

Heat Cutting Thread

# MHA-CHC100

(FOR Brother BAS-300G-484 direct drive treble Hook **ONLY**)

Instruction Manual

Thank you for purchasing our product.  
Before using MHA-CHC100  
Be sure to read this manual.  
Also, keep this manual with you for a proper operation.



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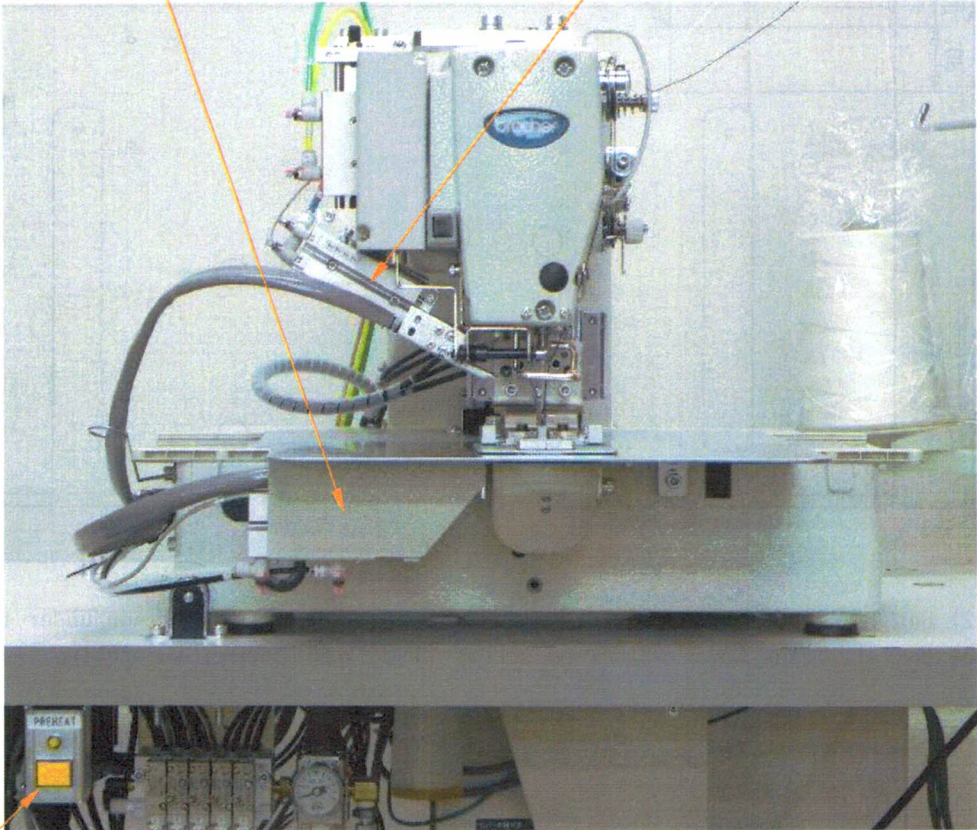
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# 1. Installation

(1) Names

Heat Cutting lower thread device

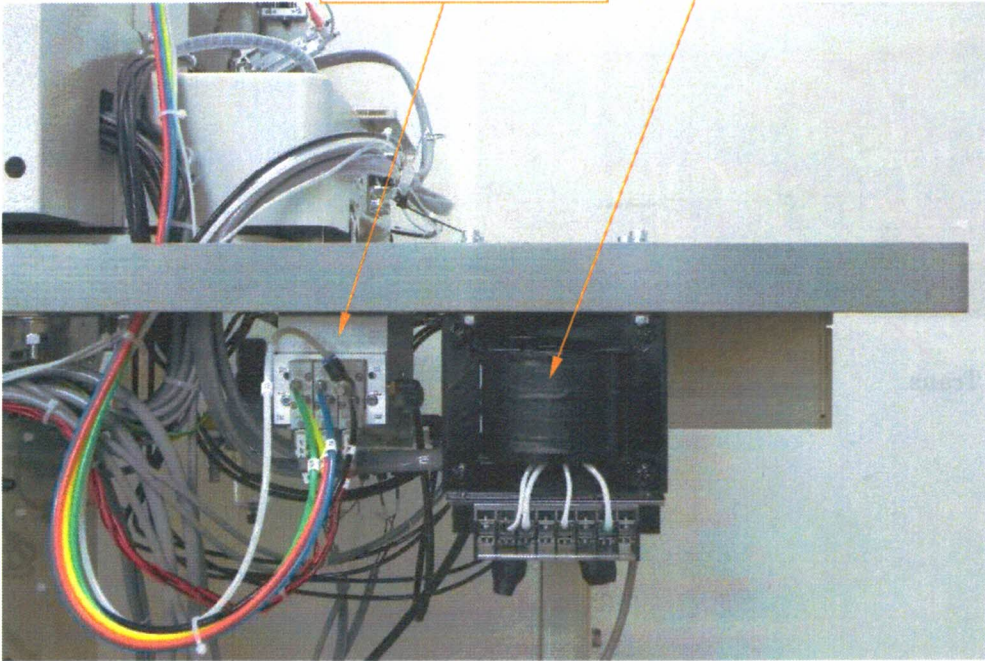
Heat Cutting upper thread device



Preheat Switch

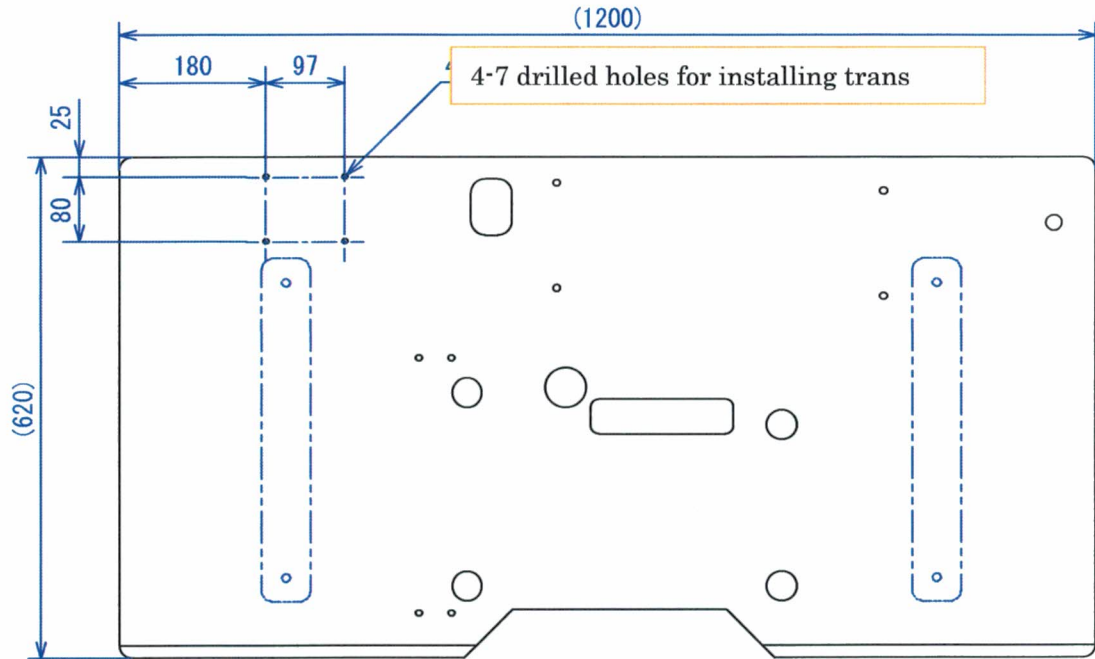
Solenoid valve

Heater Trans



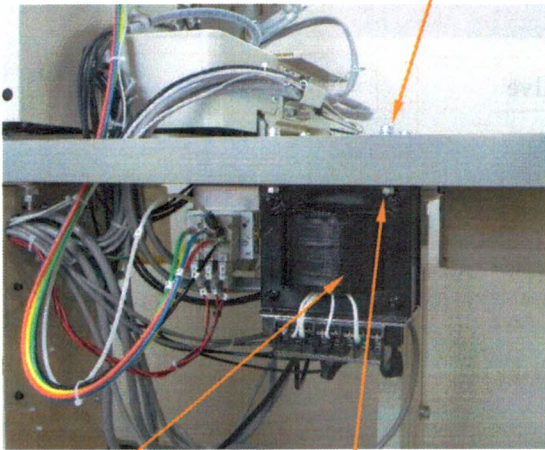
## (2) Installing Heater Trans

- 1) Make 4-7 drilled holes on the left back side of sewing machine table



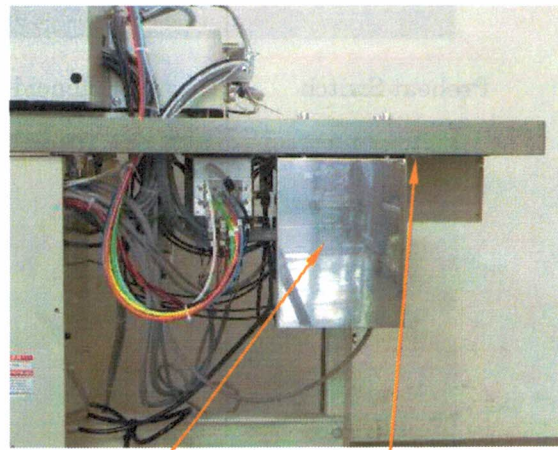
- 2) Set Trans with attached screws (4-C/S M6×50) and nuts (M6) on/under the table.
- 3) Install Trans Cover with wood screws (4- $\phi$ 5×25) under the table.

Screws 4-C/S M6×50



Trans

Nuts (4nuts/ M6)

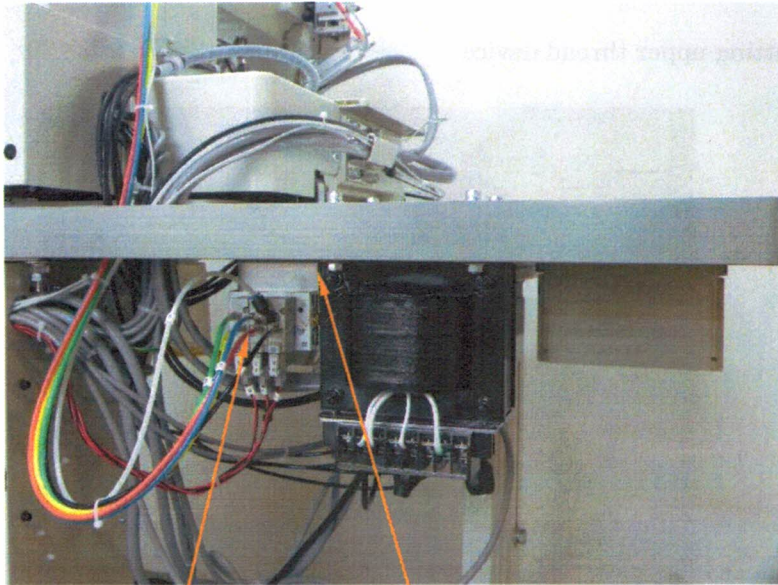


Trans Cover

Wood Screws (4- $\phi$ 5×25)

### (3) Installing Solenoid Valve

Install Solenoid Valve with wood screws (2-  $\phi$  4.5 $\times$ 20) under the table.

