

PRO-Q9

Service Manual

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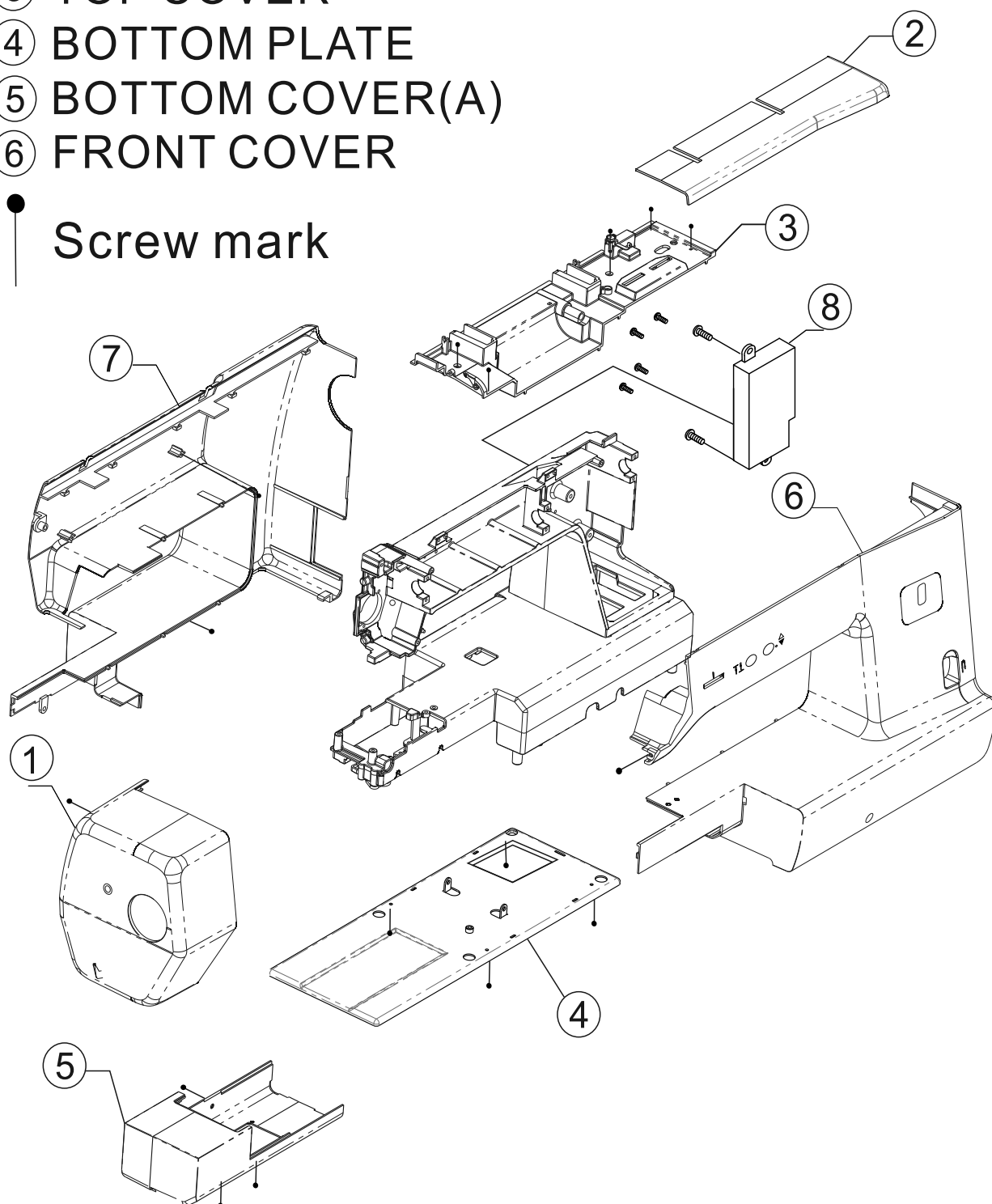
1. OPEN EXTERNAL COVER

Please follow order as below for disassembling

- | | |
|-------------------|--------------|
| ① FACE COVER | ⑦ BACK COVER |
| ② TOP LID | ⑧ PCB BOX |
| ③ TOP COVER | |
| ④ BOTTOM PLATE | |
| ⑤ BOTTOM COVER(A) | |
| ⑥ FRONT COVER | |



Screw mark



2. PRESSER BAR

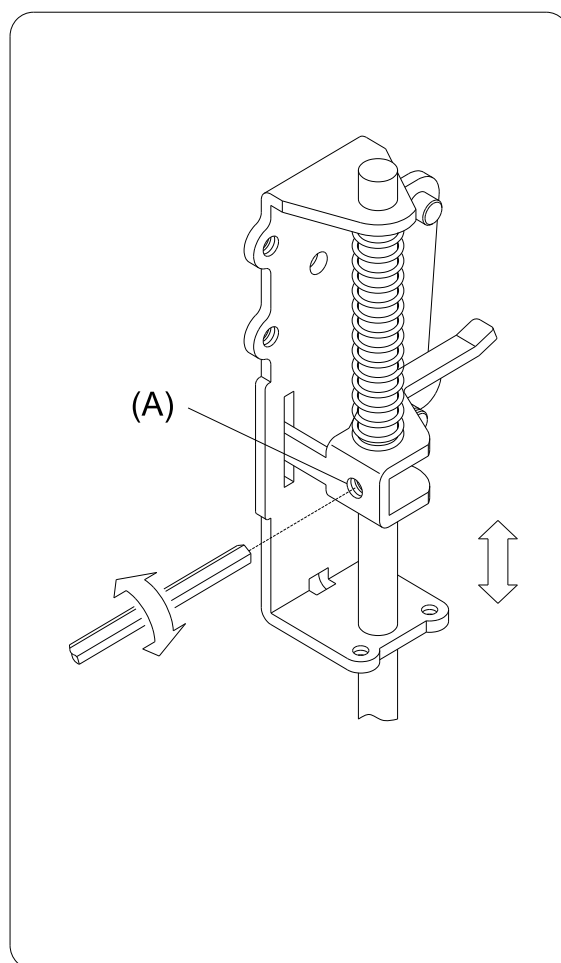
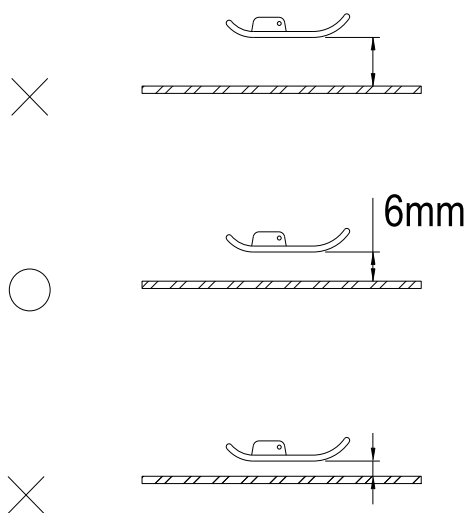
TOOL: 2.0mm hexagon screwdriver,6.0mm gauge.

