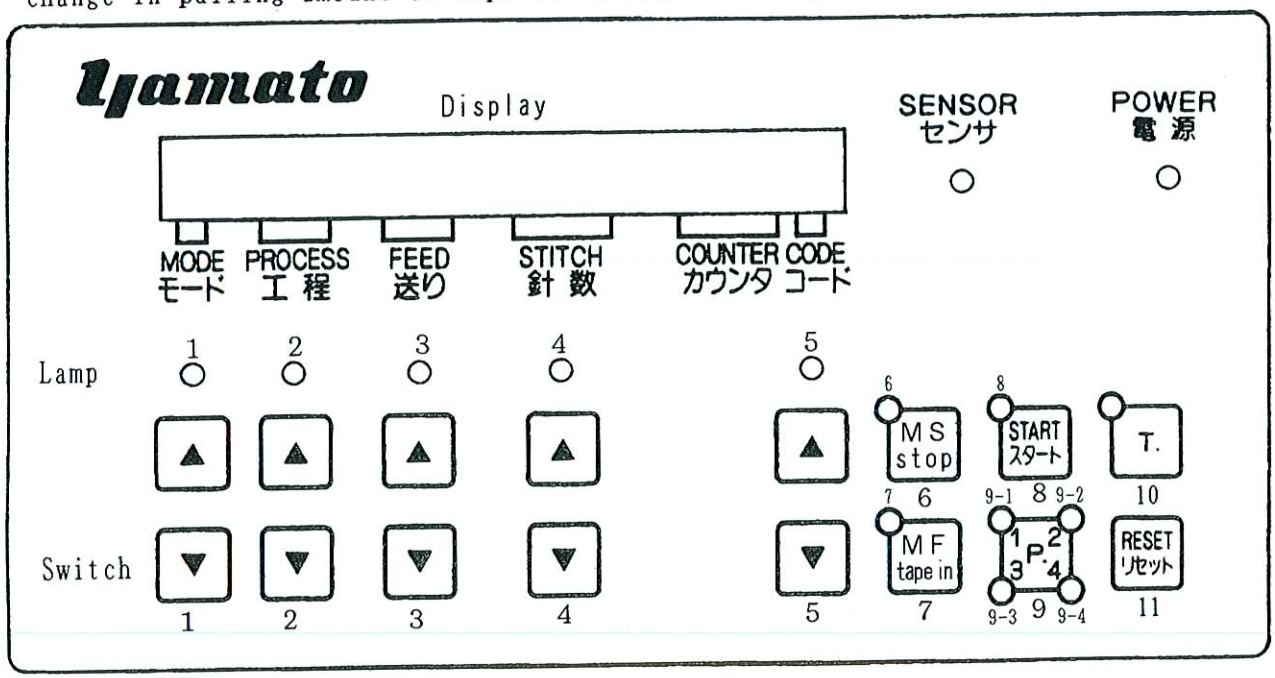
  Change power fuses according to the voltage to be used.
  Select the power fuse of the capacity shown in the table below.

power voltage	fuse capacity
100V	4A
200V	2A
220V	2A
380V	1A



3. Designations and function of Control Panel

Mode A～Z can be used and each mode can be divided into 20 processes.
One mode corresponds to one sewing and processing can be set according to the change in pulling amount of tape to be sewn to the garment.



3-1 Description of Control Panel

(1) Display
Numbers and alphabet appear in this Display, showing current state of control.

(2) Lamp(1, 2, 3, 4 and 5)
These lamps show that the switches under the lighted lamp can be actuated.

(3) Switches
For the switches below, when pressing ▲, the number increases and when pressing ▼ it decreases.

* Mode Switch (1)
This Switch selects Mode A～Z.

* Process Switch (2)
This Switch set Process 1～20. At the same time, feed amount, stitch number and Code at that process are displayed.

* Feed Switch (3)
Feed amount is set by this Switch.
When pressing continuously, the amount automatically increases or decreases rapidly.

* Stitch Number Switch (4)
This Switch sets stitch number.
When pressing continuously, the number automatically increases or decreases rapidly.

