



MC350E

JANOME

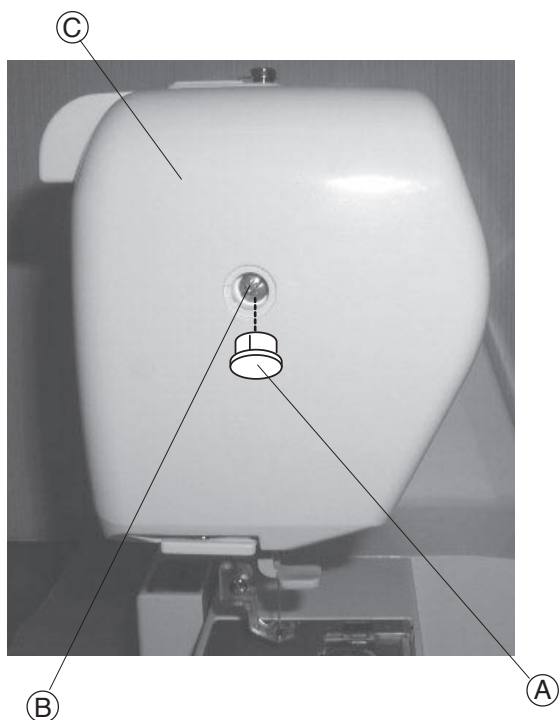
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Changing External Parts (1) Face Cover



Replacing th face cover

To remove:

1. Remove the Cap (A) and Screw (B) and remove the Face Cover (C).

- (A) Cap
- (B) Screw
- (C) Face cover

To attach:

2. Follow the above procedure in reverse.

Changing External Parts (2) Belt cover

Replacing the belt cover

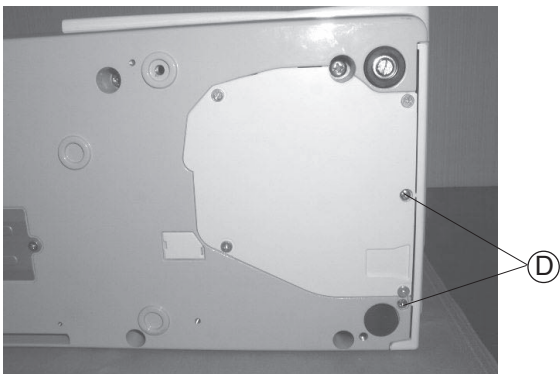
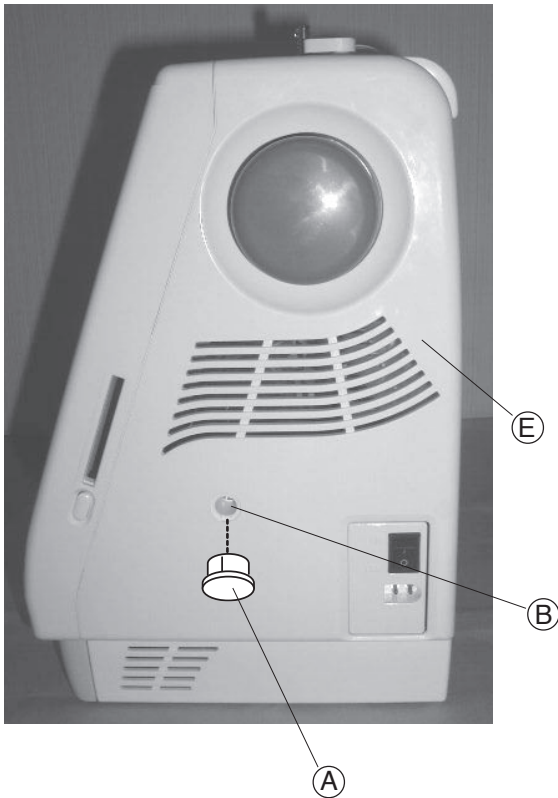
To remove:

1. Remove the Cap (A) and Screw (B).
2. Raise the Carrying Handle and remove the Screw (C).
3. Lay the machine on its back and remove Screws (D) (2 pcs. gold color), then remove the Belt cover (E).

- (A) Cap
- (B) Screw
- (C) Screw
- (D) Screw
- (E) Belt cover

To attach:

4. Attach the Belt Cover with Screws (B) - (D).
5. Attach the Cap (A).



Changing External Parts (3) Base Cover

Replacing the base cover

To remove:

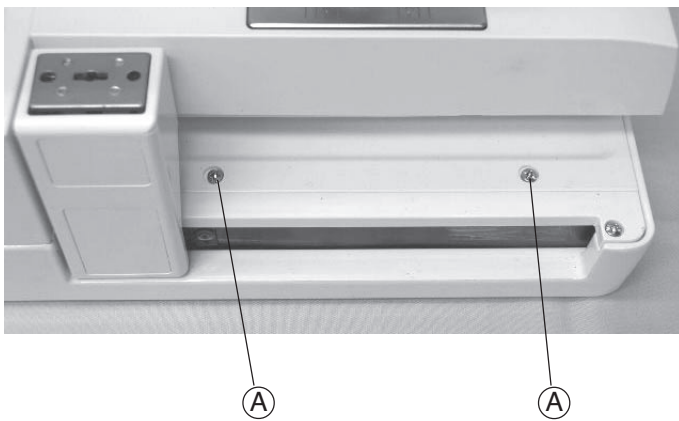
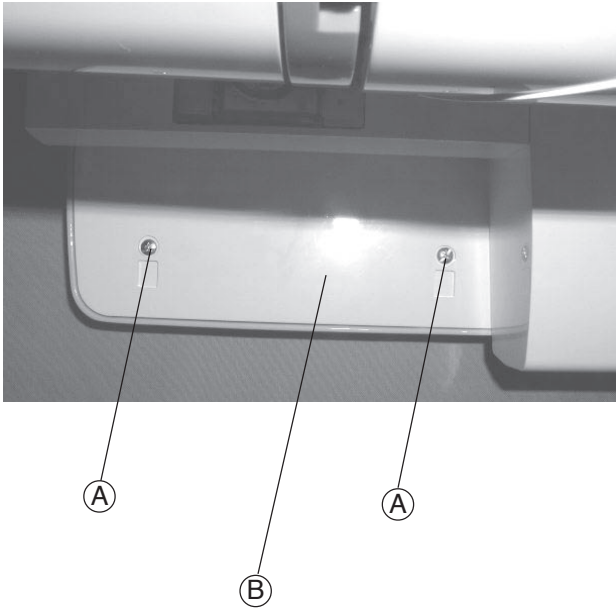
1. Remove Screws (A) (4 pieces) to remove the base cover (B).

(A) Screws

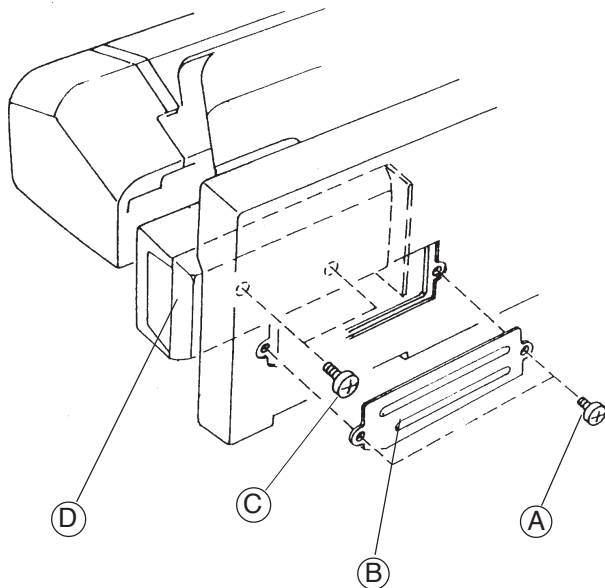
(B) Base cover

To attach:

2. Follow the above procedure in reverse.



Changing External Parts (4) Bed Cover / Base Lid (2)



Replacing the bed cover

To remove:

1. Remove the base cover. (See page 3)
2. Remove Screw (A) (2 pcs.), and remove the Base Lid (B) .
3. Remove Screw (C) (2 pcs.), and remove the Bed cover (D) .

- (A) Screw
- (B) Base lid
- (C) Screw
- (D) Bed cover

To attach:

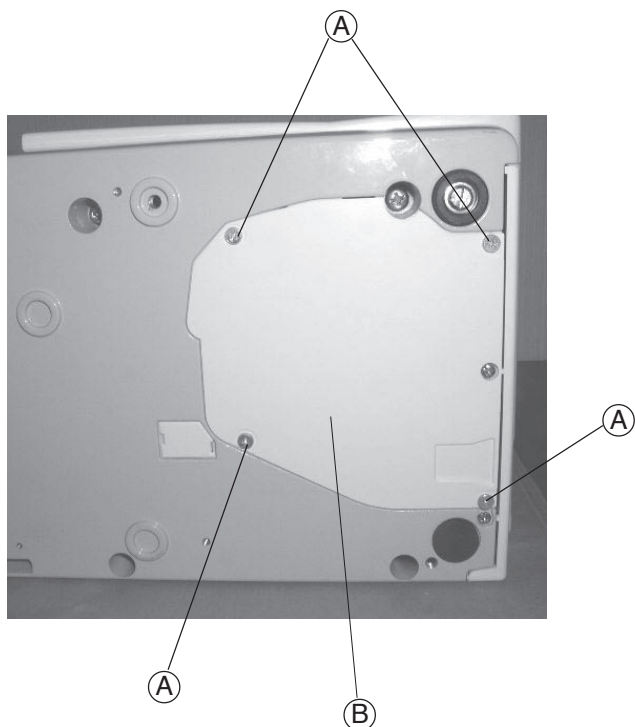
4. Follow the above procedure in reverse.