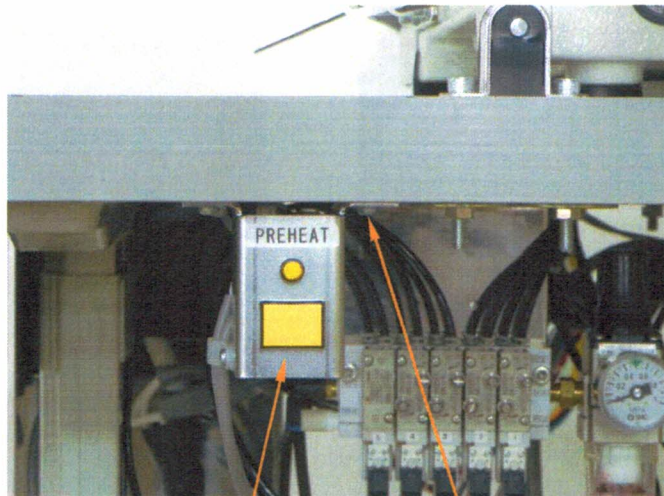


Solenoid Valve

Wood Screws (2-  $\phi$  4.5 $\times$ 20)

### (4) Installing Preheat Switch

Install Preheat Switch with wood screws (2-  $\phi$  4.5 $\times$ 20) under the table.



Preheat Switch

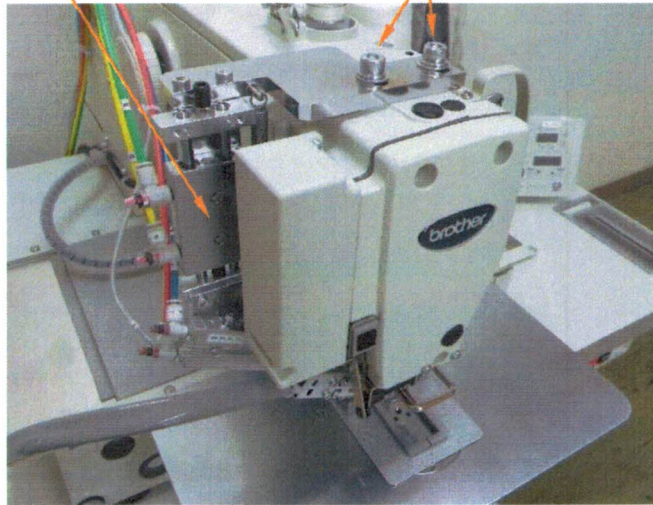
wood screws (2-  $\phi$  4.5 $\times$ 20)

(5) Installing and Adjusting cutting upper thread device

- 1) Install cutting upper thread device on top of the sewing machine with screws (2- C/S M8×20)

Cutting upper thread device

screws (2- C/S M8×20)



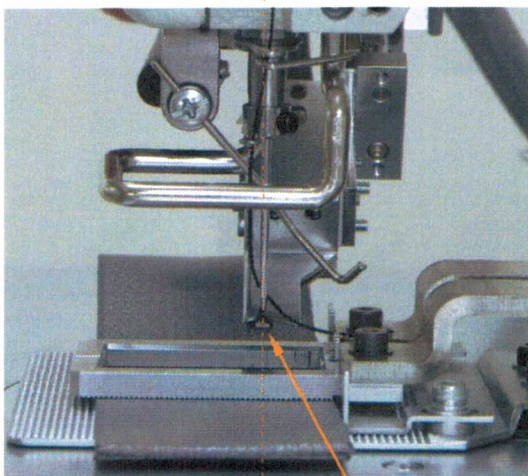
- 2) Adjusting (the device' s back and forward position)

• The center of needle and the center of upper thread cutter should be a straight line. To adjust, unscrew ①, and move the cutting upper thread device as per directing arrow ②.

Cutting upper thread

The center of needle

screws①



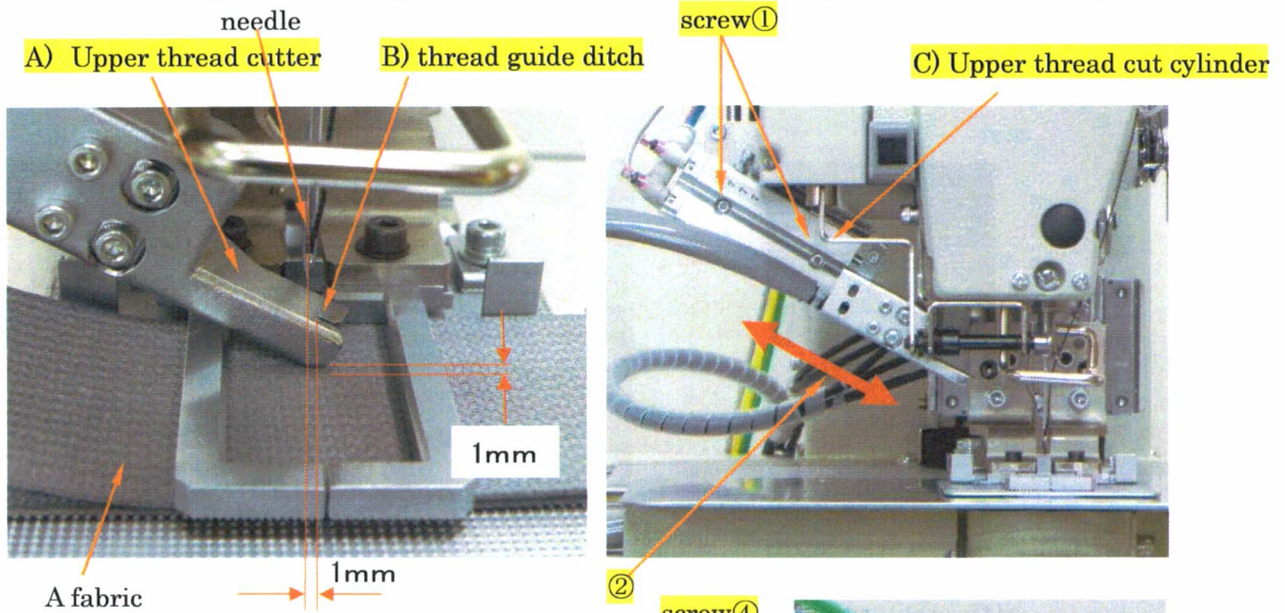
The center of upper thread cutter

②

3) Adjusting (right and left position)

- The size between A) and B) is 1mm, when A) goes forward at most.

To adjust, unscrew ① and move the cylinder (C) as per directing arrow ②.



4) Adjusting (up and down position)

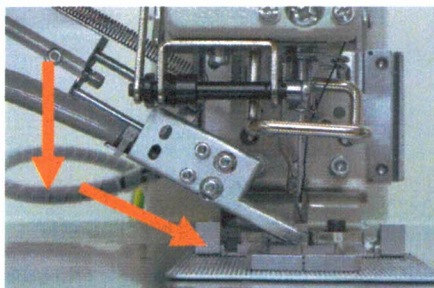
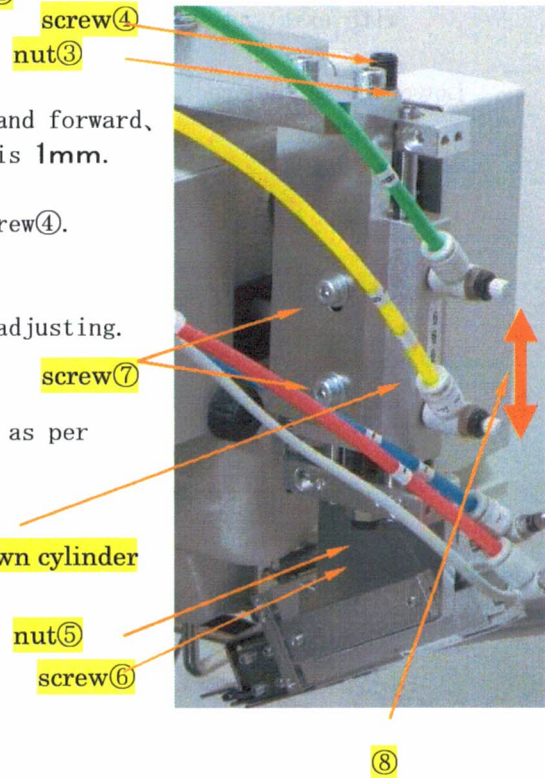
- When Upper thread cutter goes down and forward, Size between the cutter and fabric is 1mm. (see the picture above)

To adjust, unfasten nut ③ and to screw ④.

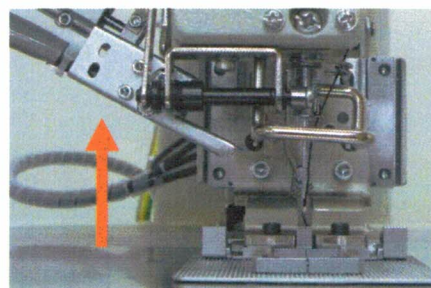
- When Upper thread cutter goes up, Unfasten nut ⑤ and to screw ⑥ for adjusting.

- For adjusting up and down position, Unscrew ⑦, and move the cylinder D) as per directing arrow ⑧.

