

**ED-X**

**INSTRUCTION MANUAL**

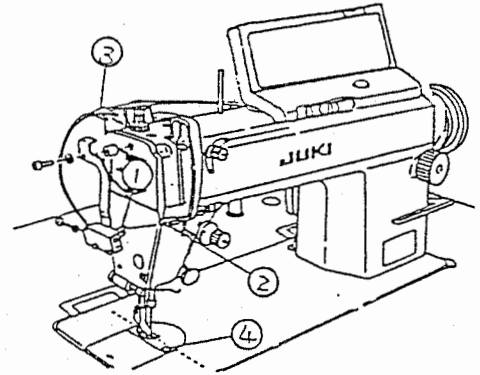


## Preface

This device, when used in combination with a sewing machine controller (SC-1) and a control panel (CP-30 to -130) of the sewing machine controller, detects the edges of workpiece to automatically stop the sewing machine and makes the machine perform thread trimming. Be sure to use ED-X with SC-1.

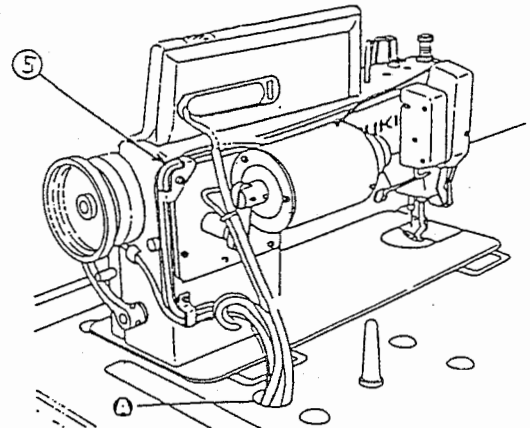


- 1) Install the material edge detecting sensor on the sewing machine referring to the figure on the right.
- 2) Position sensor mounting base ① on machine arm thread guide ② and fix them together.
- 3) Place metal fitting ③ for securing cords under the pressure spring regulating nut so that it secure the cord of the sensor.

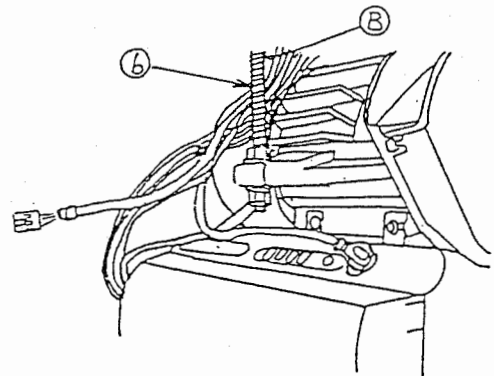


- 4) Attach reflector seal ④ on the left of the center of the needle.  
However, finely position the seal in accordance with the sewing state.

- 5) Fit the sensor cord in cable clamp ⑤ of the machine head and pass it through hole (A) in the machine table to route it to SC-1 control box.

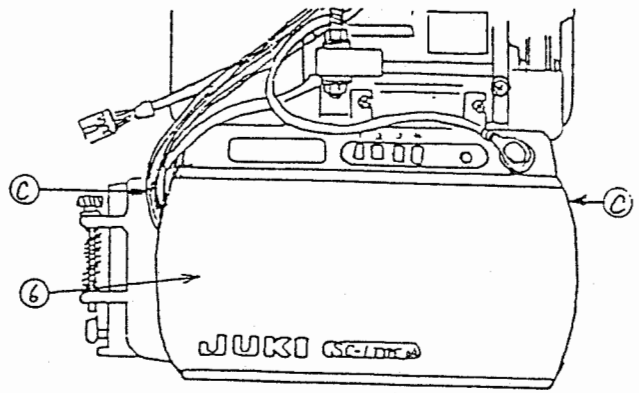


- 6) Pass the sensor cord through clearance (B) provided between belt tension adjusting bolt ⑥ and the motor.

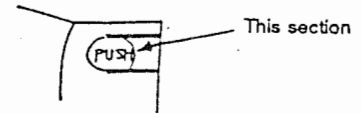




open the front cover.



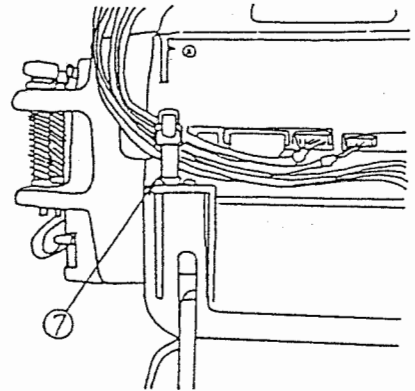
Viewed from section C



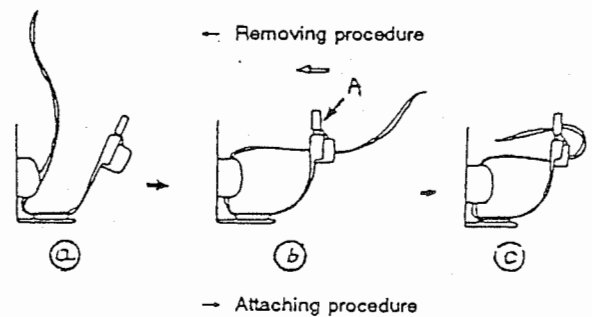
- 8) Remove cable clip ⑦ which clamps the cords. Remove it following the removing procedure (refer to the caution described below).

