

# Service Manual

Model. SCM-168 series

Sewmaster Industrial Co., Ltd.

Satimaco Industries Co., Ltd.

(Sewing machine of rotary hook)

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# 1. PRESSER BAR

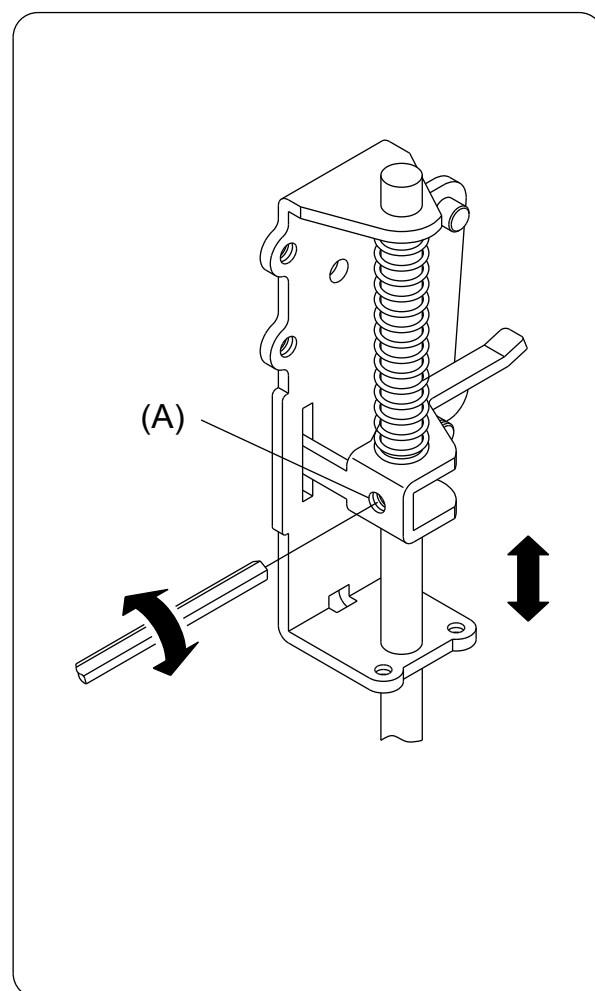
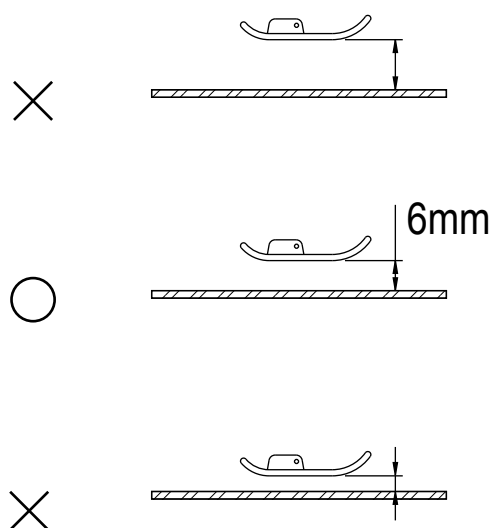
TOOL: 2.0mm hexagon screwdriver,6.0mm gauge.

STANDARD: Height of presser foot-6.0mm.

- A. Open face cover.
- B. Lift presser bar lifter to upper position.
- C. Loosen hexagon screw (A) of presser bar guide bracket.
- D. Adjust presser bar until presser foot lifting height is 6.0mm
- E. Tighten hexagon screw.(A)

CHECK:

Repeat the presser bar lifter down & up for confirm the height of presser foot is 6.0mm.



## 2.NEEDLE DEPTH

TOOL: 2.0mm hexagon screwdriver, "-" type screwdriver (large)

STANDARD: Sharp of needle touch with bottom of shuttle race related.

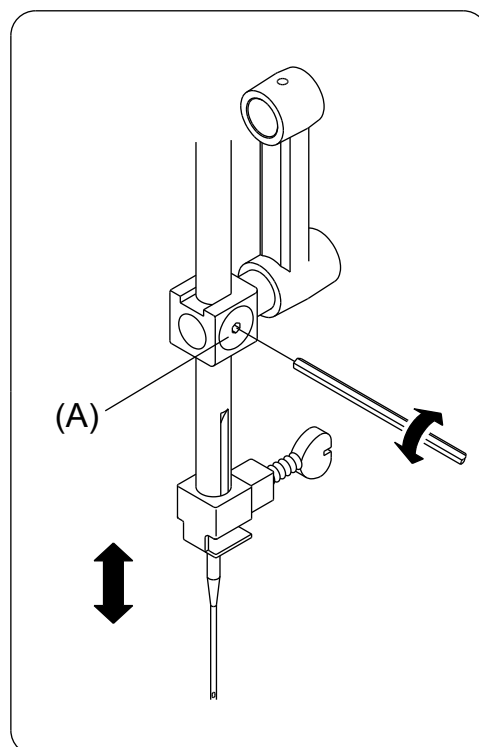
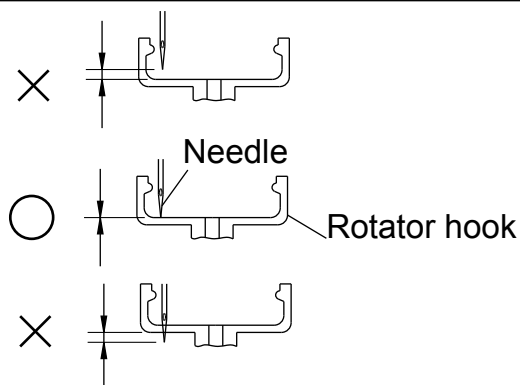
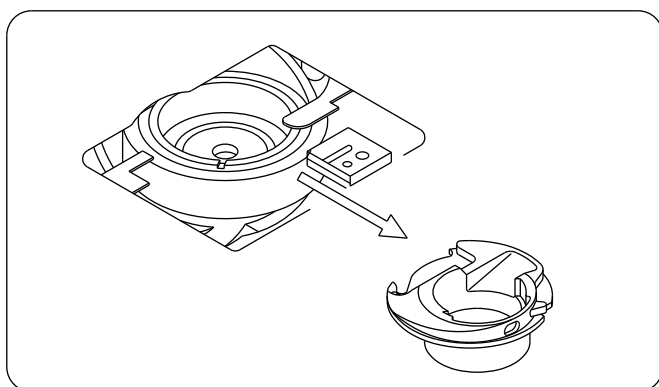
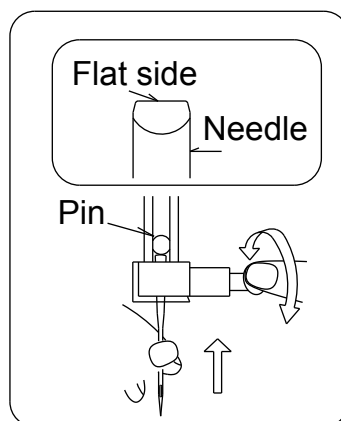
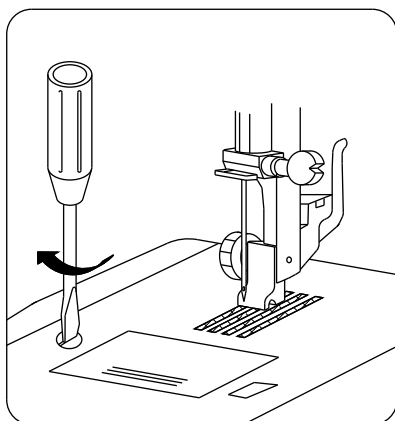
NOTE: Needle must be at the deepest of the hole, tighten the presser foot thumbscrew for fix the needle in needle clamp.