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.(M986-012)
- D. Adjust presser bar (986026) until presser foot lifting height is 6.0mm
- E. Tighten hexagon screw.(A)

CHECK:

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



3. NEEDLE DEPTH

TOOL: 2.0mm hexagon screwdriver, slotted screwdriver (large)

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

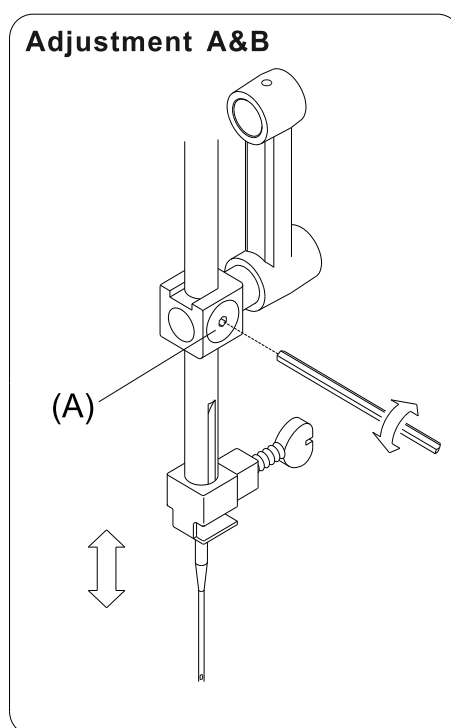
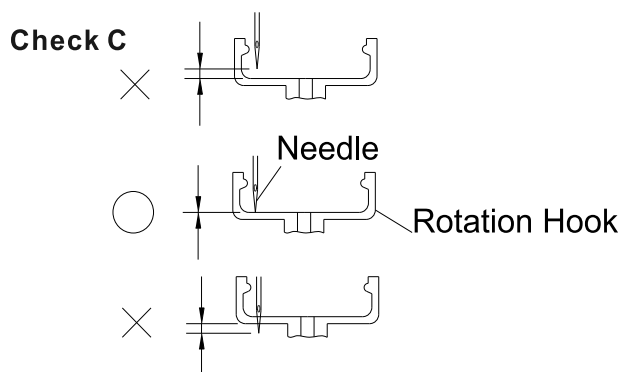
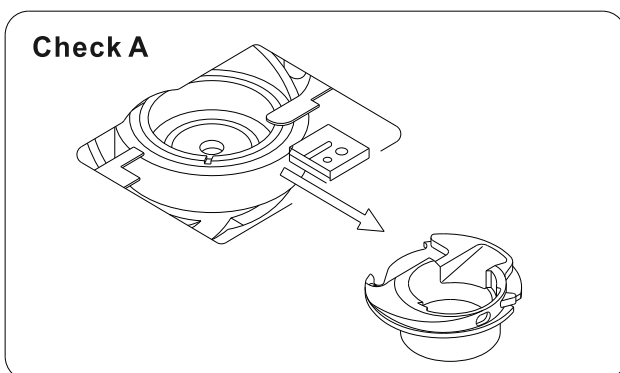
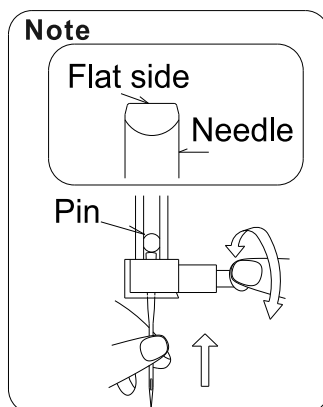
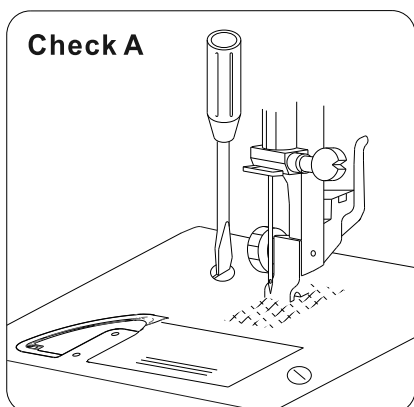
NOTE: Needle must be at the deepest of the hole, tighten the presser foot thumbscrew for fixing the needle in needle clamp.

CHECK:

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

ADJUSTMENT:

- A. Loosen the hexagon screw (A) of needle bar crank rod link (281045004), adjust it to up or down until needle is at correct position.
- B. Tighten the hexagon screw of needle bar crank rod link. (281045004)



4. NEEDLE POSITION

TOOL: 2.0mm hexagon screwdriver, slotted screwdriver (small), nutdriver.

STANDARD: Between needle body with needle plate hole 3.5mm left & right side each.

ADJUSTMENT: Select stitch No.2 Zigzag, and needle is turned to right position

CHECK:

A. Open front cover.

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

C. Turn hand wheel counter-clockwise, make needle through needle plate hole, check the distance between needle body and right side of needle plate hole.

ADJUSTMENT(1):

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

B. Use slotted screwdriver to adjust zigzag eccentric pin until the needle is correct position. (B)

C. Tighten the hexagon screw of needle bar crank.
Left position (A)

ADJUSTMENT(2):

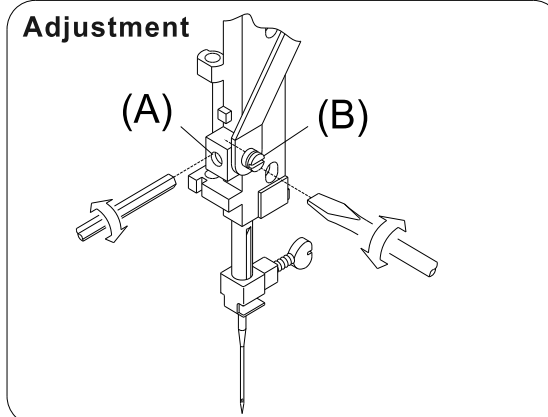
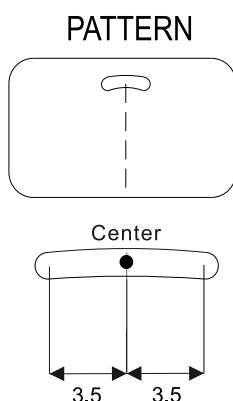
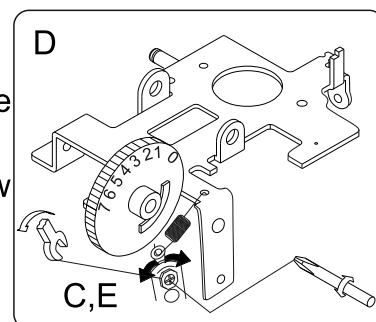
A. Move the stitch width dial to "7" position.

B. Turn hand wheel counter-clockwise, make needle through needle plate hole.

C. Use slotted screwdriver to loose a little bit of the binding head screw on zigzag regulating nut.

D. Use nutdriver to adjust zigzag regulating nut. (Diagram D)
Left needle position leans on right: Turn it counter-clockwise
Left needle position leans on left: Turn it clockwise.

E. After adjustment of D step, tighten the binding head screw on zigzag regulating nut.



5. ZIGZAG TRANSMISSION

TOOL: 2.5mm hexagon screwdriver, slotted screwdriver. (small)

STANDARD: Distance between needle sharp and needle plate at first height of needle from 1~5mm upon needle flow.

CHECK:

A: Open top lid.