(Caution)


1. The cable clip supplied with the control box can be used in repetition. So, never cut the cable clip with a pair of nippers or the like.
2. To unlock the cable clip during the removing procedure ⑥, draw the cable clip out while tilting section A in the direction of the arrow ("←").



Reference: Removing/attaching procedure of the cable clip



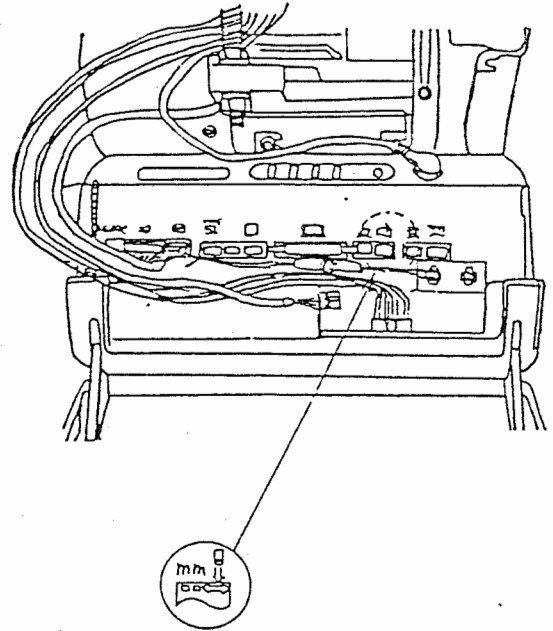


marked with "  " on the connector panel.

- 10) Clamp the sensor cord with the other cords with a cable clip following the attaching procedure. Then, close front cover. This completes the cable connecting procedure.

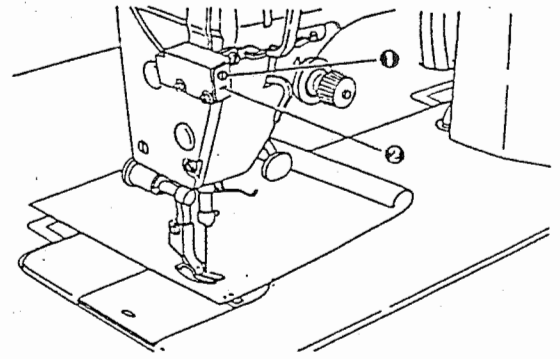
(Caution)

1. Push the front cover until it securely locks.





- 1) Adjust the position of the sensor laterally and longitudinally so that the sensor projects light to the correct point using the screw in the sensor. Sensitivity of the sensor is adjusted using variable resistor ① on the main unit of the sensor. Turn variable resistor ① clockwise, and the sensor will be more sensitive. Turn variable resistor ① counterclockwise, and the sensor will be less sensitive. Adjust the sensitivity of the sensor with a screwdriver supplied with the sensor. To adjust the sensitivity of the sensor for actual sewing, place a workpiece at the center of the reflector seal and turn variable resistor ① counterclockwise first until it will go no further. Then, gradually turn variable resistor ① clockwise to find a position where the LED (red) on the main unit of the sensor lights up.





1) CP-30

When the material edge sensor is used with CP-30, all the operations of CP-30 are controlled by setting the functions of SC-1.

Functions to be selected and corresponding selection Nos. are as follows:

- Making the material edge sensor operative  
→ ED ON (Item No. 2)
- Making the thread trimmer actuate after the material edge is detected  
→ EDTRM ON (Item No. 3)
- The number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops or the thread trimmer actuates  
→ ED(N) \* (Item No. 4)  
\* 0 to 19 stitches

- (1) Turn OFF the power switch.
- (2) Turn ON the power switch while pressing the 2[▲] key.

ITEM NO. →	001 N-SOFT
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- (3) Press the 2[▲] key to select item No. 2.

ITEM NO. →	002 ED
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- (4) Press the 4[SET] key. (The data currently specified are indicated on the panel.)

002 ED →	0: off
	1: on

- (5) Press the 2[▲] key to select "1: on."

002 ED →	1: on
	0: off

- (6) Press the 4[SET] key.

003 ED TRM →	0: off
	1: on

- (7) To make the thread trimmer actuate after the material edge sensor detects the edge of a material, select "1: on" by pressing the 2[▲] key. (To stop the machine after the material edge sensor detects the edge of a material, select "0: off.")