CHECK:

- A. Open needle plate, take bobbin case out.
- B. Turn the hand wheel, make needle at the bottom point.
- C. Check the distance between needle and the bottom of shuttle race.(see fig)

ADJUSTMENT:

- A. Loosen the hexagon screw (A) of needle bar bracket adjust to up or down until needle at correct position.
- B. Tighten the hexagon screw of needle bar bracket.



### 3. NEEDLE POSITION

TOOL: 2.0mm hexagon screwdriver, "\_" type screwdriver (small), special tool (sleeve)

STANDARD: Between needle body with needle plate hole 0.6mm left & right side each.

ADJUSTMENT: Right position \_\_\_\_\_

CHECK:

A. Open front cover.

B. Move the stitch width dial to "0" position.

C. Turn hand wheel, make needle through needle plate hole, check the distance between needle body with right side of needle plate hole.

ADJUSTMENT:

A. Use 2.0mm hexagon screwdriver, loosen the hexagon screw of needle bar crank.

B. Use "\_" type screwdriver adjust zigzag eccentric pin until the needle right position at standard position.

C. Tighten the hexagon screw of needle bar crank.

Left position \_\_\_\_\_

ADJUSTMENT:

A. Move the stitch width dial to "6" position. (see fig)

B. Turn hand wheel, make needle through needle plate hole.

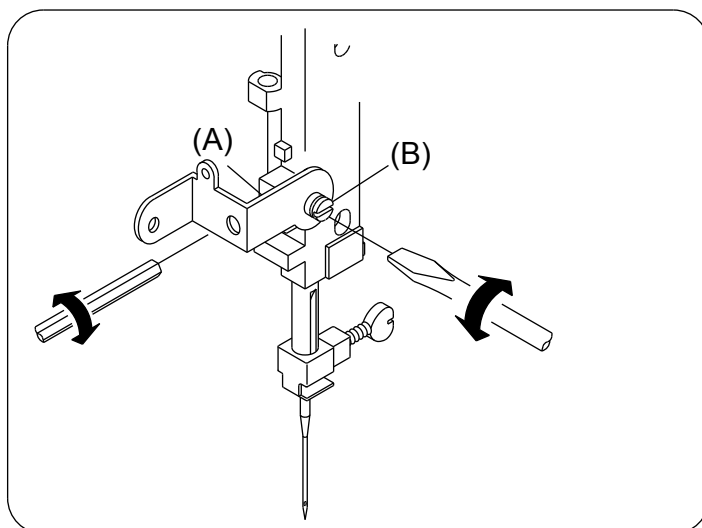
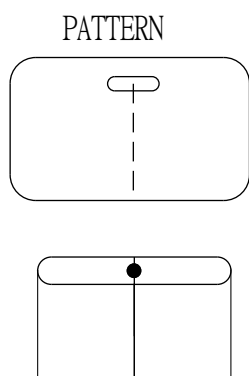
C. Use "\_" type screwdriver loosen a little bit of the binding head screw on zigzag regulate nut.

