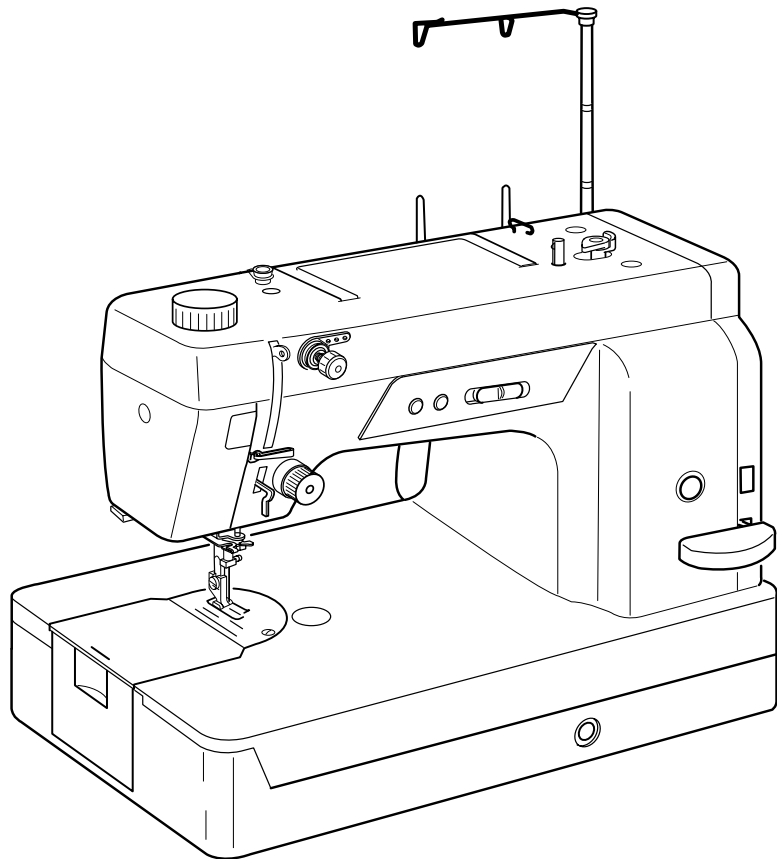


PFAFF®

hobby GrandQuilter

1200



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Foreword

The purpose of this service manual is to assist you in quick and correct repairing of the machines. Adjustments should only be made if the settings deviate from the requirements described herein. When checking or adjusting a machine, always proceed in the order of the work steps prescribed. For easier reference every work step is marked with a dot.

When assembling dismantled machines, adjust the machine to approximately the right settings. This facilitates the subsequent fine adjustments.

Unless otherwise specified, the hand wheel must always be turned forward.

When carrying out maintenance work on live parts or in their proximity, the machine is to be separated from the power supply by unplugging the lead cord from the electrical socket.

For the proper adjustment of the machine, the following gauges and tools are required:

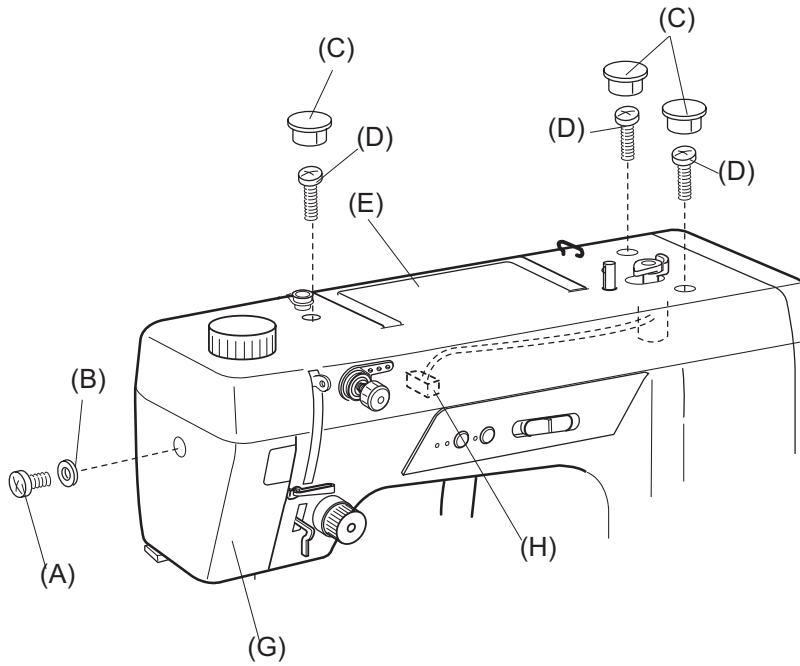
1,5 mm Allen key	07-433 005-28/000
2 mm Allen key	07-433 005-30/000
2.5 mm Allen key	07-433 005-40/000
Phillips Size 0 - small	07-434 001-15/000
Phillips Size 1 - medium	07-434 001-18/000
Phillips Size 2 - big	07-434 001-20/000

Subject to alterations in design and dimensions.

Replacing the External Parts

Face Plate

Remove the setscrew (4 x 10) (A) and washer (B).
Remove the face plate (G).

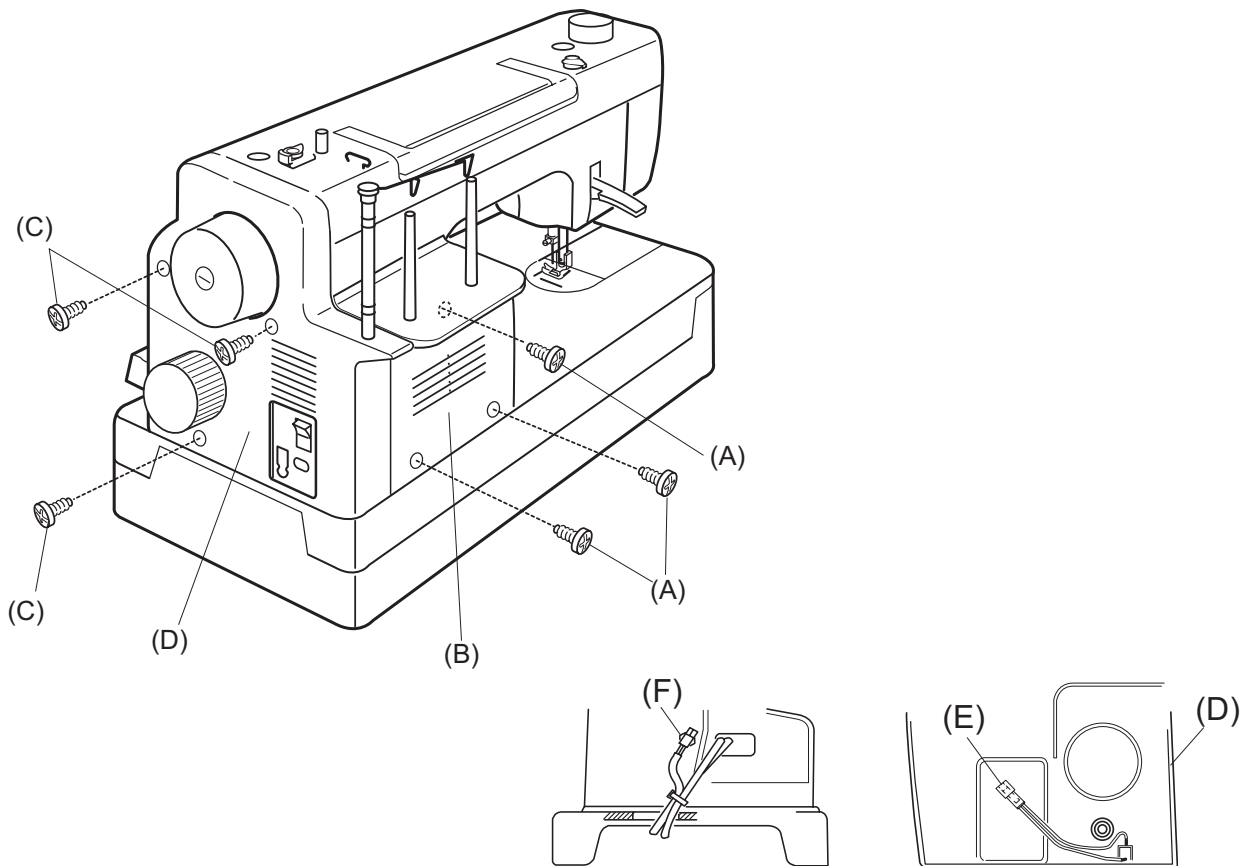


Top Cover

Remove the caps (C) and setscrews (4 x 25) (D).
Lift the top cover (E) and pull out the motor connector (H).

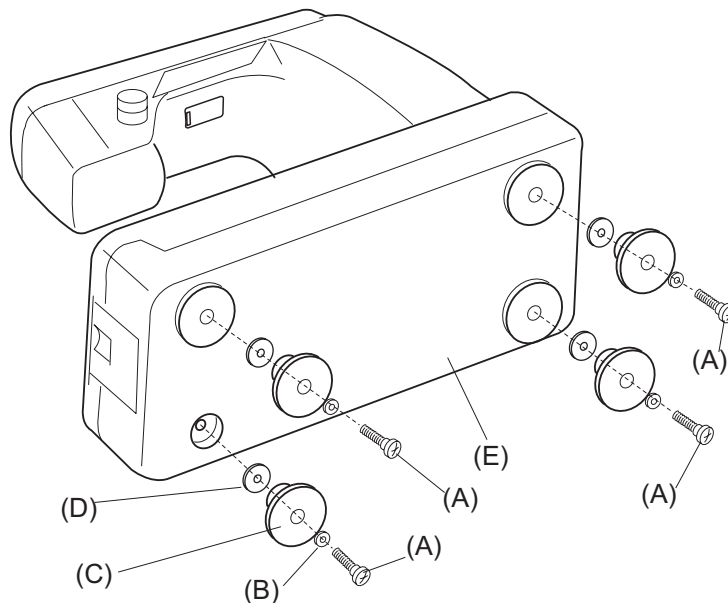
Belt Cover

- Remove the 3 setscrews (4 x 12) (C) and remove the belt cover (D).
- Pull out the socket connector from the printed circuit board UD connector .
- NOTE: When attaching the belt cover, engage the hooks with the motor cover.



Motor Cover

- Remove the Belt cover (D) first
- Remove the 3 setscrews (4 x 12) (A) and remove the motor cover.



Base

- Remove the 4 hinge screws (A), washers (B), rubber feet (C) and base washers (D).
- Remove the base (E)
- To attach, follow the above procedures in reverse.

Adjustment of the needle bar height

Requirement

When the needle bar (D) is in its lowest position the upper hairline (A) of the needle bar should match up with the bottom edge of the needle bar bushing (B).

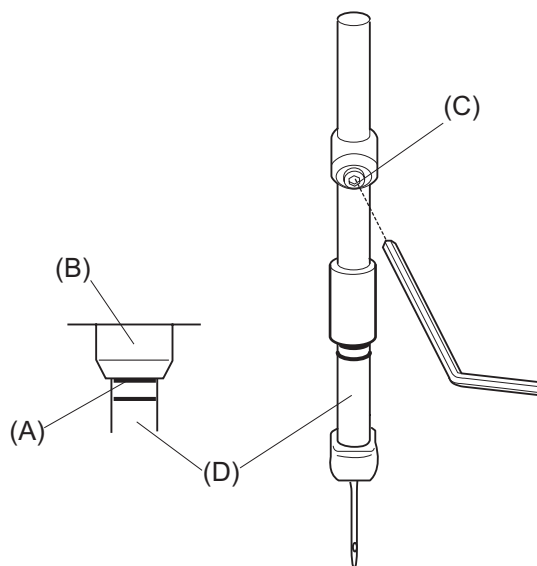
Check

- Turn the hand wheel toward you the needle bar is in its lowest position
- The upper hairline (A) of the needle bar should now match up with the bottom edge of the needle bar bushing (B).

Adjustment

- Remove the face plate.
- Turn the hand wheel toward you the needle bar is in its lowest position
- Loosen the screw (C).
- Move the needle bar (D) up or down match the upper hairline (A) with the bottom edge of the needle bar bushing (B).
- Tighten the screw (C). When tightening the screw (C) be sure not to rotate the needle bar. The needle clamp screw should be parallel to the upper shaft.
- Attach the face plate.

NOTE! After this adjustment is done, check "**Adjusting Needle threader**"



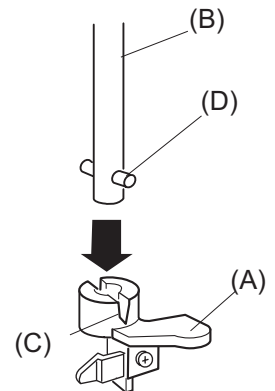
Replacing and Adjusting Needle threader

Requirement

When the needle threader is at its threading position, the treader hook must pass through a size 70 needle eye without hitting on top or bottom of the needle eye and have the same distance either to the left or to the right side of the needle eye.