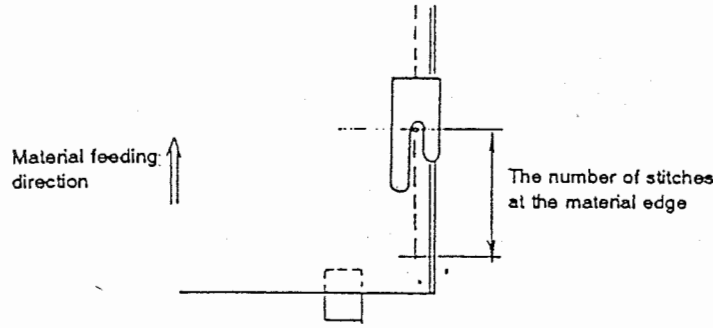
- (8) Press the 4[SET] key.

004 ED (N) →	5
	[N]



to change the setting, select the specified number of stitches by pressing the 1[▼] key or 2[▲] key and press the 4[SET] key. This completes the setting procedure.

(Caution) The number of stitches (\*) can be specified within the range of 0 to 19.



004 ED (N) →	*
	[N]

↓ 4[SET] key ON

005 T-Acc →	2
	3

(The next item to be specified is indicated on the panel.)

○ If you want to confirm the set value, press the 3[ITEM] key once to change the indication on the panel to the "ITEM." Then, select the No. desired using the 1[▼] or 2[▲] key and call with the 4[SET] key.

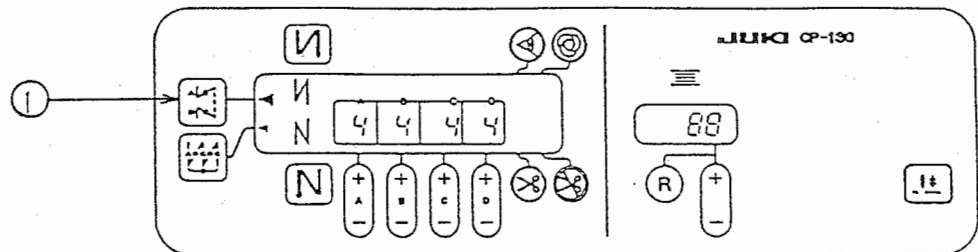
## 2) CP-130 and its higher class models

When the material edge sensor is used with CP-130, -230 and -330, all the operations can be set on the control panel. (Function setting procedure is not necessary for SC-1.)




The function selecting procedure changes by patterns. The following explanation is given separately for patterns. (Functions which are equipped commonly to all the patterns are to be explained in the panel shown on the bottom of this page.)

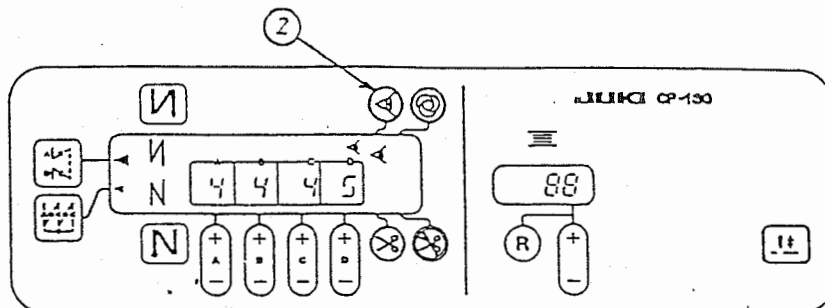
### (1) Free stitching pattern [A B C]


① Press the [A B C] switch on the control panel to select the free stitching pattern.






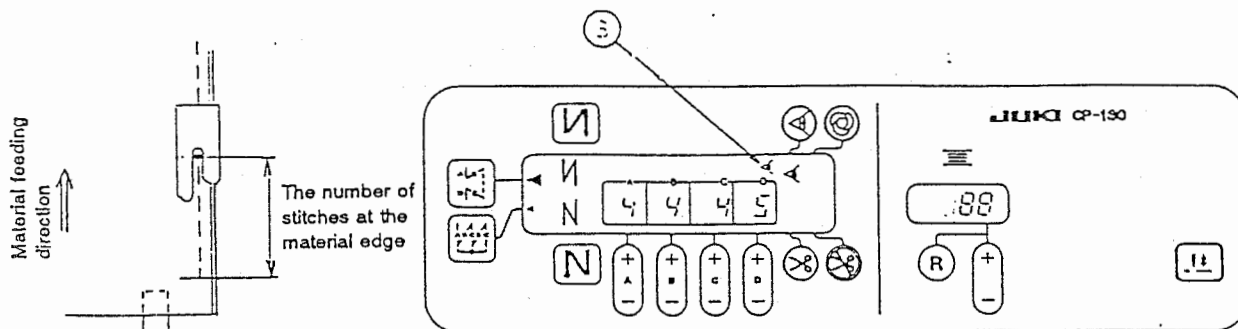




- ② Press the  switch on the control panel to select the material edge detecting function, and the sensor indicating mark "" will be shown above the process D indicator on which the number of stitches is displayed and near the  switch.

