SERVICING MANUAL

Memory Craft 10001

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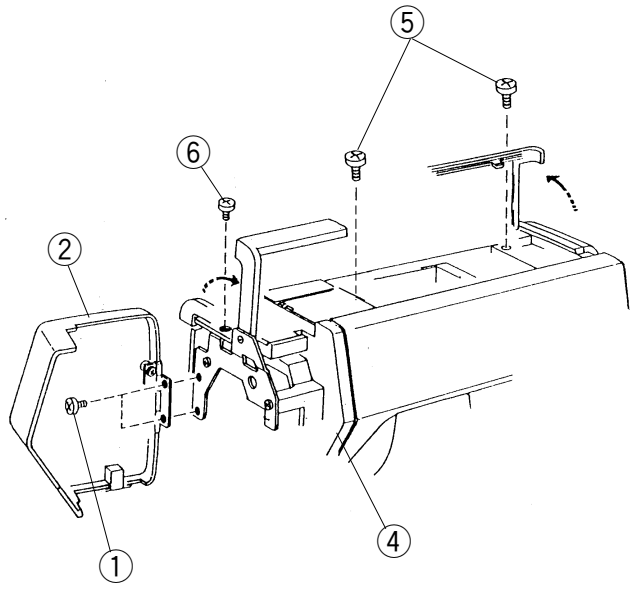
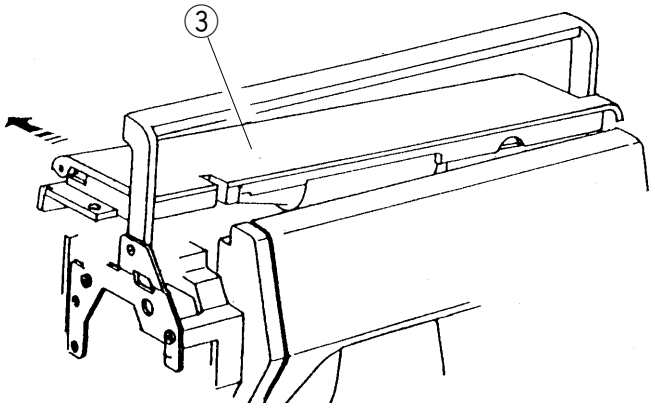
MECHANICAL ADJUSTMENT
Changing External Parts (1) Face Cover / Top Cover





Replacing the face cover

To remove:

1. Remove Screws A (2 pieces) ① and remove the Face Cover ② .

To attach:

2. Attach the Face Cover and tighten Screws A (2 pieces) ① temporarily.
3. Close the Face Cover ② and check the difference in level between the Top Cover ③ and thread guide cover ④ , then tighten Screws A (2 pieces) ① .
4. Adjust the Face Cover position to ensure that the Face Cover ② closes firmly.

① Screws A

Replacing the top cover

To remove:

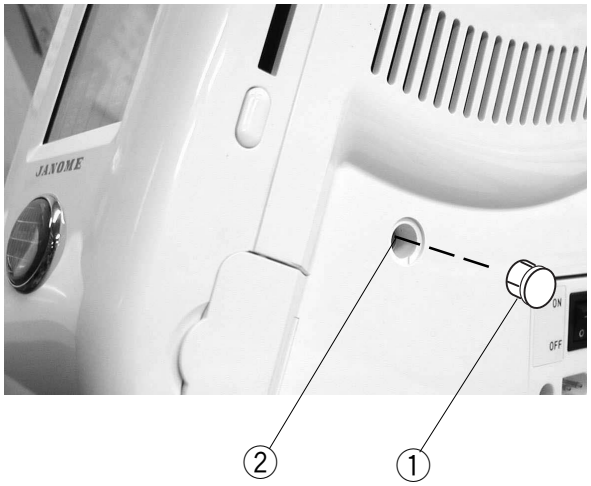
1. Remove the Screws B (2 pieces) ⑤ and close the Top Cover ③ and raise the handle, then remove the Screw C ⑥ .
2. Raise the Top Cover and remove the Top Cover to the direction of the arrow.

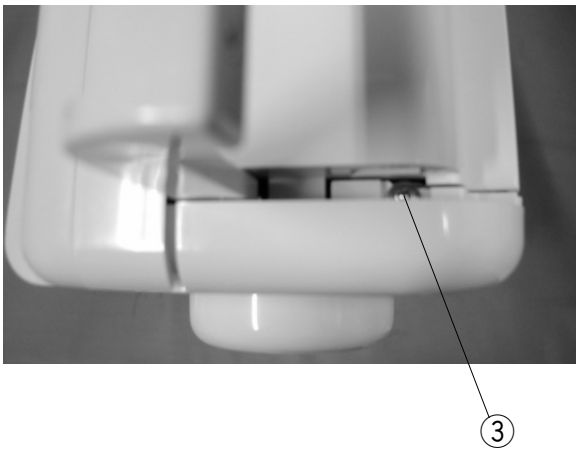
To attach:

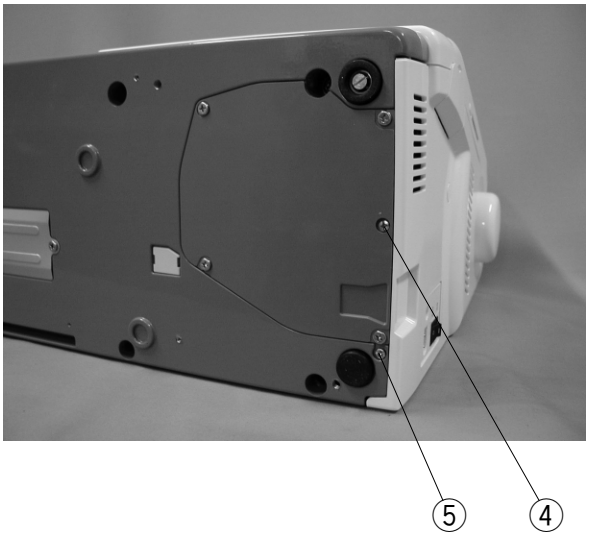
3. Raise the handle and insert the Top Cover ③ from the backside of the machine.
4. Tighten Screws B ⑤ and C ⑥ to attach the top cover.

② Face Cover
③ Top Cover
④ Thread Guide Cover
⑤ Screws B
⑥ Screw C

Changing External Parts (2) Belt Cover







Replacing the belt cover

To remove:

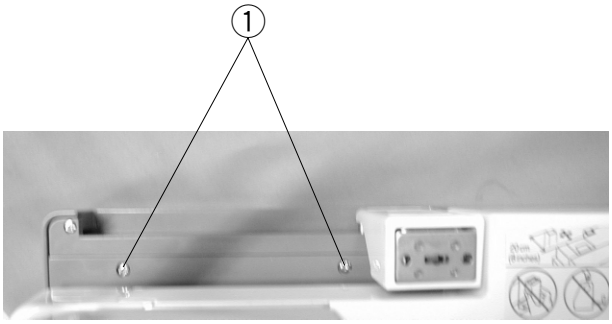
1. Remove the Cap ① and Screw A ② .
2. Loosen Screw B ③ and remove Screws C ④ and D ⑤ .

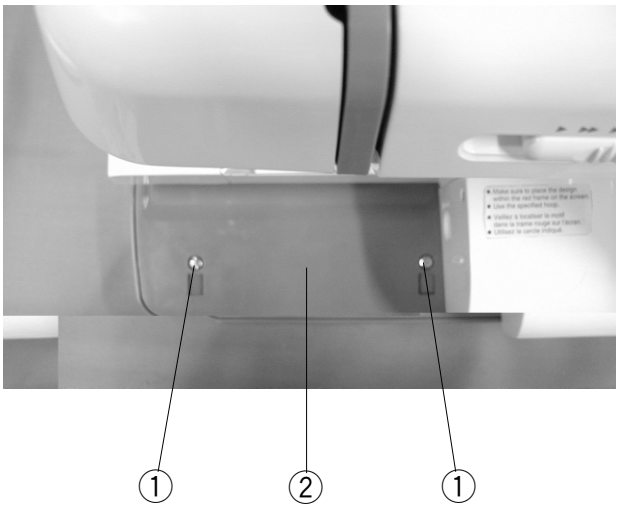
To attach:

3. Match the Belt Cover to the Front Cover.
4. Attach the Belt Cover with Screws A ② , B ③ , C ④ , D ⑤ .
5. Attach the Cap ① .

① Cap
② Screw A
③ Screw B
④ Screw C
⑤ Screw D

Changing External Parts (3) Base Cover





Replacing the base cover

To remove:

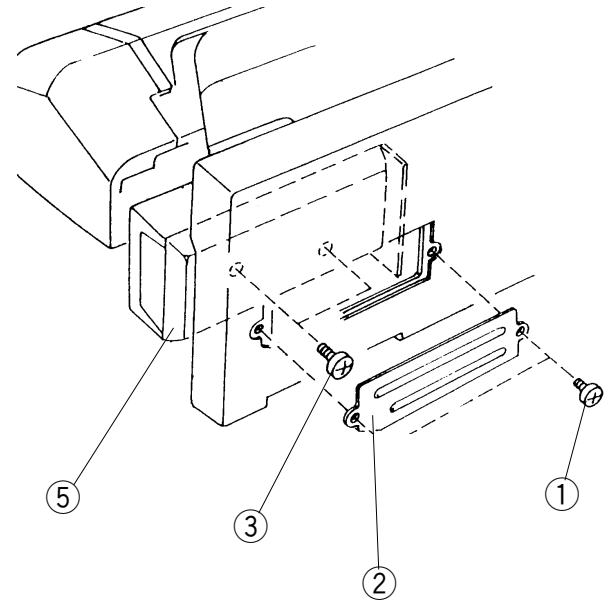
1. Loosen Screws ① (4 pieces) to remove the Base Cover ② .

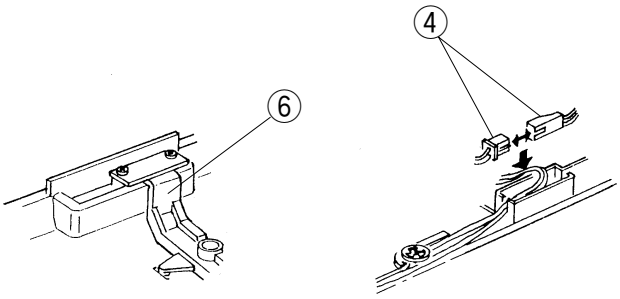
To attach:

2. Attach the Base Cover ② and secure it with Screws ① .

① Four Screws
② Base cover

Changing External Parts (4) Bed Cover / Base Cap





Replacing the bed cover

To remove:

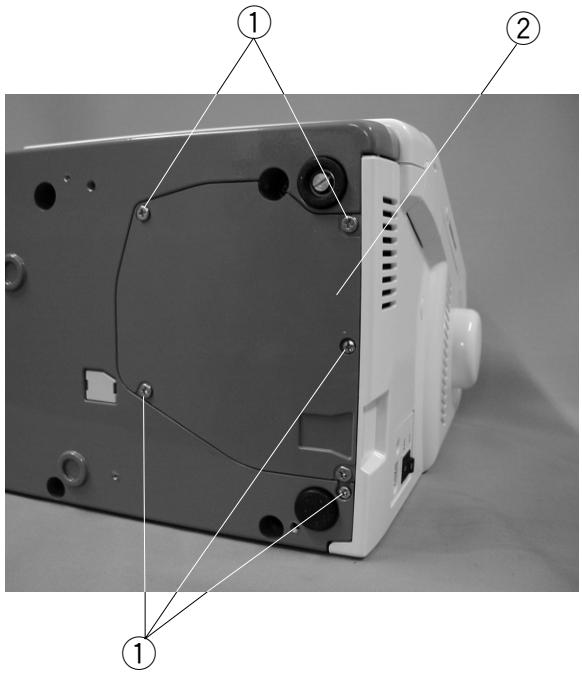
1. Remove the Base Cover.
2. Remove Screws A ① (2 pieces) and the Base Lid ② .
3. Remove Screws B ③ (2 pieces) and pull out the connector ④ , then remove the Bed Cover ⑤ .

① Screws A
② Base Lid (1)
③ Screws B
④ Connector
⑤ Bed Cover
⑥ Drop Feed Knob

To attach:

4. Follow the above procedure in reverse.

* Set the Drop Feed Knob ⑥ as shown, place and attach the mated connectors ④ in the Bed Cover ⑤ .



Replacing the base cap

To remove:

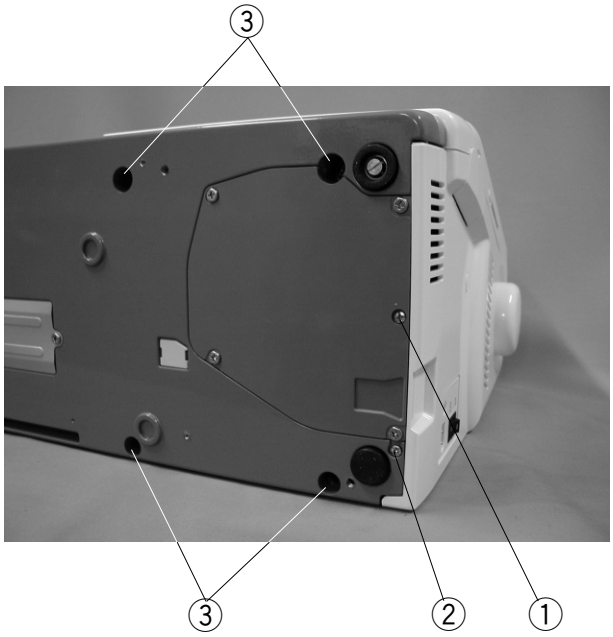
1. Remove Screws (5 pieces) ⑤ and the Base Lid ② .

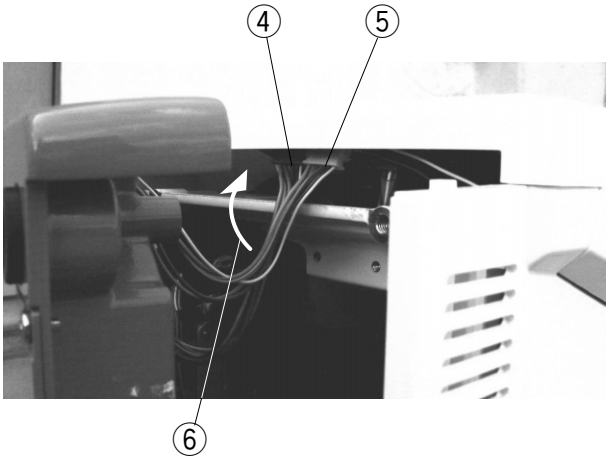
To attach:

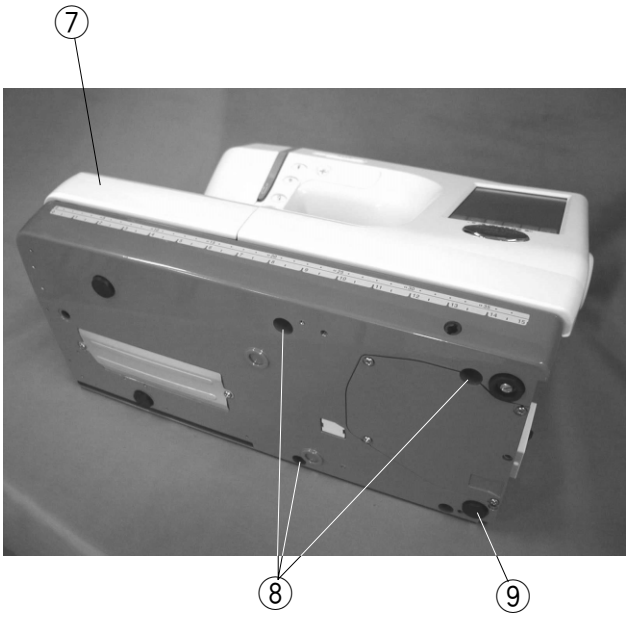
2. Attach the Base Lid ② and secure it with Screws ① .

