

**SERVICE MANUAL**  
**&**  
**PARTS LIST**

**MODEL: CoverPro 3000 PROFESSIONAL**  
**(Continental Europe)**  
**(Australia)**  
**(UK)**

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P44-6: image added.

P45-20: 624245001 Thrust stopper → 000038502 Washer

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P49-5: 778108012 → 778108001



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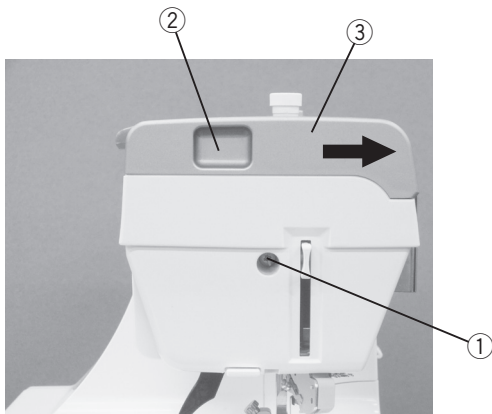
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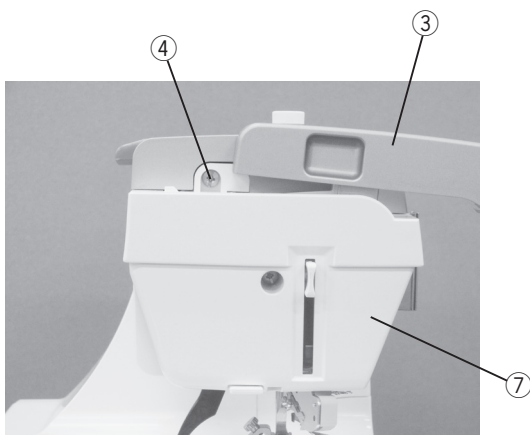
# Replacing the External Parts



## 1. Face cover

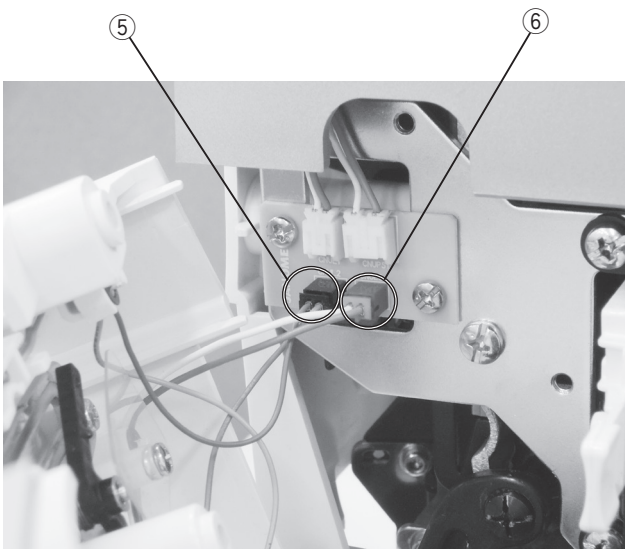
### To remove:

- 1 Remove the setscrew ①.  
Place your finger in the groove ② and slide the lamp arm cover ③ to the right.  
Remove the setscrew ④.  
Disconnect the connector A ⑤ and connector B ⑥.  
Remove the face cover ⑦.

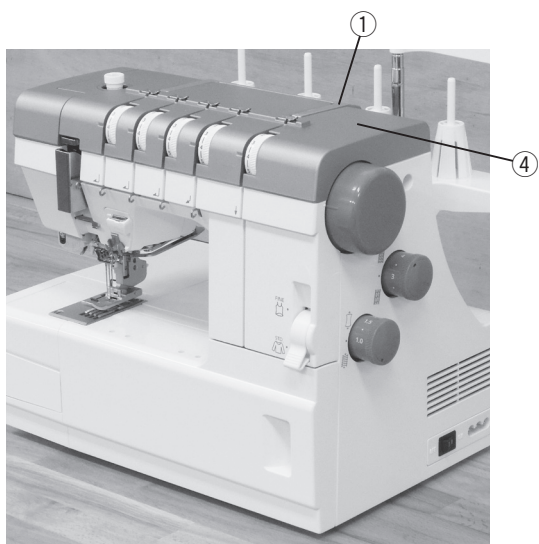


### To attach:

- 2 Follow the above procedures in reverse.



# Replacing the External Parts



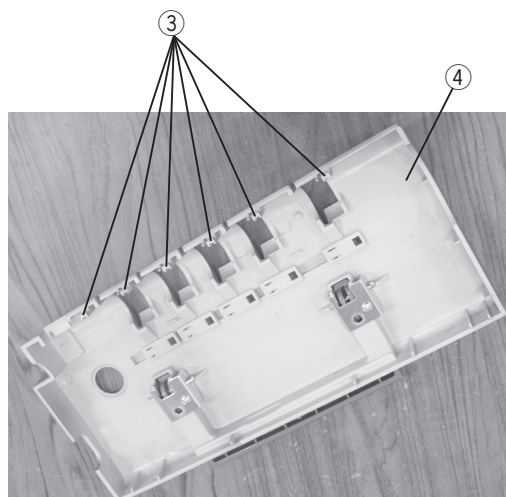
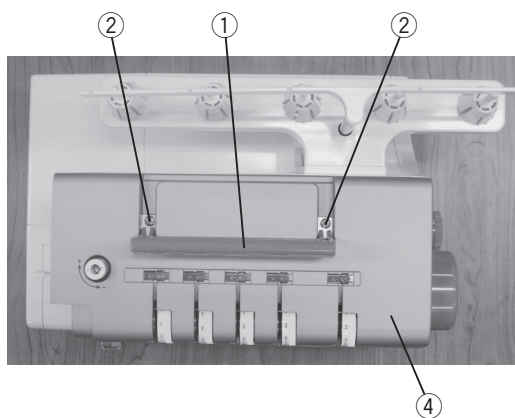
## 2. Top Cover

### To remove:

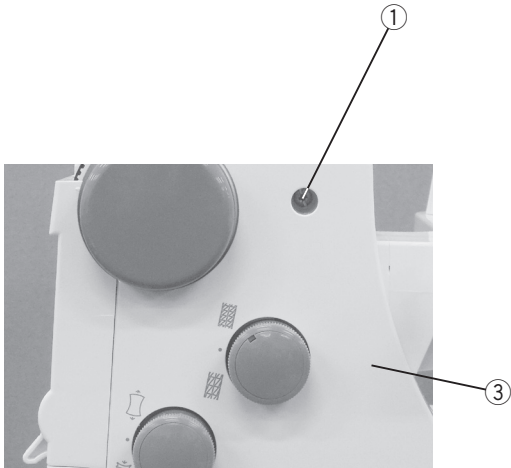
- 1 Raise the carrying handle ①.  
Remove the setscrews ② (2 pcs.).  
Remove the hooks ③ (6 pcs.).  
Remove the top cover ④.

### To attach:

- 2 Follow the above procedures in reverse.



# Replacing the External Parts



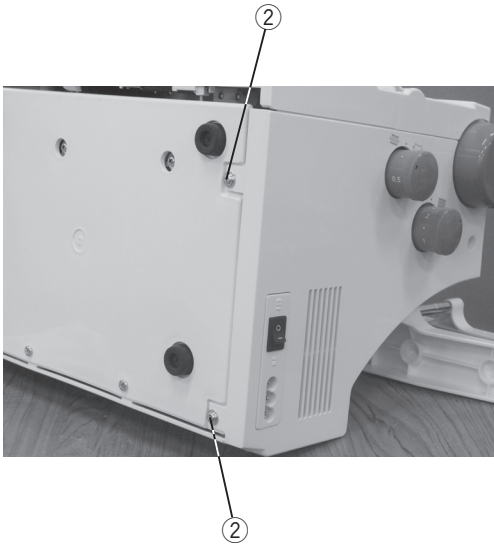
## 3 . Belt Cover

### To remove:

- 1 Remove the setscrew ①.
- Loosen the setscrews ② (2 pcs.).
- Remove the belt cover ③.

### To attach:

- 2 Follow the above procedures in reverse.



# Replacing the External Parts



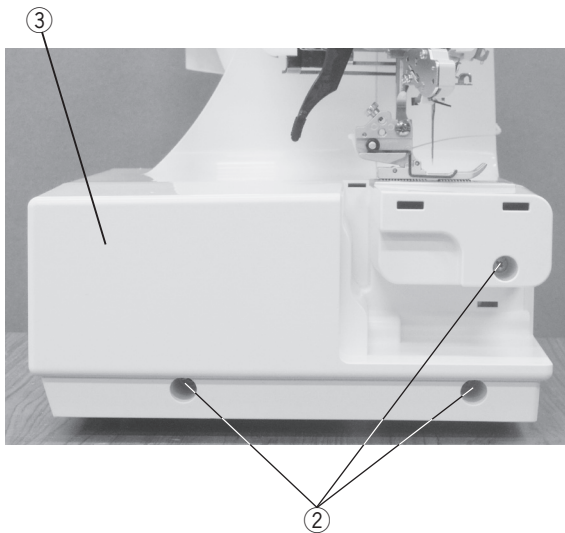
## 4. Free Arm Cover

### To remove:

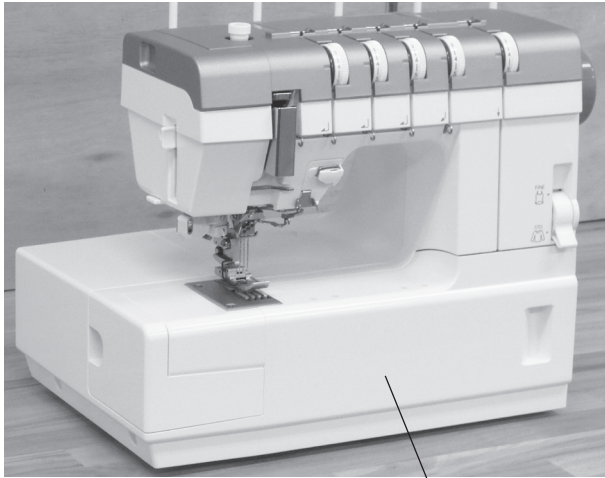
- 1 Pull the extension table ① away from the machine.  
Remove the setscrews ② (3 pcs.).  
Remove the free arm cover ③.

### To attach:

- 2 Follow the above procedures in reverse.



# Replacing the External Parts



②

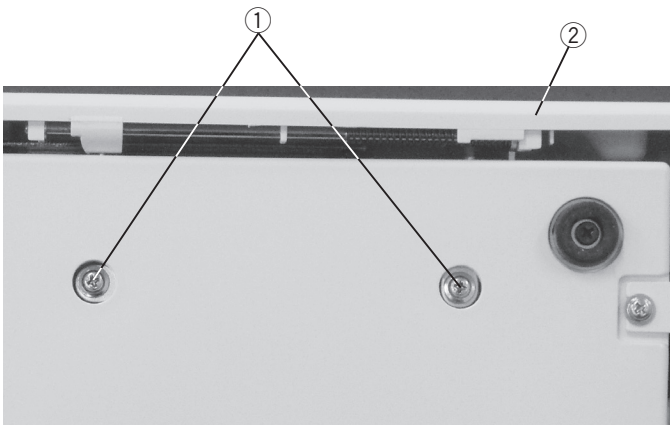
## 5. Looper Cover

### To remove:

- ① Remove the setscrews ① (2 pcs.)  
Remove the looper cover ② (with a hinge attached).

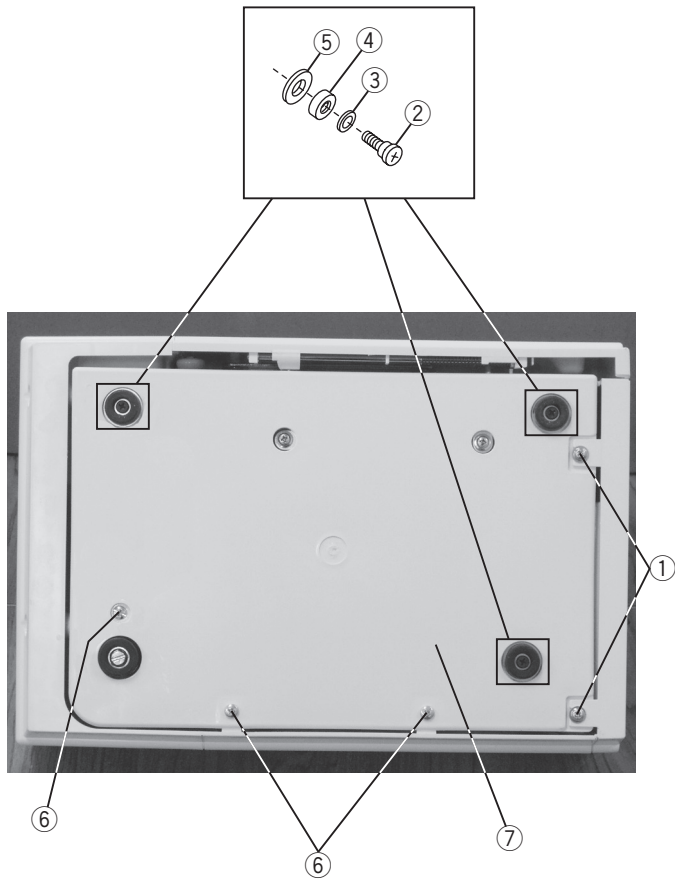
### To attach:

- ② Follow the above procedures in reverse.



(View from the bottom side)

# Replacing the External Parts



## 6. Base plate

### To remove:

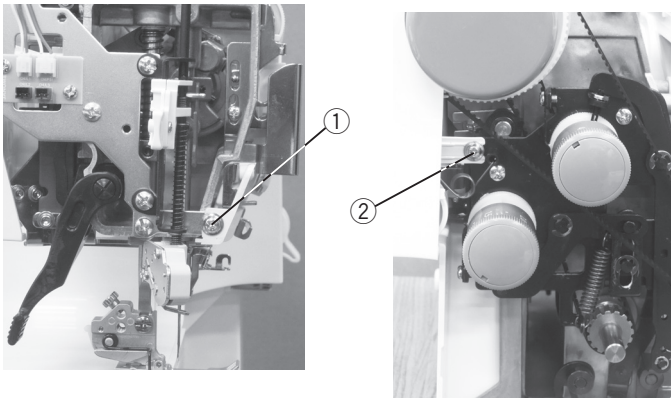
- 1 Loosen the setscrews ① (2 pcs.).  
Remove the hinge screws ② (3 pcs.), washers ③ (3 pcs.), rubber feet ④ (3 pcs.) and rubber foot washers (3 pcs.) ⑤.  
Remove the setscrews ⑥ (3 pcs.).  
Remove the base plate ⑦.

### To attach:

- 2 Follow the above procedures in reverse.



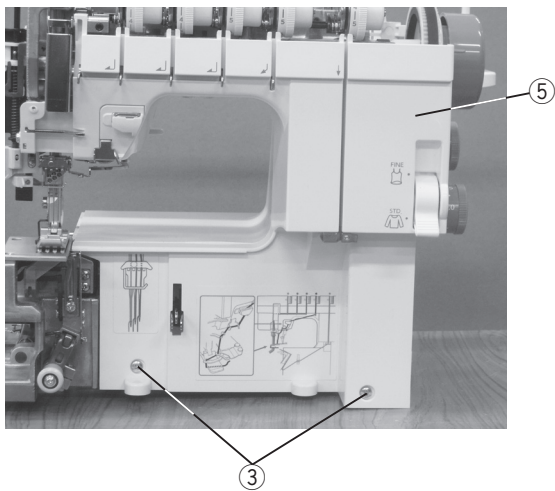
# Replacing the External Parts



## 7. Front Cover

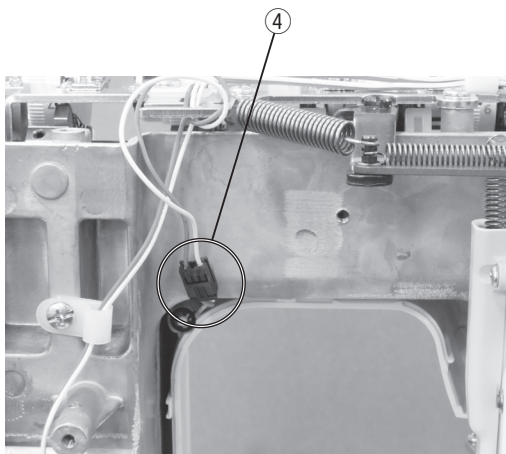
### To remove:

- 1 Remove the face cover, top cover, belt cover, free arm cover and looper cover (see pages 1 to 5).
- 2 Loosen the setscrews 1, 2 (2 pcs.).  
Remove the setscrews 3 (2 pcs.).  
Disconnect the connector 4.  
Remove the front cover 5.