* Code Switch (5)
Cord can be changed by this Switch.
The functions of code are as follows:
Code A By pressing Process Change Switch, the process proceeds to the next process.
Code B It displays the turn of the stitch in the process. And after sewing the set stitch number, the process automatically proceed to the next process.
Also, when pressing Process Change Switch before finishing the set stitch number, the process proceed to the next process.
Code C After finishing the set stitch number, Stepping Motor stops and Cutter operates at the same time, then the process proceeds to the next.
Code ■ When setting this Code, the process does not operate and returns to the original process.
For example, for the sewing of 3 process, set Code ■ to the process No.4 and for sewing of 6 process, set this to the process No.7 without fail.
Note : When Cutter is operated at the sewing finish, the process proceeds to the next, but the display at that time does not change until treadling back of Pedal.
At Teaching Mode, process does not proceed to the next even if pressing Process Change Switch and Cutter Switch.

* Motor Stop Switch (6)
Press this Switch when Stepping Motor is not used.
When pressing this Switch, display becomes AZ8451 0000 PRM and Lamp(6) lights. (The above performance can be carried out only when Lamp(8) of Start Switch(8). lights.)
When treadling Pedal, the machine rotates and "K" Device operates, and when treadling back Pedal, Presser Foot rises.
When pressing Cutter Switch, Cutter operates and when pressing it once again, Cutter returns.
Fix the position of Cutter blade referring to the procedure above.

* Tape Insert Switch (7)
When pressing this Switch, Stepping Motor rotates.
Use this for inserting elastic tape.

* Start Switch (8)
when pressing this Switch, Lamp(8) lights. (It is in this condition when Power Switch is turned on.) Only when this Lamp(8) lights, sewing is is possible. At this time, the process can be changed.

* P. Switch (9)
When pressing this Switch at the time machine stops, Lamp 9-1, 9-2, 9-3 and 9-4 light successively.
By the position of these lamps, change of various data can be made.

☆ Lamp 9-1 (lamp at 1)
Mode, process, feed amount, stitch number and code can be changed by Switch(1), (2), (3), (4) and (5). But at Code "A", display of stitch number does not appear, accordingly the change is not possible.
At Code ■, display of feed amount and stitch number do not appear and the change is not possible.

☆ Lamp 9-2 (lamp at 2)
Display changes and data of Timer can be changed. (Refer to 4-1.)
Example of display : T−00 INS TAPE 20
Timer No. can be changed by Process Switch(2) and Timer data can be changed by Code Switch(5).

☆ Lamp 9-3 (lamp at 3)
Display changes and data of switch can be changed. (Refer to 4-2.)
Example of display : S−00 FL UP 1
Switch No. can be changed by Process Switch(2). Switch 1 or 0 can be changed by Code Switch(5).

☆ Lamp 9-4 (lamp at 4)
Display changes and the selection of function is possible.
(Refer to 4-3.)
(It actuates only when inner switch is turned on - turn upward -.)
Example of display : F−00 ニホンゴ 0
Function No. can be changed by Process Switch(2).
Selection of function can be changed by Code Switch(5).

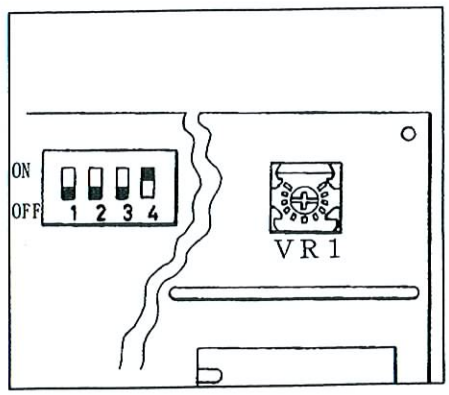
* T. Switch (10)
Change-over Switch to Teaching Mode.
When pressing, this Lamp(10) lights or puts off.
When Lamp(8) and Lamp(10) light, Teaching Mode operates.
Feed amount and Code can be set while sewing.
In case process change is made by stitch number(Code "B" and "C"), the count of display increases as sewing proceeds.
The counter number is memorized by pressing Process Switch(2).
(Take care that the previous number is changed at this time.)