D) Upper thread cut up and down cylinder



< When Upper thread cutter goes down and forward, adjust with screw ④ >

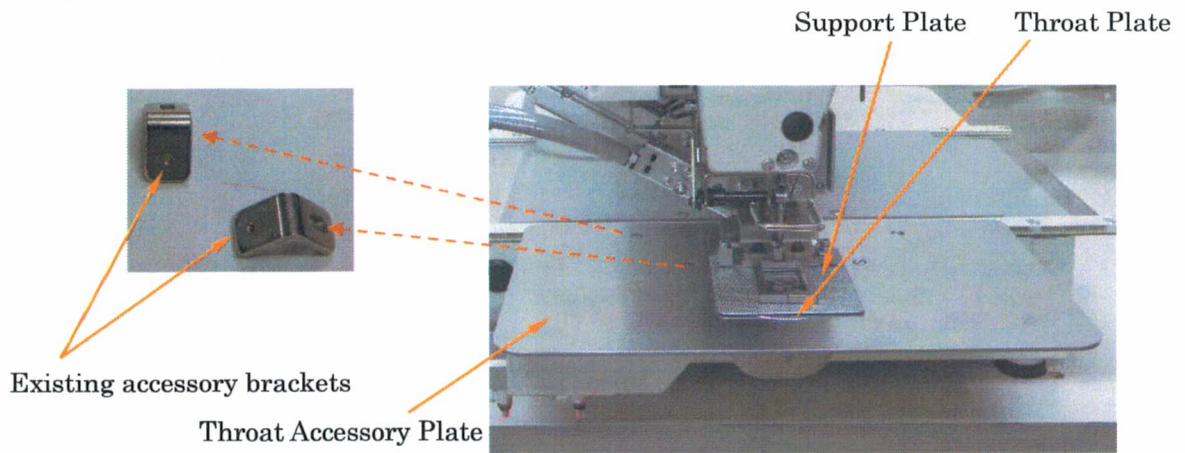


< When Upper thread cutter goes up, adjust with screw ⑥ >

(6) Installing and Adjusting lower thread cutting device

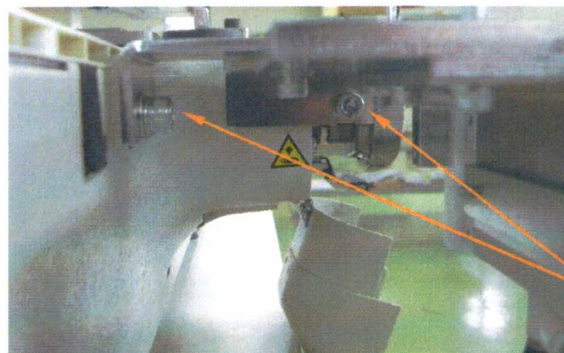
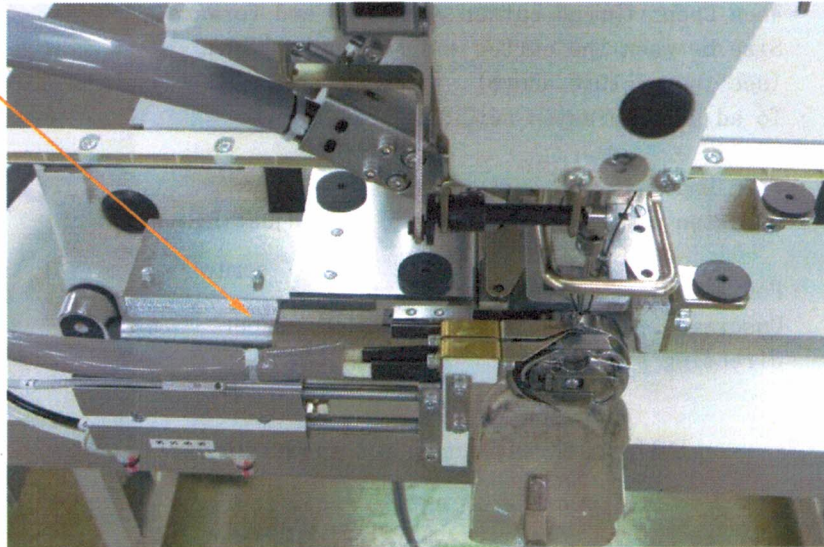
1) Remove Throat accessory plate, Support plate, and Throat plate.

2) Remove Existing accessory brackets. (2 left side' s brackets only.)



3) Install lower thread cutting device into the space that accessory bracket was removed with existing screws①.

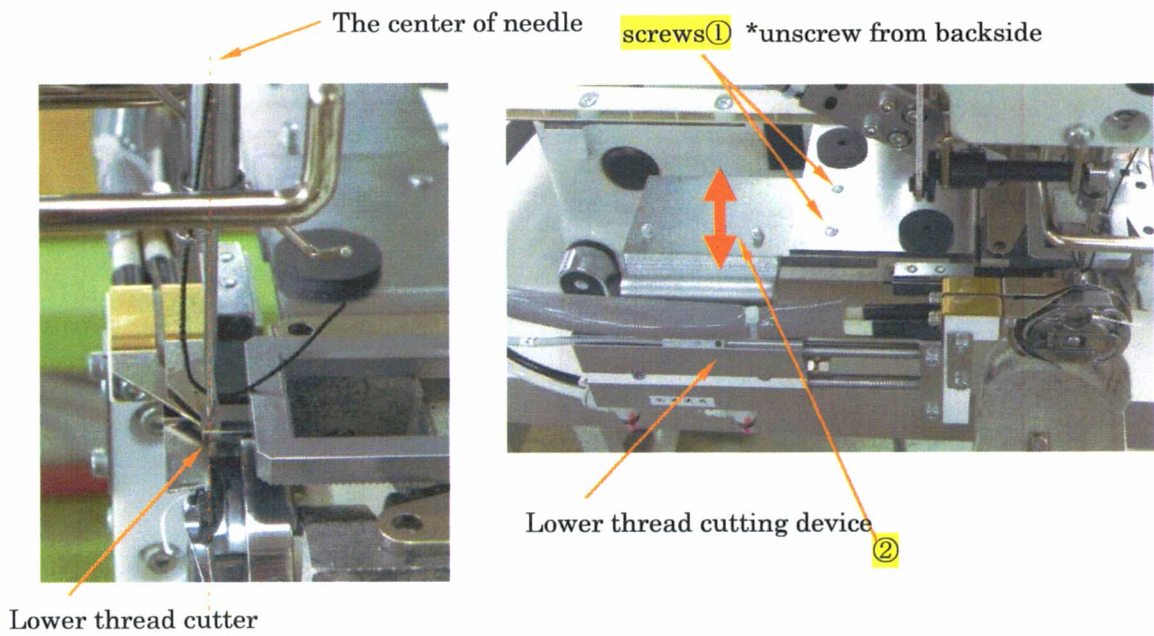
Lower cutting device





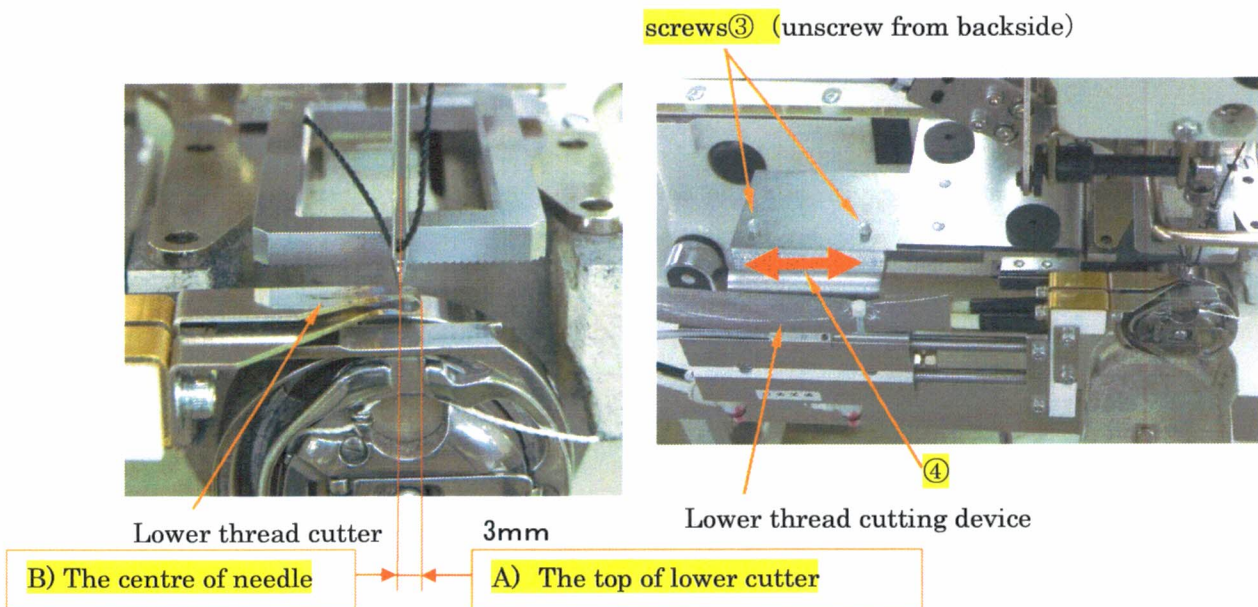
4) Adjusting (the device' s back and forward position)

- The center of needle and the center of lower thread cutter should be a straight line. To adjust, unscrew ①, and move the cutting lower thread device as per directing arrow②.



5) Adjusting (right and left position)

- The size between A) and B) is 3mm, when A) goes forward at most. To adjust, unscrew③ and move the lower thread cutting device as per directing arrow④.

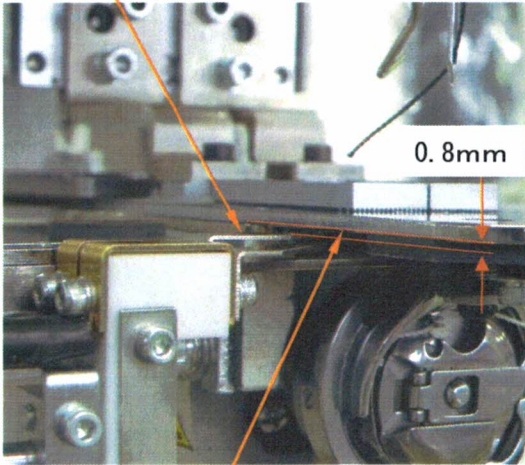


6) Adjusting (up and down position)

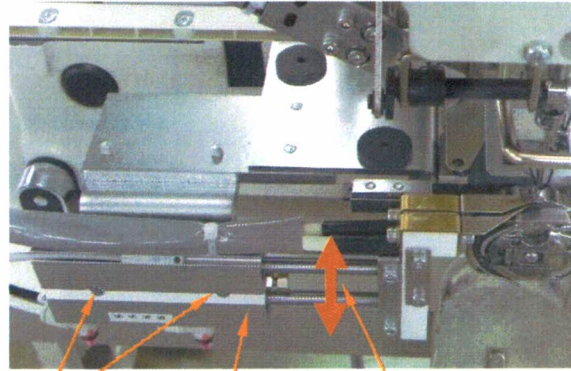
• The size between A) and B) is 0.8mm..