B: Select stitch No.2 Zigzag

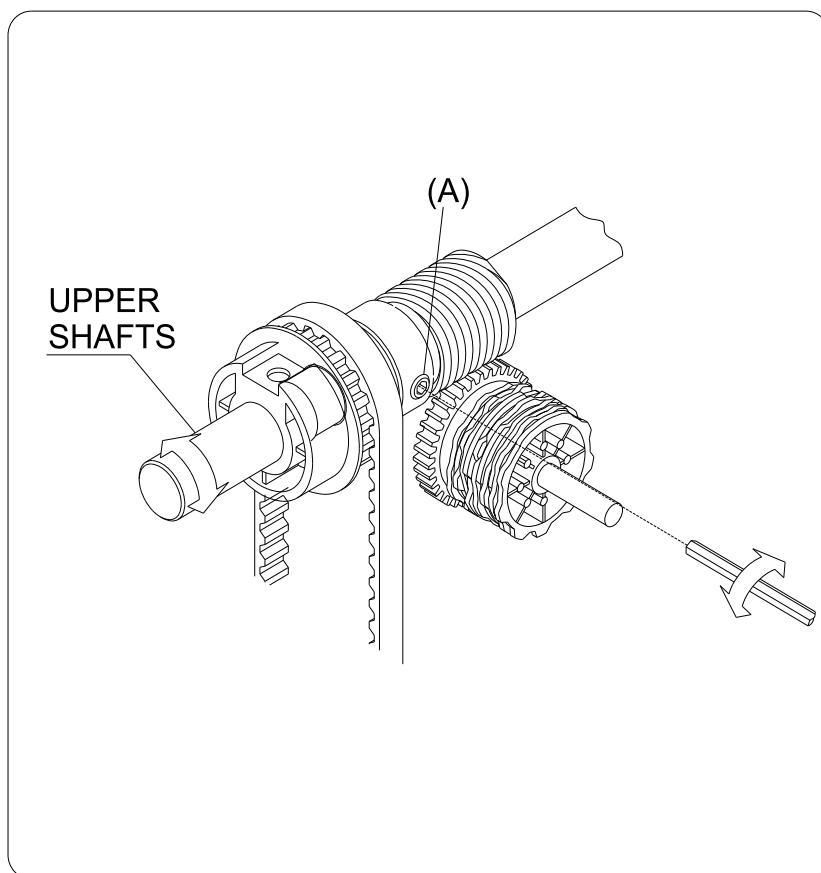
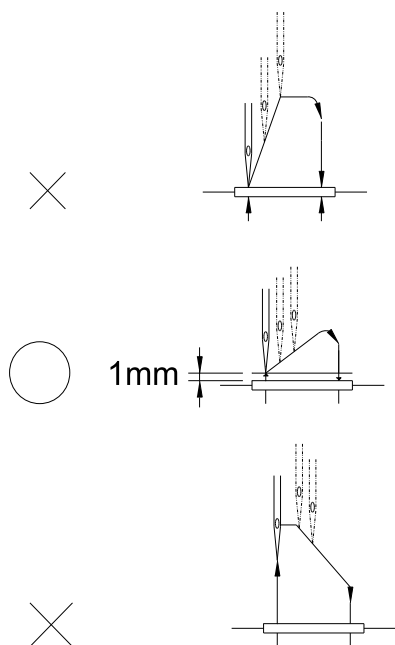
C. Loosen the hexagon screw (A) of upper shaft worm.(M986-078)

D. When needle leaves needle plate the first height of needle is lower than 5.0mm.

Firstly, fix the upper shaft, use "2.5mm" hexagon screwdriver, move up the hexagon screw for adjustment.

E. Tighten the hexagon screw (A) of upper shaft worm. (M986-078)

F. Repeat needle action to confirm the needle flow is correct.



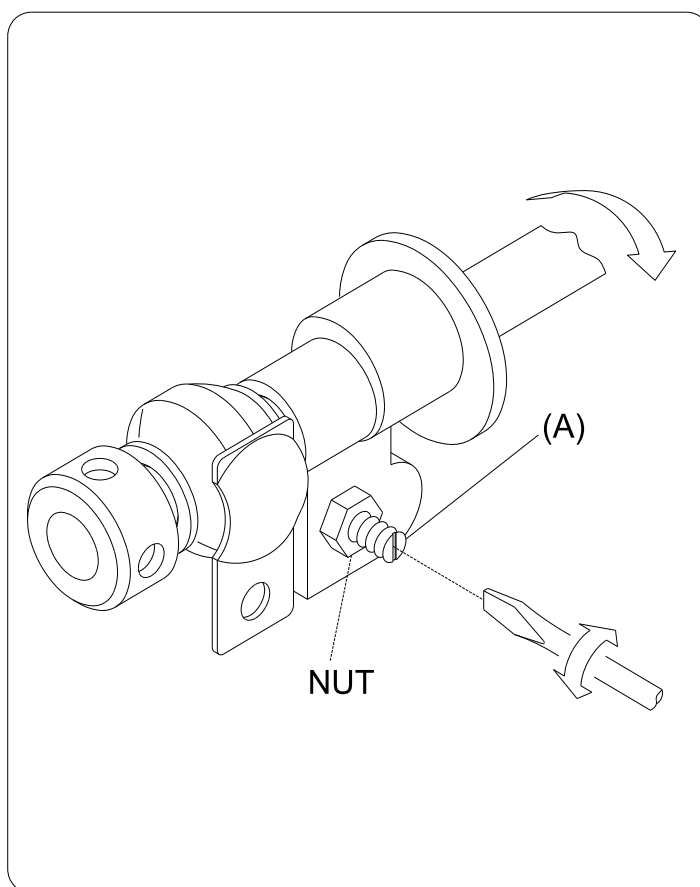
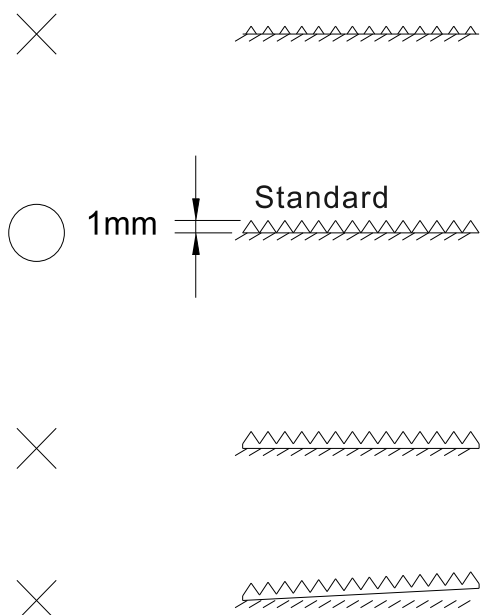
6. FEED DOG (POSITION)

TOOL: 7.0mm nutdriver, slotted screwdriver.(small)

Gauge for feed dog height.

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

- A. Turn hand wheel counter-clockwise, make needle at the highest position.
- B. Open bottom cover.
- C. When feed dog is lower than 0.9mm, use slotted screwdriver, turn the feed lifting regulating screw (829023) to right until feed dog matches standard.
- D. When feed dog is higher than 1.1mm, use slotted screwdriver, turn feed lifting regulating screw (829023) to left until feed dog matches standard.
- E. Use nutdriver to tight the hexagon nut.(000071105)



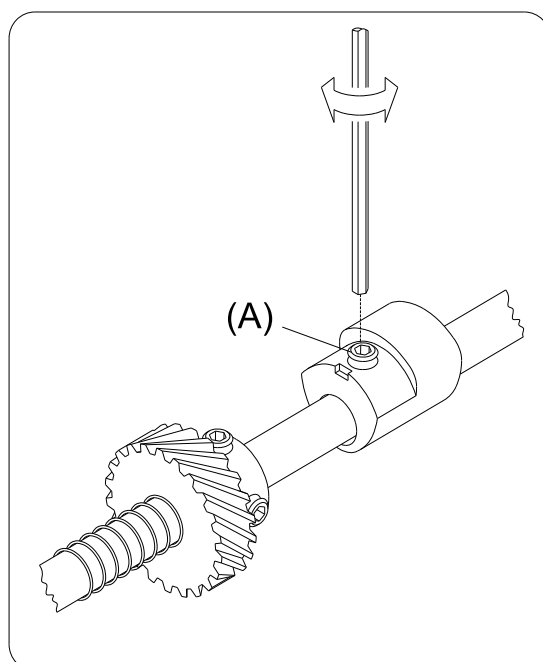
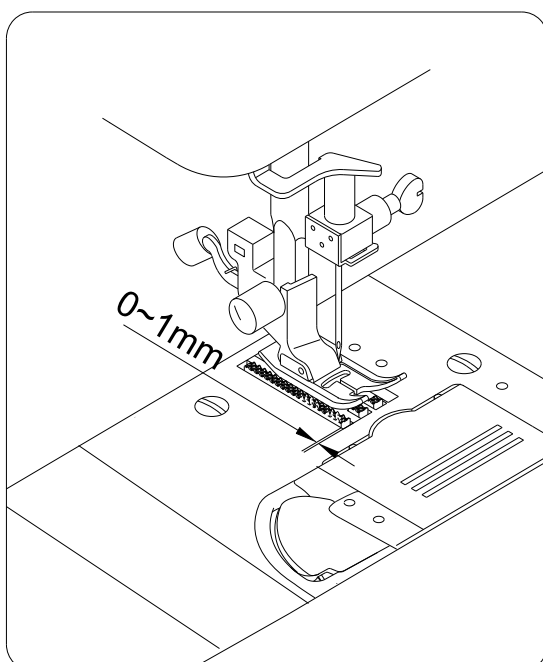
7. FEED DOG TRANSMISSION (REGULATE)

TOOL: 2.5mm hexagon screwdriver .

