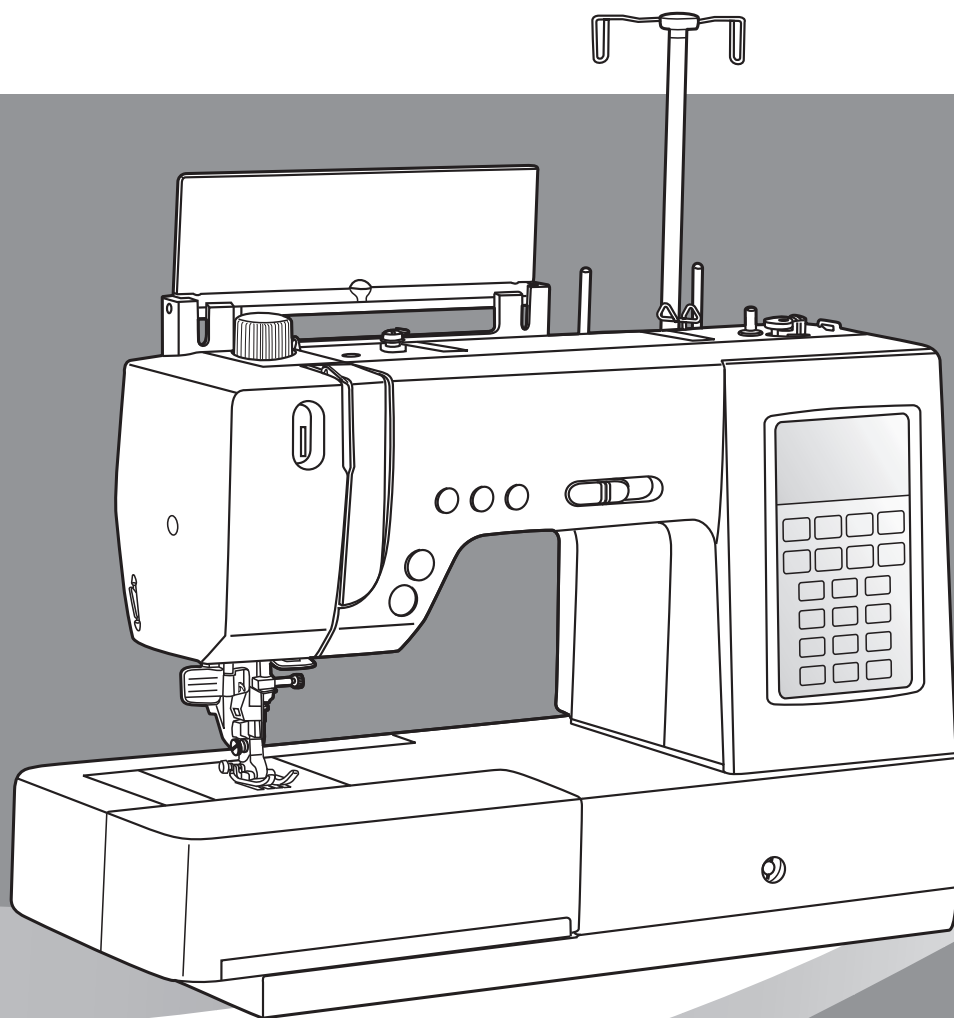
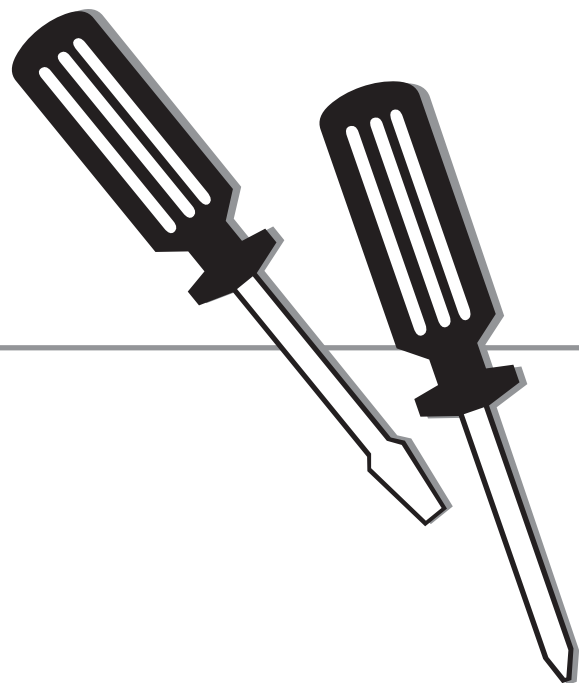


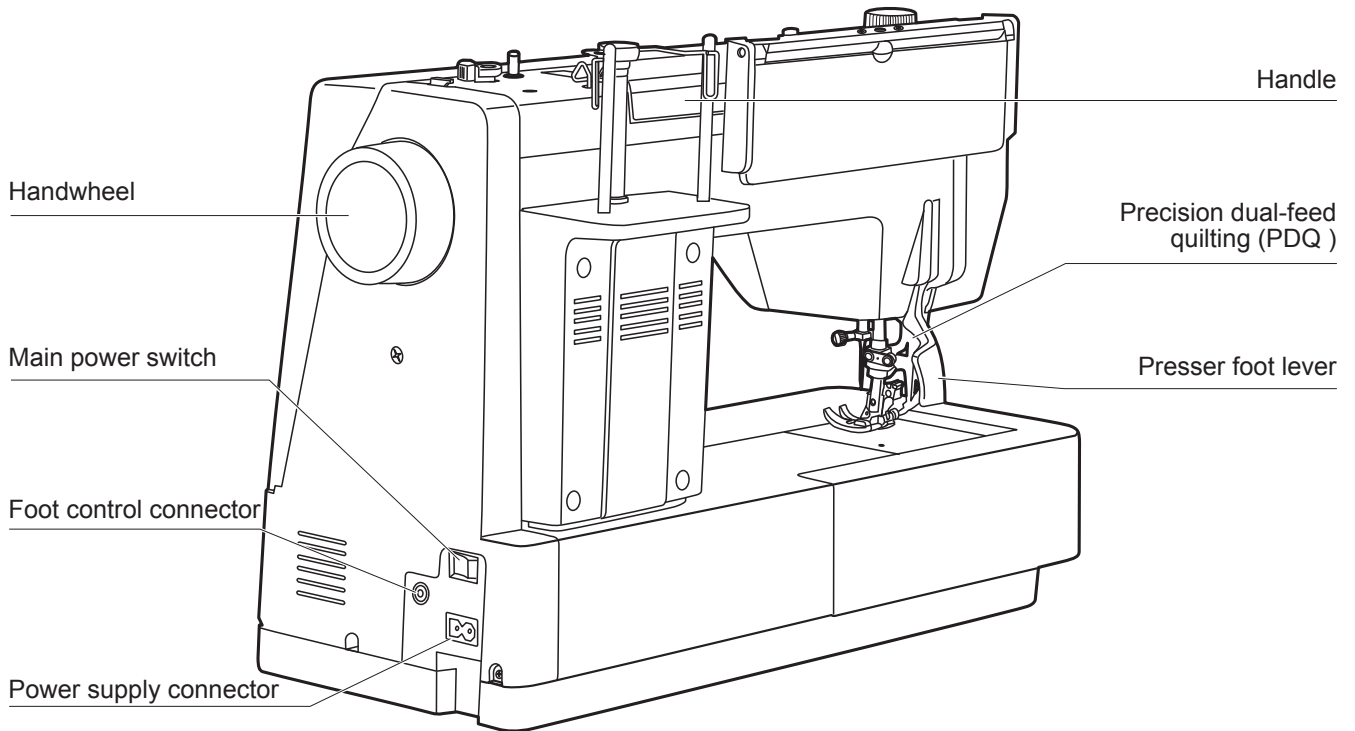
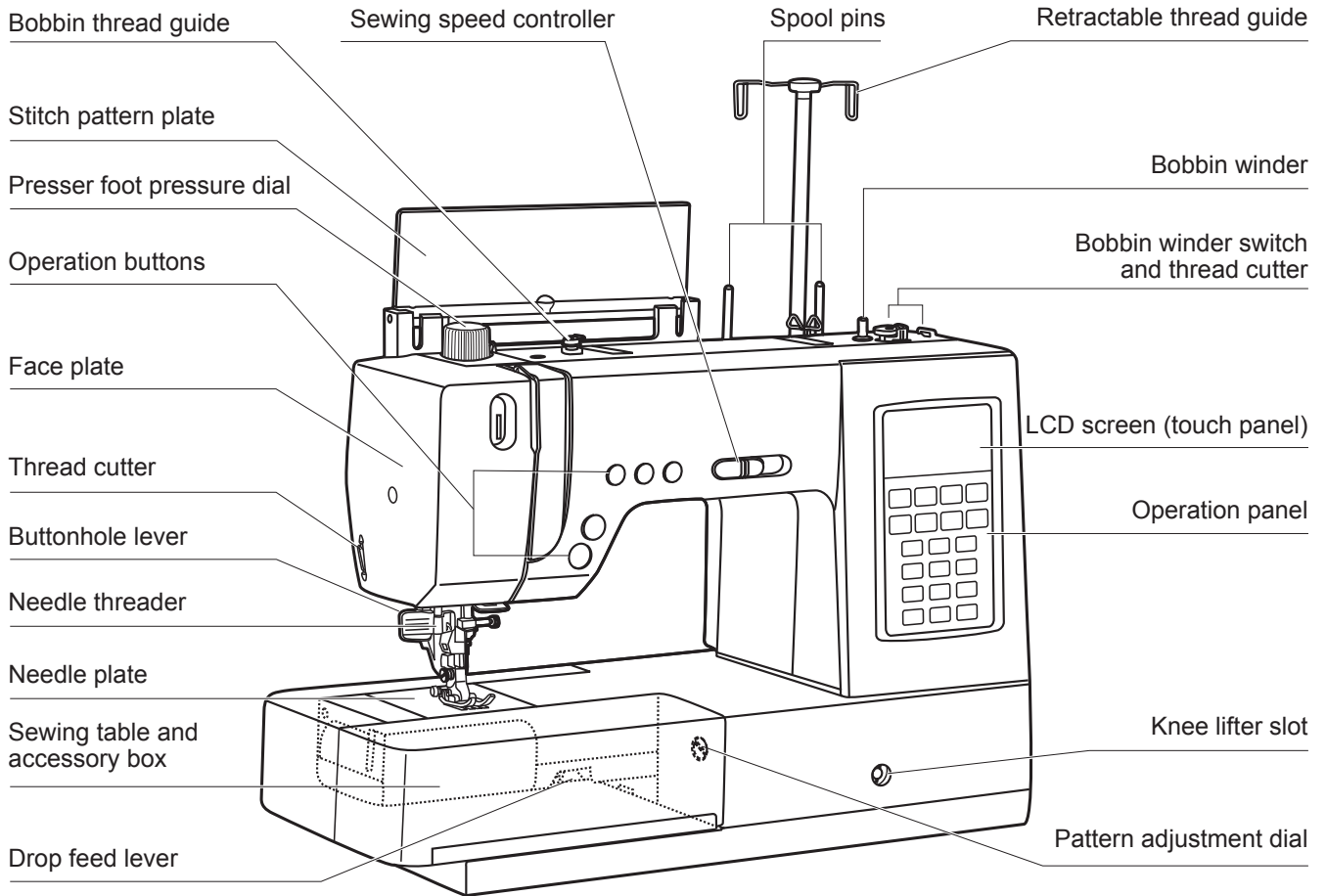
REPAIR MANUAL



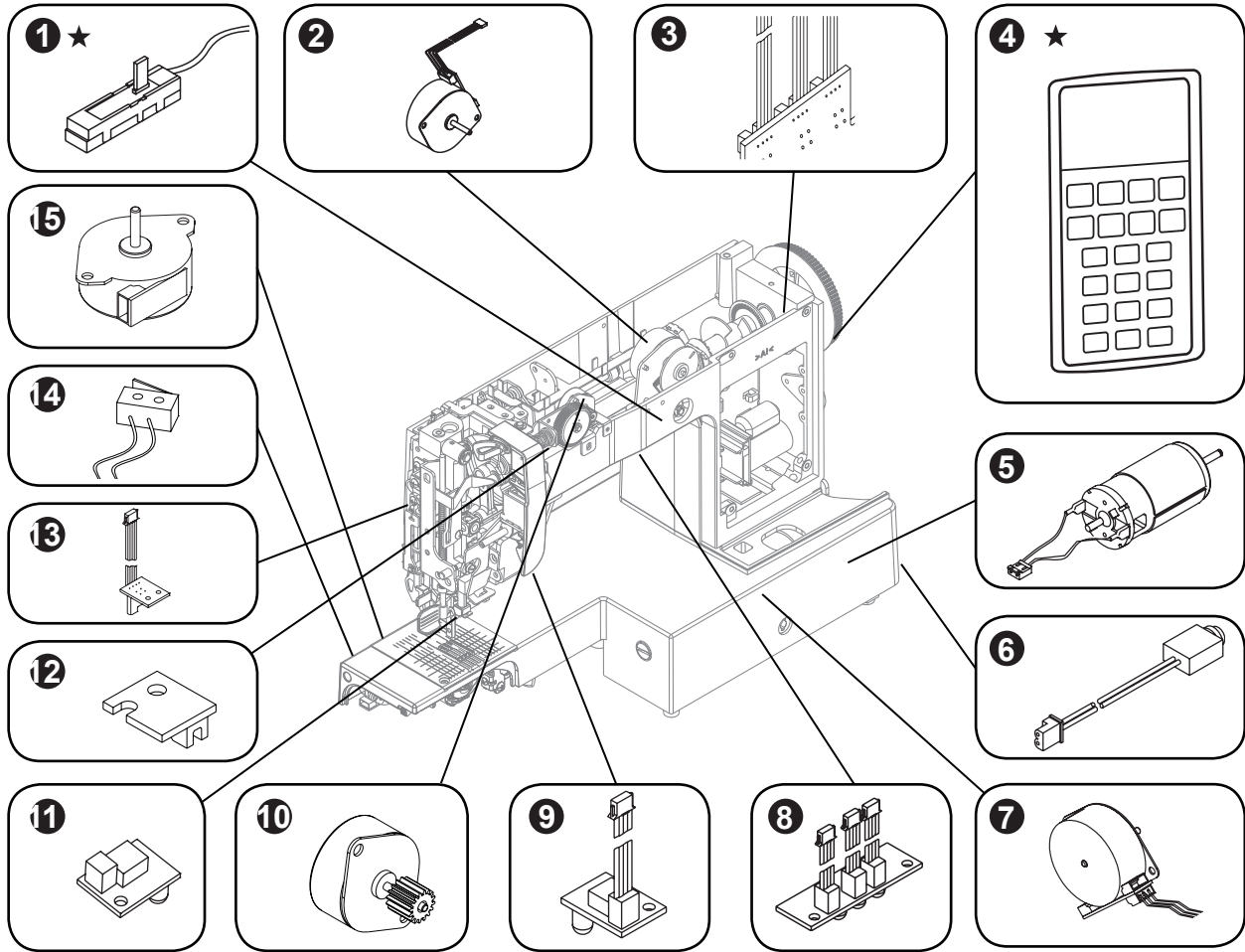
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Names of principal parts

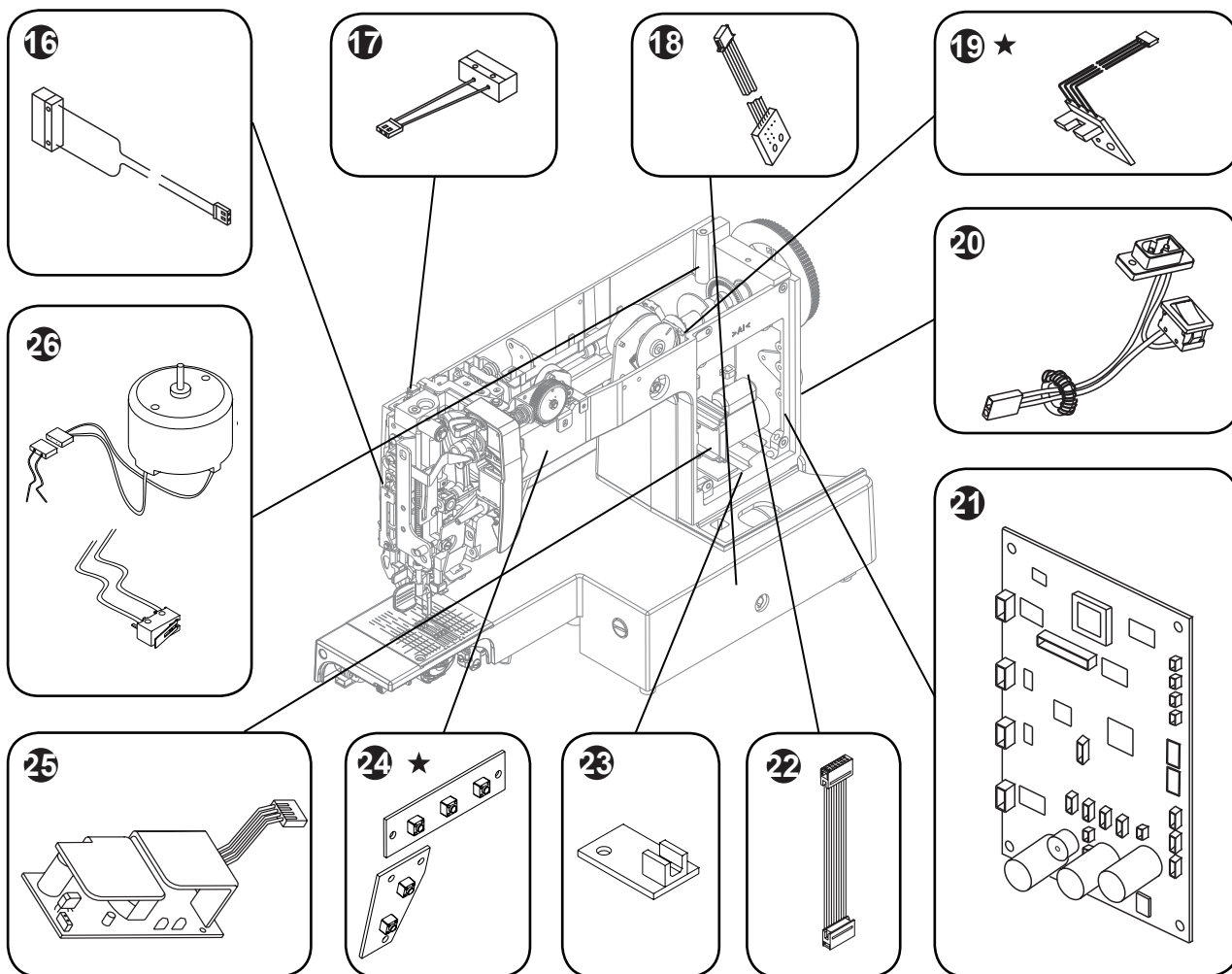


Names of electronic parts



- | | |
|--|---|
| 1. Slide volume | 12. Photo sensor complete (Break thread) |
| 2. Step motor (zigzag) | 13. Photo sensor (B/H) |
| 3. Bobbin winder PC board | 14. Micro switch (Lower thread cutter) |
| 4. LCD Screen (touch panel) | 15. Step motor complete (Lower thread cutter) |
| 5. DC motor | |
| 6. Foot controller plug | |
| 7. Feed step motor | |
| 8. LED light (sewing area
: 3 x LED lights) | |
| 9. LED light (needle area right side
: 2 x LED lights) | |
| 10. Step motor complete (tension) | |
| 11. LED light (needle area left side
: 2 x LED lights) | |

★ : Set on the front cover



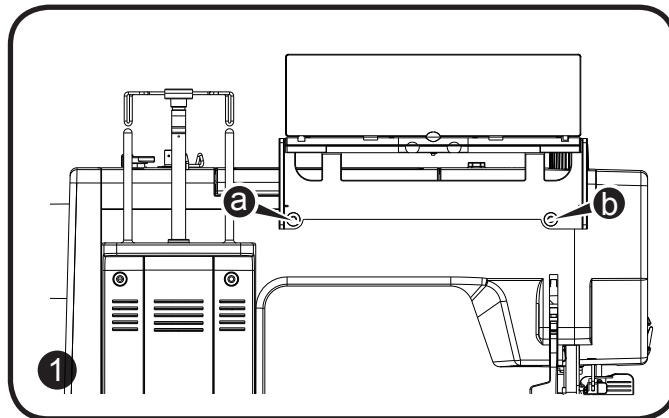
- 16. Micro switch (BH)
- 17. Micro switch (presser foot)
- 18. Photo sensor (Feed)
- 19. Photo sensor (zigzag)
- 20. ON/OFF switch receptacle assy.
- 21. Main circuit board
- 22. Main Lead wire (LCD board to Main board)
- 23. Photo sensor complete (Lower thread cutter)
- 24. Button switch circuit Board (Up & down-, Fix, Reverse, Start/Stop and Thread cutter)
- 25. HF transformer complete
- 26. Micro switch (Bobbin winder motor)