* Reset Switch (11)
When pressing this Switch while the machine stops, the process returns to Process No.1.

(4) Sensor Lamp
not used

(5) Power Lamp
This lights when power is turned on.

(6) Inner Switches(in Control Box)
Switch(1) not used
Switch(2) not used
Switch(3) not used
Switch(4) ON ··· P.4 function of Switch(9) operates.
("ON" means to bring it upward.)
OFF ··· P.4 function does not operate.



(7) VR1 Adjust brightness and contrast of display.

4. Kind of data

There are 20 items but the items except for listed below are spare.

4-1 Data for Timer, etc.

(The 2 digits of the left number show Timer No. or Switch No.)

Display (setting at shipment)

☆ The length of fed tape when Pedal is treadled back.

T-00 INS TAPE 00

☆ This fix the tension strength of tape at sewing start.
When set to "00", tape is fed immediately at sewing start.

T-01 TAPE TEN 00

☆ Stitch number from sewing start to "OFF" of "C" Device.

T-02 C DEV OFF 10

☆ Stitch number from the operation of Cutter at sewing finish to "ON" of "C" Device.

T-03 C DEV ON 10

☆ Correction of feed amount at the time of over 4,000 r.p.m.

T-04 COR. 4000 00

☆ Correction of feed amount at the time of over 5,000 r.p.m.

T-05 COR. 5000 00

☆ Operating time of Cutter.
It increases at a intervals of 5m sec from 100m sec (0.1 sec)

T-06 CUTTER 00

4-2 data of Switches (__: setting at shipment.)

Display

☆ When machine stops at sewing finish, Presser Foot rises and tape is inserted automatically.

S-00 FL UP 1

☆ When machine stops at sewing finish and Pedal is treadled back, Presser Foot rises and tape is inserted.

S-00 FL UP 00

☆ Roller turns round at sewing start and pull the tape.
When Tape Tension of Timer T01 is set to "10" this turns 1.25mm.

S-01 BAK ROL 1

☆ Roller stops at sewing start and pull tape.
When tape tention for Timer T01 is set to "34", it stops for one stitch.

S-01 BAK ROL 0

☆ Speed of stepping motor is fast at sewing.
(Length of tape feeding per stitch is long.)

S-02 H. FEED 1

☆ Speed of stepping motor is slow.
(Length of tape feeding per stitch is short.)

S-02 H. FEED 0

The length of feeding by stepping motor (mm/stitch) when feed amount is set from "00" to "90" is shown on the right table. It increases 0.25mm /stitch as feed amount increases by "10".

feed amount	feed length (at 1)	feed length (at 0)
00	1.23mm	0.8mm
10	1.48mm	1.05mm
20	1.73mm	1.3mm
30	1.98mm	1.55mm
40	2.23mm	1.80mm
50	2.48mm	2.05mm
60	2.73mm	2.3mm
70	2.98mm	2.55mm
80	3.23mm	2.80mm
90	3.48mm	3.05mm

4-3 Data of function (__: setting at shipment)