To adjust, unscrew ①, and move the cylinder C) as per directing arrow ②.  
Use attached feeler gauge (t0.8) to make sure the size.

A) Lower thread cutter/ top



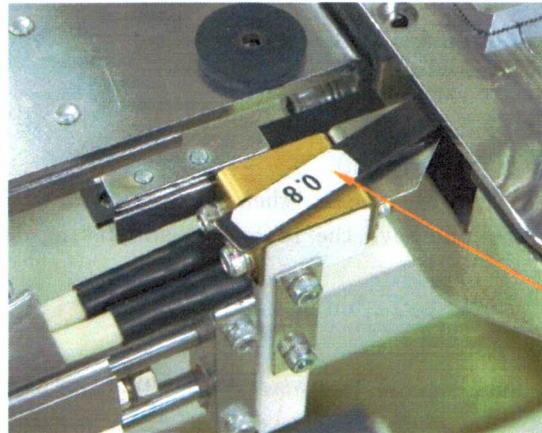
B) Throat plate/ bottom



screws ①

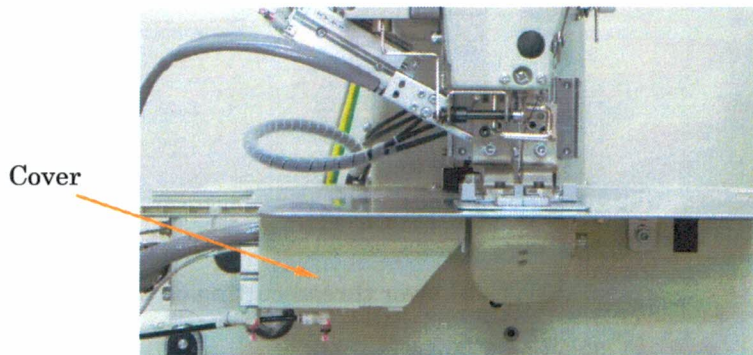
②

C) Lower cut cylinder



Feeler gauge (t0.8)

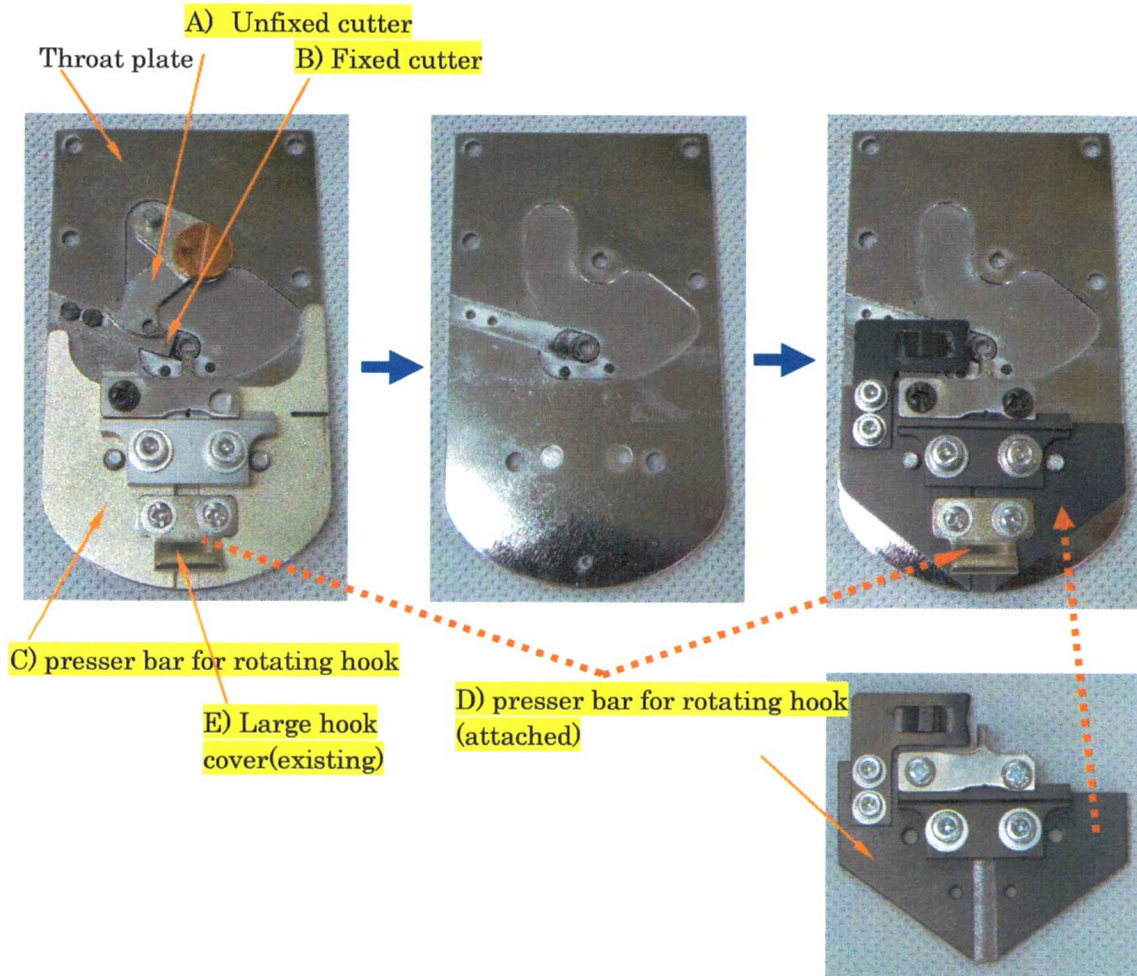
• After adjusting, install the cover.



(7) Remove and Exchange sewing machine parts

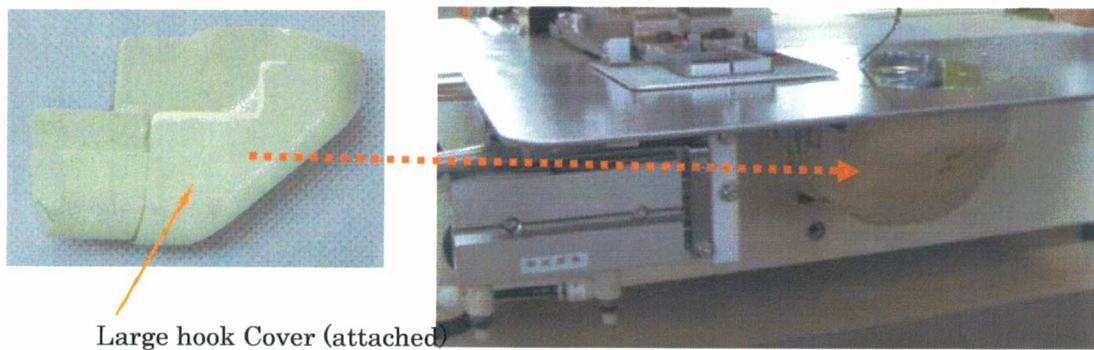
1) parts of throat plate

- Remove A), B), and C).
- Install D) to throat plate
- Install E) to D).



2) Exchange large hook cover

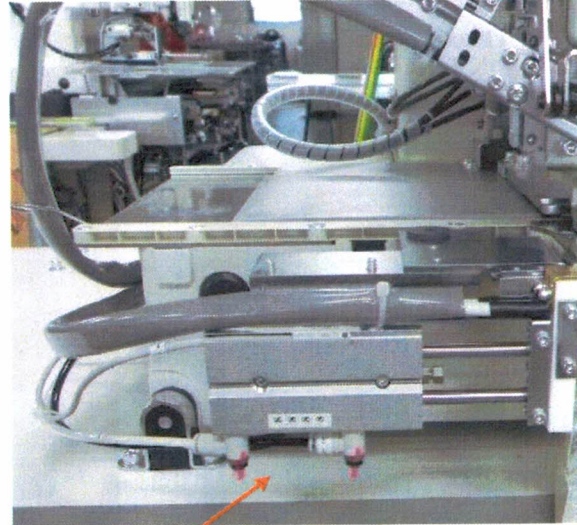
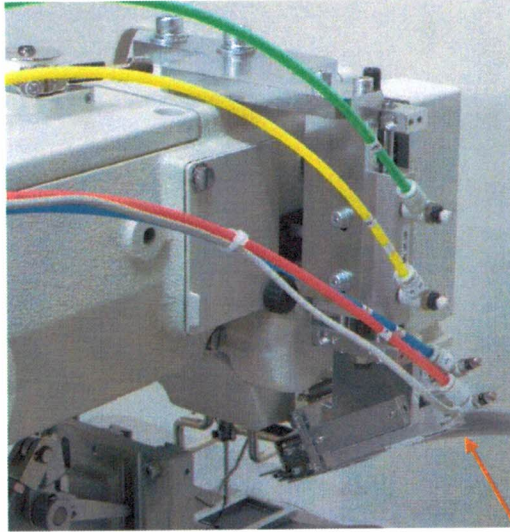
- exchange to attached large hook cover



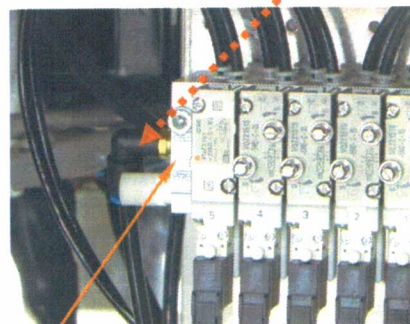
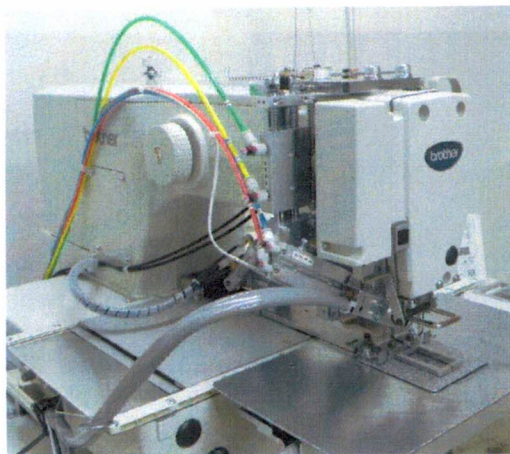
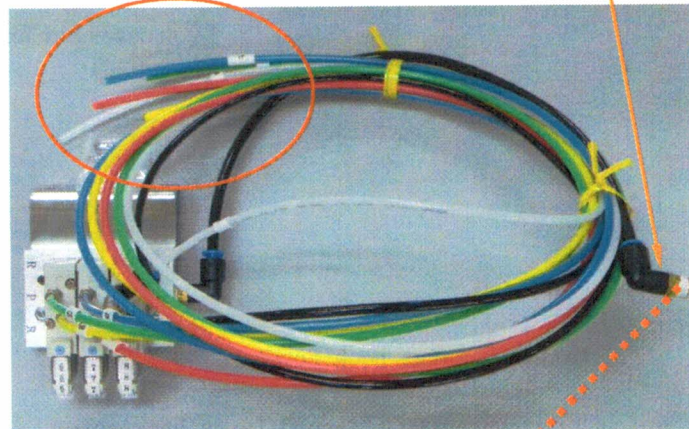
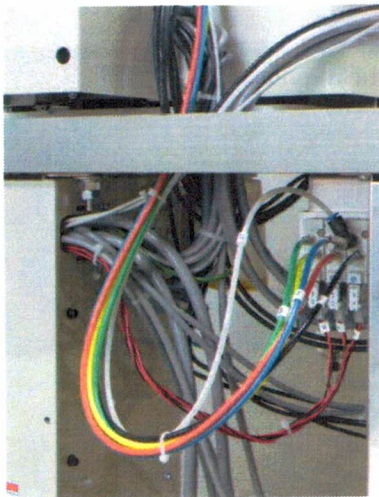
(8) Connecting tubes

※See page 11 .