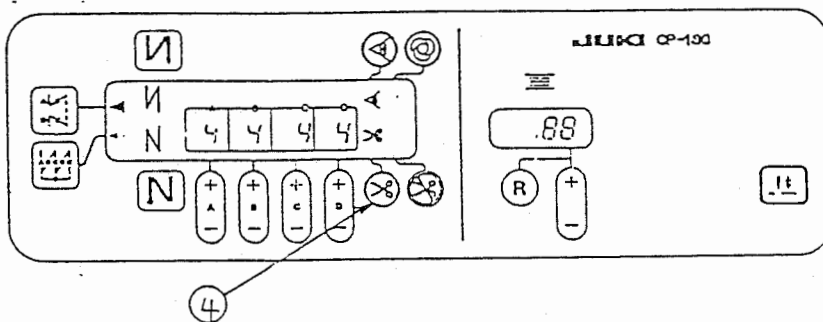


- ③ While the "" mark is shown above the process D indicator, the number shown on the process D indicator is the number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops.


(If the  or  switch of process D is not input for three seconds or more, the number shown on the process D indicator will be the number of stitches for normal operation and the "" display above the process D indicator will go out.)



- ④ If you want to perform thread trimming (including reverse feed stitching for end) continuously after the material edges sensor detects the edge of a material, press the  switch on the control panel. (The "" mark is indicated on the LCD.)

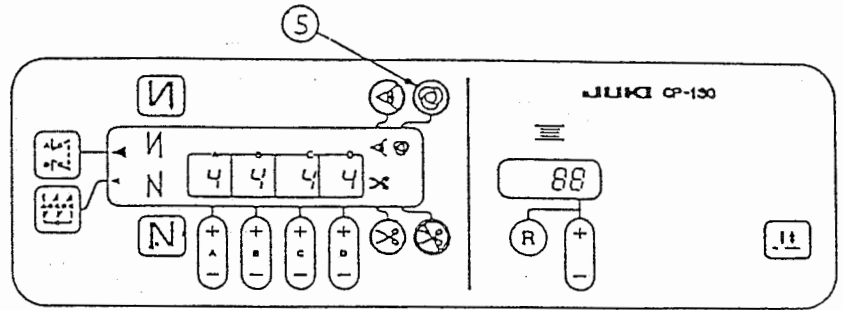






depressing the pedal once until the material edge is detected, can be selected by pressing the  switch on the control panel. (The corresponding mark is indicated on the LCD.)



(Caution)


The sewing speed for the one-shot automatic stitching mode cannot be adjusted by the max. speed limitation variable resistor.





○ Making the material edge sensor operative → 

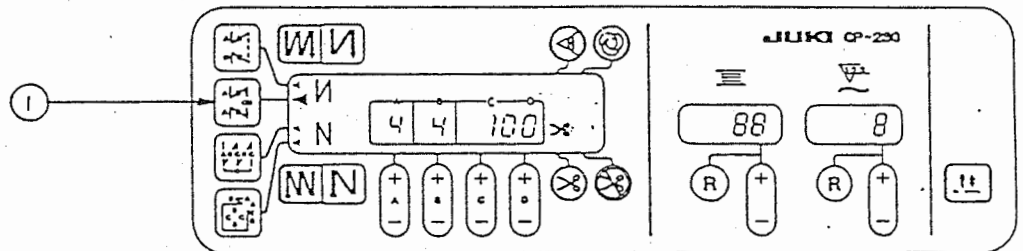
○ Making the thread trimmer actuate after the material edge is detected → 

○ The number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops or the thread trimmer actuates → : While the "  " mark is shown above the process D indicator.



○ Making the one-shot automatic stitching function operative → 

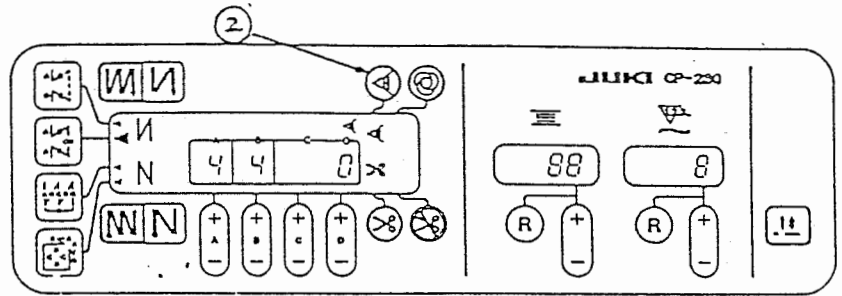
(2) Constant-dimension sewing pattern [  ] (for CP-230 only)




① Press the  switch on the control panel to select the constant stitching pattern.