Display

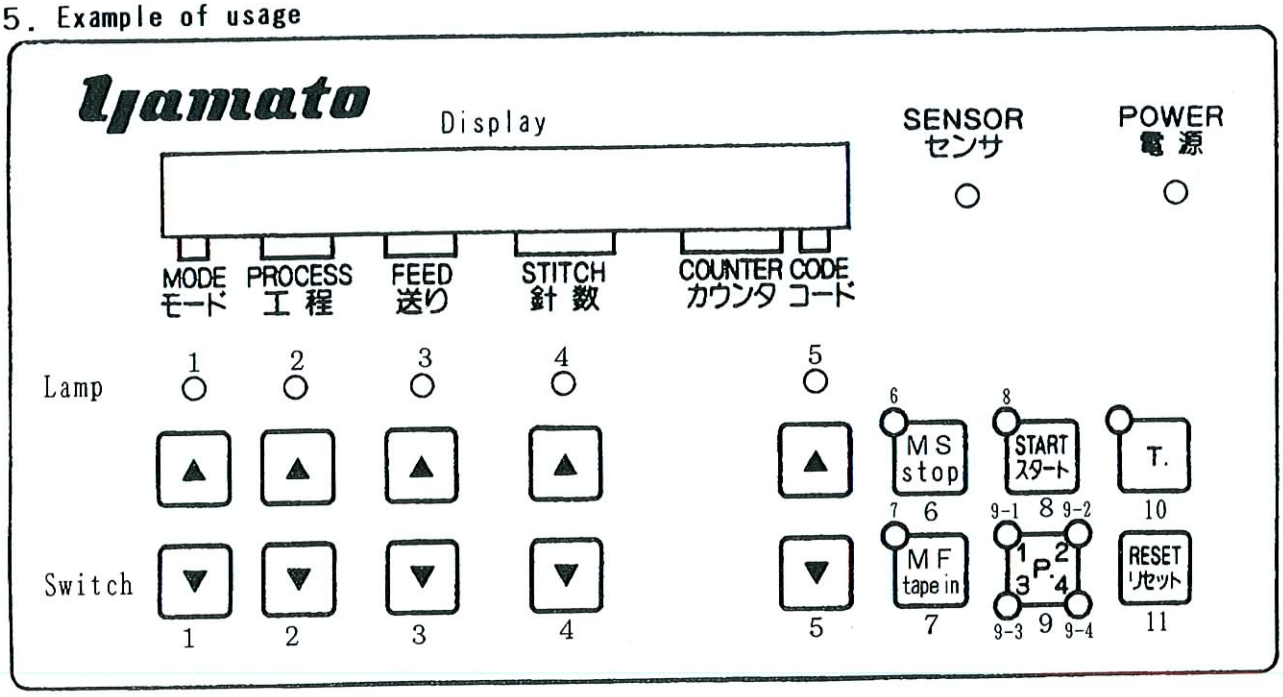
☆ Display is in English

F-00 ENGLISH 1

☆ Display is in Japanese

F-00 ニホンゴ 0

5. Example of usage



5-1 Setting of Timer Message, etc.

① Turn on Power Switch.

A 01 46 B

② Press P. Switch(9) twice. (9-2 lights.)
Data of Timer, etc. can be changed.

T-00 INS TAPE 00

③ Press Code Switch(5) to display "05".
Tape is fed by 45mm.
At "00" tape is fed by 35mm, increasing 2mm every "1" increase in number.

T-00 INS TAPE 05

④ Press Process Switch(2).

T-01 TAPE TEN 00

⑤ Press Code Switch(5) times to display "34".

T-01 TAPE TEN 34

At S-01 BAK ROL 0
Roller stops by 1 stitch.
At S-01 BAK ROL 1
Roller turns round 4.25mm.

⑥ Press Process Switch(2).

T-02 C DEV OFF 10

⑦ Press Code Switch(5) to display "15".
"C" Device is OFF at 15th stitich from sewing start.

T-02 C DEV OFF 15

⑧ Press Process Switch(2).

T-03 C DEV ON 10

⑨ Press Code Switch(5) to display "12".
At 12th stitch after Cutter actuates, "C" Device is ON.