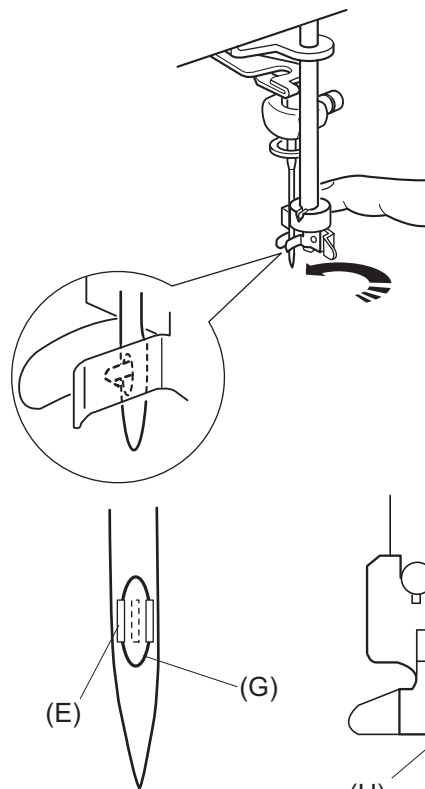
Replacing the needle threader

- Remove the face plate.
- Pull the threader (A) out from the threader shaft (B)
- Take the new needle treader and align the groove (C) with the pin (D) on the threader shaft.
- Push the threader up until it snaps in place.



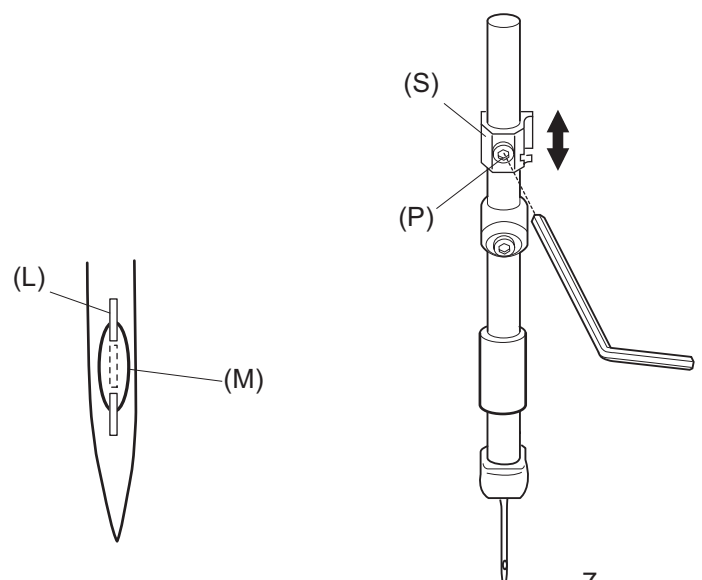
Adjustment sideways

- If the threader hook (E) hits against either left or right edge of the needle eye (G).
- Loosen the setscrew (H).
- Move the threader plate (K) to adjust the sideways position of the threader hook.
- Tighten the setscrew (H)



Adjustment High ways

- If the threader hook (L) hits against either top or bottom edge of the needle eye (M) or misses the needle eye (M)
- Loosen the setscrew (P) Move the threader position setting plate (S) up or down to adjust the vertical position of the threader hook (L).



Adjustment of the timing of the hook in relation to the needle

Requirement:

The needle should travel 2 mm from its lowest position (D) before the lower hairline (A) on the needle bar exactly meets the edge of the needle bar bushing (B) then must the hook point (C) line up to the right side of the needle.

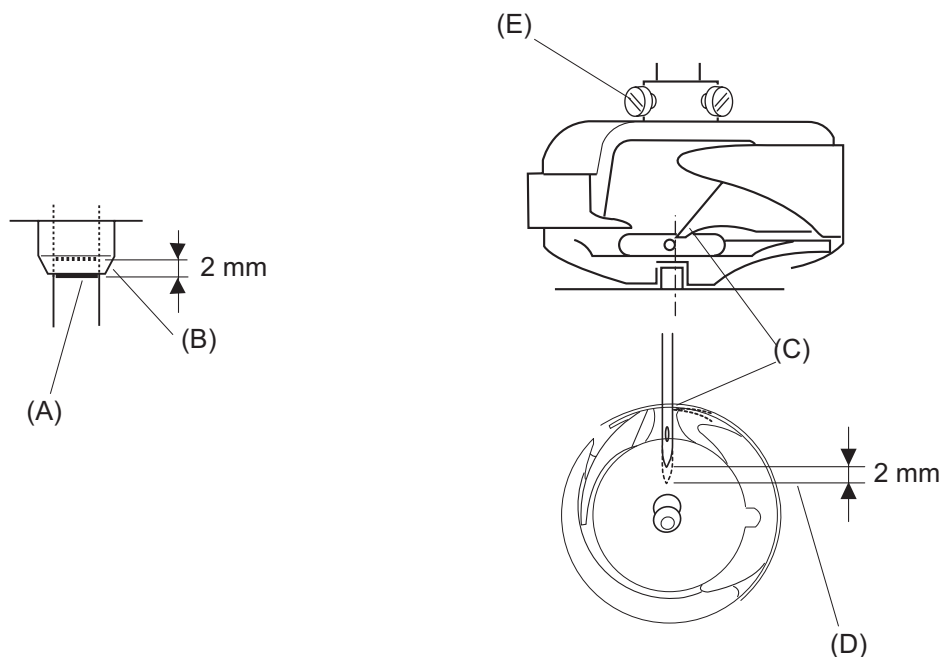
Check

- Remove the needle plate.
- Raise the needle bar from the lowest position until the lower hairline (A) of the needle bar matches the edge of the needle bar bushing (B). The needle has now traveled 2 mm from the lowest position.
- The hook point (C) must now line up to the right side of the needle.

Adjustment

Note! This setting affects "Adjustment of the clearance between needle and point of hook".

- Remove the needle plate.
- Loosen the 3 setscrews (E).
- Pull out the hook race very slightly (less than 0.5 mm).
- Move the needle bar from the lowest position until the lower hairline (A) of the needle bar matches the edge of the needle bar bushing (B). The needle has now traveled 2 mm from the lowest position.
- Rotate the hook so the hook point (C) line up with the right side of the needle.
- Tighten the setscrews (E) slightly and proceed with the adjustment of the clearance between the needle and hook point.



Adjustment of the clearance between needle and point of hook.

Requirement:

The clearance between the needle and hook point should be 0–0.1 mm.

Check

- Turn the hand wheel to bring the hook point (A) behind the needle (B)
- Use a screw driver and push lightly on the needle to check that the clearance between hook point (A) and the needle (B) is 0–0.1 mm.

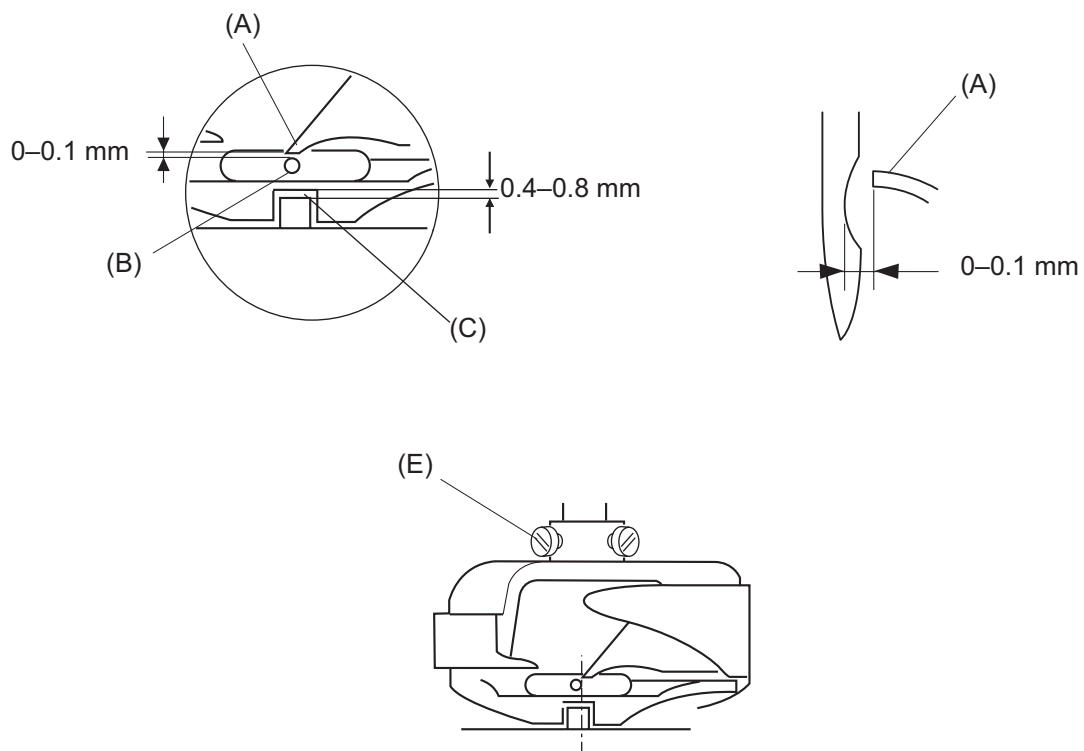
Adjustment

Note! This setting affects "Adjustment of the timing of the hook in relation to the needle"

- Remove the needle plate.
- Loosen the 3 setscrews (E).
- Turn the hand wheel to bring the hook point (A) behind the needle (B)
- Knock on the hook race rim lightly to make a slight clearance between the needle and hook point.

NOTE: Do not knock on the hook body.

- Tighten the setscrews (E) firmly
- Check the needle to hook timing and the thread path (C) (0.4–0.8 mm).
- Attach the needle plate.



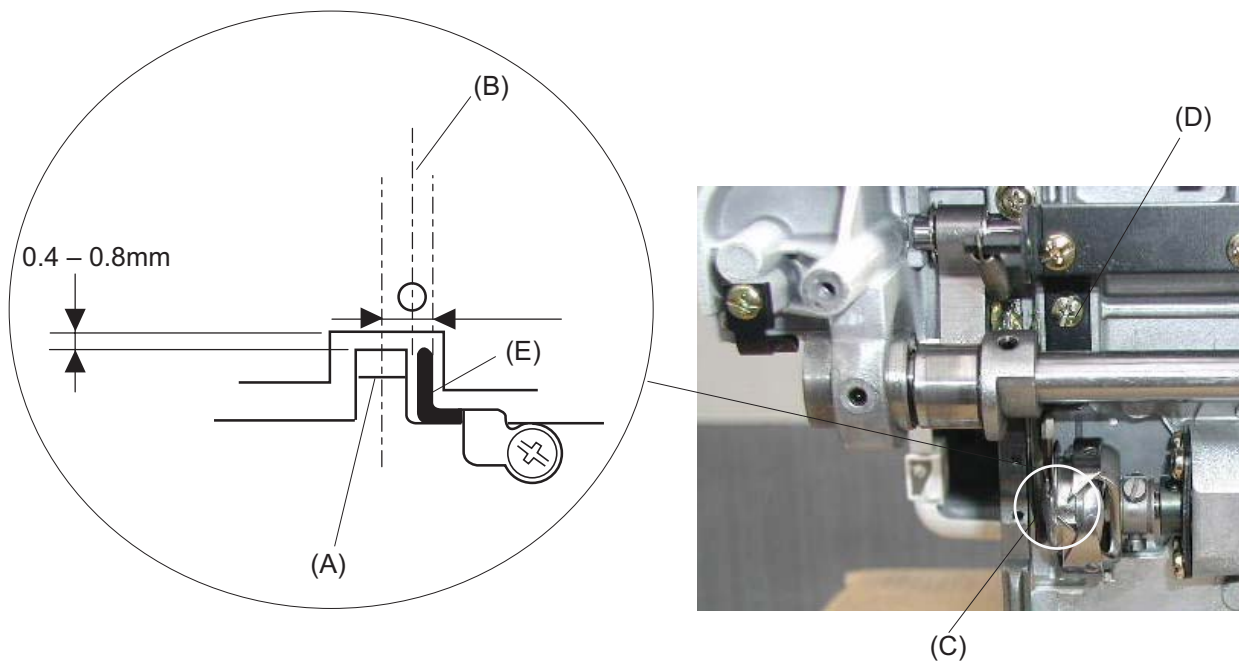
Adjustment of bobbin case position finger

Requirement:

The position finger (A) should be located so that the center of the needle (B) is located between the center of the hook stopper (C) and outer side of the hook stopper spring (E)

Adjustment

- Remove the needle plate and base.
- Loosen the setscrew (D) and move the position finger (A) so that the center of the needle (B) is located between the center of the hook stopper (C) and outer side of the hook stopper spring (E)
- Tighten the setscrew (D) and attach the needle plate and base.
- Check the needle to hook timing and the thread path (0.4–0.8 mm)



Adjustment of the presser bar height and alignment

Requirement

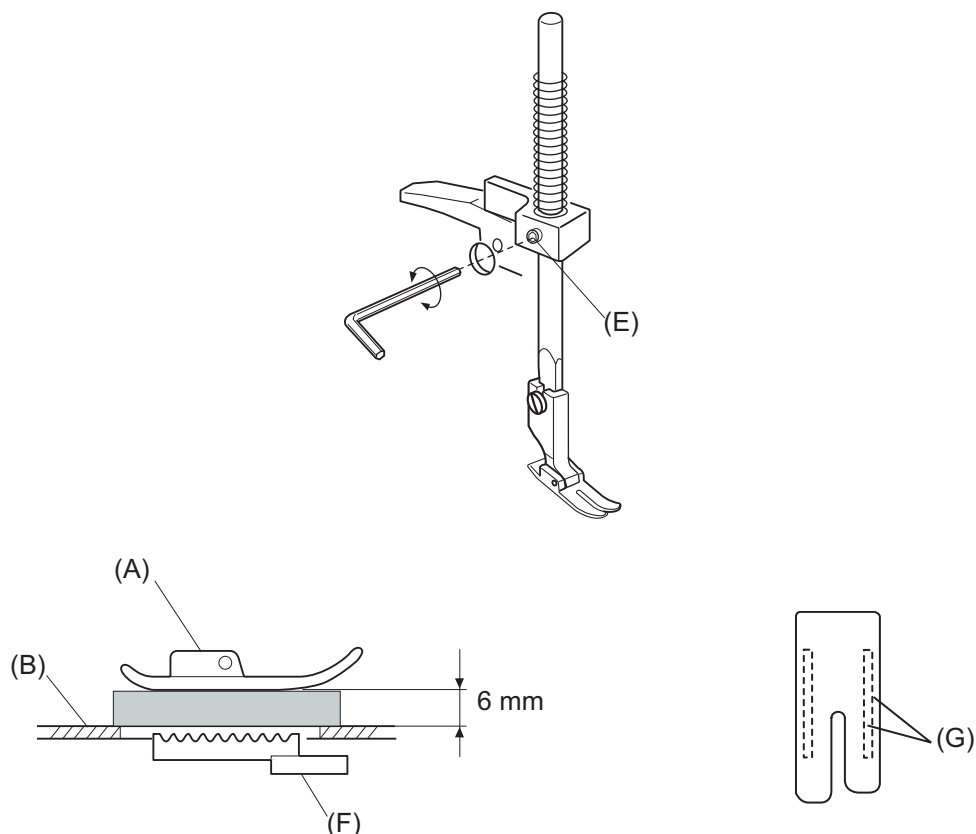
When the presser foot (A) is raised, the distance between the presser foot (A) and needle plate (B) should be 5.7–6.3 mm.