① Five Screws
② Base Lid

Changing External Parts (5) Base Unit







Replacing the base unit

To remove:

1. Remove the Screws A ① and B ② , then remove the Screws C ③ (4 pieces). Detach the Base Unit.

2. Disconnect the X Motor Connector ④ then Y-Motor Connector ⑤ from board A.

① Screw A
② Screw B
③ Four Screws C
④ X Motor Connector (Blue)
⑤ Y Motor Connector (White)

To attach:

3. Attach the X ④ , Y ⑤ Motor Connectors to board A.

4. Insert the X, Y-Motor Cords ⑥ between the board A and arm without touching the Feed Motor, then tighten screws (4 pieces) temporarily.

5. Attach the Extension (Accessory) Table ⑦ .

6. Align the Extension Table ⑦ , Base Unit, Free Arm and tighten the Screw A ⑨ .

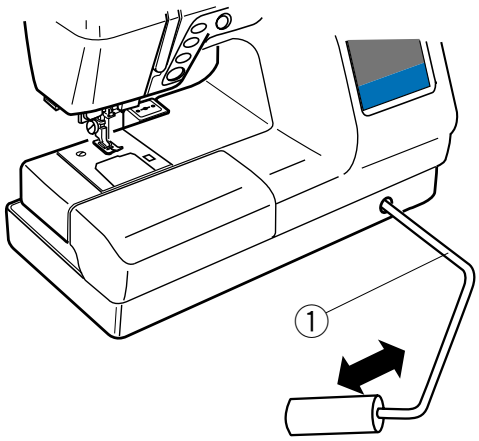
7. Tighten Screws while aligning the Extension Table.

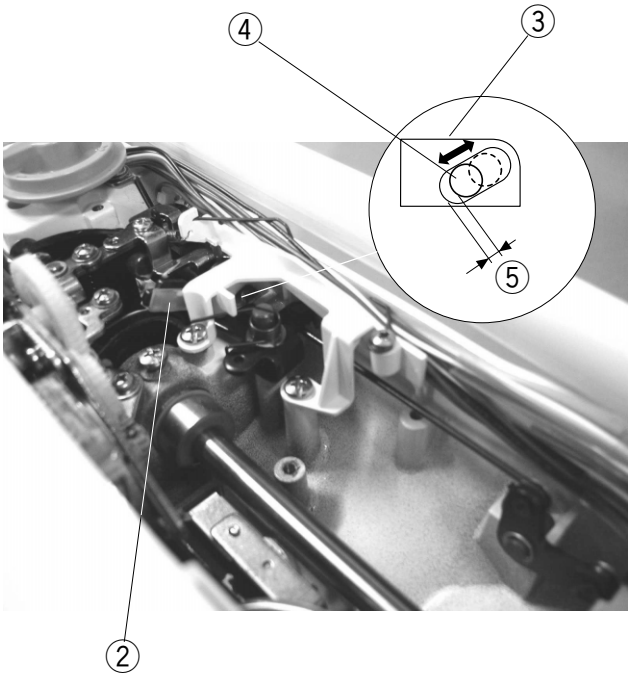
⑥ Insert the Cord in this place
⑦ Extension Table
⑧ Screws
⑨ Screw A

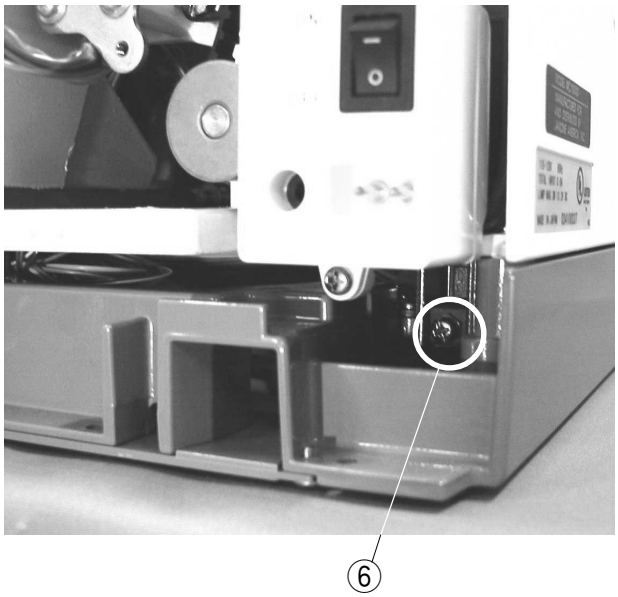
Note:

After attaching the Base Unit, check the “Checking the Knee Lifter Link Play (1)” and “Adjusting Presser Foot Sensor”.
(see page 28)

Checking Items after Attaching Base Unit (1)





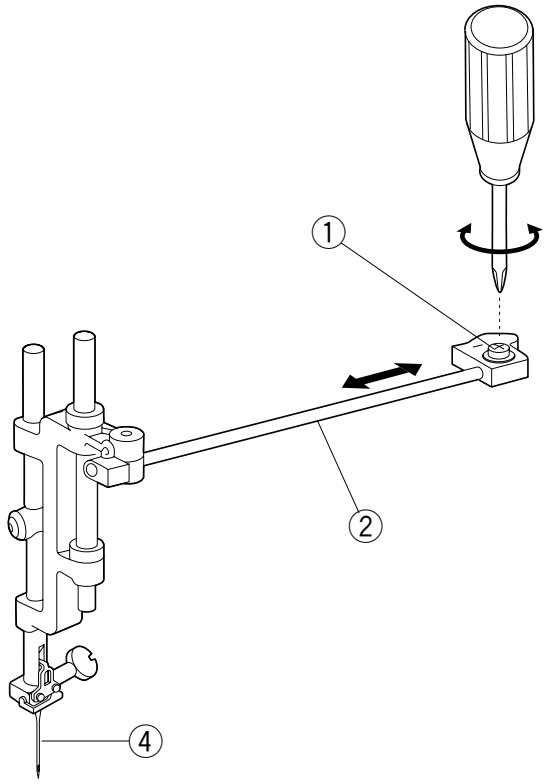


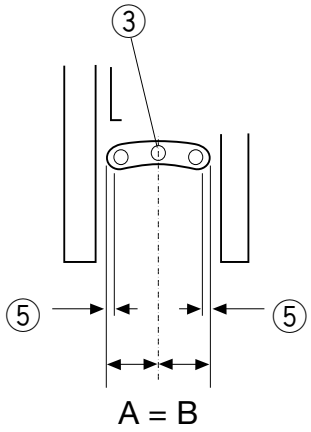
1. Attach the Knee Lifter ① .
2. Attach the Embroidery Foot P.
3. Lower the presser foot lever and lower the needle to its lowest position.
4. Move the Knee Lifter ① several times.
5. Remove the Top Cover. (See Page 1)
6. When the presser arm ② is moving by turning the handwheel, the clearance between the knee lifter link (5) ③ and presser arm pin ④ should be 0.2 to 0.5 mm ⑤ .
7. For the adjustment of the knee lifter play, remove the belt cover and loosen the nut and adjusting screw ⑥ under the receptacle. After adjustment, tighten the nut and follow steps 4 to 6 for rechecking.
8. Attach the belt cover and top cover.

① Knee Lifter
② Presser Arm
③ Knee Lifter Link (5)
④ Presser Arm Pin
⑤ Clearance 0.2~0.5 mm
⑥ Nut and Adjusting Screw

Adjusting Needle Drop Position

When the straight stitch is selected on the touch panel, the needle should be positioned at the center of the needle plate hole and when the maximum zigzag width (7 mm) is selected, the standard clearance at the outside of both the left and right sides should be 0.2 mm or more as shown below.





1. Remove the top cover, and select the pattern No.1 (Straight stitch) and lower the needle to its lowest position by turning the handwheel.

2. Loosen screw ① , move the zigzag width connecting rod ② to the right or left until the needle comes to the center of the needle plate hole ③ .

3. Select the pattern No.8 (Zigzag) and set the zigzag width at 7.0 mm.

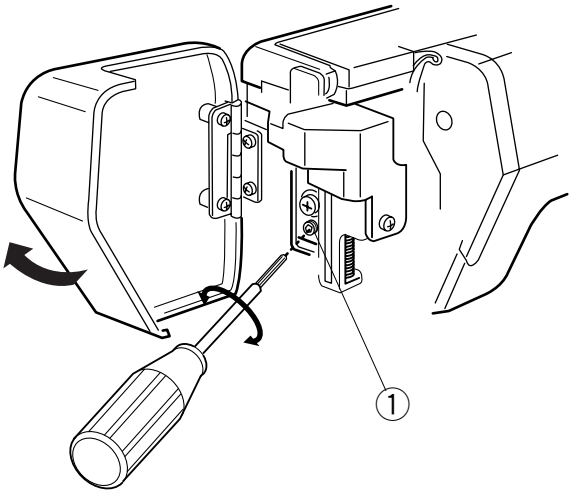
4. Turn the handwheel toward you and check the clearance at the outside of both the left and right sides. It should be 0.2 mm or more ⑤ as shown below.

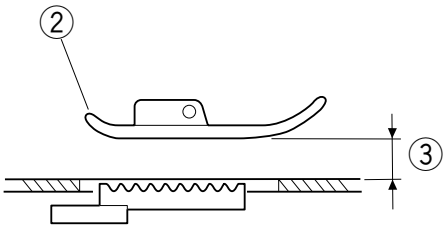
5. Reattach the top cover.

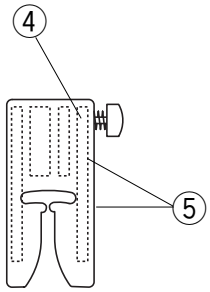
① Screw
② Zigzag Width Connecting Rod
③ Needle Plate Hole
④ Needle # 14
⑤ 0.2 mm or more

Adjusting Presser Foot Position and Height

When the presser foot is raised, the clearance between the presser foot and the needle plate should be 6.0 mm.
When the presser foot is lowered, the edge of the foot and the feed dog window ④ on the needle plate should be parallel ⑤ .







1. Raise the presser foot, loosen the screw to adjust the presser foot position and presser foot height.

Select the Embroidery Mode, attach the standard presser foot ② , lower the presser foot and when the Start/Stop button is pressed, the message Presser Foot “P” should appear on the touch screen.

Replace the standard presser foot to P foot and set the pressure dial to “2”, and lower the presser foot slowly.

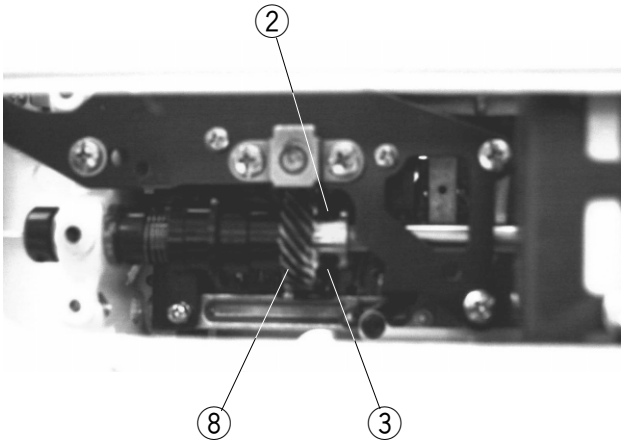
Turn the handwheel to raise the needle bar to its highest position, then press the Start/Stop button to run the machine.

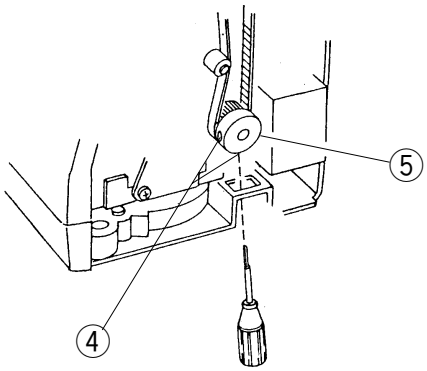
If it is not working correctly, check the “Adjusting the Presser Foot Sensor” (see page 27).

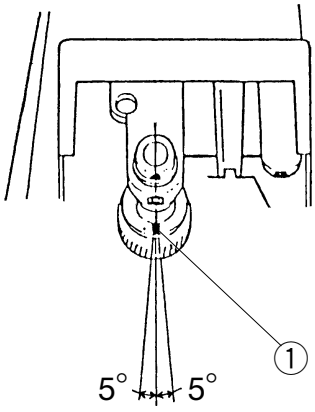
① Hexagonal Screw
② Standard Presser Foot
③ Approximately 6.0 mm
④ Feed Dog Window
⑤ Parallel

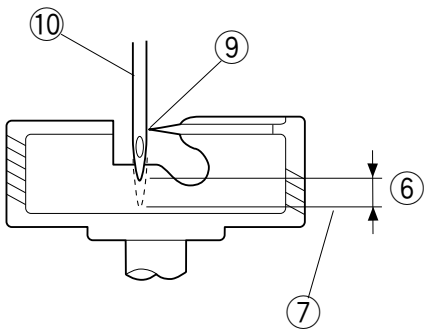
Adjusting Hook Timing

When the pattern No. 2 is selected, the amount of ascending travel of the needle bar from its lowest position to the position where the tip of the rotary hook exactly meets the right side of the needle should be 3.25 to 3.55 mm.









1. Remove the Belt Cover, Bed Cover, Base Cover, Base Lid (1) and Base Lid.

2. Turn the Power On and select the pattern No 2.

3. Turn the handwheel toward you to lower the needle bar to its lowest position.

4. In this position, if the convex of the feed lifting cam ① is in the lowest position, loosen the set screws of lower shaft gear ② , ③ .
   If not, loosen the screws (2 pieces) ④ of lower shaft timing gear ⑤ .

5. Raise the needle bar further 3.4 mm ⑥ from the lowest position ⑦ .

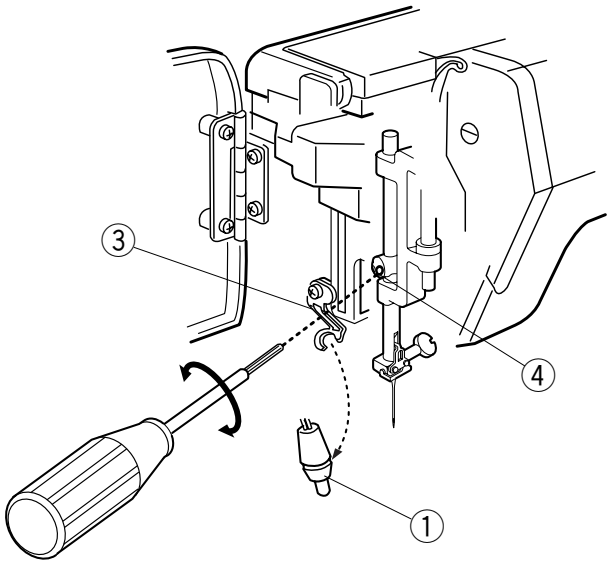
6. Turn the lower shaft gear ⑧ until the tip of rotary hook meets with the right side of the needle ⑨ .
   Tighten the screws of the lower shaft gear ⑧ or the lower shaft timing gear ⑤ .

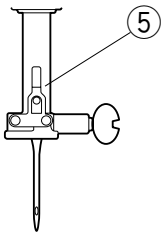
7. Reattach the Belt Cover, Bed Cover, Base Cover, Base Lid (1) Base Lid.