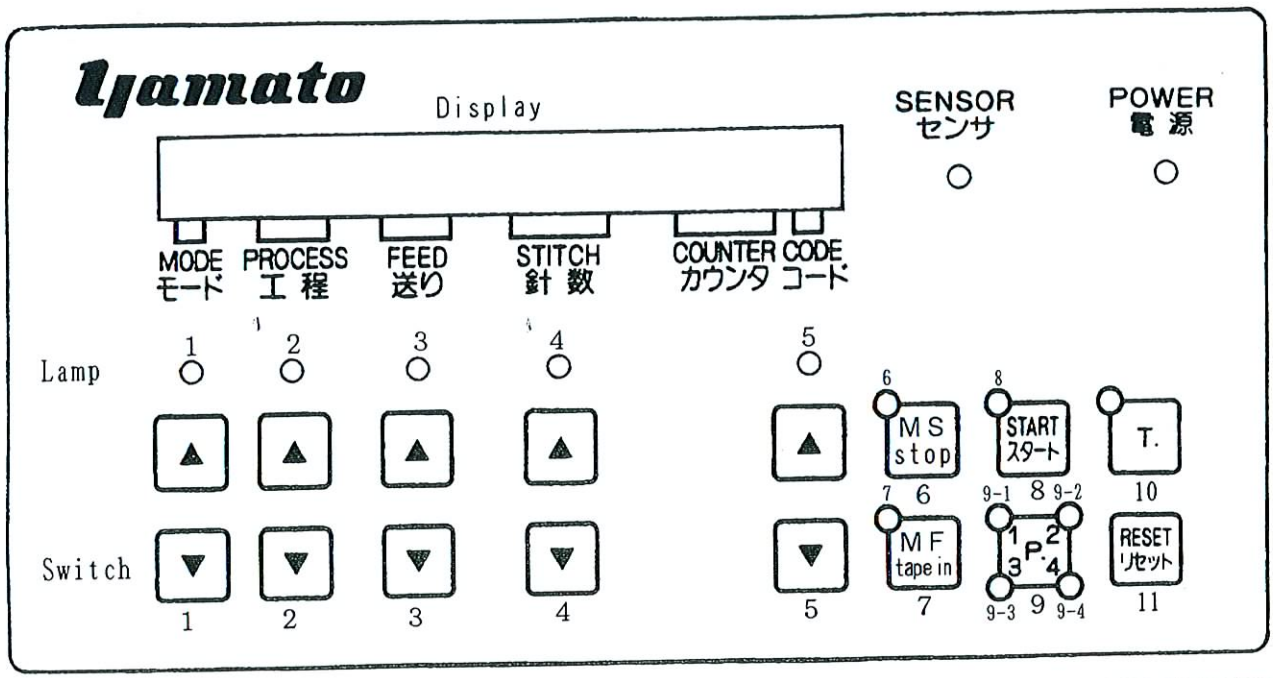
T-03 C DEV ON 12

⑩ Press Process Switch(2) 3 times.

T-06 CUTTER 00

To display "10", press Code Switch(5).
Operating time of Cutter is 0.15 sec.

T-06 CUTTER 10



⑪ Press P. Switch(9). (9-3 lights.)
Now the data change is possible.

⑫ Press Code Switch(5).
When machine stops, Presser Foot rises automatically and tape is inserted.

⑬ Press Process Switch(2).

⑭ Press Code Switch(5).
Roller turns round at sewing start.

⑮ Press Process Switch(2).

⑯ Press Code Switch(5).
Speed of stepping motor becomes faster.

⑰ Press P. Switch(9). (9-4 lights.)
Now the change of data for function is possible.

⑱ Press Code Switch(5).
Display becomes in English.

⑲ Press Start Switch(8).