Check

- Raise the presser foot.
- Place a block 6 mm thick under the presser foot and lower the presser foot lifter.
- The distance between the presser foot (A) and needle plate (B) should be 5.7–6.3 mm.

Adjustment

- Remove the face plate and needle.
- Raise the presser foot.
- Place a block 6 mm thick under the presser foot and lower the presser foot lifter.
- Pass the Allen key (C) through the hole (D) of the supporter.
- Loosen the hexagon socket screw (E).
- Adjust the distance between the zigzag foot (A) and needle plate (B).
- Raise the presser foot lifter and tighten the setscrew (E) firmly.
- Check if the presser foot is paralleled with the feed dog (F) as shown below (G).
- If not, loosen the hexagon socket screw (E), and adjust the direction.
- Attach the face plate.



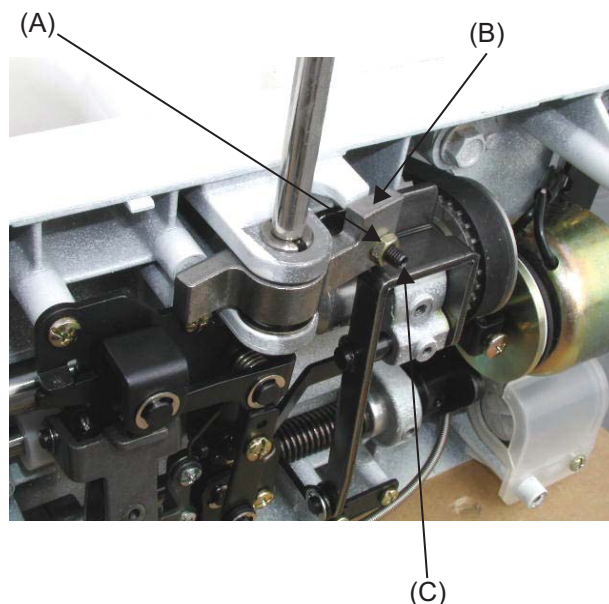
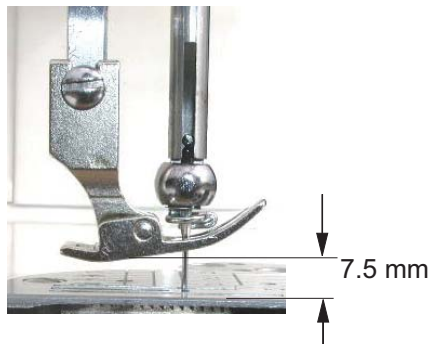
Adjustment of the knee lifter lever

Requirement

When the presser foot is fully raised with the knee lifter, the clearance between the needle plate and presser foot must be 7.5 mm

Adjustment

- Lay the machine on its back.
- Remove the base
- Loosen the nut (A) on the knee lifter lever (B) slightly and turn the adjusting screw (C) to adjust the height.
- If it is lower than 7.5 mm, turn the adjusting screw (C) clockwise.
- If it is higher than 7.5 mm, turn the adjusting screw (C) counterclockwise.
- Tighten the nut (A) firmly and attach the base.
- Lower the needle bar to the lowest position
- Check so the needle cramp does not hit against the presser foot when it is fully raised.



Adjustment of the Feed Cam Timing

Requirement

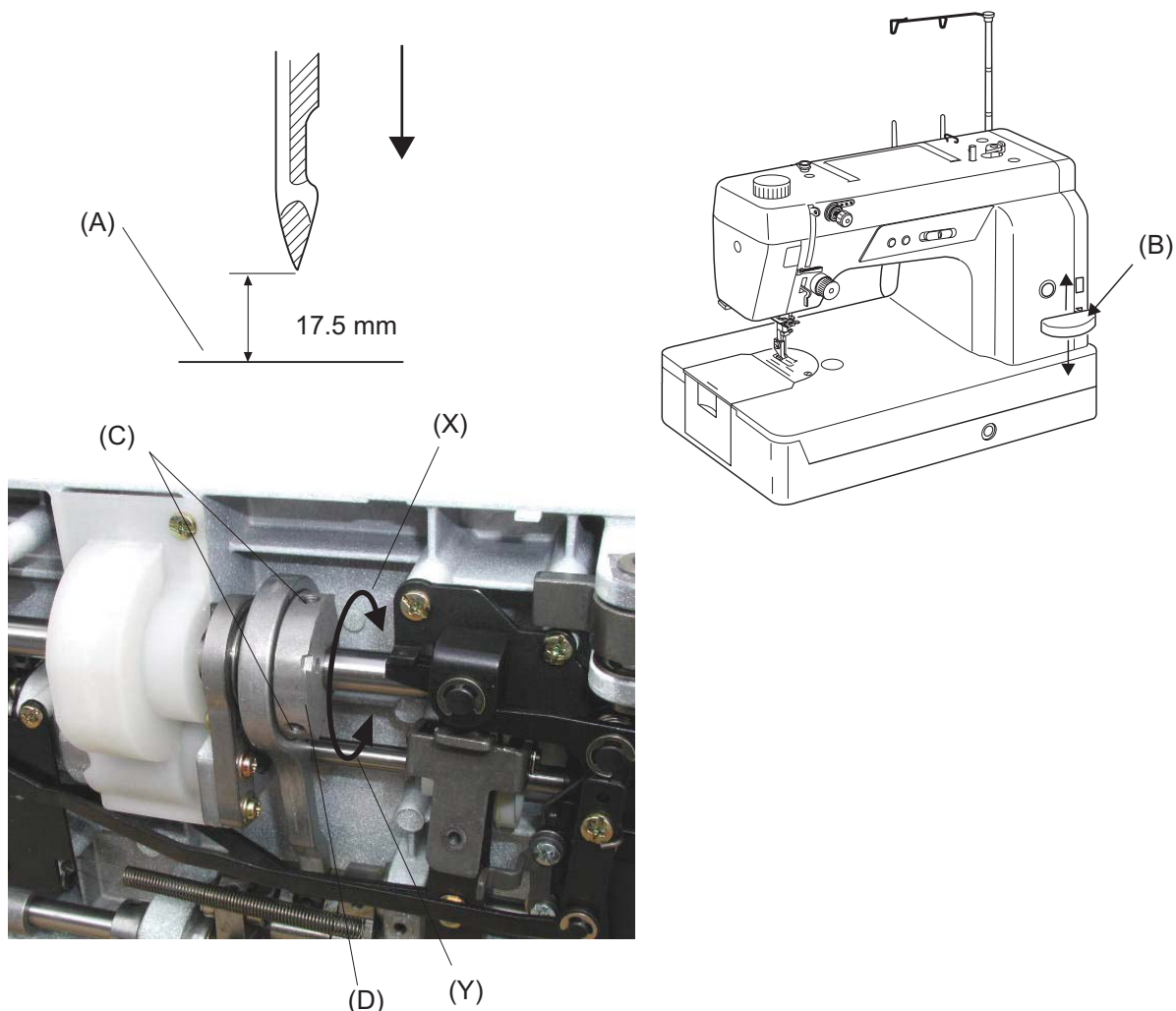
When the point of the needle is 17.5 mm above the needle plate (A), coming from its upper turning point The feed dog should not move when moving the reverse stitch lever (B) up and down.

Check:

- Set the needle bar in upper turning position
- Turn the hand wheel from its upper turning point in the sewing direction slowly.
- Stop the turning when the point of the needle is 17.5 mm above the needle plate (A),
- Moving the reverse stitch lever up and down (B) the feed dog should now not move.

Adjustment

- Lay the machine on its back and remove the base
- Set the needle bar in upper turning position
- Turn the hand wheel from its upper turning point in the sewing direction slowly.
- Stop the turning when the point of the needle is 17.5 mm above the needle plate (A),
- Loosen the setscrews (C).
- While moving the reverse stitch lever (B) up and down, turn the feed cam (D) in the direction either X or Y until the feed dogs stop moving.
- Tighten the setscrews (C) and attach the base.



Adjustment of the Feed Lifting Cam Timing

Requirement

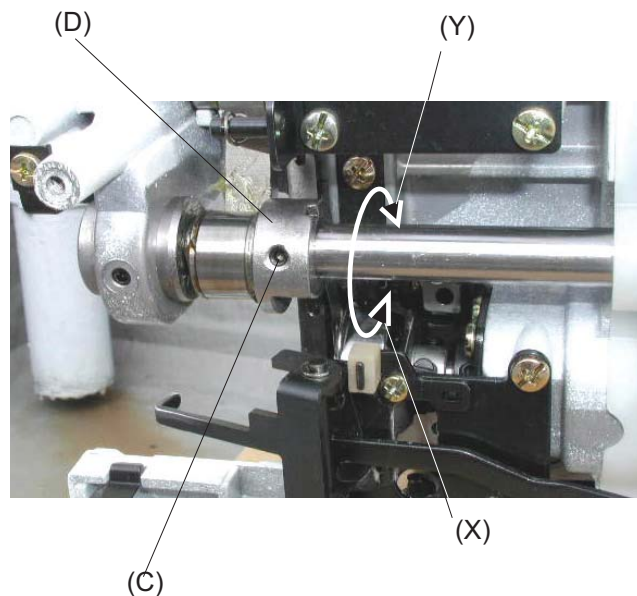
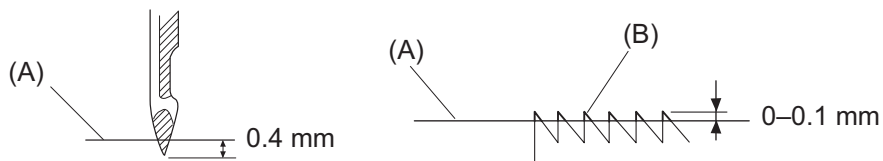
When the point of the needle is 0.4 mm below the needle plate (A) the top of the feed dog teeth (B) should be 0-0.01 mm above the needle plate.

Check

- Remove the Feed dog.
- Lower the needle bar until the point of needle is 0.4 mm below the needle plate (A)
- The top of the feed dog teeth (B) should now be 0–0.1 mm above the needle plate.

Adjustment

- Lay the machine on its back and remove the base.
- Lower the needle bar until the point of needle is 0.4 mm below the needle plate (A)
- Loosen the setscrew (C).
- If the feed dogs are higher, turn the feed lifting cam (D) in the direction X.
- If the feed dogs are lower, turn the feed lifting cam (D) in the direction Y.
- Tighten the setscrew (C).
- Mount the feed dog
- Adjust the parallelism and lengthwise movement of the Feed Dog
- Attach the base.



Adjustment of the feed dog height

Requirement

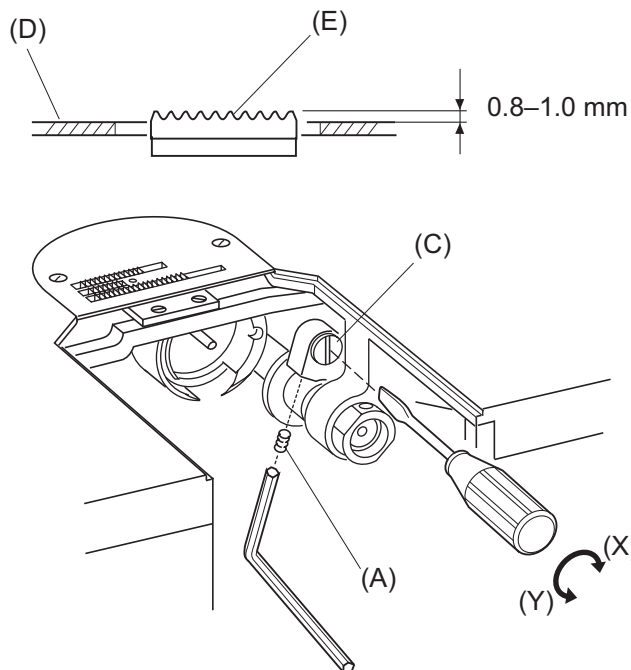
When the feed dog is in its highest position. The Feed dog teeth top (E) should be 0.8 to 1.0 mm from the surface of the needle plate (D).