★ : Set on the front cover

Removal of machine covers and base

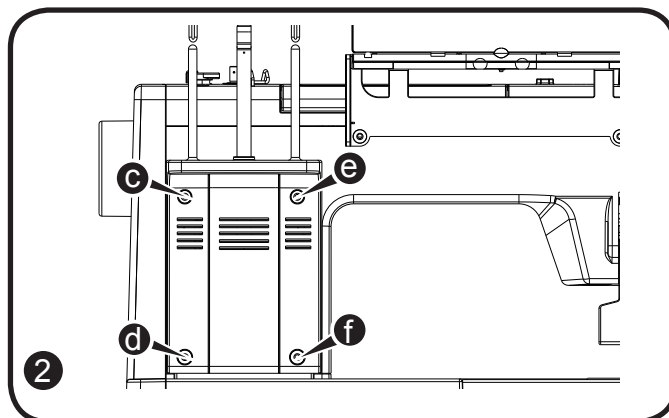
Stitch pattern plate

Remove 2 screws (a, b). (1)



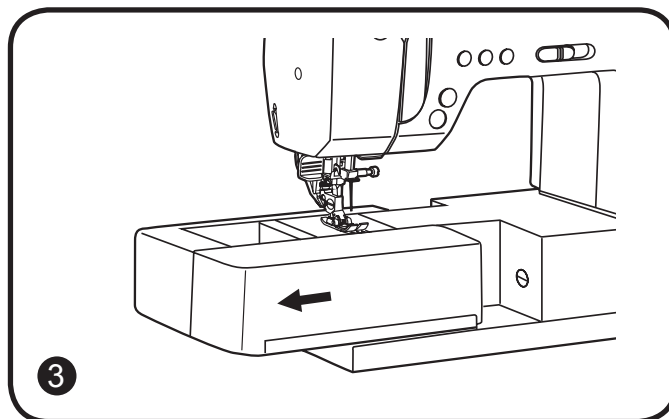
Spool stand assembly

Remove 4 screws (c, d, e, f). (2)



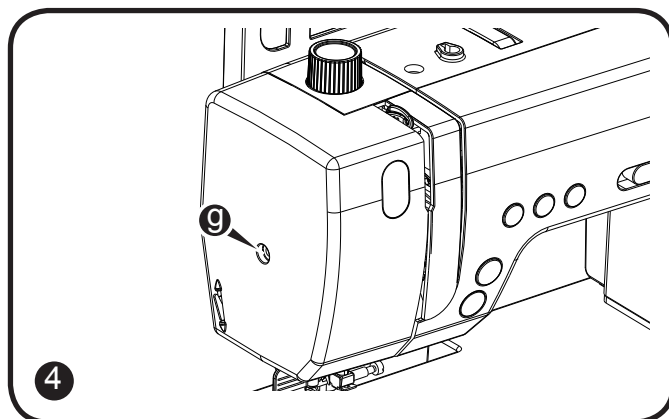
Accessory tray

Slide accessory tray to the left to remove. (3)



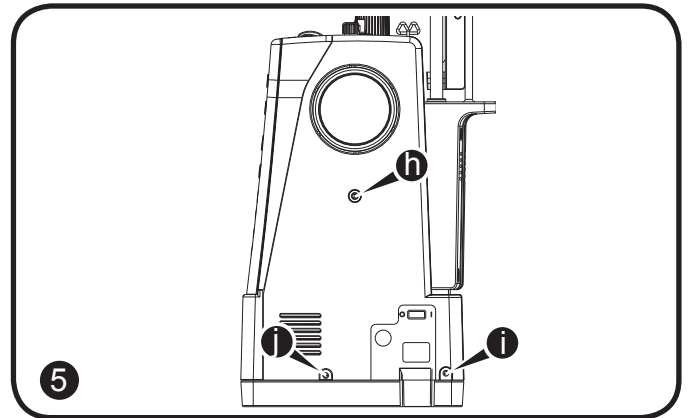
Face plate cover

Remove screw (g). (4)



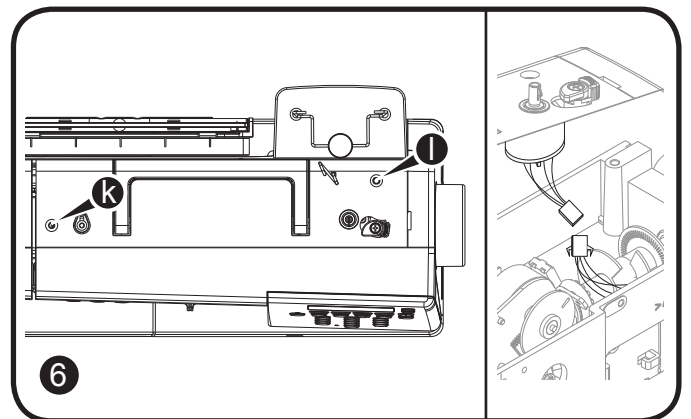
Belt cover

Remove 3 screws (h, i, j). (5)



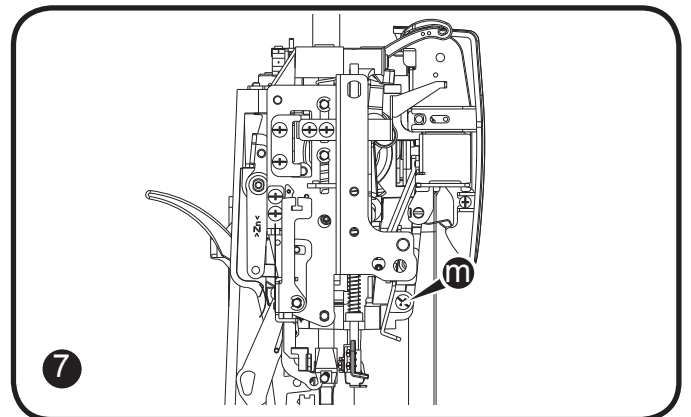
Top cover

Remove 2 screws (k, l) and disconnect the bobbin winder motor. (6)

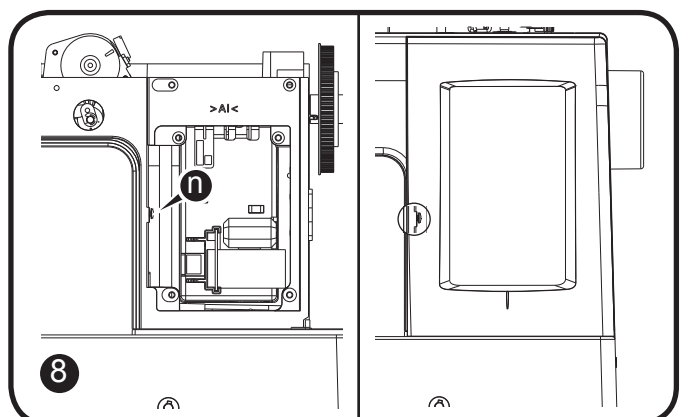


Front cover

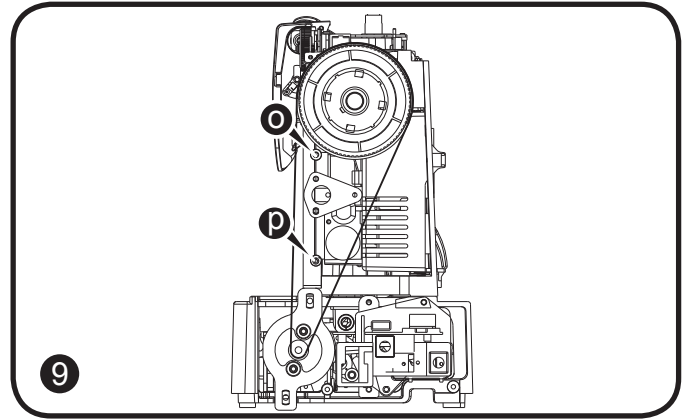
Loosen screw (m) one full turn. (7)



Loosen screw (n) one full turn. (8)
(Screw "n" is located inside front cover, use a long shaft phillips screw driver.)



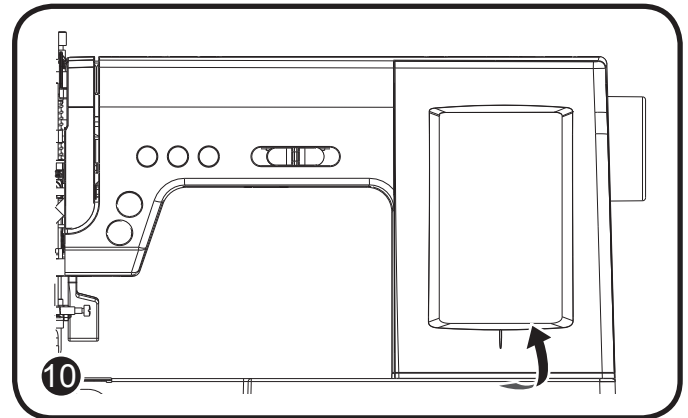
Loosen 2 screws (o, p) one full turn. (9)



Remove front cover by pulling cover towards you and lifting it up. (10)

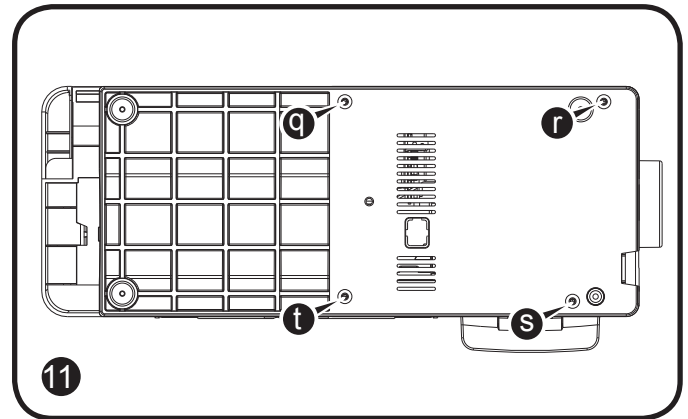
Note!

Prior of removing front cover, disconnect main PC board plug.



Machine base removal

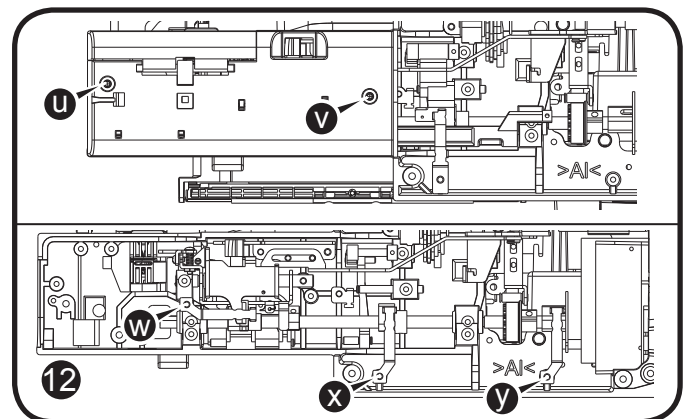
Remove 4 screws (q, r, s, t). (11)



Free arm base cover

Remove 2 screws (u, v). (12)

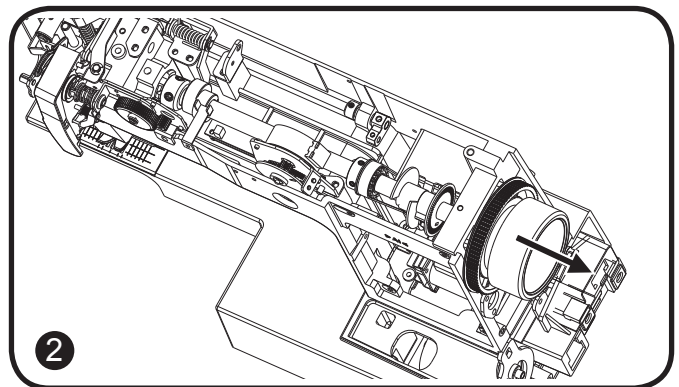
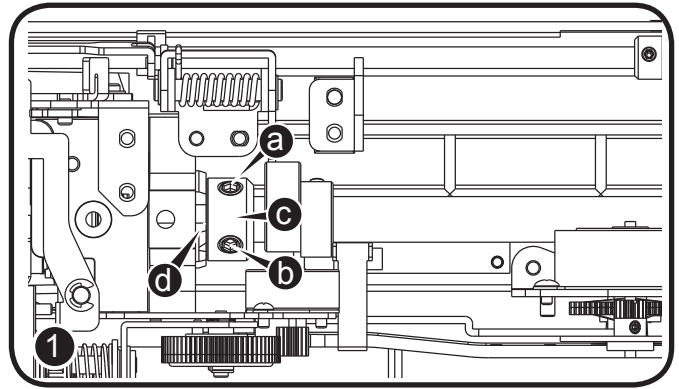
Remove 3 screws (w, x, y) and disconnect the cables.



Upper shaft axial play

Adjustment

1. Remove the face plate and top cover.
2. Loosen 2 screws (a, b) on main shaft collar (c). (1)
3. Pull hand wheel to the right. (2)
4. Push main shaft collar (c) to the left against main shaft bushing (d), and tighten screws (a, b). (1)
5. Make sure there is no lateral play between main shaft collar and bushing. (1)
6. Make sure main shaft rotates smoothly after adjustment. No hard spot or bind allowed.
7. If rotation of shaft is too tight, loosen screws (a, b) and proceed as per above step 3-4.



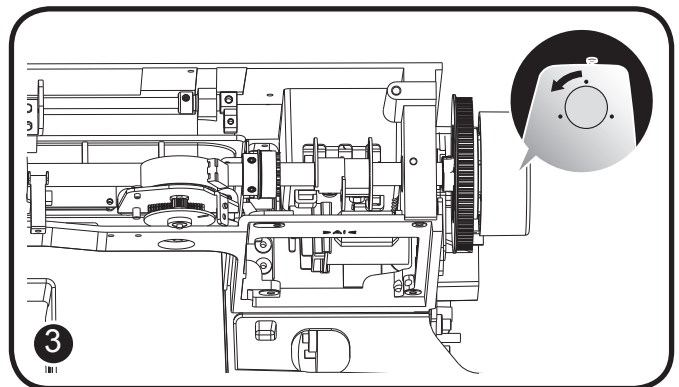
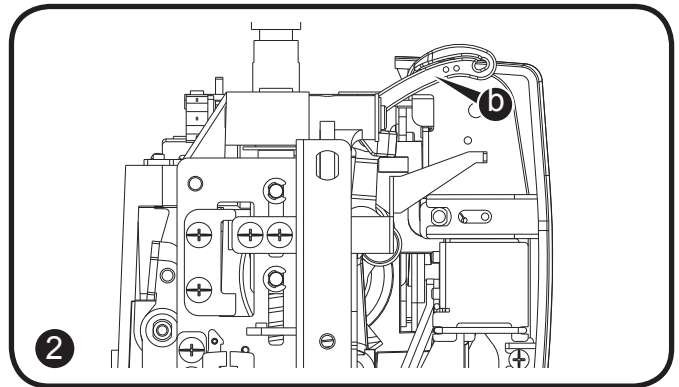
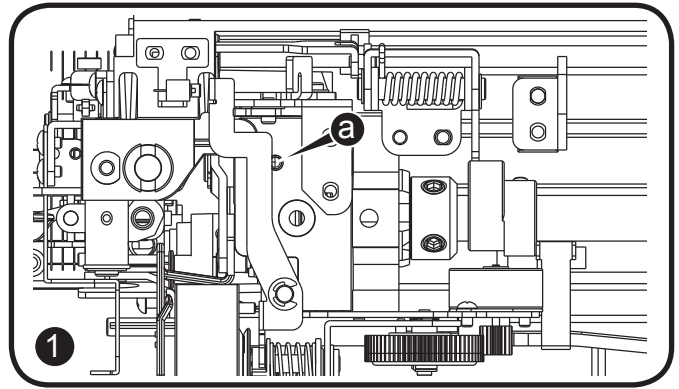
Take up lever - Adjustment - Noise level

Check

When turning the hand wheel no noise should appear in the thread take up lever.

Adjustment

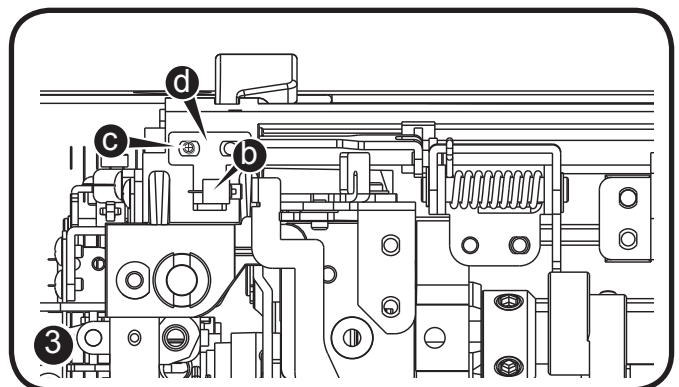
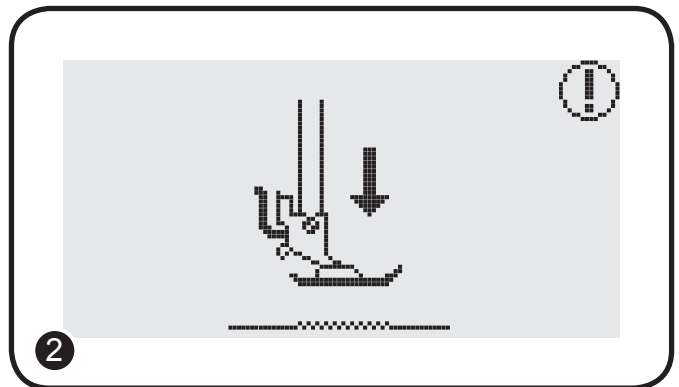
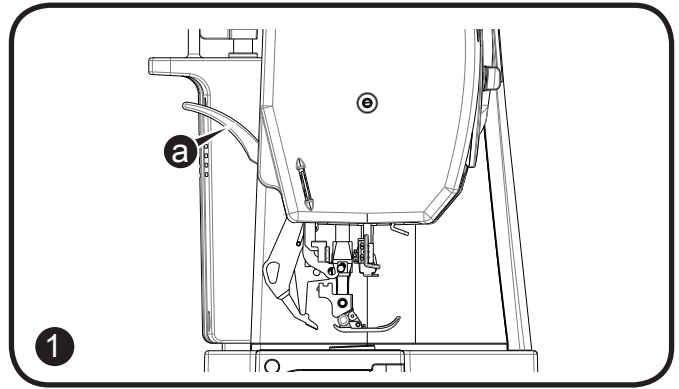
1. Remove face plate and top cover.
2. Loosen the screw (a). (1)
3. Adjust thread take up lever(b) by pushing lever support to the right to remove excess play and tighten the screw (a). (1-2)
4. Turn handwheel, check for noise and movement. (3)
5. If adjustment is too tight or too loose, proceed as per above step 2-3.