S-00 FL UP 0

S-00 FL UP 1

S-01 BAK ROL 0

S-01 BAK ROL 1

S-02 H. FEED 0

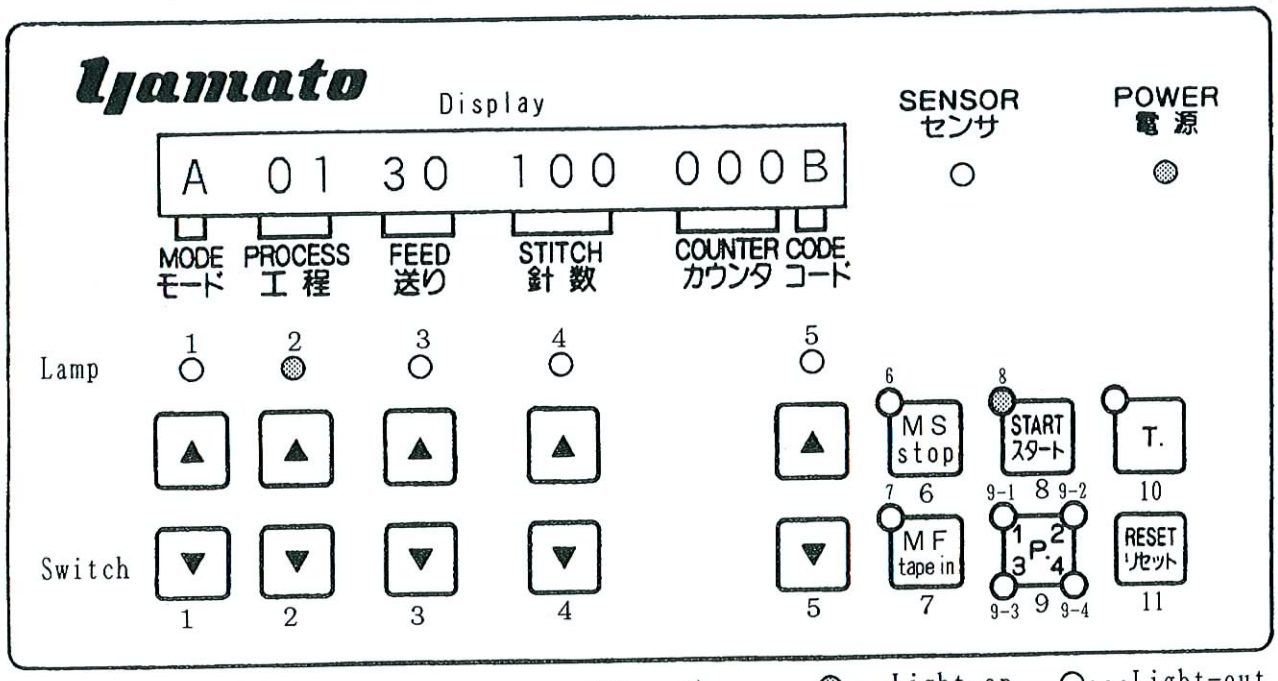
S-02 H. FEED 1

F-00 ニホンゴ 0

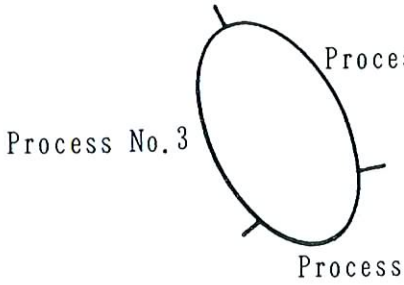
F-00 ENGLISH 1

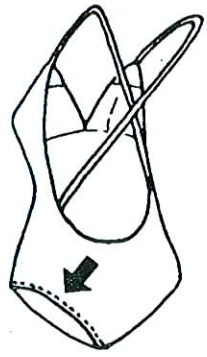
A 01 46 B

5-2 Example of setting for sewing



(Fig. 1) ◉···Light-on ○···Light-out





(Example 1) In case of sewing leg hole of swimming suit like illustration by "Teaching".
Sewing is made with 3 processes. Tension is exerted at process No.2. on tape. Handle Control Panel following the procedure below:

1. Turn Power Switch "ON".
   All the lamps light.
   Sensor Lamp does not light because Sensors are not used.
   After 1 second, the display changes as shown in the right. (Fig.1)
   (The display changes according to the data inside.)

YAMATO AZ8451

for 1 sec.