Check

- Select the machine's longest stitch length setting.
- Turn the hand wheel until the feed dog (D) comes to its highest position.
- The Feed dog teeth top (E) should be 0.8 to 1.0 mm from the surface of the needle plate (D).

Adjustment

- Select the machine's longest stitch length setting.
- Turn the hand wheel until the feed dog (D) comes to its highest position.
- Loosen the screw (A)
- Turn the eccentric pin (C) so that the feed dog height becomes between 0.8 mm to 1.0 mm from the surface of the needle plate (D).
 - (X) To raise
 - (Y) To lower
- Tighten the screw (A).



Adjustment of the parallelism and lengthwise movement of the Feed Dog

Requirement

The **parallelism** between both sides of feed dog and needle plate (A) should be even.

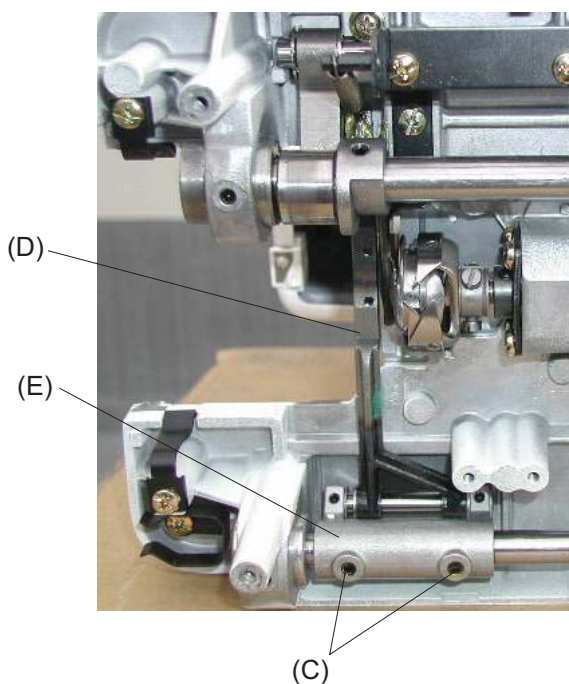
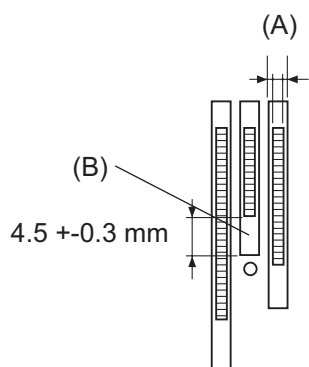
The clearance between the front end of the center feed dog and center slot (B) should be 4.5 ± 0.3 mm when the stitch length dial is set at 0.

Check

- Set the stitch length dial at 0.
- Check the **parallelism** between on both sides of feed dog to the needle plate (A) so the distance is even.
- Check the clearance between the front end of the center feed dog and center slot is 4.5 ± 0.3 mm.

Adjustment

- Remove the base
- Lay the machine on its back.
- Set the stitch length dial at 0.
- Loosen the setscrews (C).
- To adjust the lengthwise movement (B) between the front and end of the center feed dog and center slot , move the feed base (D) up or down to 4.5 mm.
- To Adjust the **parallelism** of the feed dogs move the feed rock shaft (E) to the right or left.
- Tighten the setscrews (C).
- Set the stitch length dial at 6 and turn the hand wheel to check if the feed dogs do not touch the needle plate.
- Attach the base.



Adjustment of synchronizer

Requirement

When the needle stop is set on UP the needle should stop on its upper position.

When the needle stop is set on DOWN the needle should stop in its down position.

Check

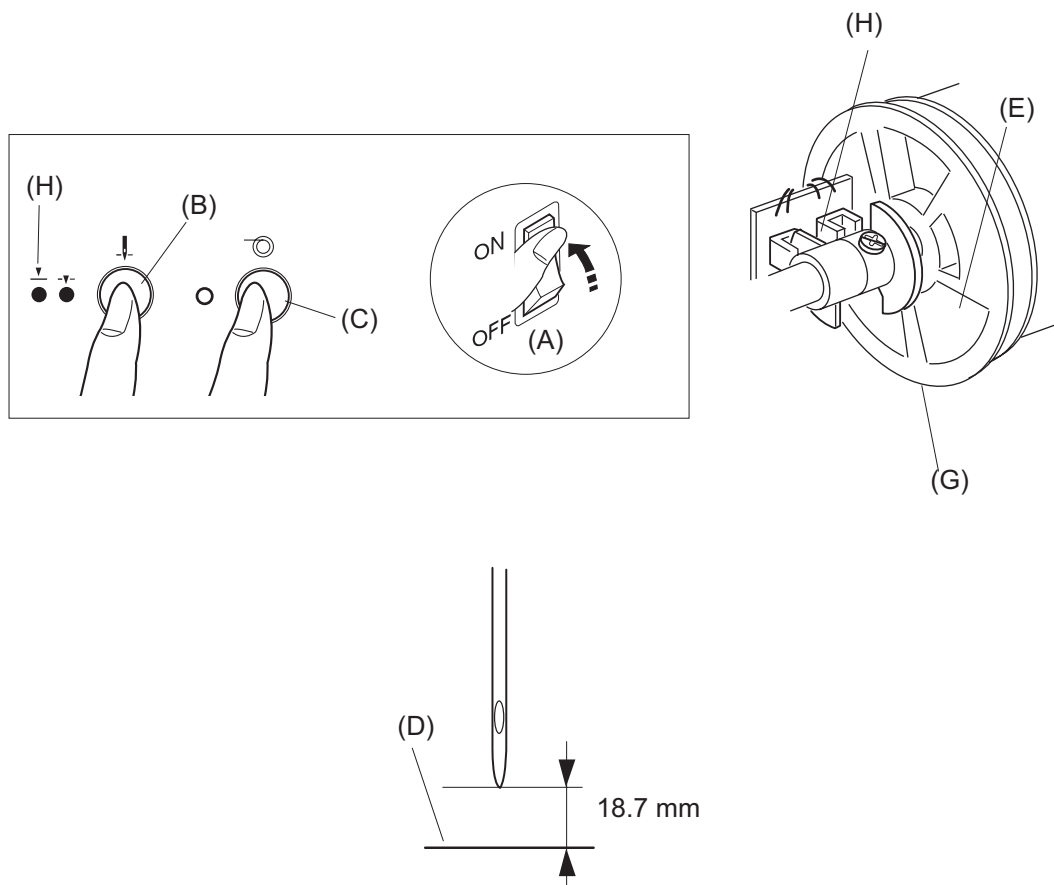
- Press both the Up/Down needle position button (B) and bobbin winding button (C) at the same time while turning the power switch (A) on.
- Turn the hand wheel in the sewing direction slowly,
NOTE! The needle must come from its upper turning point.
- Stop when the needle point is 18.7 mm above the upper surface of the needle plate (D),
- At this point the green LED (H) should now light up.

Adjustment

- Press both the Up/Down needle position button (B) and bobbin winding button (C) at the same time while turning the power switch (A) on.
- Remove the top cover.
- Set the needle in its upper turning position
- Turn the hand wheel in the sewing direction slowly, until the needle point is 18.7 mm above the upper surface of the needle plate (D).
- Loosen the setscrew (E).
- Rotate the upper shaft shielding plate (G) toward you until the green LED (H) turns on.
- Tighten the setscrew (E) and turn the power switch off.

NOTE! When tightening the set screw (E) check so the shield (G) is not hitting the sensor (H).

- Attach the top cover.



Adjustment of bobbin thread tension

Requirement

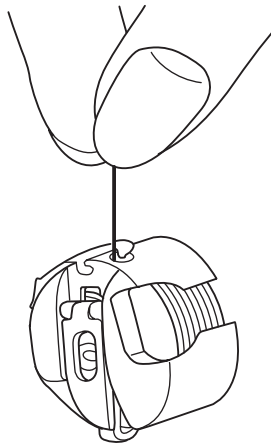
The force required for pulling cotton thread 50/2 or synthetic fiber thread 100/3 off the bobbin must be approximately 20 - 30 g.

Check

- There must not be any thread waste under the tension spring.
- The tension spring must rest evenly and parallel on the bobbin case.
- When a threaded bobbin case hangs on its thread, it should not slide downwards by its own weight.
- With a quick upward movement of the hand, the thread must run off gradually.

Adjustment

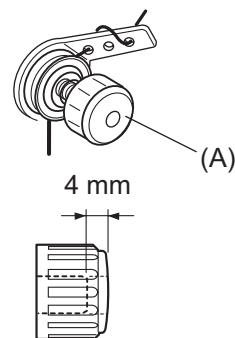
- Loosen the set screw a little and turn it in again until a resistance is felt when the thread is pulled off.
- Re-check



Adjustment of pre-tension dial

The standard position of the pre-tension dial is as follows:

The screw head (A) should be 4 mm below the dial face.



Adjustment of thread check spring stroke

Requirement

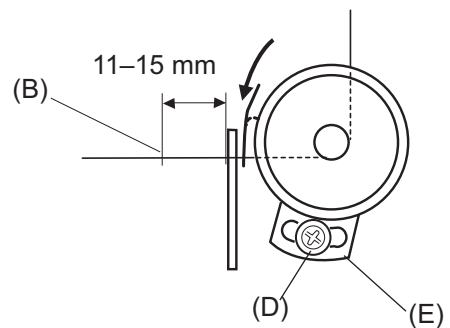
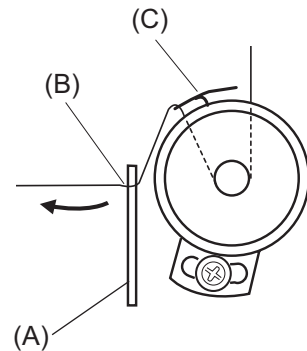
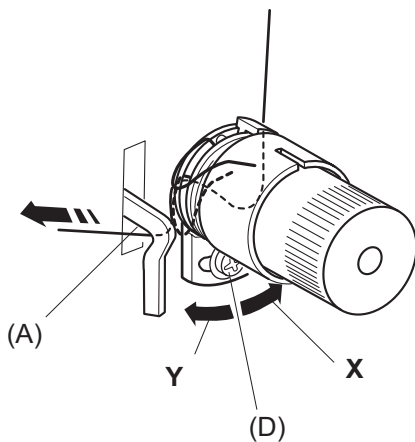
The amount of the needle thread supplied by the check spring should be 11–15 mm.

Check

- Thread the machine up to the thread guide (A) and lower the presser foot.
 - Lower the needle bar to the lowest position.
 - Hold the thread end and mark the point (B) on the thread beside the thread guide.
- NOTE: There should be no slack in the thread.
- Pull the thread gently to the left until it stops - the check spring (C) went full stroke.
 - Measure the length of thread drawn out. The amount of the needle thread supplied by the check spring should be 11–15 mm.

Adjustment

- Loosen the setscrew (D) and move the tension dial guide (E) to adjust the stroke.
- If the length is too long, turn the guide in the direction X.
- If the length is too short, turn the guide in the direction Y.
- Tighten the setscrew (D)
- Re-check



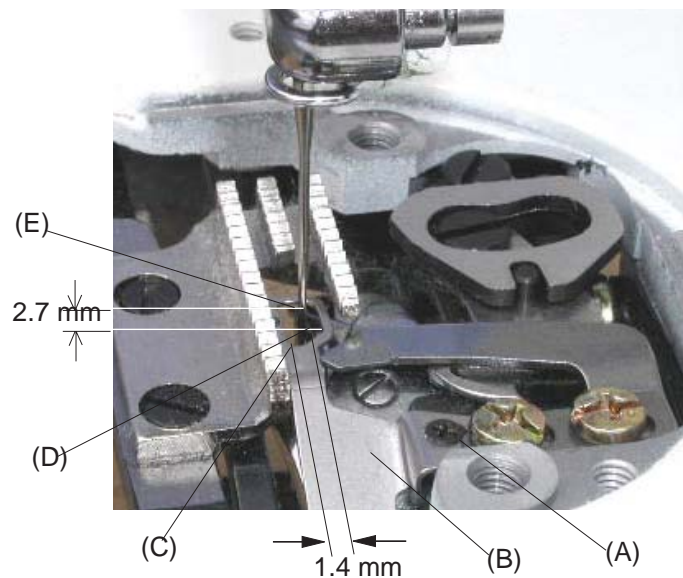
Replace and Adjust the Thread Guide Plate

Requirement

The left inner edge (C) of the thread guide plate should be approximately 1.4 mm from the center of the needle drop position (D) and the back inner edge (E) of the thread guide plate should be approximately 2.7 mm from the center of the needle drop position (D).

Adjustment

- Remove the needle plate.
- Loosen the flat screw (A) and adjust the position of the thread guide plate (B).
- The left inner edge (C) of the thread guide plate should be approximately 1.4 mm from the center of the needle drop position (D) and the back inner edge (E) of the thread guide plate should be approximately 2.7 mm from the center of the needle drop position (D).
- Tighten the flat screw firmly.
- Attach the needle plate.