LCD warning message - Presser foot is not lowered

Adjustment

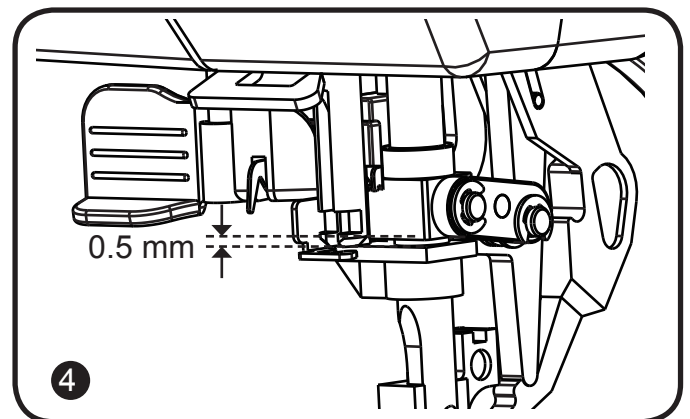
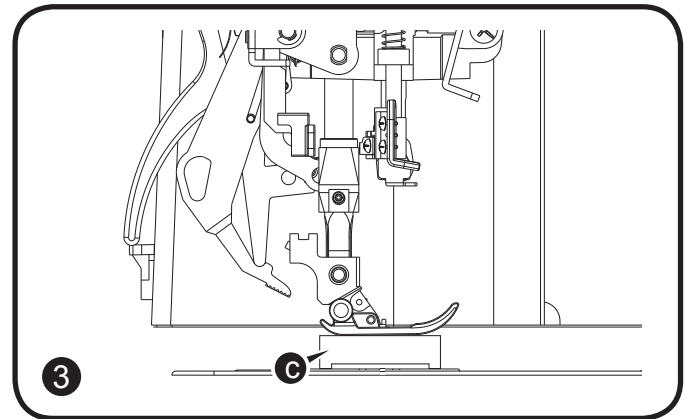
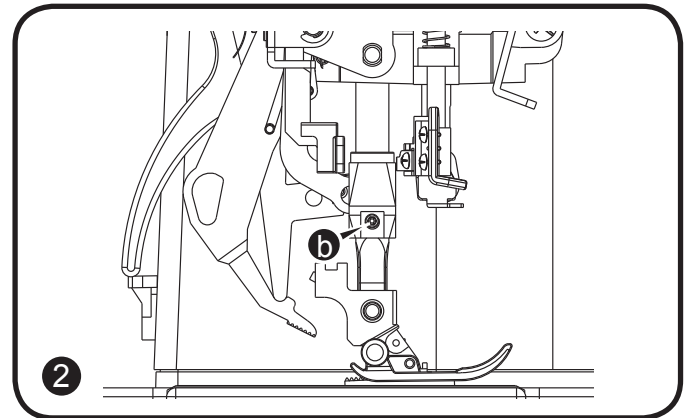
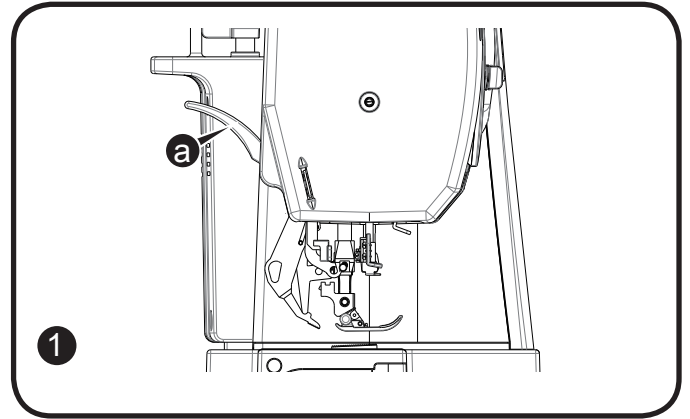
1. Remove the face plate and top cover.
2. Turn on the power switch, raise presser foot (a), press start/stop button, illustration on LCD should display "Lower presser foot". (1-2)
3. If LCD display doesn't indicate to Lower presser foot, the position of micro switch (b) is not adjusted properly. To adjust loosen the screw(c), push the plate (d) to the left and check if any warning message appears. (2-3)
4. If unit doesn't work or it is damaged replace defective unit. (3)



Height of presser foot - Knee lifter

Adjustment

1. Remove face plate.
2. Raise the presser foot lever (a) and lower feed dog. (1)
3. Loosen the set screw (b). (2)
4. Place gauge (c) (7.0~7.2mm) on the needle plate. (3)
5. Pull down the presser bar until the presser foot equally touches the gauge (c). (3)
6. Tighten the set screw (b). (2)
7. Make sure the presser foot is parallel with the needle plate markings and feed dogs.
8. Recheck height of presser foot.
9. Raise the presser foot to second position. Set the needle at the highest position. The gap between presser bar and press bar ring should be around 0.5 mm. Adjust the gap by loosening screw (b).



Adjustment of knee lifter

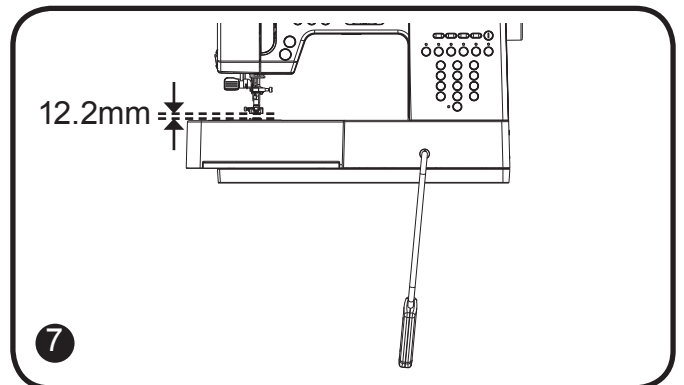
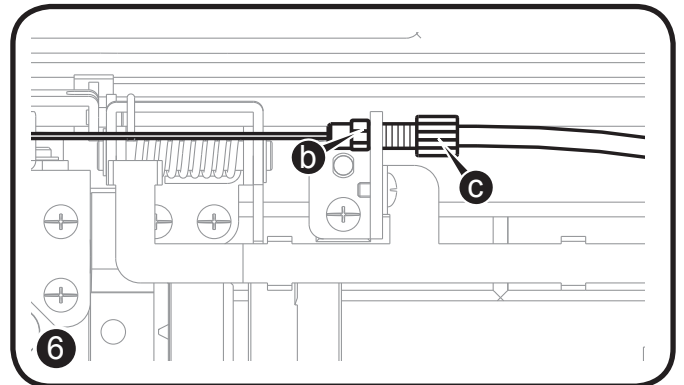
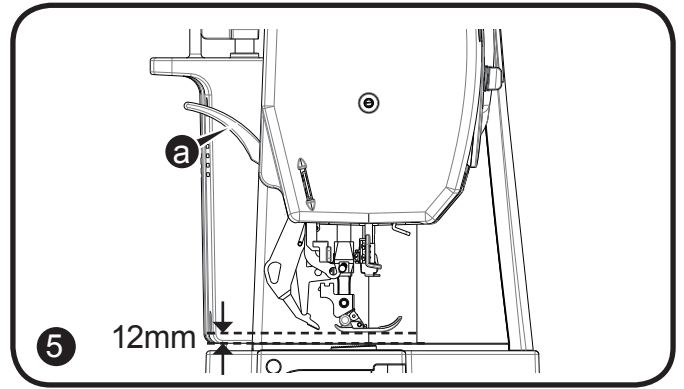
1. Attach the knee lifter for test.
2. Raise presser bar to second position.
3. Loose the nut (b) of the brake cord.
Turn the screw (c) forward / backward
to adjust the height of presser foot.

Forward - to reduce the height of presser foot.

Backward - to increase the height of presser foot.

4. The gap between needle plate and the presser foot support base should be 12 mm. (5)

5. The presser foot height of second position is more than 12mm. (7)



Needle bar orbital motion

Check

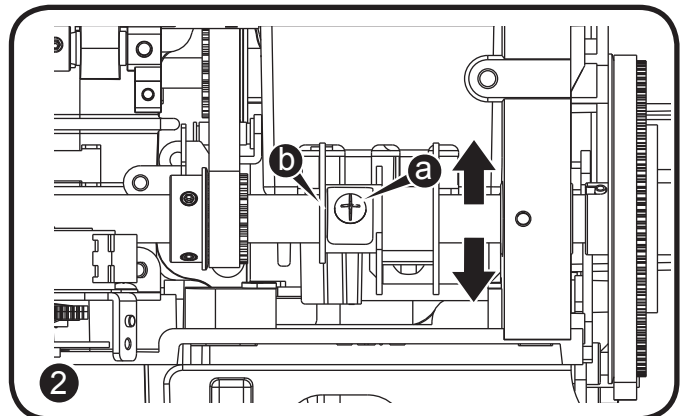
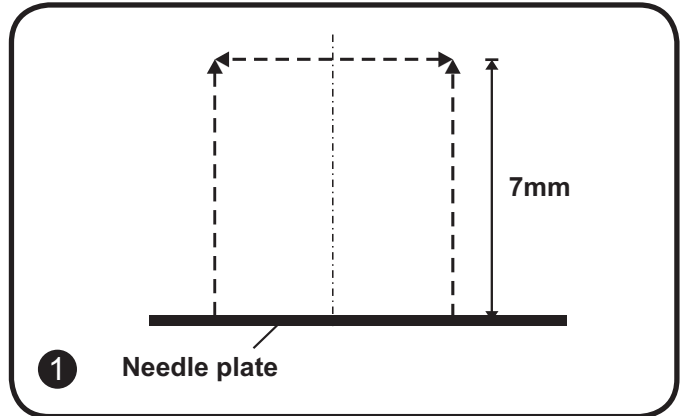
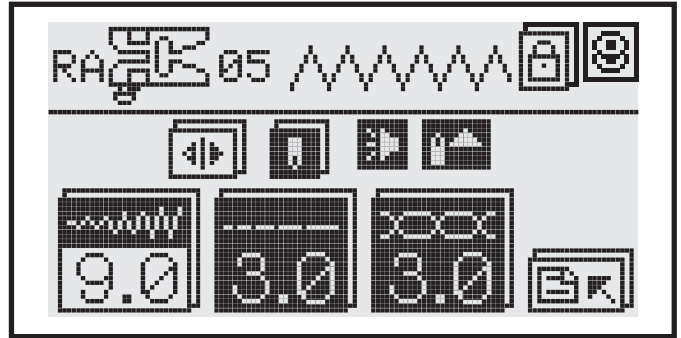
Select group "A" pattern 05, zigzag 9 mm.

Check height of needle bar swing by turning the handwheel counterclockwise toward you.

The needle bar motion from right to left or left to right should start to swing when needle is at 7 mm.

Adjustment

1. Remove the face plate and top cover.
2. If needle swing is less or more than 7 mm, loosen screw (a) on sensor flag unit, and turn flag (b) backward (↑) or forward (↓) to obtain proper setting. (2)
3. Tighten screw (a) and recheck adjustment.
4. Check and make sure that the upper shaft rotary sensor flags do not make contact with the photo sensor after adjustment. Turn the hand wheel slowly and check for clearance.



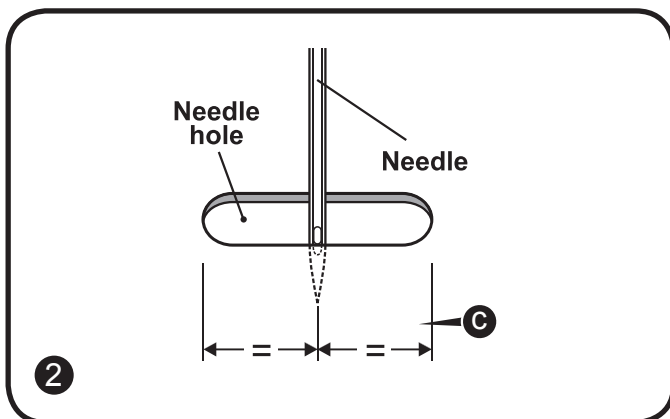
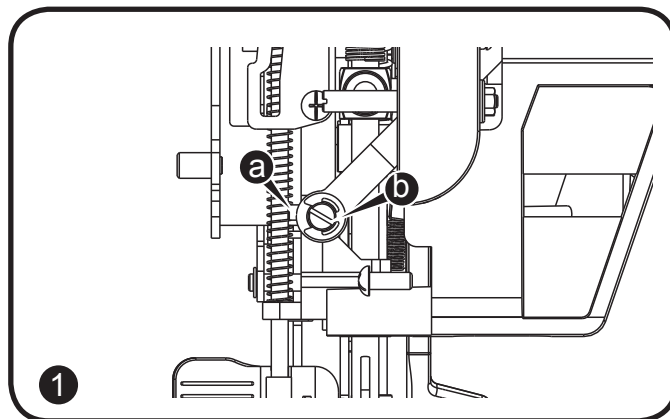
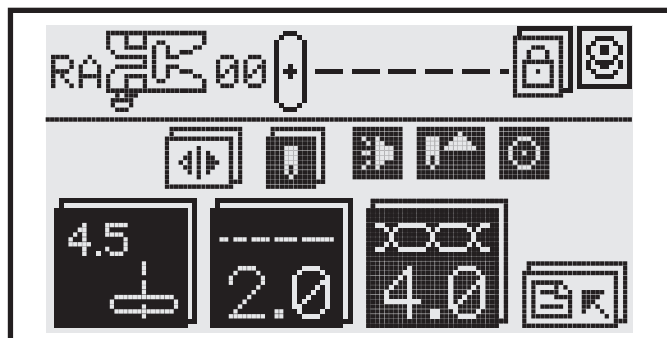
Needle center position adjustment

Check

Select group “A” pattern 00, straight stitch.

Adjustment

1. Remove face plate.
2. Loosen screw 1.5 mm (a). (1)
3. Adjust needle bar position by turning screw (b) clockwise or counterclockwise to get proper setting. (1)
4. Make sure needle position is in center of needle plate hole. Tighten screw (a). (1-2)



Zigzag needle position

Check

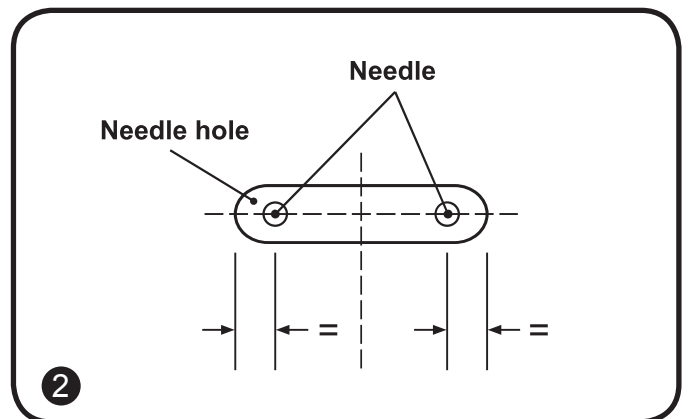
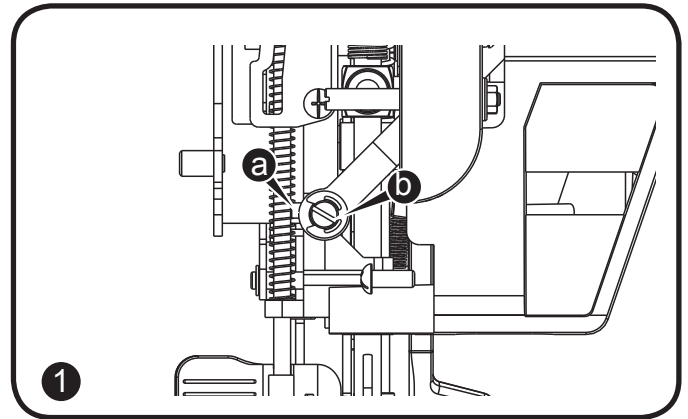
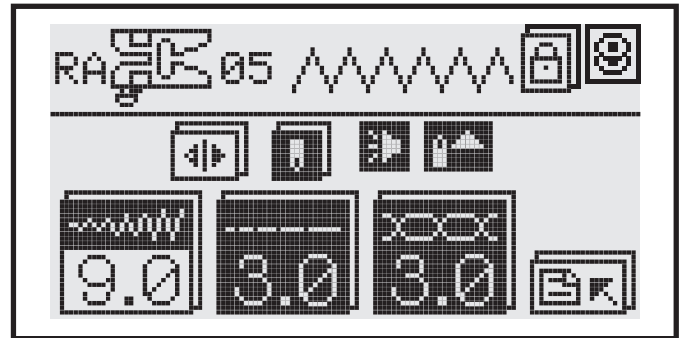
Select group "A" pattern 05, zigzag 9 mm.

Adjustment

1. Remove face plate.
2. Loosen screw 1.5 mm (a). (1)
3. Adjust needle bar position by turning screw (b) clockwise or counterclockwise to get proper setting. (1)

Clockwise=left
Counter-clockwise=right

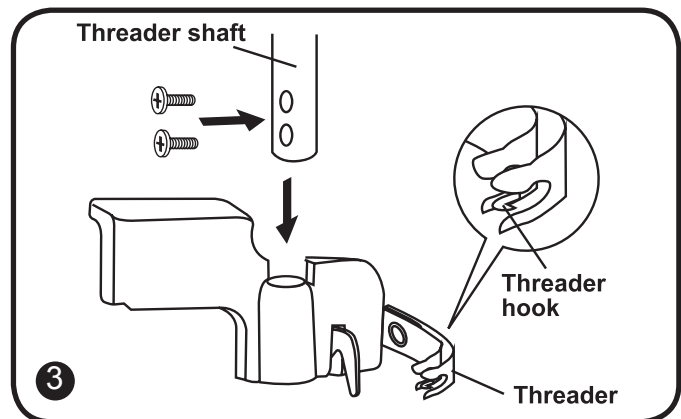
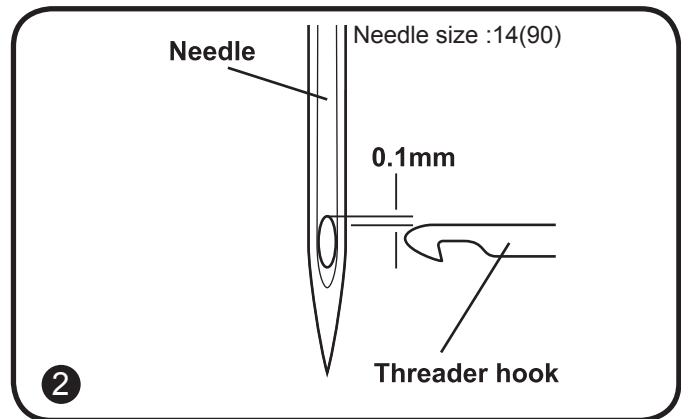
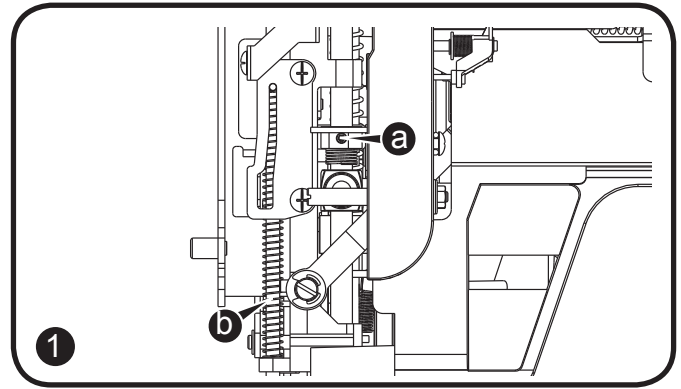
4. Make sure needle position on left and right side of needle plate slot is at equal distance.
5. Tighten screw (a). (1-2)
6. Recheck the needle position.



Automatic needle threader adjustment

Adjustment

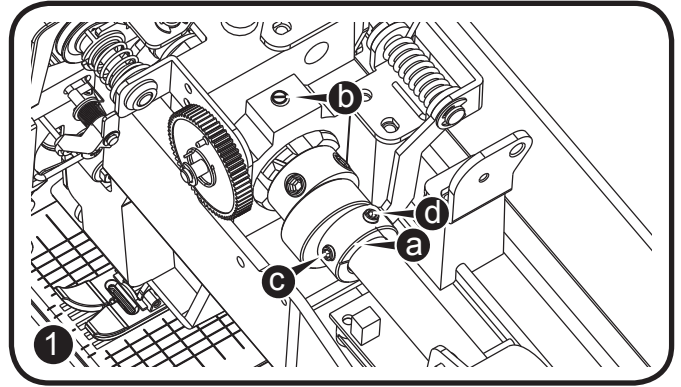
1. Remove face plate.
2. Switch on machine and bring needle bar to its highest position by pressing needle up/down button.
3. Loosen Allen screw 1.5mm (a). (1)
4. Slide needle threader shaft (b) all the way down and engage hook inside needle eye.
5. Adjust needle threader hook 0.1mm below needle eye. Bring stopper (a) against pin on needle threader shaft and tighten screw (a). (1-2)
6. Recheck needle threader operation. Make sure hook is entering needle eye freely.
7. Needle threader hook replacement. Remove both screws on back of the unit and replace device. (3)



Dual feed adjustment

Adjustment

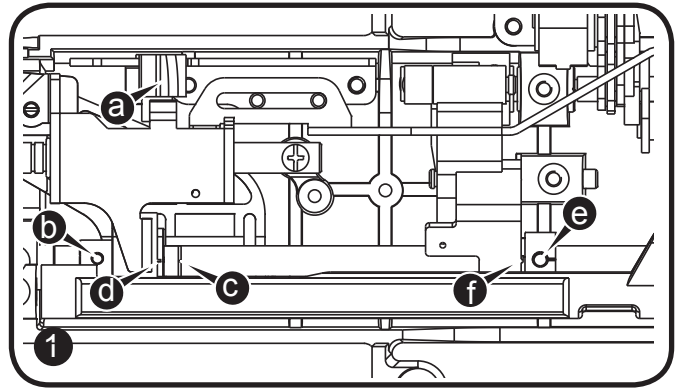
1. Remove face plate and top cover.
2. Bring the needle bar to its lowest position.
3. Check position of feed cam marking (a) with marking on main shaft and screw (c). (1)
4. Loosen 2 screws (c-d) and align marking on cam (a) with marking on shaft and screw (b). (1)
5. Tighten 2 screws (c-d). (1)
6. Recheck dual feed adjustment.