A 01 30 100 000B

2. Set "Teaching" Mode by pressing T. Switch(10). (Fig. 2)

Setting Process No.1

3. Set Code to "A" by Code Switch(5).

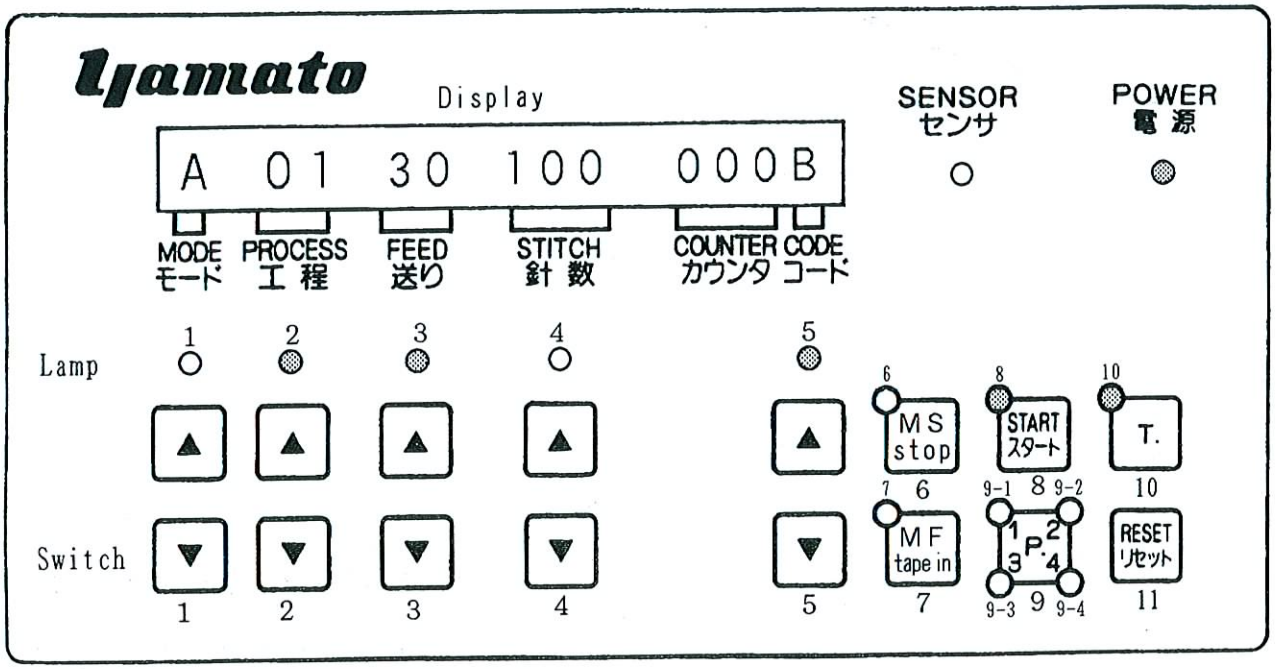
A 01 00 A

4. Adjust Feed Switch(3) while sewing.

A 01 46 A

5. After fixing, set the process to "2" by pressing Process Switch(2).
   (Process No.1 is memorized.)

A 02 ■



(Fig. 2) ◍···Light-on ○···Light-out

Setting of Process No.2

6. Set the Code to "B" by Code Switch(5). A 02 00 000 000B

7. Adjust Feed Switch(3) while sewing. A 02 10 000 050B

8. Set process to "3" by pressing Process Switch (2). (Process No.2 is memorized.) A 03 □

Setting of Process No.3

9. Set the Code to "C" by Code Switch(5). A 03 00 000 000C

10. Adjust Feed Switch(3) while sewing. A 03 50 000 150C

11. At the sewing finish, press Cutter Switch. Stepping motor stops and Cutter operates. Also Counter stops. A 03 50 000 160C

12. When continuing sewing, "K" Device operates, cuts thread chain-off and draws it in.

13. Set Process to "4" by pressing Process Switch(2). (Process No.3 is memorized.) If Code is not set to ■, set it to ■. A 04 □

14. Press T. Switch(10) and the teaching is completed. A 01 46 A

Now the data below is memorized into Mode "A".

Process	feed amount	stitch number	Code
01	46		A
02	10	050	B
03	50	150	C
04			■

Make sure the condition of sewing finish by sewing again.
Now we change the data as follows for the exercise for setting key:

Process	feed amount	stitch number	Code
01	40		A
02	05	060	B
03	50		A
04			■

1. Press P. Switch(9).

2. Change feed amount from "46" to "40" by Feed Switch(3).

3. Set the Process to "2" by Process Switch (2).

4. Change the feed amount from "10" to "05" by Feed Switch(3).

5. Change stitch number from "050" to "060" by Stitch Switch(4).

6. Set the Process to "3" by Process Switch (2).

7. Set the Code to "A" by Code Switch(5).

8. Press Start Switch(8).