Replacing base Lid (2)

To remove:

1. Remove Screws (A) (4 pieces), and remove the Lid (2) (B) .

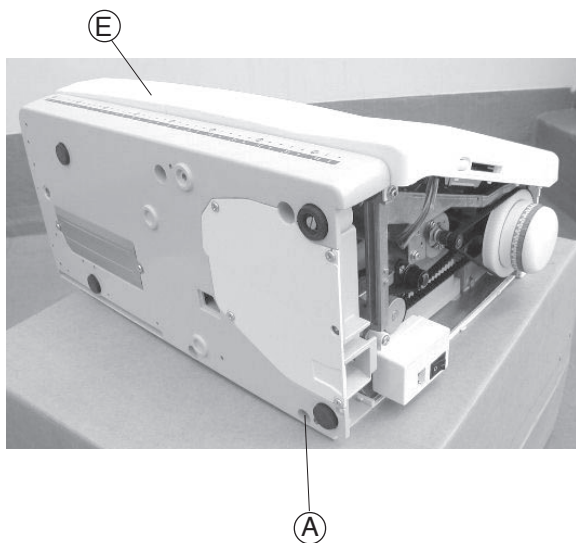
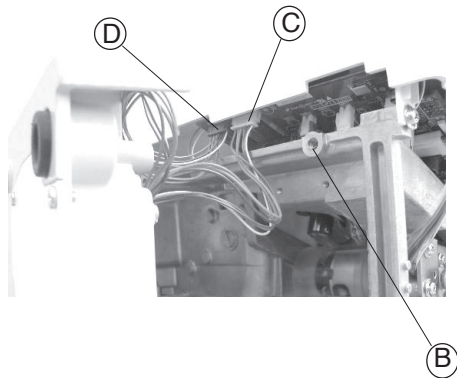
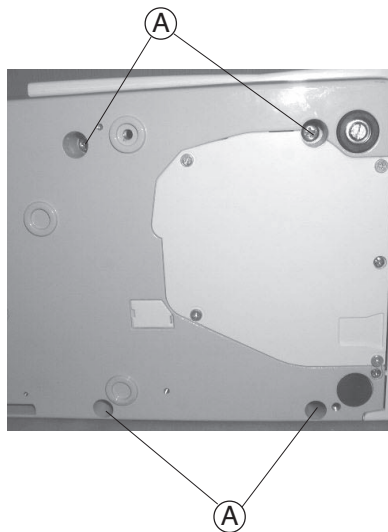
- (A) Screw
- (B) Base lid (2)



To attach:

2. Follow the above procedure in reverse.

Changing External Parts (5) Base



Base

To remove:

1. Remove the Belt cover. (See page 2)
2. Remove Setscrew (A) (4 pcs.), and remove the base unit .
3. Remove the X-Motor Connector (D) and Y-Motor Connector (C) from the printed circuit board "A".
 - (A) Setscrew
 - (B) Joint bosses
 - (C) Y-motor connector (White)
 - (D) X-motor connector (Blue)
 - (E) Extension table (Accessory)

To attach:

4. Attach the X, Y-Motor Connectors (C) , (D) into the printed circuit board "A".
5. Insert the X, Y-Motor Cords between the printed circuit board "A" and Arm. Be sure the cords are not caught between the Joint Bosses (B) of the arm and base. Tighten Screws (A) (4 pieces) temporarily.
6. Attach the Extension (Accessory) table (E).
7. Tighten Screws (A) while aligning the extension table, base unit and free Arm.

Note: Attach the embroidery hoop with the template on the carriage. Check the needle drop position against the template.

8. Attach the belt cover.

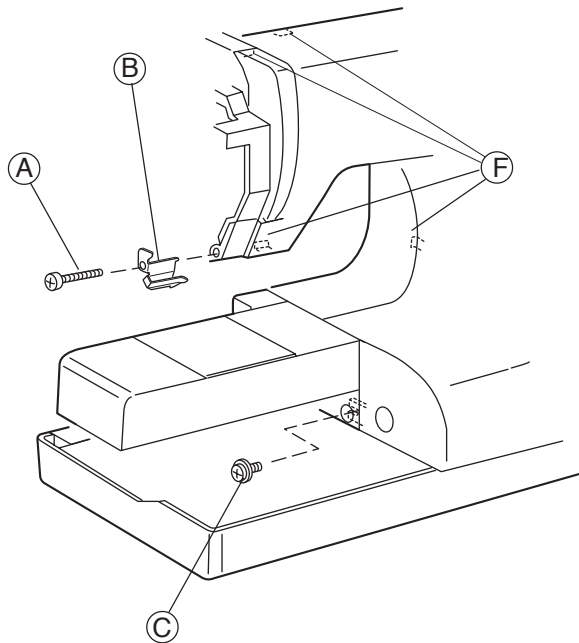
Changing External Parts (6) Front Cover

Front cover

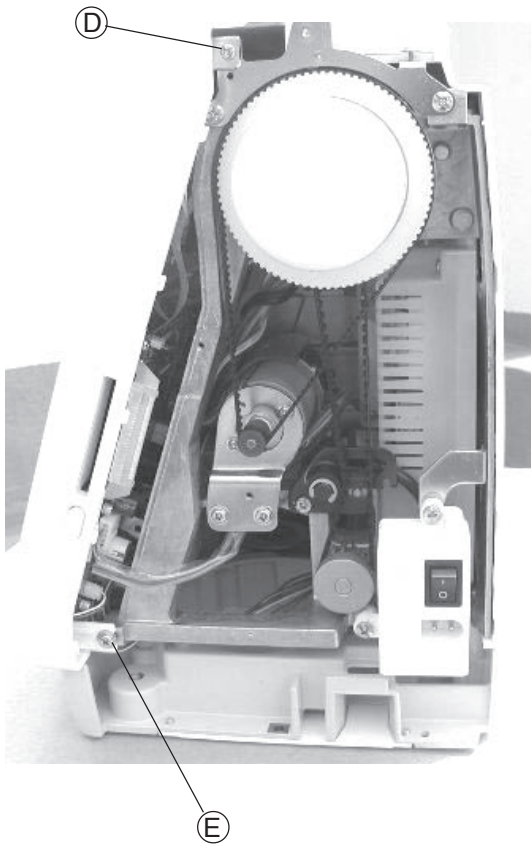
To remove:

1. Remove the face cover, belt cover, base cover.
(See pages 1-4).
2. Remove Screw (A) and remove the Arm thread guide (lower) (B).
3. Remove Screw (C).
4. Loosen Screws (D), (E) 3 turns.
5. Disconnect the each connector and remove the front cover.

Note: Disengage the Hooks (F) to remove the Front cover.



- (A) Screw
- (B) Arm thread guide (Lower)
- (C) Screw
- (D) Screw
- (E) Screw
- (F) Hooks

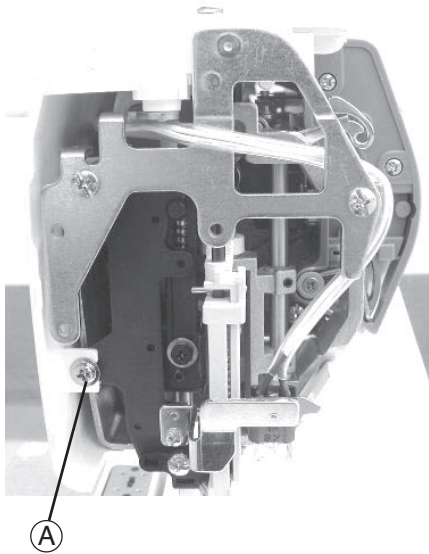


To attach:

6. Follow the above procedure in reverse.

Note: See pages 19 (Diagram) for Connectors Connection.

Changing External Parts (7) Rear Cover



Rear cover

To remove:

1. Remove the face cover and belt cover. (See page 1,2)
2. Loosen Screw (A), (B), (C), (D), and remove the rear cover.

- (A) Screw
- (B) Screw
- (C) Screw
- (D) Screw



Carriage

(B)

To attach:

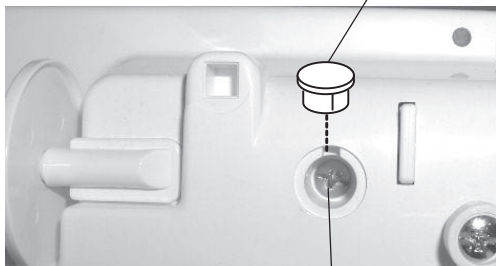
3. Follow the above procedure in reverse.



(C)

Rear cover

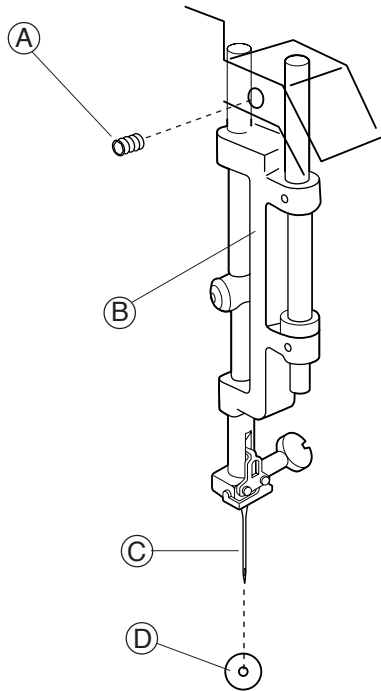
Cap



(D)

Adjusting Needle Drop Position

The needle should be positioned at the center of the needle plate hole.