Feed dog drop

Adjustment

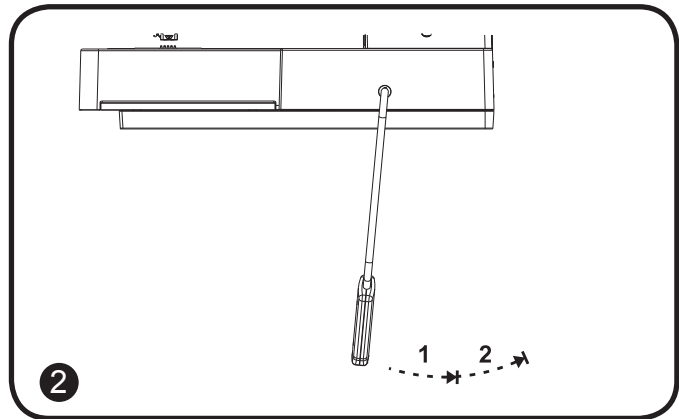
1. Remove machine base cover and free arm cover.
2. Turn the hand wheel until the needle raises to its highest position.
3. Move feed dog lifter crank (a) to the right. (1)
4. Loosen screw (b) on the feed lifting rock cam. Align marking (c) on the cam with the marking on the silencer cover (d) and tighten screw (b). (1)



Horizontal feed timing

Adjustment

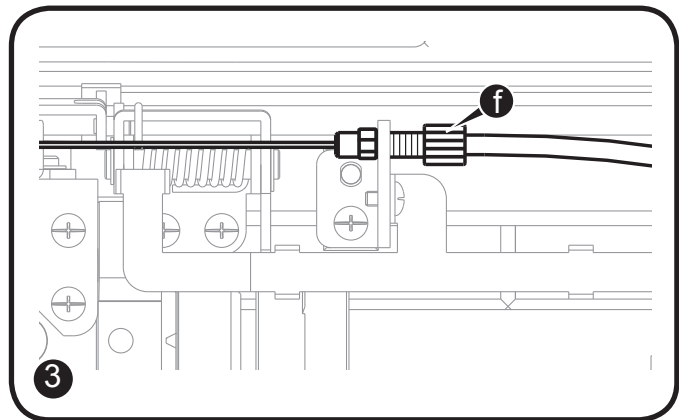
1. Loosen the screw (e). (1)
2. Turn hand wheel (counterclockwise) until needle reaches its highest position.
3. Align marking (f) on the feed rock crank with screw (e) and tighten screw (e). (1)



Timing between use knee lifter and feed dog drop

Adjustment

1. Feed dog will drop to accompany push the knee lifter. When push the knee lift at first section, feed dog will drop promptly. (2)
2. If push the knee lift and feed dog drop too slowly, adjusting screw (f) counterclockwise, contrary, if feed dog drop too fast, adjusting screw (f) clockwise. (3)



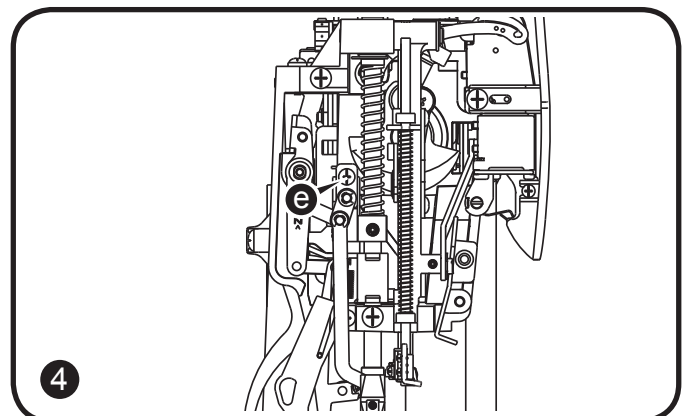
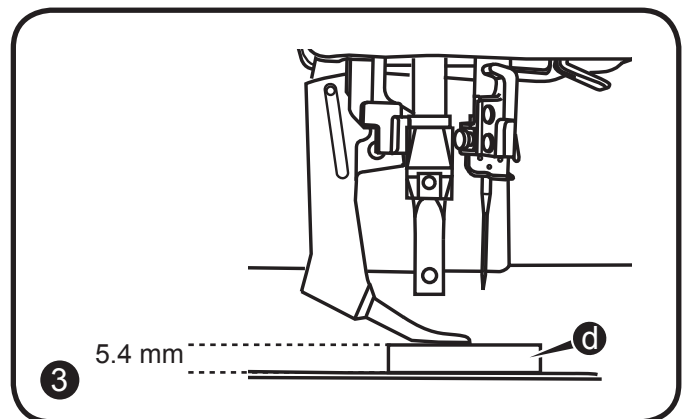
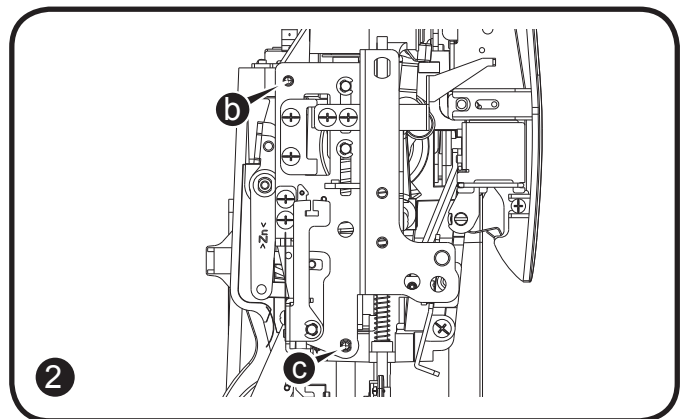
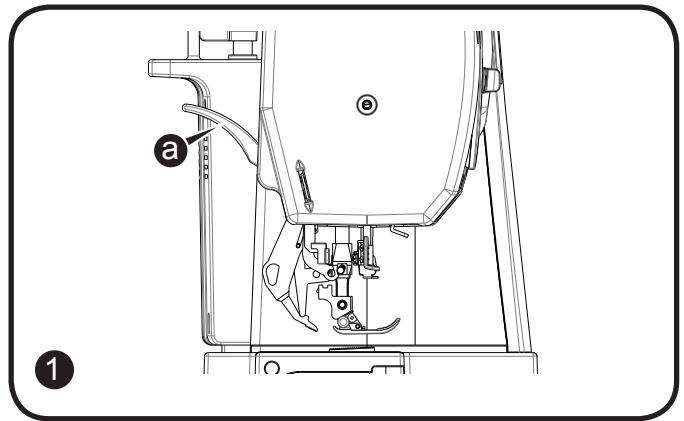
Height of dual feed shank

Check

The distance from the lower edge of dual feed shank to the surface of the needle plate is 5.4 mm.

Adjustment

1. Raise the presser foot lever (a) and lower feed dog.
Turn hand wheel(counterclockwise) until needle reaches its highest position. (1)
2. Remove the presser foot and face plate.
3. Loosen the screw (b, c) and remove the BH lever plate. (2)
4. Place gauge (d) (5.4mm) on the needle plate. (3)
5. Loosen the set screw (e). (4)
Pull down the dual feed shank until it equally touches the gauge (d). (3)
6. Tighten the screw (e). (4)



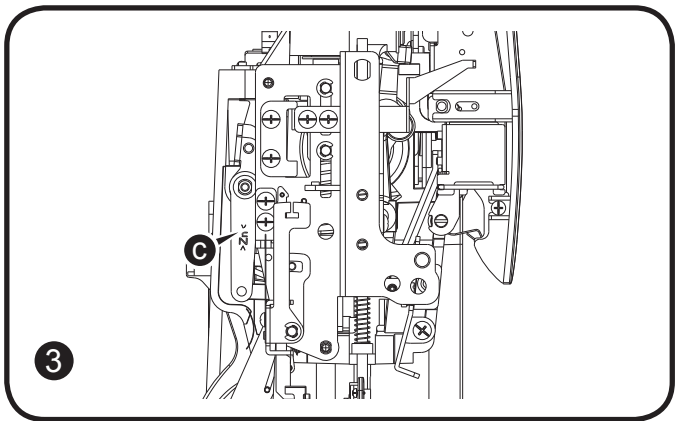
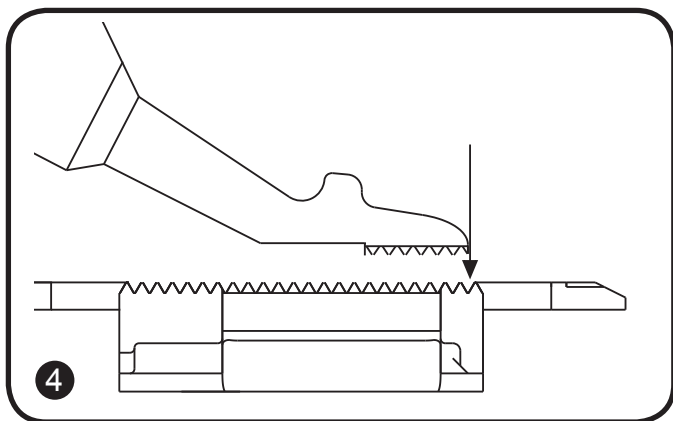
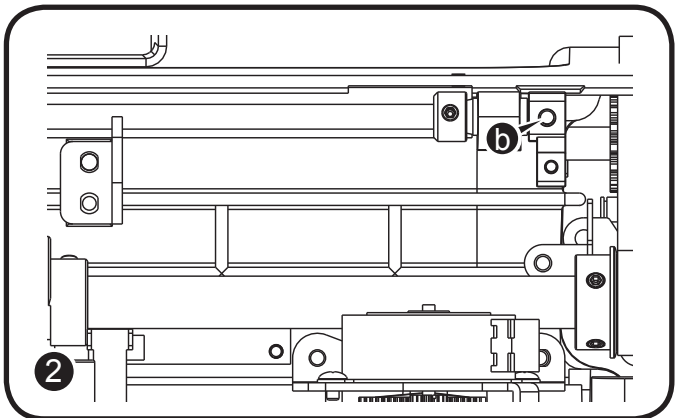
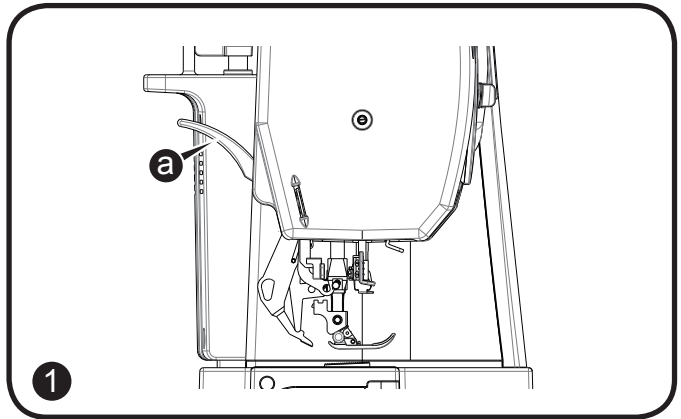
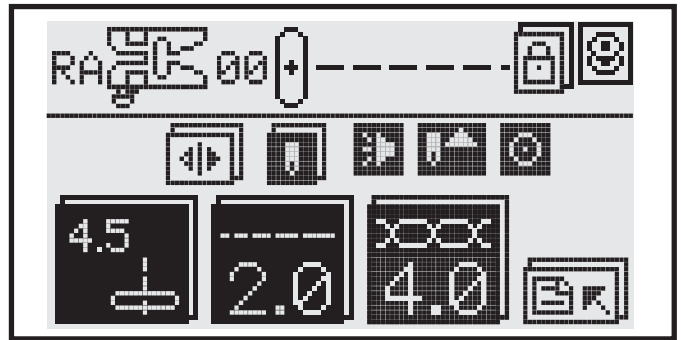
Position of dual feed shank

Check

The front edge of the dual feed shank must be between the first and second tooth point of the center tooth row of the feed dog.

Adjustment

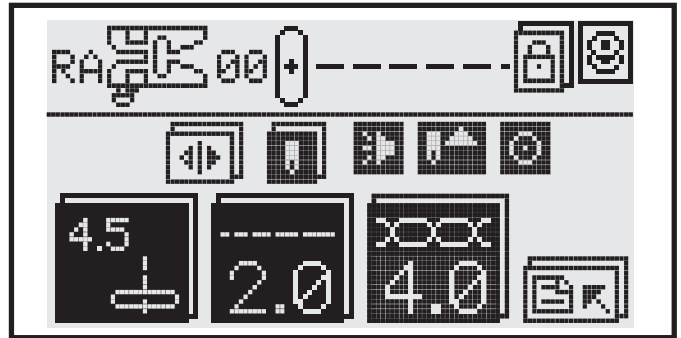
1. Select group “ A ” pattern 00, and adjust the stitch length to “ 0.0 ”.
2. Remove the presser foot and face plate.
3. Raise the presser foot lever (a) and lower dual feed shank. (1)
4. Loosen the screw (b) on the feed crank. (2)
5. Move feed crank (c) to the left or to right until the dual feed shank front edge is between the first and second tooth point of the center tooth row of the feed dog. (3-4)
6. Tighten the screw (b).



Height of needle bar

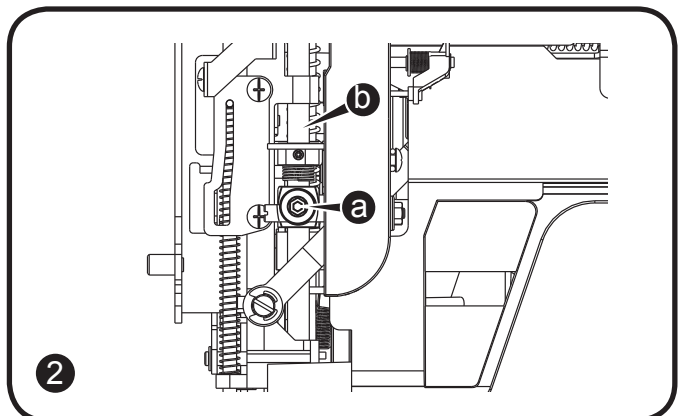
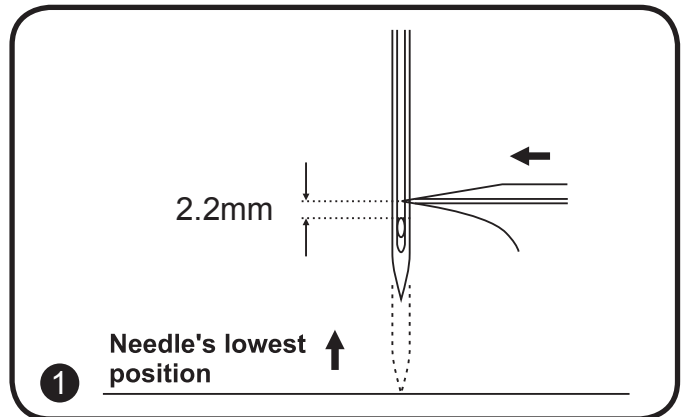
Check

1. Select group "A" pattern 00, straight stitch.
2. Remove the presser foot and face plate.
3. Set the needle bar at its lowest point.
4. Turn the handwheel until the clearance between the top edge of the needle eye and the sewing hook point must be 2.2mm.
(1)



Adjustment

1. Loosen the screw (a) and measure the height of needle bar by adjusting the needle bar (b) until the clearance of 2.2mm is set.
(2)
2. Tighten screw (a).



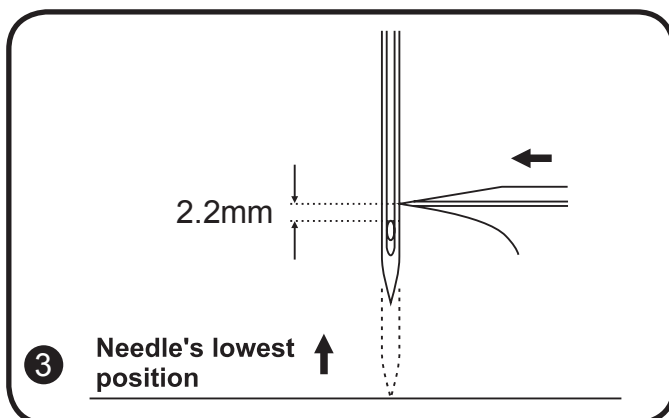
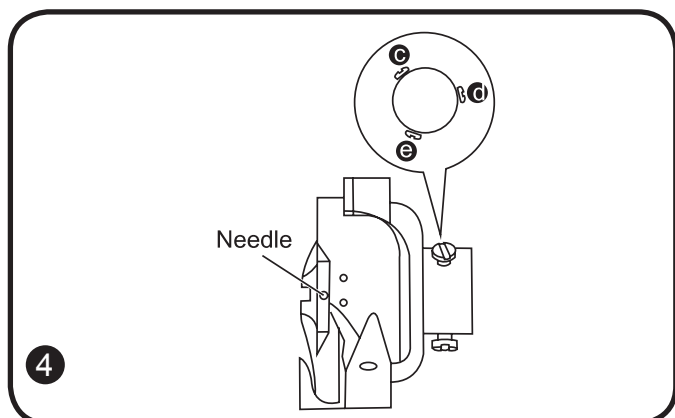
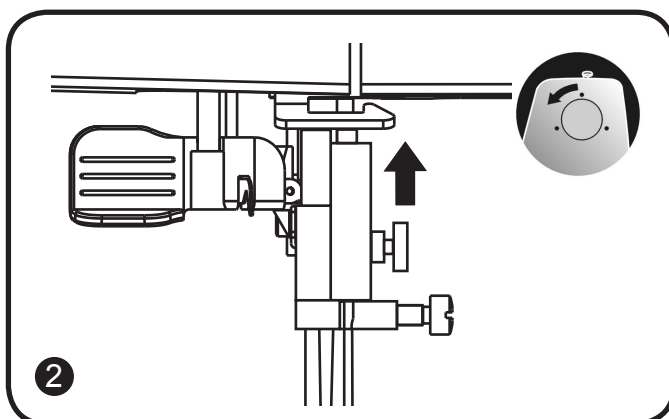
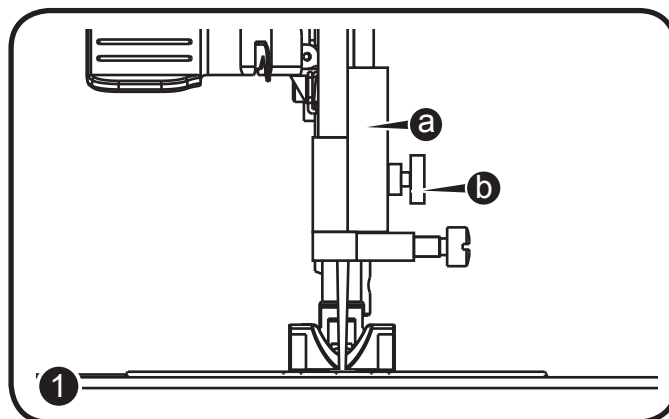
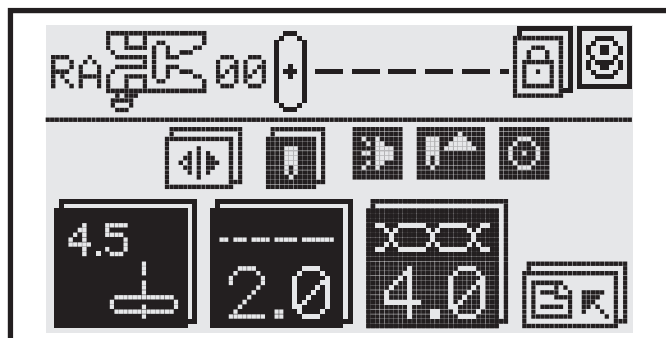
Timing of needle and hook

Check

1. Select group "A" pattern 00, straight stitch.
2. Set the needle bar at its lowest point. Place a clamp (a) around the needle bar, slightly tighten its screw (b).
3. Place a 2.2 mm gauge (a) between the needle bar support and clamp, tighten the needle clamp screw and remove the 2.2 mm gauge.
4. Turn the hand wheel so that the needle moves upwards and the needle clamp stops against the needle bar support.
5. The tip of the hook should now be exactly behind the centre of the needle.