D. Use sleeve adjust zigzag regulate nut.

Left needle position lean on right: Turn to left

Left needle position lean on left: Turn to right

E. Tighten the binding head screw (B) of zigzag regulate nut.

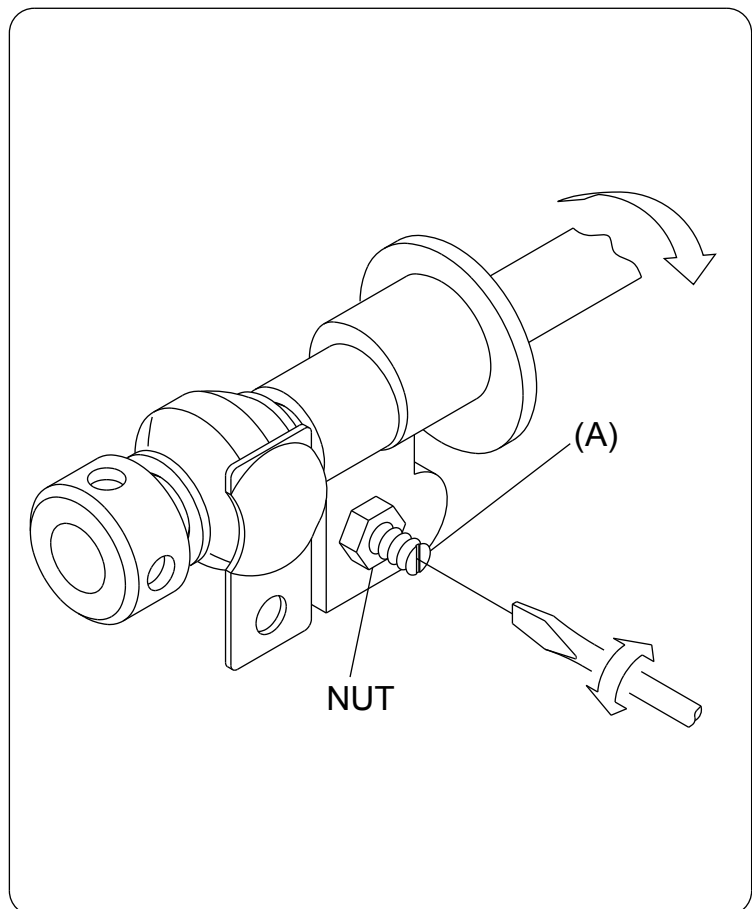
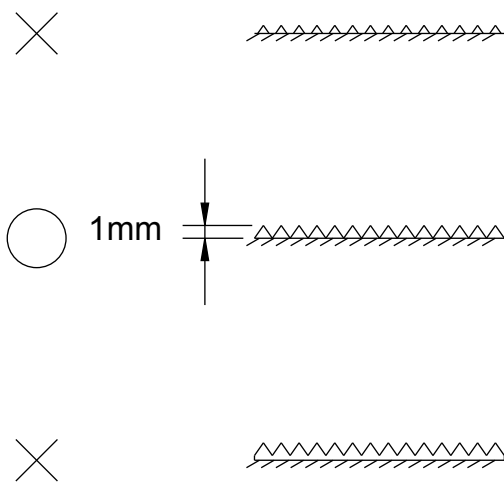


## 4. FEED DOG (POSITION)

TOOL: 7.0mm hexagon sleeve, "—" type screwdriver.(small)  
Gauge for feed dog height.

STANDARD: Feed dog height 0.9mm (move)-1.1mm (stable).

- A. Turn hand wheel, make needle at the highest point.
- B. Open bottom cover.
- C. When feed dog lower than 0.9mm, use "—" type screwdriver, turn the screw to right, until feed dog match standard.
- D. When feed dog higher than 1.1mm, use "—" type screwdriver, turn the screw to left, until feed dog match standard.
- E. Use sleeve, tighten hexagon nut.



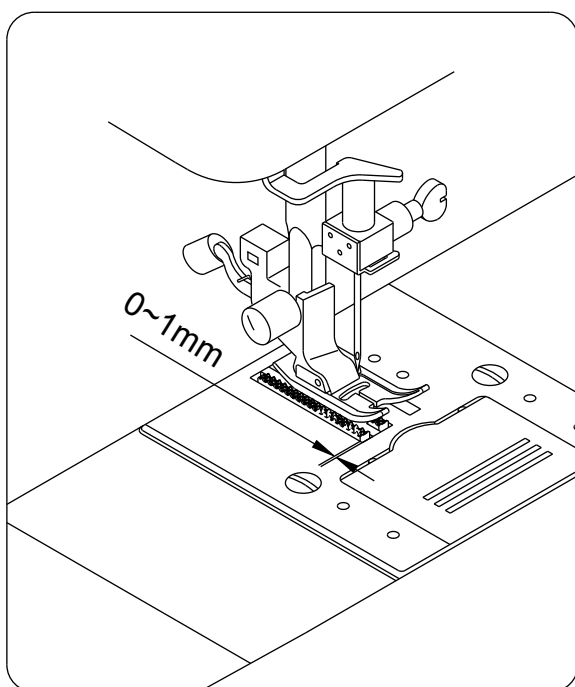
## 5. FEED DOG (REGULATE)

TOOL: 2.5mm hexagon screwdriver .

STANDARD: move down the needle from the highest point, feed dog transmission between 0-1mm.

ADJUSTMENT:

- A. Turn hand wheel, make needle at the highest point, check transmission of feed dog.
- B. Open bottom cover.



## 6. DISTANCE BETWEEN NEEDLE & SHUTTLE RACE

TOOL: 2.0mm hexagon screwdriver

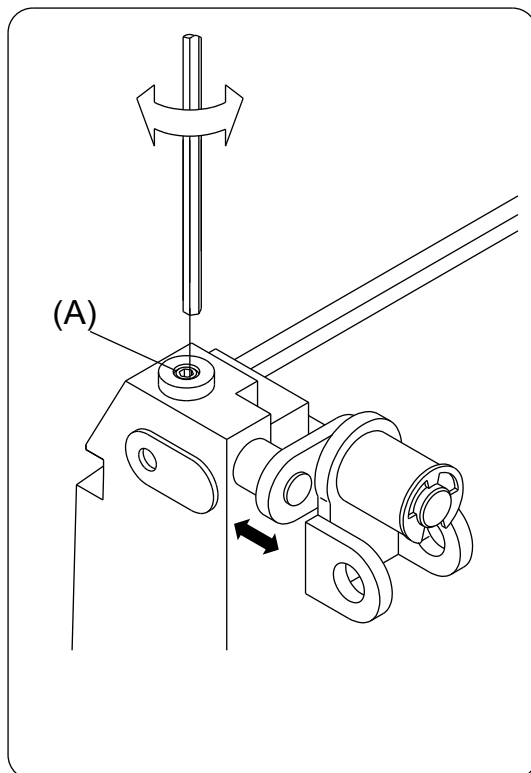
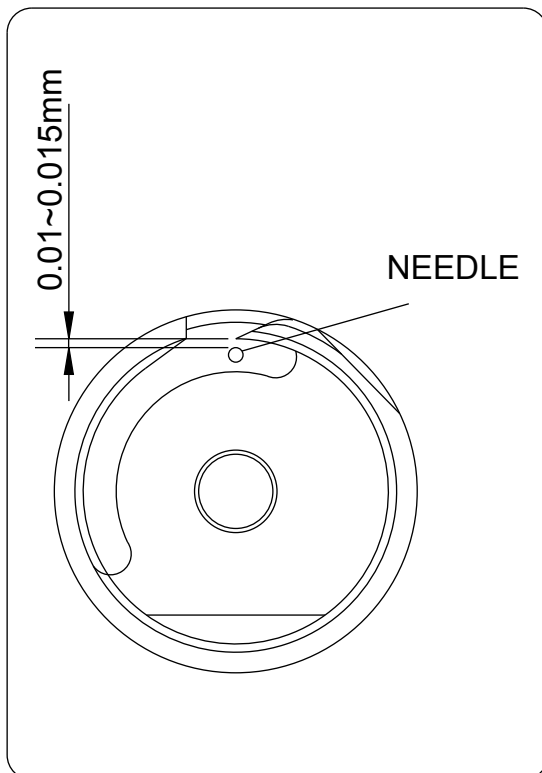
STANDARD: The distance between needles and shuttle race sharp  
0.01mm-0.015mm.