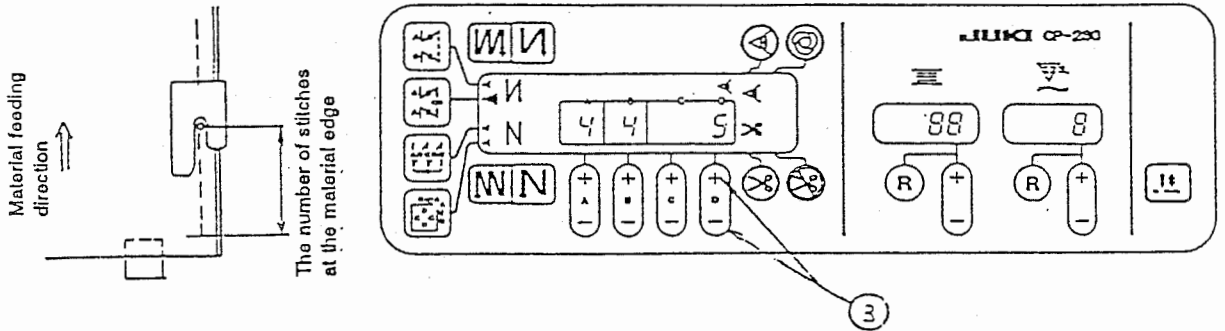




indicating mark "  " will be shown above the process D indicator on which the number of stitches is displayed and near the  switch. The number of stitches for process CD changes over to the number of stitches for the material edge sensor.





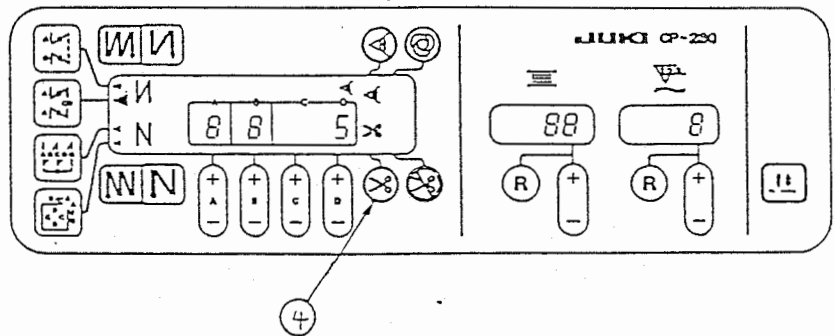
- ③ While the "  " mark is shown above the process D indicator, the number shown on the process D indicator is the number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops.  
(The number of stitches can be set within the range of 0 to 19. Change the number of stitches using the  or  switch of process D.)




**(Caution)**

The constant-dimension stitching is different from the free stitching in terms of the number of stitches shown on the panel. In the constant-dimension stitching, the number shown on the indicator is the number of stitches for the material edge sensor.

- ④ If you want to perform thread trimming (including reverse feed stitching for end) continuously after the material edges sensor detects the edge of a material, press the  switch on the control panel. (The "  " mark is indicated on the LCD.) (Normally, the thread trimmer is set operative.)

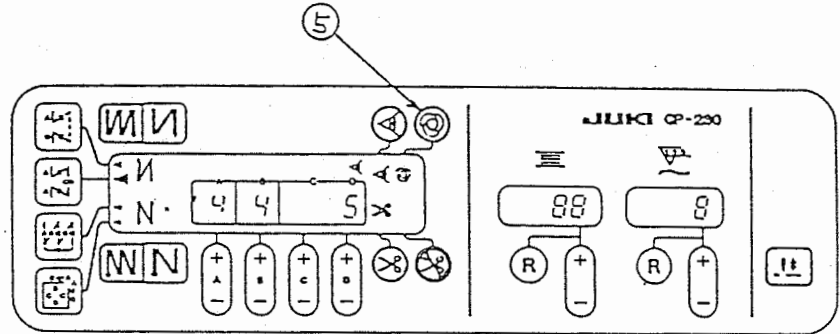










depressing the pedal once until the material edge is detected, can be selected by pressing the  switch on the control panel. (The corresponding mark is indicated on the LCD.)


**(Caution)**

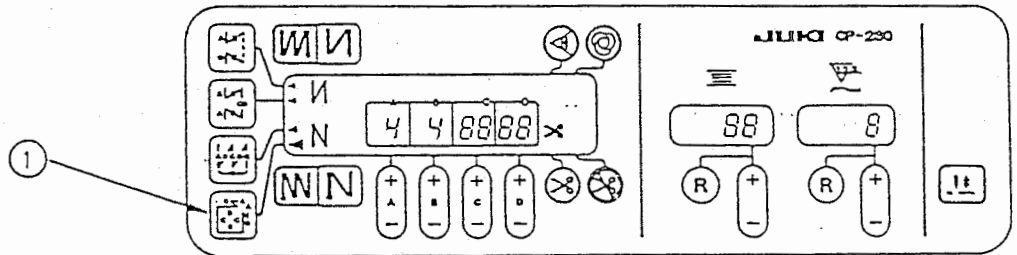
The sewing speed for the one-shot automatic stitching mode cannot be adjusted by the max. speed limitation variable resistor.