Adjustment

1. At this position the tip of the hook should be placed on the right edge of the needle. Distance between needle eye to tip of hook should be 2.2 mm. (3)
2. If the hook timing or distance is incorrect, loosen the 3 screws (c, d, e) on the hook unit. Adjust the hook timing and tighten screws. (4)
3. Recheck hook timing adjustment and needle clearance.
4. For adjustment of needle clearance refer to page 24.



Needle clearance

Check

Select group " A " pattern 00, straight stitch.

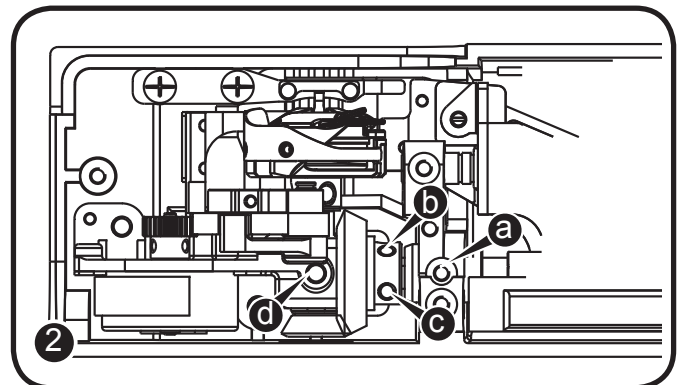
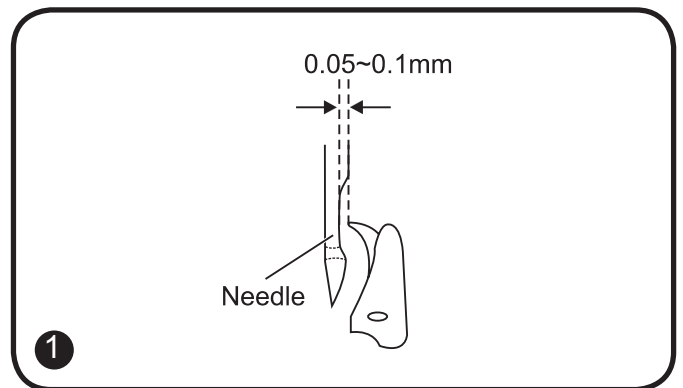
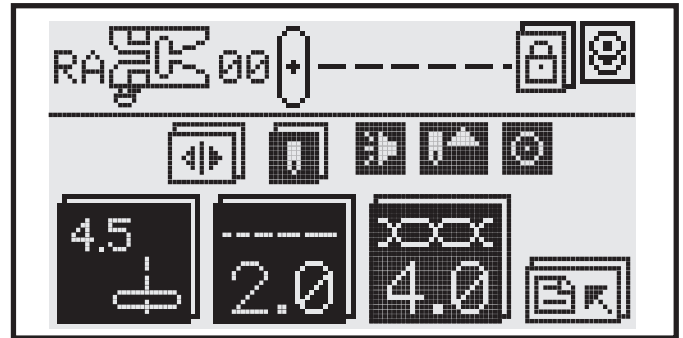
Check position of needle into needle plate hole and needle bar height is correct.

Adjustment

1. Remove bobbin case and needle plate.
2. Replace needle.
3. Turn hand wheel toward you, bring tip of hook behind needle and check needle clearance. Gap between back of needle and tip of hook should be at 0.05 ~ 0.1 mm. (1)
4. Loosen the screw (a) of the lower shaft.
5. Adjust needle clearance by loosening screws (b-c-d) and positioning the hook closer or further away from the needle. Then tighten screws.
6. Recheck hook timing, needle clearance and position of rotary hook holder (thread escapement).

Note !

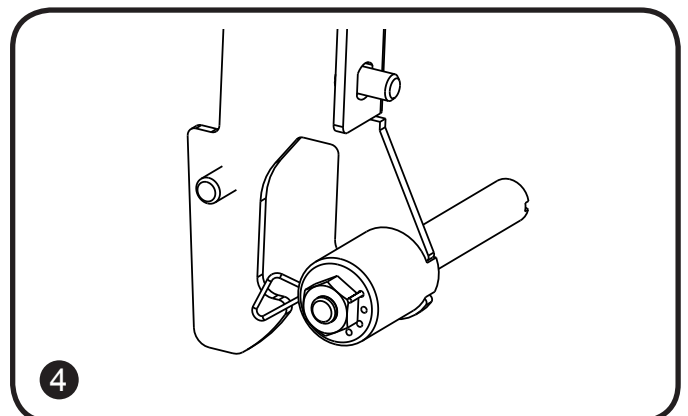
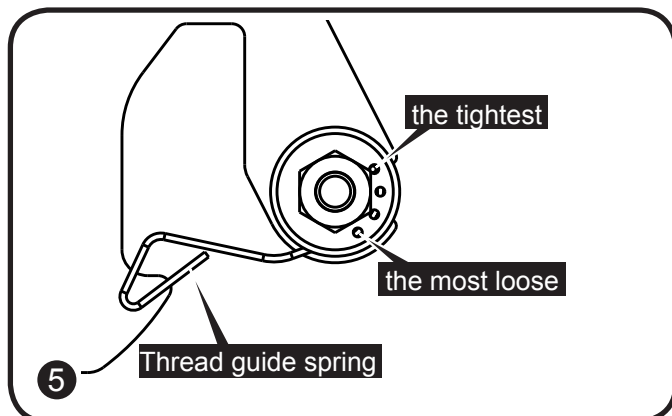
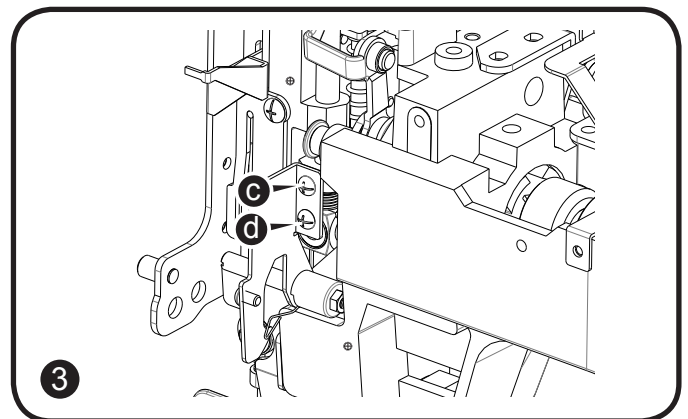
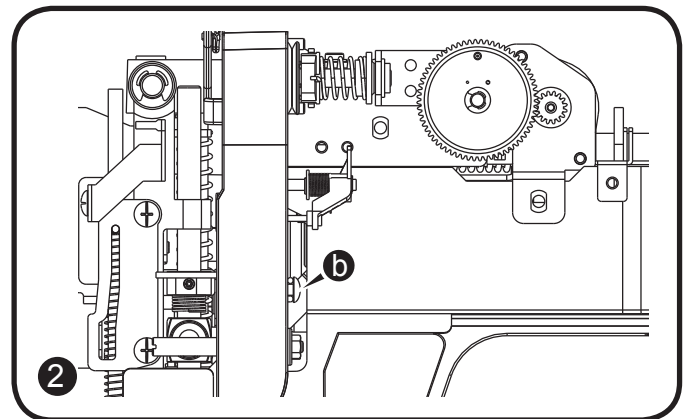
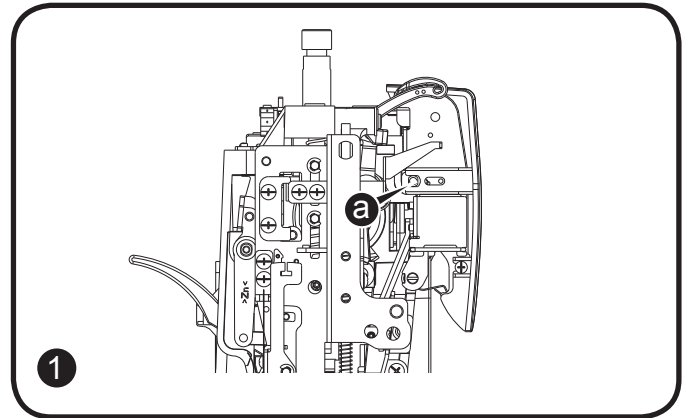
Adjust rotary hook clearance noise by loosening the set screw, presses shuttle drive shaft collar to the downward against shuttle drive shaft busing, upward shuttle drive shaft gear and tighten screw. Make sure there is no play between collar and gear.



Spring stroke

Adjustment

1. Loosen screw (a) and take apart dial tension supporter plate cover. (1)
2. Loosen screw (b) and then take apart thread guide. (2)
3. Loosen screws (c,d) and then take apart thread guide plate. (3)
4. Loosen the nut of thread guide spring bushing. (4)
5. Shift thread guide spring to different hole and adjust its looseness and tightness. (5)
6. Tighten the nut of thread guide spring bushing.



Hook gear and lower shaft gear backlash play

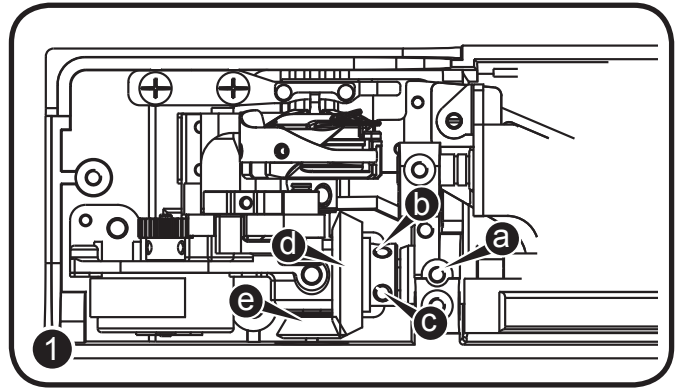
Check

Shuttle drive does not turn or does not turn smoothly.

Noises occur while the machine is running.

Adjustment

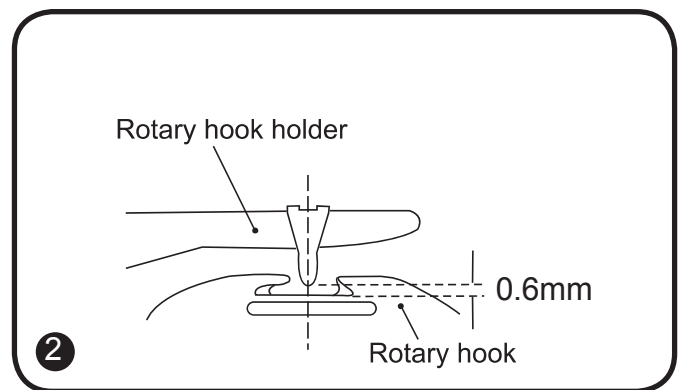
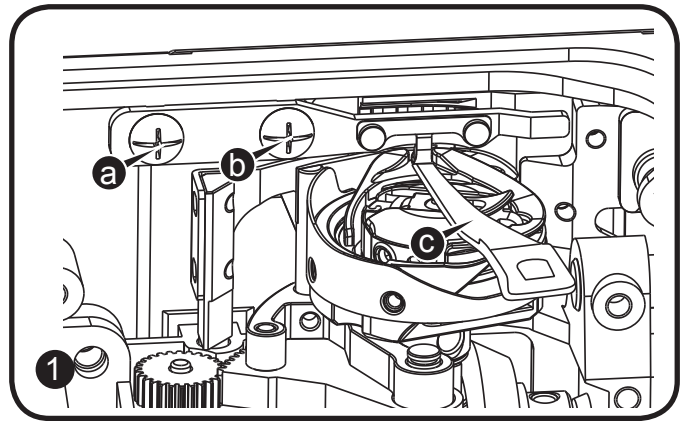
1. Loose 3 screws (a-b-c) on the lower shaft gear (d).
2. Adjust the lower shaft gear (d) closer or further away to the shuttle drive gear (e) and tighten the two screws. Allow a small backlash play between the gears.
3. Recheck hook timing and needle clearance page 23-24.



Position of rotary hook holder (Thread escapement bracket)

Adjustment

1. Remove machine base cover, free arm cover and bobbin case.
2. Loosen 2 screws (a, b) of the rotary hook holder. (1)
3. Adjust clearance between rotary hook holder (thread escapement gauge(c) and rotary hook to 0.6 mm. (2)
4. Recheck position of rotary hook holder. Make sure escapement finger is correctly set in the rotary hook opening. (2)



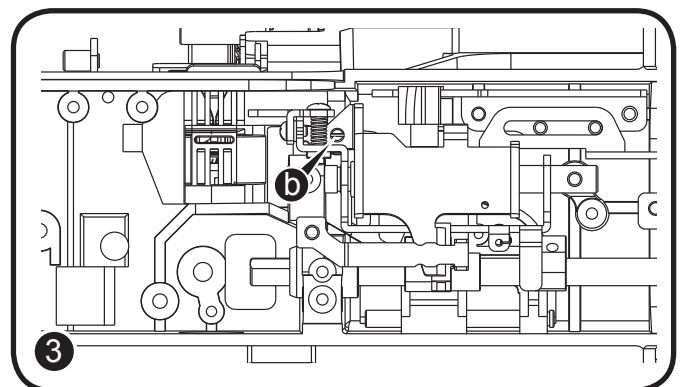
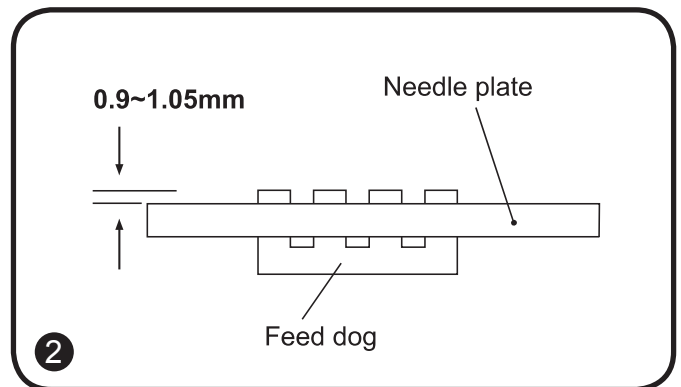
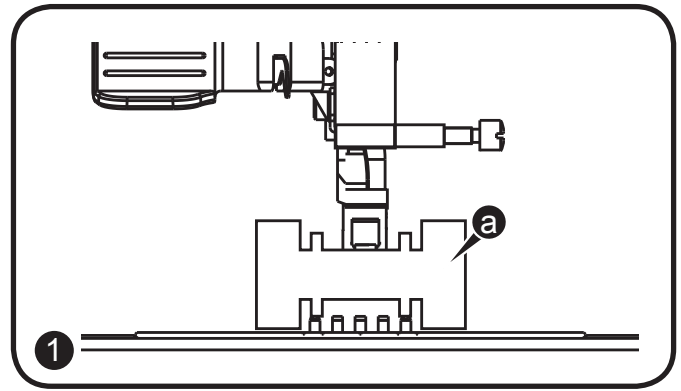
Feed dog height

Check

When the feed dog is in its highest position it should be 0.9 to 1.05 mm above the surface of the needle plate.

Adjustment

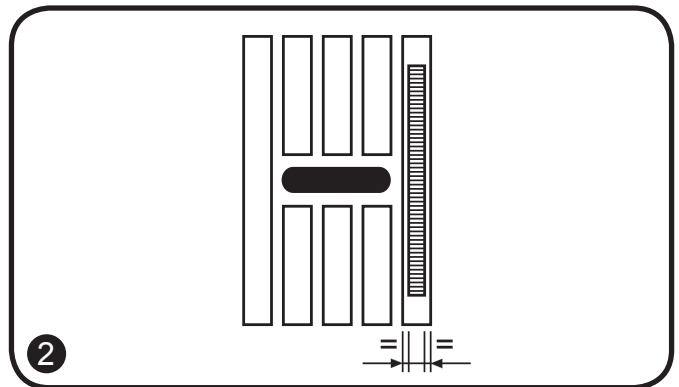
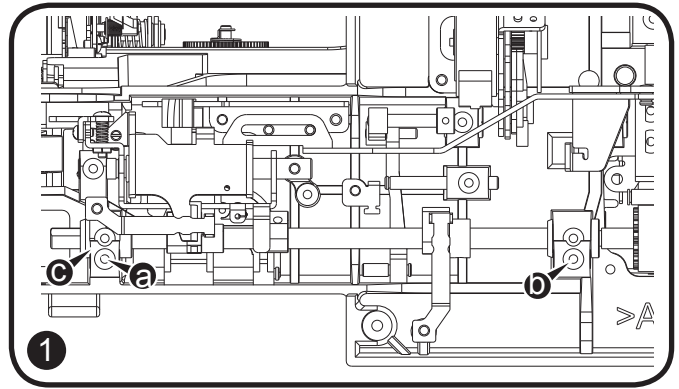
1. Turn the hand wheel to raise the feed dog to its highest position.
2. Place gauge (a) on the needle plate, check height of feed dog. The height should be 0.9 ~ 1.05 mm. (1-2)
3. Adjust feed dog height by turning screw (b) clockwise to raise the feed dogs or counterclockwise to lower the feed dogs. (2-3)
4. Recheck the feed dog height.



Position of feed-dog in relation to the needle plate (left to right)

Adjustment

1. Remove machine base cover and free arm cover.
2. Loosen screw (a-b) of the feed crank pivoting shaft .
3. Adjust feed dog to center position by moving feed crank shaft (c) to the left or to the right. (1-2)
4. Tighten screw (b), push left feed shaft to the right and tighten screw (a). Check and make sure that there is no lateral play on the feed rock shaft . (1)
5. Recheck position of feed dog with needle plate slots. (2)



Upper thread tension

Check

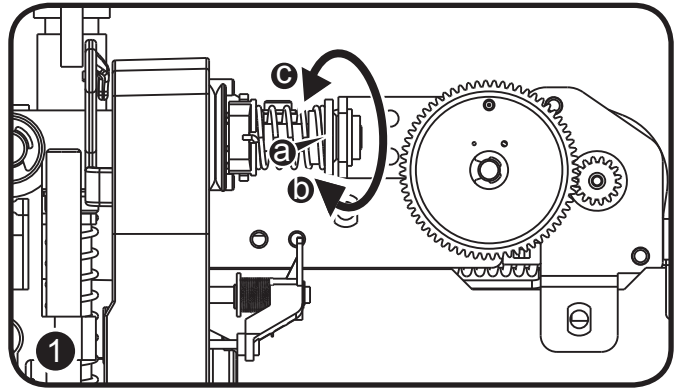
A correct interlacing of the upper thread and the bobbin thread (cotton thread 50/2 or synthetic fiber thread 100/35) must take place approximately in the middle of the fabric at zigzag stitch setting with the tension dial at 3.5. (1)

Alt. Check

The standard upper thread tension should be between 55-70 grams when pulling a cotton thread 50/2 or synthetic fiber thread 100/35 with the tension dial at 3.5. The presser foot should be lowered when checking the upper thread tension.

Adjustment

1. Remove the face cover and the front cover.
2. Turn the plastic screw (a) in the direction of (b) when the upper thread tension is too tight. (2)
Turn the plastic screw (a) in the direction of (c) when the upper thread tension is too loose. (2)



Lower thread tension (thread tension of the bobbin case)

Check

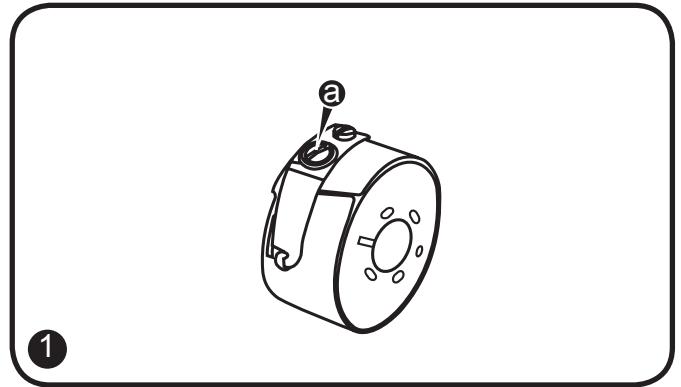
1. Insert a full bobbin into the bobbin case.
2. The thread tension spring of the bobbin case shall give a resistance of 15-18g when pulling the thread slowly.