CHECK:

Move the stitch width dial to "3" position. (middle position )

ADJUSTMENT:

- A. Open face cover.
- B. Use 2.0mm hexagon screwdriver, loosen the hexagon screw (A) of arm.
- C. When distance too close, move needle bar crank support shaft back until the distance correct.
- D. When distance too far, move needle bar crank support shaft forth until the distance correct.
- E. Must be tightening the hexagon screw (A) of arm.





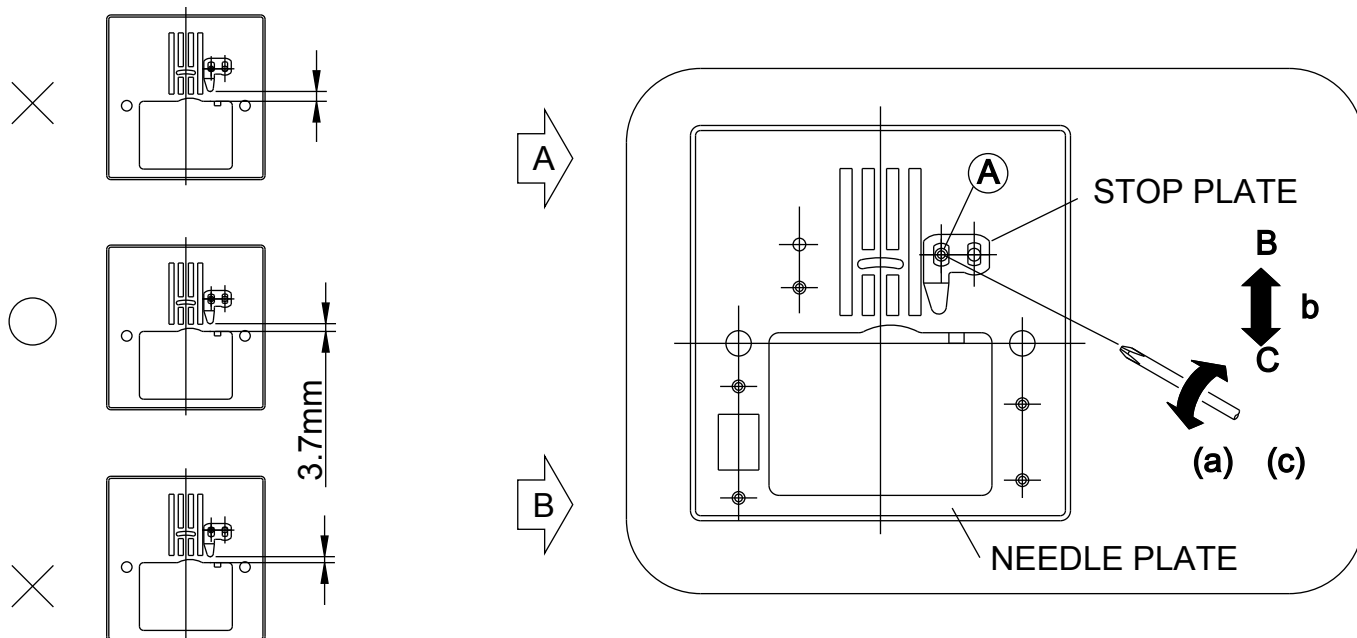
## 7. POSTION OF BOBBIN

TOOL: "-" type screwdriver (large), special gauge.

STANDARD: Distance between bobbin with stop shrapnel holder 1mm.

ADJUSTMENT:

- A. Open needle plate.
- B. Loosen T screw (A) of bobbin case set stop plate.
- C. Put special gauge in the gap, set at 1.0mm
- D. When the gap less than 3.7mm, adjust bobbin case set stop plate upper.
- E. When the gap more than 3.7mm, adjust bobbin case set stop plate lower.
- F. Tighten T screw (A) bobbin case set stop plate & return needle plate.



## 8. TENSION DIAL

TOOL: Tension gauge

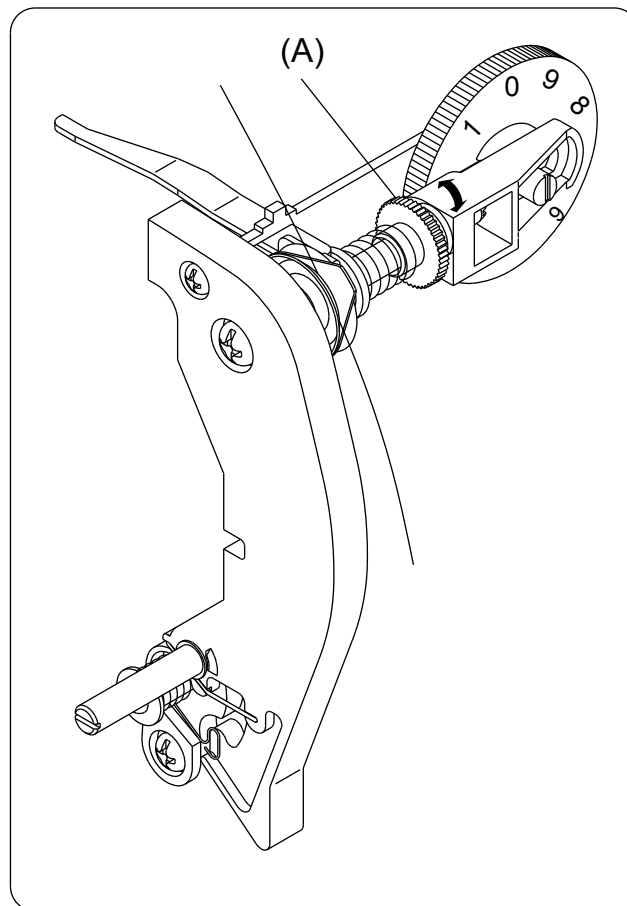
STANDARD: Set D / T at "3" , tension between 60g-80g.