Adjustment of the Fixed Cutter Knife

Requirement

When the needle bar is in its lowest position the distance between the center of the needle (A) and the fixed cutter knife (B) should be 4 mm.

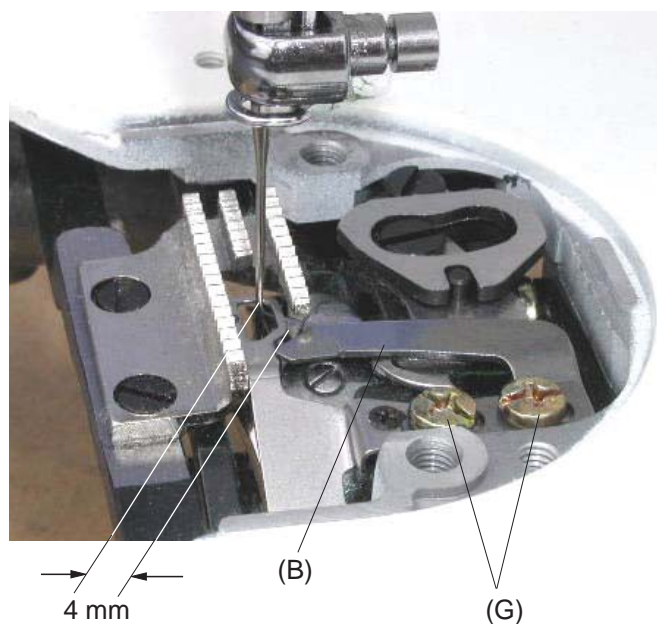
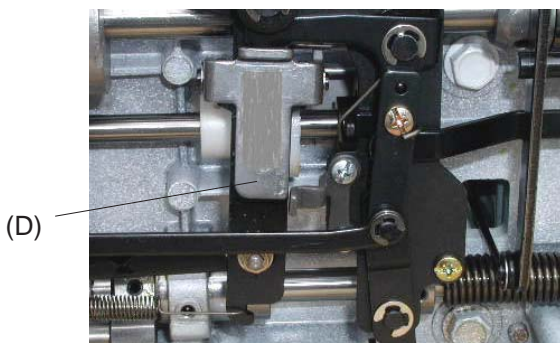
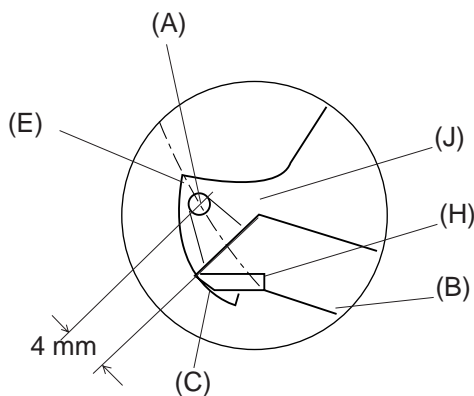
The thread cutter knife tip (E) should be aligned, when it swings out to its cutting position, with the left side of the edge (H) of the fixed knife.

Check

- Remove the needle plate and base.
- Set the needle bar to the lowest position.
- The distance between the center of the needle (A) and the fixed cutter knife (B) should be 4 mm.
- Turn the hand wheel toward you while pushing up the link body (D) to engage the thread cutter knife (J) and bring it under the fixed knife (B).
- The thread cutter knife tip (E) should be aligned, when it swings out, with the left side of the edge (H) of the fixed knife.

Adjustment

- Remove the needle plate and base.
 - Lower the needle bar to the lowest position.
 - Loosen the setscrews (G).
 - Adjust the position of the fixed cutter knife (B) so that the distance between the center of the needle drop position (A) and the fixed cutter knife (B) is 4 mm.
 - Tighten the setscrews (G).
 - Turn the hand wheel toward you while pushing up the link body (D) to engage the thread cutter knife (E) and bring it under the fixed knife (B).
 - The thread cutter knife tip (E) should be aligned, when it swings out, with the left side of the edge (H) of the fixed knife.
- If not Adjust Thread Cutter Knife.
- Attach the needle plate and base.



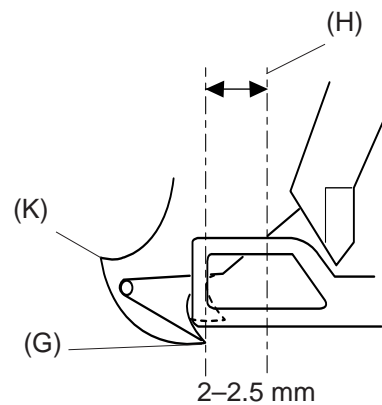
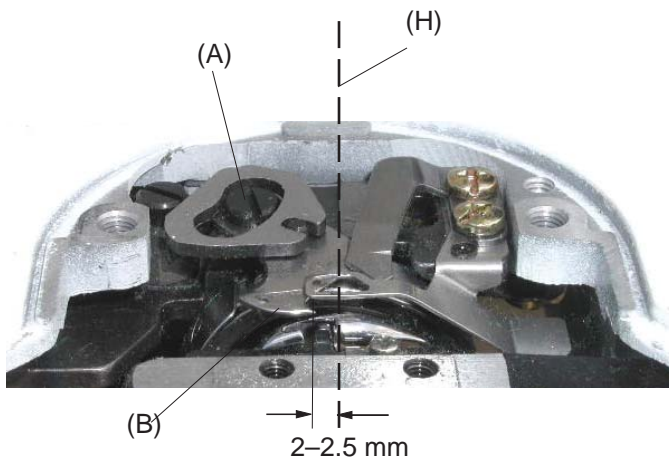
Replace and Adjust Thread Cutter Knife

Requirement

When thread cutter knife is at its end turning position, it should be 2–2.5 mm from the point (G) of the thread cutter knife to the center of the needle drop position (H).

Removal and fitting

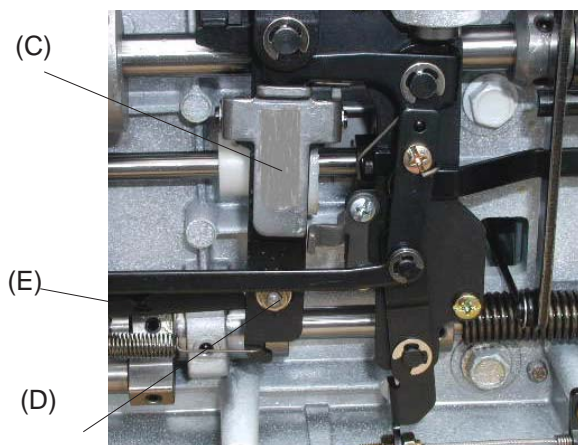
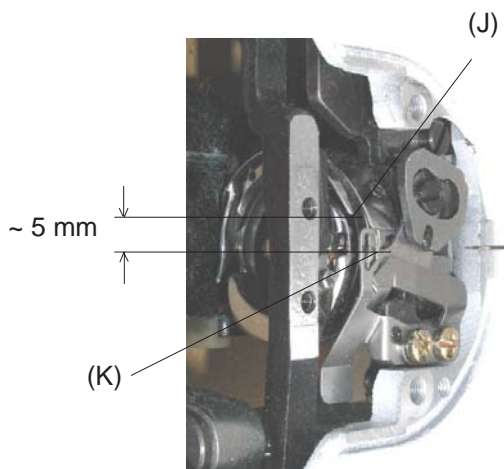
- Remove the needle plate and base.
- Remove the feed dog.
- Remove the Fixed cutter knife.
- Remove the hinge screw (A) and thread cutter (B).
- Attach the new thread cutter knife and secure it with the hinge screw (A).
- Attach the fixed cutter knife
- Adjust the position of the fixed cutter knife
- Adjust the position of the thread cutter knife.
- Adjust the parallelism of the feed dog.



Adjustment

- Remove the needle plate and base
- Lower the needle bar to the lowest position.
- Turn the hand wheel toward you while pushing up the link body (C) to engage the thread cutter knife (B) and bring it to the end of the stroke.
- Loosen the nut (D) and move the thread cutter link (E) to the left or right to adjust the position of the thread cutter knife. The point (G) of the thread cutter knife should be 2–2.5 mm from the center of the needle drop position (H).
- Tighten the nut (D).
- Attach the needle plate and base.

NOTE: Check so there is approximately 5 mm distance between the tail of the hook wing (J) and the end point (K) of the thread cutter knife when the end point (K) of the thread cutter knife is aligned with the center of the needle drop position (H).



Adjustment of the needle to cutter cam timing

Requirement

When Link body is engaged and the tip of the needle is 10.9 mm over the stitch plate. The thread drawing arm should start to move.

Check

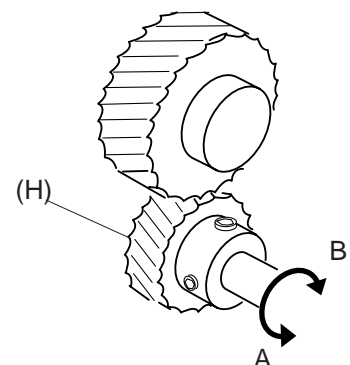
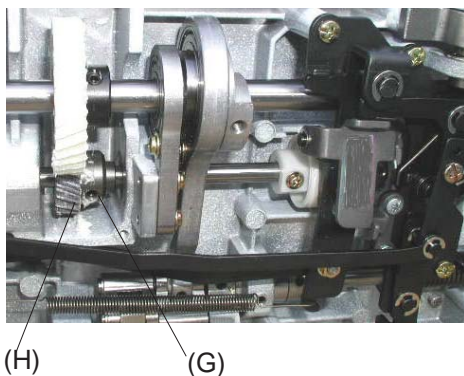
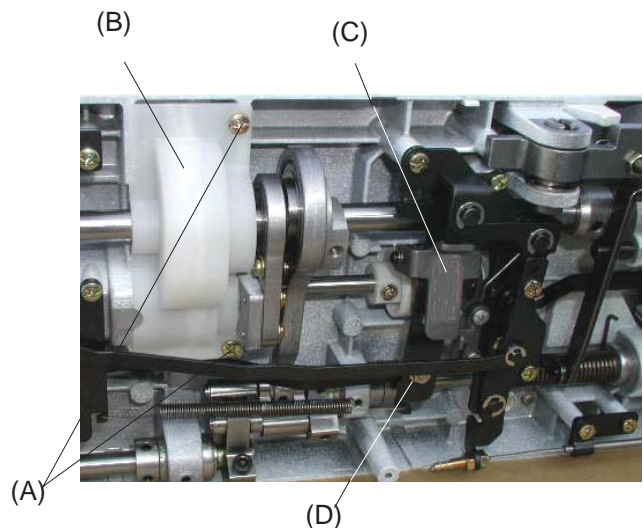
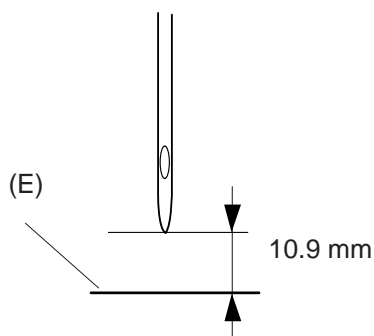
- Remove the base.
- Lower the needle bar to the lowest position.
- Push up the link body (C) while turning the hand wheel in the sewing direction to raise the needle bar. Turn it until the needle point is 10.9 mm over the needle plate.
- At this point the thread drawing arm (D) should start to move to the right.

Adjustment

- Remove the base.
- Remove the setscrews (A)
- Remove the gear cover (B).
- Lower the needle bar to the lowest position.
- Push up the link body (C) while turning the hand wheel in the sewing direction to raise the needle bar. Turn it until the needle point is 10.9 mm over the needle plate.
- At this point the thread drawing arm (D) should start to move to the right.
- If NOT loosen the setscrews (G) and turn the hook shaft gear (H) to adjust the timing.
 - If the needle point is too high, turn the hook shaft gear in the direction A.
 - If the needle point is too low, turn the hook shaft gear in the direction B.

NOTES: Hold the hook so that it will not rotate when turning the hook shaft gear.

- Tighten the setscrews (G) firmly.
- Check the needle to hook timing and adjust it if necessary.
- Attach the gear cover (B) and secure it with the setscrews (A).
- Attach the base.