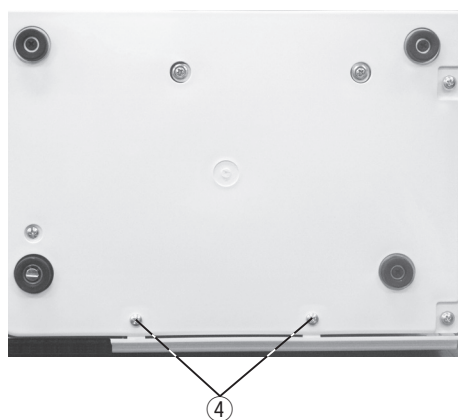
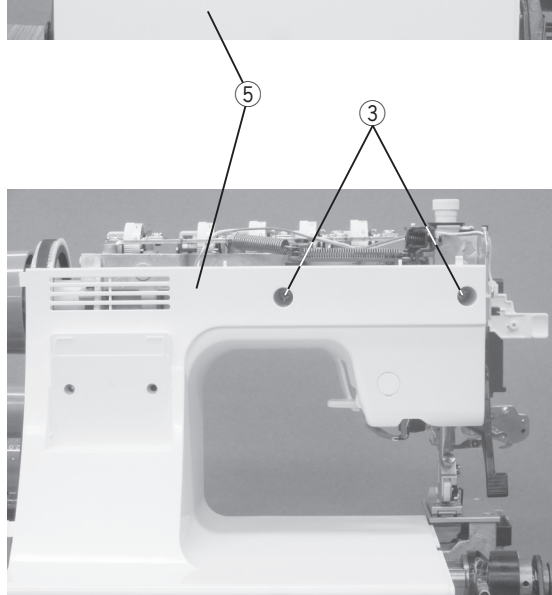
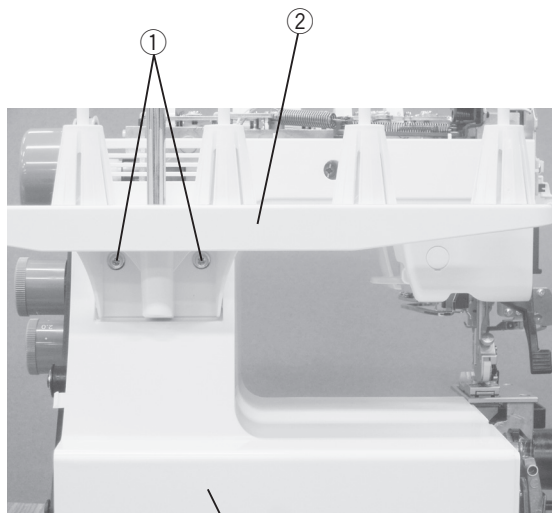
### To attach:

- 3 Follow the above procedures in reverse.



(View from the rear side)

# Replacing the External Parts



## 8 . Rear Cover

### To remove:

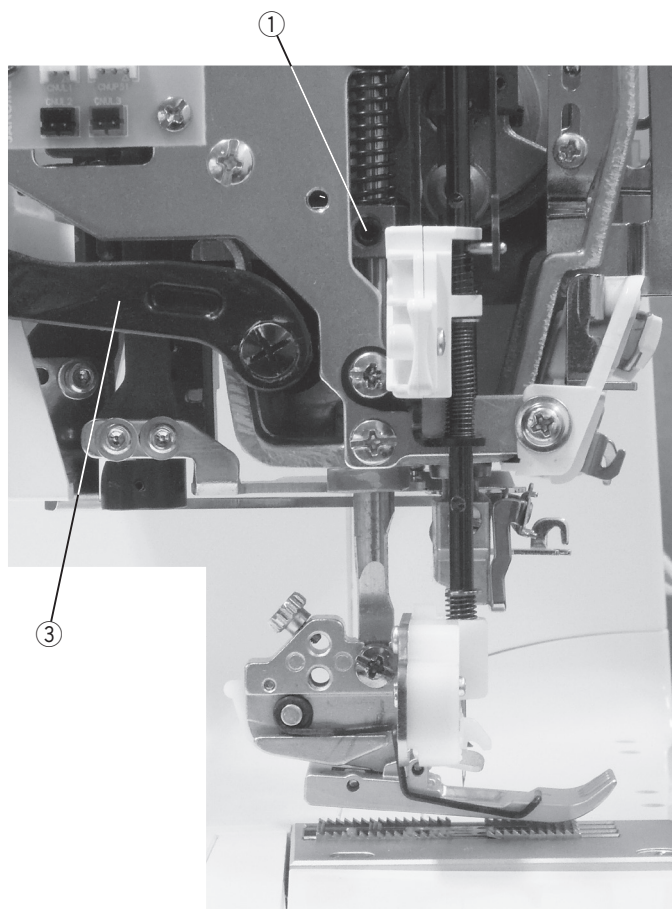
- 1 Remove the face cover, top cover and free arm cover (see pages 1, 2 and 4).
- 2 Remove the setscrews ① (2 pcs.).  
Remove the spool stand ②.  
Remove the setscrews ③ (2 pcs.).  
Remove the setscrews ④ (2 pcs.).  
Remove the rear cover ⑤.

### To attach:

- 2 Follow the above procedures in reverse.



# Mechanical Adjustment



## 1. Presser Bar Height

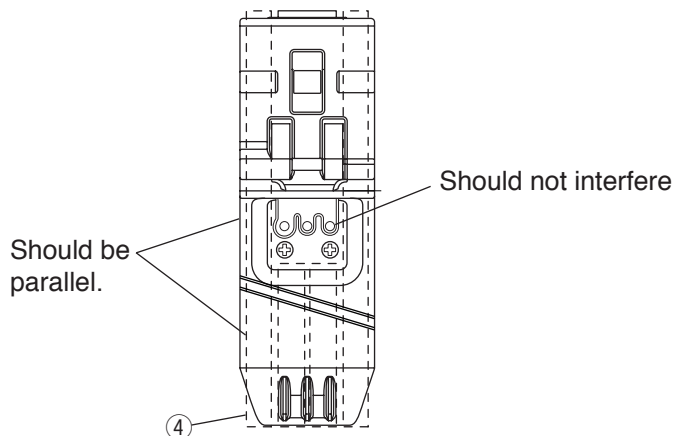
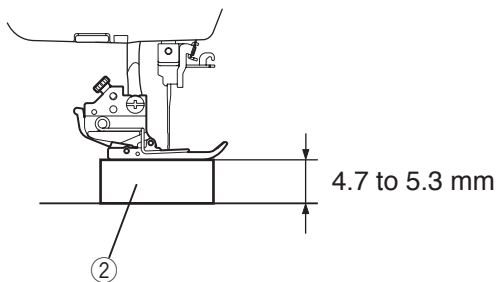
The distance between the bottom of the presser foot in up position and the needle plate should be 4.7 to 5.3 mm.

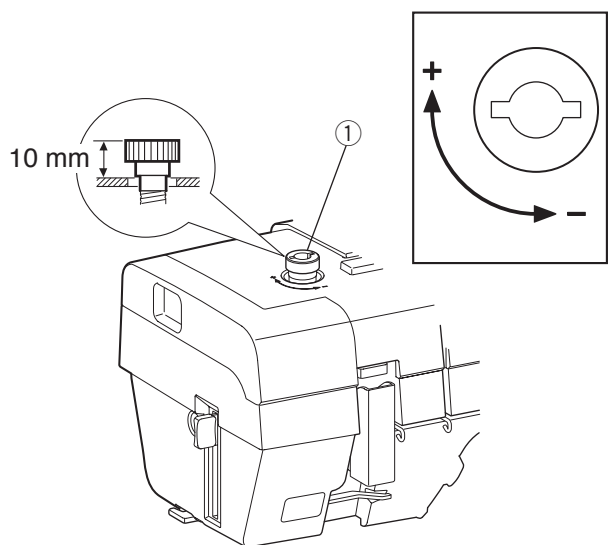
- 1 Remove the face cover (see page 1).
- 2 Raise the presser foot and loosen the hexagonal socket screw 1.
- Place a block 5 mm 2 thick under the presser foot and lower the presser foot lifter 3.
- 3 Tighten the hexagonal socket screw 1 firmly.

### NOTE:

Make sure that the presser foot should be parallel to the feed dog slots 4 in the needle plate and should not interfere with the needles.

- 4 Attach the lamp set plate, front cover and face plate.

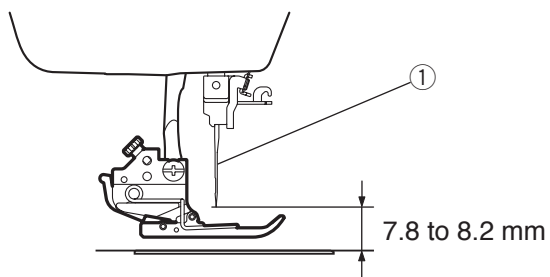




## 2. Presser Foot Pressure

The pressure adjusting screw should protrude 10 mm from the top of the machine.

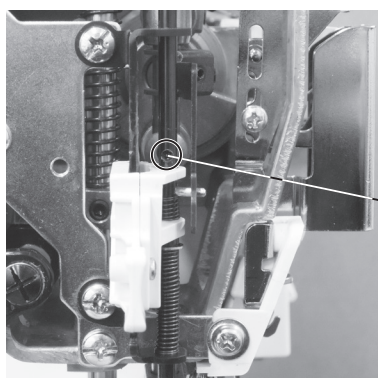
- 1 Turn the adjusting screw ① to set its height at 10 mm.



### 3. Needle Bar Height

The distance between the point of the left needle (Schmetz ELx705, size 80/12) and the upper surface of the needle plate should be 7.8 to 8.2 mm when the needle bar is at the highest position.

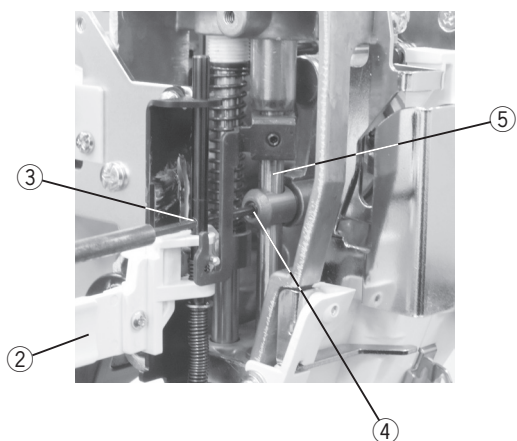
- 1 Remove the face cover and top cover (see pages 1 to 2).
- 2 Replace the left needle with Schmetz ELx705, size 80/12 needle 1.
- 3 Turn the handwheel toward you to raise the needle bar to the highest position.
- 4 Lower the needle threader lever 2 to align the needle threader shaft hole 3 with the hexagonal socket screw 4.
- 5 Loosen the hexagonal socket screw 4 and move the needle bar 5 up or down to adjust the distance at 8.0 mm.



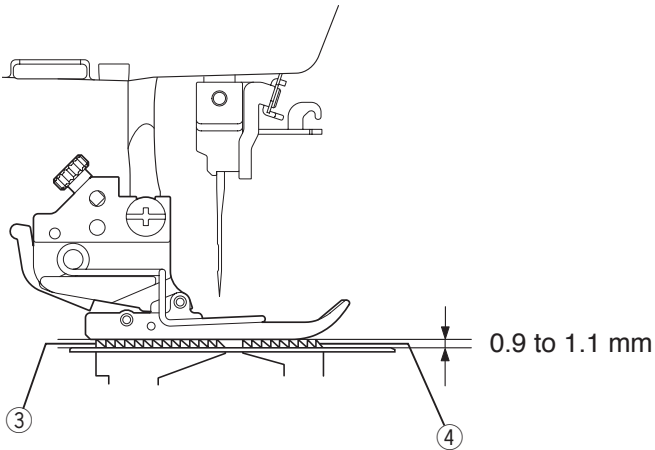
Lower the needle threader lever 2 to align the needle threader shaft hole 3 with the hexagonal socket screw 4.

#### NOTE:

Be sure not to rotate the needle bar when adjusting the needle bar height.



- 6 Attach the top cover and face cover.



#### 4. Feed Dog Height

Turn the handwheel toward you to raise the feed dog to its highest position.

When the presser foot is lowered, the maximum height of the feed dog should be 0.9 to 1.1 mm above the needle plate.

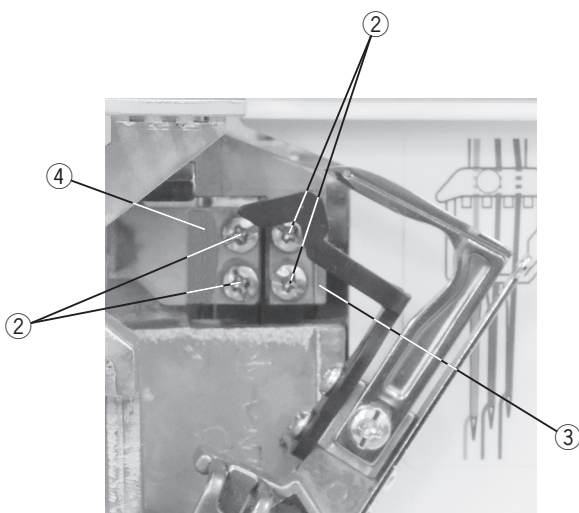
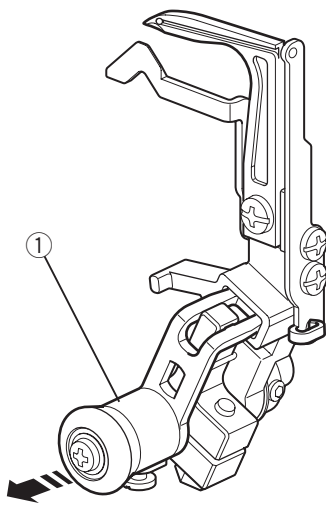
1 Set the stitch length dial at **3** and differential feed dial at **1.0**.

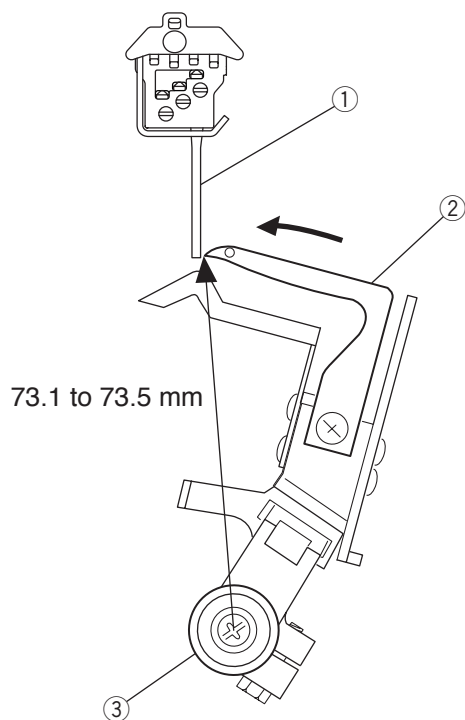
2 Lower the presser foot and turn the handwheel toward you to raise the feed dog to its highest position.

3 Open the looper cover.  
Pull the looper release knob ① and turn the looper the right.  
Loosen the setscrews ② (4 pcs.).

4 Move the main feed dog ③ and sub feed dog ④ up or down to set the height at 1.0 mm.

5 Tighten the setscrews ② (4 pcs.) firmly.  
Close the looper cover.

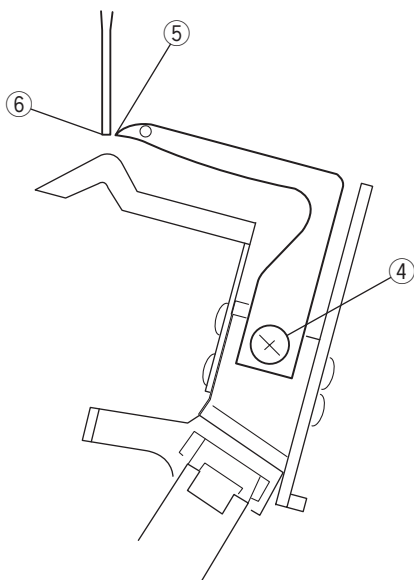


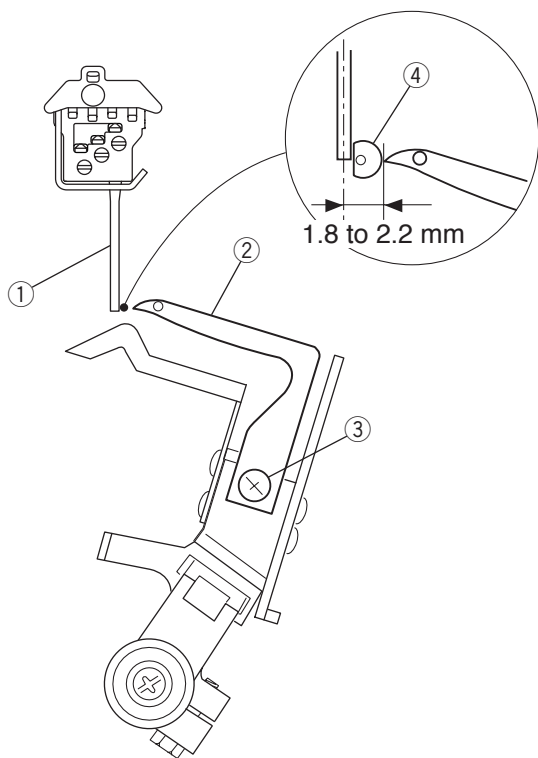


## 5. Looper Height

The height of the tip of the looper should be 73.1 to 73.5 mm.