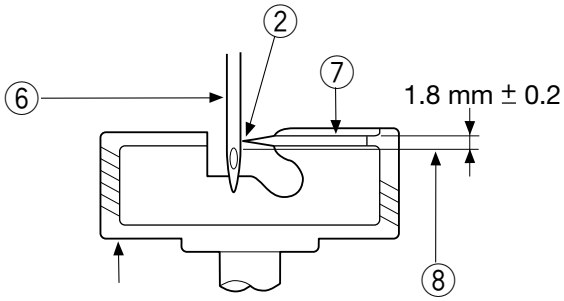
① Convex of the Feed Lifting Cam
② Screw
③ Screw
④ Screws (2 pieces)
⑤ Lower Shaft Timing Gear
⑥ 3.4 ± 0.15 mm
⑦ Lowest Needle Position
⑧ Lower Shaft Gear
⑨ The Tip of Rotary Hook Meets With the Right Side of the Needle.
⑩ Needle # 14

Adjusting Needle Bar Height

When the pattern No. 2 is selected, the standard distance between the upper edge of the needle eye and the tip of the rotary hook should be in the range of 1.6 - 2.0 mm when the tip of the rotary hook meets the right side of the needle in ascending travel of needle from its left and lowest position.





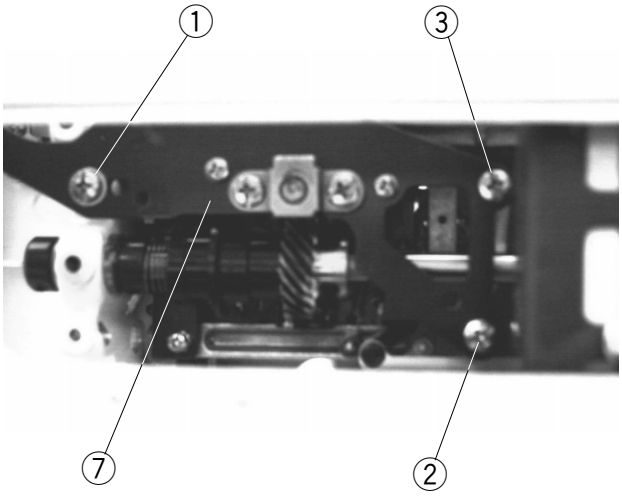


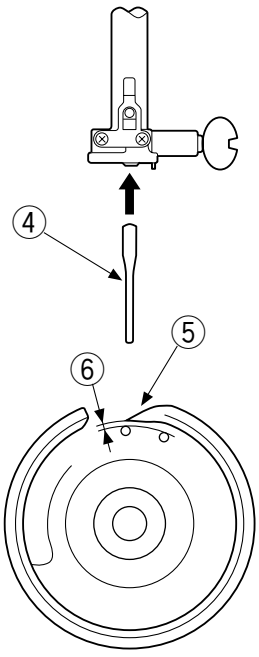
1. Remove the lamp socket ① .
2. Remove the needle plate and bobbin holder, turn the Power ON, and select the pattern No. 2.
3. Turn the handwheel toward you and align the tip of the rotary hook until it meets the right side of the needle ② .
4. Insert the screwdriver through the hole of the lamp fixing plate ③ and loosen the hexagonal screw ④ as shown.
5. Move the needle bar up or down to adjust the needle bar height.
6. Place the needle bar groove ⑤ in front of you and tighten the screw.
7. Turn the handwheel toward you to check that the tip of needle does not touch the bottom of the rotary hook.
8. Insert the bobbin holder and attach the needle plate.
9. Reattach the lamp socket.

① Lamp Socket
② Matching the Tip of Rotary Hook with the Needle
③ Lamp Fixing Plate
④ Hexagonal Screw
⑤ Needle Bar Groove
⑥ Needle # 14
⑦ Rotary Hook Race
⑧ Top of the Needle Eye

Adjusting Clearance between Needle and Hook

The clearance between needle and rotary hook should be – 0.10 to + 0.05 mm.
If not, make adjustment as follows:





1. Remove the needle plate, bobbin holder, base cover, base lid, bed cover and attach the master needle.

2. Turn the power switch ON and select pattern No. 8.

3. Loosen screws A ① , B ② , C ③ and tighten screw C ③ temporarily.

4. Turn the handwheel toward you and adjust the clearance between the master needle ④ and the tip of rotary hook ⑤ in the left and right needle positions to – 0.10 to + 0.05 mm ⑥ by moving the rotary hook set plate ⑦ up or down.

5. Tighten screws A ① , B ② , C ③ .

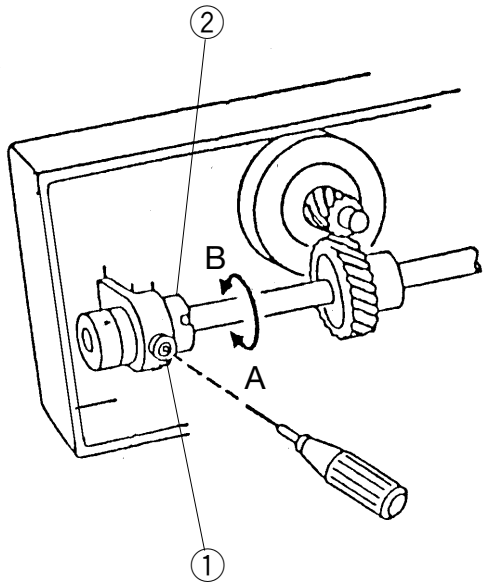
6. Check the rotary hook driver gear and the lower shaft gear backlash.
   If gears mesh or engage tightly or loosely, check “Adjusting Backlash between Hook Drive Gear and Lower Shaft Gear”.
   (see page 12)

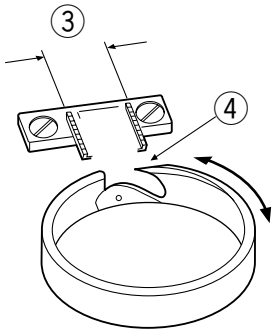
7. Reattach the bed cover, base cover, base lid, bobbin holder, needle plate and replace the master needle ④ with the needle.

① Screw A
② Screw B
③ Screw C
④ Master Needle
⑤ Tip of Rotary Hook
⑥ – 0.10 to + 0.05 mm
⑦ Rotary Hook Set Plate

Adjusting Backlash between Hook Drive Gear and Lower Shaft Gear

The backlash of gears should be 0.8 mm or less when the tip of the rotary hook is within the width of the feed dog as shown below.
Adjust the backlash after the adjustment of the clearance between needle and rotary hook.





1. Remove the base cover, base lid and bed cover.

2. Loosen the hexagonal socket screw ① .

3. (A) If the backlash is too big or large, turn the lower shaft bushing ② in the direction of A.
   (B) If the backlash is too little, turn the lower shaft bushing ② in the direction of B.

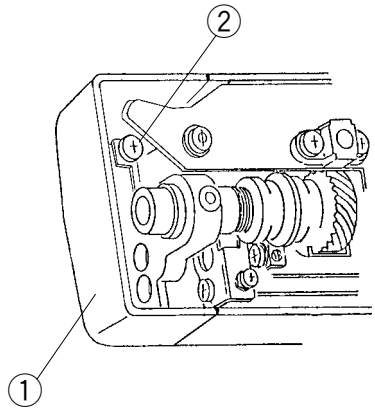
4. Tighten the hexagonal socket screw ① .

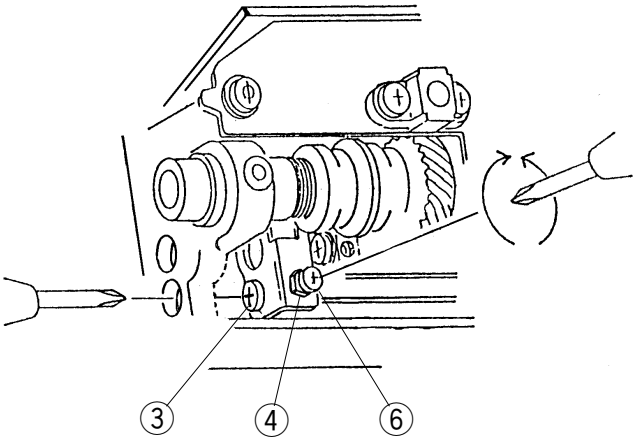
5. Reattach the bed cover, base cover, and base lid.

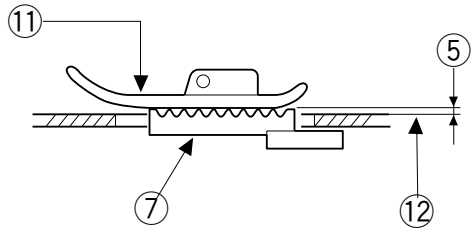
① Hexagonal Socket Screw
② Lower Shaft Bushing
③ The Backlash of Gears Should be 0.8 mm or less when the Tip of Rotary Hook is within the Width of the Feed Dog as Shown.
④ Tip of Rotary Hook

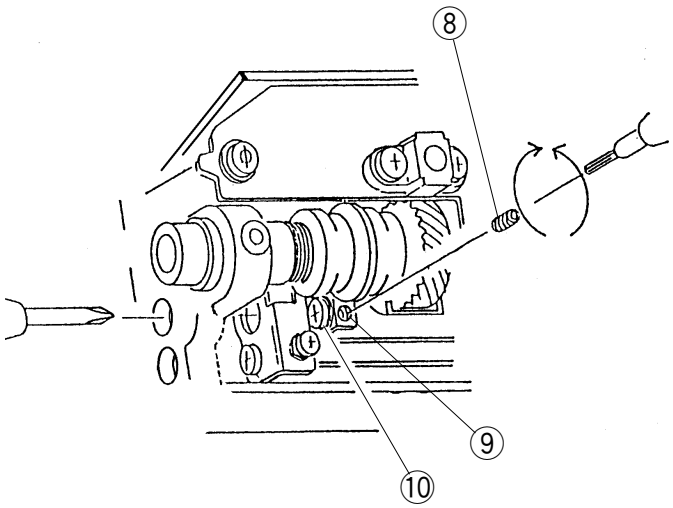
Adjusting Feed Dog Height

When the pressure adjusting dial is at “3” and the presser foot is lowered, the highest position of the feed dog should be 0.75 to 0.85 mm from the surface of the needle plate.









To adjust feed dog height

1. Remove the base cover, base lid (1) and bed cover ① .
2. Set the pressure dial at “3” and lower the presser bar lifter, then turn the Power ON.
3. Turn the handwheel toward you until the feed dog comes to its highest position.
4. Remove the Screw A ② and the bed cover (Front) ① .
5. Loosen the Screw B ③ .
6. Loosen the nut ④ and adjust the feed dog height to 0.8 mm ⑤ by turning the adjusting screw C ⑥ .
7. Tighten the nut ④ .
8. Tighten the Screw B ③ .

To adjust the feed dog position parallel to needle plate

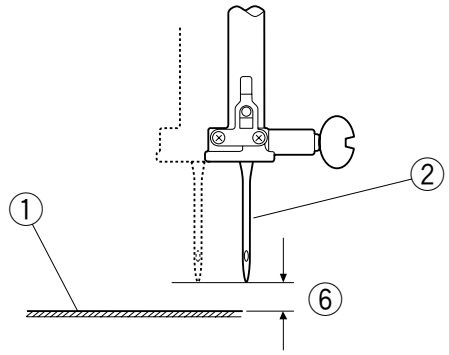
Turn the handwheel toward you until the feed dog ⑦ comes to its highest position, the feed dog ⑦ and the needle plate should be parallel. If not, follow the instructions below.

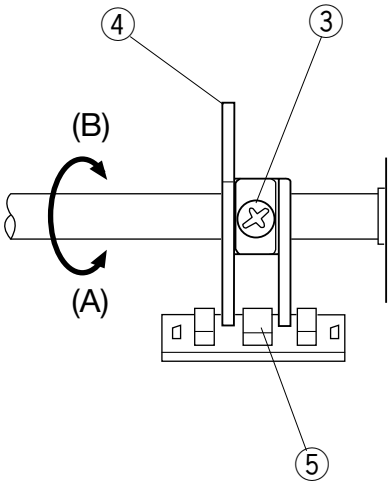
9. Prepare the hexagonal socket screw ⑧ and insert it to the attaching hole (D) ⑨ and screw it until the tip of screw reaches the bottom.
10. Loosen the screw E ⑪ (This screw is left hand screw.)
11. Turn the hexagonal socket screw (4 x 6) ⑧ and adjust the feed dog ⑦ parallel to the needle plate.
12. Tighten Screw E ⑩ .
13. Loosen the hexagonal screw ⑧ and remove it.
14. Reattach the bed cover (Front) ① with Screw A ② .
    Reattach the bed cover, base cover and base lid (1).

① Bed Cover (Front)	⑦ Feed Dog
② Screw A	⑧ Hexagonal Socket Screw (4x6)
③ Screw B	⑨ Attaching Hole D
④ Nut	⑩ Screw E (Left hand screw)
⑤ 0.75-0.85mm	⑪ Presser Foot
⑥ Screw C	⑫ Needle Plate Surface

Adjusting Upper Shaft Shield Plate Position

When the machine is set for zigzag stitching, the needle should start to swing 7.8 mm to 8.2 mm above the needle plate surface ① .





1. Remove the top cover unit and turn the Power ON.
   Then select zigzag pattern No.8.

2. Turn the handwheel toward you slowly until the needle ② starts to swing.

3. (A) If the needle swings higher than 8.2 mm, loosen the set screw ③ and turn the upper shaft shield plate ④ in direction of A .
   (B) If the needle swings lower than 7.8 mm, loosen the set screw ③ and turn the upper shaft shield plate ④ in direction of B .

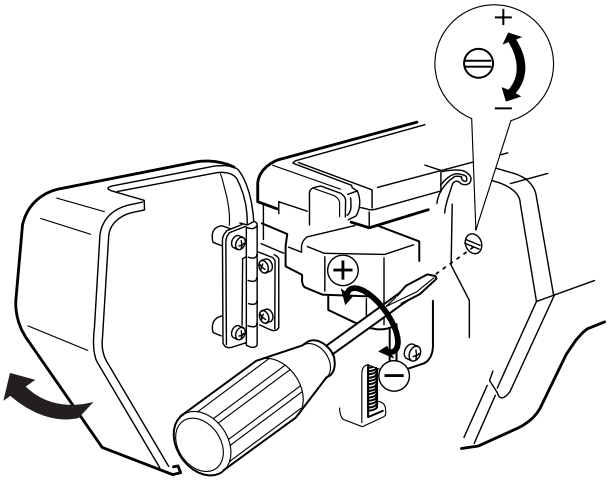
4. Place the right hand side of the Upper shaft shield plate ④ at the center position of the upper shaft sensor ⑤ and tighten the screw ③ .

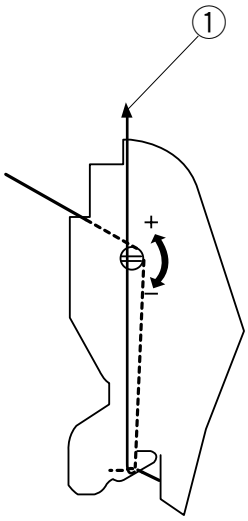
5. Turn the handwheel toward you to check the needle swing position again, then attach the top cover.

① Needle Plate Surface
② Needle #14
③ Screw
④ Upper Shaft Shield Plate
⑤ Upper Shaft Sensor
⑥ 7.8-8.2 mm

Adjusting Needle Thread Tension

The standard of upper thread tension should be 59g to 67g when pulling the thread (cotton thread # 50) in the direction of A when Pattern No. 1 is selected.