- 1) Connect air tubes to each cylinders.
- 2) Install air joint to sewing machine existing air manifold(P-port).

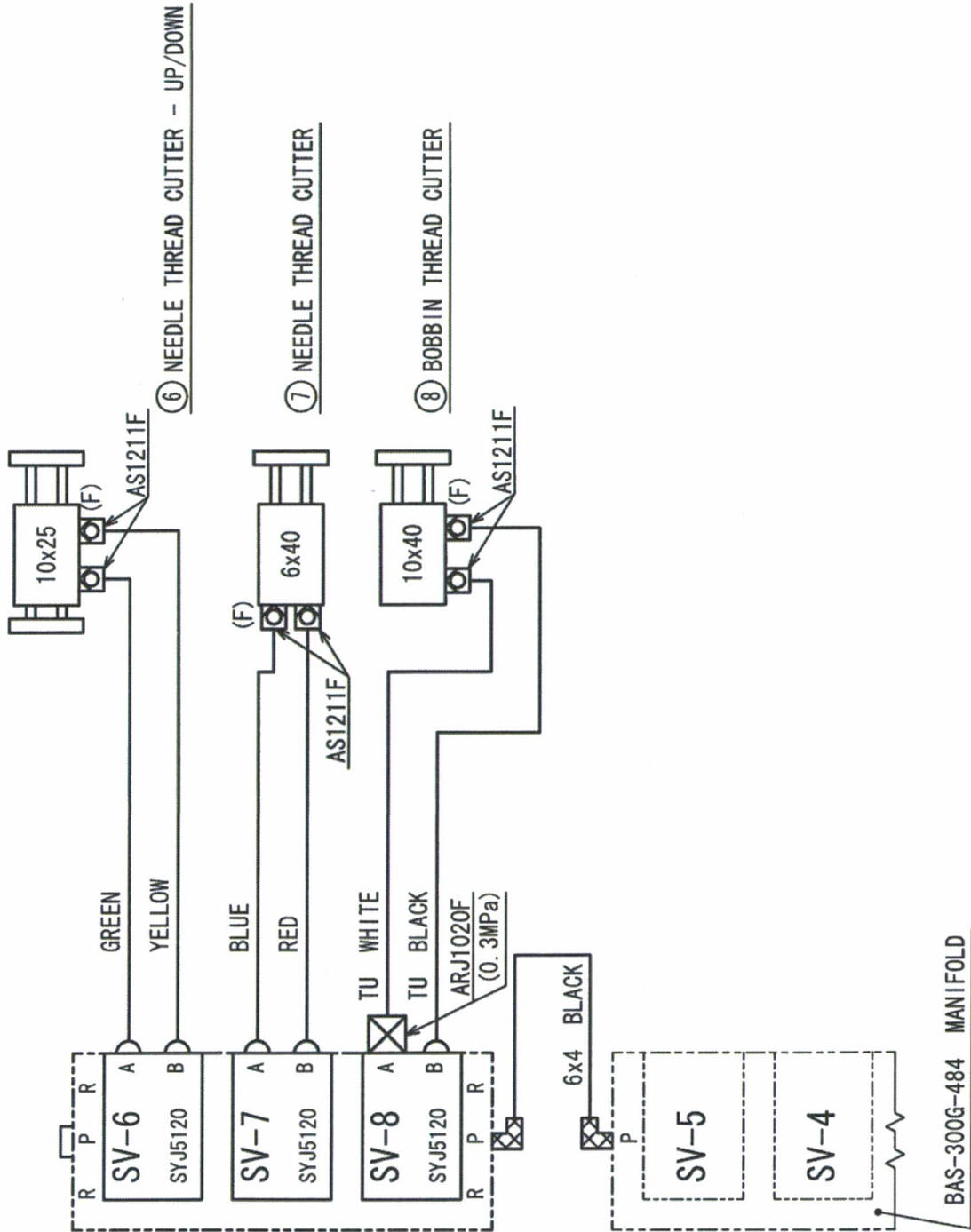


Air joint



sewing machine existing air manifold(P-port)

3) Piping diagram

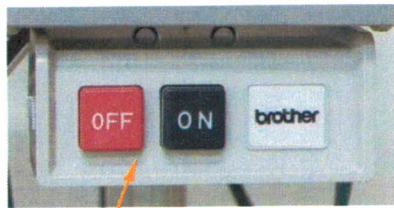


(9) Connecting wires

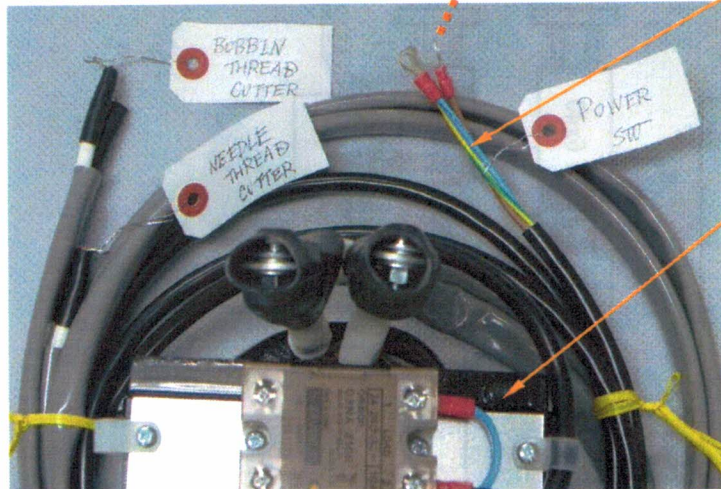
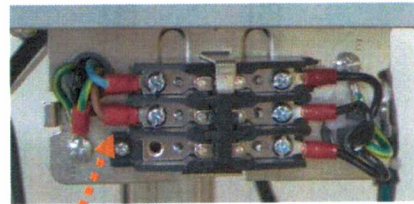
※See page 17.

1) Connecting wire of trans power codes

- Connect trans power codes to existing power switch

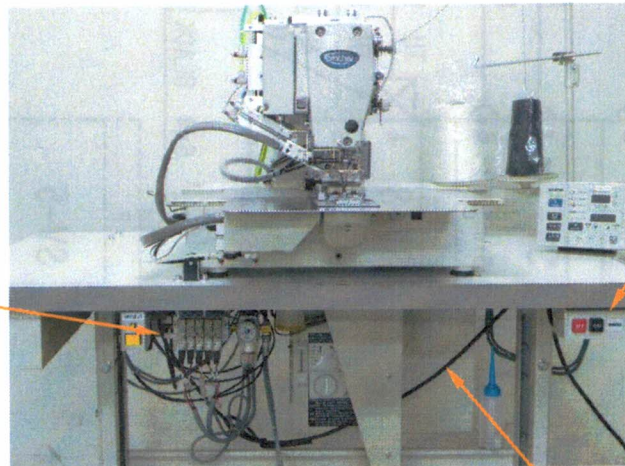


(Existing) power switch



Power codes

Trans



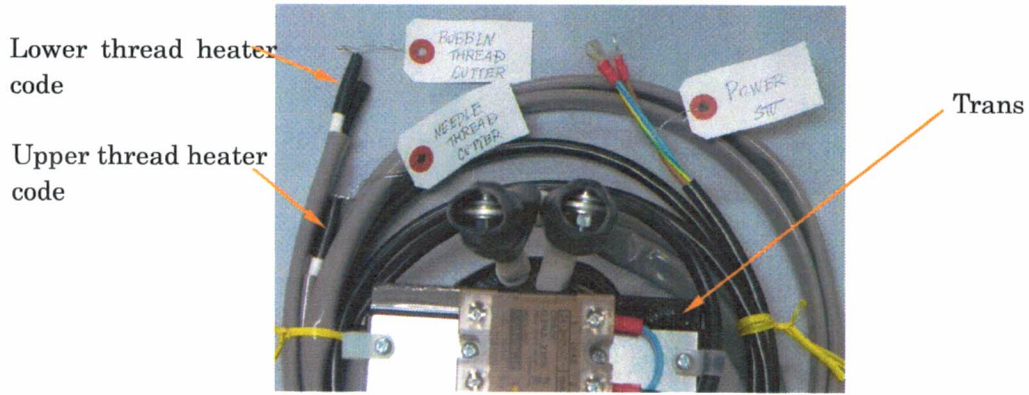
Power switch

Trans

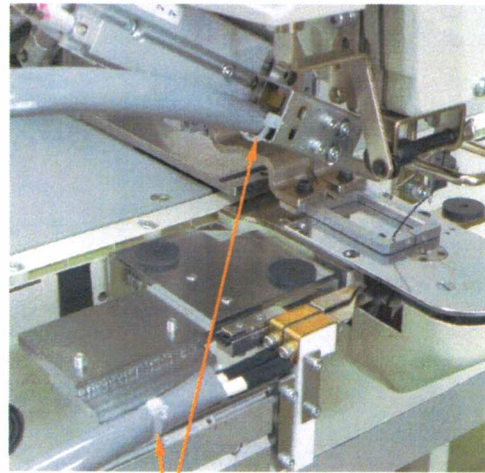
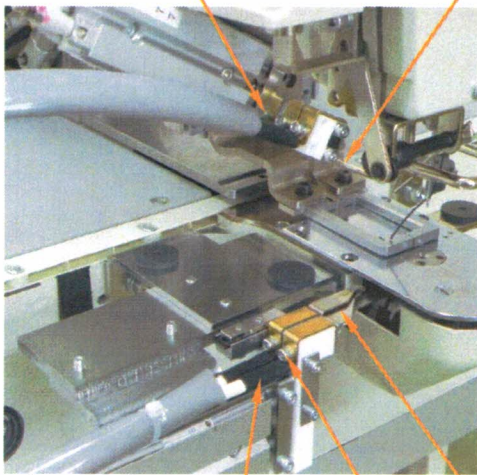
Trans power switch

2) Connecting wire of heater codes

- Connect heater codes to upper thread cutter and lower thread cutter.