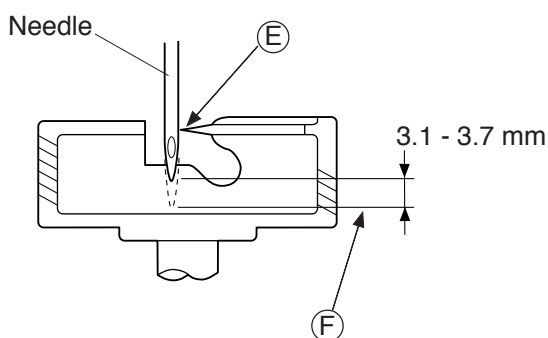
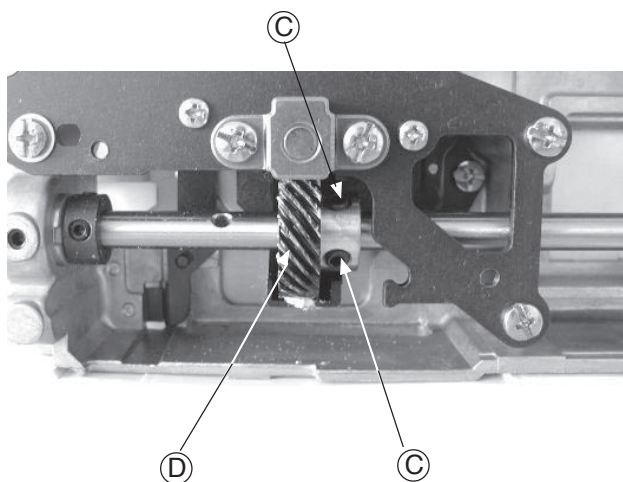
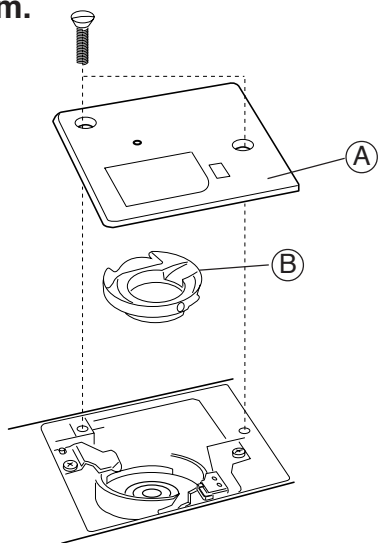


1. Lower the needle to its lowest position by turning the handwheel.
2. Remove the face cover and loosen Screw (A) , move the Needle bar supporter (B) to the right or left until the needle (C) comes to the center of the Needle plate hole (D) .
3. Tighten the Screw (A) .
4. Attach the face cover.

- (A) Screw
- (B) Needle bar supporter
- (C) Needle
- (D) Needle plate hole

Adjusting Hook Timing

The hook timing is that amount of ascending travel of the needle bar from its lowest position to where the tip of the rotary hook meets the left side of the needle should be 3.1 to 3.7 mm.

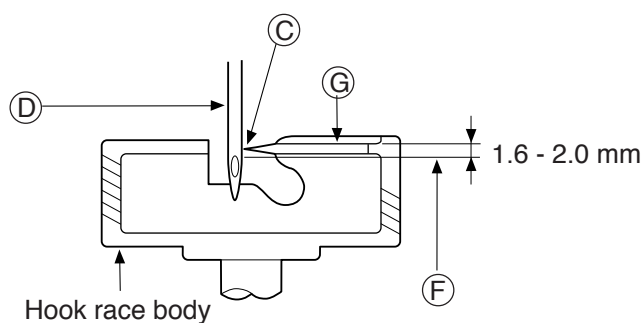
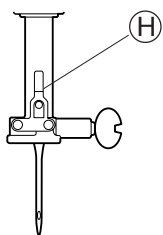
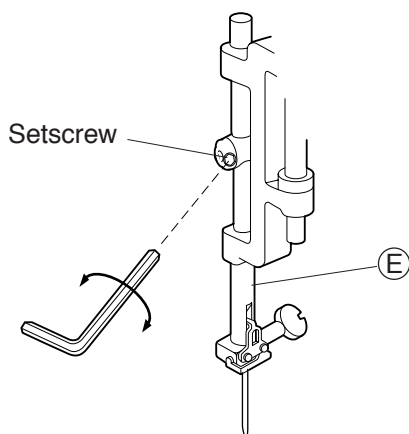
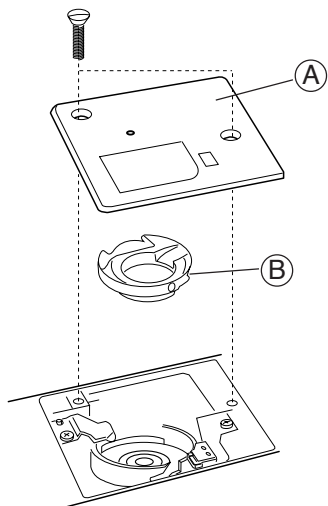


1. Remove the belt cover, bed cover, base cover, base lid (1) and base lid (2).
2. Remove the presser foot, Needle plate (A) and Bobbin holder (B).
3. Lower the needle bar at its lowest position (F) by turning the handwheel toward you.
4. Raise the needle bar 3.4 mm up from the lowest position.
5. Loosen the Screws (C) of lower shaft gear, turn the Lower shaft gear (D) until the tip of rotary hook meets with the left side of the Needle (E). Tighten screw (2 pieces) (C) of the lower shaft gear.
6. Attach the Bobbin holder, Needle plate, presser foot and Needle.
7. Attach the base lid (2), base lid (1) base cover, bed cover and belt cover.

- (A) Needle plate
- (B) Bobbin holder
- (C) Screw
- (D) Lower shaft gear
- (E) Needle
- (F) Lowest position

Adjusting Needle Bar Height

The standard distance between the top of the needle eye and the upper surface of the hook race should be in the range of 1.6 - 2.0 mm when the rotary hook meets the left side of the needle in ascending travel of needle from its lowest position.

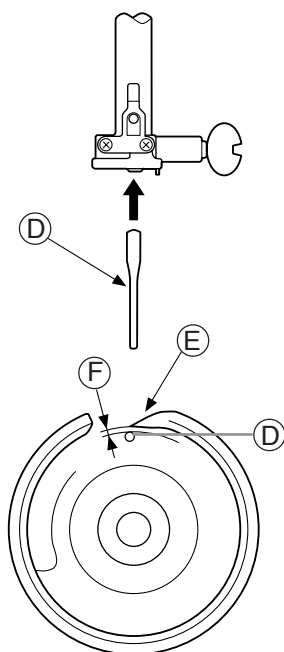
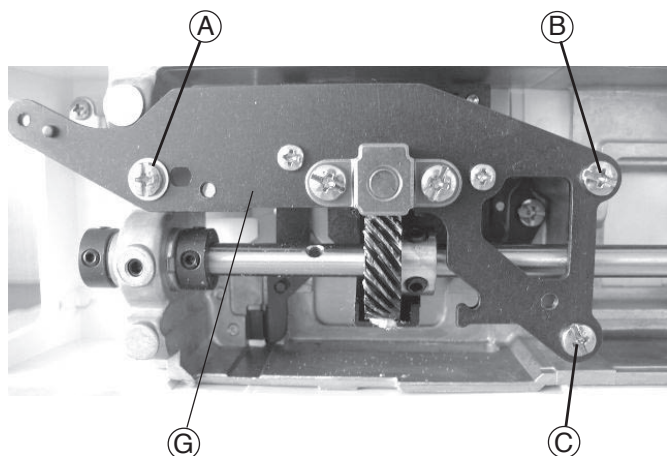


1. Remove the presser foot, Needle plate (A) and Bobbin holder (B).
2. Remove the face cover.
3. Turn the handwheel to raise the needle bar from the lowest position until the tip of the rotary hook (C) meets with the left side of the needle (D). Turn the handwheel to raise the needle bar further 1.8 mm.
4. Loosen the Setscrew.
5. Move the Needle bar (E) up or down to align the Top of the needle eye (F) with the Upper surface of the hook race (G).
6. Tighten the Screw. Be sure that the Groove (H) on the needle bar is facing right in the front.
7. Attach the Bobbin holder (B), Needle plate (A) and presser foot.
8. Attach the face cover.

- (A) Needle plate
- (B) Bobbin holder
- (C) Rotary hook
- (D) Needle
- (E) Needle bar
- (F) Top of the needle eye
- (G) Upper surface of hook race

Adjusting Clearance between Needle and Hook

The clearance between needle and rotary hook should be - 0.1 to + 0.05 mm.



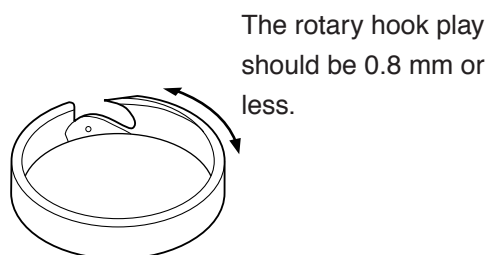
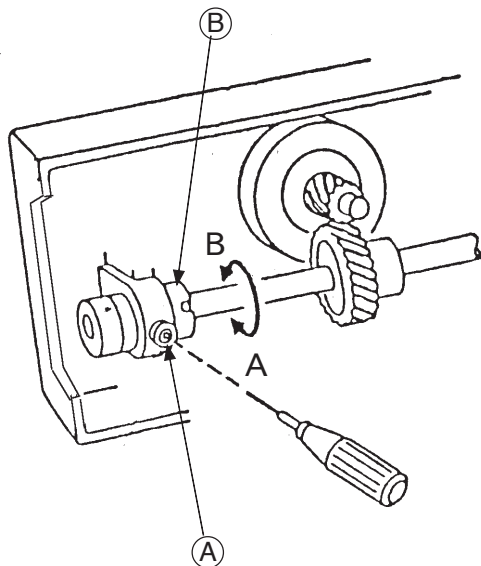
1. Remove the needle plate, bobbin holder, base cover and bed cover (See pages 3 - 4).
Replace the needle with the Test pin (D).
 2. Loosen Screws (A) , (B) , (C) temporarily and retighten Screw (B) slightly.
 3. Turn the handwheel to bring the tip of the rotary hook behind the test pin (D).
 4. Adjust the clearance between the test pin (D) and the Tip of rotary hook (E) to - 0.1 to + 0.05mm (F) by moving the Rotary hook set plate (G) up or down.
Tighten the Screws (A) , (B) , (C) firmly.
 5. 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)
- Note:** Do not move the rotary hook set plate in a lateral direction, otherwise the hook timing will change.
6. Reattach the needle.
Reattach the bed cover, base cover, base lid, bobbin holder, needle plate and needle.

- (A) Screw
- (B) Screw
- (C) Screw
- (D) Test pin
- (E) Tip of rotary hook
- (F) -0.1 to +0.05 mm
- (G) Rotary hook set plate

Adjusting Backlash between Hook Drive Gear and Lower Shaft Gear

The rotary play of the hook should be 0.8 mm or less.

Adjust the backlash after the adjustment of the clearance between needle and rotary hook.