CHECK:

- A. Set D / T at "3".
- B. Lift presser bar lifter at upper position
- C. Threading the thread of tension gauge in D / T.
- D. Put presser bar lifter down.

ADJUSTMENT:

- A. Open front cover.
- B. When tension too tight (more than 80g), turn down the elastic regulate by finger until tension match standard.
- C. When tension too loose (less than 60g), turn up the elastic regulate by finger until tension match standard.



## 9. TENSION OF BOBBIN CASE

TOOL: Tension, "\_" type screwdriver.(small)

STANDARD: Tension between 16g-20g.

CHECK:

A. Open needle plate, take bobbin case out.

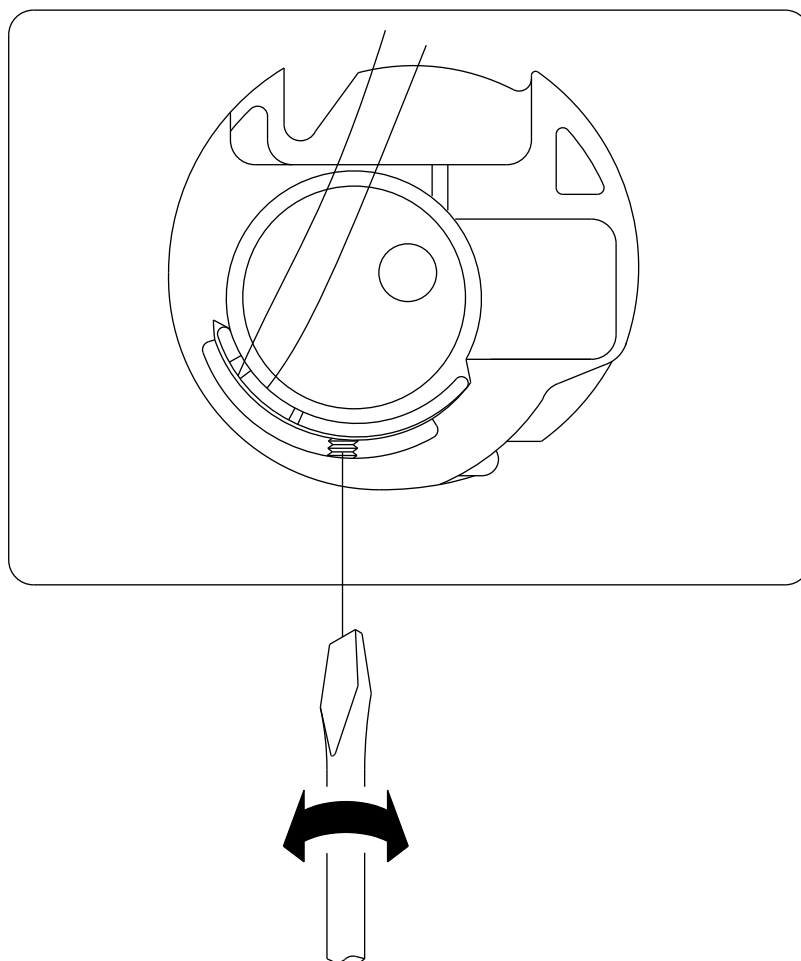
B. Threading to check.(see fig)

ADJUSTMENT:

A. When tension too tight, use "\_" type screwdriver to turn the regulate screw (A) by anticlockwise until tension match standard.

B. When tension too loose, use "\_" type screwdriver to turn the regulate screw (A) by clockwise until tension match standard.

C. Return bobbin case & needle plate.



## 10. AUTO THREADER

TOOL: 1.5mm hexagon screwdriver, "-" type screwdriver.(large)

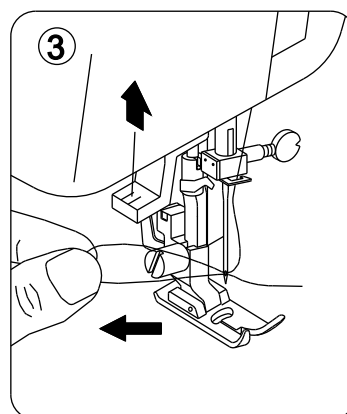
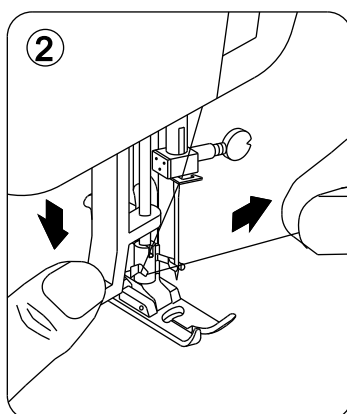
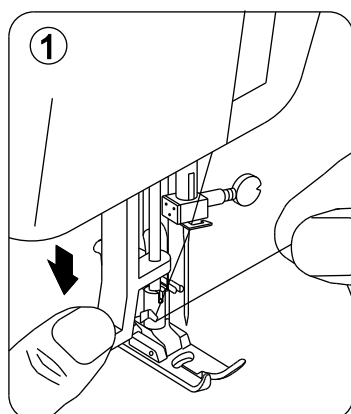
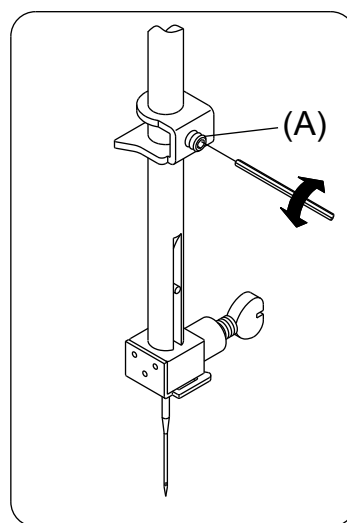
STANDARD: Auto threader hook thread normal.

CHECK:

- A. Turn hand wheel, make needle at highest position.
- B. Try hook thread.