- 1 Remove the free arm cover (see page 4) and the needle plate.
- 2 Replace the right needle with the short test pin (28.3 mm long) 1.
- 3 Turn the handwheel toward you to bring the looper 2 to its rightmost position.
- 4 Pull the looper release knob 3 and turn the looper to the left.  
Loosen the setscrew 4 and move the looper up or down to match its point 5 with the tip 6 of the test pin.
- 5 Tighten the setscrew 4 firmly.
- 6 Replace the test pin with a regular needle.  
Attach the free arm cover and needle plate.





## 6. Looper Position

The distance between the tip of the looper and center of the right needle should be 1.8 to 2.2 mm when the looper is at its rightmost position.

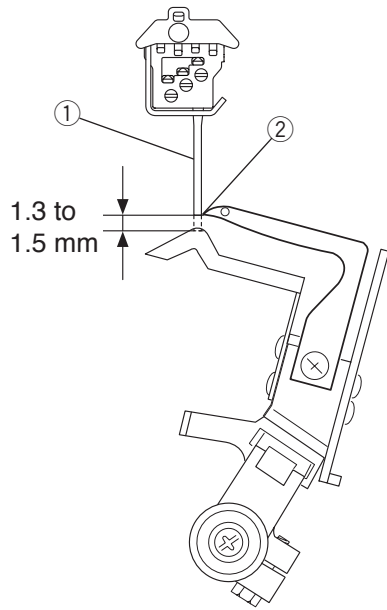
- 1 Remove the free arm cover (see page 4) and the needle plate.
- 2 Replace the right needle with the short test pin (28.3 mm long) ①.
- 3 Turn the handwheel toward you to bring the looper ② to its rightmost position.
- 4 Loosen the setscrew ③ and move the looper to the left or right to adjust the distance between the test pin and tip of the looper to 2.0 mm.

### NOTE:

Do not move the looper up or down otherwise the looper height will change.

Use a stem ④ of the regular needle to check if there is a proper gap between the tip of the looper and test pin.

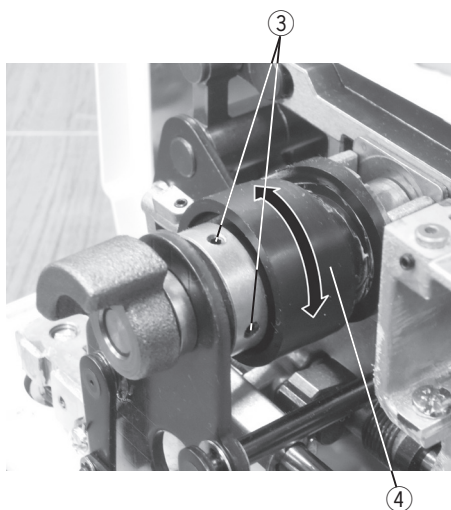
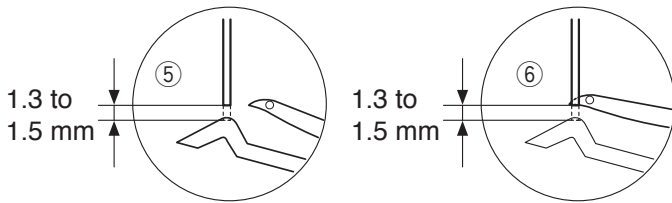
- 6 Tighten the setscrew ③ firmly.
- 7 Replace the test pin with a regular needle. Attach the free arm cover and needle plate.



## 7. Needle to Looper Timing

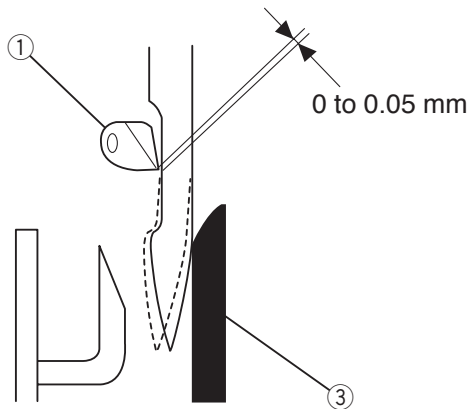
When the point of the looper meets with the right side of the needle on the right, the needle bar rises 1.3 to 1.5 mm from the lowest position.

- 1 Remove the free arm cover (see page 4) and needle plate.
- 2 Replace the right needle with the long test pin (30.24 mm long) ①.
- 3 Turn the handwheel toward you until the looper point ② meets with the right side of the test pin.
- 4 Loosen the hexagonal socket screws ③ (2 pcs.) and turn the looper rocking cam ④ to match the looper point with the tip of the test pin.  
If the looper timing is too late ⑤, turn the looper rocking cam ④ clockwise.  
If the looper timing is too early ⑥, turn the looper rocking cam ④ counterclockwise.
- 5 Tighten the hexagonal socket screws ③ (2 pcs.) firmly.
- 6 Replace the test pin with a regular needle.  
Attach the free arm cover and needle plate.

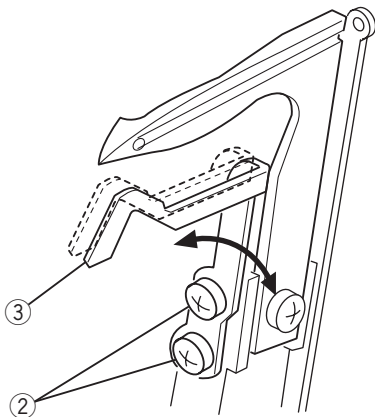


## 8. Clearance between the Needle and Looper

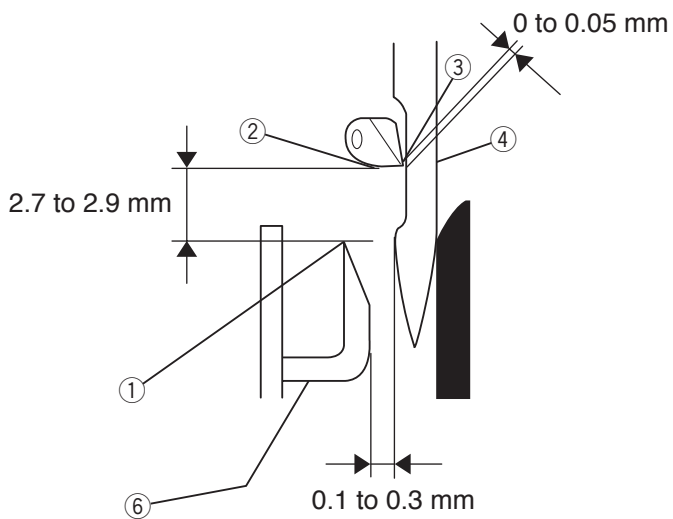
The clearance between the tip of the looper and scarf of the attached needle (Schmetz ELx705, size 80/12) should be 0 to 0.05 mm.



- 1 Remove the free arm cover (see page 4) and needle plate.
- 2 Turn the handwheel toward you until the looper point ① comes behind the needle.
- 3 Loosen the setscrews ② and thrust the front needle guard ③ against the needle to make 0 to 0.05 mm clearance between the needle and tip of the looper.
- 4 Tighten the setscrews ② and check the clearance.
- 5 Attach the free arm cover and needle plate.



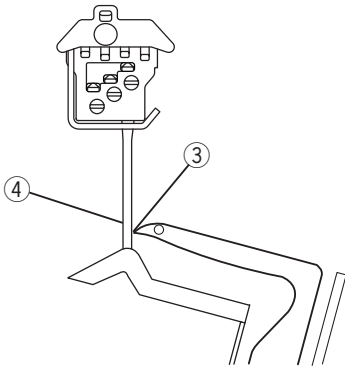




## 9. Rear Needle Guard Height

The upper edge of the rear needle guard ① should be 2.7 to 2.9 mm below the lower edge of the tip of the looper ② when the tip of the looper ③ meets with the right side of the needle ④.

- ① Remove the free arm cover and needle plate.
- ② Turn the handwheel toward you until tip of the looper ③ matches with the right side of the needle.
- ③ Loosen the setscrews ⑤ and move the back needle guard ⑥ up or down to set the upper edge ① 2.8 mm below the lower edge ② of the tip of the looper.
- ④ Turn the handwheel toward you slightly to bring the tip of the looper behind the needle.  
Check the clearance between the rear needle guard and the needle (Schmetz ELx705, size 80/12). It should be 0.1 to 0.3 mm.

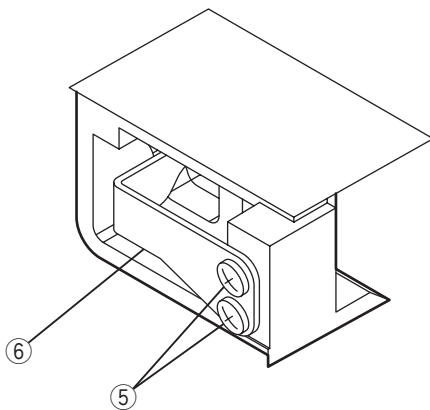


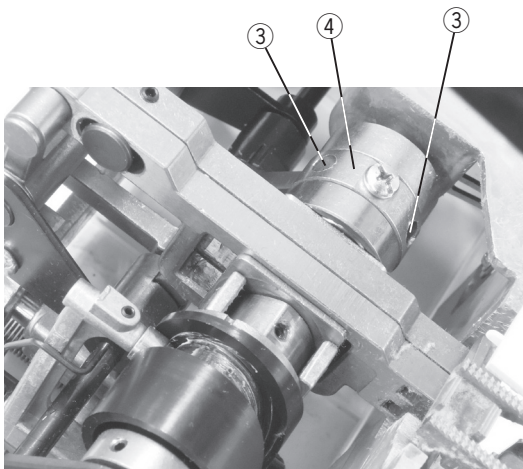
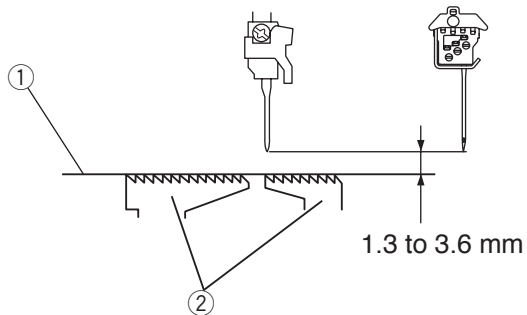
### NOTE:

If the clearance is out of the standard range, adjust it by re-positioning the front needle guard.

However, the clearance between the tip of the looper ③ and needle ④ should be 0 to 0.05 mm.

- ⑤ Tighten the setscrews ⑤.
- ⑥ Attach the free arm cover and needle plate.





## 10. Needle to Feed Dogs Timing

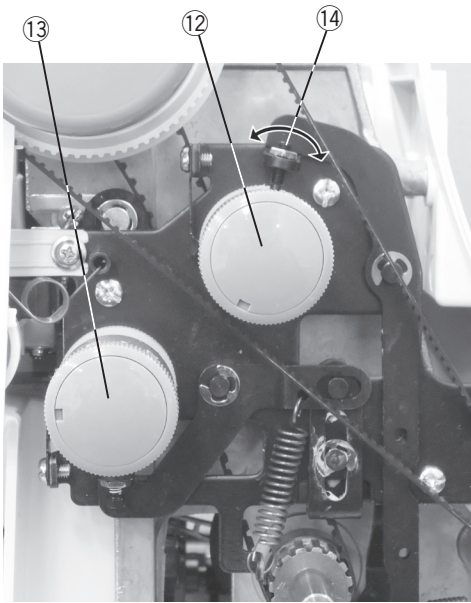
The tip of the right needle should be 1.3 to 3.6 mm above the upper surface of the needle plate ① when the top of the feed dogs ② are same level with the upper surface of the needle plate ① in its downward motion.

- ① Remove the free arm cover and rear cover.
- ② Set the stitch length dial at **3** and differential feed dial at **1.0**.
- ③ Turn the handwheel toward you to lower the needle bar until the tip of the left needle is 2.6 mm above the upper surface of the needle plate ①.
- ④ Loosen the hexagonal socket screws ③ (2 pcs.) and turn the feed cam ④ to adjust the height of the feed dogs (see page 12).

If the top of the feed dogs are higher than upper surface of the needle plate ①, turn the feed cam ④ clockwise.

If the top of the feed dogs are lower than upper surface of the needle plate ①, turn the feed cam ④ counterclockwise.

- ⑤ Tighten the hexagonal socket screws ③ (2 pcs.). Attach the rear cover and free arm cover.



## 11. Stitch Length

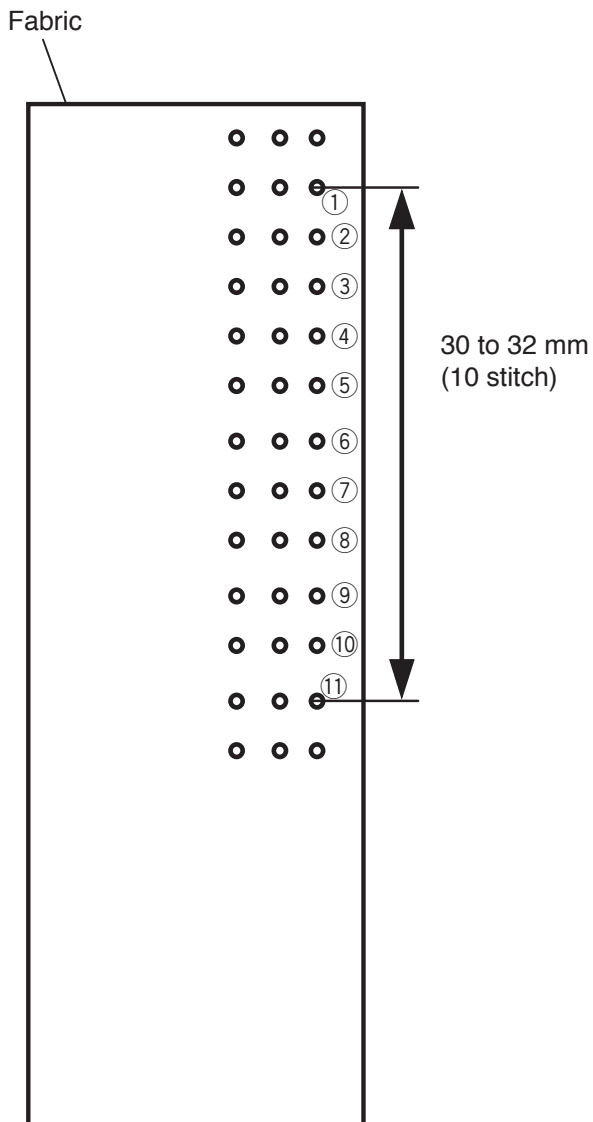
The actual stitch length should be 3.0 to 3.2 mm (30 to 32 mm for 10 stitches ① to ⑪) when the stitch length dial ⑫ is set to “3” and the differential feed dial ⑬ to “1.0”.

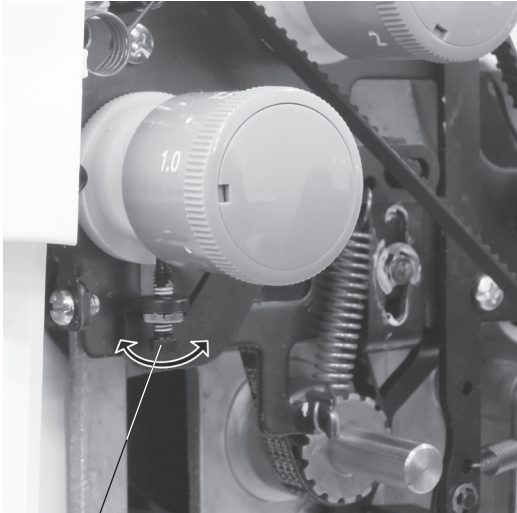
- ① Set the stitch length dial ⑫ to “3” and the differential feed dial ⑬ to “1.0”.
- ② Open the looper cover.  
Remove the belt cover (see page 3).
- ③ Sew 11 stitches on a piece of paper and measure the distance between the first stitch and eleventh stitch (10-stitch length).

If the stitch length is longer than 32 mm, turn the adjusting screw ⑭ counterclockwise.

If the stitch length is shorter than 30 mm, turn the adjusting screw ⑭ clockwise.

- ④ Measure the distance for 10 stitches again.  
Adjust until distance becomes 30 to 32 mm.
- ⑤ Attach the belt cover.  
Close the looper cover.





①

## 12. Differential Feed Ratio

The main and sub feed dogs should move uniformly together when the stitch length dial is set at 3 and differential feed dial at 1.0.