To check:

1. Turn the power switch "OFF".
2. Remove the base cover, bed cover, needle plate and bobbin holder.
3. Jog the hook race with fingers to check the rotary play.
"If the play is larger than 0.8 mm or the gears do not turn smoothly, adjust the backlash as follows".

Adjustment procedure:

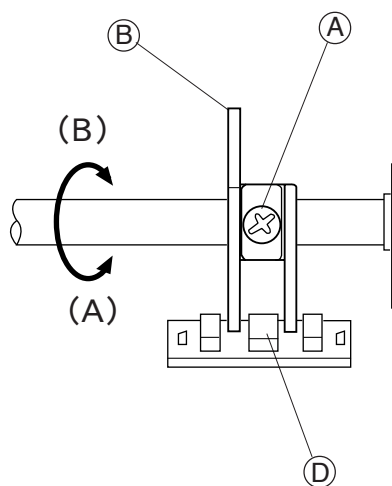
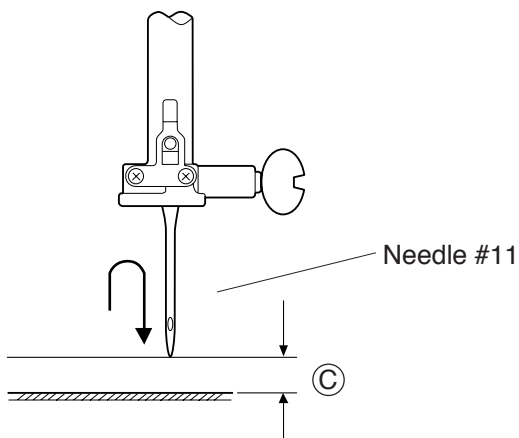
1. Remove the bed cover (See page 4) and loosen the Screw (A).
2. Turn the Lower shaft bushing (B) (Eccentric), in the direction "B" when the play at shuttle hook tip is too small.
3. Turn the Lower shaft bushing (B) (Eccentric), in the direction "A" when the play at shuttle hook is too large.
4. Tighten Screw (A) securely after adjustment.

Note: Do not move the lower shaft bushing in a lateral direction, otherwise the torque of the lower shaft will change.

- (A) Screw
- (B) Lower shaft bushing

Adjusting Height of the Needle Stop Position

The standard height of needle stop position should be 14.2 mm above the needle plate surface when the machine is topped.

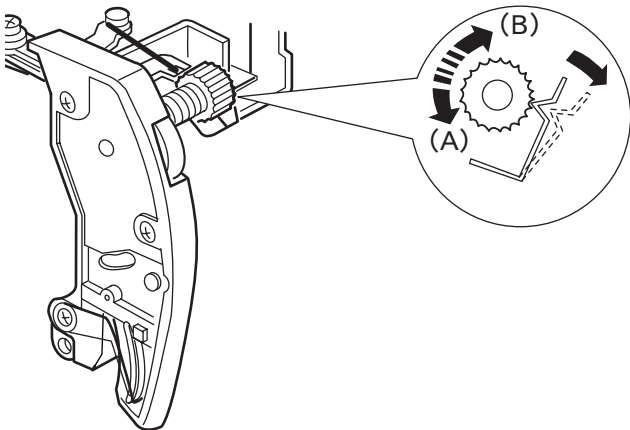


1. Remove the front cover unit. (See page 6)
2. Turn the power switch "ON" and press Start / Stop button twice.
Stop the machine with the needle in the up position.
3. (A) If the needle stops higher than 14.2 mm (C), loosen Screw (A) and turn the Upper shaft shield plate (B) in the direction of (A).
(B) If the needle stops lower than 14.2 mm (C), loosen Screw (A) and turn the Upper shaft shield plate (B) in the direction of (B).
4. Place the right side of the Upper shaft shield plate in the center of the slit of the Upper shaft sensor (D) and tighten Setcrew (A).
5. Press the Start/Stop button twice to check the height of the needle stop position.
6. Attach the front cover.

- (A) Screw
- (B) Upper shaft shield plate
- (C) Needle height (14.2 mm)
- (D) Upper shaft sensor

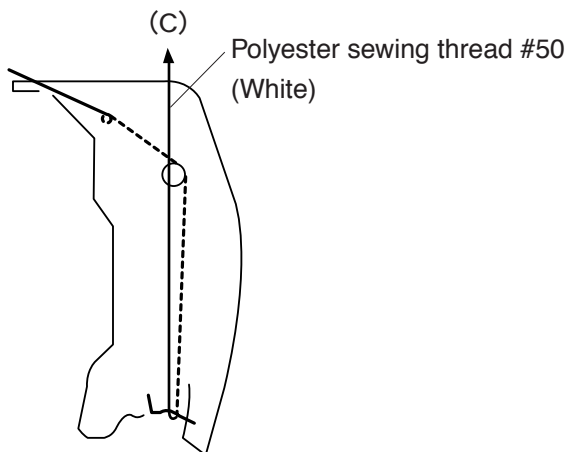
Adjusting Thread Tension

The standard upper thread tension should be 51 to 59 grams when the tension dial is set at "3", measured with a #50 polyester thread being pulled at approximately 110 mm/sec. in the direction of arrow.



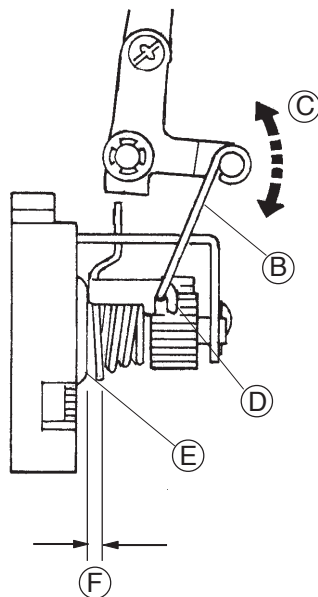
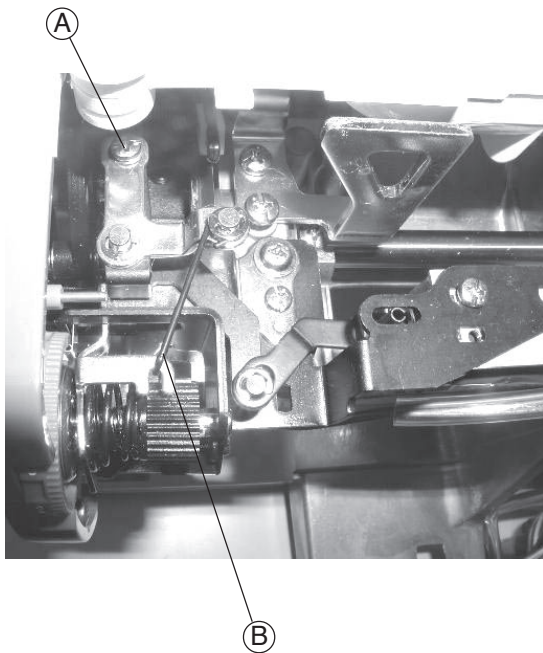
1. Set the tension dial at " 3 ".
2. Lower the presser foot.
3. Remove the front cover unit (See P. 6).
3. If the thread tension is more than 59g, turn the lead screw in the direction (A).
4. If the thread tension is less than 51g, turn the lead screw in the direction (B).

(C) Pulling direction: (Pulling speed 110 mm/ Sec.)



Adjusting Tension Release Mechanism

When the presser foot lifter is raised, the tension release mechanism should work correctly. If not, adjust as follows.

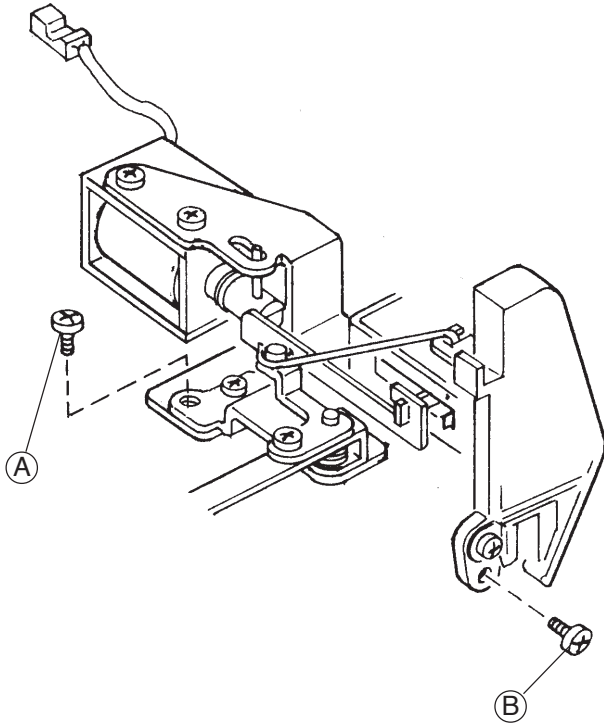


- 1 Remove the front cover unit. (see page 6)
- 2 Lower the presser foot lifter, set the thread tension dial at "9" and loosen the Screw (A).
- 3 Adjust the play between the tension release rod (2) (B) and the Spring holder (D) approximately 0.3 - 0.5 mm and tighten the Screw (A).
- 4 Raise the presser foot lifter, turn the thread tension dial from "9" to "0", make sure the tension disc (E) should open 1.0 mm (F).
- 5 Reattach the front cover unit.

- (A) Screw
- (B) Tension release rod (2)
- (C) Play (0.3 - 0.5 mm)
- (D) Spring holder
- (E) Tension disc
- (F) Clearance (approximately 1.0 mm)

Changing Thread Tension Unit

Replacing the thread tension unit



To remove:

1. Remove the front cover unit. (see page 6)
2. Remove Screws (A) and (B).
3. Remove the thread tension unit.

To attach:

4. Follow the above procedure in reverse.

Note: After the replacement, adjust “Thread Tension Release Machanism” and Solenoid.

(A) Screw

(B) Screw

Replacing Threader Plate and Adjustment

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

To replace (Fig. 1):

1. Remove the presser foot.
2. Push down the Threader supporter plate (A) to remove from the Pin (B). (Fig. 1)
3. To attach the threader supporter plate, match the groove of the Threader supporter plate (A) with the pin (B), and then push it up to insert.