Adjustment of the thread drawing lever

Requirement

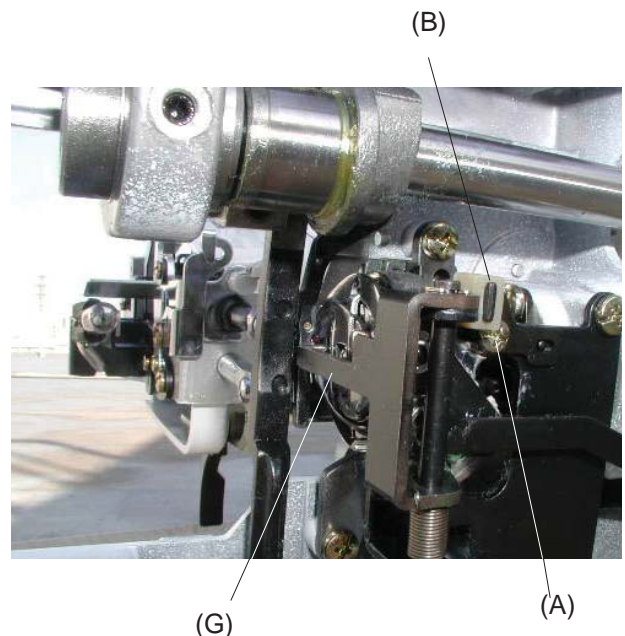
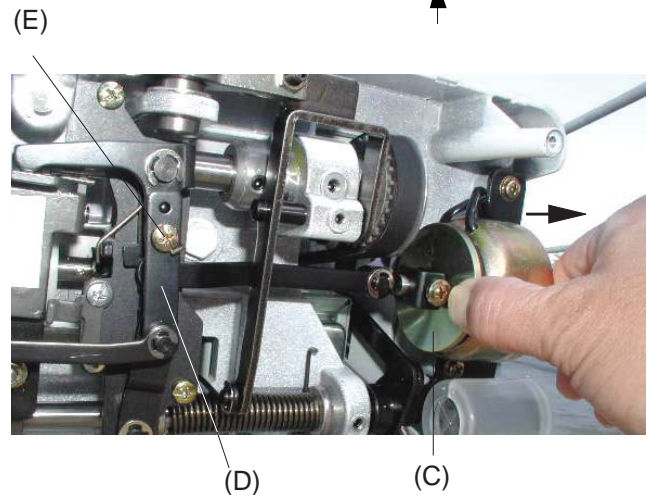
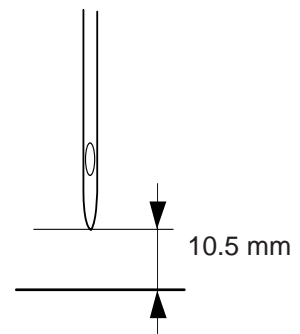
When the needle point is 10.5 mm above the needle plate, coming from its lowest turning position, and the solenoid disk (C) fully closed, then should the tip of the thread drawing lever (G) lightly makes contact with the bobbin.

Check

- Remove the base.
- Turn the hand wheel in the sewing direction from it's lowest turning position until the needle point is 10.5 mm above the upper surface of the needle plate.
- At this point push the solenoid disk (C) so it closes fully and that the tip of the thread drawing lever (G) lightly makes contact with the bobbin.

Adjustment

- Remove the base.
- Loosen the setscrew (A) so the stopper (B) is loose.
- Turn the hand wheel in the sewing direction from it's lowest turning position until the needle point is 10.5 mm above the upper surface of the needle plate.
- At this point push the solenoid disk (C) so it closes fully and that the tip of the thread drawing lever (G) lightly makes contact with the bobbin. If NOT.
- Loosen the setscrew (E) and move the thread drawing arm (D) to the left or right so that the tip of the thread drawing lever (G) lightly contacts with the bobbin.
- Tighten the setscrew (E).
- Push one more time the solenoid disk (C) so it closes and that the tip of the thread drawing lever (G) lightly contacts with the bobbin.
- Push stopper (B) against the thread drawing lever (D) still with the solenoid disc (C) closed.
- Tighten the setscrew (A) firmly.
- Attach the base.



Adjustment of the auto tension release

Requirement

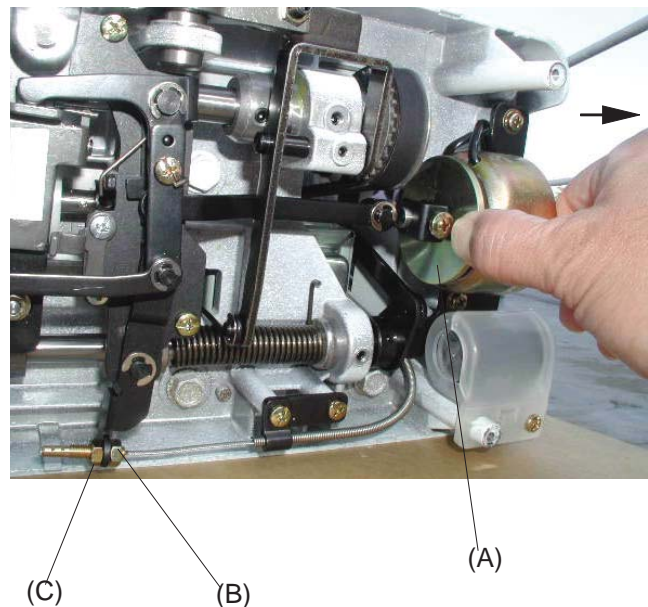
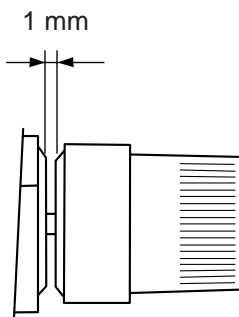
When the Tension Dial is set on 4 and the needle point is just above the needle plate.
Then when closing the solenoid (A) fully by hand, the tension disk should open up 1 mm.

Check

- Remove the base.
- Turn the hand wheel toward you to raise the needle bar until the needle point is just above the needle plate.
- Set the tension dial at 4 and push the solenoid disk (A) fully to the right.
- The tension disks should open 1 mm.

Adjustment

- Remove the base
- Turn the hand wheel toward you to raise the needle bar until the needle point is just above the needle plate.
- Set the tension dial at 4 and push the solenoid disk (A) fully to the right.
The tension disks should open 1 mm.
- Loosen the lock nut (B) and turn the adjusting nut (C) to adjust the gap between the tension discs.
 - If the gap is too wide, turn the adjusting nut counter clock wise.
 - If the gap is too narrow, turn the adjusting nut clockwise.
- Tighten the lock nut (B).



Thread Cutter Troubleshooting

The needle thread is not cut.	The fixed cutter is dull.	Replace or grind the fixed cutter knife.
	The fixed cutter knife is out of position.	Adjust the position of the fixed cutter knife .
	Skipped stitch before thread cutting.	Reset the needle at the proper angle. Reduce the check spring stroke. Adjust the needle to hook timing.
The bobbin thread is not cut.	The thread cutter knife is out of position.	Adjust the stroke of the thread cutter knife.
	The thread guide plate is out of position.	Adjust the position of the thread guide plate .
	The proper hook is not used.	Use the proper hook.
The thread slips out the needle eye when starting sewing.	The needle to cutter cam timing is too late.	Adjust the needle to cutter cam timing .
	The thread drawing lever is out of position.	Adjust the thread drawing lever position .
The needle thread bunches up on the wrong side of the fabric at the beginning of the seam.	A too long tail of the needle thread is left after thread cutting.	Adjust the needle to cutter cam timing . Adjust the position of the fixed cutter knife .
The tail of the needle thread appears on the right side of the fabric.	The pre-tension is too loose.	Tighten the pre-tension.
	The needle to cutter cam timing is too late.	Adjust the needle to cutter cam timing .
	The fixed cutter knife is out of position.	Adjust the position of the fixed cutter knife.
Skipped stitches at the beginning of the seam due to a too short tail of the thread after thread cutting.	The auto tension release is not enough.	Adjust the auto tension release.
	The needle to cutter cam timing is too early.	Adjust the needle to cutter cam timing .
	The thread drawing lever is out of position.	Adjust the thread drawing lever position .
	The fixed cutter knife is out of position.	Adjust the fixed cutter knife position.

Adjustment of bobbin winder stopper

Requirement:

The amount of thread wound on the bobbin should be 16.5–19.5 mm in diameter.

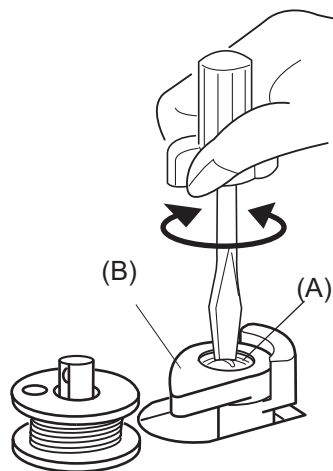
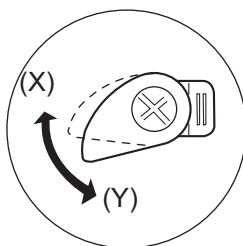
Check

- Wind a bobbin
- When its finished the amount of thread wound on the bobbin should be 16.5–19.5 mm in diameter.

Adjustment

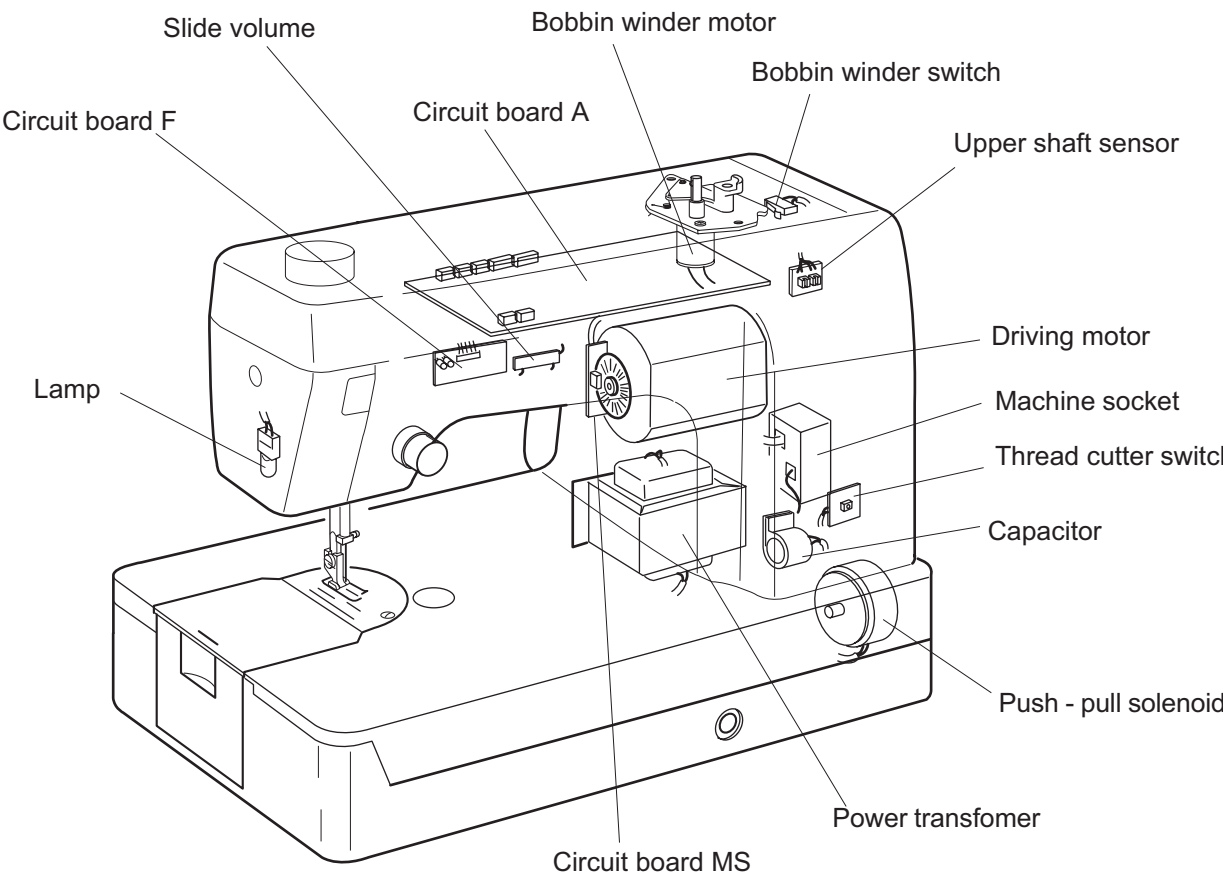
- Loosen the setscrew (A). Turn the bobbin winder stopper (B) to adjust the thread amount.
- If the amount is too much, turn the stopper in the direction X.
- If the amount is not enough, turn the stopper in the direction Y.
- Tighten the setscrew (A) firmly.