Upper thread heater code      Upper thread cutter



Lower thread heater code

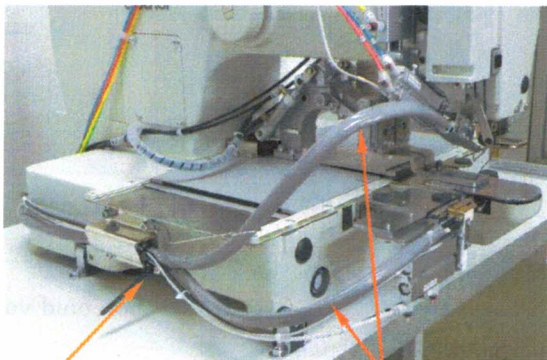
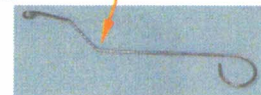
Lower thread cutter

4 Screws to install

Cable ties (white)

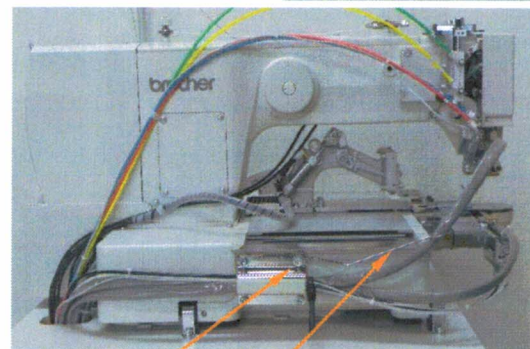
- Band heater codes with cable ties(white).
- Support upper and lower thread heater codes with A)
- Sag the heater code down, and band code and air tube with cable tie(black).

A) Metal fitting to retain codes



Cable tie (black)

※sag the code down.



A)

Screws to install A)

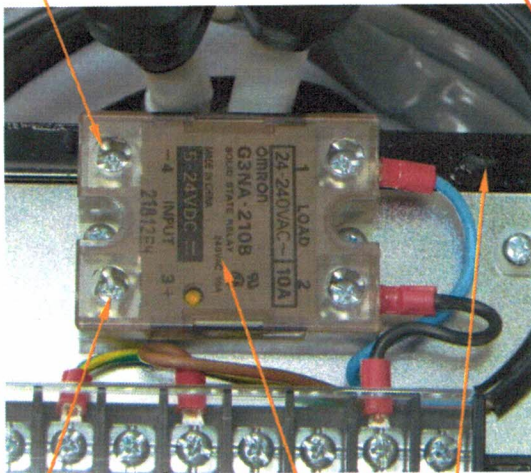
### 3) connecting relay code

- Connect relay code as per following photos.



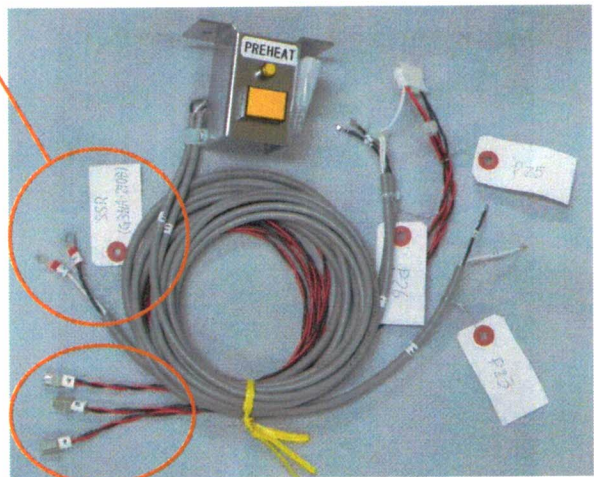
Relay code

Connect black code



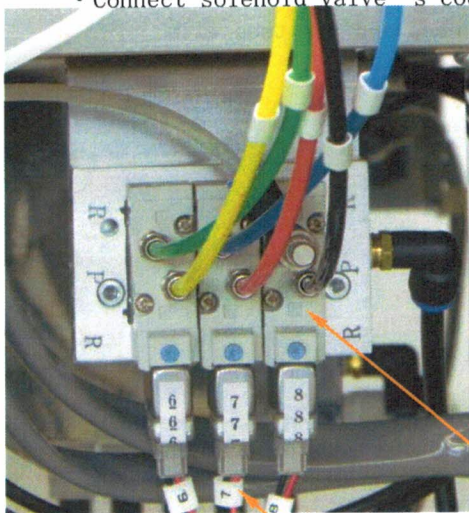
Connect white code

Relay Trans



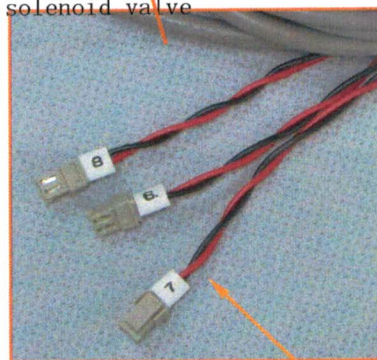
### 3) Connecting solenoid valve

- Connect solenoid valve's code to solenoid valve



Solenoid valve's code

Solenoid valve

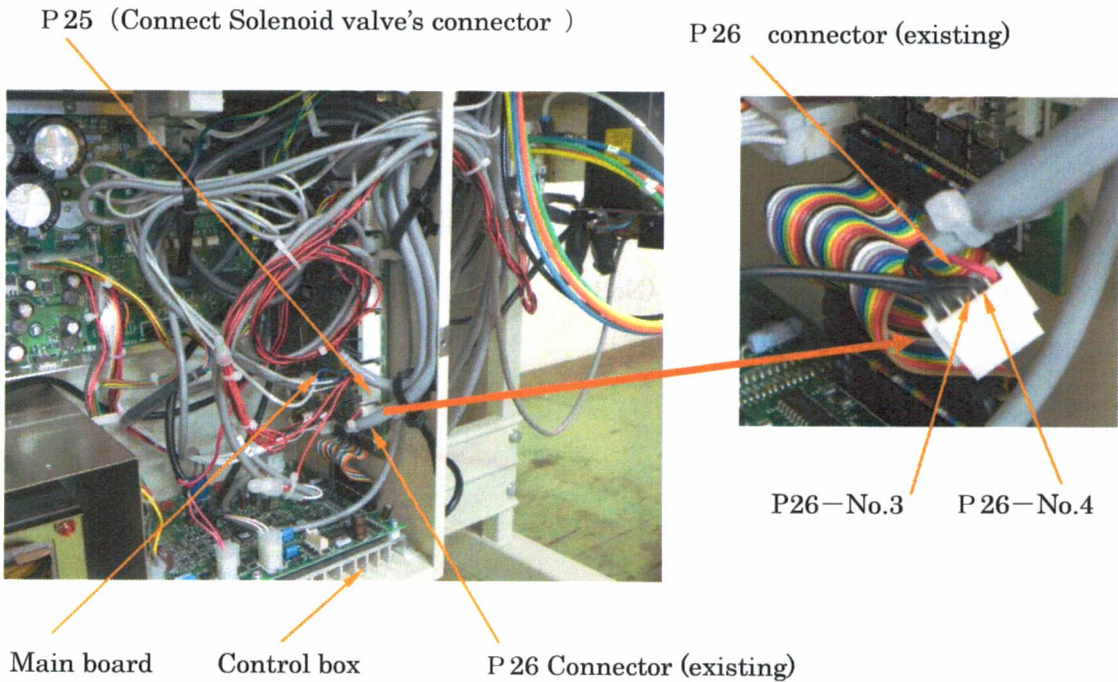
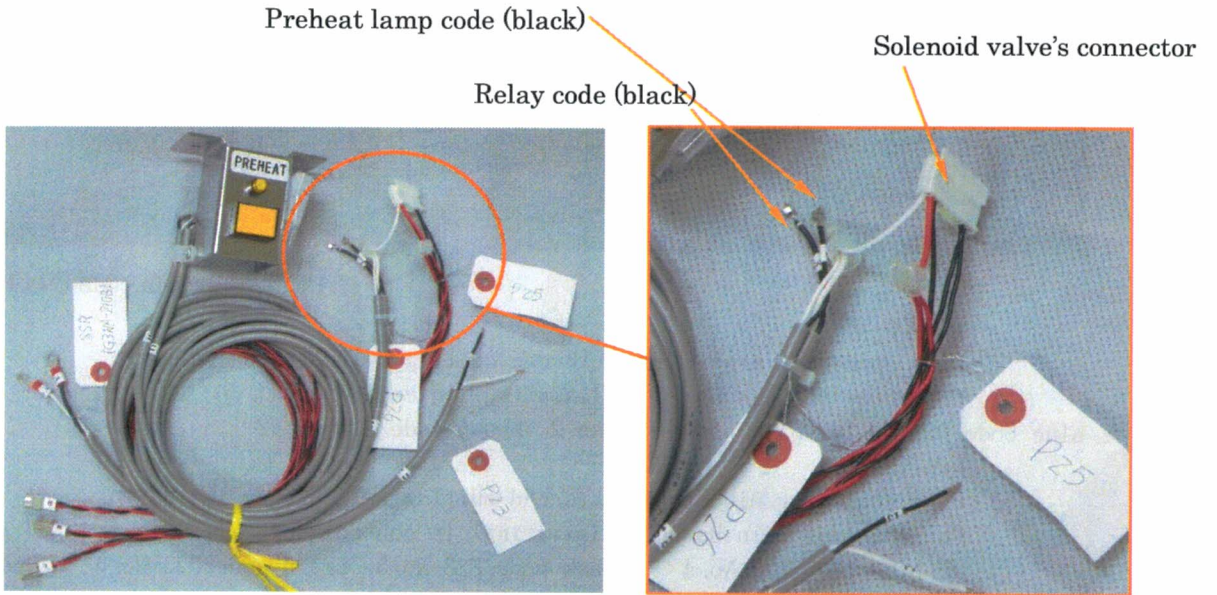