- ① Remove the belt cover (see page 3).
- ② Set the stitch length dial at **3** and differential feed dial at **1.0**.
- ③ Turn the adjusting screw ① to adjust the differential feed ratio.

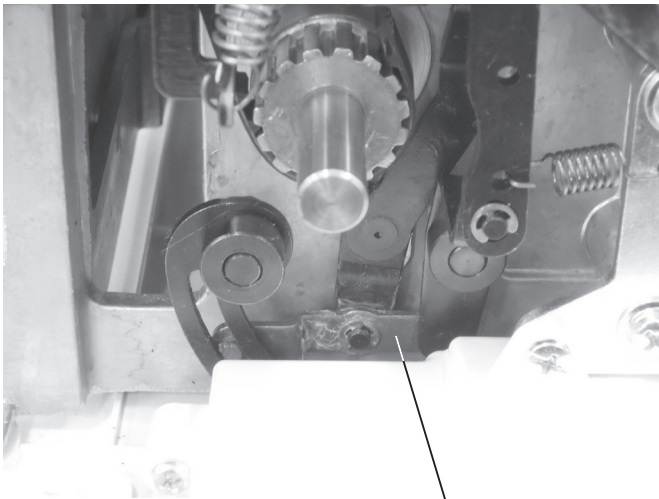
If the sub-feed dog moves less than the main feed dog does, turn the adjusting screw clockwise.

If the sub-feed dog moves more than the main feed dog does, turn the adjusting screw counterclockwise.

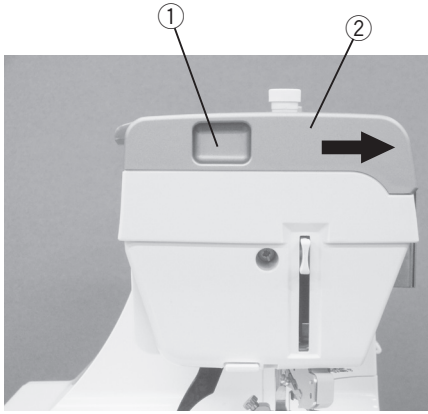
### NOTE:

When the differential feed ratio is properly adjusted, the feed link ② become horizontal.

- ④ Attach the belt cover.



②



### 13. Thread Tension

The standard thread tension measured with the King brand white polyester thread (#50) should be as below:

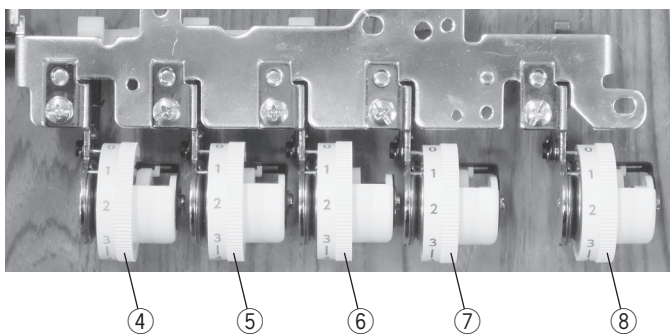
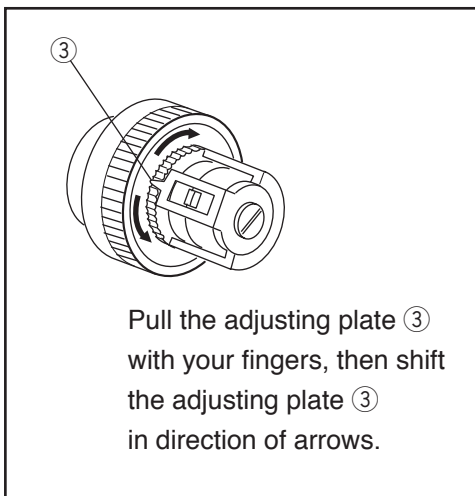
- 1 Remove the top cover (see page 2).  
Place your finger in the groove ① and slide the lamp arm cover ② to the right.

- 2 Turn the adjusting plate ③ to adjust the tension.

If the tension is too loose, turn the adjusting plate clockwise.

If the tension is too tight, turn the adjusting plate counterclockwise.

- 3 Attach the front cover, belt cover, top cover and face cover.



Dial	Thread tension	Tension Value
④ Left needle thread	85 to 95 gf	4
⑤ Center needle thread	65 to 75 gf	4
⑥ Right needle thread	55 to 65 gf	4
⑦ Top needle thread	5 to 9 gf	4
⑧ Looper needle thread	7 to 13 gf	4

## 14. Motor

### To replace:

- ① Remove the belt cover and rear cover (see pages 3 and 8).
- ② Remove the setscrews ① (2 pcs.) and machine socket cover ②.
- ③ Remove the setscrews ③ (2 pcs.) and machine socket ④.
- ④ 120V: Disconnect the motor cord (black) ⑤ and motor cord (white line) ⑥ from the connector tabs ⑦ (2 pcs.).

220 to 240V: Disconnect the motor cord (brown) ⑧ and motor cord (blue) ⑨ from the connector tabs ⑩ (2 pcs.).

- ⑤ Remove the setscrews ⑪ (2 pcs.).  
Remove the motor ⑫.
- ⑥ Install the new motor with the setscrews ⑪ (2 pcs.).  
Attach the motor belt.

- ⑦ **120V:** Connect the motor cord (black) ⑤ and motor cord (white) ⑥ to the connector tabs ⑦ (2 pcs.).

**220 to 240V:** Connect the motor cord (brown) ⑧ and motor cord (blue) ⑨ to the connector tabs ⑩ (2 pcs.).

- ⑧ Attach the machine socket ④ with the setscrews ③ (2 pcs.).  
Attach the machine socket cover ② with the setscrews ① (2 pcs.).

- ⑨ Adjust the motor belt tension (see below).

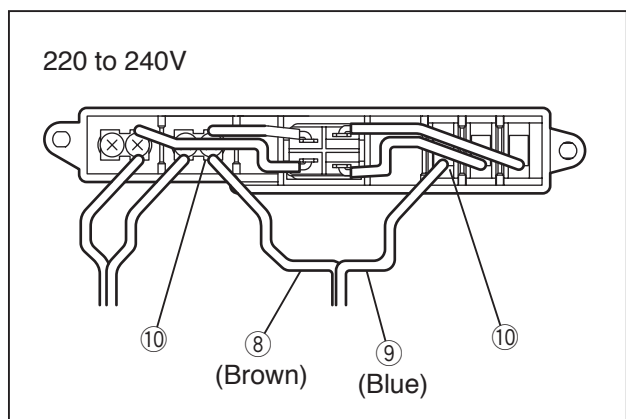
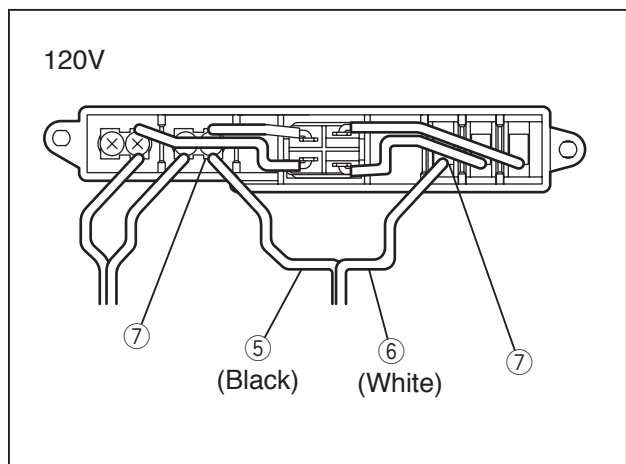
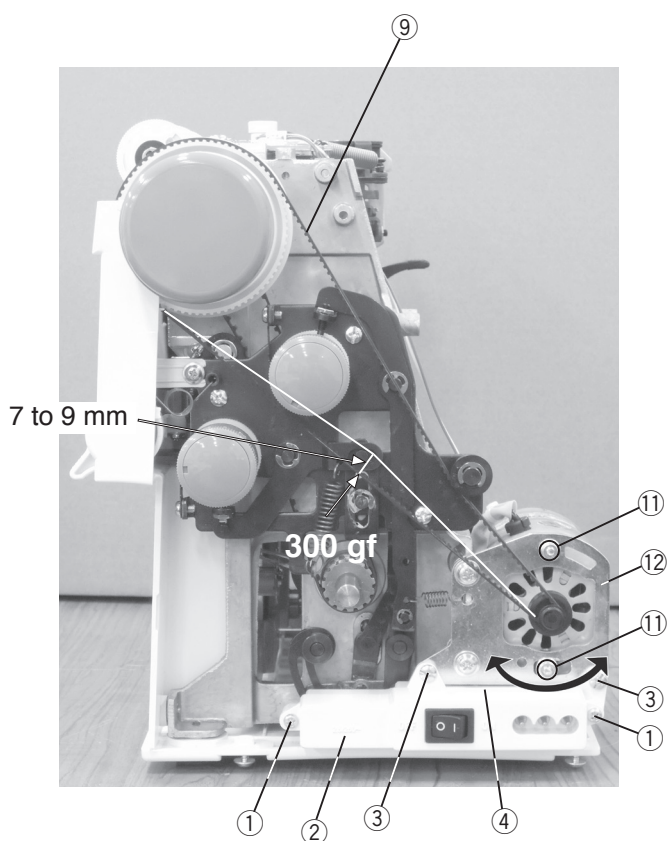
### To adjust the motor belt tension:

The motor belt ⑨ should deflect 7 to 9 mm when applying 300 grams-force of load to the middle of the motor belt.

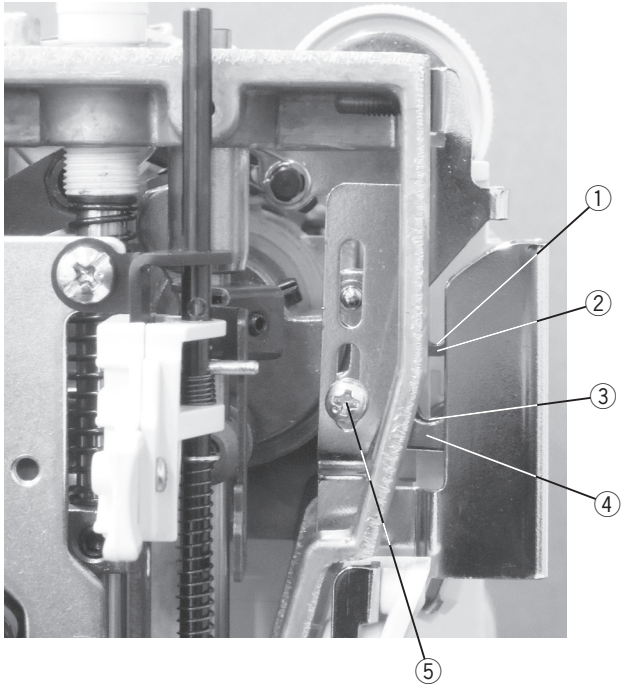
- ① Slightly loosen the setscrews ⑪ (2 pcs.).  
Move the motor left or right to adjust the motor belt tension.

- ② Tighten the setscrews ⑪ (2 pcs.) firmly.

- ③ Attach the rear cover and belt cover.





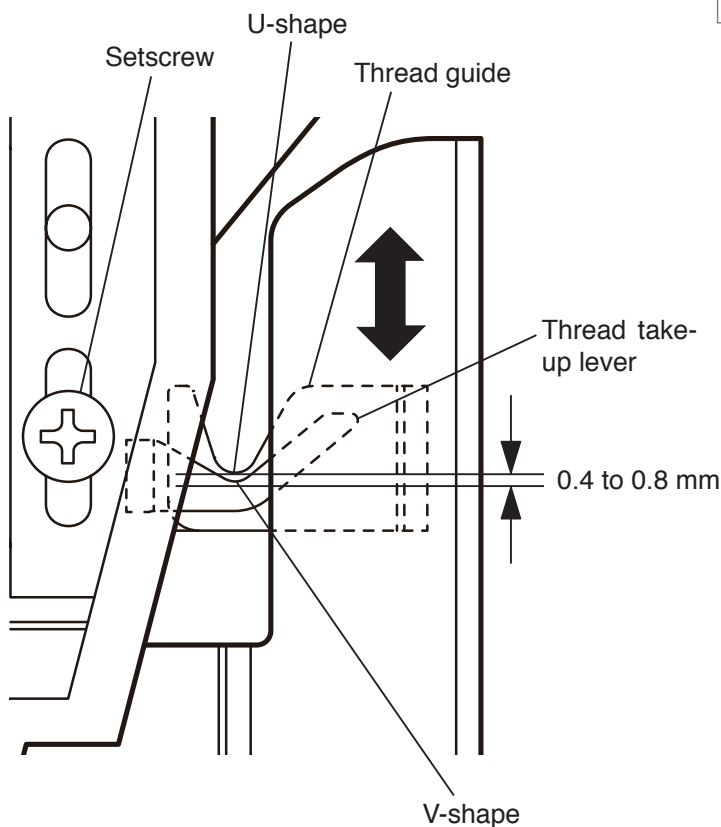


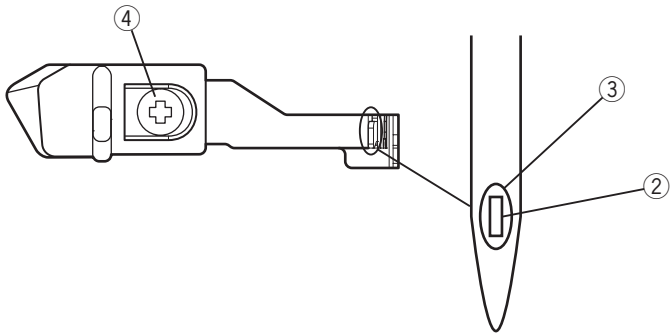
## 15. Thread take-up lever

Turn the fine mode switching lever to “STD”.

The distance between the U-shape ① of the thread guide ② and the V-shape ③ of the thread take-up lever ④ should be 0.4 to 0.8 mm when the thread take-up lever is at its lowest position.

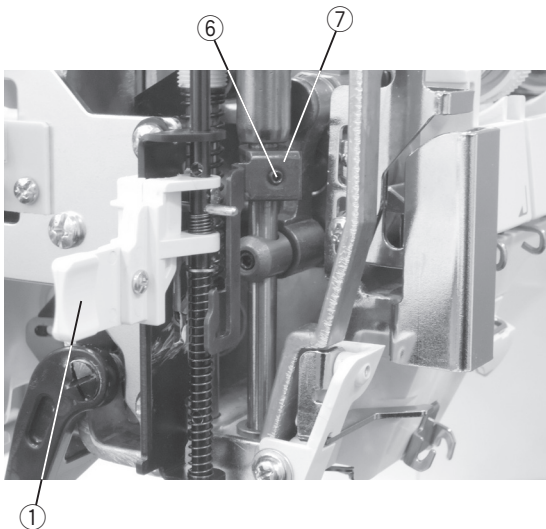
- ① Remove the face cover and top cover (see pages 1 and 2).
- ② Turn the handwheel toward you to lower the thread take-up lever ④ to its lowest position.
- ③ The distance between the U-shape ① of the thread guide and the V-shape ③ of the thread take-up lever should ④ be 0.6 mm as shown. If not, loosen the setscrew ⑤. Adjust the thread guide position up or down.
- ④ Tighten the setscrew ⑤.





## 16. Replacing the needle threader

When replacing the needle threader, adjust the hook position as well.



1 Be sure that the needle bar height is correct (see page 11).

2 Remove the face cover, top cover (see pages 1 to 2).

3 Lower the presser foot lifter.

Turn the handwheel toward you to raise the needle at its highest position.

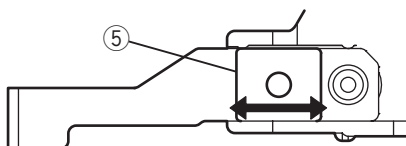
Lower the needle threader lever ①.

Adjust the horizontal hook position, and the vertical hook position so that the hook ② goes through the center needle hole ③.

### Adjusting the horizontal hook position

Loosen the setscrew ④ to move the nut ⑤ to adjust the hook position.

Tighten the setscrew ④ after the adjustment.



(View from the rear side)

### Adjusting the vertical hook position

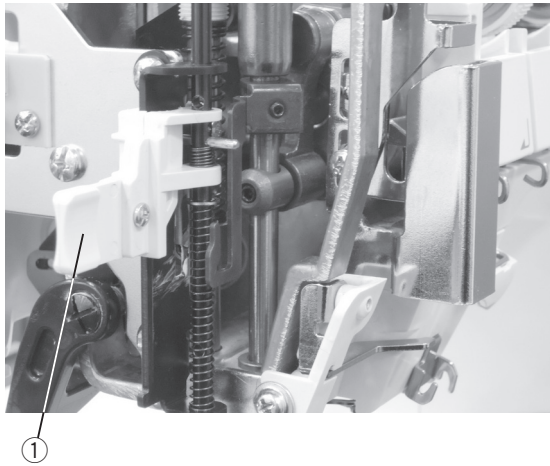
Loosen the hexagonal socket screw ⑥ and move the needle threader position plate ⑦ up or down to adjust the needle threader hook ② height.