16.5–19.5 mm

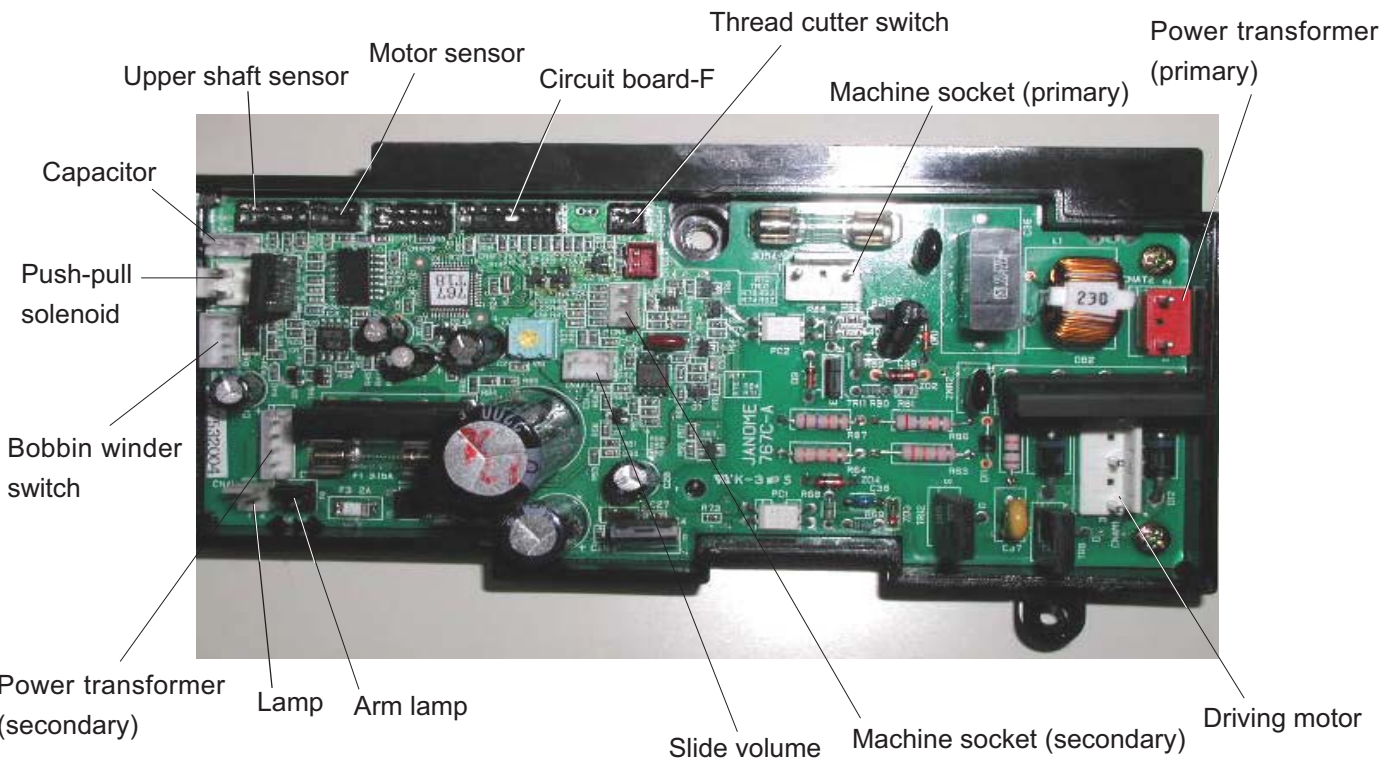


Replacing the Electronic Components

Location of the Electronic Components

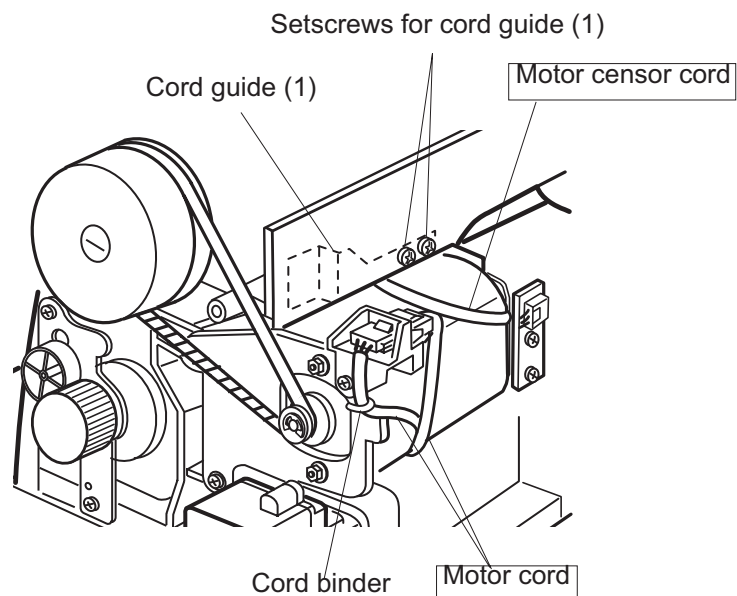
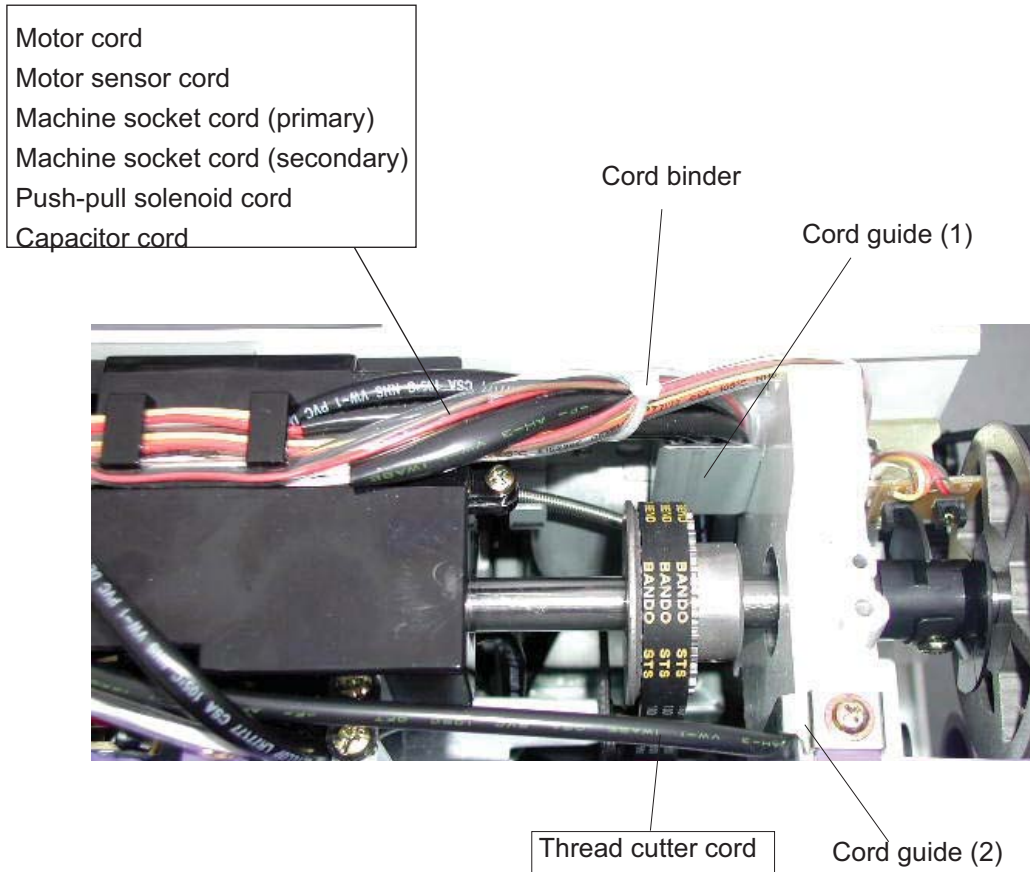


Location of the Connectors



Internal Wiring

To prevent the internal wirings from contacting the moving parts or being caught in the joint of the external parts, the internal wirings should properly be routed and secured as illustrated.



Replace the Circuit Board-A

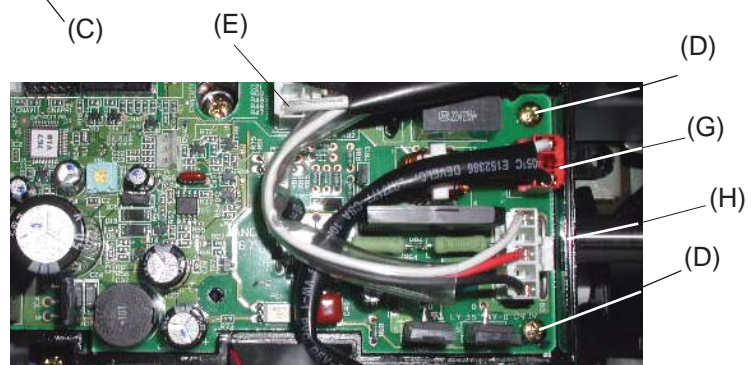
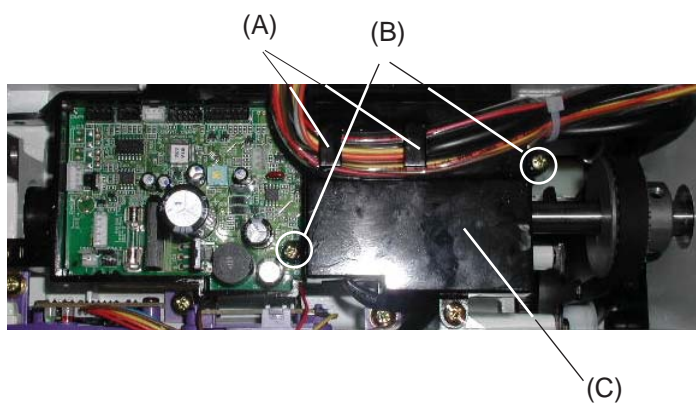
To remove:

- Remove the top cover.
- Pull out connectors from the circuit board-A.
- Remove the cords from the cord clips (A).
- Remove the setscrews (B) and the board-A case lid (C)
- Pull out the connectors under the case lid.
- Remove setscrews (D) and circuit board-A.

To attach:

- Install the circuit board-A and secure it with the setscrews (D).
- Insert the following connectors:
 - (E) Machine socket (primary)
 - (G) Power transformer (primary)
 - (H) Driving motor
- Attach the board-A case lid (C) and secure it with the setscrews (B)
- Insert the remaining connectors and secure the cords with the cord clips (A) on the case lid.
- Attach the top cover.

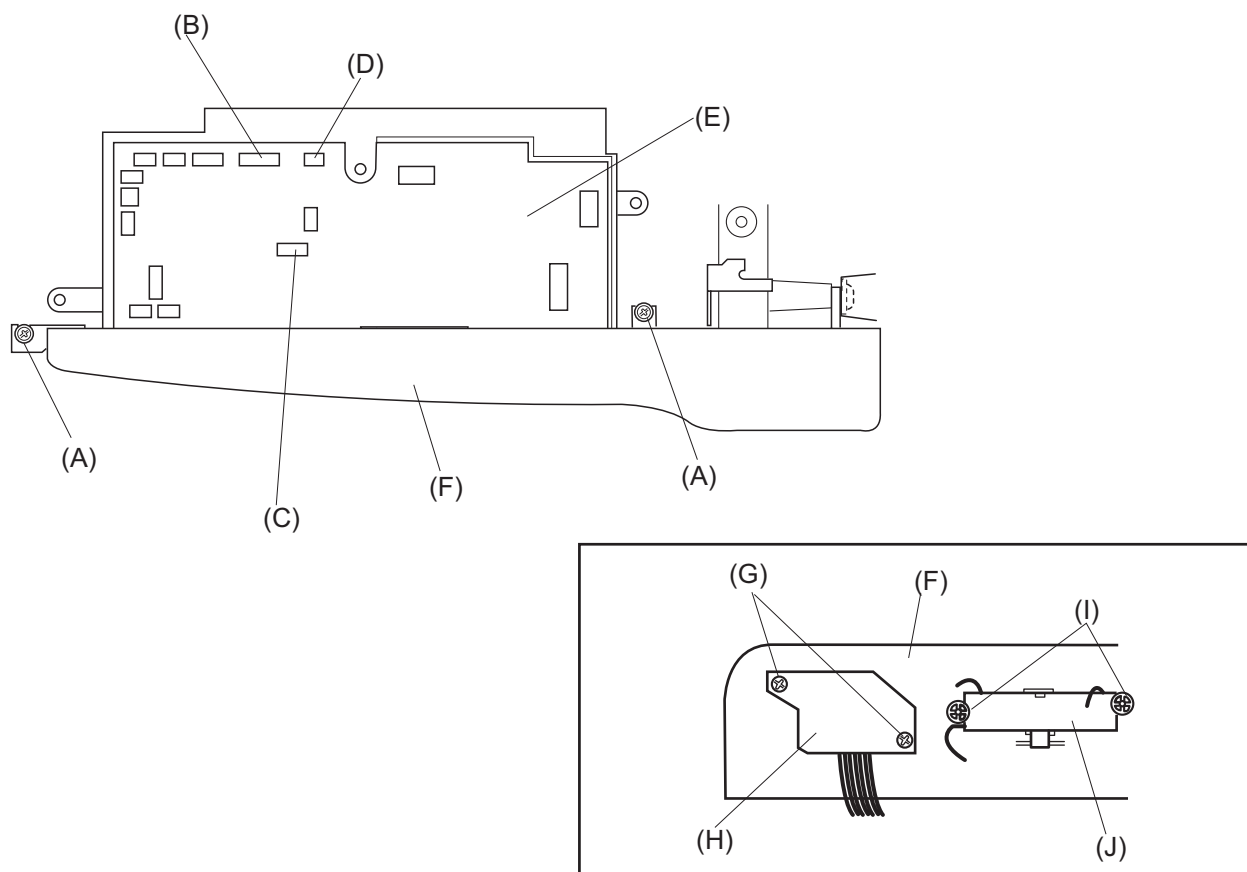
NOTE: Do not disconnect the connectors by pulling on cord.
To disconnect, grasp the connector, not the cord.



Replace the Circuit Board-F and Slide Volume

1. Removed the top cover and the belt cover.
2. Pull out the circuit board-F connector (B) , slide volume connector (C) and the thread cuttlet switch connector (D) from the circuit board-A .
3. Loosen the 2 set screw (A). Remove the ornamental panel .
- 4 . Remove the 2 set screws (G) and remove the circuit board-F (H) from the panel.
5. Remove the 2 CS-rings (I) and slide volume (J) .