Solenoid valve's code



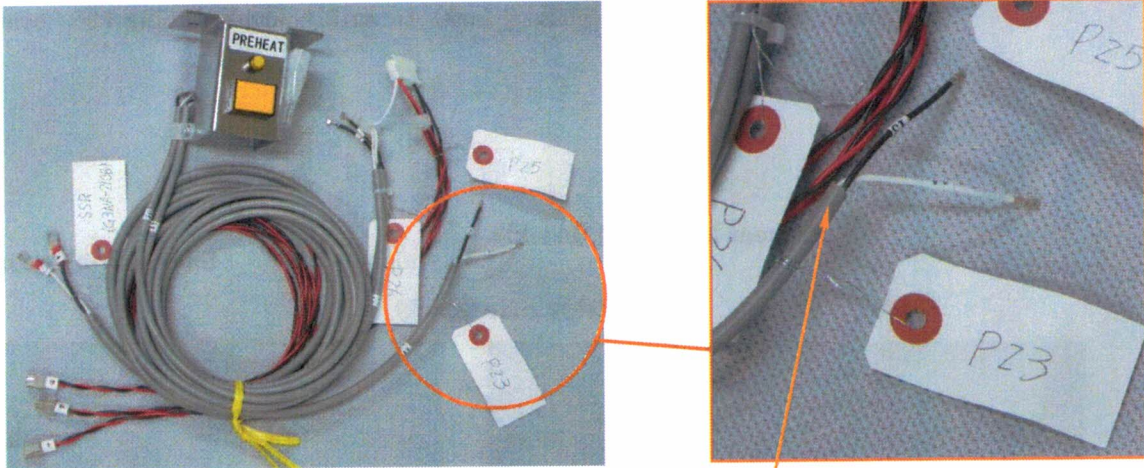
4) Connecting wire in control box.

- Connect Solenoid valve's connector to main board P25 in control box.
- Plug connector pin of preheat lamp code (black) to main board existing P26, connector No4 in control box.
- Plug connector pin of relay code (black) to main board existing P26, connector No3 in control box.



- Plug connector pin of preheat switch code (No.10) to Connector of Main board P23 (existing).

☆ black code/P23-No.13      white code /P23-No.14



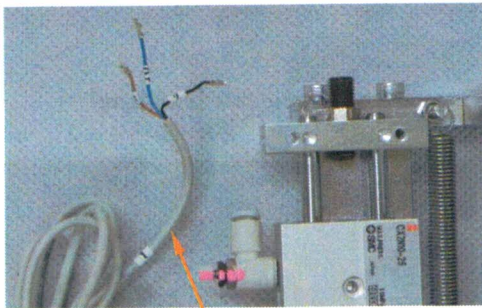
Preheat switch code (No.10)

- Plug connector pin of upper thread cutting switch code (No.1) to Connector of Main board P23(existing) in control box.

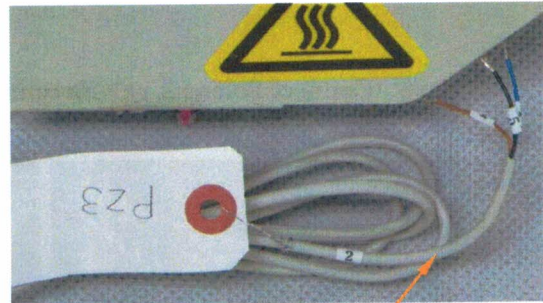
☆ blue code/P23-No.10    black code/P23-No.2    brown code/P23-No.12

- Plug connector pin of lower thread cutting switch code (No.2) to Connector of Main board P23(existing) in control box.

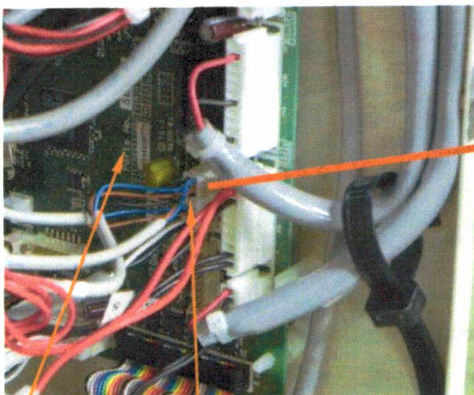
☆ blue code/P23-No.4      black code/P23-No.5    brown code/P23-No.6



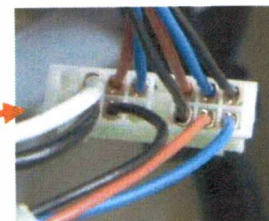
Upper thread cutting switch code (No.1)



Lower thread cutting switch code (No.2)



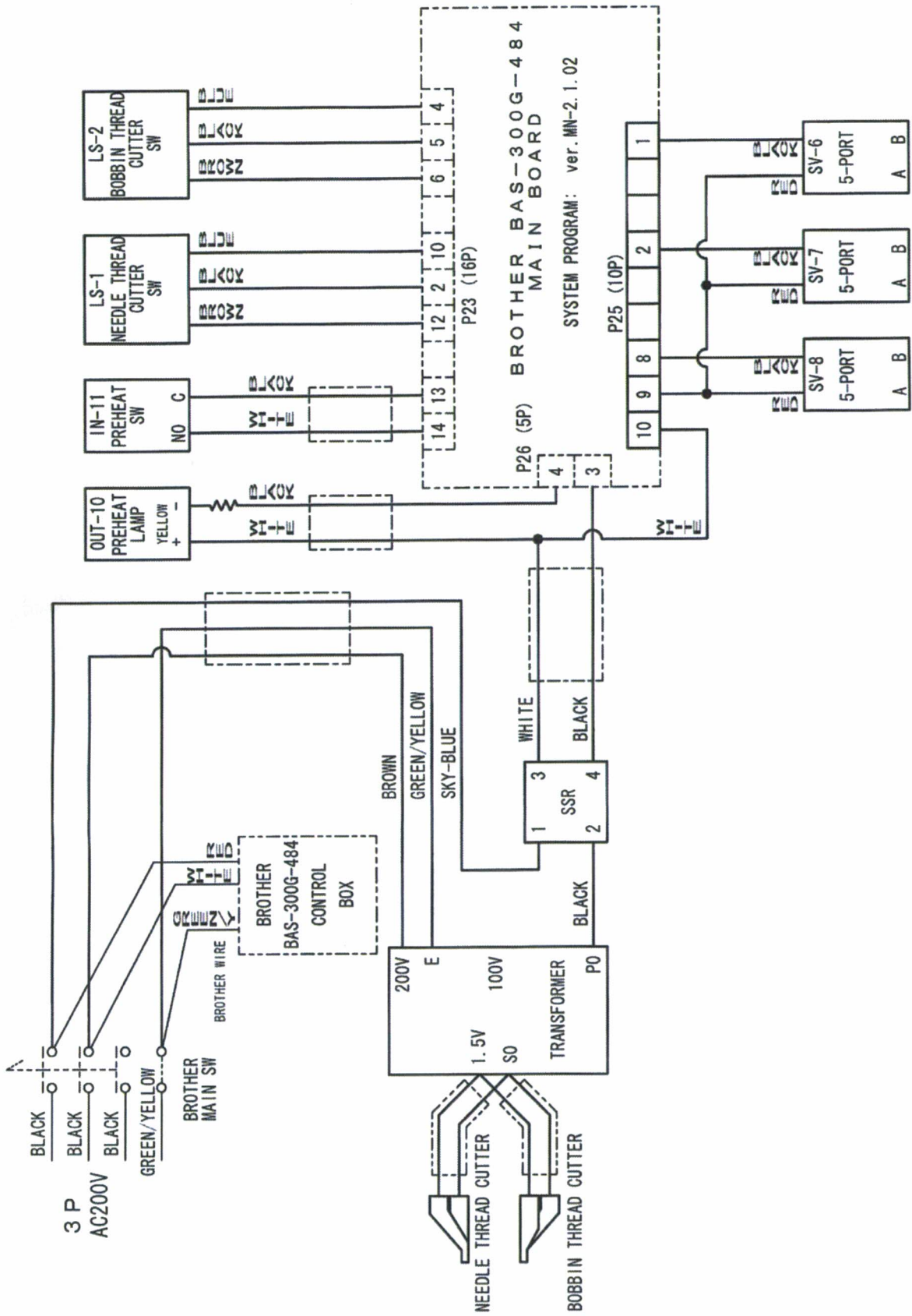
Main board      P23connector(existing)



16	14	12	10	8	6	4	2
15	13	11	9	7	5	3	1

P 23 number arrangement of connector pin  
(No.1,3,11 are used as existing codes)

5) Wiring diagram



(10) Banding cords and air tubes

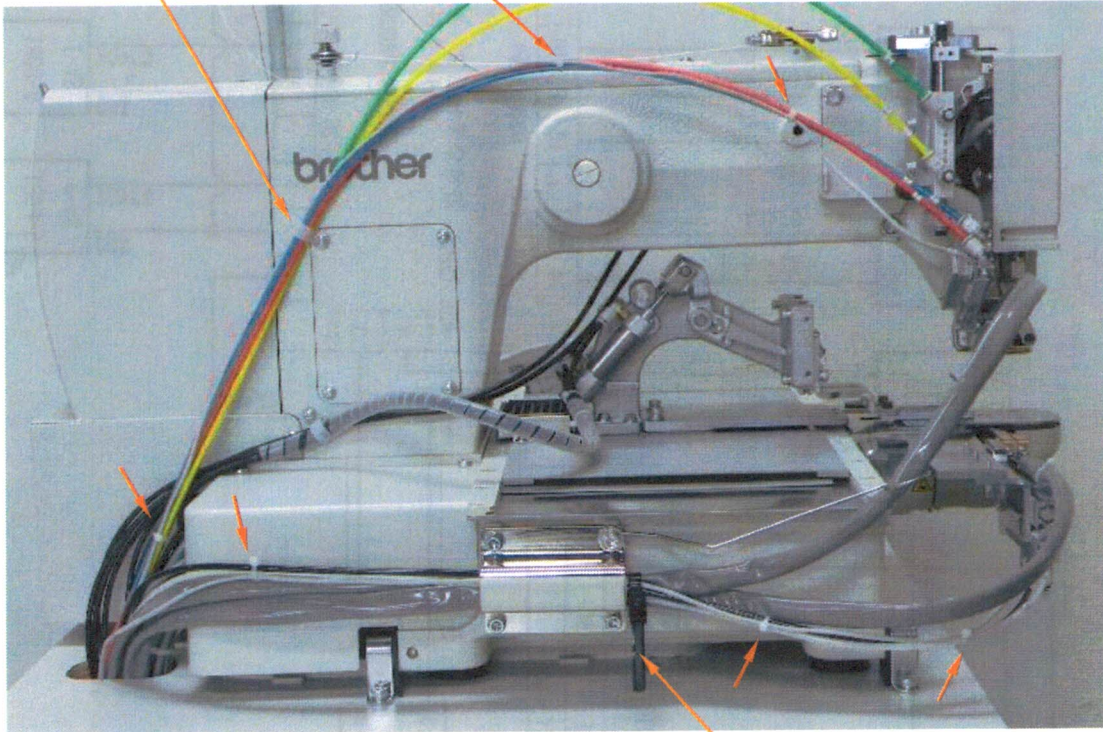
- Band codes and air tubes with attached cable ties, and code clips.