1. Turn the Power ON and select the pattern No.1 and press the Needle Up/Down button twice.

2. Press “Adjust Key” and set the thread tension at “3.4” on the touch panel.

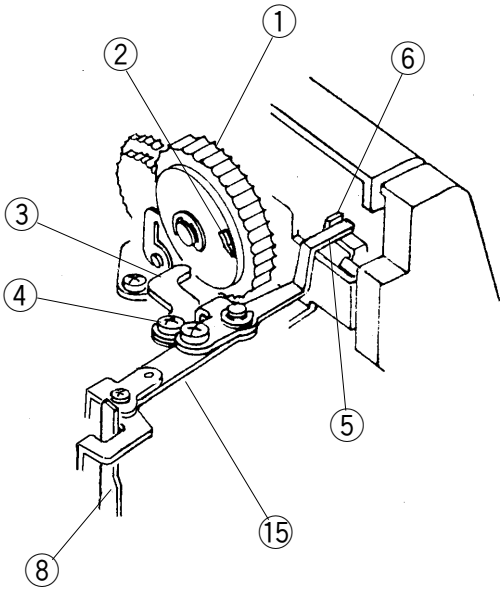
3. Open the face cover and adjust the thread tension.

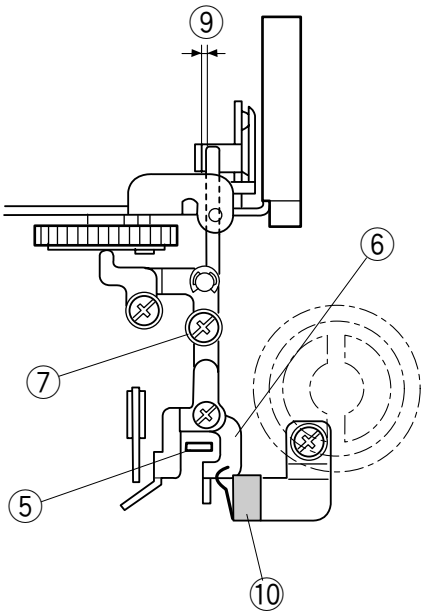
   (A) To loosen the tension..... turn the screw in the direction of (–).

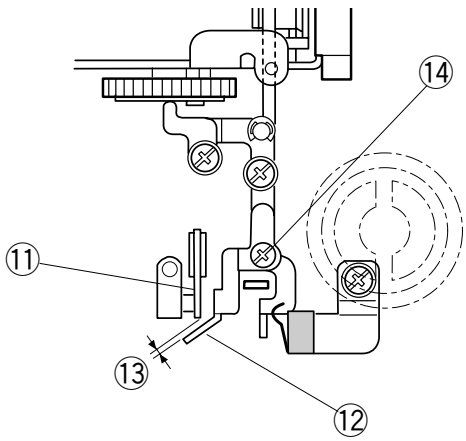
   (B) To tighten the tension..... turn the screw in the direction of (+).

   ① Pull the #50 cotton thread in the direction of the arrow.

Adjusting Tension Release Mechanism for Knee Lifter







Adjusting tension release claw

1. Remove the top cover.
2. Lower the presser foot and turn the thread tension dial ① until the convex part of tension dial ② is set at the tension release claw ③ . In this condition, loosen screw A ④ and adjust the tension release adjusting plate ⑤ to touch the tension discs supporter ⑥ . The tension discs should be opened slightly.
3. Tighten screw A ④ .

To Adjust the thread releasing plate

4. Lower the presser foot, turn the thread tension dial until the flat surface position touches the releasing claw ③.
5. Loosen screw B ⑦ .
6. Set the thread releasing lever ⑧ so it touches the thread release plate ⑥ slightly and tighten screw B ⑦.
7. When the presser foot is raised, the tension discs should be opened.

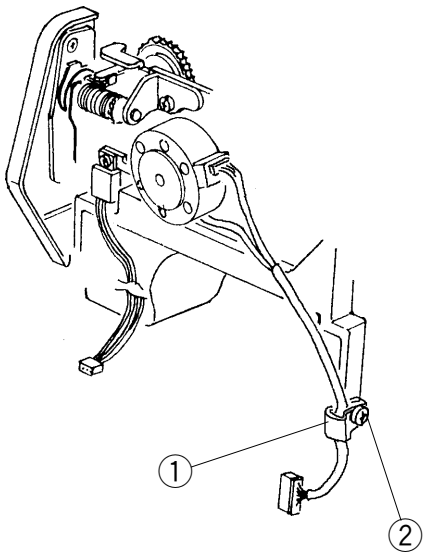
Note: The clearance between the tension disc supporter and the thread releasing plate should be 0.5 to 1.0 mm ⑨ when the presser foot is lowered.
Check “the presser foot P sensor”.
The presser foot sensor switch ⑩ must be OFF when the convex of tension dial ① is set at the tension release claw.

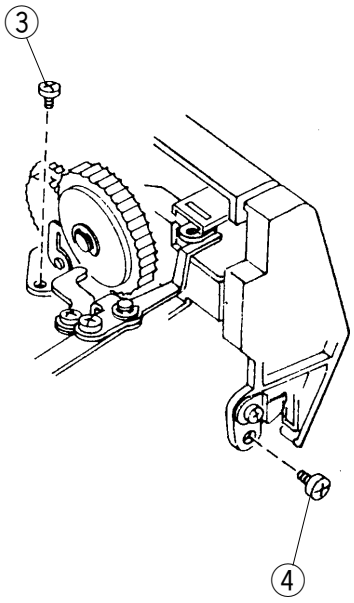
To adjust the knee lifter thread releasing plate.

8. Lower the presser foot and turn the handwheel until the feed dog raises to its highest position.
9. The clearance between the presser bar actuator arm ⑪ and the knee lifter thread release plate ⑫ should be 0.2 - 0.6 mm ⑬ . Loosen screw C ⑭ to adjust the clearance.
10. Reattach the top cover.

① Thread Tension Dial
② Convex
③ Tension Releasing Claw
④ Screw A
⑤ Tension Releasing Adjusting Plate
⑥ Tension Disc Supporter
⑦ Screw B
⑧ Tension Releasing Lever
⑨ Clearance 0.5-1.0 mm
⑩ Presser Foot Sensor Switch
⑪ Presser Bar Actuator Arm
⑫ Knee Lifter Tension Releasing Plate
⑬ Clearance 0.2-0.6 mm
⑭ Screw C
⑮ Thread Releasing Plate

Changing Thread Tension Unit





Replacing the thread tension unit

1. Remove the front cover.

2. Remove Screw A ② and cord from the nylon clip ① .

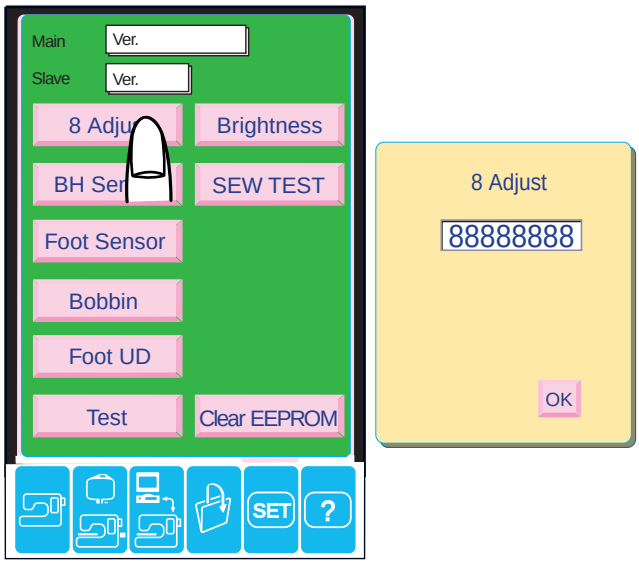
3. Remove Screws B ③ , C ④ and replace the thread tension.

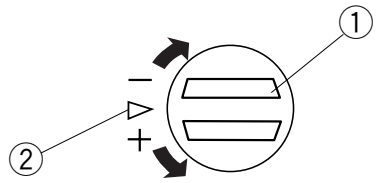
Note: Adjust “Tension Release Mechanism for Knee Lifter (see page 16)” after the replacement.

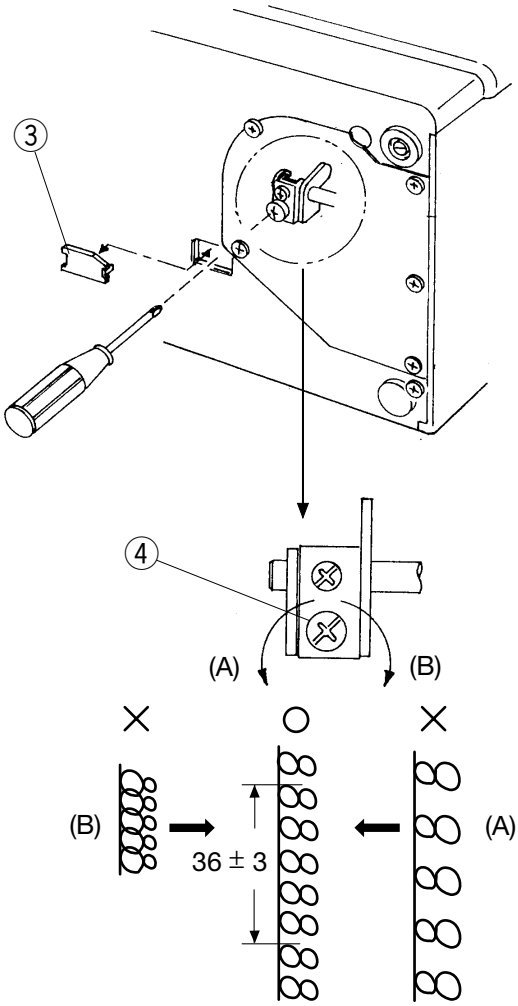
① Nylon Clip
② Screw A
③ Screw B
④ Screw C

Adjusting Stretch Feed Balance

When the figure 8 is sewn with the feed balancing dial at the standard setting mark, the sewn pattern should be as indicated by the mark " ◯ " in the illustration below.







1. Set up the machine in Adjusting Mode. Turn the Power ON while pressing the Start/Stop button and Reverse button at the same time.
   (Keep pressing both buttons until the LCD shows the Adjusting window.)

2. Press "8 Adjust" on the touch panel.

3. Set the feed balancing dial ① at the standard setting mark " ⩘ " ② .

4. Check the sewing results.
   (The standard length of the five pieces of figure 8 is 33 - 39 mm.)

5. Remove the base cap (3) ③ .

6. If the length of the stitch pattern is extended more than the standard length, turn the adjusting screw ④ in the direction of A.
   If the length of the stitch pattern is shorter than the standard length, turn the adjusting screw in the direction of B.

7. Check the sewing results.

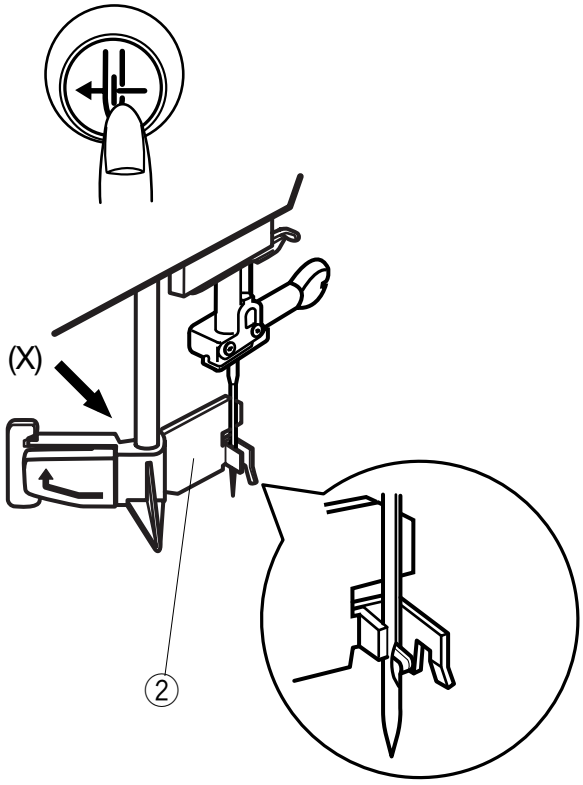
8. Press OK key and turn the Power OFF.

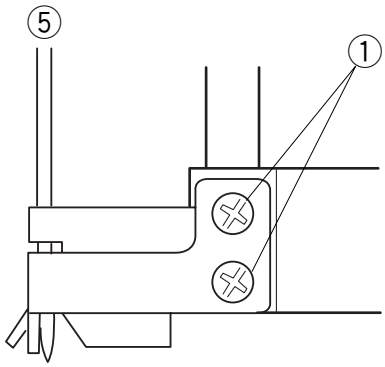
9. Reattach the base cap (3) ③ .

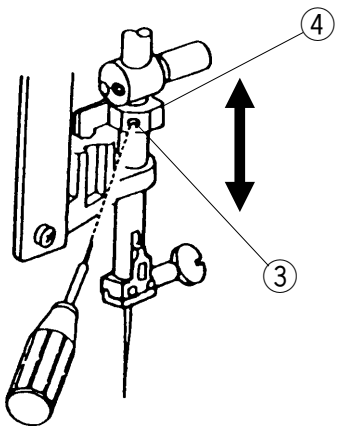
① Feed Adjusting Knob
② Setting Mark
③ Base Cap (3)
④ Adjusting Screw

Replacing Threader Plate and Adjustment

If the hook on the threader plate is damaged, replace it by following the instructions below.







Replacing threader plate

1. Turn the Power ON and lower the threader by pressing the Auto Threader button.

2. Remove Screws A ① and replace the threader plate ② .

Adjusting threader plate position

3. when the hook is slightly touching in the needle eye, loosen Screw A ① and adjust the threader plate ② position.

(If the hook position is too high or too low)

4. Open the face cover.

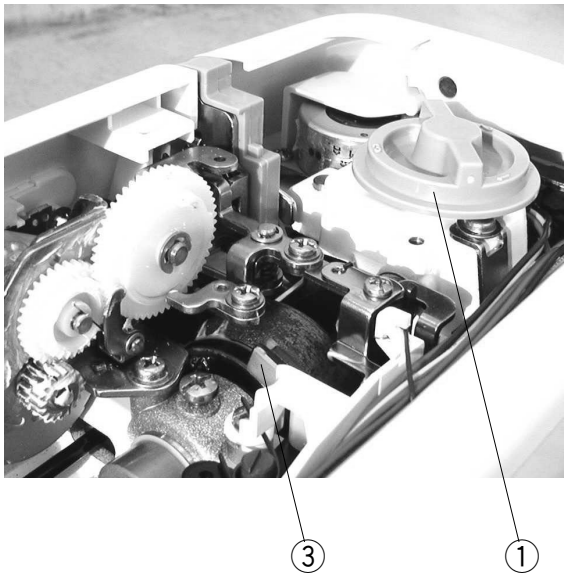
5. If the hook is too high, loosen Screw ③ and lower the setting position plate ④ .

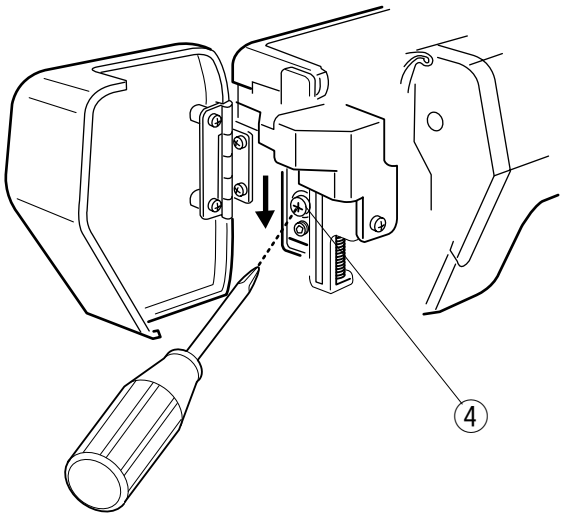
   If the hook is too low, loosen screw ③ to slide up the setting position plate ④ .

