

# Replacing the Presser Foot Return Spring and Washer

## Step 1: Open the Needle Change adjusting window of the factory adjusting mode.

Select needle bar No. 1.

## Step 2: Removing the needle bar

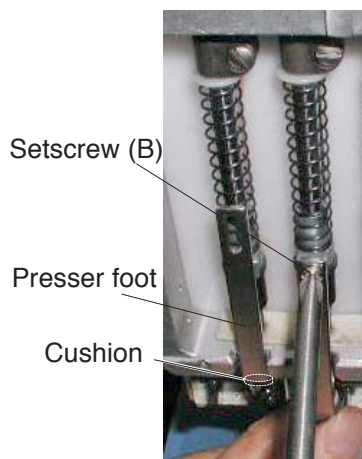
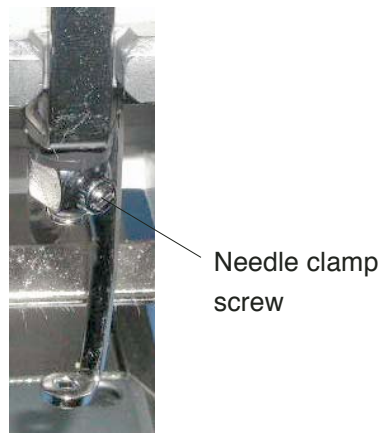
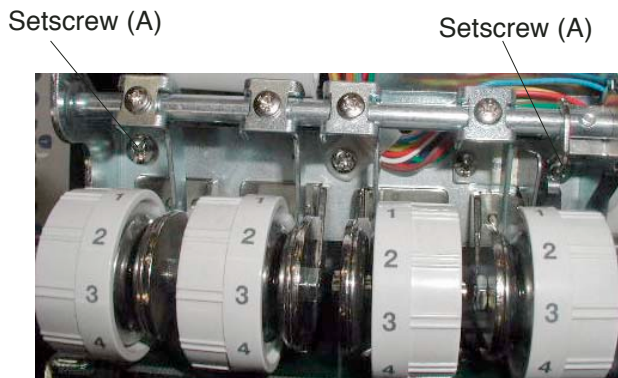
1 Remove the tension unit cover, lower thread guide plate and thread catcher panel (head cover).

2 Remove the 2 setscrews (A) and the tension control unit.

3 Loosen the needle clamp screw and remove the needle.

4 Lower the needle bar. Loosen the hexagonal socket screw and remove the needle clamp.

5 Remove the setscrew (B), presser foot and cushion.



Needle bar holder screw



Presser foot holder

Presser foot return spring

Place the washer here.

- 6 Loosen the needle bar holder screw.  
Pull the needle bar up until the bottom end of the needle bar reaches the bottom end of the presser foot holder.

**Note:** Do not pull the needle bar out of the frame.

- 7 Replace the white plastic washer with the metal washer. Replace the foot return spring with the new spring (closed end coil).



Setscrew (B)

Presser foot

- 8 Attach the presser foot to the presser foot block with the setscrew (B).  
Tighten the setscrew (B) loosely.

- 9 Attach the cushion and needle clamp to the needle bar.
- 10 Turn the needle bar so the upper hole faces front and the lower hole faces 30 degrees right to the front. Screw the needle clamp screw through the needle clamp and into the lower hole in the needle bar. Insert the needle with the long groove facing front (in line with the upper hole).

- 11 Tighten the needle clamp screw lightly while pressing the needle clamp down.  
Turn the hand wheel to lower the needle bar at its lowest position. Hold the needle clamp with your fingers and tighten the hexagonal socket screw securely. Tighten the needle clamp screw securely.

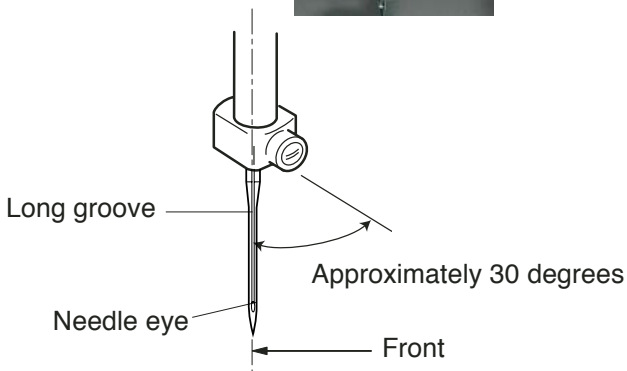
**Note:** The long groove of the needle should face front.