Tighten the hexagonal socket screw ⑥ after the adjustment.

4 Lower the needle threader lever ①.

Be sure that the hook go through the needle hole ③. Next, adjust the needle threader switch lever position (see page 25).

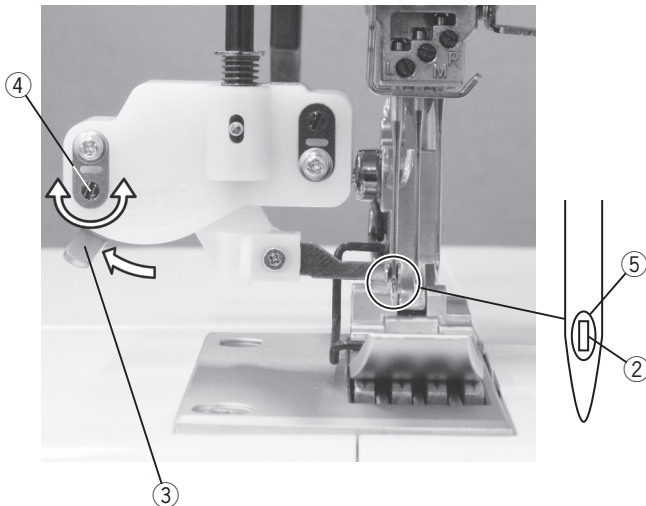




## 17. Adjusting needle threader switch lever

Make the following adjustment (16. Replacing the needle threader) after making the adjustment on the previous page.

- 1 Remove the face cover, top cover (see pages 1 to 2).
- 2 Turn the handwheel toward you to raise the needle bar at its highest position.  
Lower the needle threader lever 1.  
Be sure that the hook 2 goes through the center needle hole.



### Adjusting needle threader switch lever horizontal position (left needle)

Switch the lever to L 3.

Lower the needle threader lever 1.

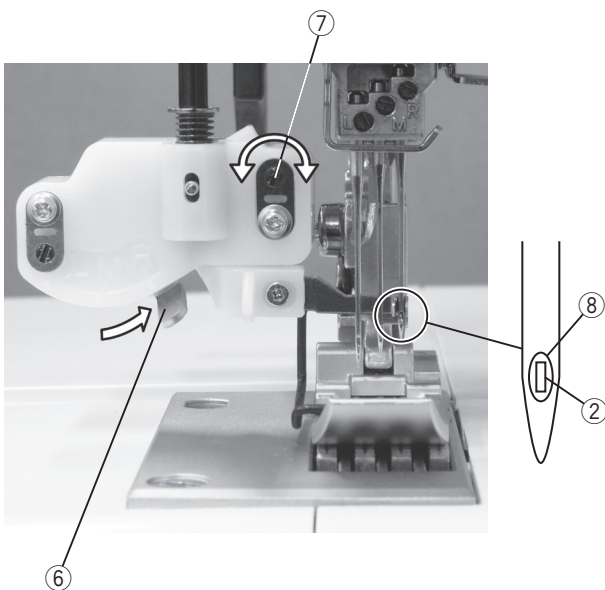
Turn the needle threader eccentric pin (left) 4 left or right to adjust the threader position so that the hook 2 goes through the left needle eye 5.

### Adjusting needle threader switch lever horizontal position (right needle)

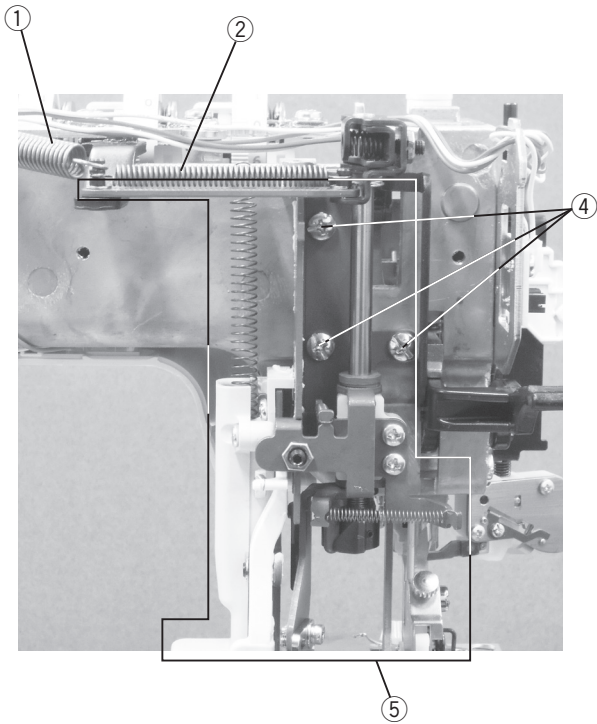
Switch the lever to R 6.

Lower the needle threader lever 1.

Turn the needle threader eccentric pin (right) 7 left or right to adjust the threader position so that the hook 2 goes through the right needle eye 8.



- 3 Thread the left needle and right needle.  
Be sure that both threads can be threaded with no problem.
- 4 Attach the top cover and face cover.



## 18. Replacing the top cover stitch mechanism unit

### NOTE:

To replace the top cover stitch mechanism, see pages 27 to 31 in order.

### To remove:

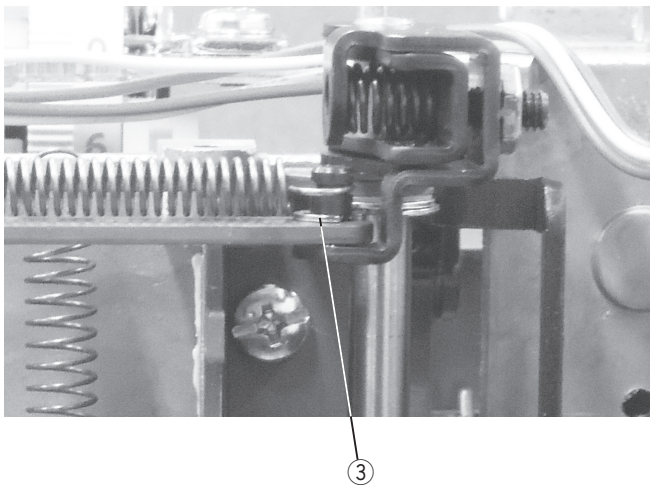
- 1 Remove the face cover, top cover, belt cover, free arm cover and rear cover (see pages 1 to 4 and 8).
- 2 Remove the top cover stitch cam spring ① and backlash removal spring ②.  
Remove the snap ring ③.
- 3 Lower the top cover stitch lever.  
Remove the setscrews ④ (3 pcs.).
- 4 Remove the top cover stitch mechanism unit ⑤.

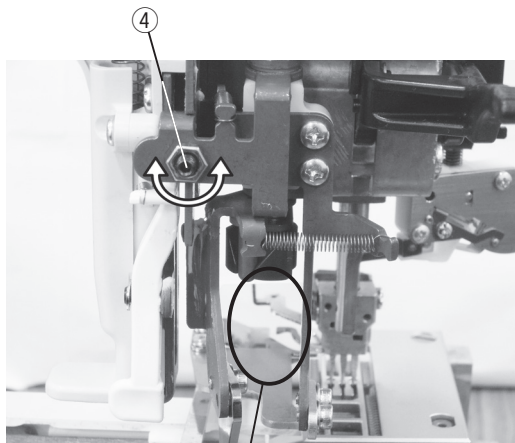
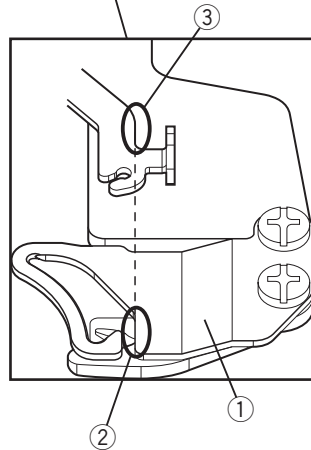
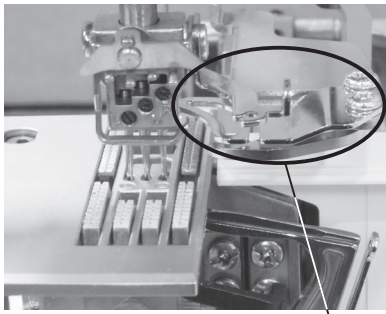
### To attach:

- 5 Follow the above procedures in reverse.

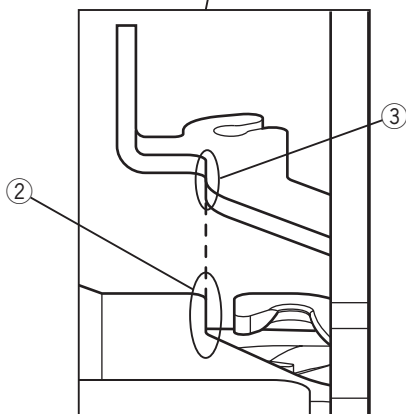
### NOTE:

Make the adjustment on pages 27 to 31 in order after replacing the top cover stitch mechanism unit.





(View from the rear side)



## 19. Adjusting the top cover stitch mechanism unit 1

### NOTE:

Make the adjustment on pages 27 to 31 in order after replacing the top cover stitch mechanism unit.

### Adjusting the TC thread guide position

Adjust the TC thread guide ① position so that the A part of TC thread guide ② aligns with the right edge of the top cover needle bar thread guide ③.

- ① Before proceeding the adjustment:
  - Be sure that the needle bar height is correct (see page 11).
- ② Remove the face cover, top cover, belt cover, free arm cover and rear cover (see pages 1 to 4 and 8).
- ③ Lower the top cover stitch lever.  
Turn the handwheel toward you to lower the needle at its lowest position.
- ④ Adjust the TC thread guide ① position so that the A part of TC thread guide ② aligns with the right edge of the top cover needle bar thread guide ③.

When the TC thread guide position is right of the part A . . . Turn the hexagonal socket screw ④ to clockwise

When the TC thread guide position is left of the part A . . .

Turn the hexagonal socket screw ④ to counterclockwise

- ⑤ Turn the handwheel toward you to raise the needle at its highest position.  
Raise the top cover stitch mechanism unit.

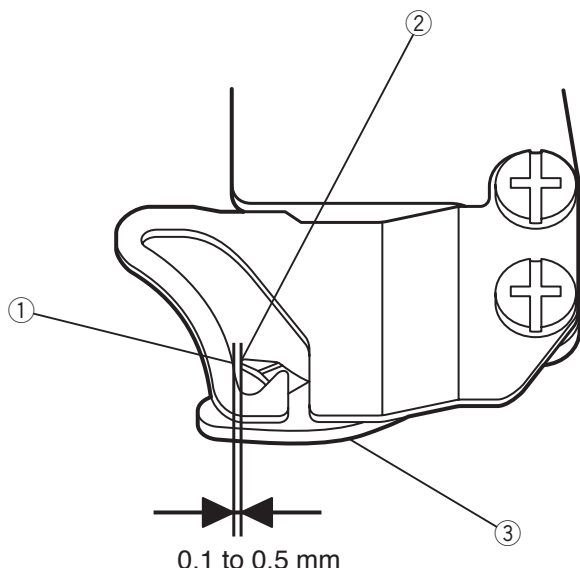
### NOTE:

Be careful not to raise the top cover stitch mechanism unit before raising the needle.

The spreader may hit the needle bar threader and it cannot be stored into the machine.

The failure to do so may cause the damage to the spreader or top cover stitch thread guide.

- ⑥ Attach the rear cover, free arm cover, belt cover, top cover and face cover.



## 20. Adjusting the top cover stitch mechanism unit 2

### NOTE:

Make the adjustment on pages 27 to 31 in order after replacing the top cover stitch mechanism unit.

### Clearance between the TC thread guide and the spreader

The clearance between the B part of TC thread guide ① and the tip of the spreader ② is 0.1 to 0.5 mm when the spreader ③ is rightmost position.

- ① Before proceeding the adjustment:
  - Be sure the needle bar height is correct (see page 11).
  - Be sure that the TC thread guide position is correct (see page 27).

- ② Remove the face cover, top cover, belt cover, free arm cover and rear cover (see pages 1 to 4 and 8).

- ③ Lower the top cover stitch lever.  
Turn the handwheel toward you to move the spreader at its rightmost position.

- ④ Adjust the spreader horizontal position so that the clearance between the B part of TC thread guide ① and the tip of the spreader ② is 0.1 to 0.5 mm.

If the clearance is too large, turn the hexagonal socket screw ④ clockwise.

If the clearance is too small, turn the hexagonal socket screw ④ counterclockwise.

- ⑤ Turn the handwheel toward you to raise the needle at its highest position.  
Raise the top cover stitch mechanism unit.

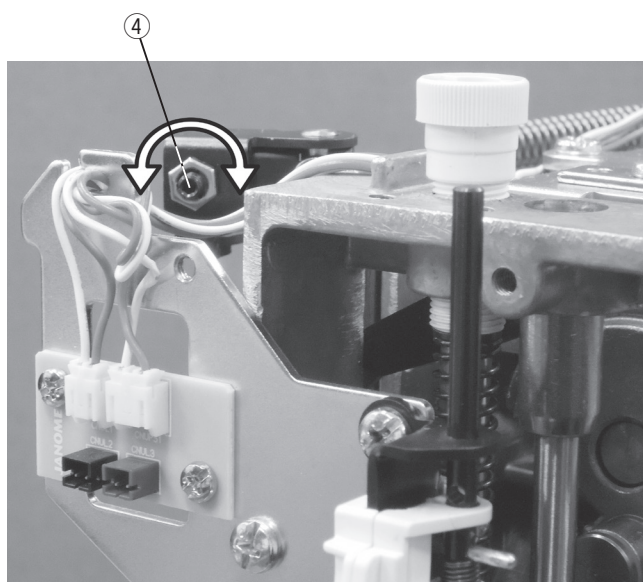
### NOTE:

Be careful not to raise the top cover stitch mechanism unit before raising the needle.

The spreader may hit the needle bar threader and it cannot be stored into the machine.

The failure to do so may cause the damage to the spreader or top cover stitch thread guide.

- ⑥ Attach the rear cover, free arm cover, belt cover, top cover and face cover.





## 21. Adjusting the top cover stitch mechanism unit 3

### NOTE:

Make the adjustment on pages 27 to 31 in order after replacing the top cover stitch mechanism unit.

### Adjusting the spreader height and the clearance between left needle and the spreader

The clearance between the left needle ① and the spreader ② is 0.8 to 1.2 mm.

The height of spreader (The distance between the lower edge of the spreader ③ and the upper edge of the needle plate ④) is 8.1 to 8.5 mm.

- ① Before proceeding the adjustment:
  - Be sure the needle bar height is correct (see page 11).
  - Be sure that the TC thread guide position is correct (see page 27).
  - Be sure that the clearance between the TC thread guide and the spreader is correct (see page 28).

- ② Remove the face cover, top cover, belt cover, free arm cover and rear cover (see pages 1 to 4 and 8).

- ③ Lower the top cover stitch lever. Remove the presser foot (unit).

- ④ Turn the handwheel toward you. Loosen the hexagonal socket bolt ⑤ when the spreader ② is moving from the right side and the tip of the spreader ⑥ meets the left edge of the left needle ⑦.

If the clearance is larger than 1.2 mm, turn the spreader in the direction of A.

If the clearance is smaller than 0.8 mm, turn the spreader in the direction of B.

Adjust the spreader height as well.

Loosen the hexagonal socket bolt ③ and move the spreader ⑤ up or down to adjust the distance at 8.2 mm.

If the distance is too larger, move the spreader ⑤ up. If the distance is too smaller, move the spreader ⑤ down.

Tighten the hexagonal socket bolt ③ after the adjustment.

- ⑤ Turn the handwheel toward you to raise the needle at its highest position. Raise the top cover stitch mechanism unit.

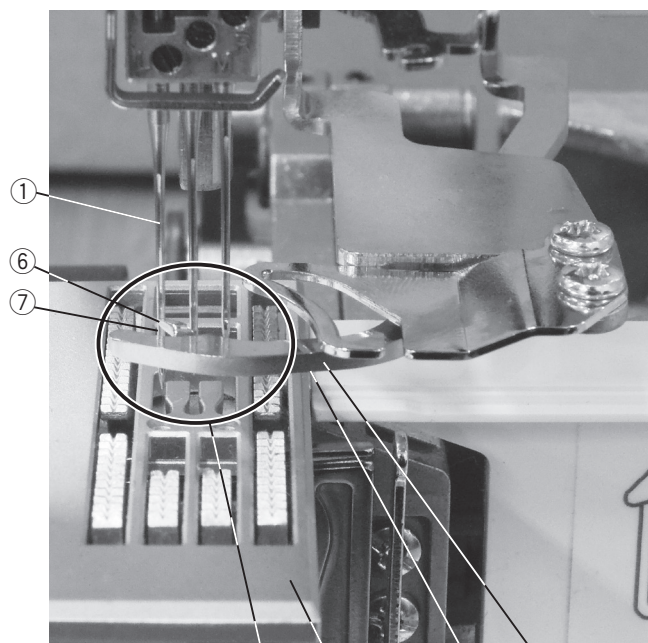
### NOTE:

Be careful not to raise the top cover stitch mechanism unit before raising the needle.