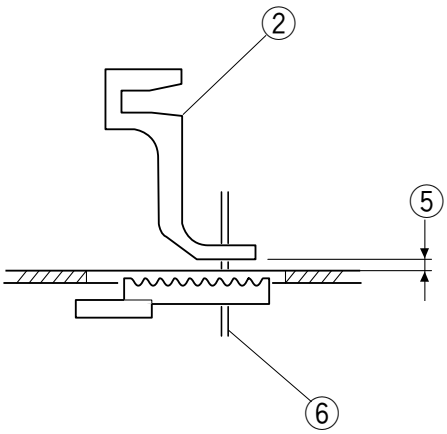
① Screw A
② Threader Plate
③ Screw
④ Setting Position Plate
⑤ An Angle

Adjusting Height of Embroidery Foot P

The space between the needle plate and the bottom surface of the Foot P should be 0.7 to 1.5 mm, when the needle bar is at its lowest position.







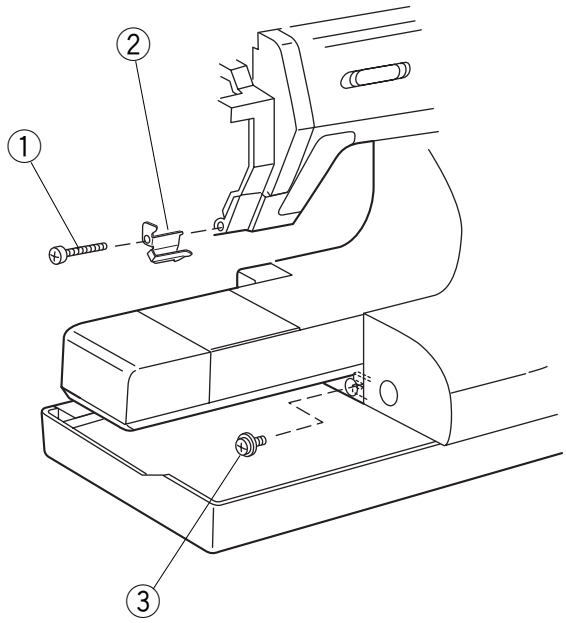
1. Remove the top cover.
2. Lower the needle bar and lower the presser foot lifter. Set the pressure dial to 2 ① .
3. Insert the 1.2 mm thickness gauge between the Embroidery Foot P ② and the needle plate.
4. While pressing the Presser Bar Actuator ③ down against the upper shaft cam, loosen Screw ④ and tighten it again.
5. Chech that the space is set between 0.7 - 1.5 mm ⑤ .
6. Reattach the top cover.

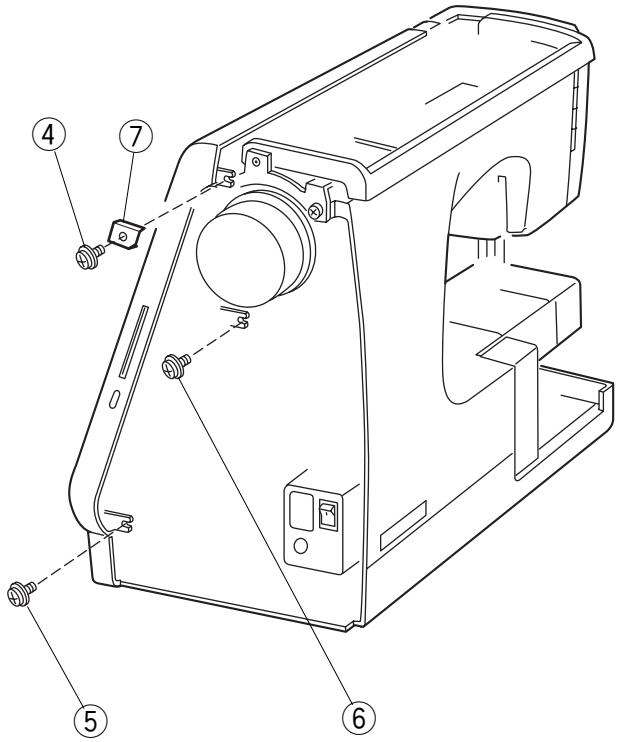
① Presser Dial
② Embroidery Foot P
③ Presser Bar Actuator
④ Screw
⑤ Space 0.7 - 1.5mm
⑥ Lowest Needle Position

Note: After adjusting the Embroidery Foot P ② height, make sure to adjust the presser Foot sensor (see page 27).

ADUSTMENT FOR ELECTRICAL COMPONENTS
Replacing Front Cover Unit

To replace the front cover unit, follow the instructions below.





Removing front cover unit

To remove:

1. Remove the top cover and belt cover.
2. Loosen Screw A ① and remove the thread guide (bottom) ② .
3. Loosen Screws B ③ , C ④ , D ⑤ , E ⑥ .
4. Remove the front cover unit.

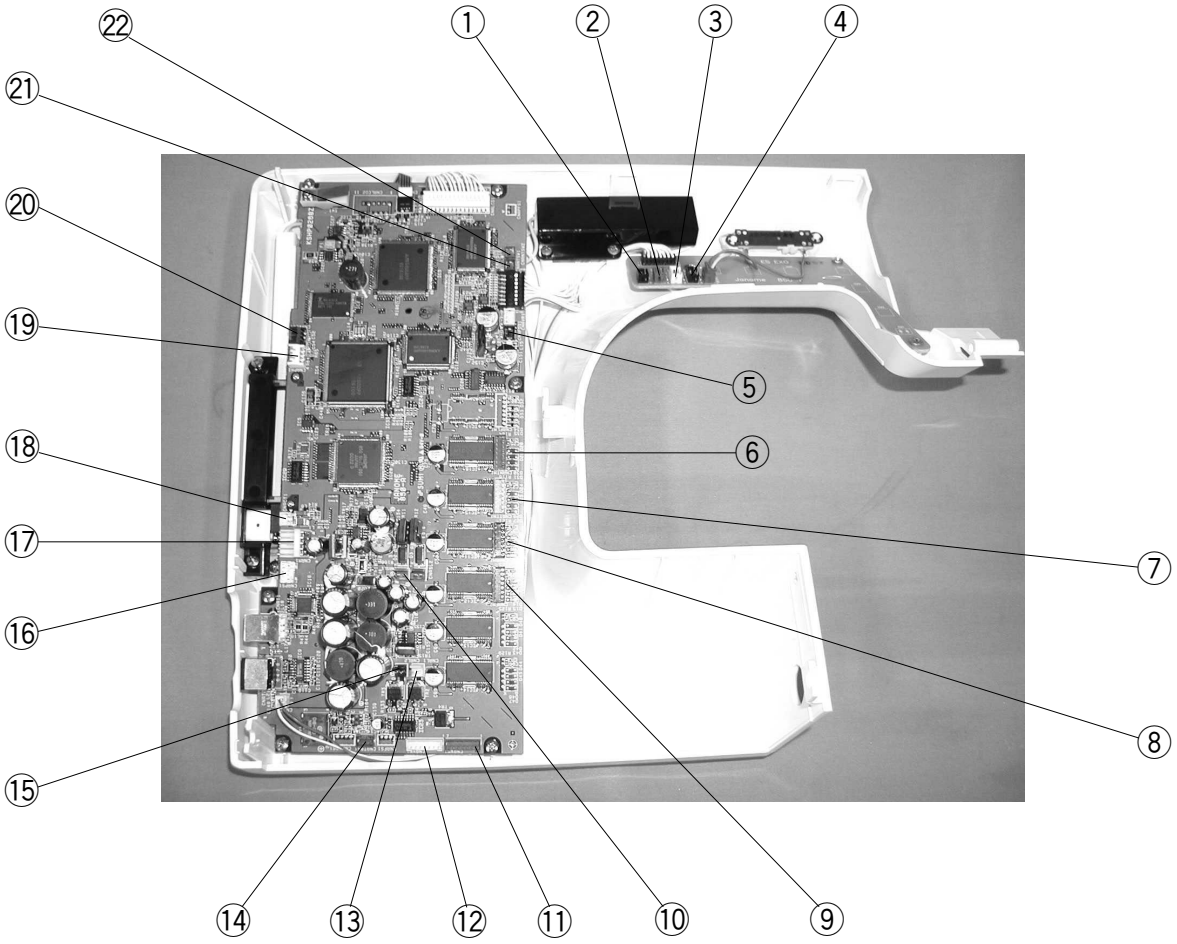
To attach:

5. Follow the above procedure in reverse.

① Screw A
② Arm Thread Guide (Bottom)
③ Screw B
④ Screw C
⑤ Screw D
⑥ Screw E
⑦ Plate Washer

Connector Connection Diagram

Please see the following connector connection diagram for the printed circuit boards A and F.

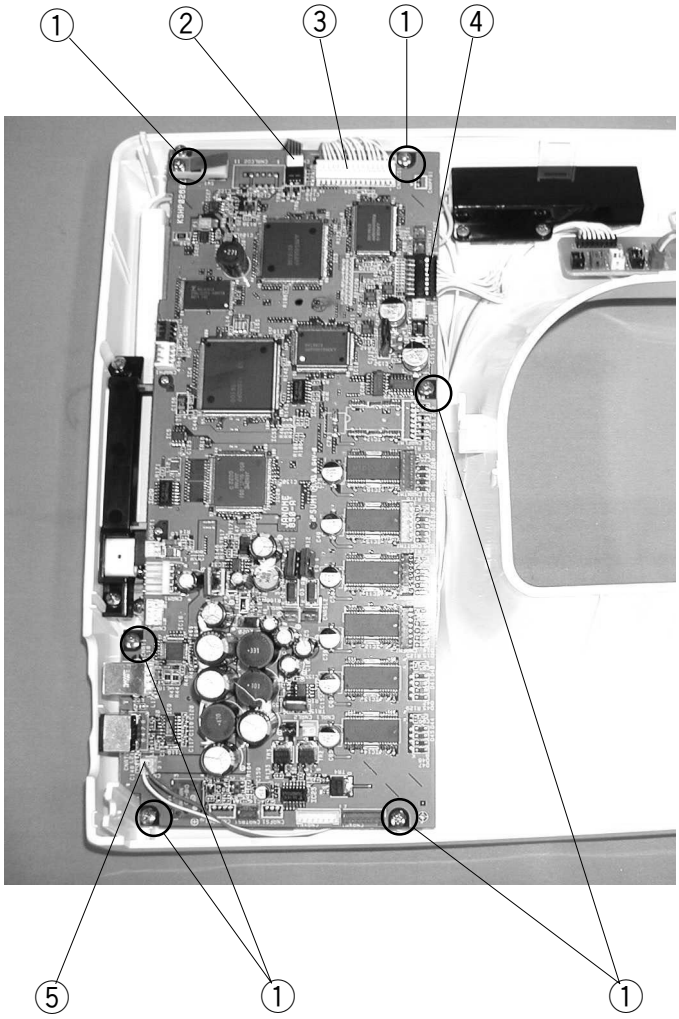


① Presser Foot Lifter Sensor (Black)
② Presser Foot P Sensor (Blue)
③ BH Sensor (White)
④ Needle Threader Sensor (Black)
⑤ U/D Feed Dog (Black)
⑥ Needle Threader Motor (Brown)
⑦ Needle Thread Tension Motor (Gray)
⑧ Zigzag Width Stepping Motor (Black)
⑨ Feed Motor (Red)
⑩ Remaining Bobbin Thread Solenoid (Blue)
⑪ X-Motor (Blue)
⑫ Y-Motor (White)
⑬ Face Cover Lamp (White)
⑭ Remaining Bobbin Thread Sensor (Blue)
⑮ Arm Lamp (Black)
⑯ Switching Regulator (White)
⑰ DC Motor (White)
⑱ Foot Controller (White)
⑲ Upper Shaft Sensor (White)
⑳ Bobbin Winding Sensor (Black)
㉑ Needle Threader Upper Switch (Blue)
㉒ Needle Threader Lower Switch (Brown)

Note: For attaching the front cover follow the procedure for removing the front cover in reverse.

Replacing Printed Circuit Board A

To replace the printed circuit board A, follow the instructions below.



To remove:

1. Remove the front cover.

2. Pull out the connectors of printed circuit board F ① , color LCD ② , TTP ③ and inverter ④ .

3. Remove screws (6 pieces) ⑤ and the printed circuit board A.

To attach:

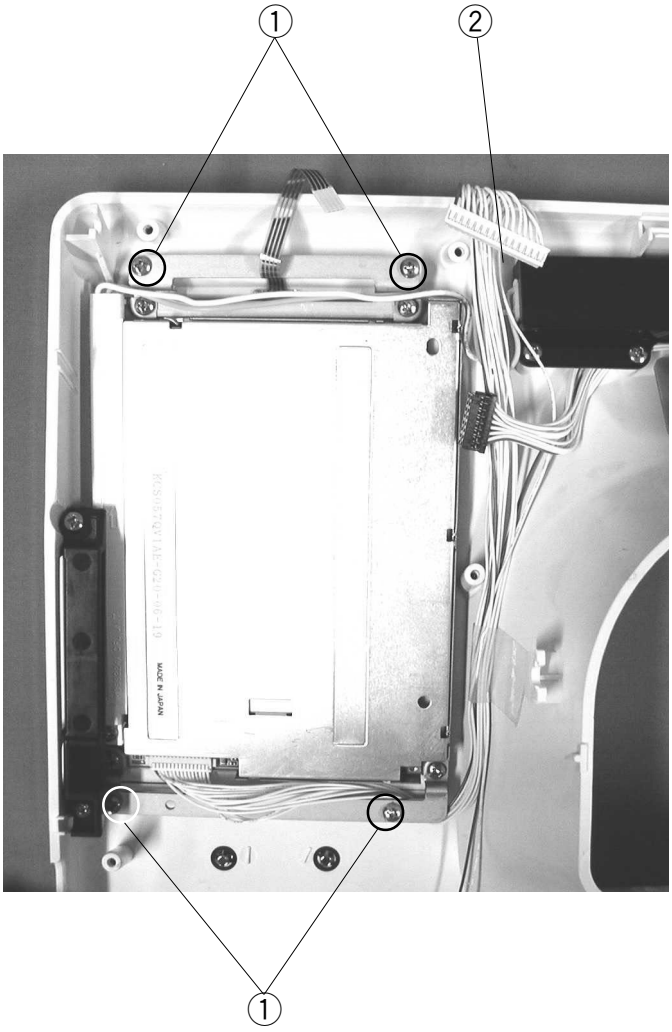
4. Follow the above procedure in reverse.

Note: After the replacement of PC board A, the machine's operating system (OS) must be installed.

① Printed Circuit Board F
② Color LCD
③ TTP
④ Inverter
⑤ Screws

Replacing Touch Panel

To replace the touch panel, follow the instructions below.



To remove:

1. Remove the printed circuit board A.
2. Pull out the inverter connector ① .
3. Remove Screws (4 pieces) ② and the Touch Panel.

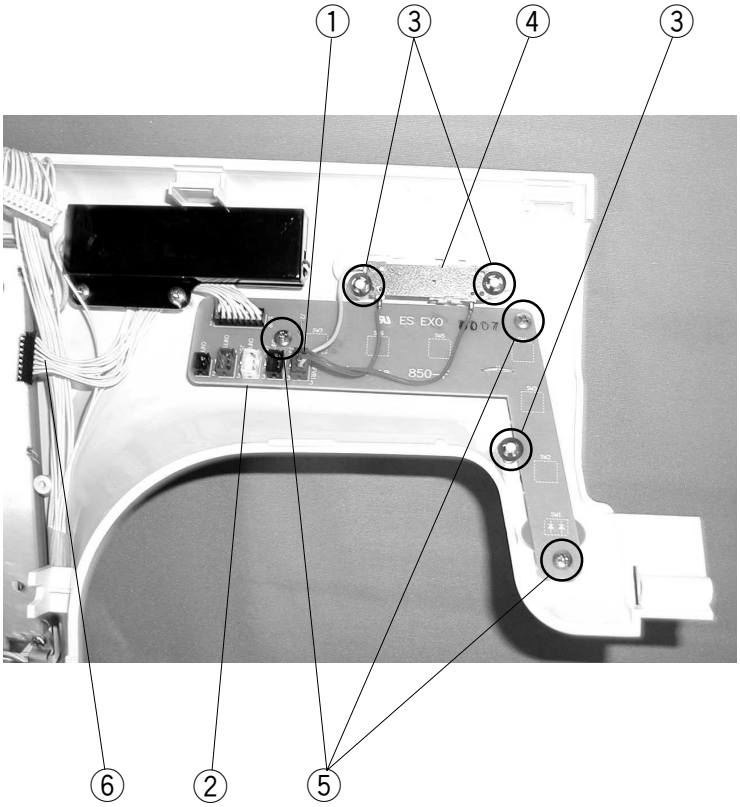
To attach:

4. Follow the above procedure in reverse.

① Connector
② Screw

Replacing Slide Volume / Printed Circuit Board F

To replace the slide volume and printed circuit board F, follow the instructions below.