- Making the material edge sensor operative → 
- Making the thread trimmer actuate after the material edge is detected → 
- The number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops or the thread trimmer actuates →  : While the "  " mark is shown above the process D indicator.
- Making the one-shot automatic stitching function operative → 

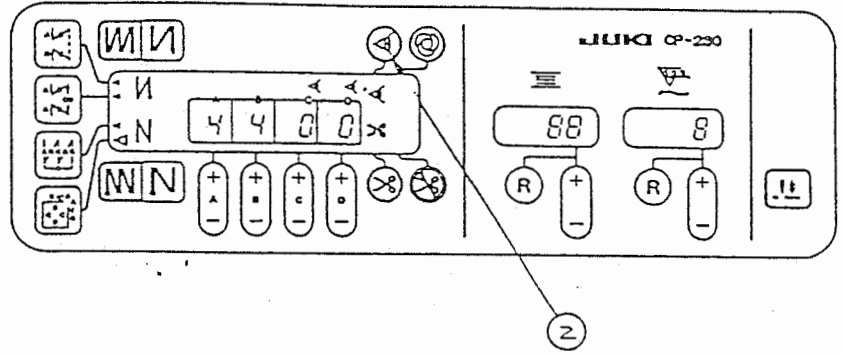
(3) Rectangular stitching pattern [  ] (for CP-230 only)




- ① Press the  switch on the control panel to select the rectangular stitching pattern.

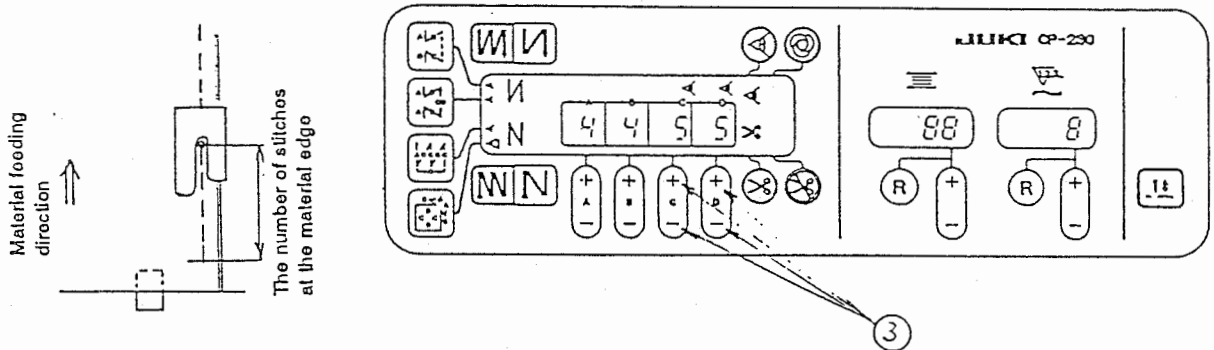






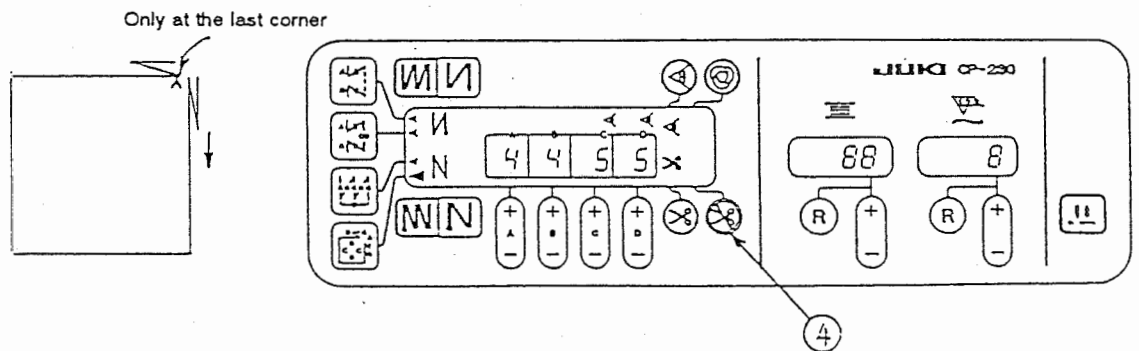
- ② Press the  switch on the control panel to select the material edge detecting function, and the sensor indicating mark "" will be shown above the process D indicator on which the number of stitches is displayed and near the  switch. The number of stitches for processes C and D changes over to the number of stitches for the material edge sensor.