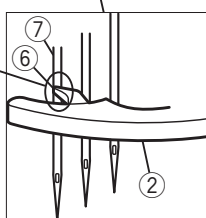
The spreader may hit the needle bar threader and it cannot be stored into the machine.

The failure to do so may cause the damage to the spreader or top cover stitch thread guide.

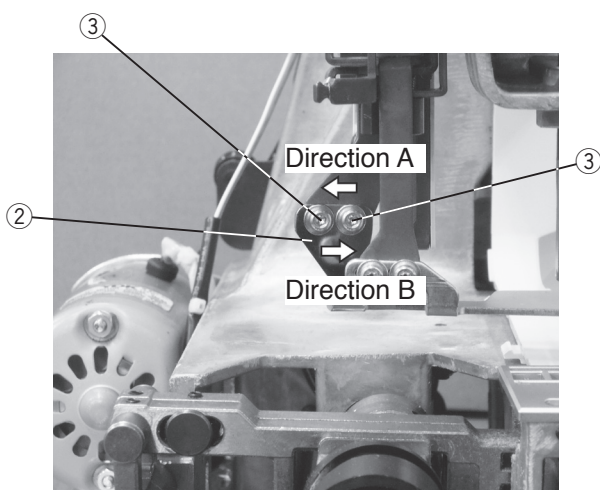
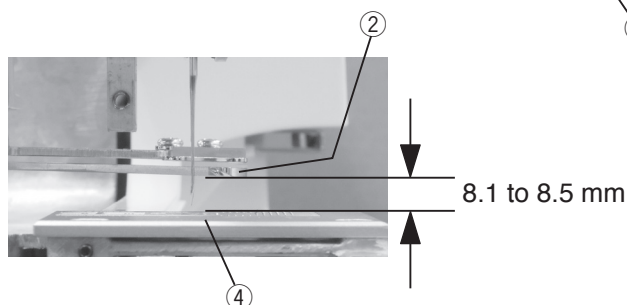
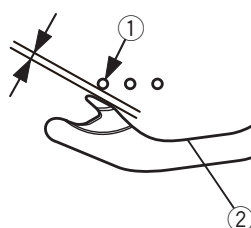
- ⑥ Attach the rear cover, free arm cover, belt cover, top cover and face cover.



The tip of the spreader should match with the left side of the left needle

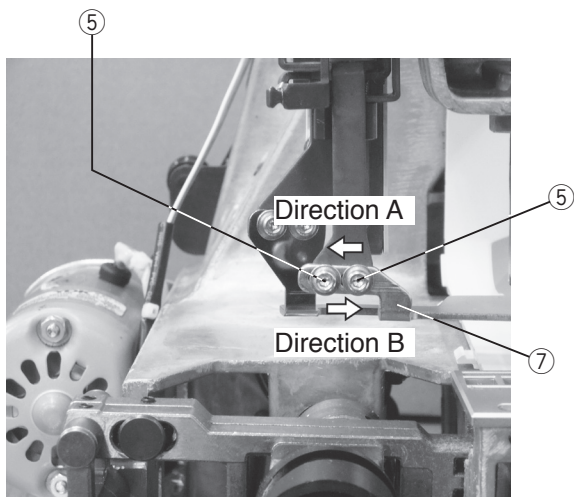
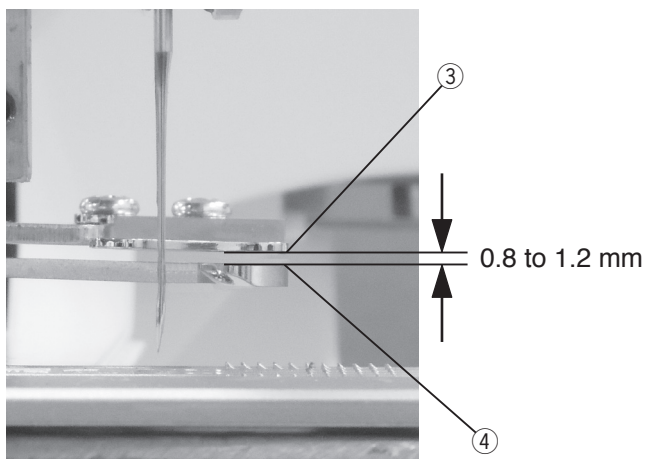
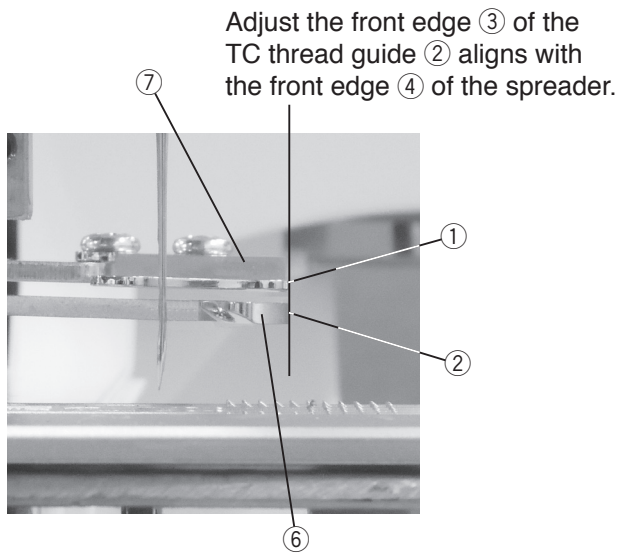


0.8 to 1.2 mm



(View from the left side)

(View from the left side)



## 22. Adjusting the top cover stitch mechanism unit 4

### NOTE:

Make the adjustment on pages 27 to 31 in order after replacing the top cover stitch mechanism unit.

### Adjusting the spreader and TC thread guide position

Adjust the front edge of the TC thread guide (1) position so the front edge aligns with the front edge of the spreader (2).

The clearance between the lower edge of the TC thread guide (3) and the upper edge of the spreader (4) is 0.8 to 1.2 mm.

#### 1 Before proceeding the adjustment:

- Be sure the needle bar height is correct (see page 11).
- Be sure that the TC thread guide position is correct (see page 27).
- Be sure that the clearance between the TC thread guide and the spreader is correct (see page 28).
- Be sure that the adjusting the spreader height and the clearance between left needle and the spreader is correct (see page 29).

2 Remove the face cover, top cover, belt cover, free arm cover and rear cover (see pages 1 to 4 and 8). Remove the presser foot and the foot holder.

3 Lower the top cover stitch lever.

4 Turn the handwheel toward you. Loosen the hexagonal socket bolt (5) when the spreader (6) is at the rightmost position.

### TC thread guide and the spreader position

If the TC thread guide is at the front of the spreader . . . Move the TC thread guide (7) in the direction of A.

If the TC thread guide is at the rear of the spreader . . . Move the TC thread guide (7) in the direction of B.

Adjust the clearance between the lower edge of the TC thread guide (3) and the upper edge of the spreader (4) at the same time.

If the clearance is larger than 1.2 mm . . . move the TC thread guide (7) up.

If the clearance is smaller than 0.8 mm . . . move the TC thread guide (7) down.

Tighten the hexagonal socket bolt (5) after the adjustment.

5 Turn the handwheel toward you to raise the needle at its highest position. Raise the top cover stitch mechanism unit.

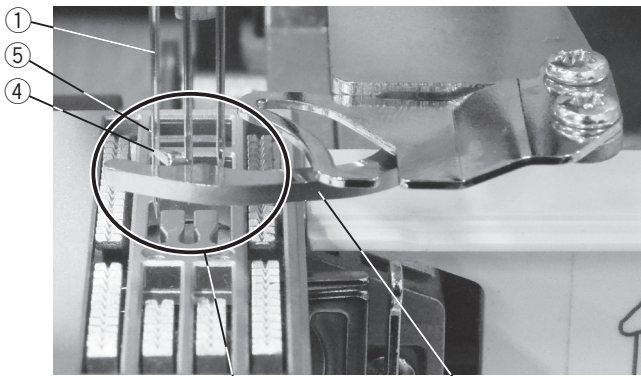
### NOTE:

Be careful not to raise the top cover stitch mechanism unit before raising the needle.

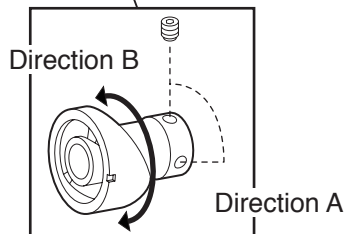
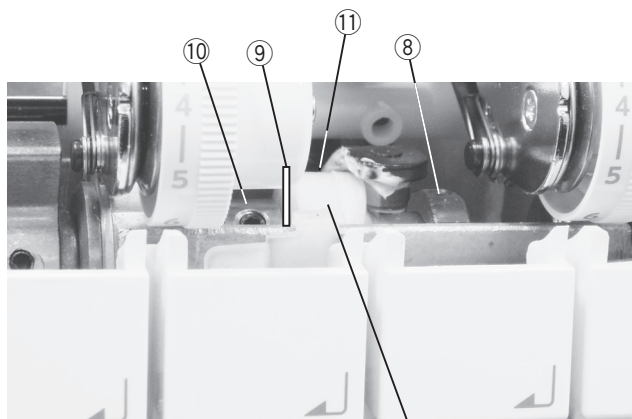
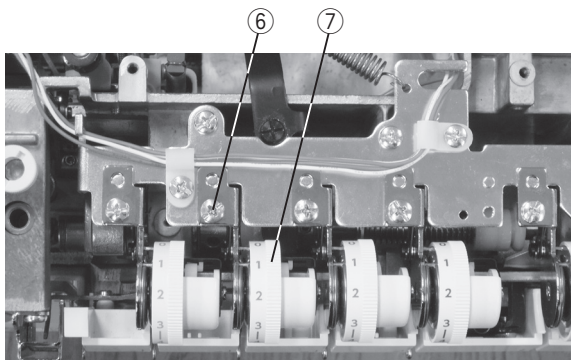
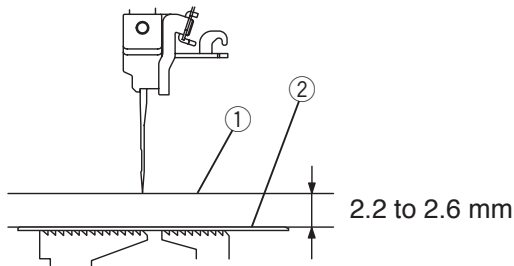
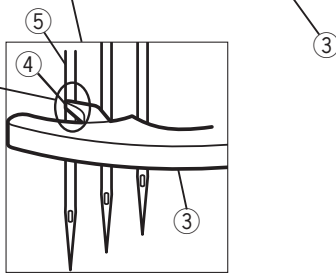
The spreader may hit the needle bar threader and it cannot be stored into the machine.

The failure to do so may cause the damage to the spreader or top cover stitch thread guide.

6 Attach the rear cover, free arm cover, belt cover, top cover and face cover.



The tip of the spreader should match with the left side of the left needle



## 23. Adjusting the top cover stitch mechanism unit 5

### NOTE:

Make the adjustment on pages 27 to 31 in order after replacing the top cover stitch mechanism unit.

### Adjusting the spreader and left needle timing

The clearance of the tip of the left needle ① and the upper edge of the needle plate ② should be 2.2 to 2.6 mm when the spreader ③ is moving from the right side and the tip of the spreader ④ meets the left edge of the left needle ⑤.

- ① Before proceeding the adjustment:
  - Be sure the needle bar height is correct (see page 11).
  - Be sure that the TC thread guide position is correct (see page 27).
  - Be sure that the clearance between the TC thread guide and the spreader is correct (see page 28).
  - Be sure that the adjusting the spreader height and the clearance between left needle and the spreader is correct (see page 29).
  - Be sure that the adjusting the spreader and TC thread guide position is correct (see page 30).
- ② Remove the face cover, top cover, belt cover, free arm cover and rear cover (see pages 1 to 4 and 8).
- ③ Lower the top cover stitch lever. Remove the presser foot and the foot holder.
- ④ Remove the setscrew ⑥. Remove the center needle thread tension dial ⑦.
- ⑤ Turn the handwheel toward you. Loosen the hexagonal socket screws ⑧ (2 pcs.) when the spreader ③ is moving from the right side and the tip of the spreader ④ meets the left edge of the left needle ⑤.

### NOTE:

Insert the 2 mm spacer ⑨ between the ring ⑩ and top cover stitch cam ⑪ to adjust the clearance.

If the clearance is larger than 2.6 mm, turn the top cover stitch cam ⑪ in the direction of A.  
If the clearance is smaller than 2.2 mm turn the top cover stitch cam ⑪ in the direction of B.

- ⑥ Tighten the hexagonal socket screw ⑧ (2 pcs.). Turn the handwheel toward you to raise the needle at its highest position. Raise the top cover stitch mechanism unit.

### NOTE:

Be careful not to raise the top cover stitch mechanism unit before raising the needle.

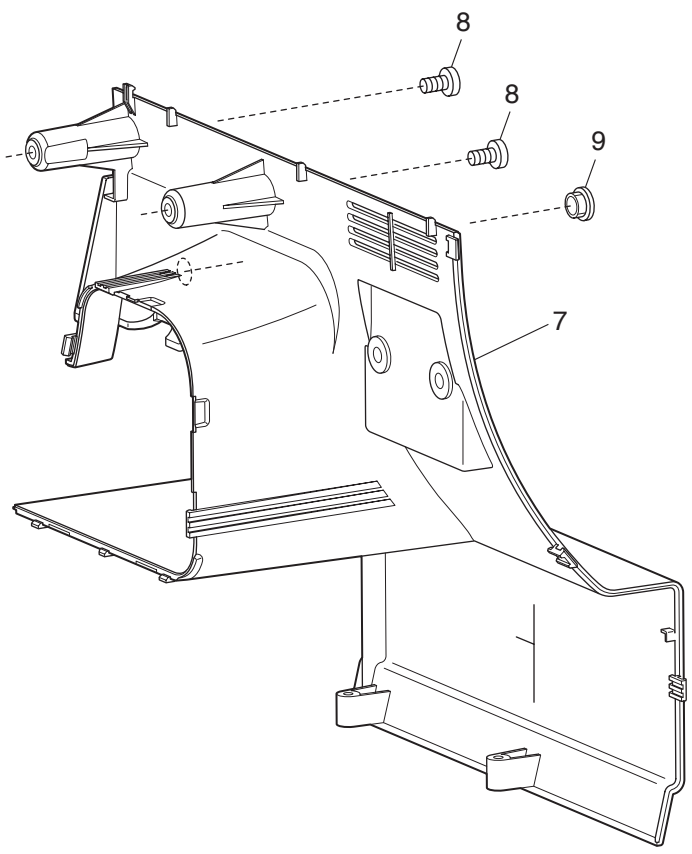
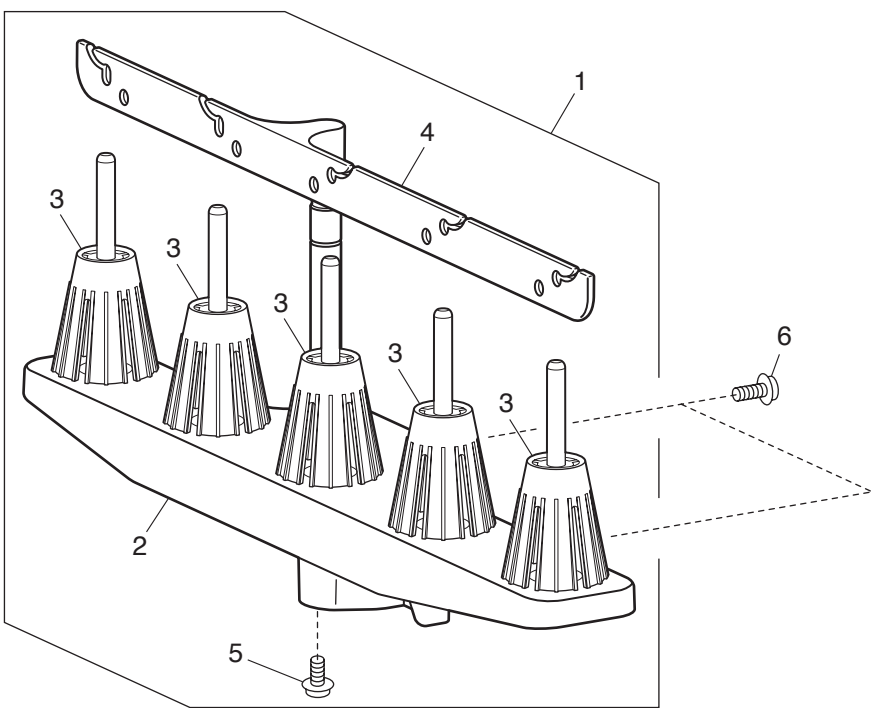
The spreader may hit the needle bar threader and it cannot be stored into the machine.