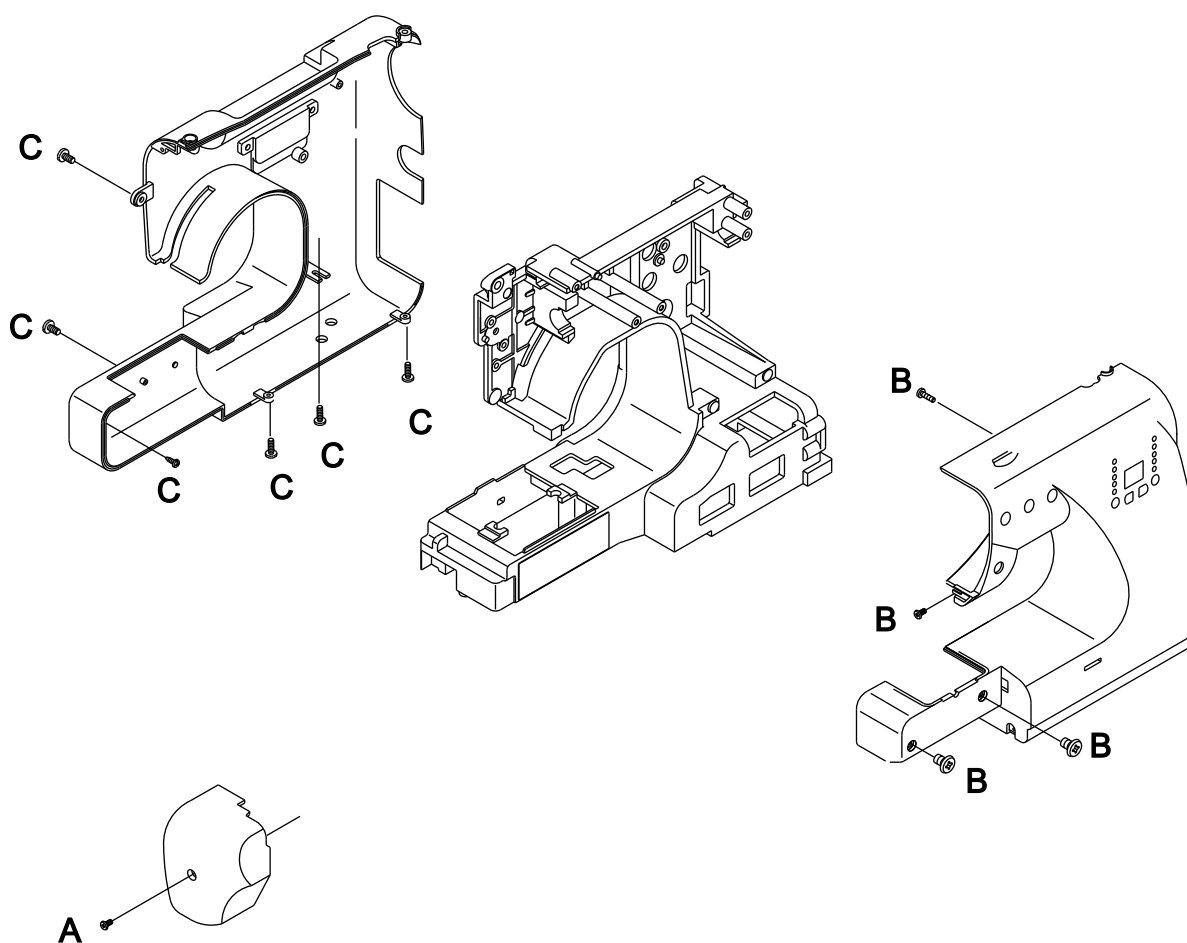
ADJUSTMENT:

- A. Open face cover.
- B. Use 1.5mm hexagon screwdriver,loosen hexagon screw (A) of through thread location plate , screwdriver keep at the screw hole.
- C. When the hook of threader higher than needle hole, use the hexagon screwdriver to press down the through thread location plate until match correct position.
- D. When the hook of threader lower than needle hole , use the hexagon screwdriver to move up the through thread location plate until match correct position.
- E. Check threads motion again.
- F. Tighten the hexagon screw (A)of through thread location plate.



## 11.OPEN EXTERNAL COVER

- A. Face cover, top cover, side cover, bottom cover each open & assemble separate.
- B. Before open front cover , open other parts firstly as face cover, top cover, side cover, & bottom cover.



## 12. ADJUST THE STARTING POINT

1. Check: When turn on the machine, needle set at up or down position,  
UPC auto search the starting point.

Problem; UPC cannot auto search starting point when turn on the machine.

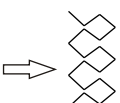
Solution: change Pc2 circuit board

Remark: When turn on the machine, needle set at between up or down position, UPC doesn't perform the motion for search the starting point.

2. Problem: the starting point different from standard

problem: When the starting point different with standard, sew the patterns unwell.

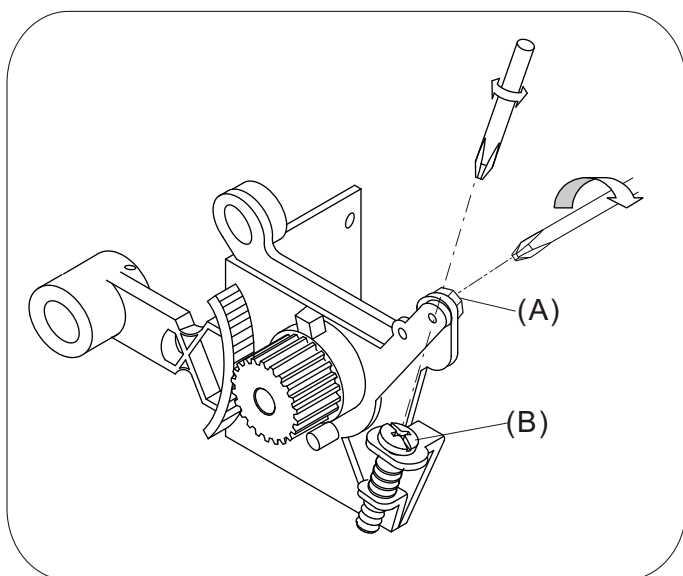
Check: try to sew the patterns:

Ex; When A  too large

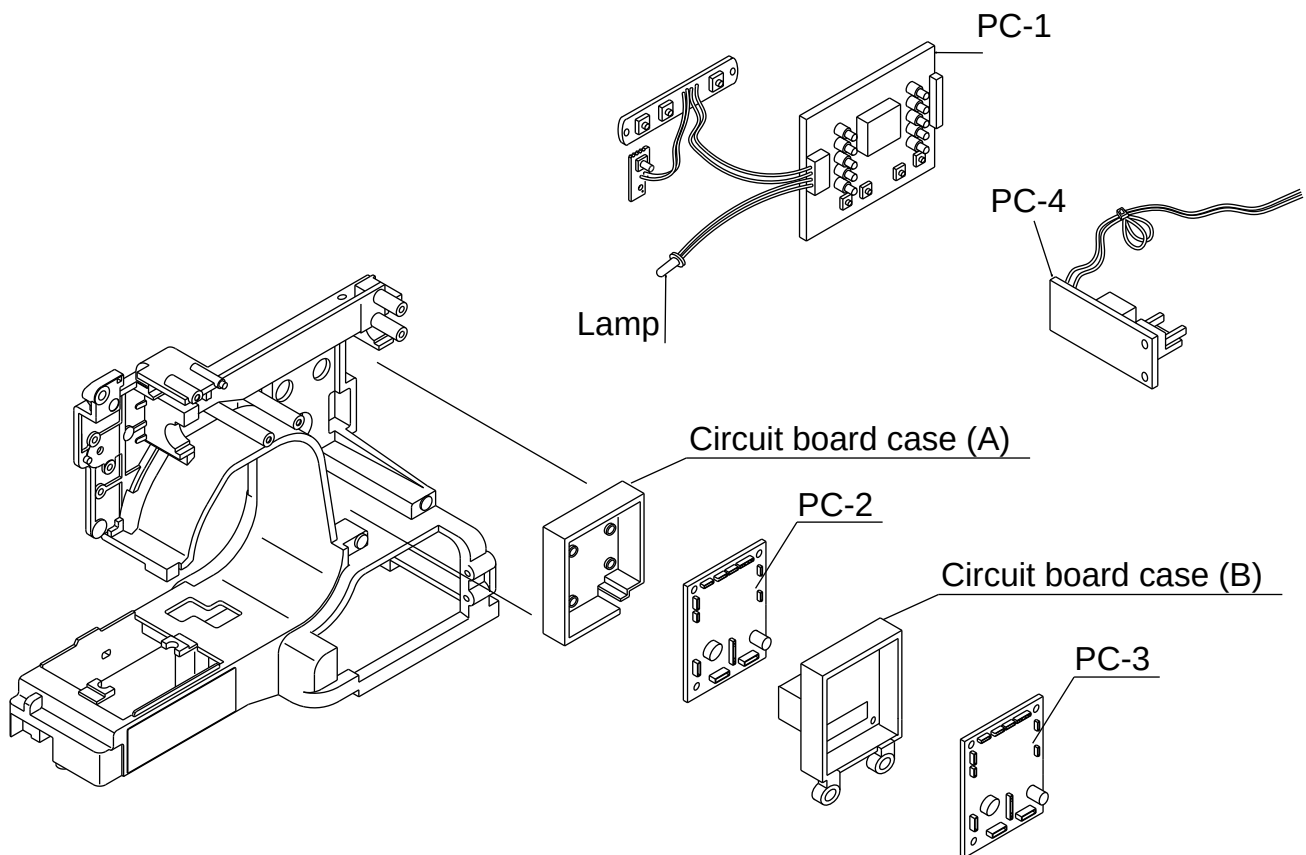
- Use +screwdriver to loosen (A) screw
- Adjust (B) screw by anti-clockwise
- Fix (A) screw
- Sewing test
- Test OK, fix (A) screw

Ex: A  too small

- Use +screwdriver to loosen (A) screw
- Adjust (B) screw by clockwise
- Fix (A) screw
- Sewing test
- Test OK, fix (A) screw



## 13. ELECTRONIC PARTS & CIRCUIT BOARD POSITION



### When lamp & LED cannot lighten

Problem: only LED cannot lighten (PC-1)

Solution: change operate circuit board

Problem: Simultaneously cannot lighten

Check: the power plug whether plug in and power switch whether at "on", If all of these set up all right. (PC-2)