- ③ While the "" mark is shown respectively above the processes C and D indicators, the respective numbers shown on the processes C and D indicators are the numbers of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops. (The number of stitches can be set within the range of 0 to 19. Change the number of stitches using the  or  switch of the respective processes.)



- ④ If you want to perform thread trimming (including reverse feed stitching for end) continuously after the material edges sensor detects the edge of a material (this operation is effective only for the last process), press the  switch on the control panel. (The "" mark is indicated on the LCD.) (Normally, the thread trimmer is set operative.)

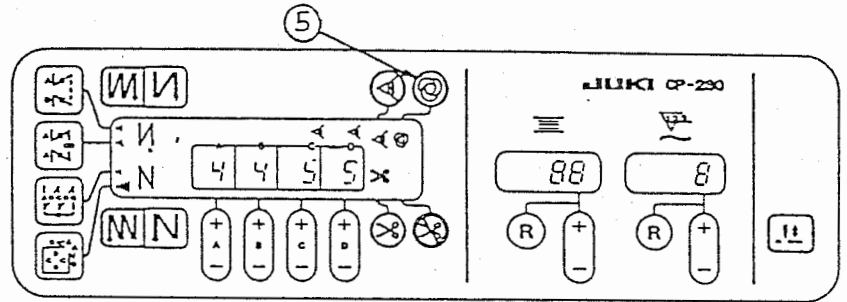











depressing the pedal once until the material edge is detected, can be selected by pressing the  switch on the control panel.



(Caution)

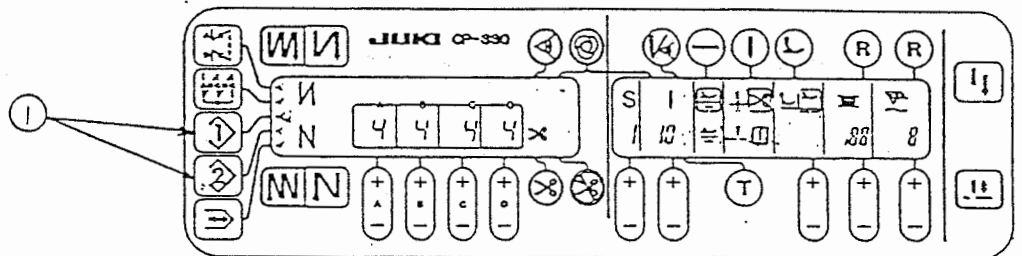
1. The sewing speed for the one-shot automatic stitching mode cannot be adjusted by the max. speed limitation variable resistor.
2. If the one-shot automatic stitching is selected, the machine will sew all the four process in accordance with the data selected.





- Making the material edge sensor operative → 
- Making the thread trimmer actuate after the material edge is detected → 
- The number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops or the thread trimmer actuates →  : While the "  " mark is shown above the process C, and D indicator.
- Making the one-shot automatic stitching function operative → 

(4) Programmed stitching pattern   (for CP-330 only)

- ① Press the  or  switch on the control panel to select the programmed stitching pattern. (The program setting display appears on the right section of the panel.)

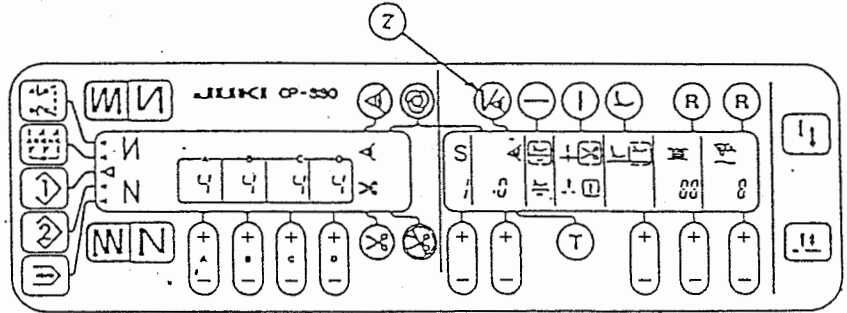





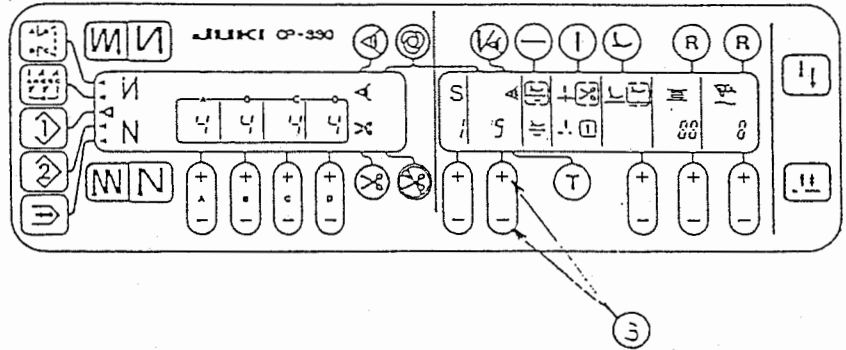
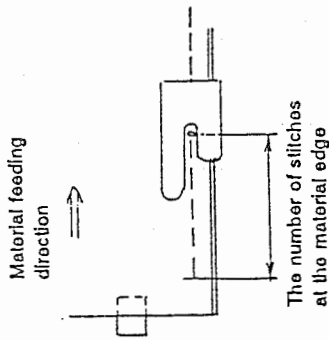
② Press the  switch on the control panel to select the material edge sensing function, and the sensor indicating mark "" will be shown above the indicator on which the number of stitches for steps is