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

ADJUSTMENT:

- A. Turn hand wheel counter-clockwise, make needle at the highest position, check transmission of feed dog.
- B. Open bottom cover.
- C. When transmission is too early, use 2.5mm hexagon screwdriver to loose the hexagon screw (A) of feed cam (C168-041), move up the screw for adjust to standard.
- D. When transmission is too late, use 2.5mm hexagon screwdriver to loose the hexagon screw (A) of feed cam (C168-041), move down the screw to adjust it to standard.
- E. Use 2.5mm hexagon screwdriver to tighten the hexagon screw of feed cam.
(C168-041)



8. TIMING OF HOOK:

TOOL: 2.5mm hexagon screwdriver, special gauge.

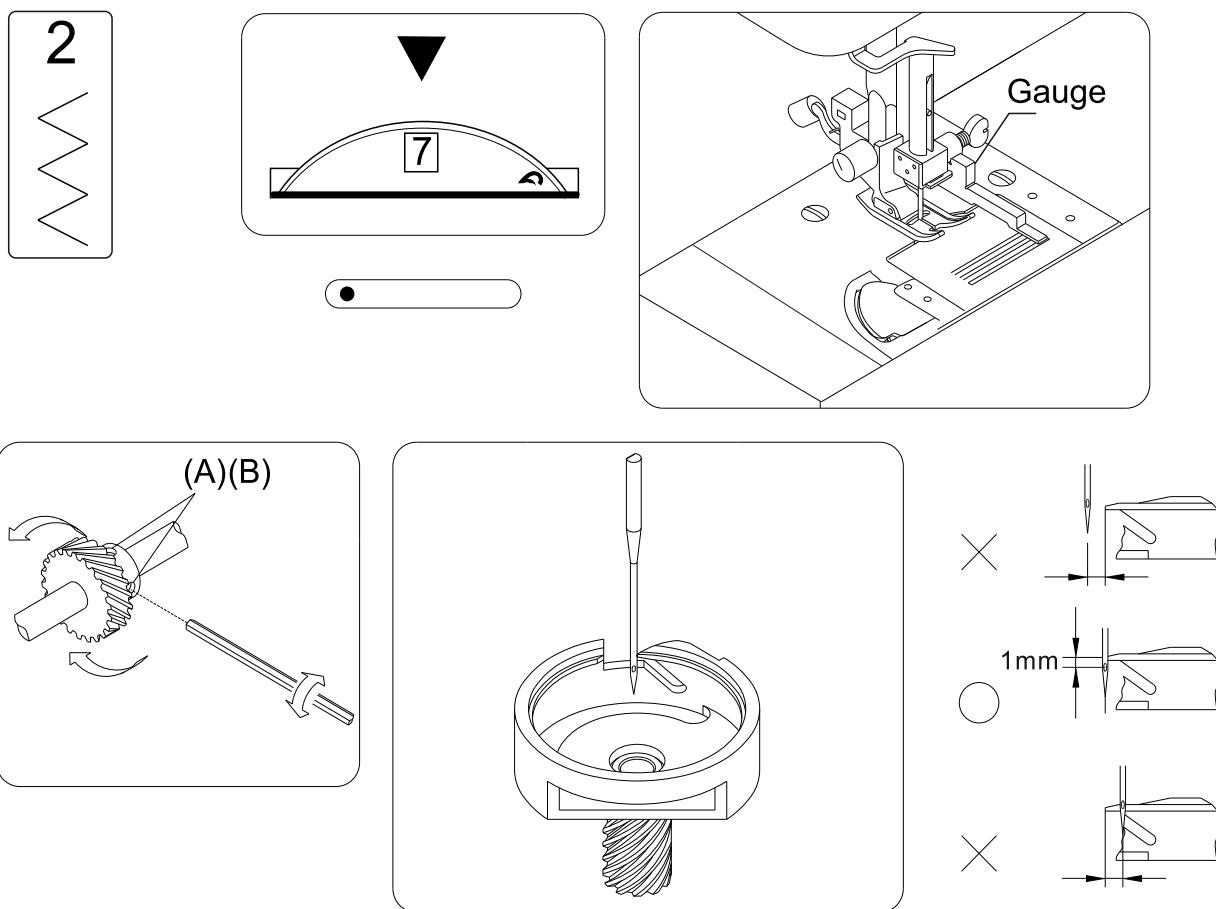
STANDARD: The needle is in relation to the shuttle race.

CHECK:

- A. Select Zigzag stitch at pattern No. 2, and turn the stitch width dial to left position at "7", the needle position will be left. (see fig).
- B. Open needle plate, take bobbin case & return needle plate.
- C. Turn hand wheel by counter-clockwise to make the needle from the bottom point up to fit the special gauge position. (see fig)
- D. Check the related position between needle sharp and shuttle race.

ADJUSTMENT:

- A. Open bottom cover
 - B. Use 2.5mm screwdriver to loose the hexagon screw (A) (B) of lower shaft hook gear. (730121)
 - C. When shuttle race sharp over needle, use 2.5mm hexagon screwdriver, move down the hexagon screw (A) until shuttle race sharp catching correct position.
 - D. When shuttle race sharp less than needle, use 2.5mm hexagon screwdriver, move up the hexagon screw (A) until shuttle race sharp catching correct position.
 - E. Tighten the hexagon screw (A) (B) of lower shaft hook gear. (730121)
- Note: Confirm both of two hexagon screws (A) (B) must be tightened.



9. DISTANCE BETWEEN NEEDLE & SHUTTLE RACE

TOOL: 2.0mm hexagon screwdriver

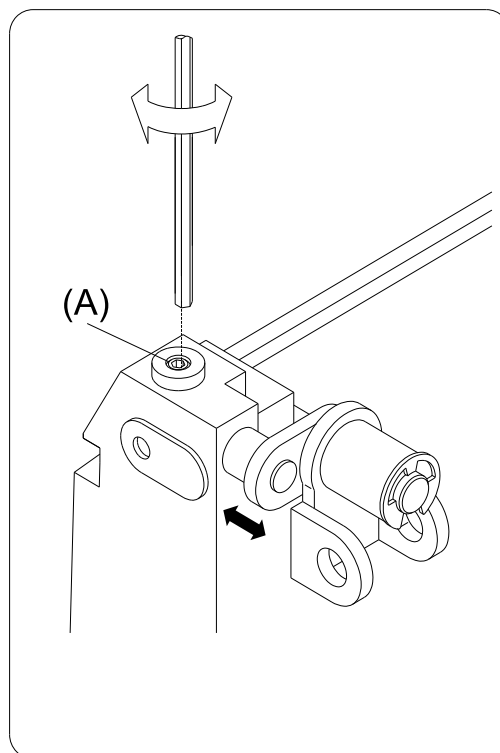
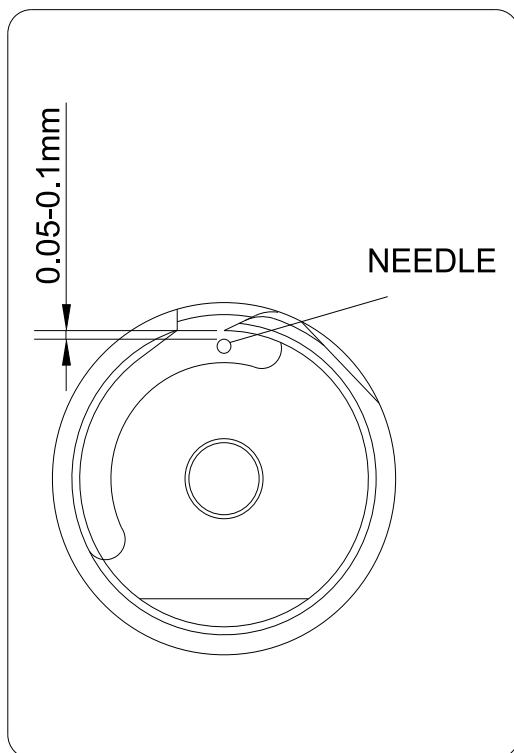
STANDARD: The distance between needles and shuttle race sharp
0.05~0.1mm.