Hexagonal socket screw



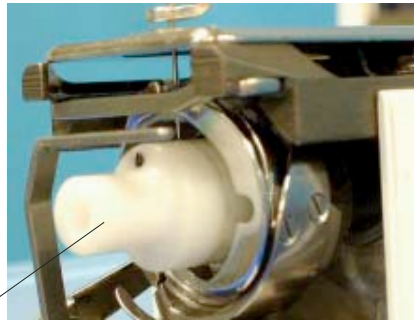
Upper hole

Needle clamp screw

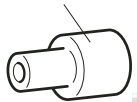




Needle rest (view from the side of the moving head)



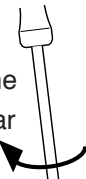
Needle bar height gauge



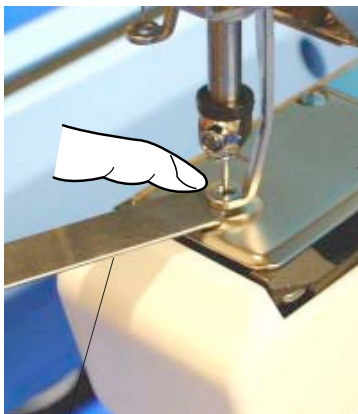
Needle bar holder screw



Hole in the needle bar

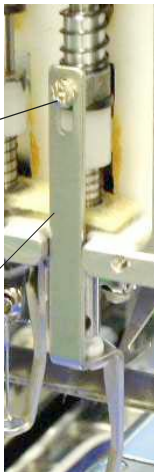


Cap screw

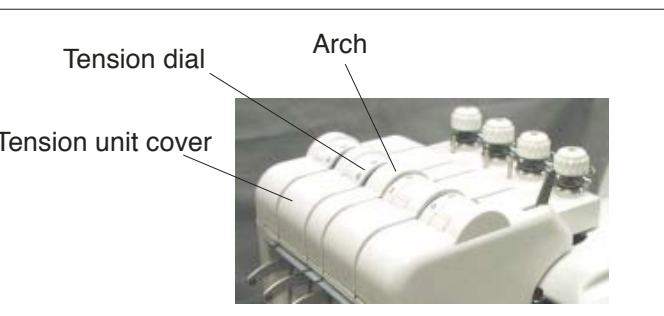


Setscrew (B)

Presser foot



Thickness gauge (1.2 mm)



Tension dial

Arch

Tension unit cover

### Step 3: Adjusting the Height of the Needle Bar and Presser Foot

- 12 Remove the bobbin case.
- 13 Hold the needle bar holder and push the needle bar down until it clicks.
- 14 Lower the needle bar to the lowest position by turning the hand wheel.
- 15 Insert the needle bar height gauge into the hook.
- 16 Knock on the top of the needle bar gently until the tip of the needle contact the gauge.  
Turn the gauge to find if the needle reaches the gauge. Set the direction of the needle bar so the hole in the needle bar faces directly the front.
- 17 Tighten the needle bar holder screw securely.  
**Note:** Check if the needle bar is securely fixed by turning the cap screw clockwise.
- 18 Loosen the setscrew (B).
- 19 Insert the 1.2 mm thickness gauge between the presser foot and needle plate. Press the presser foot down against the gauge.
- 20 Tighten the setscrew (B) securely.
- 21 Remove the needle bar height gauge.
- 22 Turn the hand wheel to match the alignment line on it with the joint of the right and left covers (the upper shaft will be set at 270 degrees).



- \* To replace the spring and washer on other needle bars, follow the above steps (select the relevant needle bar in the Needle Change adjusting window).
- 23 Attach the tension control unit and thread catcher panel (head cover). Lower thread guide plate and tension unit cover.  
**Note:** Be sure not to get wires caught between covers. Adjust the position of the tension unit cover so the arch of the cover aligns with the tension dials.

### Step 4: Test Sewing

Insert the test pattern card into the RCS unit and sew the test pattern.  
Use a 120 deniers rayon thread or equivalent for needle and a #120 cotton or polyester thread for bobbin.