displayed and near the

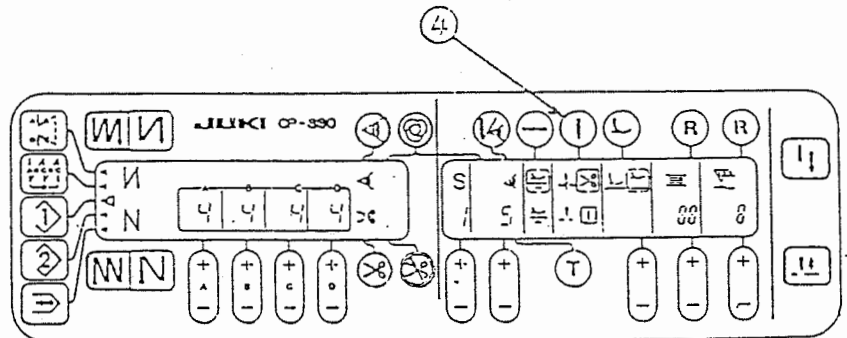
switch. The number of stitch for steps changes over to the number of stitches for the material edge sensor.




- ③ While the "" mark is shown above the indicator of the number of stitches for steps, the number of stitches for steps is the number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops. (The number of stitches can be set within the range of 0 to 19. Adjust the number of stitches in accordance with the number of revolutions and the stitching length. As many as 15 steps can be set in a program. (Refer to the Instruction Manual for CP-330 for detailed description of the programs.))



- ④ If you want to perform thread trimming (including reverse feed stitching for end) continuously after the material edges sensor detects the edge of a material (Performing thread trimming completes a pattern.), press the  switch on the control panel to set the state of sewing machine at the completion of steps to "thread trimming". (Overlapmark with the "" mark.)

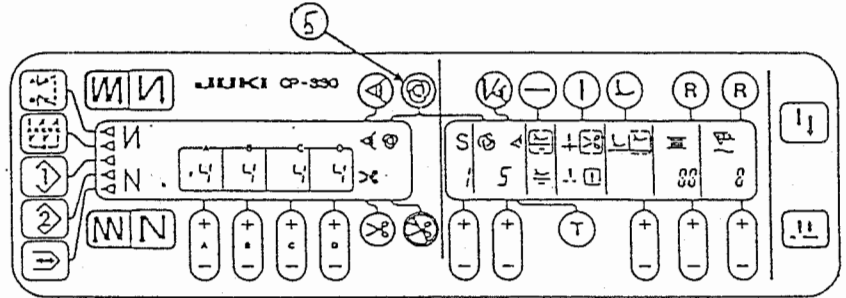









depressing the pedal once until the material edge is detected, can be selected by pressing the  switch on the control panel.

(Caution)

1. The sewing speed for the one-shot automatic stitching mode cannot be adjusted by the max. speed limitation variable resistor.
2. If the one-shot automatic stitching can be separately specified by steps.



- Making the material edge sensor operative → 
- Making the thread trimmer actuate after the material edge is detected → 
- The number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops or the thread trimmer actuates → : While the "  " mark is shown above the process D indicator.
- Making the one-shot automatic stitching function operative (The one-shot automatic stitching function can be separately set by steps.) → 



material edge sensor detects the edge of a material to the position where the machine stops, and the number of revolutions of the sewing machine

When the number of revolutions of the sewing machine is set a certain value, the machine may fail to stop according to the number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops.

This failure is caused by the fact that the number of stitches required to be sewn before the sewing machine stops is determined by the number of revolutions of the sewing machine. For example, when the sewing machine runs at 4,000 s.p.m., at least five stitches are required to be sewn before the sewing machine stops. If, in this case, the number of stitches to be sewn from the position where the material edge sensor detects the edge of a material to the position where the machine stops is set to one or two stitches, the machine will fail to stop according to the specified number of stitches. If this failure occurs, decrease the number of revolutions of the sewing machine to a value at which the sewing machine can stop according to the specified number of stitches.

Reference values are as follows:

Up to 5,000 s.p.m.	7 stitches
Up to 4,500 s.p.m.	6 stitches
Up to 4,000 s.p.m.	5 stitches