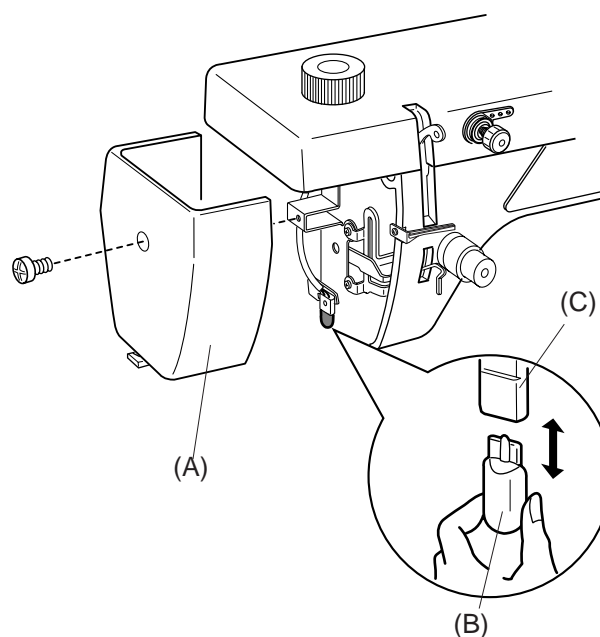
To attach: follow the above procedure in reverse.



Replace the Light Bulb

Light bulb inside of the face plate

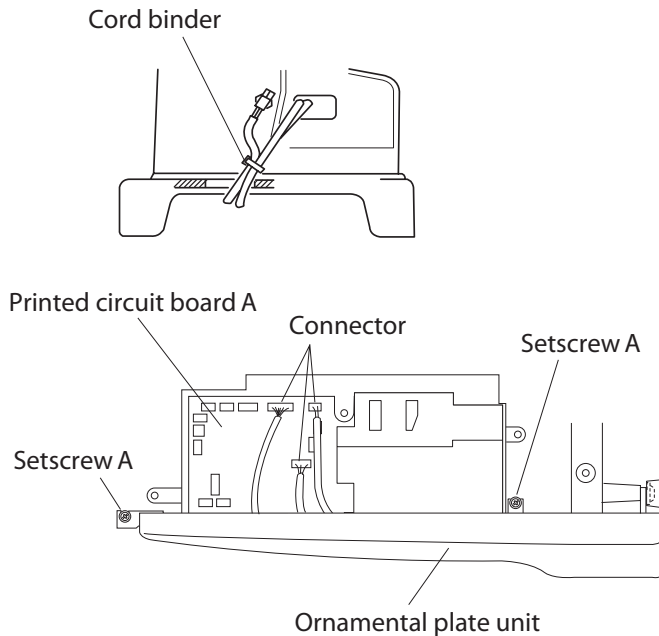
- Remove the face plate (A).
- Pull out the light bulb (B) from the lamp socket (C).
- Insert a new bulb and push it into the lamp socket.
- Attach the face plate.



Replace the Printed Circuit Board - UD

To remove:

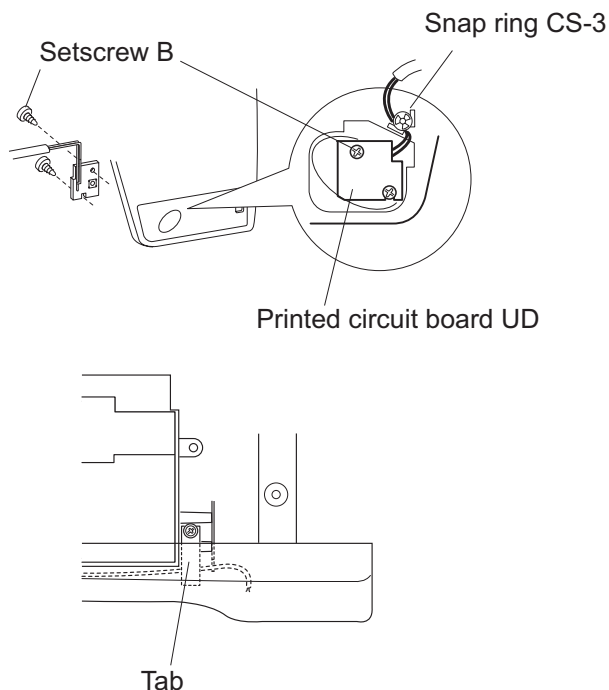
- 1 Remove the top cover, belt cover and base.
- 2 Remove the cord binder below the handwheel.
- 3 Disconnect the 3 connectors from the printed circuit board A.
4. Remove the set screws A (2 pieces) and remove the ornamental plate unit.



5. Remove the setscrews B (2 pieces) and snap ring CS-3.
6. Replace the printed circuit board UD.

To attach:

Follow the procedure above in reverse.



NOTE:

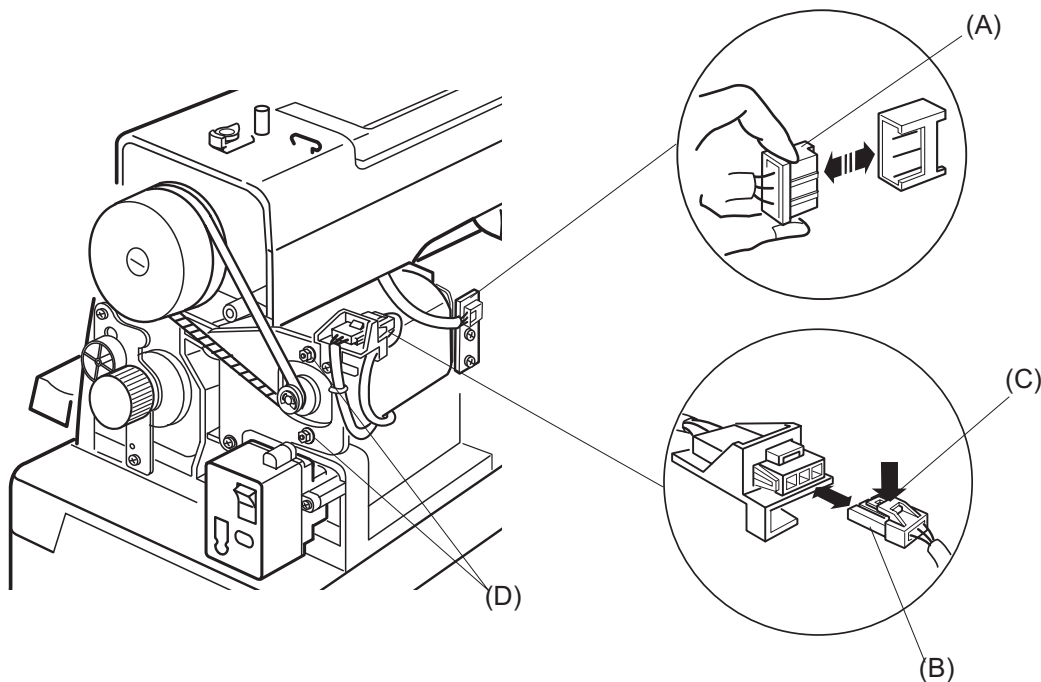
Route the wire under the tab of the ornamental plate.
Twist the wires from ornamental plate unit to prevent them from contacting with the timing belt or any other parts.

Replace the motor and Adjust the motor belt tension

To remove:

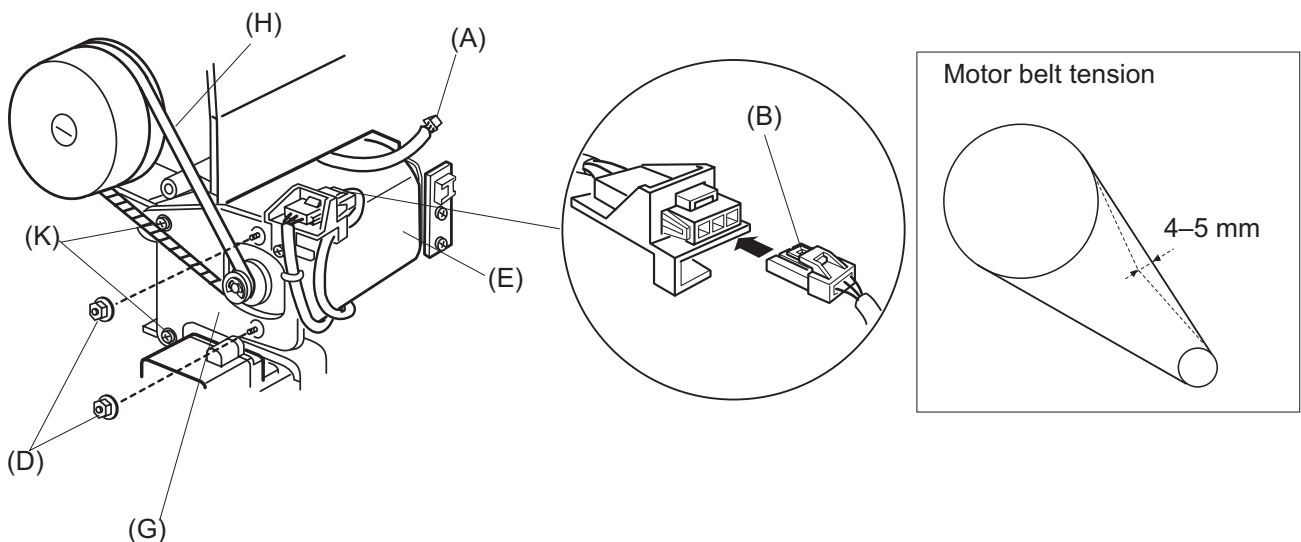
- Remove the belt cover and motor cover.
- Pull out the motor sensor connector (A)
- Pull out the motor connector (B), while pushing the connector lock (C)
- Remove the nuts (D).
- Remove the motor

NOTE: To disconnect, grasp the connector, do not disconnect the connectors by pulling on cord.



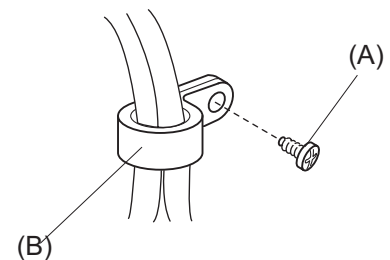
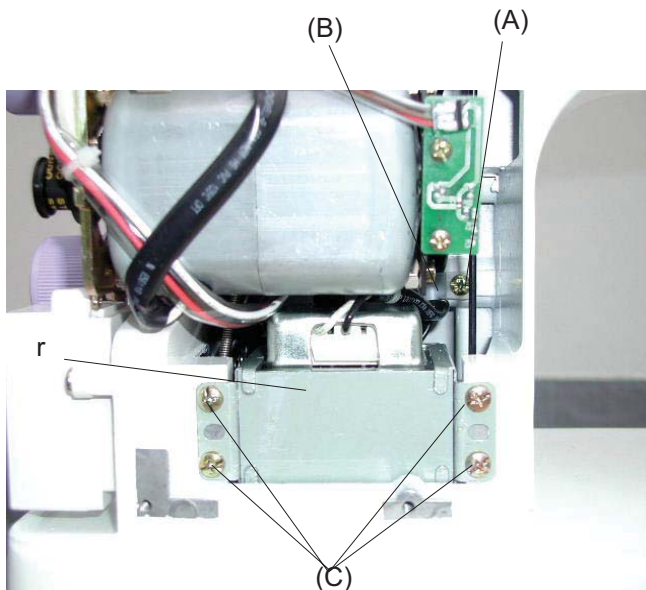
To attach:

- Install the driving motor (E) to the motor bracket (G) and attach the motor belt (H). Tighten the nuts (D) firmly.
- Loosen the setscrews (K) slightly and move the motor up or down to adjust the motor belt tension. The belt should deflect 4–5 mm when applying 300 grams of load to the middle of the belt.
- Tighten the setscrews (K) firmly.
- Insert the motor connector (B) and motor sensor connector (A).
- Attach the motor cover and belt cover.



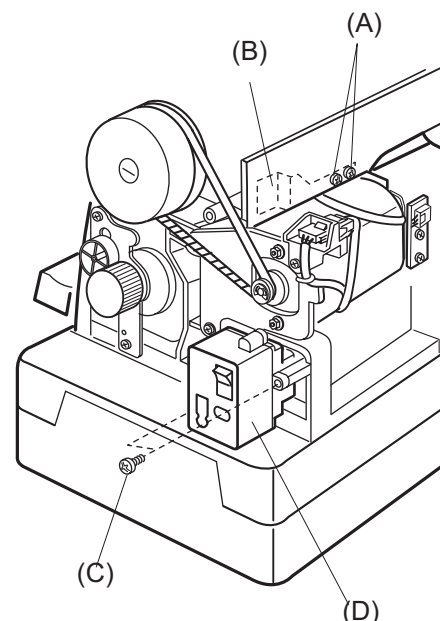
Replace the transformer

- Remove the top cover and motor cover.
- Remove the board-A case lid and pull out the transformer connectors (primary and secondary) from the circuit board-A. Removing instructions see "Replace the Circuit Board-A"
- Remove the driving motor.
Removing instructions see "Replace the motor and Adjust the motor belt tension"
- Remove the setscrew (A) and cord binder (B).
- Remove the setscrews (C) and transformer .
- To attach: follow the above procedure in reverse.



Replace the Machine Socket

- Remove the top cover, belt cover and motor cover.
- Remove the board-A case lid and pull out the machine socket connectors (primary and secondary) from the circuit board-A. Removing instructions see "Replace the Circuit Board-A"
- Remove the setscrews (A) and cord guide (1) (B).
- Remove the setscrews (C) and machine socket (D).
- To attach: follow the above procedure in reverse.



PFAFF

Technische Änderungen vorbehalten
Subject to alterations in design
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