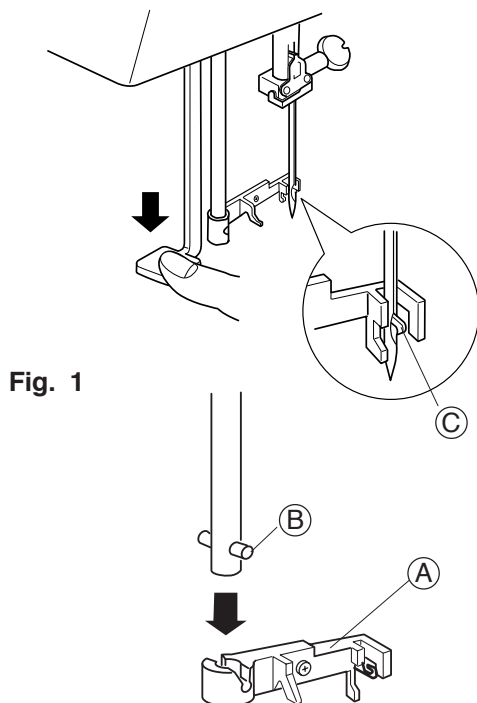


Fig. 1

- (A) Threader supporter plate
- (B) Pin
- (C) Hook
- (D) Threader plate
- (E) Screw
- (F) Screw
- (G) Setting position plate

If the hook on the threader plate is not aligned with needle eyes, adjust it by following the instructions below.

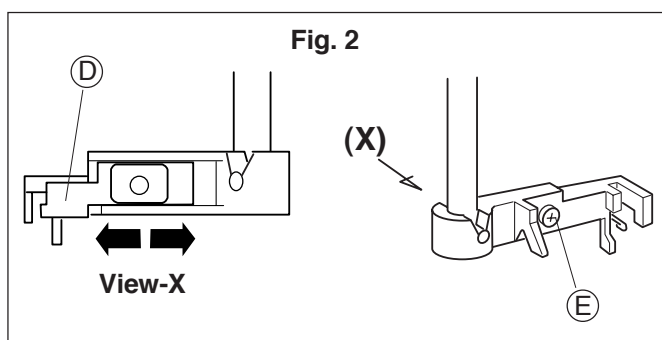


Fig. 2

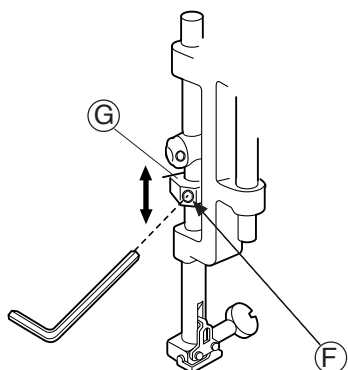
Adjusting threader plate position (Fig. 2):

1. When the Hook (C) is slightly touching the needle eye, loosen Screw (E) and adjust the Threader plate (D) as shown.

If the hook position is too high or too low (Fig. 3):

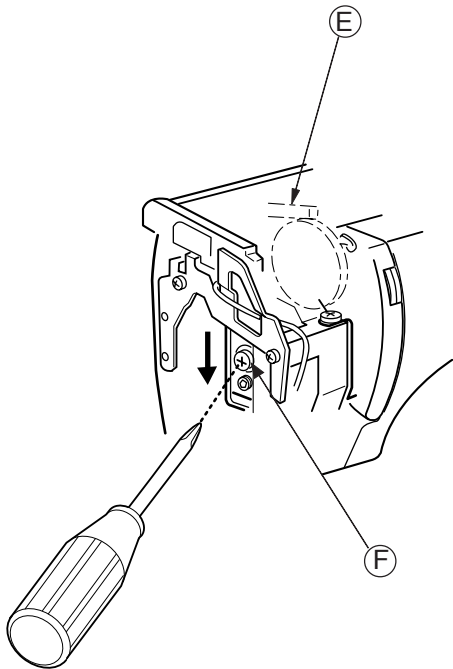
1. Remove the face cover.
2. If the hook is too high, loosen the Screw (F) and lower the Setting position plate (G).
If the hook is too low, loosen Screw (F) to slide up the Setting position plate (G).

Fig. 3



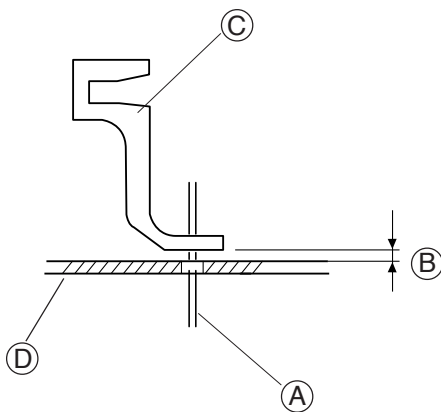
Adjusting Height of Embroidery Foot P

Attach the Foot (P), and the space between the needle plate and the bottom surface of the Foot (P) should be 1.0 to 1.6 mm, when the needle bar is at its lowest position.



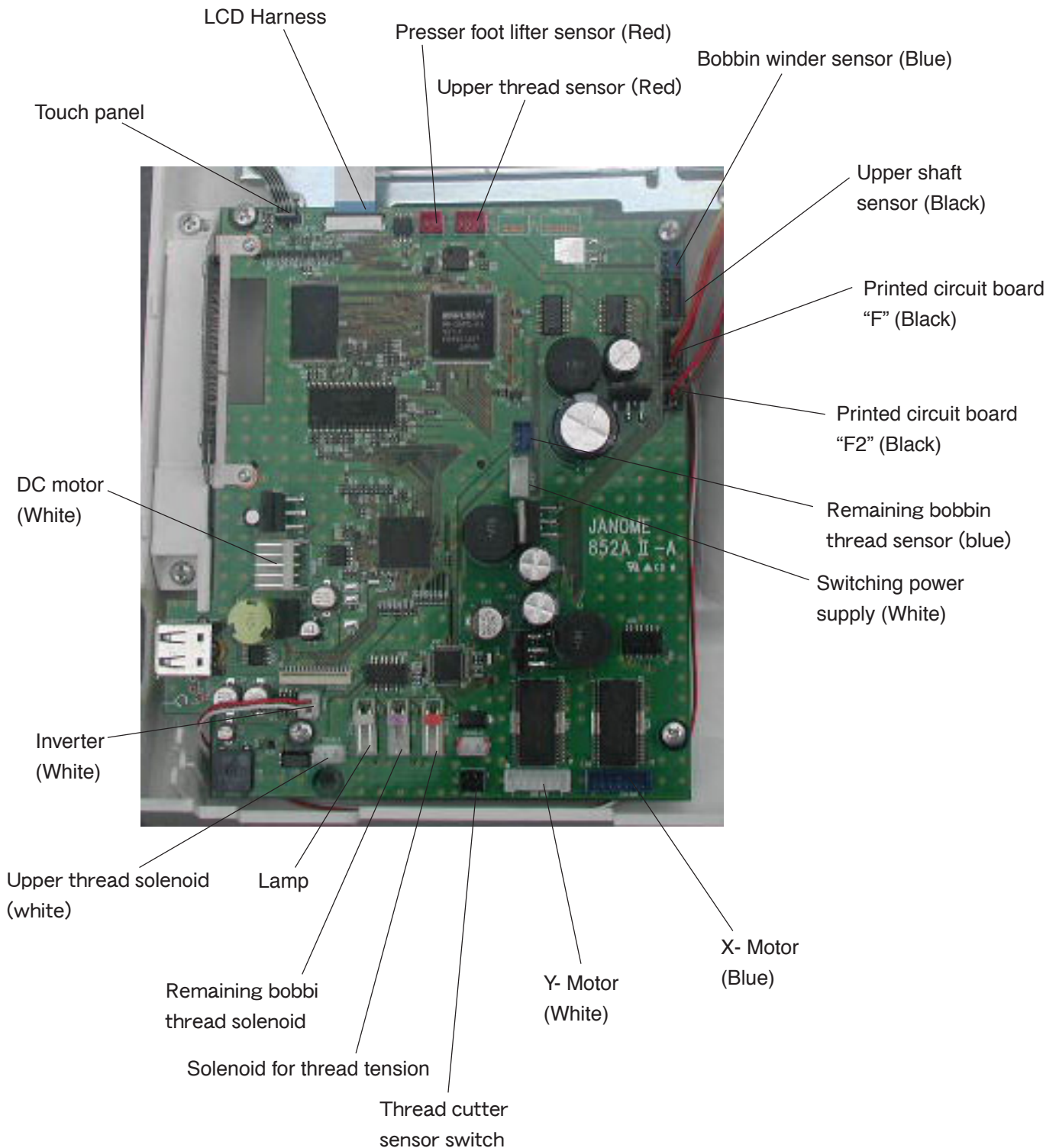
1. Remove the rear cover unit.
(See page 7)
2. Lower the Needle (A) and lower the presser foot lifter.
3. Insert the 1.2 mm Feeler gauge (B) between the Embroidery Foot (P) (C) and the Needle plate (D).
4. While pressing the Presser bar actuator (E) down against the upper shaft cam, loosen the Screw and push it down in the direction of arrow, then tighten Screw (F) again.
5. Reattach the rear cover unit.

- (A) Needle
- (B) 1.2 mm
- (C) Embroidery front (P)
- (D) Needle plate
- (E) Presser bar actuator
- (F) Screw



Connector Connection Diagram

Please see the following connector connection diagram for the printed circuit board “A” (Main board).