CHECK:

Move the stitch width dial to between "3 and 4" , needle position is at center position.

ADJUSTMENT:

- A. Open face cover.
- B. Use 2.0mm hexagon screwdriver, loosen the hexagon socket screw (A) (000079103) of arm.
- C. When distance is too close, move needle bar crank support shaft back until the distance is correct.
- D. When distance is too far, move needle bar crank support shaft forth until the distance is correct.
- E. Have to tighten the hexagon socket screw (A) (000079103) of arm.



10. NEEDLE BAR

TOOL: Nutdriver.

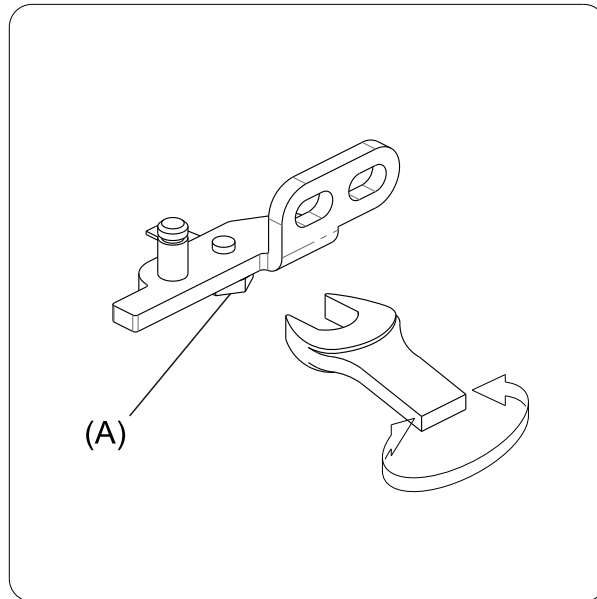
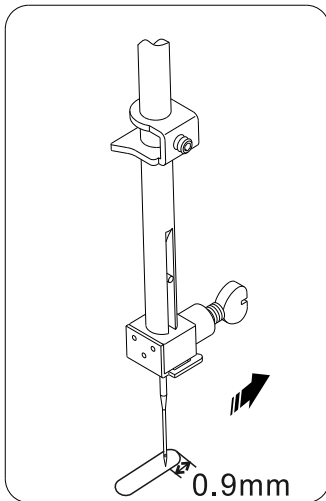
CHECK:

- A. Open bottom cover.
- B. Turn hand wheel by counter-clockwise, make needle at the lowest position.
- C. Push needle bar to the extreme right position by hand until it touches needle bar crank stop plate (730099), needle position just touch at the extreme right side of needle plate hole (keep 0.9mm of gap between needle plate hole and needle body(size 14)).

ADJUSTMENT:

- A. Loosen the Nut screw (A)
- B. Adjust to right or left for touch needle bar cradle.(986052)
- C. Tighten the Nut screw (A)

Check C



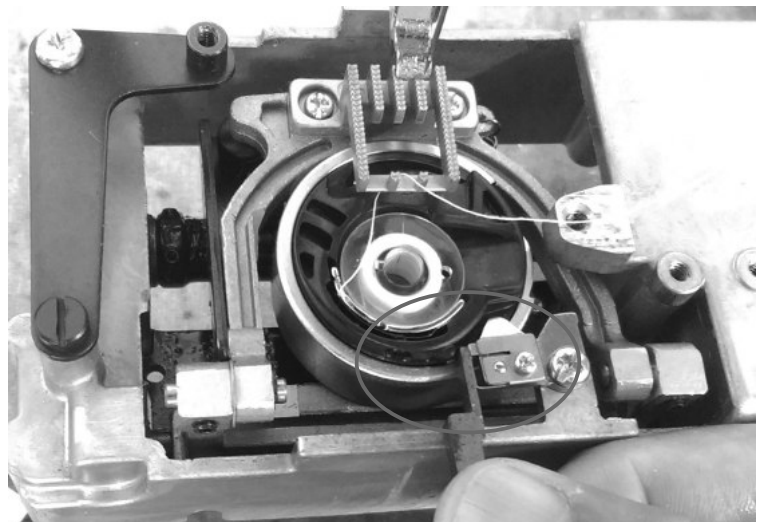
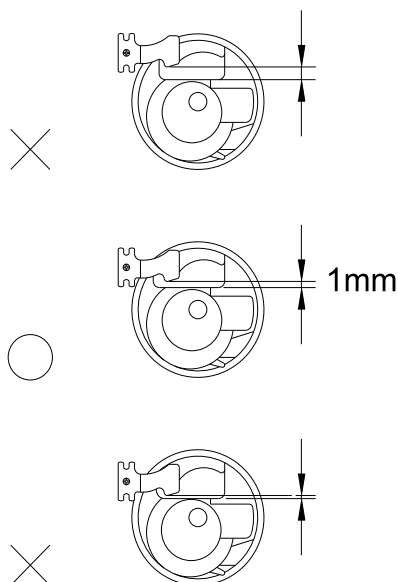
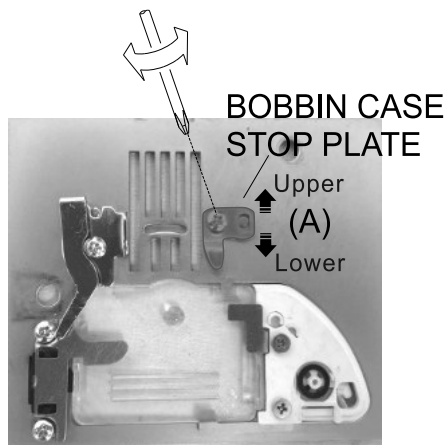
11. POSITION OF BOBBIN CASE

TOOL: Phillips screwdriver (large), special gauge.

STANDARD: Distance between bobbin with stop shrapnel holder (168108) is 1mm.

ADJUSTMENT:

- A. Open needle plate.
- B. Loosen T screw (A) of bobbin case to set bobbin case stop plate.(730151)
- C. Put special gauge in the gap, set it at 1.0mm
- D. When the gap less than 1.0mm, adjust bobbin case stop plate upper.
(730151)
- E. When the gap is more than 1.0mm, adjust bobbin case stop plate lower.
- F. Tighten T screw (A) of bobbin case stop plate (730151) & return needle plate.