Adjustment

1. Turn screw (a) until the correct thread tension is obtained. (1)

Note!

Before any adjustment is made remove any loose pieces of thread or fluff from the thread tension discs.



Motor belt tension

Too tight or too loose motor belt tension can cause belt noise.

Too tight motor belt tension can make the machine to run slow and overload the motor.

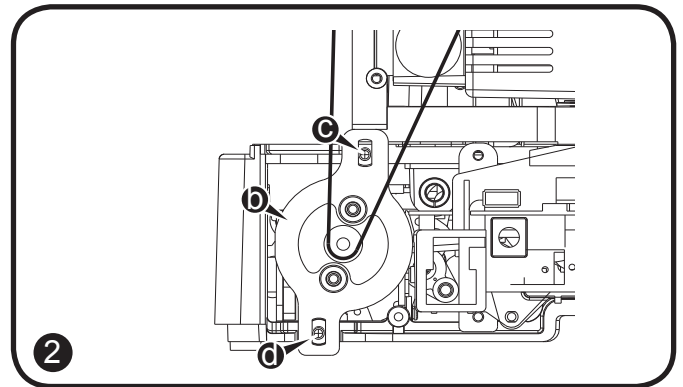
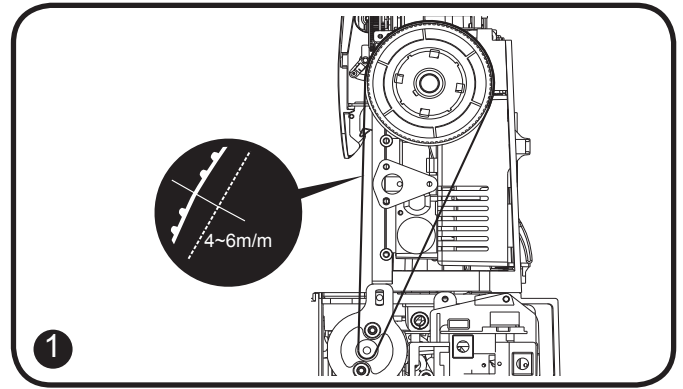
Too loose motor belt tension may cause jumping of the belt teeth on the motor pulley.

Check

When pushing the motor belt with 200 grams load the deflection of the motor belt should be 4~6 mm.

Adjustment

1. Remove the face cover, free arm covers, front cover and back cover.
2. Loosen the screws (c, d) of adjusting plate (b).
3. Move the motor
up, the belt will become loosen;
down, it will become more tighter.
4. Tighten the set screw (c).
5. Attach the back cover, front cover, free arm covers and the face cover.



Timing belt tension

Check

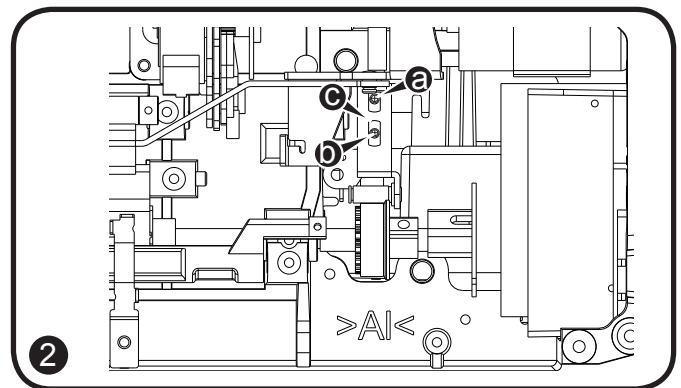
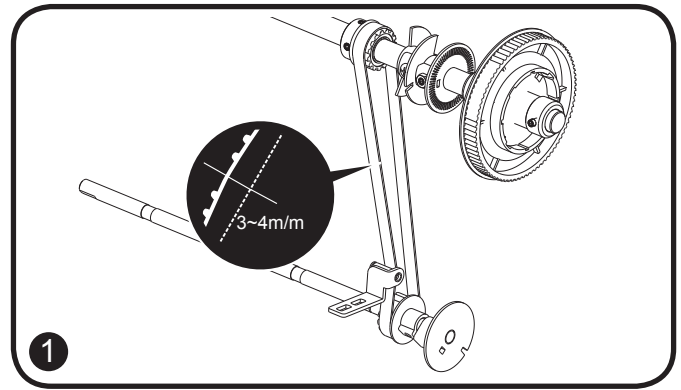
The belt should have approx. 3-4mm slack when a pressure of 200gr. is applied to the middle of the belt.

Adjustment

Loosen the setscrews (a, b) of the belt adjusting plate (c).

Move the belt adjusting plate (c) up or down to make adjustment.

Retighten the setscrews (a, b).



Stretch stitch balance

Check

Select group " A " Pattern 11.

When a stretch stitch is sewn the forward feeding and backward feeding should be equal.

Place a piece of paper underneath presser foot.

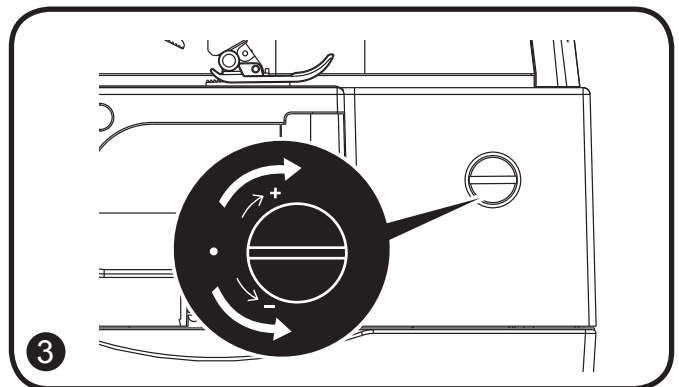
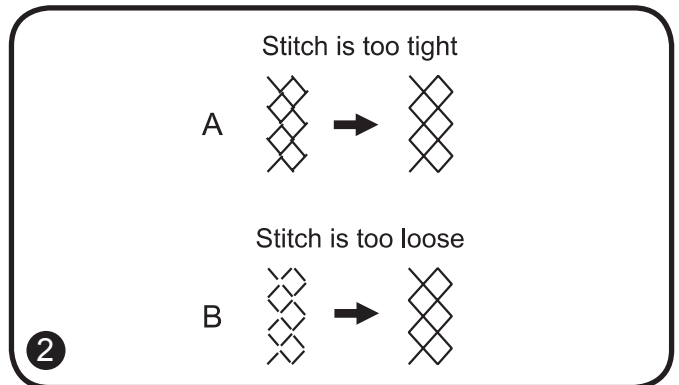
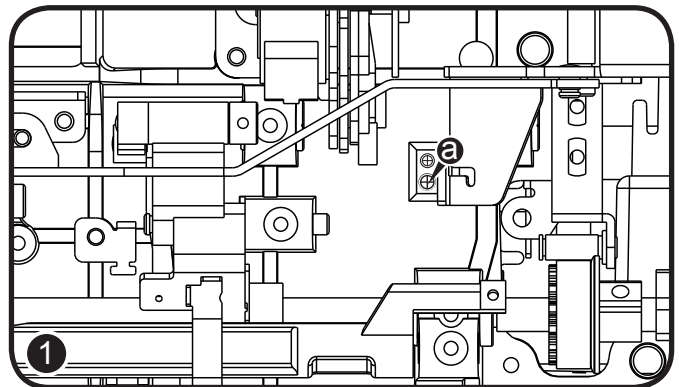
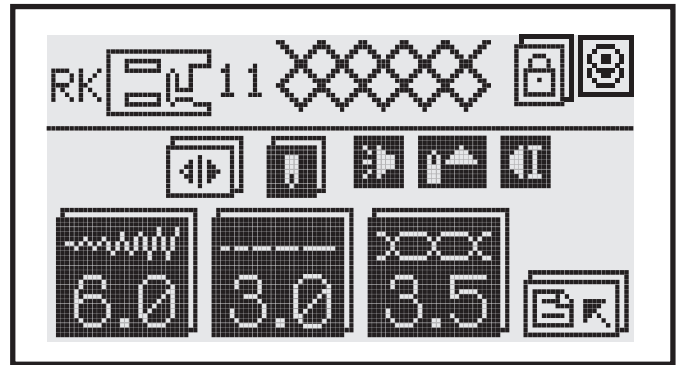
Set speed volume to slow speed and slightly press on the foot controller or start/stop key. Check if needle drop forward and reverse feeding is in the same hole.

Note!

Before any adjustment are done check if the feed rock crank , feed rock rod and feed crank are working smoothly.

Adjustment

1. Remove machine base cover and free arm cover.
2. If necessary adjust fine tuning by turning feed crank screw (a) counter-clockwise to open (↓) and clockwise to close (↑) the honey comb stitch. (1-3)
3. Make sure fine tuning dial is set in horizontal position (center) prior of adjusting feed crank screw (a). (1-3)
4. Fine tuning dial adjustment.
 - A. If patterns are overlapping, adjust by turning the dial counterclockwise in the direction of " - ". (2-3)
 - B. If patterns are open, adjust by turning the dial clockwise in the direction of " + ". (2-3)



Darning stitch position adjustment

Check

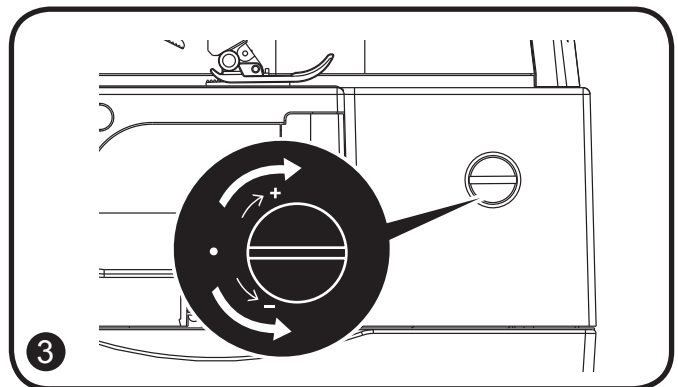
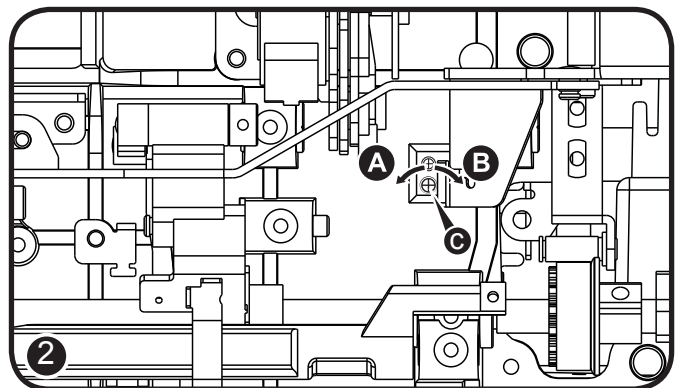
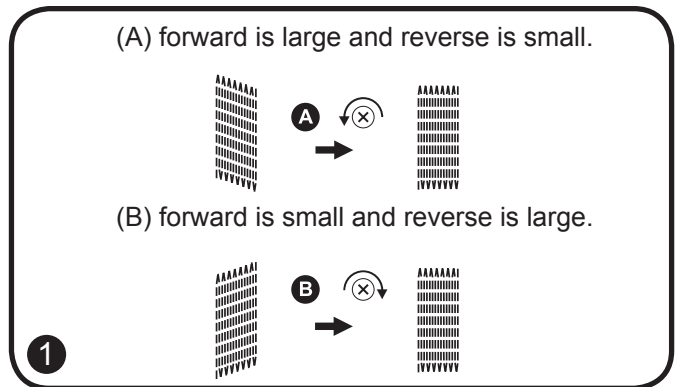
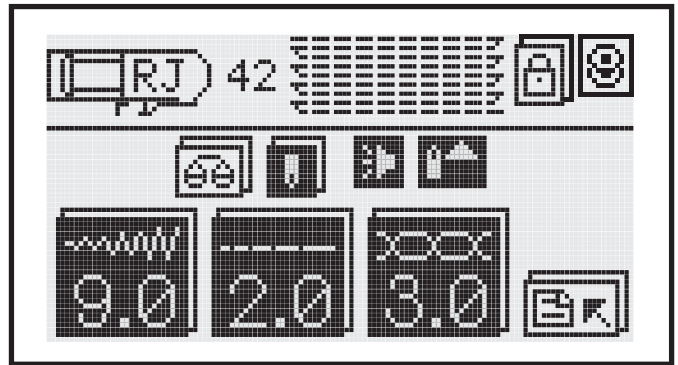
Select group "A" Pattern 42.

Adjustment

1. Sew the darning stitch pattern.
2. If the rows of stitches are not evenly perpendicular adjust setting by turning screw (c) counterclockwise (A) or clockwise (B). (1-2)

Make sure fine tuning dial is set in horizontal position (center) prior of adjusting feed crank screw (c). (2)

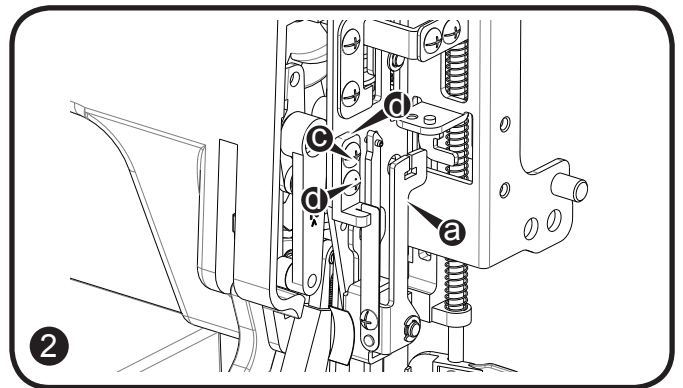
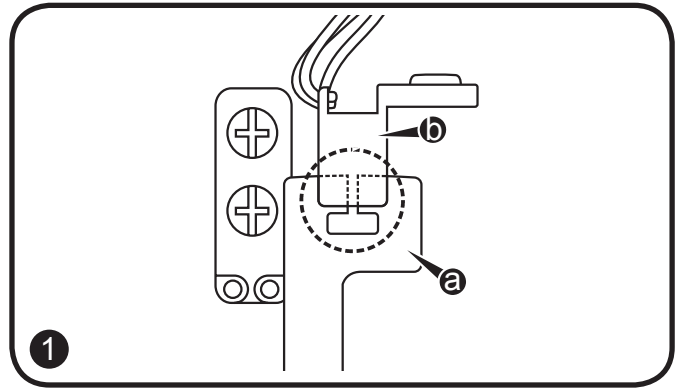
3. Fine tuning dial adjustment. Forward/reverse feeding not even, adjust by turning the fine tuning dial clockwise or counterclockwise in the direction of " - " or " + " to obtain even feeding. (3)



BH photo sensor position adjustment

Adjustment

1. Remove the face plate.
2. Check and make sure that the crank lever (a) is set in the center of sensor (b) and no dirt or lint is obstructing the movement of the lever. (1)
3. If necessary, adjust position of BH crank lever (a) in center by loosening 2 screws (c-d) on bracket (e). (2)



Lower thread cutter adjustment

Check

Remove the needle plate.

The lower thread blade (a) should be cover the edge of movable shaft (b). (1)

Adjustment

1. Turn power switch to OFF("O") and loosen the inside screw (c) of the thread cutter gear (d). (2)

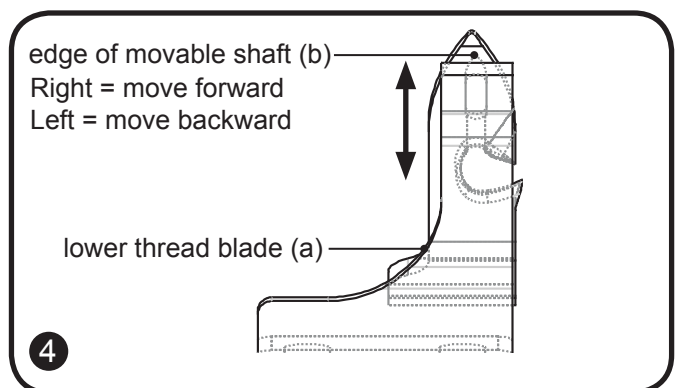
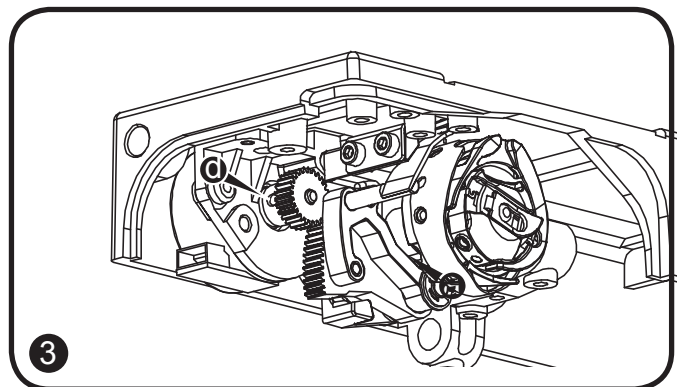
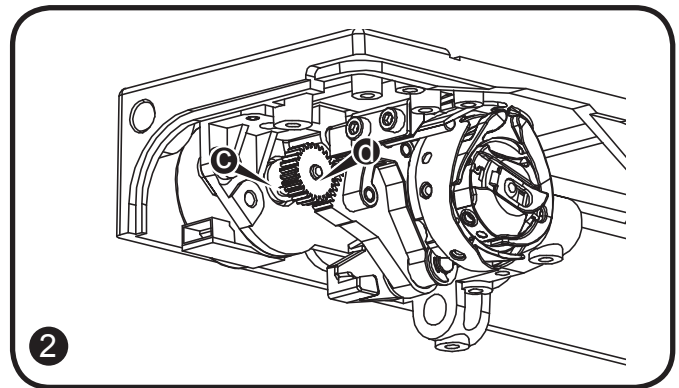
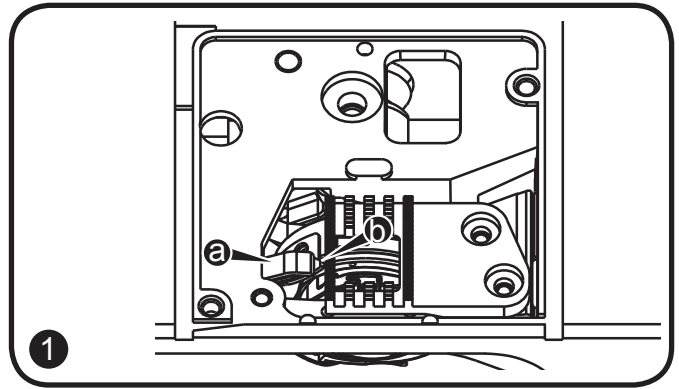
2. Turn power switch to ON ("I")

3. Turn the outside screw (d) of thread cutter gear right /left to adjust movable shaft (b). (3-4)

Right = to move movable shaft forward

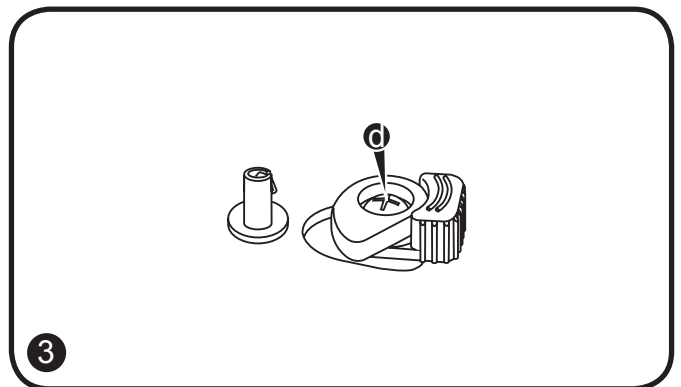
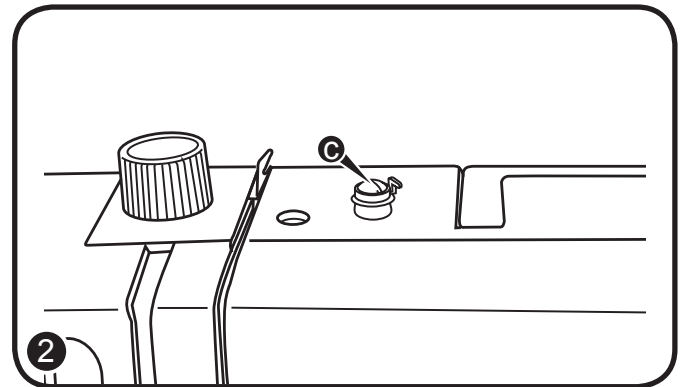
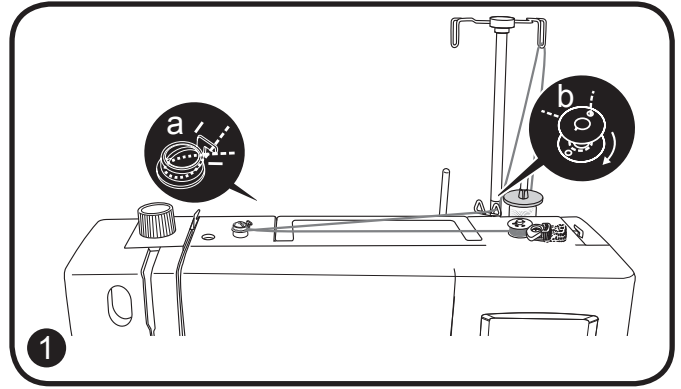
Left = to move movable shaft backward