Replacing Printed Circuit Board “A” (Main board)

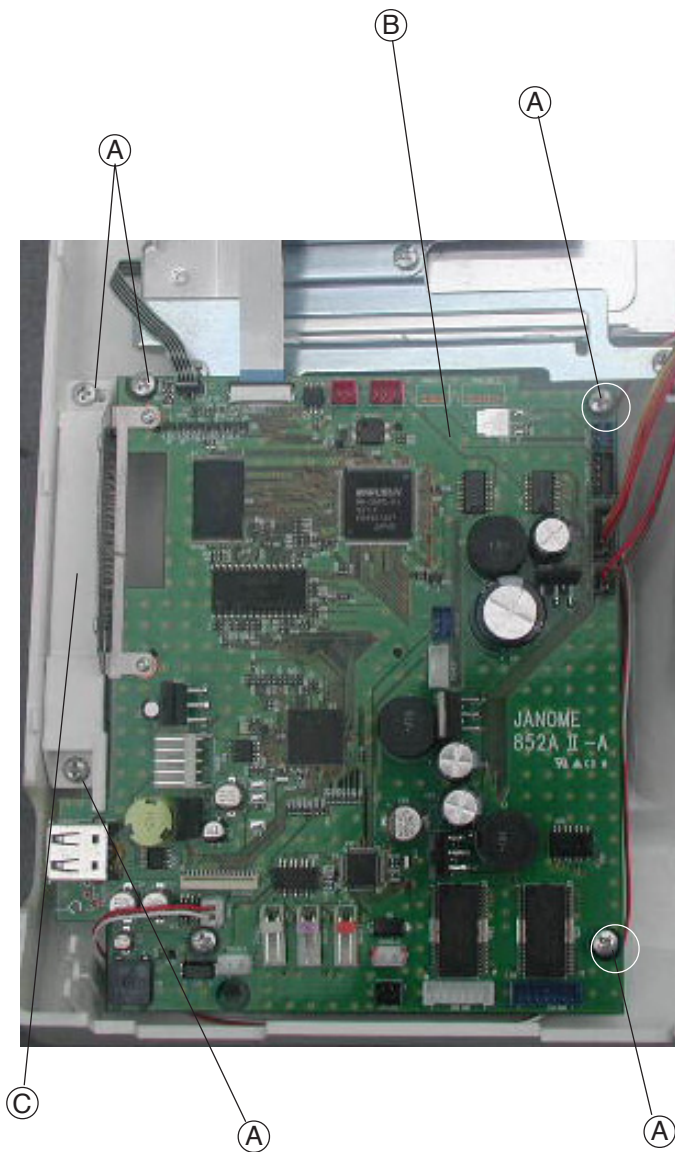
To remove:

1. Remove the front cover. (See page 6)
2. Pull out the connectors of printed circuit board F LCD Harness, Inverter and Touch panel.
3. Remove Screws (5 pieces) (A) and the Printed circuit board “A” (Main board) (B) with the Card guide (C).

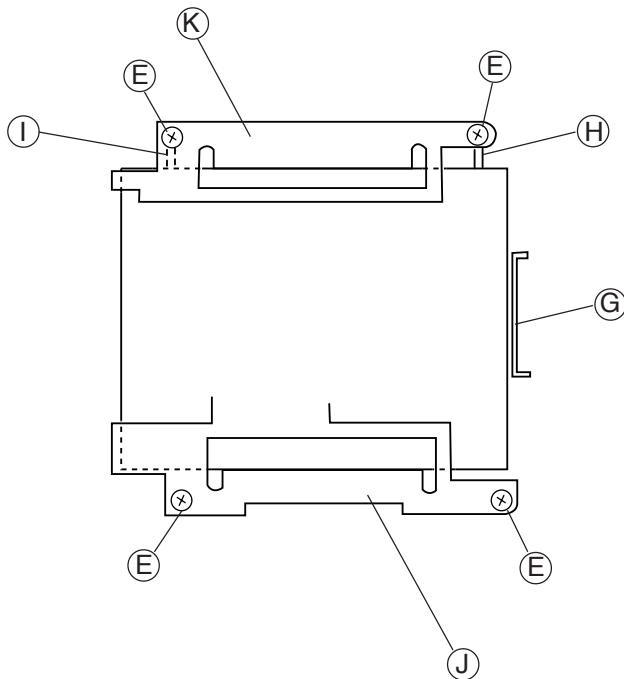
To attach:

4. Follow the above procedure in reverse.

- (A) Screws
- (B) Printed circuit board A
- (C) Card guide



Replacing Touch Panel

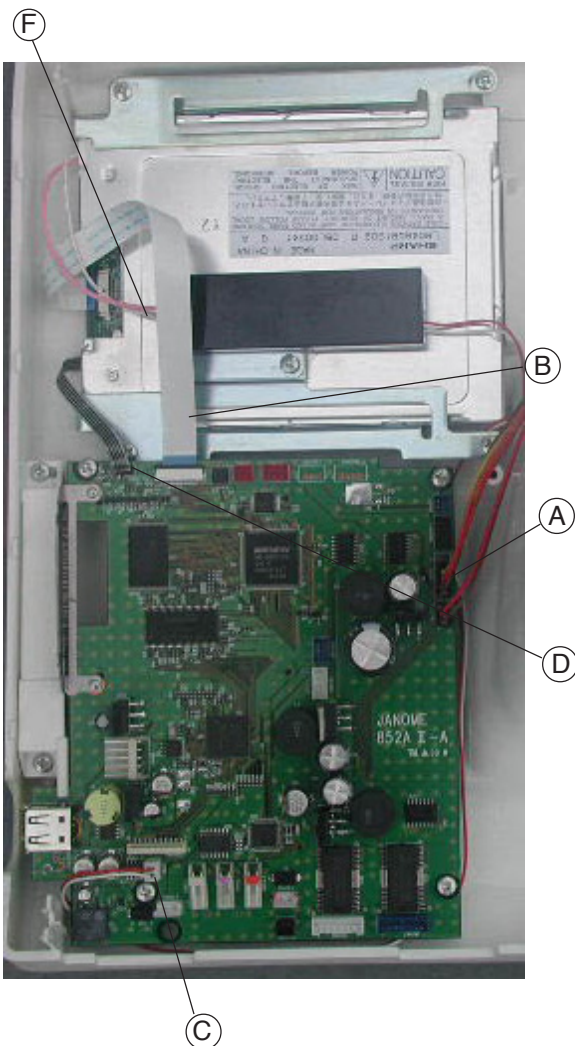


To remove:

1. Remove the front cover. (See page 6)
2. Pull out the Connectors of Printed circuit board "F" (Start/Stop) (A), LCD Harness (B) and Inverter connector (C) and Touch panel connectors (D).
3. Remove Screws (E) (4 pieces) and remove the Touch panel (F).

To attach:

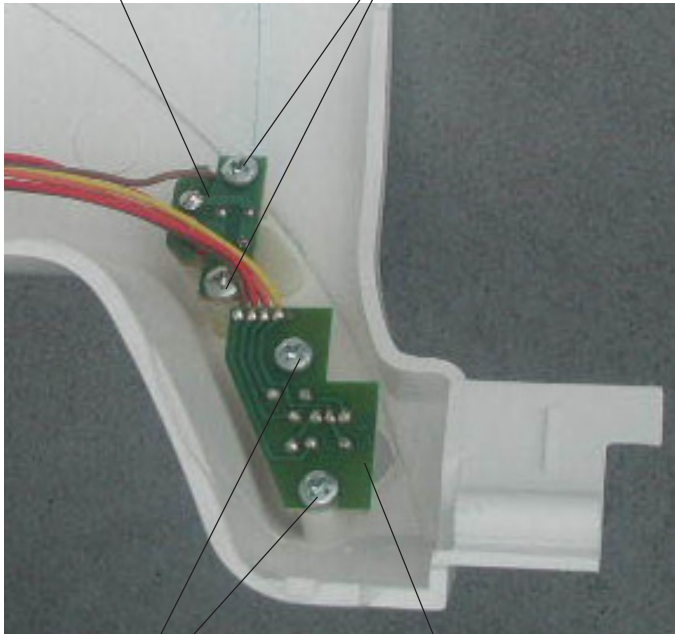
4. Place the Touch panel (F) and press it against the Ribs (G), (H), (I).
Fix the Touch panel (F) with the Fixing plate (bottom) (J) while press it against the Touch panel (F) and tighten screws (E).
5. Place the Fixing plate (top) (K) and secure it with Screws (E) while pressing the Fixing plate (top) (K) against the Touch panel (F).



- (A) Printed circuit board F
- (B) LCD Harness
- (C) Inverter connector
- (D) Touch panel connector
- (E) Screws
- (F) Touch panel
- (G) Rib
- (H) Rib
- (I) Rib
- (J) Fixing plate (bottom)
- (K) Fixing plate (top)

Replacing Printed Circuit Board “F” & “F2”

Printed circuit board F2



(A)

Printed circuit board F

To remove:

1. Remove the front cover. (See page 6)
2. Pull out the connector from the printed circuit board “A” (Mainboard).
3. Remove Screws (A) (2 pieces) and remove the Printed circuit board “F” (Start/Stop) (B) .

To attach:

4. Follow the above procedure in reverse.

To remove:

1. Remove the front cover. (See page 6)
2. Pull out the connector from the printed circuit board “A” (Mainboard).
3. Remove Screws (B) (2 pieces) and remove the Printed circuit board “F2” (Start/Stop) .

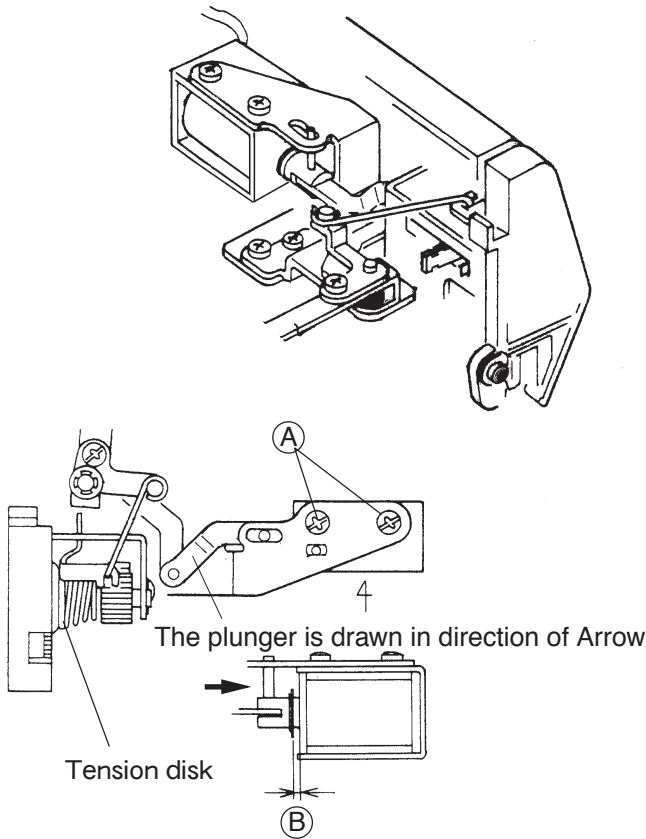
To attach:

4. Follow the above procedure in reverse.

(A) Screws

(B) Screws

Adjustment of the Solenoid



1. Remove the front cover. (see page 6)
2. Loosen the setscrews (A).
3. Adjust the clearance of Solenoid 1.6 mm (B) with the tension disk closed.
4. Tighten the setscrew (A).