The failure to do so may cause the damage to the spreader or top cover stitch thread guide.

- ⑦ Attach the rear cover, free arm cover, belt cover, top cover and face cover.



# PARTS LIST

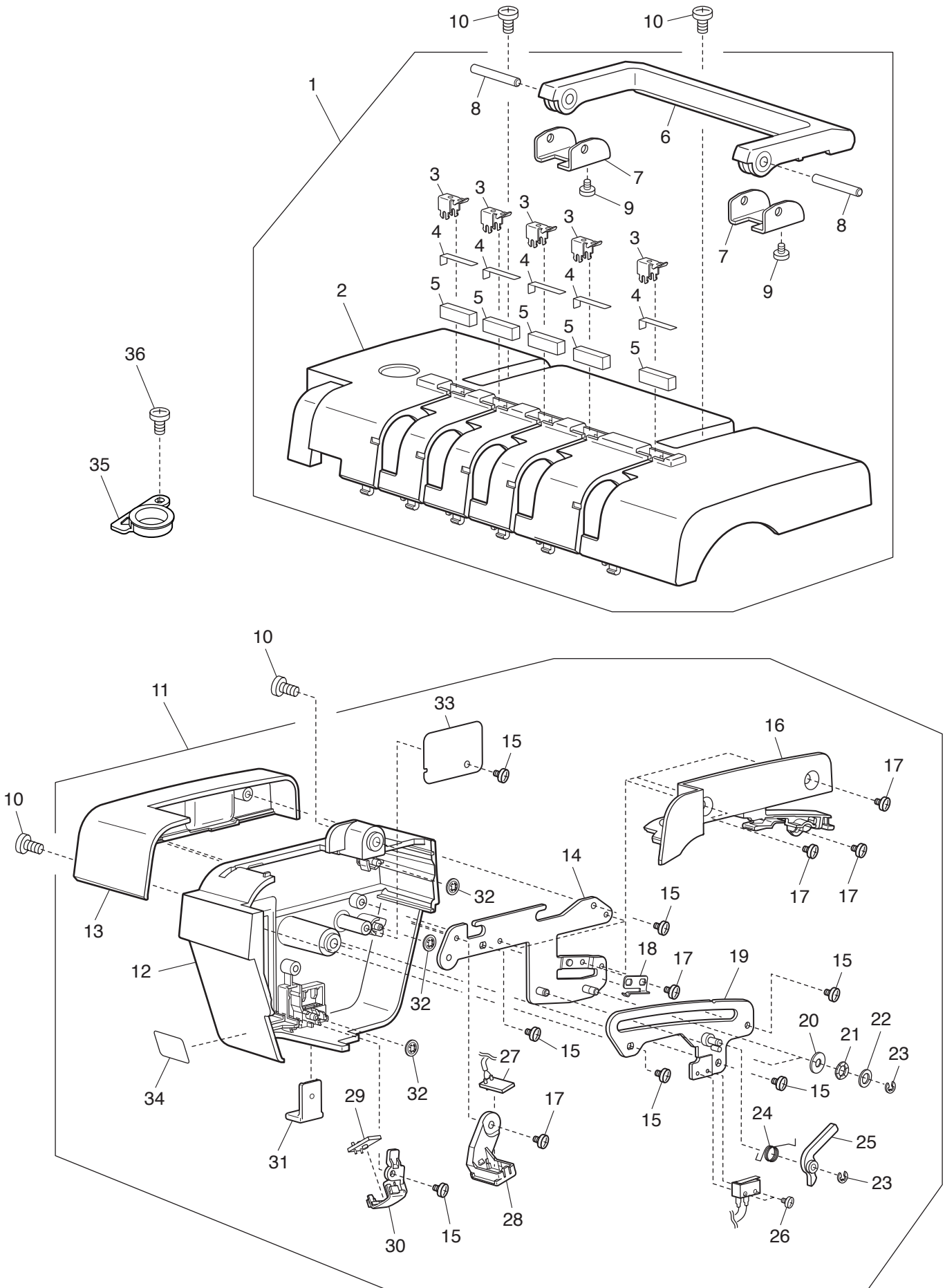




## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778622006	Spool stand (unit)
2	778104007	Spool stand
3	784223105	Spool holder
4	778623007	Thread guide bar (unit)
5	000115700	Setscrew TP 4x10
6	000114802	Setscrew TP 4x12
7	778004A01	Rear cover
8	000081016	Setscrew 4x8
9	745033002	Cap

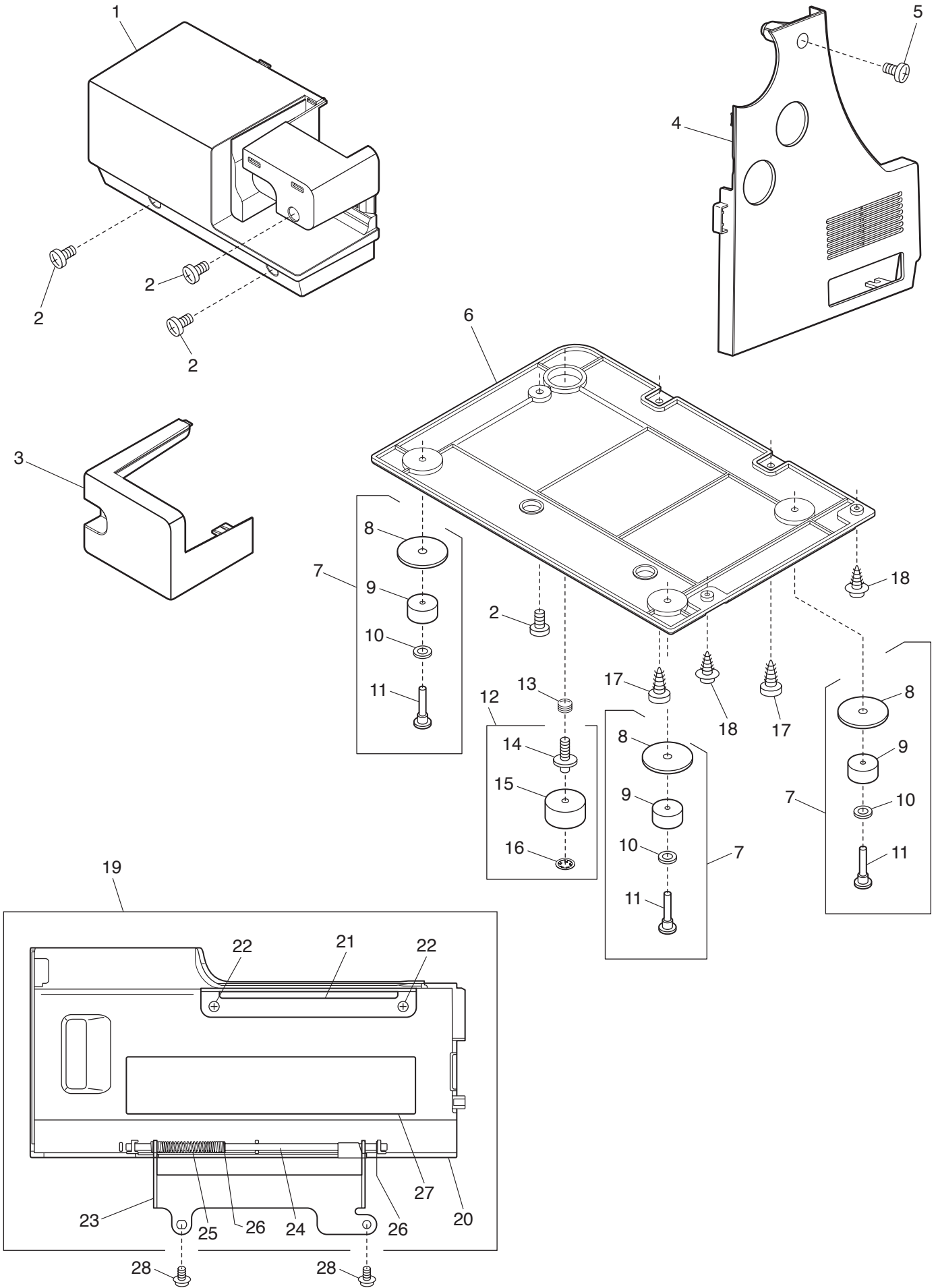
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778612003	Top cover (unit)
2	778082A01	Top cover
3	797047103	Thread guide cover
4	797048012	Thread guide spring
5	797049002	Cushion
6	795004102	Carrying handle
7	778083009	Handle supporter
8	730015002	Handle fixing plate pin
9	000120214	Setscrew 3x8 (B)
10	000081005	Setscrew 4x8
11	778613004	Face cover (unit)
12	778084000	Face cover
13	778085A01	Retractable sewing light cover
14	778088004	Retractable sewing light arm
15	000120203	Setscrew 3x8 (B)
16	778086002	Sewing light arm inner cover
17	000078319	Setscrew 3x6
18	859224008	Index spring
19	778087003	Face cover sewing light guide plate
20	303071000	Ring
21	000116103	Washer 4
22	000070104	Washer 3
23	000001207	Snap ring E-2.5
24	862035000	Switch lever spring
25	859225009	Switch lever
26	000102900	Setscrew 2x8
27	778504001	Printed circuit board L1 with micro switch (unit)
28	778089005	Sewing light cover
29	778506003	Printed circuit board L2 (unit)
30	808118000	Sewing light holder 2
31	840602006	Thread cutter (unit)
32	000014306	Snap ring CS-3
33	778090009	Cord guide plate
34	795146004	Sticker
35	778127006	Adjusting screw cover
36	000081016	Setscrew 4x8

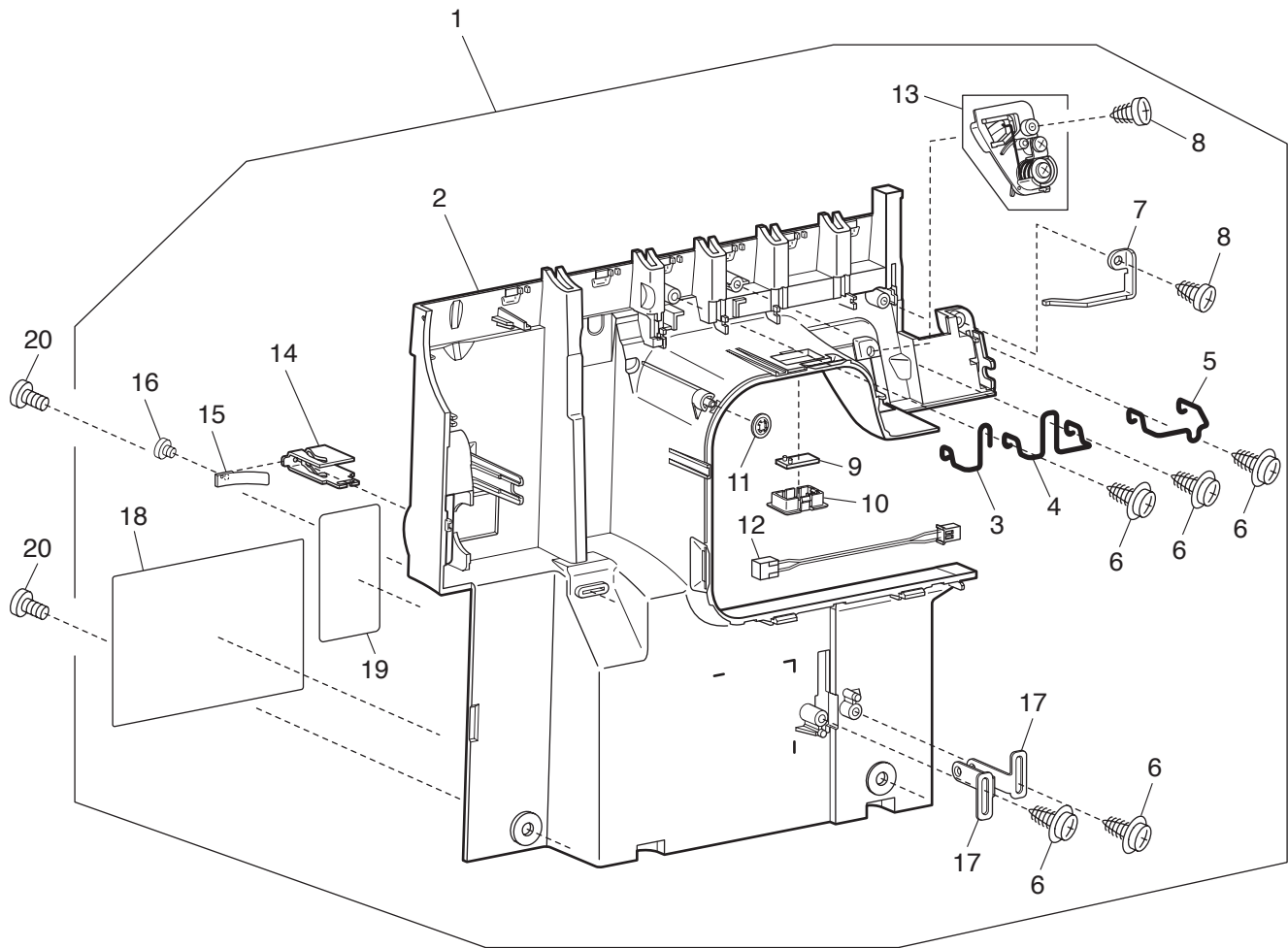
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778005007	Free arm cover
2	000081005	Setscrew 4x8
3	778006008	Extension table
4	778103A01	Belt cover
5	000101703	Setscrew 4x12
6	795112104	Base plate
7	866630003	Rubber foot (unit)
8	866070009	Rubber foot washer
9	797363016	Rubber foot
10	000070300	Washer 5
11	784169009	Rubber foot screw
12	795634004	Adjusting screw (unit)
13	795130005	Rubber foot spring
14	795149007	Adjusting screw
15	605074008	Rubber foot
16	813123004	Snap ring CS
17	000198305	Setscrew 4x10 (B)
18	000234603	Setscrew 4x10
19	778603104	Looper cover (unit)
20	778007A01	Looper cover
21	795102008	Attachment set plate
22	000120203	Setscrew 3x8 (B)
23	795011009	Looper cover supporter
24	795013001	Looper cover shaft
25	795150001	Looper cover spring
26	000002105	Snap ring E-3
27	101638A01	Stitch chart
28	000115607	Setscrew TP 4x8