4. Turn power switch to OFF("O") and fasten screw (c).



Bobbin winding

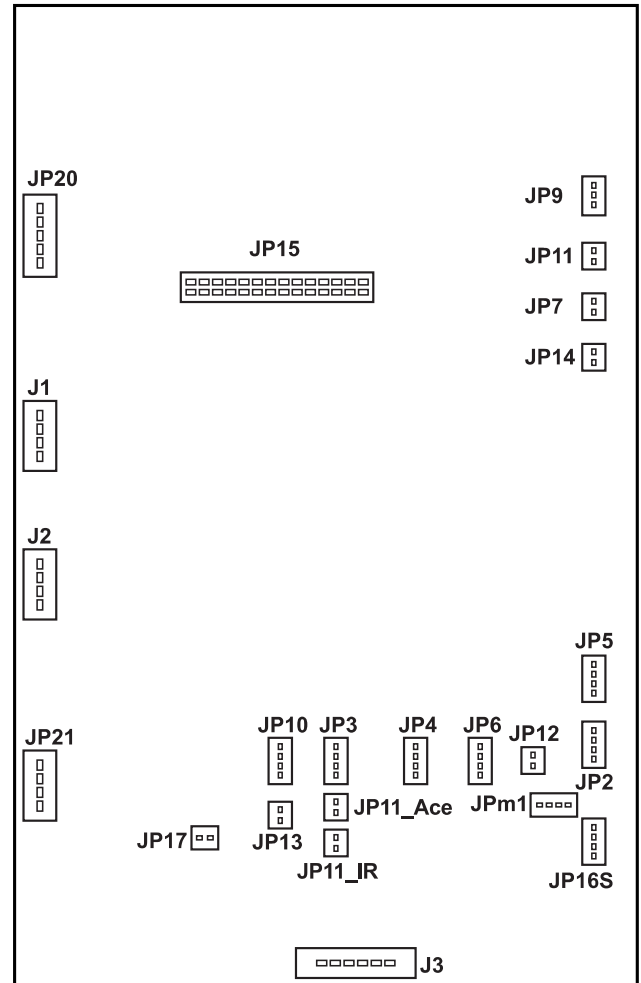
1. Thread machine for bobbin winding. Make sure thread is correctly placed into guide (a). (1)
2. Insert thread inside bobbin hole (b); place empty bobbin on the bobbin winder spindle and engage bobbin winder lever to the left. (1)
3. Switch on machine and press bobbin winder button to wind the bobbin.
4. Make sure bobbin thread winding is even. If necessary adjust winding of thread by tightening or loosening screw (c). (2)
5. Use a dial tension gauge (50g) to check the tension value. Reading should be 12 to 15 gr.
6. If bobbin winding is less or more than 90 percent full, loosen screw (d) and adjust position of stopper bracket. (3)
7. Bobbin should be 80 to 90 percent full and filled evenly after adjustment.
8. When bobbin is full, the bobbin winder will automatically stop.



Circuit board

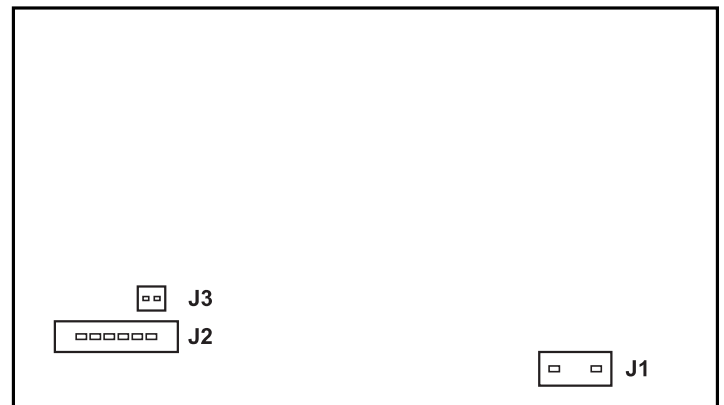
Main board

- J1. Step motor complete (zigzag)
- J2. Step motor complete (Feed)
- J3. To HF transformer board
- JP2. Photo sensor complete (Needle flow)
- JP3. Photo sensor plate (zigzag)
- JP4. Photo sensor board (Feed)
- JP5. Photo sensor (Needle bar Up/down)
- JP6. Photo sensor board (B/H)
- JP7. Micro switch (Bobbin winder)
- JP9. Photo sensor complete (Break thread)
- JP10. Photo sensor complete (Lower thread cutter)
- JP11. Micro switch (Presser foot)
- JP11_Ace. Thread detect receiver
- JP11_IR. Thread detect launcher
- JP12. Foot controller receptacle
- JP13. Micro switch (Lower thread cutter)
- JP14. Micro switch (B/H)
- JP15. Flat cable
- JP16S. Photo sensor complete (speed)
- JP20. Step motor complete (tension)
- JP21. Step motor complete (Lower thread cutter)
- JPm1. Bobbin winder motor



HF transformer board

- J1. Switch receptacle ass' y
- J2. To Main board
- J3. To DC motor



Sewing machine malfunction

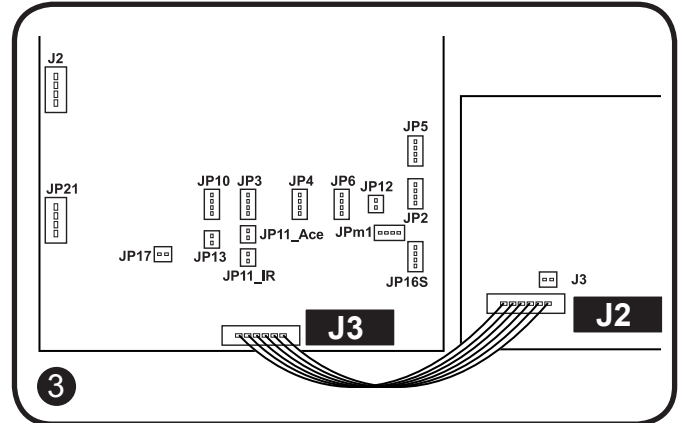
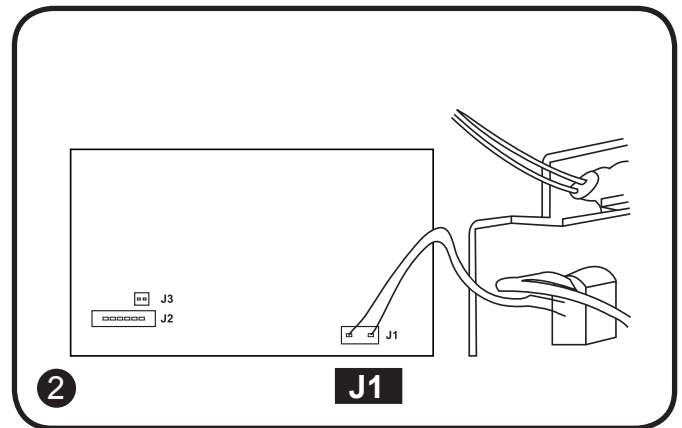
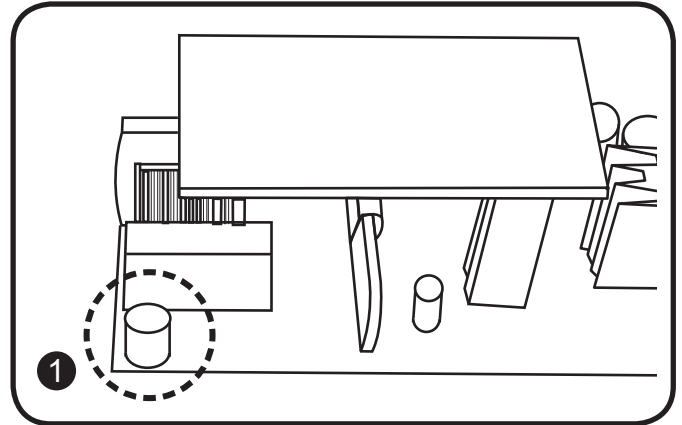
Check if fuse in HF transformer board is blown. (1)

Make sure plug J1 in HF transformer board and switch receptacle are properly connected. (2)

Make sure plug J3 in main board and J2 in HF transformer board are properly connected. (3)

Replace HF transformer board.

Replace main board.

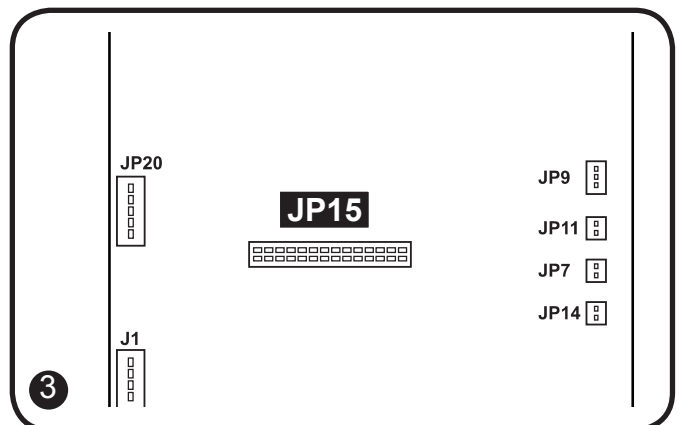
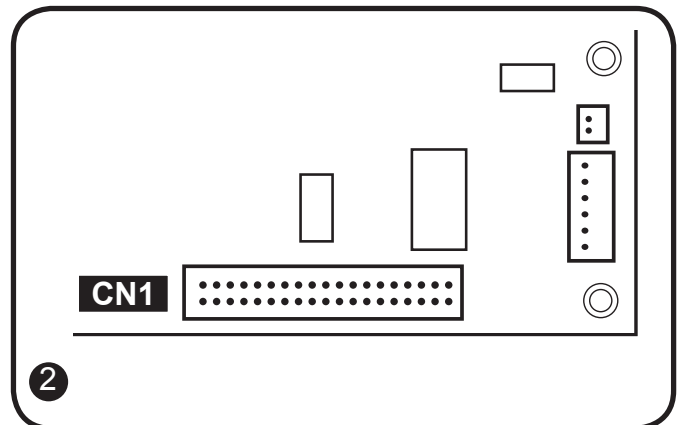
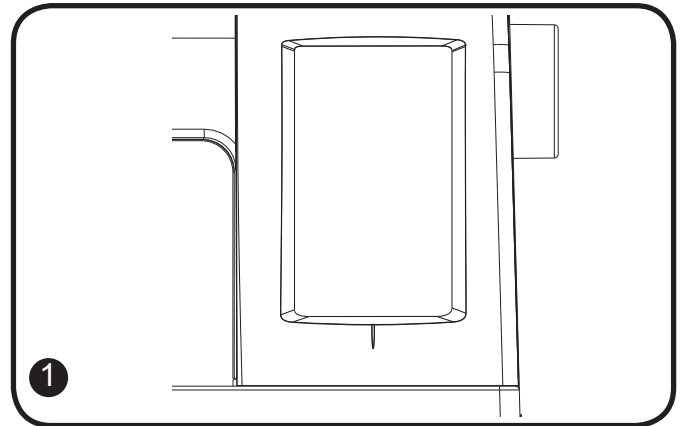


Operation panel / LCD screen (touch panel) malfunction

Make sure plug CN1 in LCD display board and the JP15 in main board cable are properly connected.

Replace LCD display board .

Replace the main board.

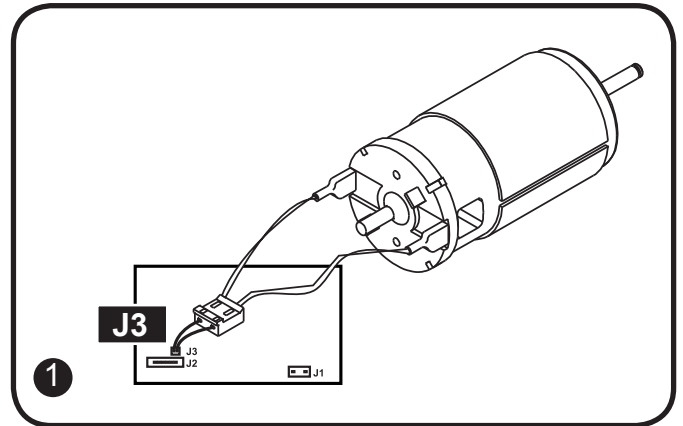


DC motor malfunction

Make sure plug J3 in HF transformer board is properly connected.

Replace the DC motor. (1)

Replace the main board.



No operation Start/ Stop, Thread cutter, Needle up-down, Reverse & Autolock

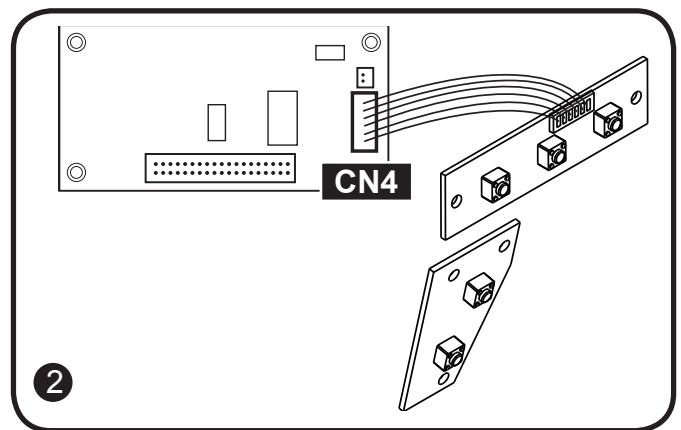
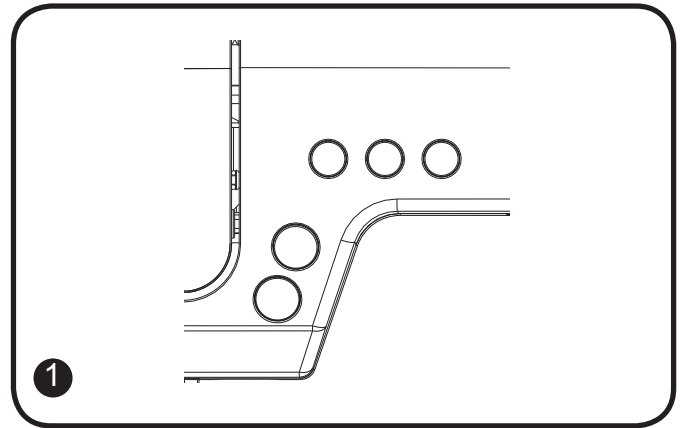
Make sure all buttons are correctly working. without any problem. (1)

Check if the Button switch circuit board is properly connected to the LCD display board CN4. (2)

Replace the Button switch circuit board.

Replace the LCD display board.

Replace the main board.

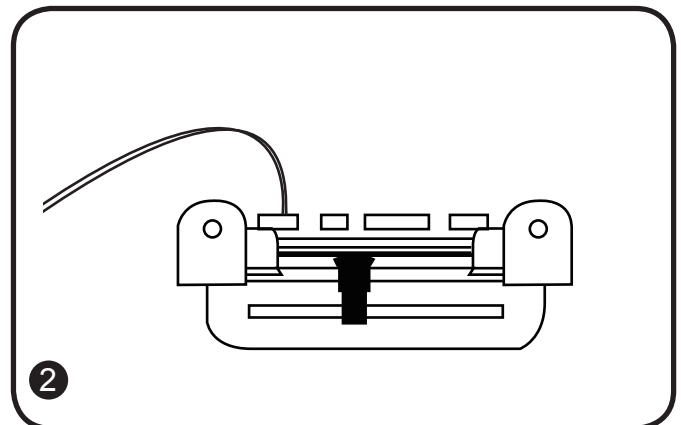
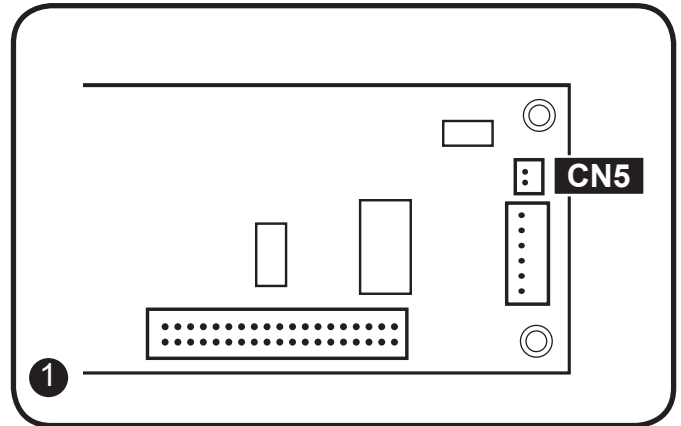


Speed volume malfunction

Make sure lead wire plug "CN5" on LCD display board is correctly connected. (1)

Replace slide resistor. (2)

Replace the LCD display board.



Feed stepper motor malfunction

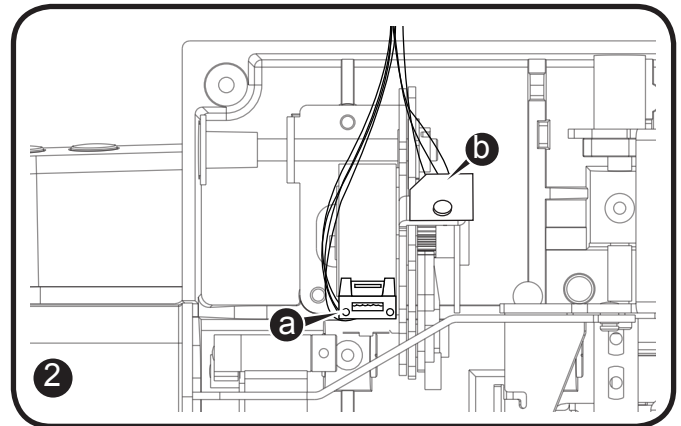
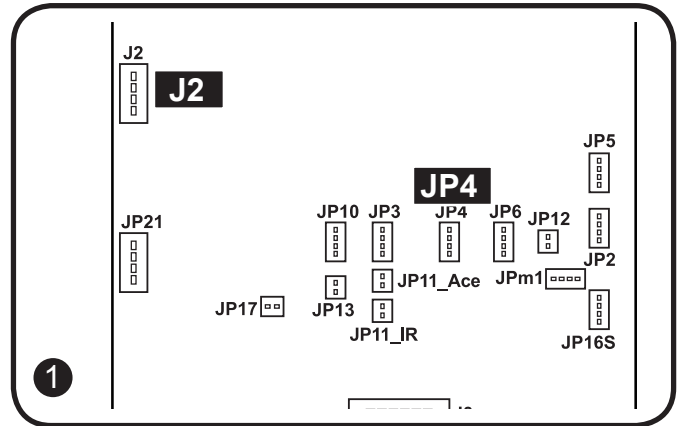
Make sure lead wire plug J2 and JP4 on main board and feed stepper motor plug are correctly connected(a).

Make sure photo-sensor switch is correctly working (b). (1-2)

Replace the feed step motor.

Replace photo-sensor .

Replace the main board.