Replacing the slide volume

To remove:

1. Remove the front cover unit.
2. Pull out the slide volume connector ① from the printed circuit board F ②.
3. Remove the CS rings 3 (2 pieces) ③ and the slide volume ④ .

Printed circuit board F

To remove:

1. Remove the front cover.
2. Pull out the connector from the printed circuit board A and the slide volume connector ① .
3. Remove screws (3 pieces) ⑤ and a CS ring 3 ③ , then remove the printed circuit board F ② .

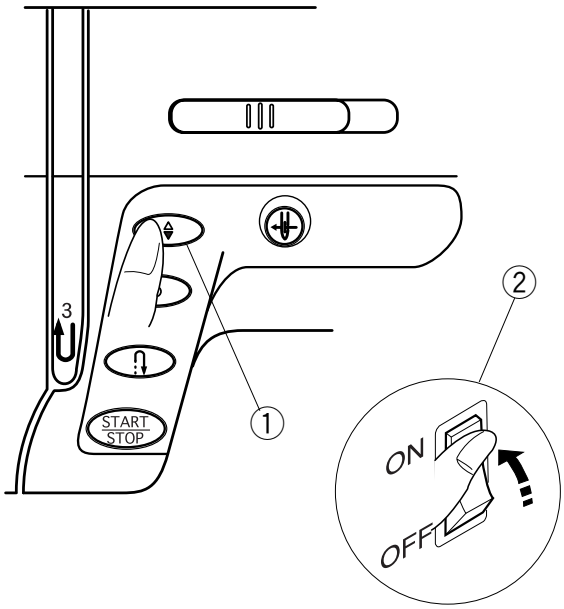
To attach:

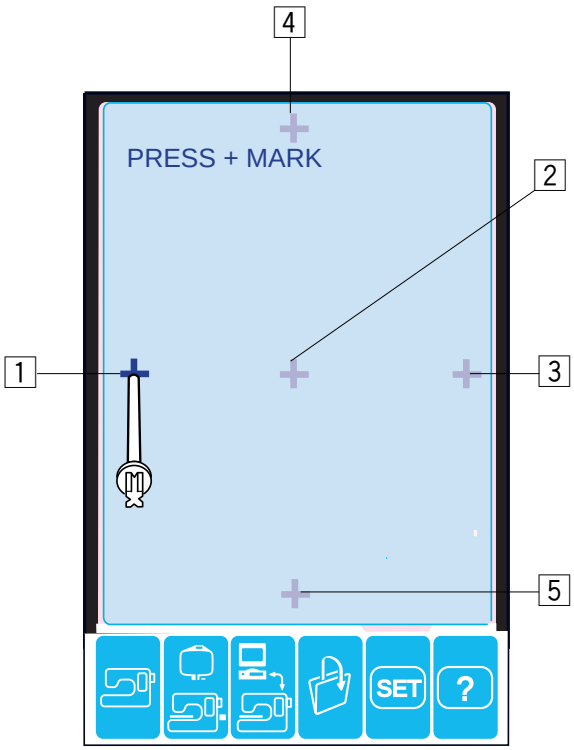
4. Follow the above procedure in reverse.

① Slide Volume Connectors
② Printed Circuit Board F
③ CS Ring 3 for Slide Volume
④ Slide Volume
⑤ Screws (3 pieces)
⑥ F Board Connector

Adjusting Key Position of Touch Screen

If a different pattern appears on the touch panel when you pressed the touch panel for selecting a desired pattern, follow the instructions below.





To adjust touch panel:

1. While pressing the Needle Up/Down button ① , turn the Power ON ② . (Keep pressing the Needle Up/Down button until the PRESS MARK and + mark appears.)

   ① Needle Up/Down Button
   ② Power Switch

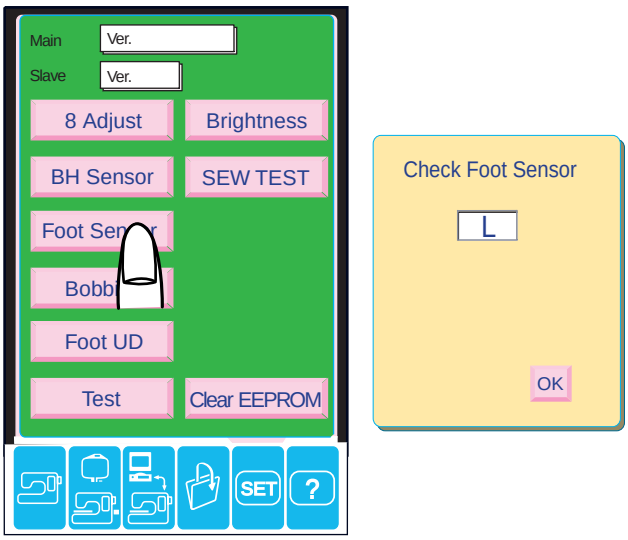
2. Press the + mark with the tip of the additional spool pin. (Press 1 to 5 in order.)

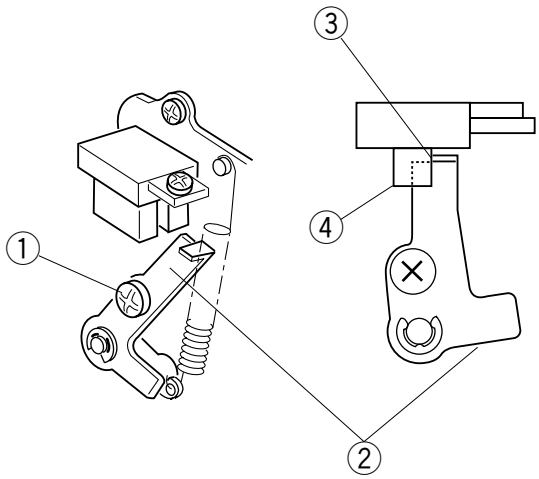
3. When you press the fifth +, ADJUSTMENT END will appear.

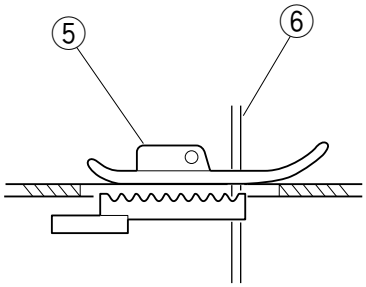
4. Turn the Power OFF ② .

5. Turn the Power ON and check the Touch Panel again.

Adjusting Presser Foot Sensor







To adjust foot sensor position

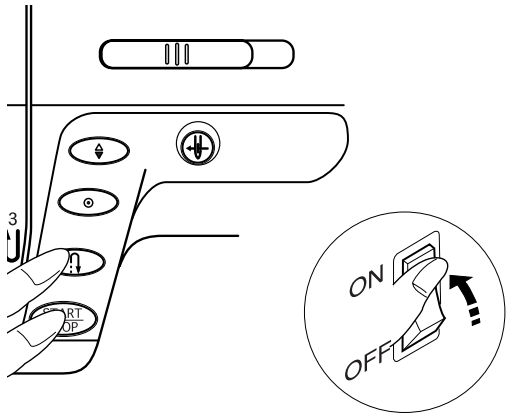
1. Start the machine in Adjusting Mode. Turn the Power ON while pressing the Start/Stop button and Reverse button at the same time. (Keep pressing both buttons until the LCD shows Adjusting window.)
2. Press the “Foot Sensor” key on the touch panel.
3. Attach the standard presser foot and set the pressure dial at 3 and lower the feed dog and the presser foot.
4. Lower the needle bar to the lowest position.
5. Loosen the foot sensor shield plate screw ① .
6. Move the foot sensor shield plate ② to the left untill it touches the sensor ③ . (L will appear on the Touch Panel.)
7. Remove the standard foot ⑤ and lower the presser bar. (H will appear on the Touch Panel.)
8. Change the pressure dial to 2.
9. Change the foot to Embroidery Foot P and slowly lower the presser foot lifter.
10. Turn the handwheel and move the needle bar to the highest position.
11. When slightly moving the foot sensor shield plate ② within its play, check the indication on the Touch Panel.

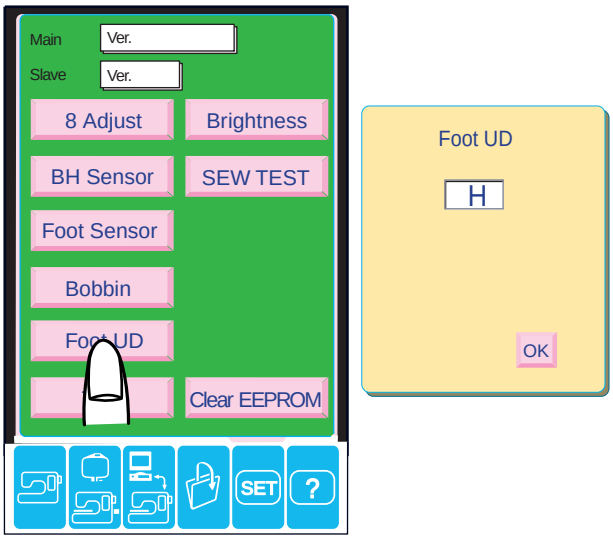
    If the screen shows “H”: The Foot Sensor is properly adjusted. Press the OK key and turn the Power OFF.

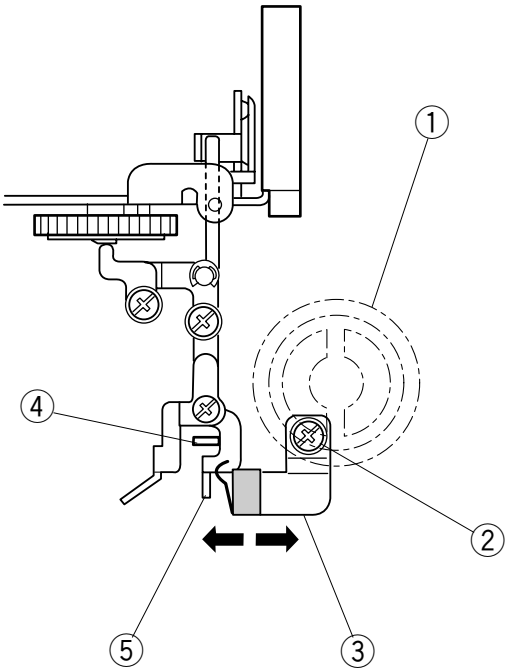
    If the screen shows “L”: Readjust the height of Embroidery Foot P and proceed with the adjusting steps again from step 1 to step 7.

① Set screw
② Butt it slightly
③ Foot Sensor Shield Plate
④ Sensor
⑤ Standard Foot
⑥ Lowest Needle Position

Adjusting Presser Foot Lifter Sensor







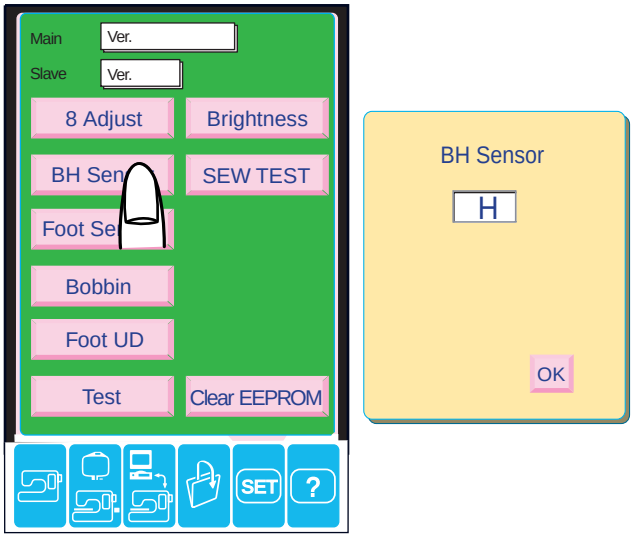
To Adjust the presser foot sensor:

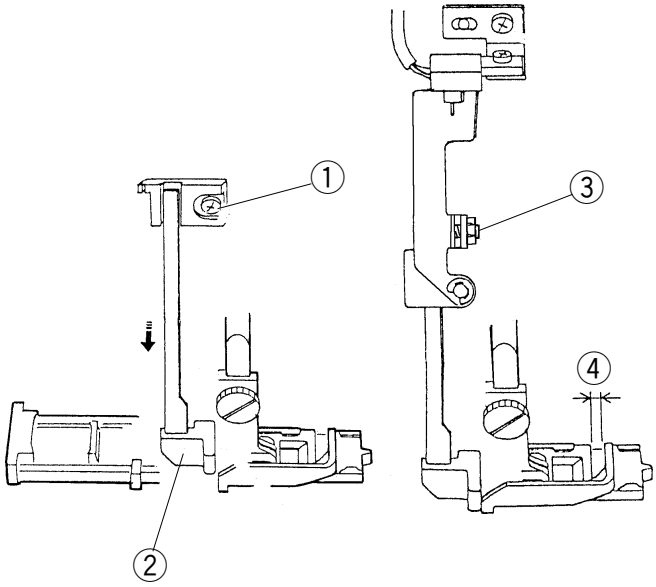
1. Start up the machine in Adjusting Mode. Turn the Power ON while pressing the Start/Stop button and Reverse button at the same time. (Keep pressing both buttons until the LCD shows Adjusting window.)
2. Press Foot UD key on the touch panel.
3. Remove the top cover.
4. Remove the pressure dial ① .
5. Loosen the Screw A ② to move the fixing plate ③ and make sure the screen shows H when the presser foot is raised and the screen shows L when the presser foot is lowered, then tighten the screw ② .
6. Press the OK key and turn the Power OFF.
7. Reattach the pressure dial ① .
8. Reattach the top cover.

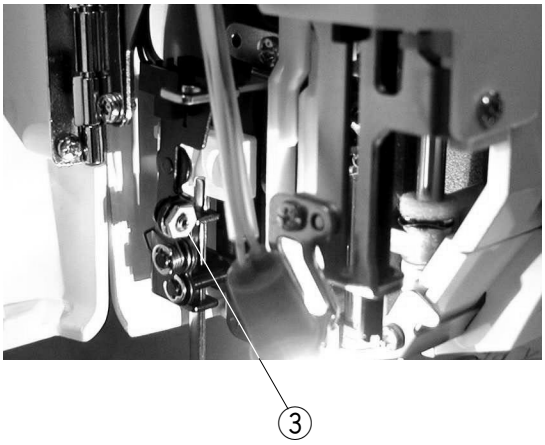
① Pressure Dial
② Screw A
③ Fixing Plate
④ Thread Releasing Lever
⑤ Thread Releasing Plate

* Check if the sensor works properly when the pattern # 16 is selected.

Adjusting Buttonhole Lever







To adjust buttonhole lever:

1. Start up the machine in Adjusting Mode. Turn the Power ON while pressing the Start/Stop button and Reverse button at the same time. (Keep pressing both buttons until the LCD shows Adjusting window.)