12. TENSION DIAL

TOOL: Tension measure

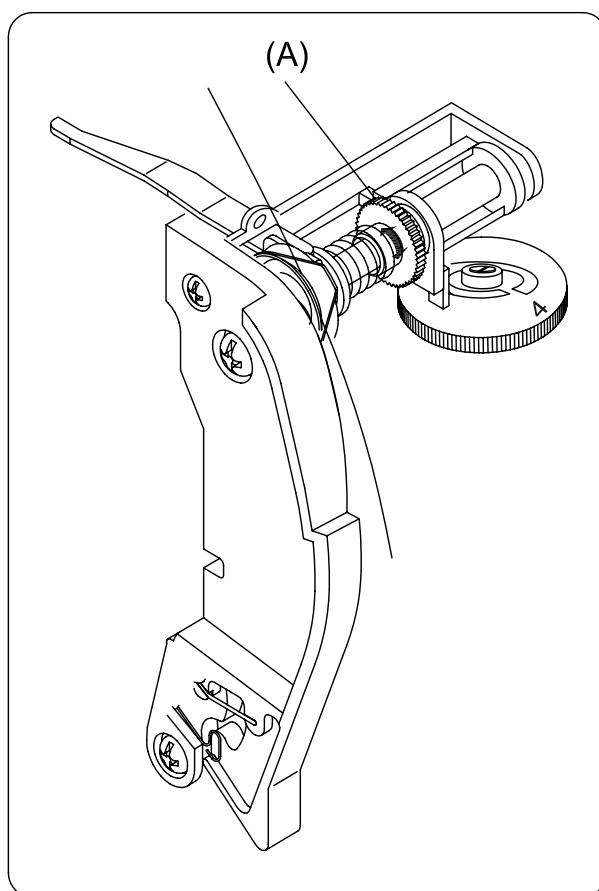
STANDARD: Set tension dial at "4" , the tension is 40g.

CHECK:

- A. Set tension dial at "4".
- B. Lift presser bar lifter (128017) at upper position
- C. Threading the thread of tension measure in tension regulating flat.
- D. Put presser bar lifter (128017) down.

ADJUSTMENT:

- A. Open front cover.
- B. When tension is too tight (more than 50g), turn down the presser regulator (A) (868118) by finger until tension matches standard.
- C. When tension is too loose (less than 40g), turn up the presser regulator (A) (868118) by finger until tension matches standard.



13. TENSION OF BOBBIN CASE

TOOL: Tension, slotted screwdriver.(small)

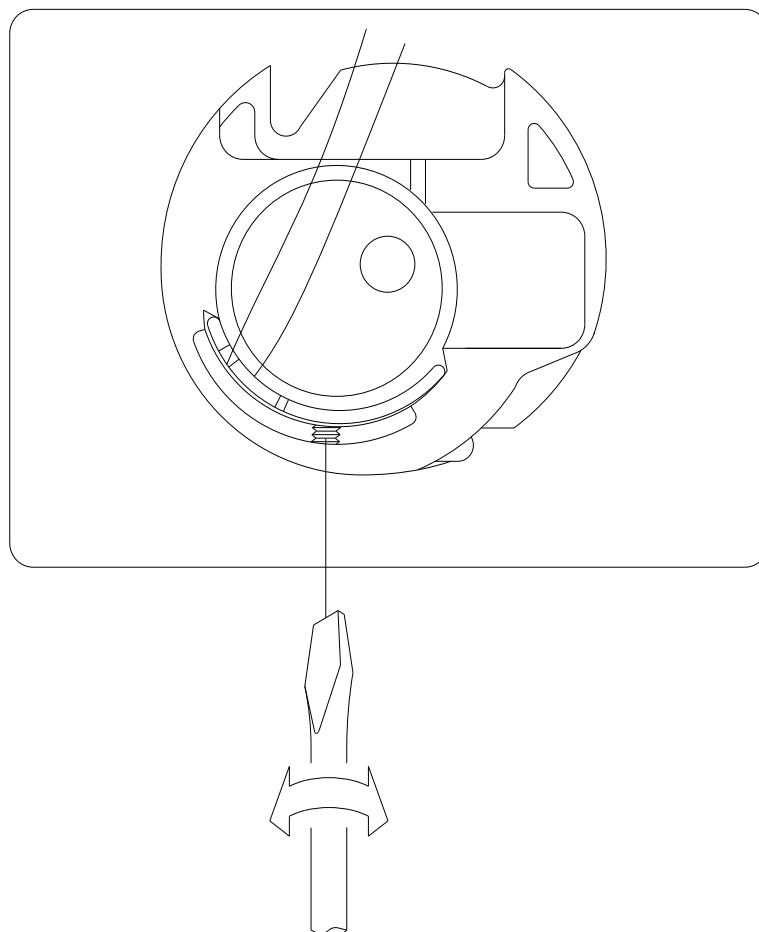
STANDARD: Tension between 15g-18g.

CHECK:

- A. Open needle plate, take bobbin case out.
- B. Threading to check.(see fig)

ADJUSTMENT:

- A. When tension is too tight, use slotted screwdriver to turn the regulating screw (A) by counter-clockwise until tension matches standard.
- B. When tension is too loose, use slotted screwdriver to turn the regulating screw (A) by clockwise until tension matches standard.
- C. Return bobbin case & needle plate.

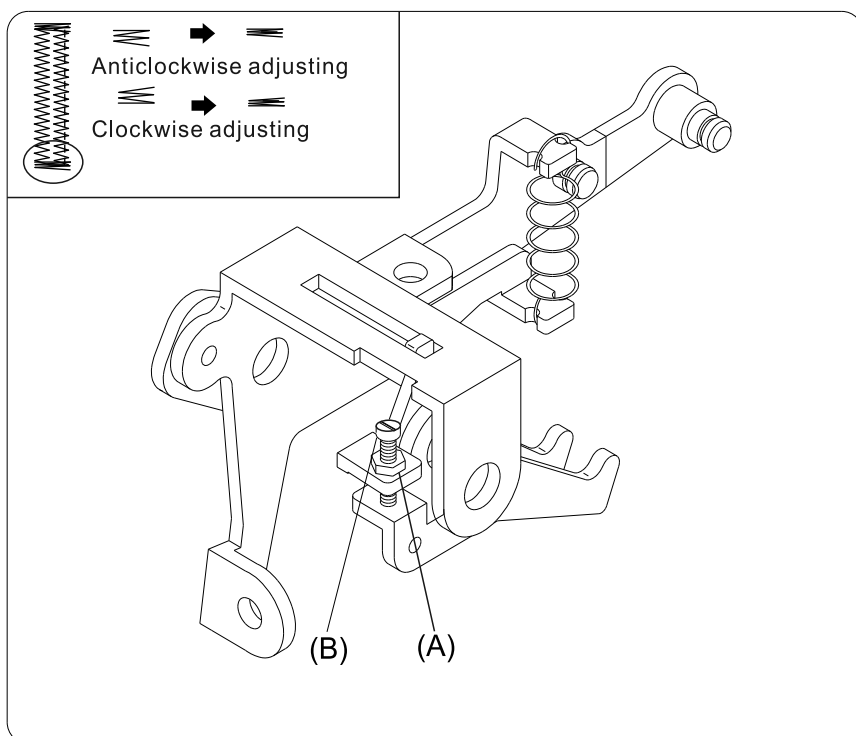
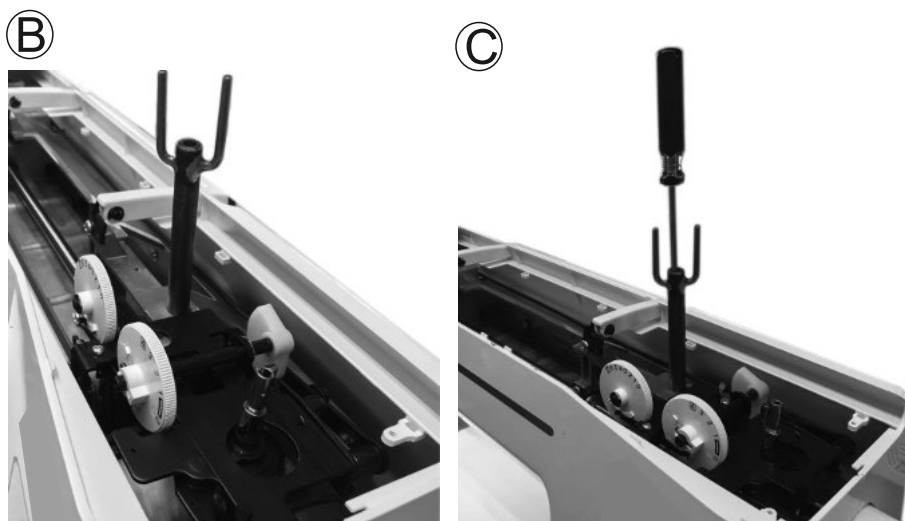