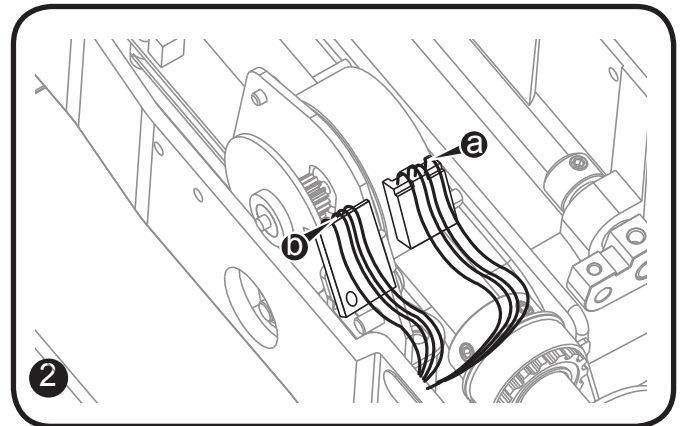
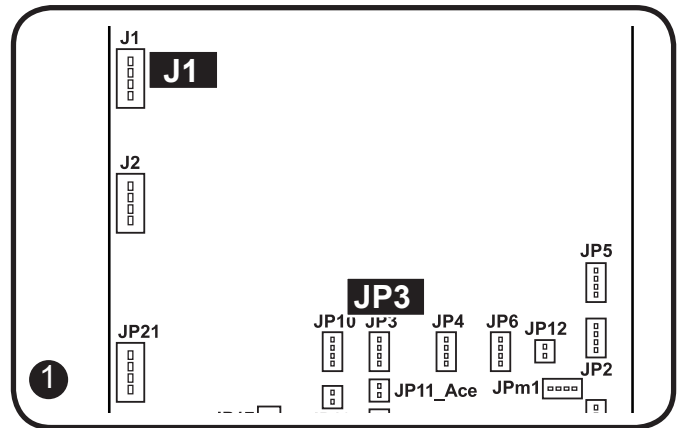
Zig-zag step motor malfunction

Make sure lead wire plugs J1 and JP3 on main board and zigzag step motor plug (a) are correctly connected and photo-sensor switch (b) works correctly. (1-2)

Replace photo-sensor.

Replace the zig-zag step motor.

Replace the main board.

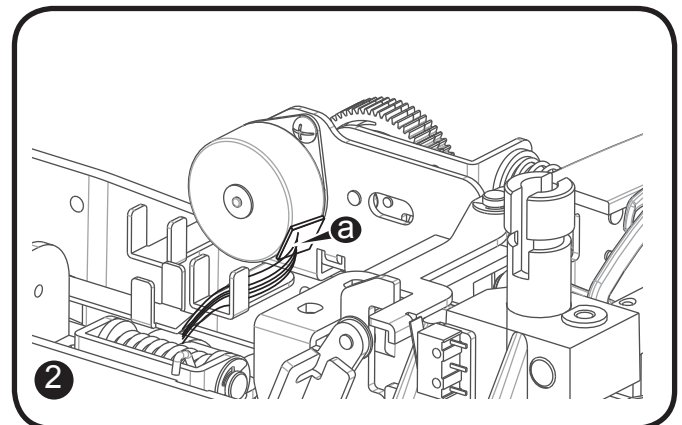
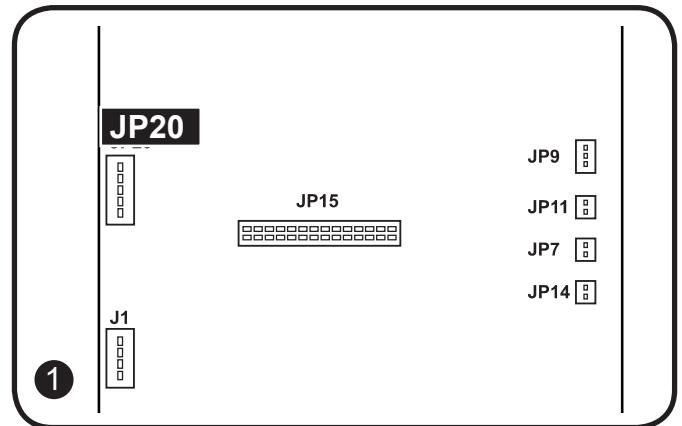


Tension adjusting stepping motor malfunction

Make sure lead wire plug JP20 on main board and Tension adjusting stepping motor plug (a) are correctly connected.

Replace the Tension adjusting stepping motor.

Replace the main board.

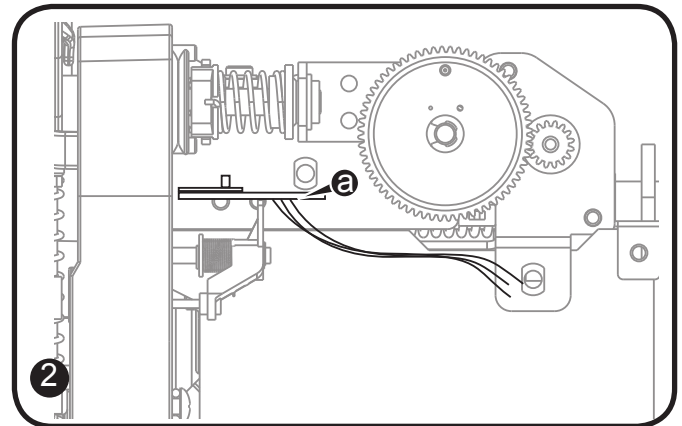
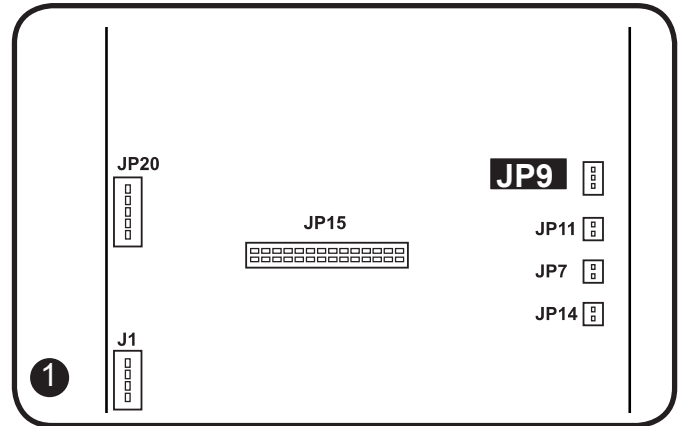


Break thread problem

Make sure lead wire plug JP9 on main board and photo-sensor completer (Break thread) plug (a) are correctly connected. (1-2)

Replace the photo-sensor completer (Break thread).

Replace the main board.



Lower thread cutter stepping motor malfunction

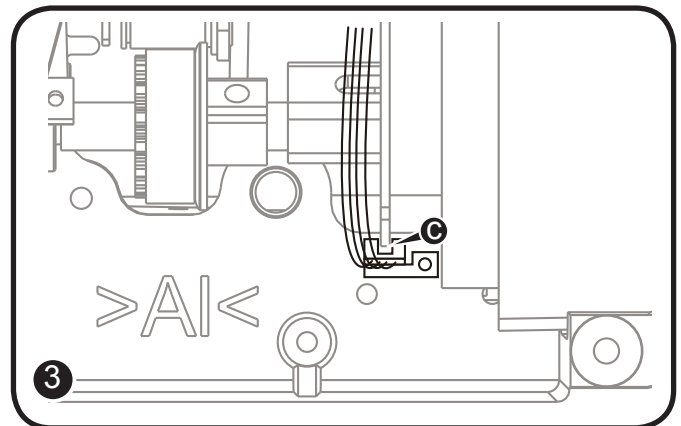
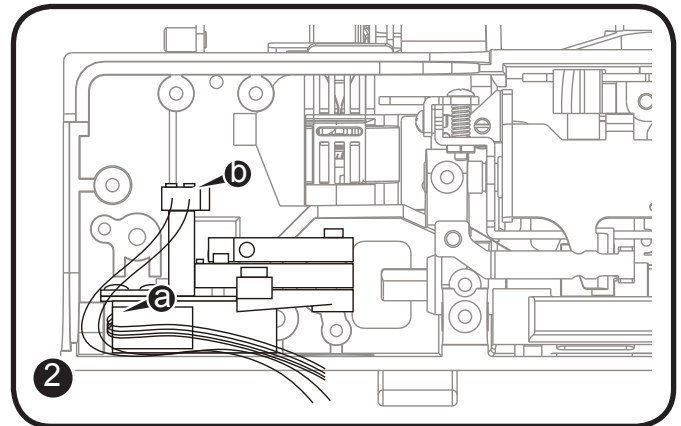
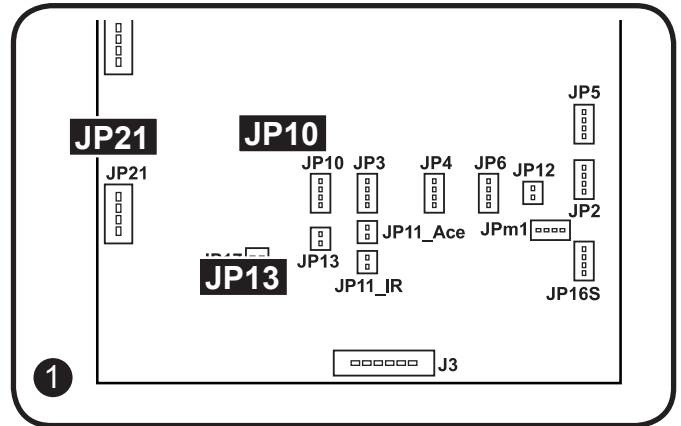
Make sure lead wire plug JP21, JP13 and JP10 on main board and Lower thread cutter stepping motor plug (a) are correctly connected. Make sure Micro switch (Lower thread cutter) is correctly working (b). Make sure Photo sensor complete (Lower thread cutter) is correctly working (c) (1-2-3).

Replace the Lower thread cutter stepping motor.

Replace the Micro switch (Lower thread cutter).

Replace the Photo sensor complete (Lower thread cutter).

Replace the main board.



Bobbin winder motor malfunction

Make sure lead wire plug JPm1 on main board is correctly connected. (1)

Make sure lead wire plugs JP2 and JP1 on bobbin winder board (a) are correctly connected. (2)

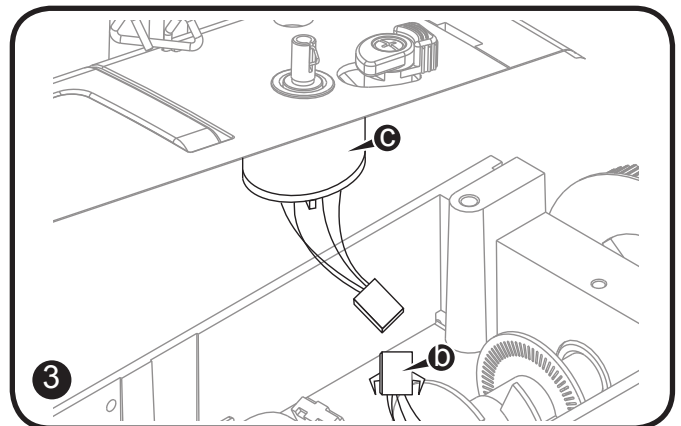
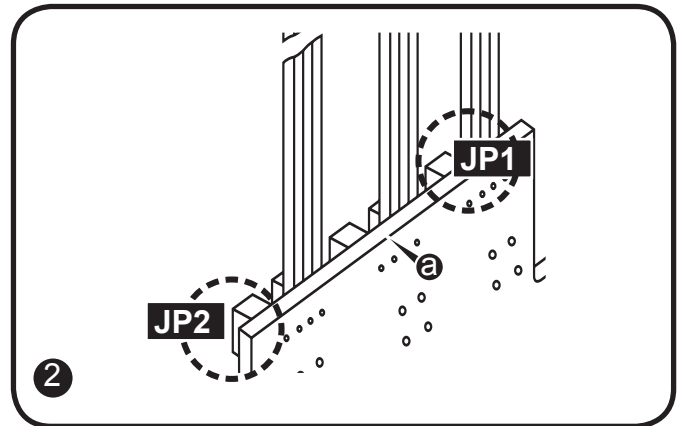
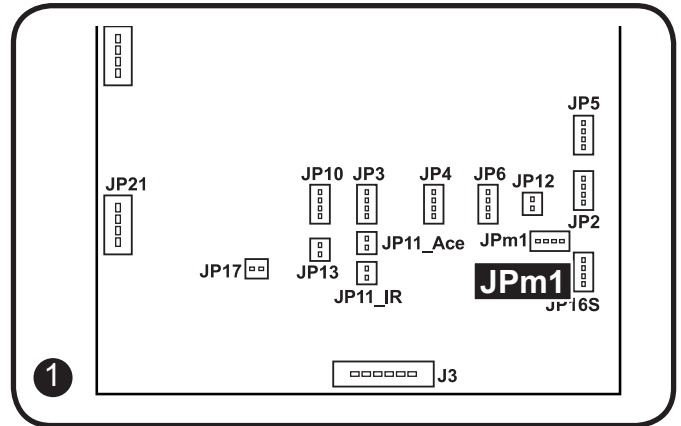
Make sure lead wire plug (b) is correctly connected. (3)

If the problem remains.

Replace bobbin winder board (a).

Replace bobbin winder motor (c).

Replace main board.



The bobbin winder spindle is in "off" position - LCD screen is "on"

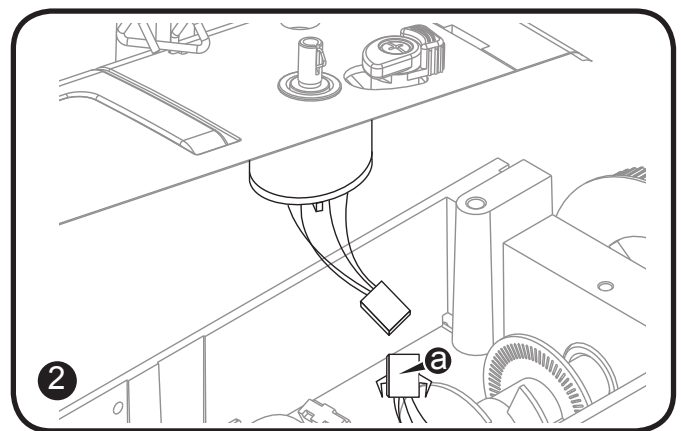
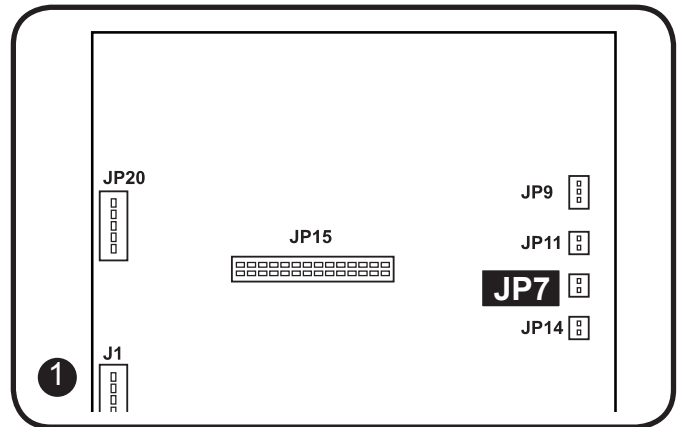
Make sure lead wire plug "JP7" on main board is correctly connected. (1)

Make sure connector wire (a) is correctly connected. (2)

If the problem remains.

Replace micro-switch

Replace the main board.



BH problem

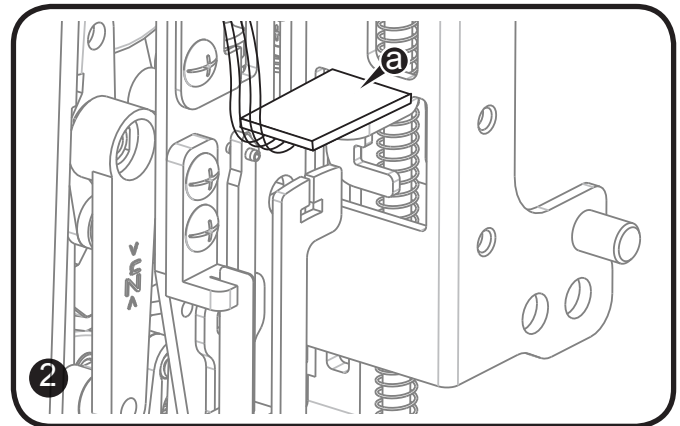
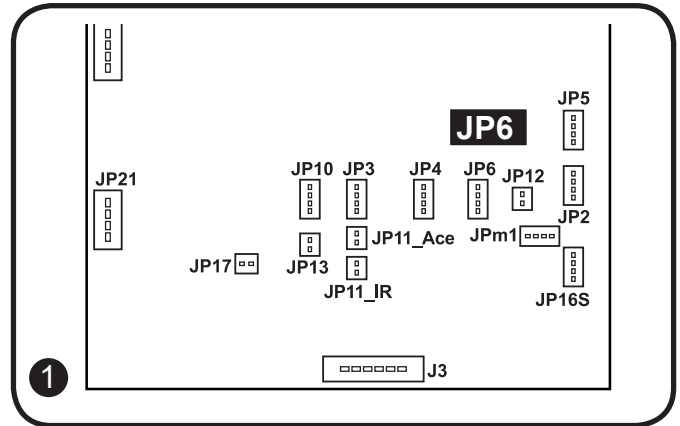
Make sure lead wire plug JP6 on main board is correctly connected. (1)

Check and make sure that BH photo sensor switch is correctly position on the bracket. (2)

Note: Refer to page 32 -BH adjustment

Replace the BH photo sensor board (a). (2)

Replace the main board.



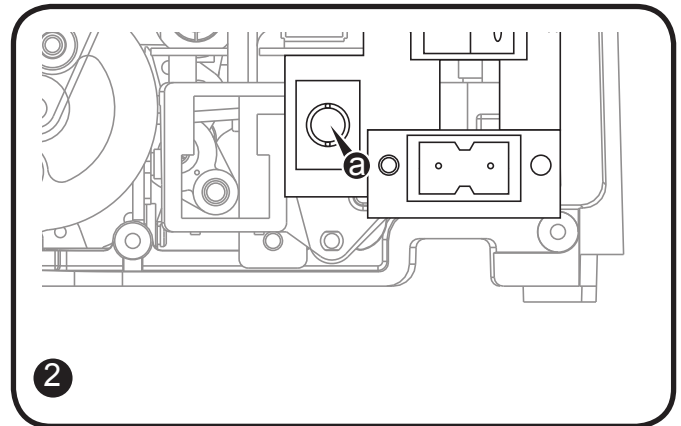
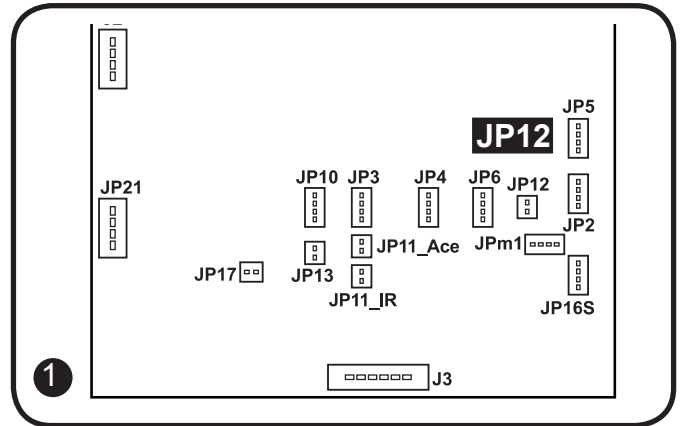
Foot controller problem

Make sure lead wire plug JP12 on main board is correctly connected. (1)

Make sure connection on foot control jack (a) is correctly in contact with the foot control plug. If connection is bad replace lead wire foot control jack. (2)

If the problem remains.
Replace foot controller.

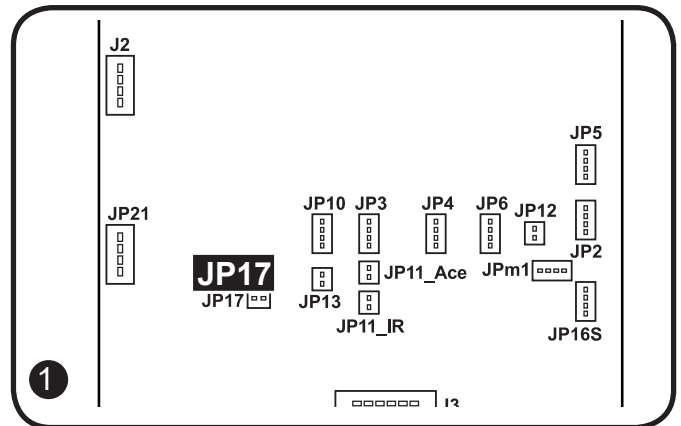
Replace the main board.



LED lamp problem

Make sure lead wire plug JP17 on main board and LED socket PCB unit "a-b-c" are correctly connected.

- LED sewing area a (2) (CN3 connect to JP17)
- LED left needle area b (3) (CN1 connect to b)
- LED right needle area c (3) (CN2 connect to c)



Replace LED socket PCB unit.

Replace the main board.