2. Press BH Sensor key on the touch panel.

3. Loosen the Screw A ① to move the BH lever guide, so that the screen shows “H” when the BH lever ② is lowered. Then tighten the screw A.

4. Attach the BH Foot (R) and Lower the BH lever ② .

5. Insert the 1.6 mm thickness gauge between the slider and the spring holder to set the space at 1.6 mm.

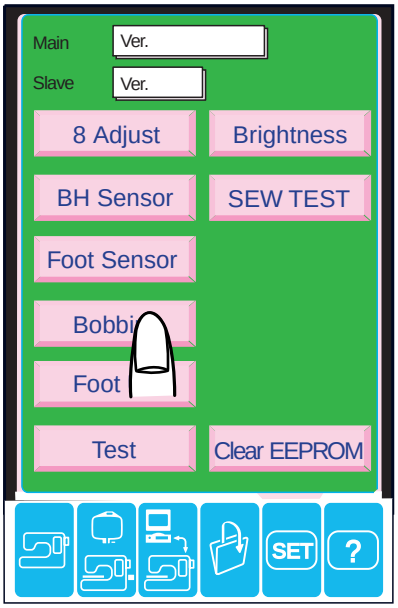
6. Loosen the screw until the touch panel shows “H”.

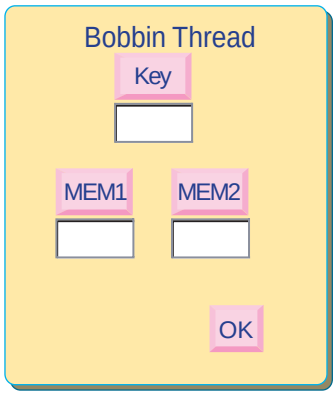
7. Screw in the screw until the screen indication changes from H to L.

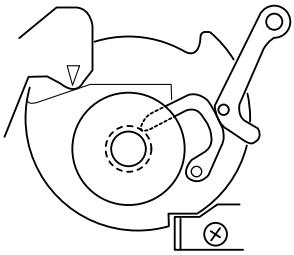
8. Press OK key and turn the Power OFF.

① Screw A
② BH Lever
③ Screw
④ Clearance 1.6 mm

Adjusting Remaining Bobbin Thread Sensor







To adjust bobbin thread sensor:

1. Start up the machine in Adjusting Mode. Turn the Power ON while pressing the Start/Stop button and Reverse button at the same time. (Keep pressing both buttons until the LCD shows Adjusting window.)

2. Press the Bobbin key on the touch panel.

3. Insert the gauge bobbin (9.2 mm in diameter) in the bobbin holder and press the key button. (The numbers will appear under the key button. Press the key button several times and check if the same number appears each time.)

4. Press MEM1 button. (The data for step 3 is registered in MEM1.)

5. Insert the gauge bobbin (10.3 mm in diameter) in the bobbin holder and press the key button. (The numbers will appear under the key button. Press the key button several times and check if the same number appears each time.)

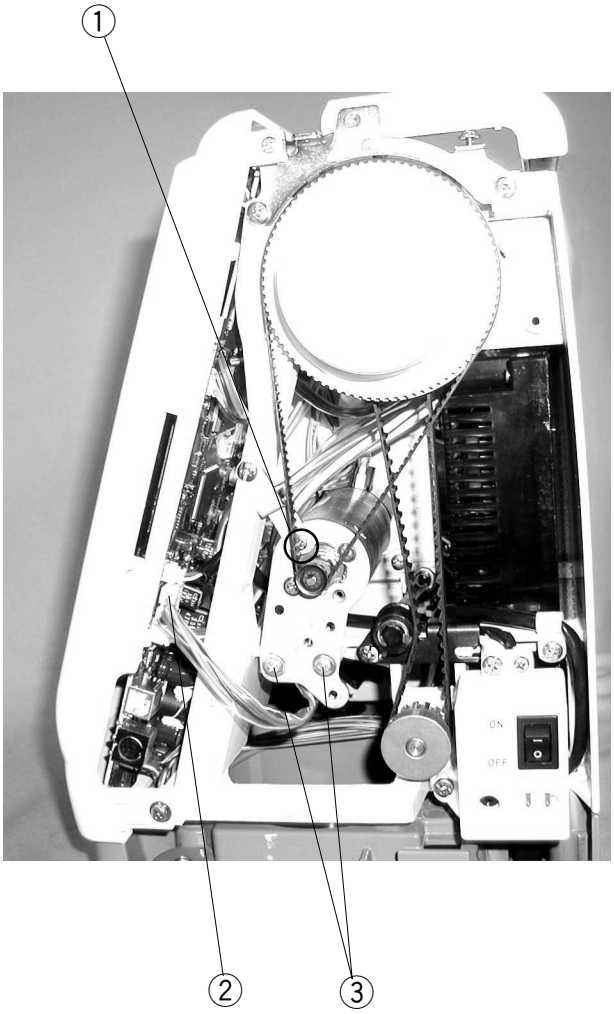
6. Press MEM2 button. (The data for step 5 is registered in MEM2.)

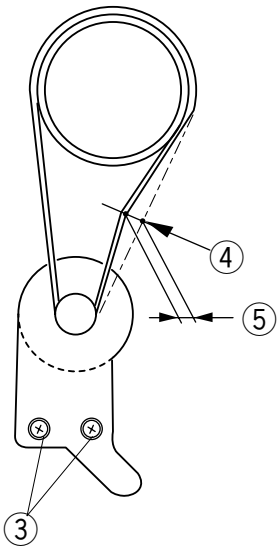
7. Make sure the difference of numbers for MEM1 and MEM2 is 6 or more.
(The mean number of MEM1 and MEM2 will be the standard data.)

8. Press OK button.

9. Turn the Power OFF.

Replacing DC Motor and Motor Belt Tension Adjustment





Replacing DC motor:

To remove:

1. Remove the belt cover.
2. Remove the screw A ① and the moter belt.
3. Pull out the motor connector ② from the printed circuit board A.
4. Remove screws B (2 pieces) ③ and replace the motor.

To attach:

5. Follow the above procedure in reverse.

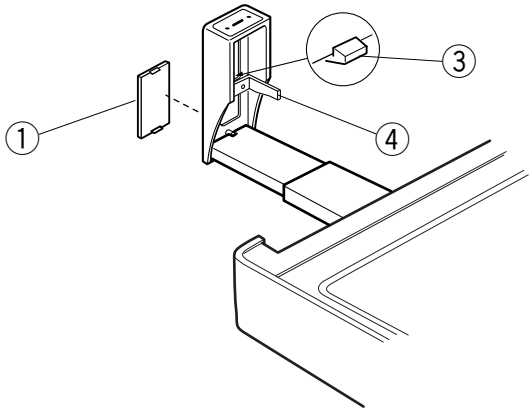
Adjusting motor belt tension

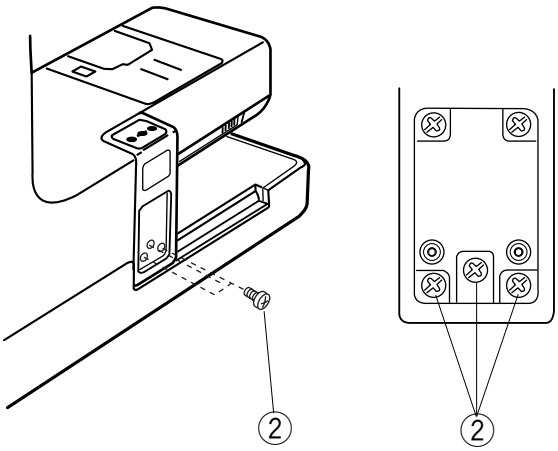
To adjust:

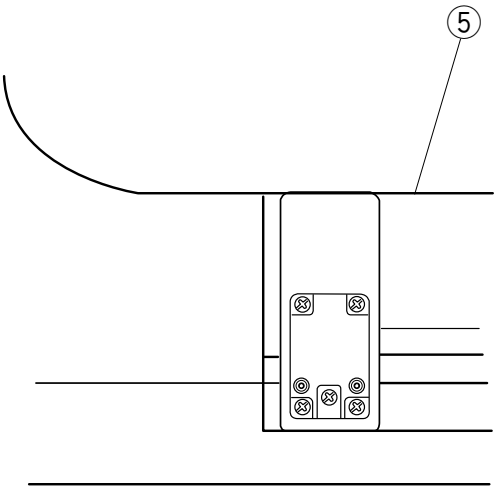
1. Tighten screws B (2 pieces) ③ temporarily.
2. Adjust the belt deflection to about 5.0 mm ④ by pressing the middle of the motor belt with your finger with approximately 200 grams ⑤ of pressure.
3. Tighten the screws firmly ③ .

① Screw A
② Motor Connector
③ Screws B (2 pieces)
④ Deflection 5 mm
⑤ Pressure 200 grams

Replacing Carriage Plate (Unit)







Replace the carriage plate

To remove:

1. Turn the Power ON and select the Embroidery Mode on the touch panel.
   Select pattern #1.

2. Turn the Power OFF and remove the cover cap ①.
   (Unlock the hook from the inside.)

3. Turn the Power ON and return the carriage to the home position.

4. Remove screws (3 pieces) ② and remove the carriage plate (unit).

To attach:

5. Attach the carriage plate (unit) with tightening screws temporarily.

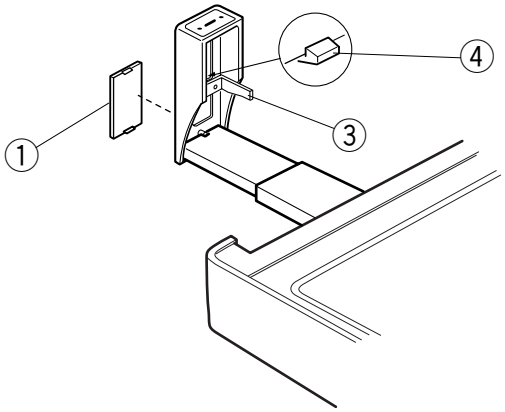
6. After the top surface of the carriage plate and the arm surface are parallel and the same level, securely tighten the screws.

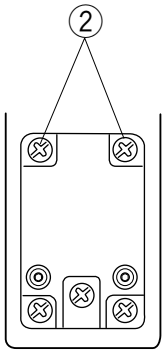
7. Attach the cover cap ①.

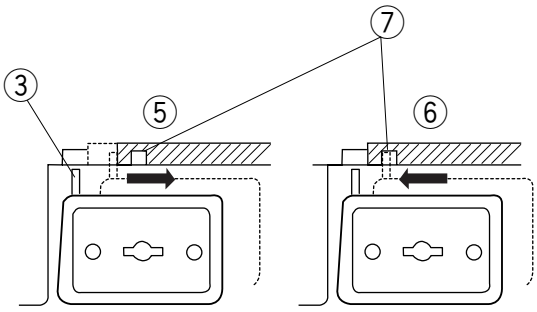
① Cover Cap
② Screws
③ Hook
④ Drop Plate
⑤ Arm Surface

Adjusting Feed Dog Up/Down Position

The carriage moves to drop the feed dog when selecting the Embroidery Mode.
It raises the feed dog when selecting the Utility Stitches.
Note: The feed dog also automatically drops when selecting button sewing, basting stitches and free quilting.







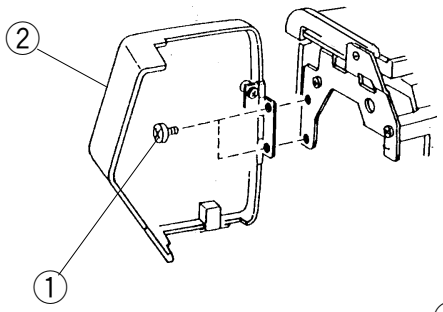
To adjust:

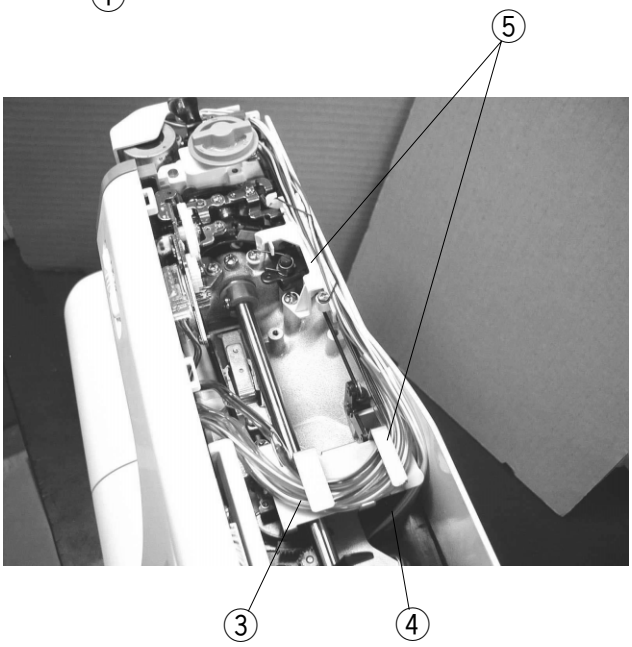
1. Turn the Power ON; select the Embroidery Mode and select pattern No.1.
2. Turn the Power OFF; remove the carriage cover cap ①. (Unlock the hook from the inside.)
3. Turn the Power ON and return the carriage to the home position.
4. Loosen the drop plate Screws (2 pieces) ②.
5. Adjust the drop plate ③ moving it to the left or right if the feed dog does not drop when selecting the Embroidery Mode or does not rise (the drop plate does not set in to the groove) when selecting the Utility Stitches.
6. Tighten the drop plate screws.
7. Reattach the carriage cover cap ①.
8. Check the feed dog drops or raises properly.

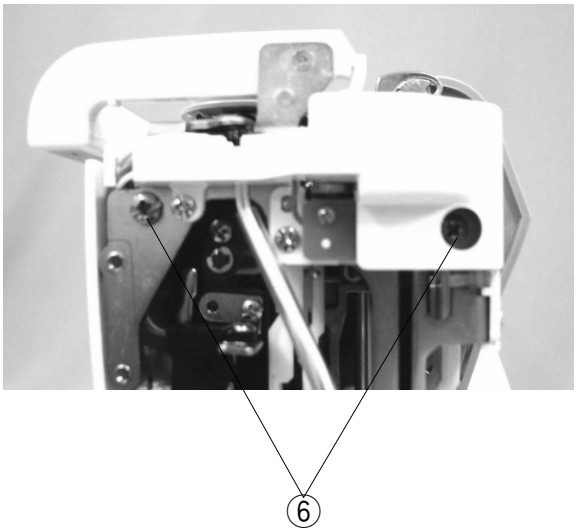
① Carriage Cover Cap
② Screws
③ Drop Plate
④ Hook
⑤ Feed Dog Down
⑥ Feed Dog Up
⑦ Groove

Replacing Needle Threader Unit (1)

Replacing the needle threader motor (unit) when the bottom (threader carriage) switch is defective.







To remove:

1. Removing the face cover

Remove the screws A ① (2 pieces) and remove the face cover ②.

① Screws A
② Face Cover

2. Remove the front panel
(Refer to page 21 to 22)

Remove each cord ③, ④ from the 2 cord guides ⑤.