- (A) Setscrews
- (B) Clearance of solenoid

Replacing DC Motor and Motor Belt Tension Adjustment

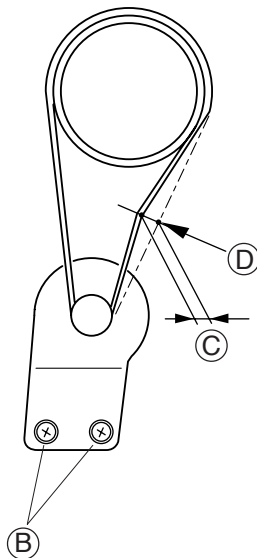
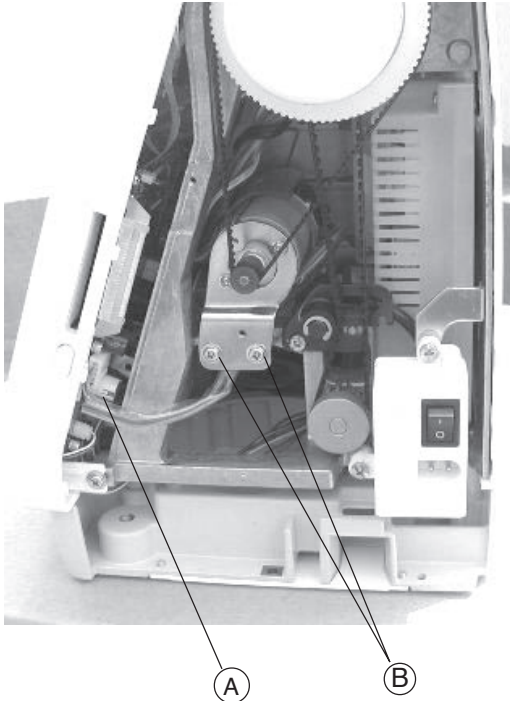
Replacing DC Motor

1. Remove the belt cover. (See page 2)
2. Remove the motor belt.
3. Remove the Motor connector (A) from the printed circuit board "A" (Main board).
4. Remove Screws (B) (2 pieces) and replace the motor.
5. Attach the motor and tighten Screws (B) (2 pieces) slightly.

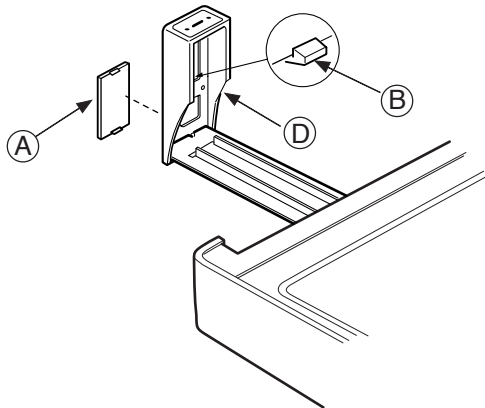
Adjusting motor belt tension

1. Adjust the Belt deflection to about 5.0 mm (C) by pressing the middle of the motor belt with your finger with approximately 200 grams (D) of pressure.

- (A) Motor connector
- (B) Screws
- (C) Belt deflection (5 mm)
- (D) Motor belt pressure (200 gram)

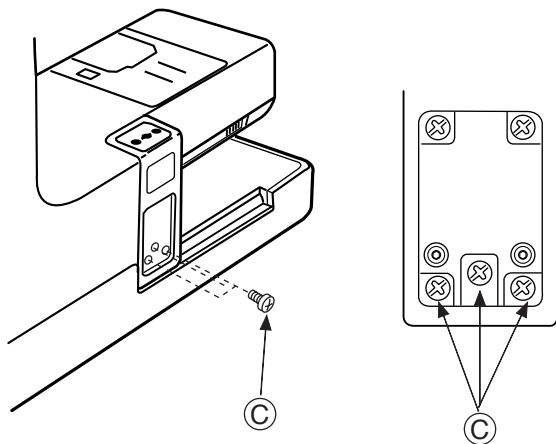


Replacing Carriage Plate (Unit)



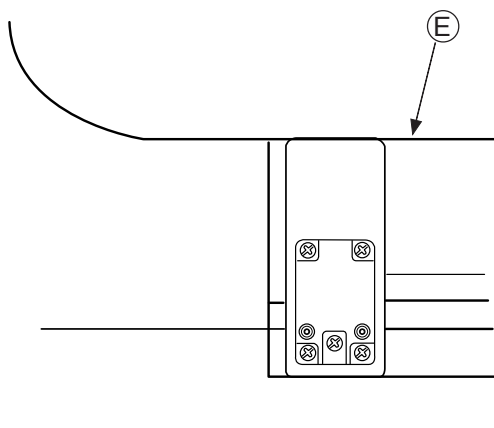
To remove:

1. Turn the power switch "ON" and select the pattern No.1.
2. Turn the power switch "OFF" and remove the Cover cap (A). (Unlock the hook (B) from the inside.)
3. Turn the power switch "ON" to return the carriage to the home position.
4. Remove Screws (C) (3 pieces) and remove the Carriage plate (unit) (D).



To attach:

5. Attach the Carriage plate (unit) (D) and tighten screws (C) temporarily.
6. Adjust the top surface of the carriage plate and the Arm surface (E) are parallel and the same level, securely tighten Screws (C).
7. Attach the cover cap (A).

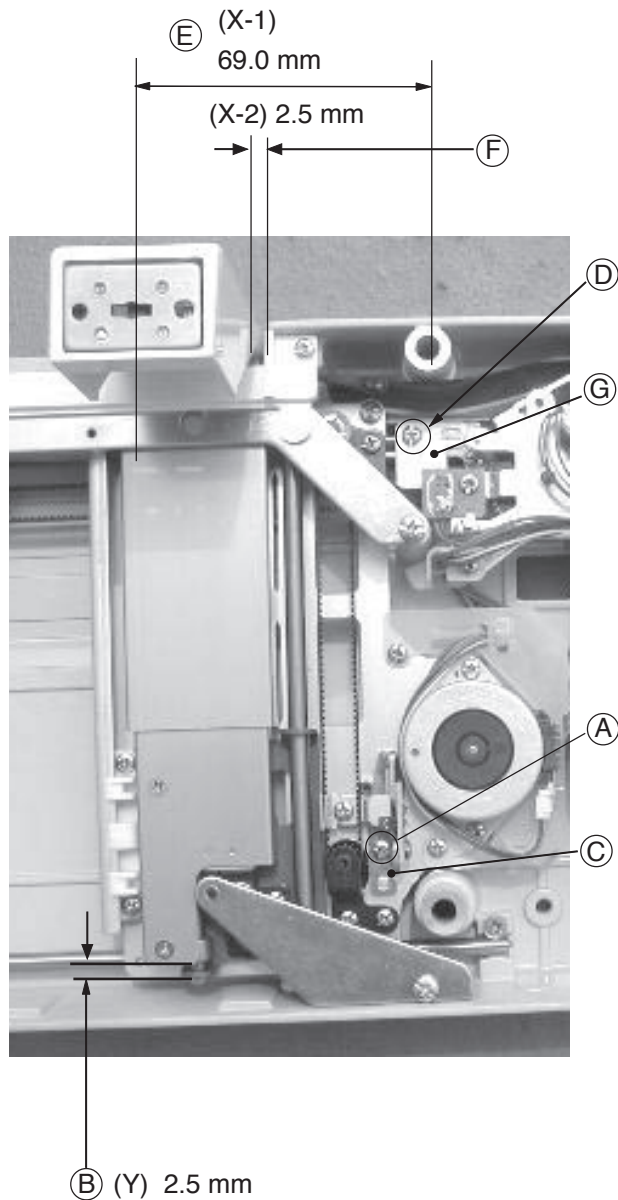


- (A) Cover cap
- (B) Hook
- (C) Screws
- (D) Carriage plate (unit)
- (E) Arm surface

Adjusting X and Y Sensors

To adjust X and Y sensors:

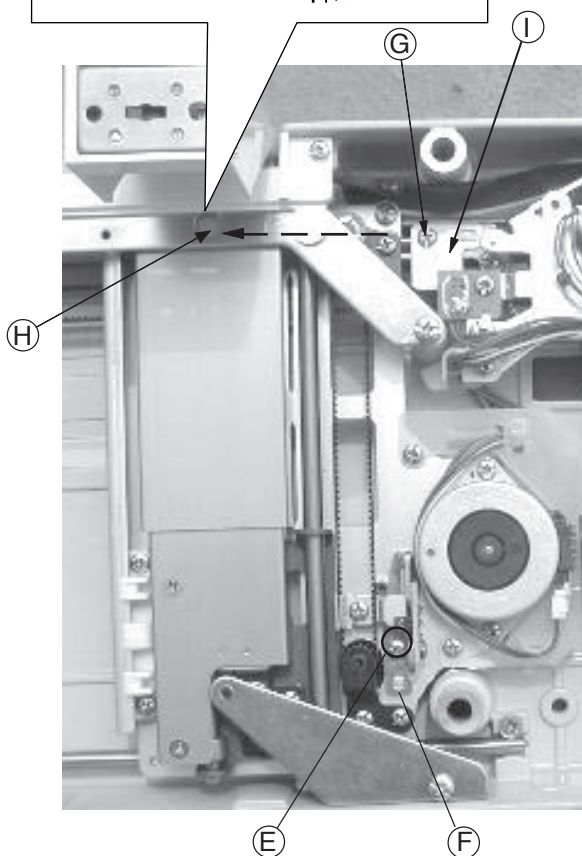
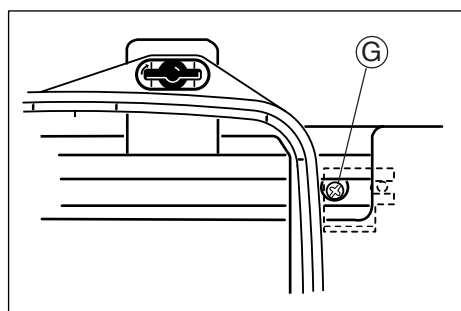
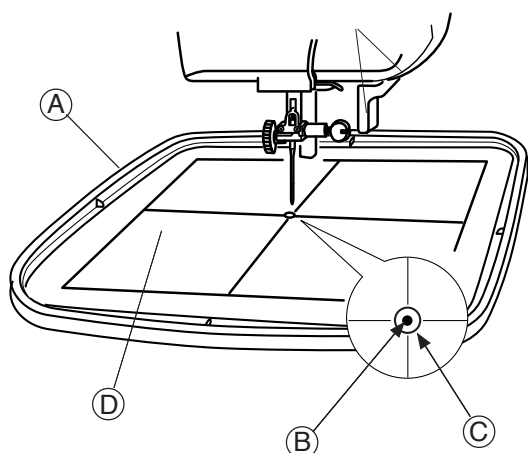
1. Turn the power "ON" to return the carriage to the home position.
2. Turn the power "OFF" and then remove the base unit.
3. Loosen Screw (A) and adjust dimension "Y" (B) to 2.5 mm by moving the Y Sensor attaching plate (C).
4. Loosen Screw (D) to adjust Dimension "X-1" (E) to 69.0 mm and Dimension "X-2" (F) to 2.5 mm by moving the X Shield plate (G).
5. Tighten Screws (A) and (D).
6. Attach the base.



- (A) Screw
- (B) Dimension Y (2.5mm)
- (C) Y sensor attaching plate
- (D) Screw
- (E) Dimension X-1 (69.0 mm)
- (F) Dimension X-2 (2.5 mm)
- (G) X shield plate

Adjusting X and Y Sensors (Simple Adjustment)

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

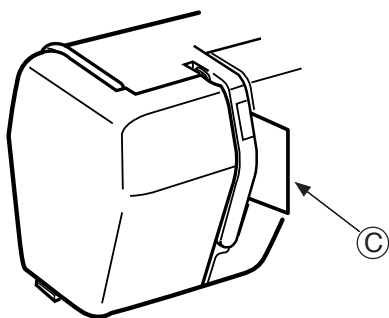


1. Remove the base cover.(see page 3)
2. Remove the presser foot and attach the Embroidery hoop "A" (A).
3. Turn the power "ON" and select the pattern No.1
4. Turn the handwheel by hand to check that the Needle (B) drops into the Starting position (C) on the Template (D).
5. Turn the power switch "OFF".
6. If the needle position shifts in Y-direction, loosen the screw (E) and move the Y-sensor fixing plate (F) to adjust the needle position.
7. If the needle position shifts in X direction, loosen Screw (G) through the sheet cover fixing plate (H) hole and adjust the X shield plate position (I).
8. Turn the power "ON" and select pattern No.1, then check the start position.
9. Return the carriage to the home position and turn the power "OFF".
- 10.Remove the Template and the Embroidery hoop then reattach the presser foot and base cover.

- (A) Embroidery hoop A
- (B) Needle
- (C) Starting position
- (D) Template
- (E) Screw
- (F) Y-sensor fixing plate
- (G) Screw
- (H) Sheet cover fixing plate
- (I) X shield plate position

Adjusting Carriage Motor Gear

If the carriage motor gear sounds noisy when sewing the embroidery stitches, follow the instructions below.



1. Remove the base unit (See page 5).
2. Remove Screw (A) and Nylon clip (B).
3. Attach the X and Y motor connectors to printed circuit board "A" (Main board).
4. Turn the power "ON" and select large "A" in Gothic style and memorize it 3 times.

6. Lower the presser foot after the carriage moves to the starting position.

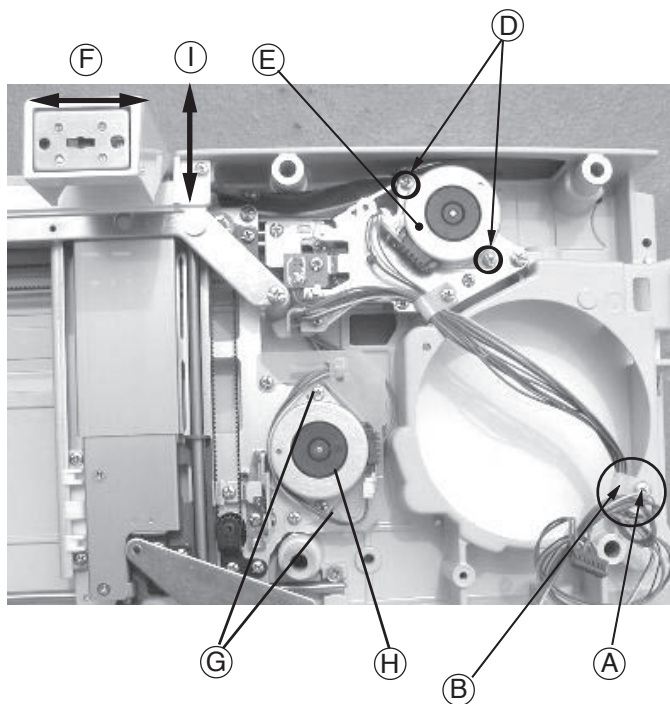
7. Insert a piece of paper (C) between the thread tension disks as shown so that the needle thread sensor will not work.

8. Run the machine and loosen Screws (D) (2 pieces) and move the X-Motor (E) to detect the quietest position, while the carriage is moving in lateral direction (F) then tighten Screws (D).

9. Run the machine and loosen Screws (G) (2 pieces) and move the Y-Motor (H) to detect the quietest position, while the carriage is moving in vertical direction (I) then tighten Screws (G).

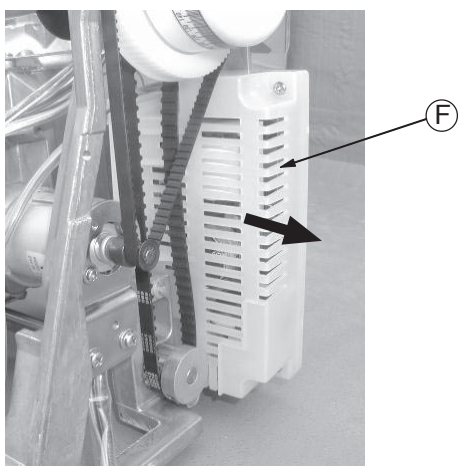
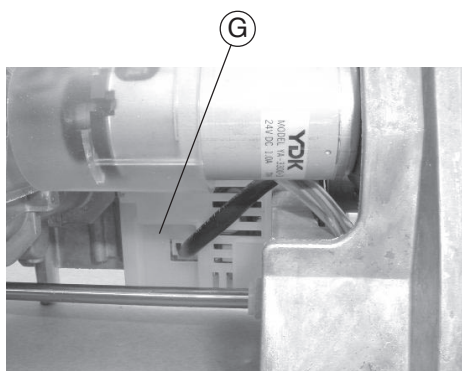
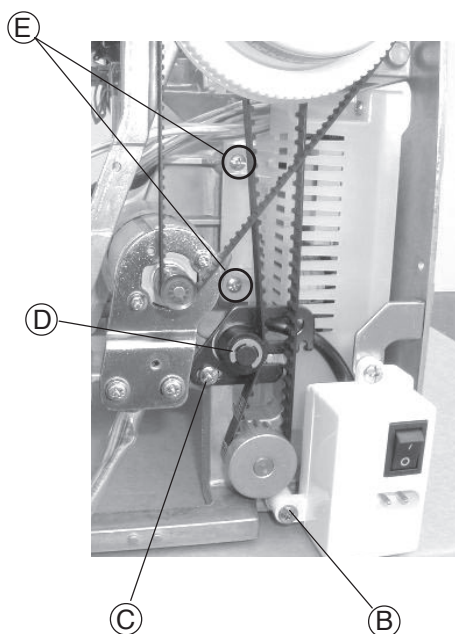
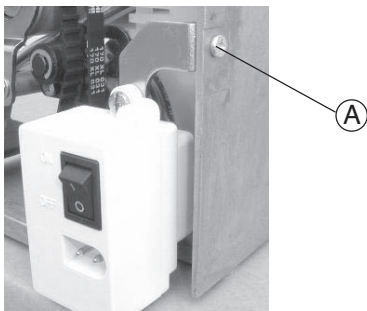
10. Return the carriage to the home position and turn the power "OFF". Reattach the base unit.

- (A) Screw
- (B) Nylon clip
- (C) Piece of paper
- (D) Screws
- (E) X-motor
- (F) Carriage (moving in lateral direction)
- (G) Screws
- (H) Y-motor
- (I) Carriage (moving in vertical direction)



Replacing Switching Power Supply

Replacement of Switching Power Supply



To remove:

1. Remove the face cover, belt cover, front cover and rear cover.
2. Remove Screws (A) , (B) and remove the machine socket and fixing plate.
3. Pull out the Machine socket unit connector (G).
4. Remove Screw (C) and remove the Idler (D) .

Note: Make sure not to disengage the teeth on the timing belt and timing gears to prevent the hook timing from going out of adjustment.

5. Remove Screws (E) (2 pieces) and take out Switching power supply (F).

To attach:

6. Follow the above procedurte in reverse.
7. Move the Idler to adjust the Belt deflection to about 4.0 mm by pressing the middle of the Timing belt with your finger with approximately 100 grams of pressure.

- (A) Screw
- (B) Screw
- (C) Screw
- (D) Idler
- (E) Screws
- (F) Switching power supply
- (G) Machine socket unit connector

Caution: If the fuse on the switching power supply is blown, critical electronic elements of the power supply could be damaged. Do not replace the fuse but replace the power supply to prevent subsequent damage to the printed circuit board "A" (Main board) or other electronic comporments.