14. BUTTONHOLE DENSITY OF BARTACK

TOOL: 4mm flathead long screwdriver, 5.5 mm nutdriver

ADJUSTMENT:

- A. Use stitch selection dial to choose BH stitch
- B. Open TOP PLATE
- C. Use 5.5 mm nutdriver, loosening hexagon nut (A)
- D. When density of bartack is not in proper position, use 4 mm flathead long screwdriver, trimming the screw (B).
- E. When the adjustment is finished use 5.5 mm nutdriver to tighten the hexagon nut (A).



15. REVERSE STITCH

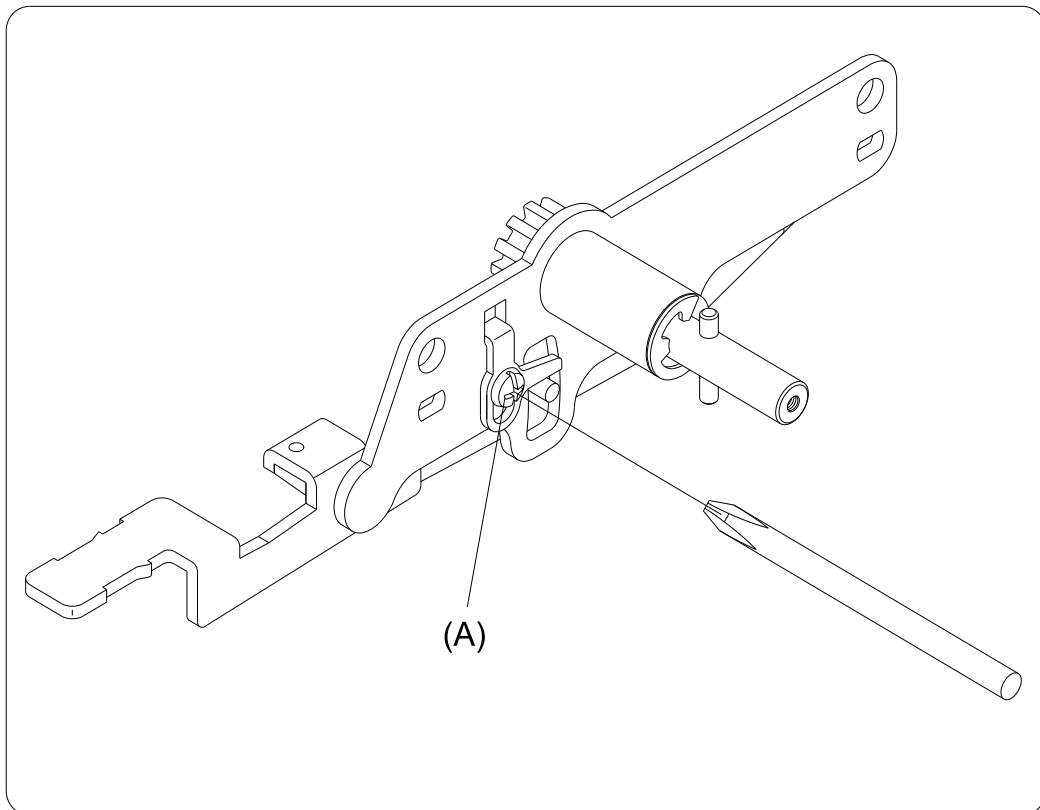
TOOL: Phillips screwdriver.(large)

STANDARD: Straight reverse stitch length between 2.0mm.

CHECK: Sewing reverse stitch.

ADJUSTMENT:

- A. Open side cover.
- B. Use phillips screwdriver to loose flat head screw (A) (000081304)
- C. When stitch length is too shorter, trimming upper the reverse regulating plate (986115).
- D. When stitch length is too longer, trimming down the reverse regulating plate (986115).



16. STRETCH STITCH

TOOL: 7.0mm nutdriver, slotted screwdriver. (long)

CHECK: Stitches normal

CHECK: Pattern select to "23", stitch length dial set at "4", stitch width dial set at "7" , & sewing.

ADJUSTMENT:

A. Take top cover off.

B. Use 7.0mm nutdriver loosen hexagon nut. (00071105)

C. Use slotted type screwdriver (long), adjust screw 4*12 (A) (000077008)

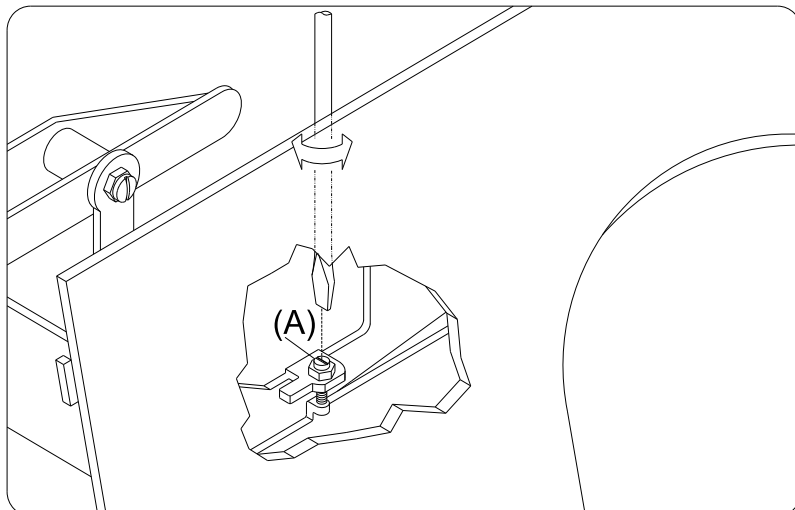
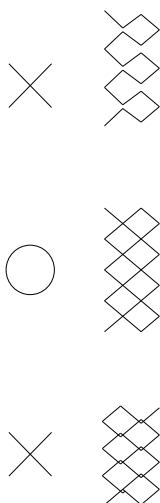
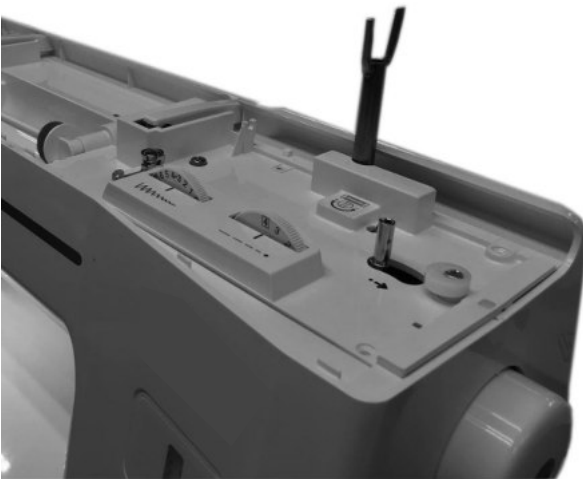
D. When Stretch stitches is too small, trimming the screw by slotted screwdriver (long) to clockwise direction.

E. When Stretch stitches too large, trimming the screw by slotted type screwdriver (long) to counter-clockwise direction.

F. When the adjustment is finished use 7.0mm nutdriver to tighten hexagon nut.

CHECK: Pattern select to "25", stitch length dial set at "4" , stitch width dial set at "7" , and sewing.