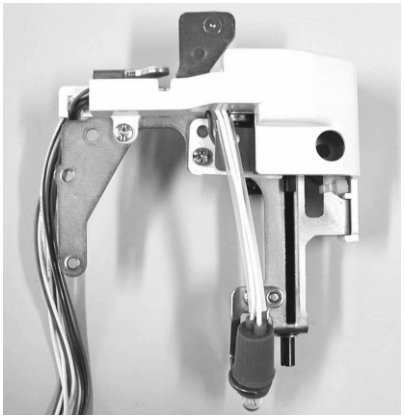
③ Micro Switch Cord (2 pieces)
④ Motor Cord, Lamp Cord
⑤ Cord Guides

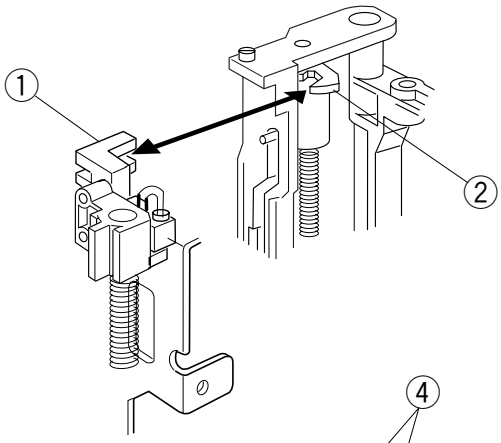
3. Removing the needle threader motor (unit)

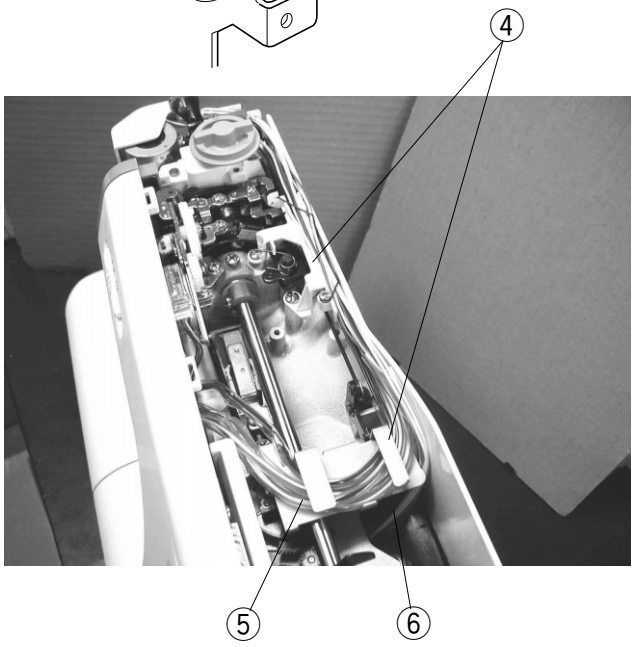
Remove Screw B (2 pieces) ⑥ and remove the needle threader motor (unit).

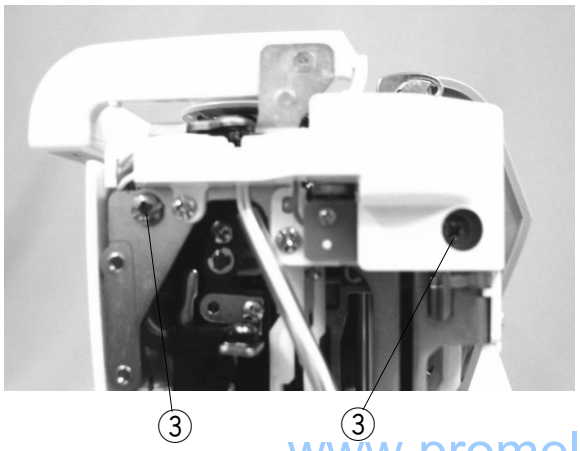
⑥ Screws B

Replacing Needle Threader Unit (2)









To attach:

1. Insert the convex of the threader guide ① into the forked part of the threader carriage ②.

   ① Convex of the Threader Carriage
   ② Threader Guide

2. Attach the needle threader motor (unit) with Screws B ③.

   Tighten the screws while pressing the needle threader motor (unit) to the back.

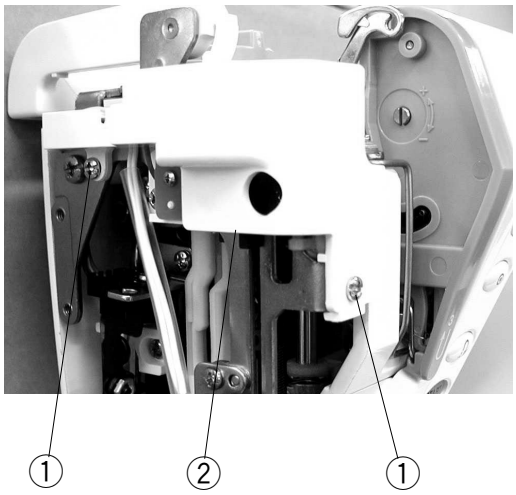
   ③ Screws B

3. Press the needle threader button and check the movement.

   ④ Cord guide
   ⑤ Micro-switch Cord (2 peices)
   ⑥ Moter Cord & Lamp Cord

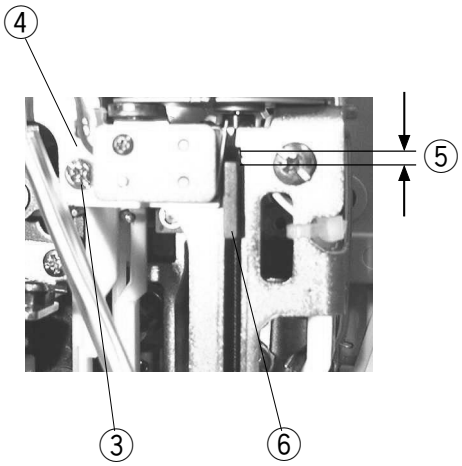
Adjusting Needle Threader Switch

Adjust the upper switch position as follows if the instructional display will not disappear.



1. Remove screws A ① (2 pieces) and remove the motor cover ②.

   ① Screws A (2 pieces)
   ② Motor Cover

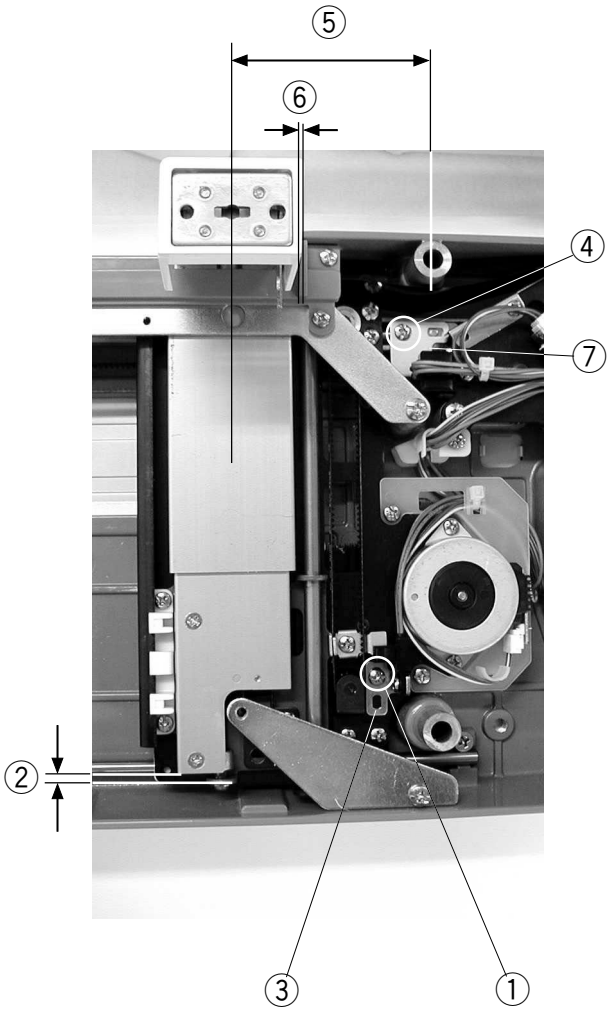


2. Loosen screw ③ and adjust the position of switch ④ position by moving it up or down, so that the needle threader stops with a 3 mm gap ⑤ between the slider ⑥ and the top end of the guide slot.

   ③ Screw B
   ④ Slider
   ⑤ Approximately 3 mm Gap
   ⑥ Switch

3. Attach the motor cover with Screws A.

Adjusting X and Y Sensors



To adjust the X and Y sensors:

1. Turn the Power ON to return the carriage to the home position.

2. Turn the Power OFF and then remove the base unit (do not disconnect X, Y-motor connectors).

3. Loosen screw A ① to adjust dimension Y ② to 5 mm by moving the Y sensor attaching plate ③.

4. Turn the Power ON and make sure if the dimension Y ② is properly adjusted. If not, repeat steps 2 and 3.

5. Loosen screw B ④ to adjust dimension X-1 ⑤ to 69.5 mm and dimension X-2 ⑥ to 3 mm by moving the X shield plate ⑦.

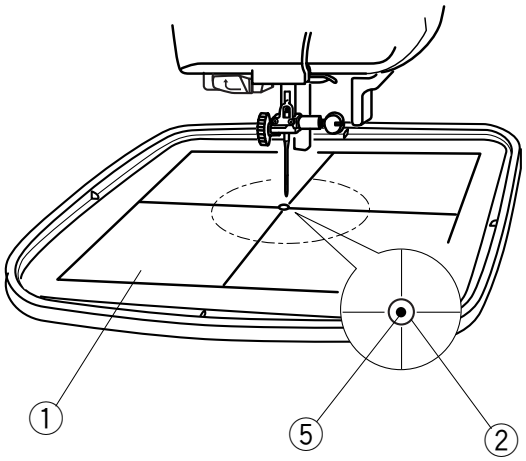
6. Turn the Power ON and make sure if the dimensions are properly adjusted. If not, repeat steps 2 and 5.

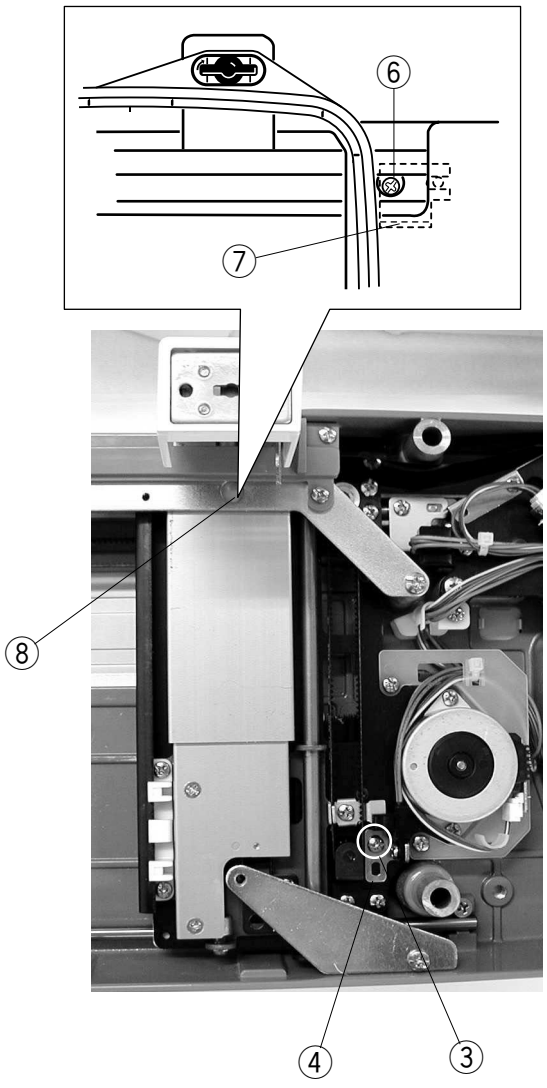
7. Tighten the screws.

8. Reattach the base unit.

① Screw A
② Y (2.5 mm)
③ Y Sensor Attaching Plate
④ Screw B
⑤ X-1 (69.5 mm)
⑥ X-2 (3 mm) between the edge of carriage and Arm
⑦ X Shield Plate

Adjusting X and Y Sensor (Instant Adjustment)





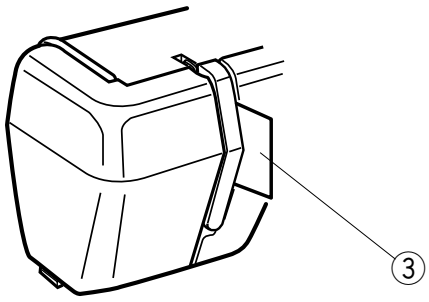
To adjust X and Y sensor (without removing the base unit):

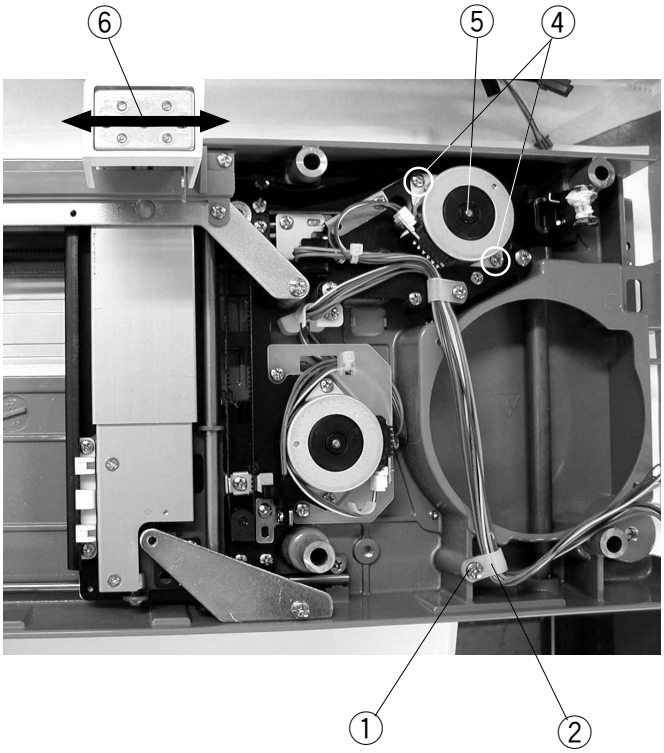
1. Remove the base cover.
2. Remove the presser foot holder and attach the embroidery hoop A.
3. Place the template ① on the hoop.
4. Turn the Power ON and select the Embroidery Mode, then press pattern No.1.
5. Turn the handwheel by hand to check that the needle drops into the starting position ② (rounded hole) on the template.
6. Turn the Power OFF.
7. If the needle position shifts in Y direction, loosen screw A ③ and move the Y sensor fixing plate ④ to adjust the needle drop position ⑤ .
8. If the needle position shifts in X direction, loosen screw B ⑥ through the sheet cover fixing plate hole and adjust the X shield plate position ⑦ .
9. Turn the Power ON and select pattern No.1 on the Embroidery Mode, then check the start position ② .
10. Return the carriage to the home position and turn the Power OFF.
11. Remove the template ① and the embroidery hoop, then reattach the base cover.

① Template
② Start Position
③ Screw A
④ Y Sensor Fixing Plate
⑤ Needle
⑥ Screw B
⑦ X Shield Plate
⑧ Sheet Cover Fixing Plate Hole

Adjusting X Motor Gear

If the X-motor gear sound is noisy when sewing the embroidery stitches, follow the instructions below.





To remove:

1. Remove the base unit (see page 5).
2. Remove the presser foot.
3. Remove screw A ① and nylon clip ② .
4. Attach the X and Y motor connectors to PC board A.
5. Turn the Power ON and select Monogramming in the Embroidery Mode.
6. Select large “A” in Gothic style and memorize it 3 times.
7. Lower the presser bar.
8. Insert a piece of paper ③ between the thread tension discs as shown so that the needle thread sensor will not work.
9. Run the machine and loosen screws B ④ (2 pieces) and move the X-motor ⑤ to detect the quietest position, while the carriage is moving in lateral direction then tighten the screws ④ .
10. Return the carriage to the home position and turn the Power OFF.
11. Pull the X and Y motor connectors and secure the nylon grip with screw A.
12. Reattach the base unit.

① Screw A
② Nylon Clip
③ Insert the Piece of Paper
④ Screws B (2 pieces)
⑤ X-Motor
⑥ Adjust the Carriage Position when it moves in the Direction of the Arrow