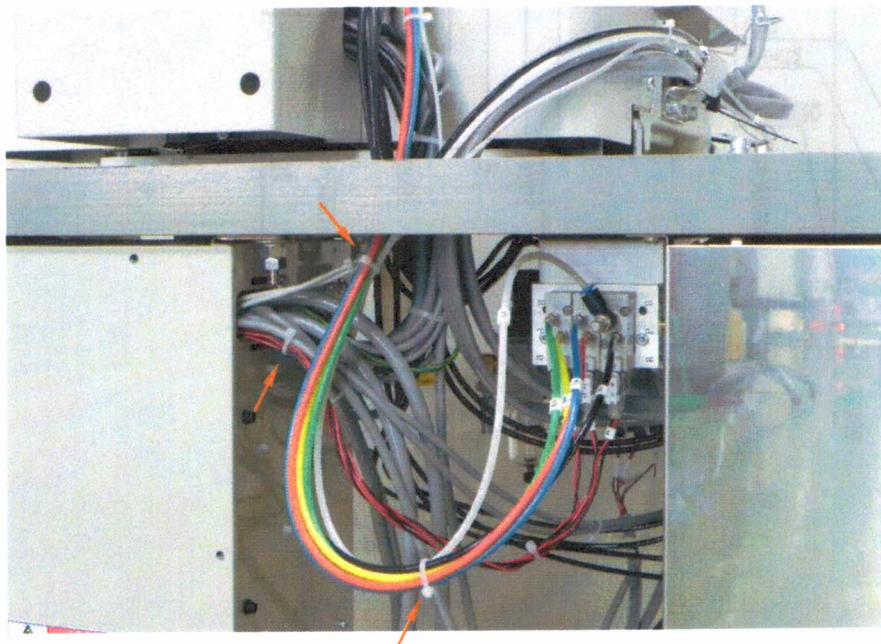
Code clips  
Cable ties (black, white)

Code clips

Cable tie (white)



Cable tie (black)

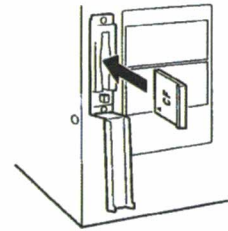
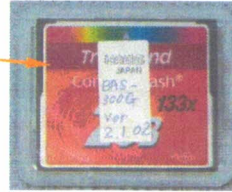


(1 1) Writing sewing machine control program

To make all functions available, brother's control program has to be rewritten. The way of rewriting is as follows.

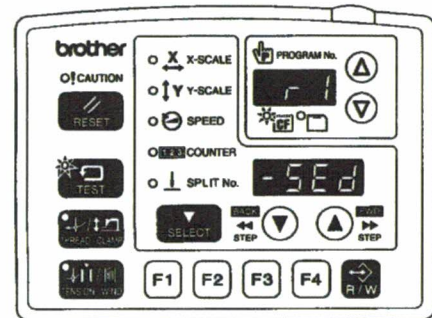
- 1) Insert attached CF card to the CF card's slot.

CF card (attached)

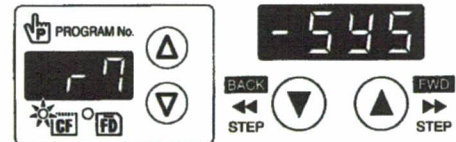


- 2) turn power switch on.

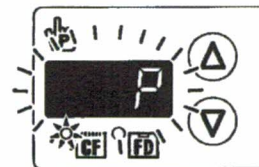
- 3) it will be date programming mode. Press TEST key, and at the same time, press R/W key.



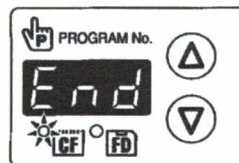
- 4) Press  $\Delta$  key or  $\nabla$  key, and choose Program no [r7]



- 5) Press R/W key. [ P ] is shown on program no, And re-writing of programming is started.



- 6) When the no shows [End] Turn power switch off, remove CF card And close lid of the slot.



※) please see attached adjusting instruction for further information.

## 2. Memory Switches

number	content	range of values	Default value	recommended value
970	heat cutting	ON : be moving OFF :be stopping	ON	
971	Heating time	50~300[×10msec]	150	100
972	Preheating time	30~300[×10msec]	150	100
973	radiation of heating time	10~300[×10msec]	150	
974	Automatic preheating 1, The continuous number	0 : the function is not working 1~10 : the number	1	
975	Automatic preheating 2, The continuous number	0 : the function is not working 1~10 : the number	1	

(1) after writing of sewing machine control program, change following memory switches from the default. (to value when other optional devices are used.)

No. 960 . . . value 0

No. 962 . . . value 0

No. 964 . . . value 0

(2) Explanation of each memory switches

- heat cutting . . Turn the switch **ON** when heat cutting device is used.  
 . . . Turn it **OFF** when the device is not used.  
 (when the regular cutting operation runs)
- Automatic preheating 1 . . . . . when power switch is on, or returns to the original point after changing any values, automatic preheating runs as per the setting number.  
 (if the value number is 0, the function does not work.)
- Automatic preheating 2 . . . . . power switch turns it on, but no operation for 60 seconds, automatic preheating runs as per the setting number.  
 (if the value number is 0, the function does not work.)

(3) recommended value

- When heat cutting device is used for the first time, or new cutter is used, value heating time(971) and preheating time(972) 100.

### 3. Error code

number	content	to reset
E640	Lower thread cutting error	Same as the operation of Pause SW

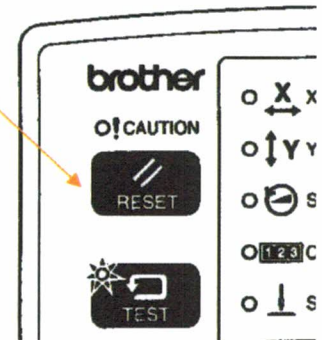
※For this error, thread entangles in bobbin might be the cause.

Be sure not to entangle lower thread in bobbin or the case when re-operating.

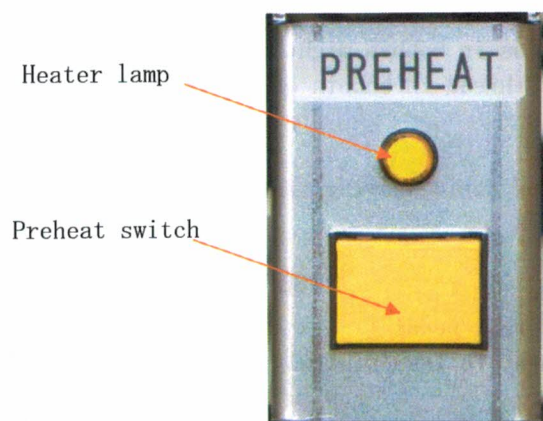
(※) when the sewing machine stops during sewing, following information is for the re-operation.

- 1) press RESET switch
- 2) press RESET switch again
- 3) step on power switch of foot pedal
- 4) the sewing machine returns to the original point, and the presser foot up.

RESETswitch



## 4. Operation switch



### (1) Preheat switch

- during a wait condition of sewing machine, (presser feet up) ,press the switch long(more than 0.5 seconds), then preheater will be on one time- this is hand-operation of preheating.

\*Also, it has a cleaning function-when fusing' s condition is not good, either non inflammable fiber or dreg is heated and they are to be charcoal. (The cleaning is done when smoke issues from the cutter. Do not use the cleaning function too much. Too much use of it causes generation of heat and it drops parts' quality.

### (2) Heater lamp

- the lamp lights when the heater is on.  
(hand operation of preheating , automatic preheating, and heating.)



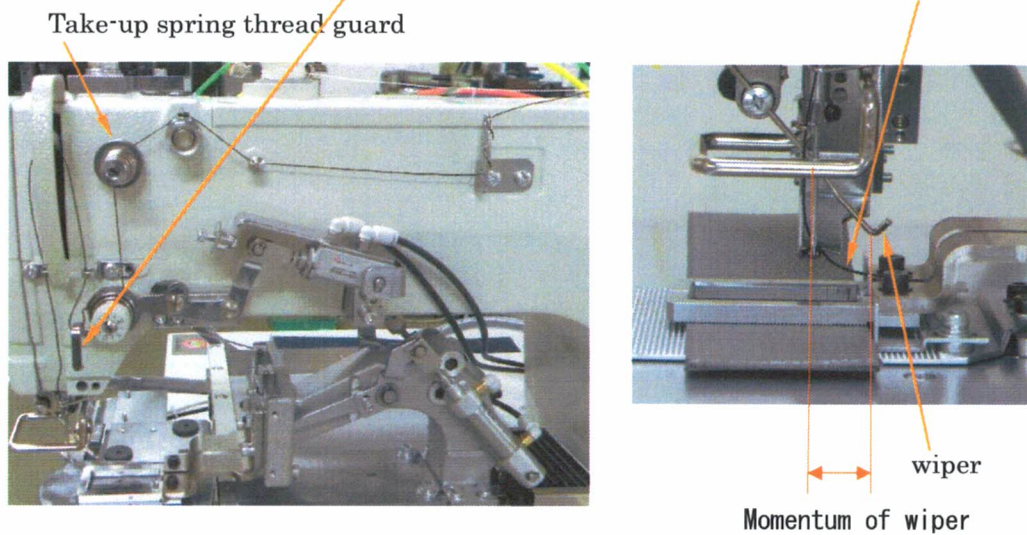
## 5. Adjusting remaining thread

### (1) for upper thread

- adjust with momentum of wiper <standard value : about 20mm back from needle>
- adjust with the volume of thread take-up shift<standard value : most at thread release>

>

- adjust with thread take-up spring thread guard  
 ※see sewing machine's instruction manual to find out the way of adjusting them.



### (2) for lower thread

- unscrew ①, move lower thread-release right and left.  
 Move left; to make it short.  
 Move right; to make it long.