ADJUSTMENT: Same as above.



17. BH BALANCE

TOOL: 8.0mm wrench ,slotted screwdriver. (large)

STANDARD: Right / Left stitches balance of Buttonhole

CHECK: Sew a BH.

ADJUSTMENT:

A: Open top cover.

B. Use slotted screwdriver (large), loosen hexagon head screw.(000001103)

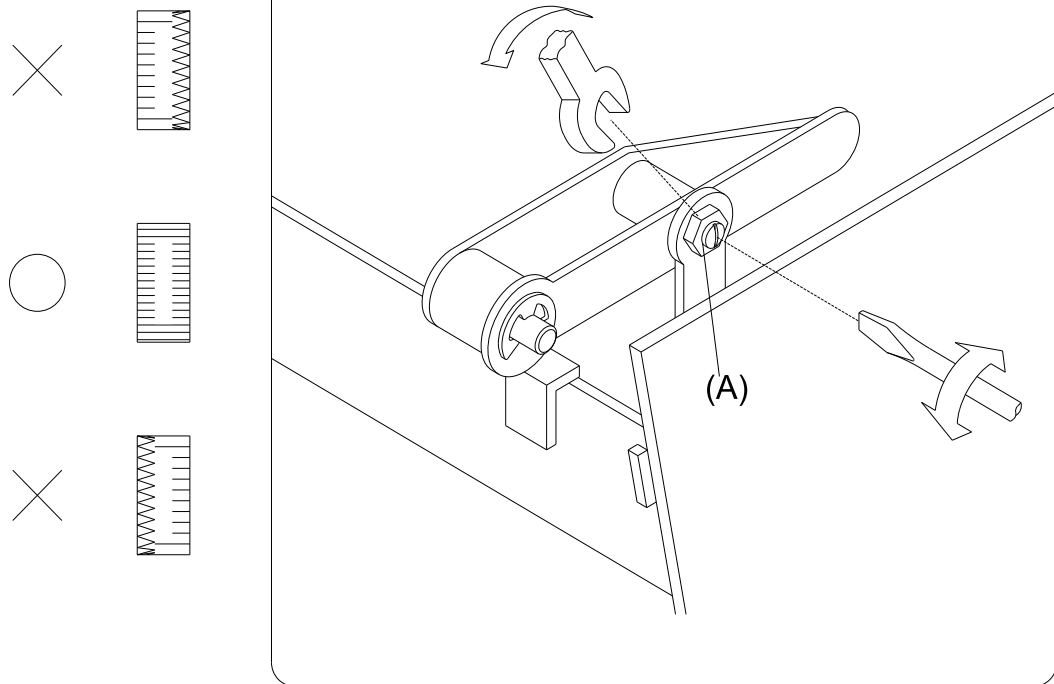
C. Use 8.0mm wrench to adjust regulate nut (A) (986149).

D. When stitch length of BH right side is longer, use wrench trimming it to right.

E. When stitch length of BH left side is longer, use wrench trimming it to left.

F. Sewing BH again to confirm two sides of balance.

G. Tighten hexagon head screw.(000001103)



18. AUTO NEEDLE THREADER

TOOL: 1.5mm hexagon screwdriver, slotted screwdriver.(large)

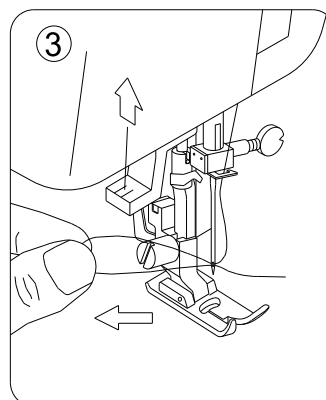
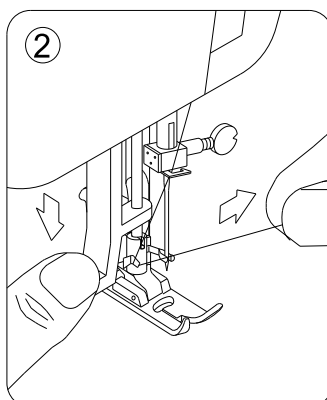
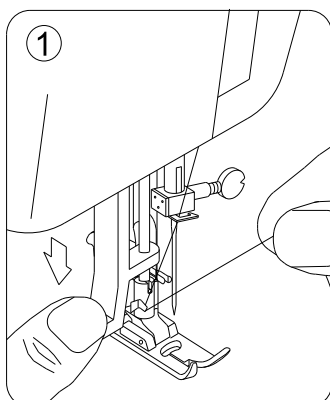
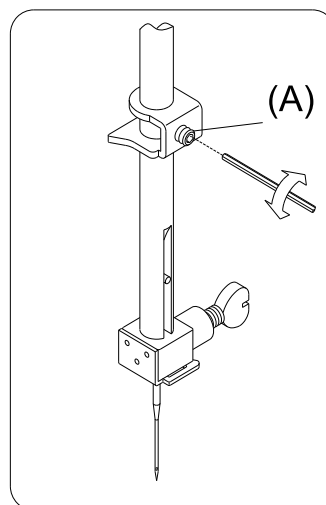
STANDARD: Automatic needle threader hooks thread.

CHECK:

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

ADJUSTMENT:

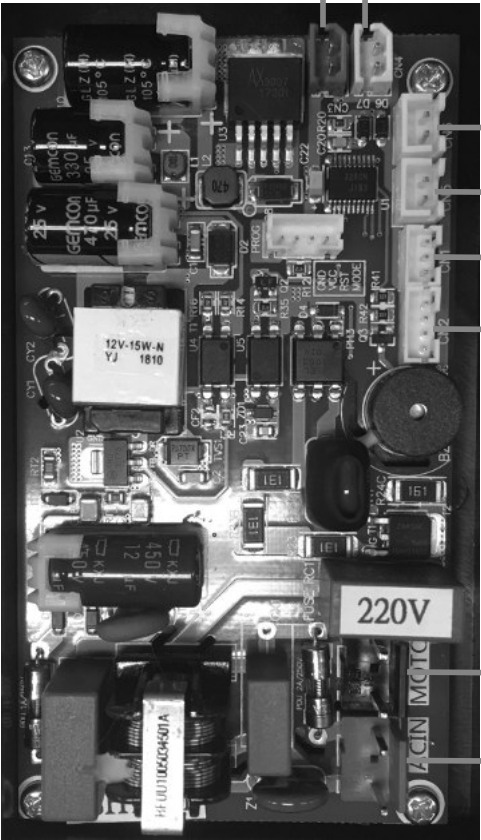
- A. Open face cover.
- B. Use 1.5mm hexagon screwdriver, loosen hexagon screw (A) of through threading positioning plate (270017003), screwdriver is still stayed at the screw hole.
- C. When the hook of threader is higher than needle hole, use the hexagon screwdriver to move down the through threading positioning plate(270017003) until it matches correct position.
- D. When the hook of threader is lower than needle hole , use the hexagon screwdriver to move up the through threading positioning plate(270017003) until it matches correct position.
- E. Check threading motion again.
- F. Tighten the hexagon screw (A)of through threading positioning plate(270017003).



19. Connection of Main Circuit board (EML986-2)

ITEM NO.	Part No.	Name of Part
1	5K02W-01	Bobbin winding switch
2	5K02W-06	Foot control jacket
3	M986-138(A)	LED(3)-Assemble to face cover
4	M986-138(B)	LED(3)-Assemble to front cover
5	17K38K	Control board
6	17K38A	Photosensor
7	M-YM261-9	Motor 220-240V
8	E-SCM128CE	Power socket and switch

Bobbin winding switch 1 2 Jack of Foot control



- 3 LED
- 4 LED
- 5 Control Board
- 6 Photosensor board
- 7 Motor connection
- 8 Power connection