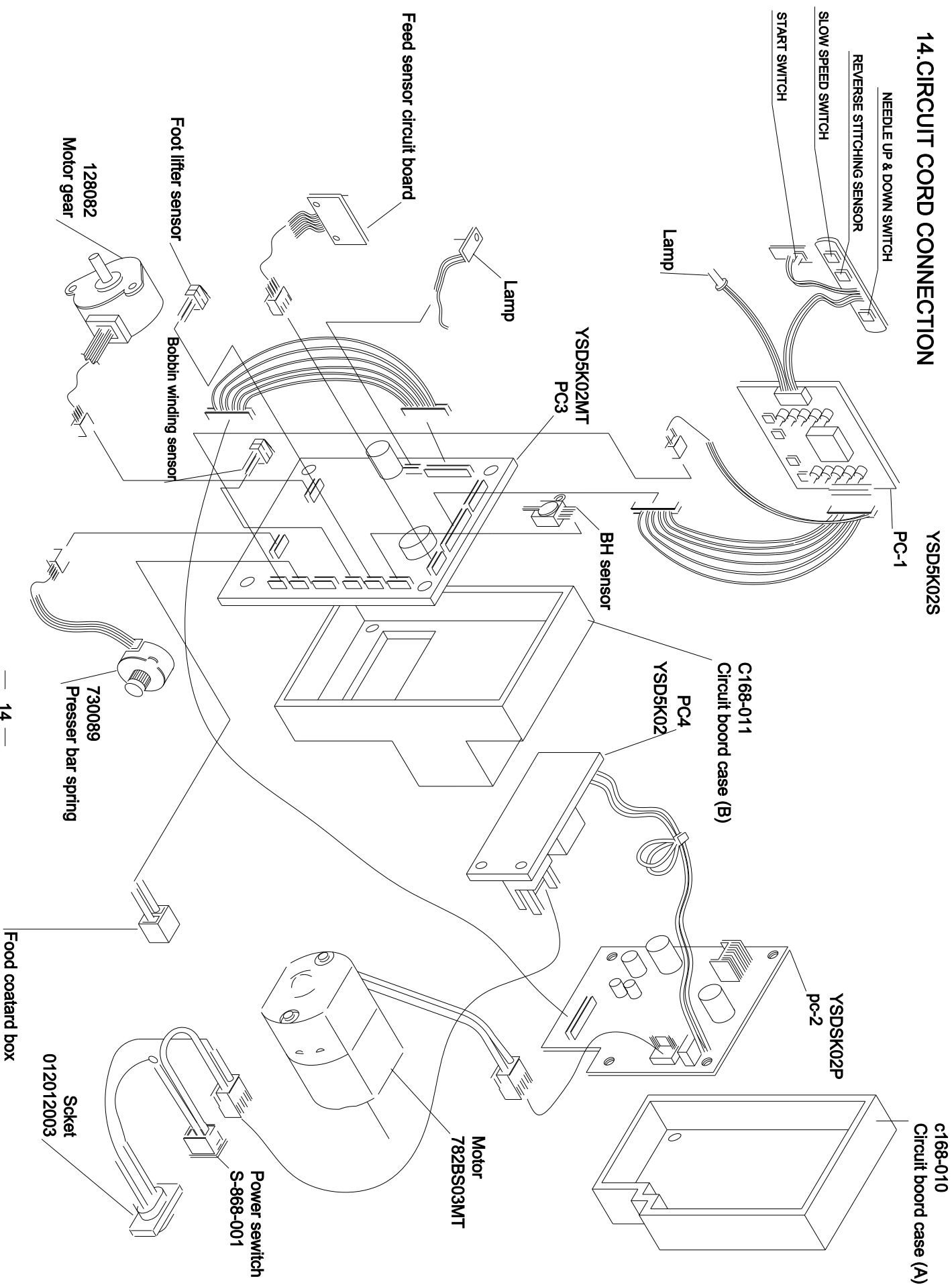
Solution: change the power supply circuit board.

### When operate circuit board LED cannot lighten or all lighten

Problem: operate circuit board lighten two pieces or above simultaneously;  
OR, cannot lighten when push

Solution: change operate circuit board LED (PC-1)

# 14.CIRCUIT CORD CONNECTION





## 15.CHANGE Y SHAFT PULSE MOTOR (REGULATED MOTOR)

Construction ref. Part list drawing SCM168-10

Solution:

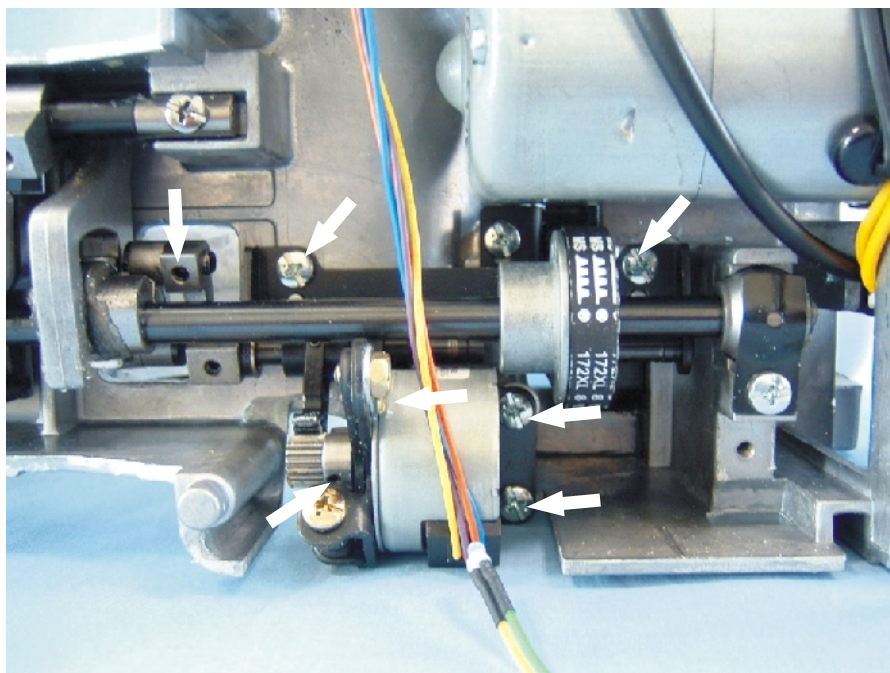
- 1.Loosen the hexagon screw of feed regulate crank, release feed regulated shaft, release 4 screws for release the complete set of feed regulate unit.
2. Loosen the hexagon screw of motor gear and loosen motor fixing screw,  
Then release the motor of Y shaft for change new one.
3. Fixing the new motor at the feed motor plate, then return the motor gear.
4. Push the regulate plate of regulated motor gear (# 128082) for touch rule pole, tighten the hexagon screw for fix the regulated motor gear.
- 5.Tighten two screws at right & left sides for return the regulated unit at the arm then fix the feed regulate crank.
6. Push feed regulate gear & motor gear to grip, adjust to grip only 1 or 1.5 teeth.(note:motor gear plate must be keep touch the rule pole)
7. Fixing the two screws of feed motor plate return arm.

Ckeck:

- 1.switch turn on, try to sew



- 2.the starting point correct or error? If it is error, please reference point E to abjust.



## 16.BH MOTION SWITCH ADJUST

Pattern select BH

Problem: BH presser foot up and down again, cannot normally touch BH connecting rod, so the start switch show red light.

Solution: Loosen the screw of BH switch case (#128024), then trimming backwards the switch case, return the screw and test again.

Check: 1. BH presser foot motions normally, start switch show green light, mean OK.

2. try to sew BH



, if sew normally mean OK.

Problem: If the user sew as



means BH switch box backwards too much.

Solution: loosen the screw of switch case and trimming forwards then return the screw and test again.

Check: BH  sewing OK, confirm the BH motion normally and Start switch show green light.