# PARTS LIST

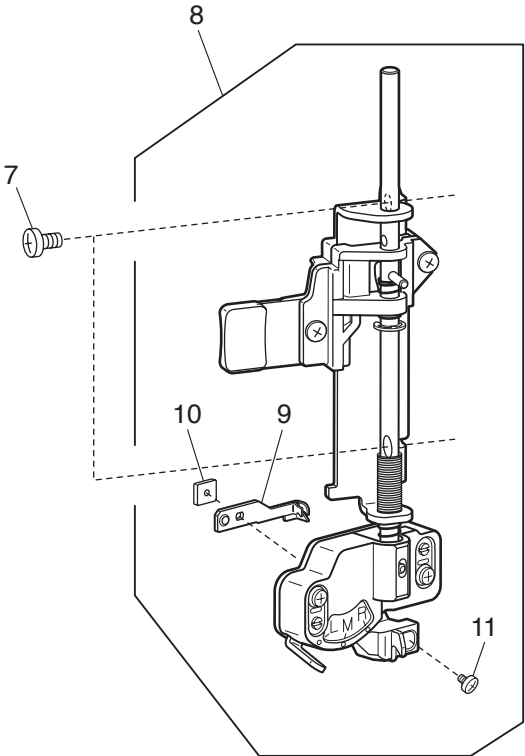
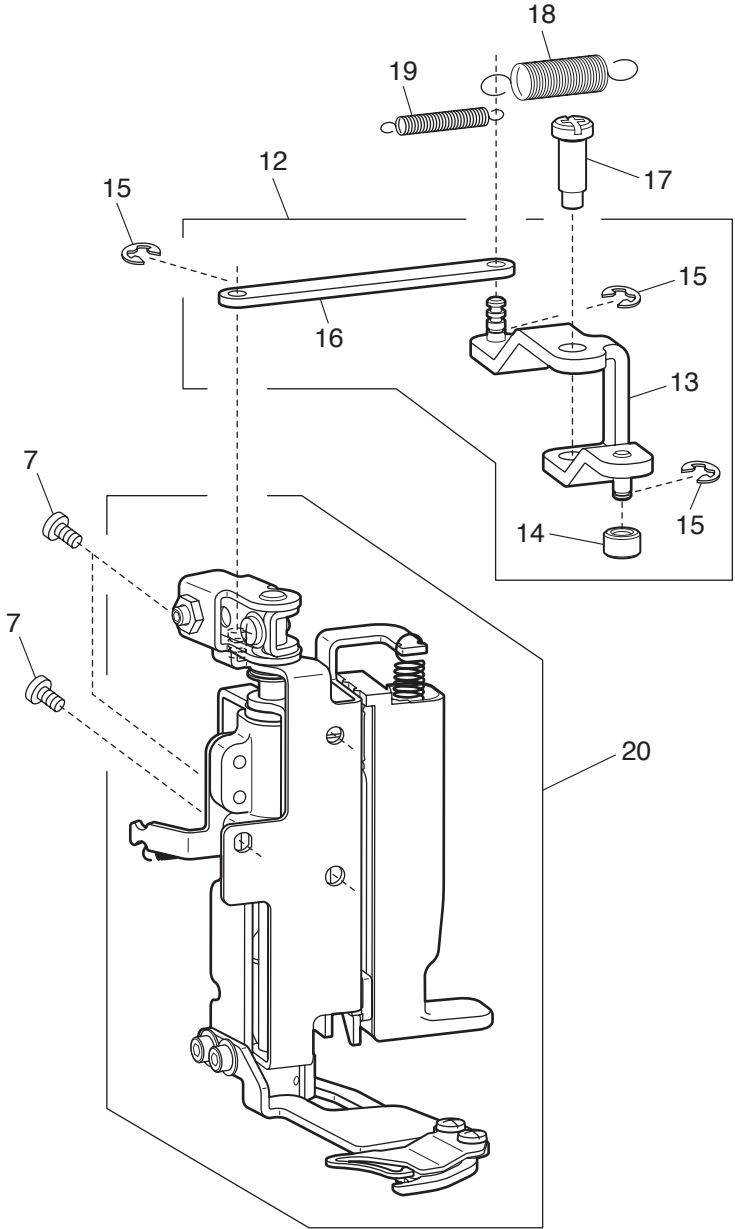
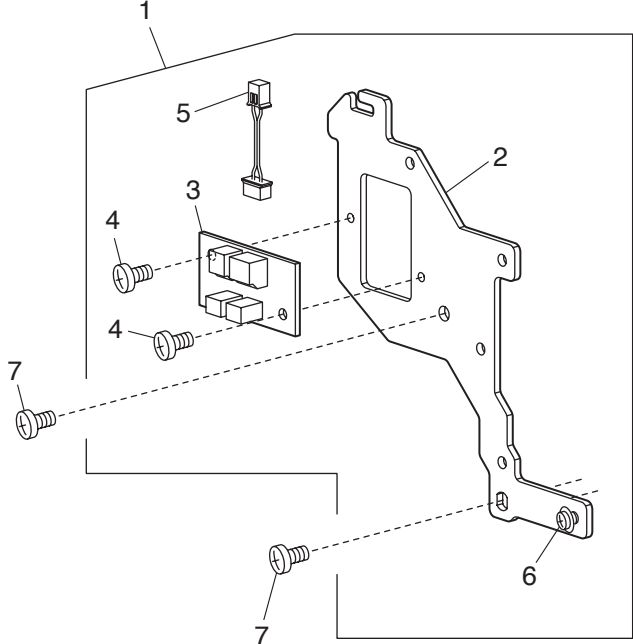




## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778610001	Front cover (unit)
2	778076A01	Front cover
3	778077000	Top cover stitch thread guide 1
4	795040018	Needle thread guide (1)
5	795192005	Needle thread guide
6	000149312	Setscrew 3x8 (B)
7	795042009	Needle thread guide (3)
8	000120214	Setscrew 3x8 (B)
9	778522005	Printed circuit board L (unit)
10	860167006	Lamp cover 2
11	000014306	Snap ring CS-3
12	778523006	Relay harness 2 (unit)
13	778611002	Top cover stitch thread spring guide (unit)
14	795165009	Looper thread guide (1)
15	795167001	Guide leaf
16	820374004	Setscrew 2x2.3
17	795045002	Looper thread guide (2)
18	101625A03	Thread guide chart
19	101616A04	Sticker
20	000081016	Setscrew 4x8

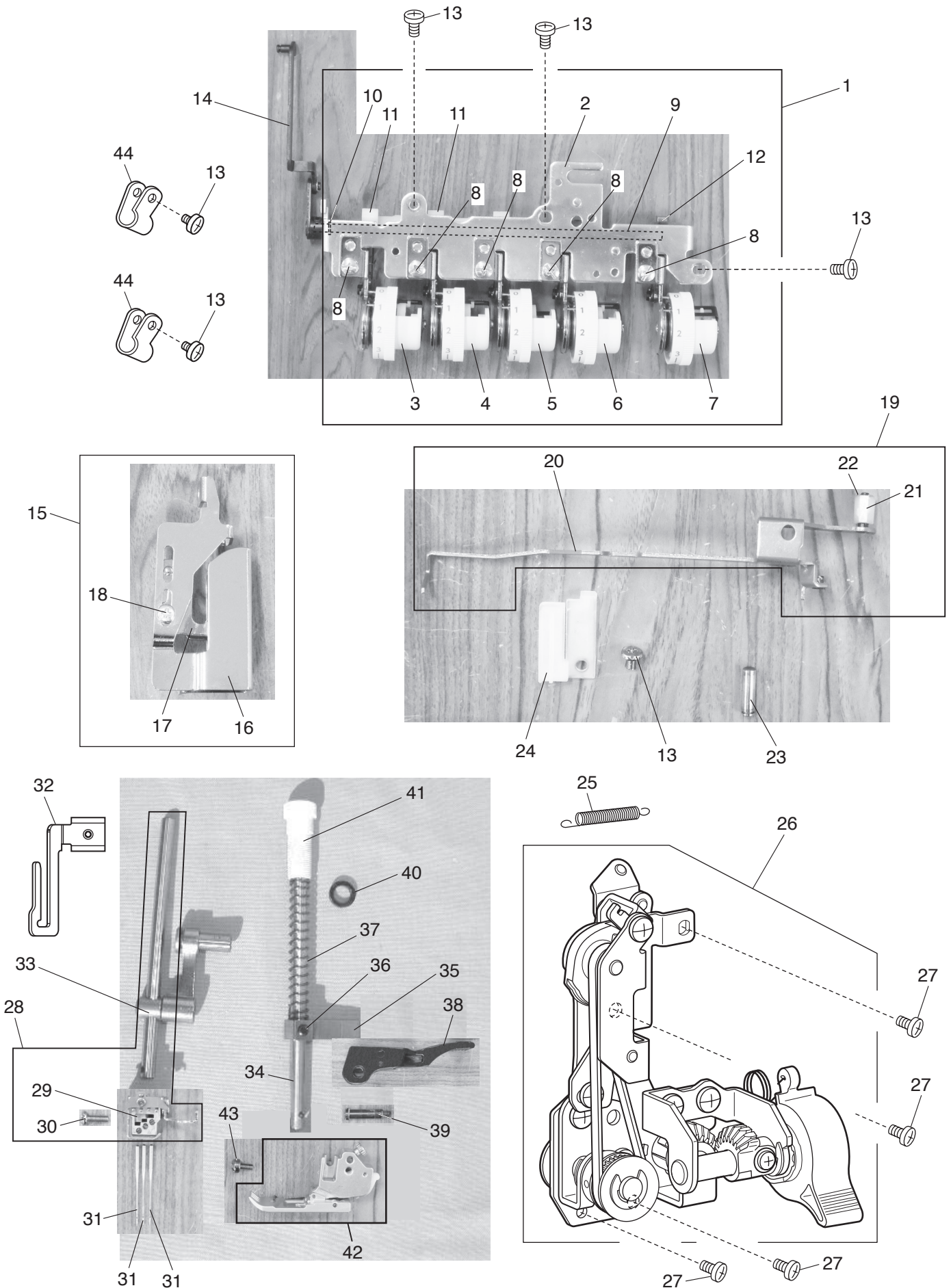
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778639006	Face cover set plate (unit)
2	778062002	Face cover set plate
3	778515005	Printed circuit board U (unit)
4	000101116	Setscrew 3x4
5	778516006	Relay harness (unit)
6	000115205	Setscrew TP 4x6
7	000081016	Setscrew 4x8
8	778632009	Needle threader (unit)
9	778501008	Needle threader hook (unit)
10	755095003	Plate nut
11	755096004	Setscrew
12	778627001	Top cover stitch link (unit)
13	778044008	Top cover stitch link 1
14	795034008	Looper cam roller
15	000002105	Snap ring E-3
16	778045009	Top cover stitch link 2
17	778051008	Hinge screw
18	778113009	Top cover stitch cam spring
19	778125004	Backlash removal spring
20	778608006	Top cover stitch mechanism (unit)

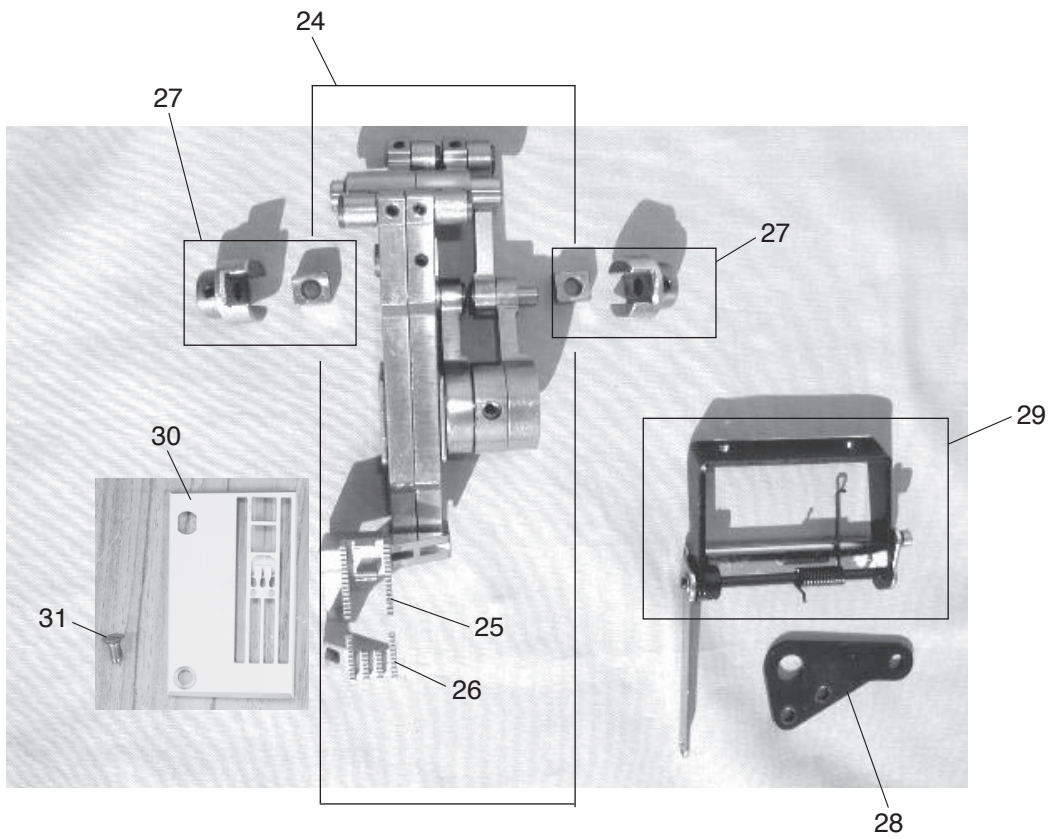
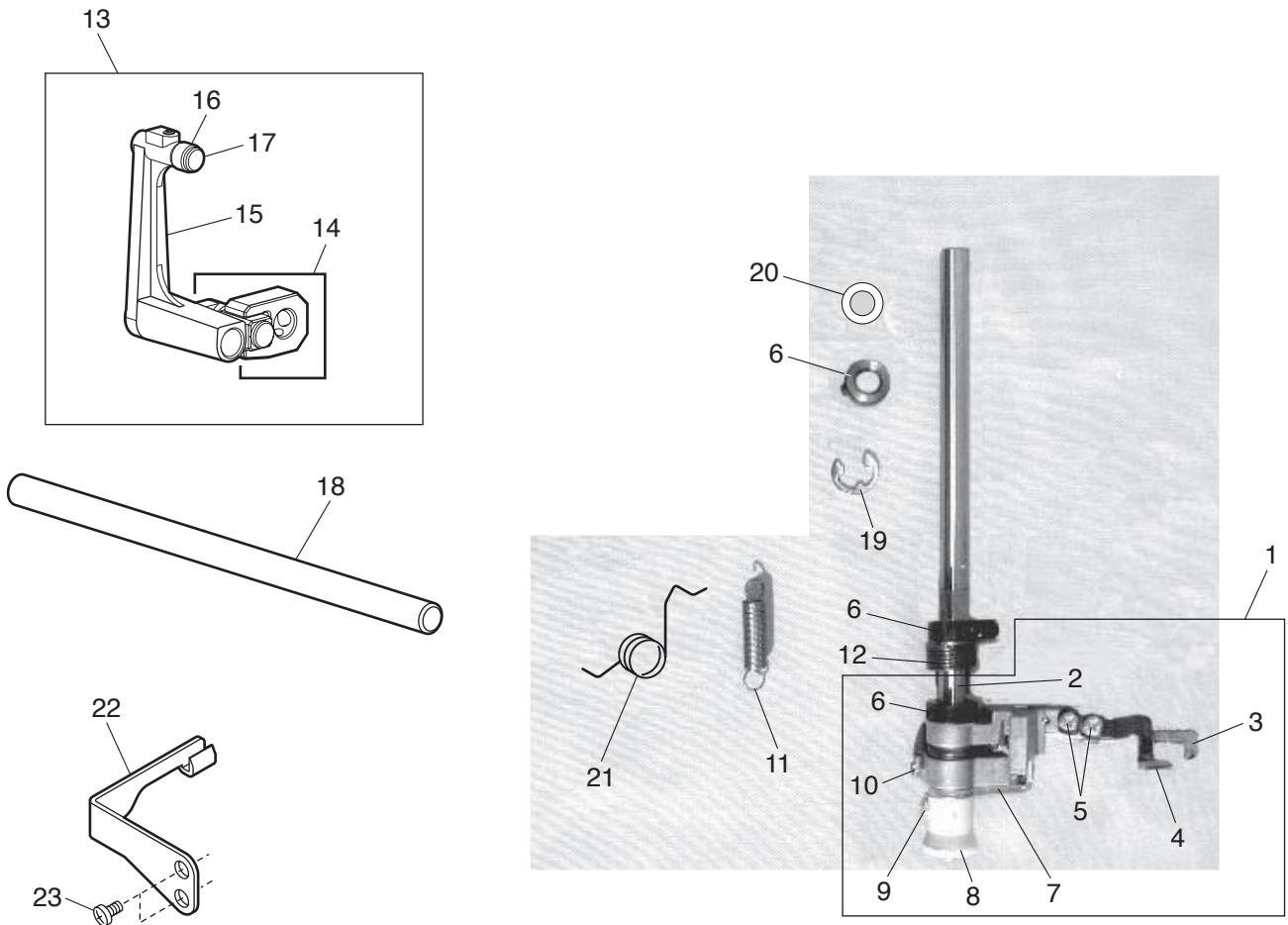
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778616007	Thread tension set plate (unit)
2	778097006	Thread tension set plate
3	778507004	Needle thread tension (L) (unit)
4	778520003	Needle thread tension (C) (unit)
5	778521004	Needle thread tension (R) (unit)
6	778508005	Top cover stitch thread tension (unit)
7	778509006	Looper thread tension (unit)
8	000101404	Setscrew 4x6
9	795108015	Needle thread releasing shaft
10	000002507	Snap ring E-4
11	795110009	Cam
12	795191004	Needle thread tension release cam
13	000081005	Setscrew 4x8
14	795615205	Needle thread tension release lever (unit)
15	778630007	Needle thread take-up lever cover (unit)
16	778015000	Needle thread take-up lever cover
17	795121003	Needle thread take-up lever
18	000097406	Setscrew 3x3
19	778606004	Needle thread take-up lever (unit)
20	778011006	Needle thread take-up lever
21	778012007	Cam follower
22	000001207	Snap ring E-2.5
23	795629006	Needle thread take-up lever supporter pin (unit)
24	778014009	Needle thread take-up lever guide
25	778013008	Needle thread take-up lever spring
26	778607016	Needle thread take-up lever switch plate (unit)
27	000081016	Setscrew 4x8
28	778604002	Needle bar (unit)
29	778629003	Needle clamp (unit)
30	000080428	Setscrew 3x10
31	795031108	Needle ELx705-14
32	778634001	Needle threader position set plate (unit)
33	778635002	Needle bar connecting stud (unit)
34	778035006	Presser bar
35	724118007	Presser bar bracket
36	000111304	Hexagonal socket screw 5x5
37	795029000	Presser bar spring
38	778036007	Presser foot lifter
39	778037008	Hinge screw
40	102061008	Washer
41	795030004	Pressure adjusting screw
42	778517007	Presser foot (unit)
43	660106001	Setscrew
44	000188209	Nylon clip ACC-1.5

# PARTS LIST



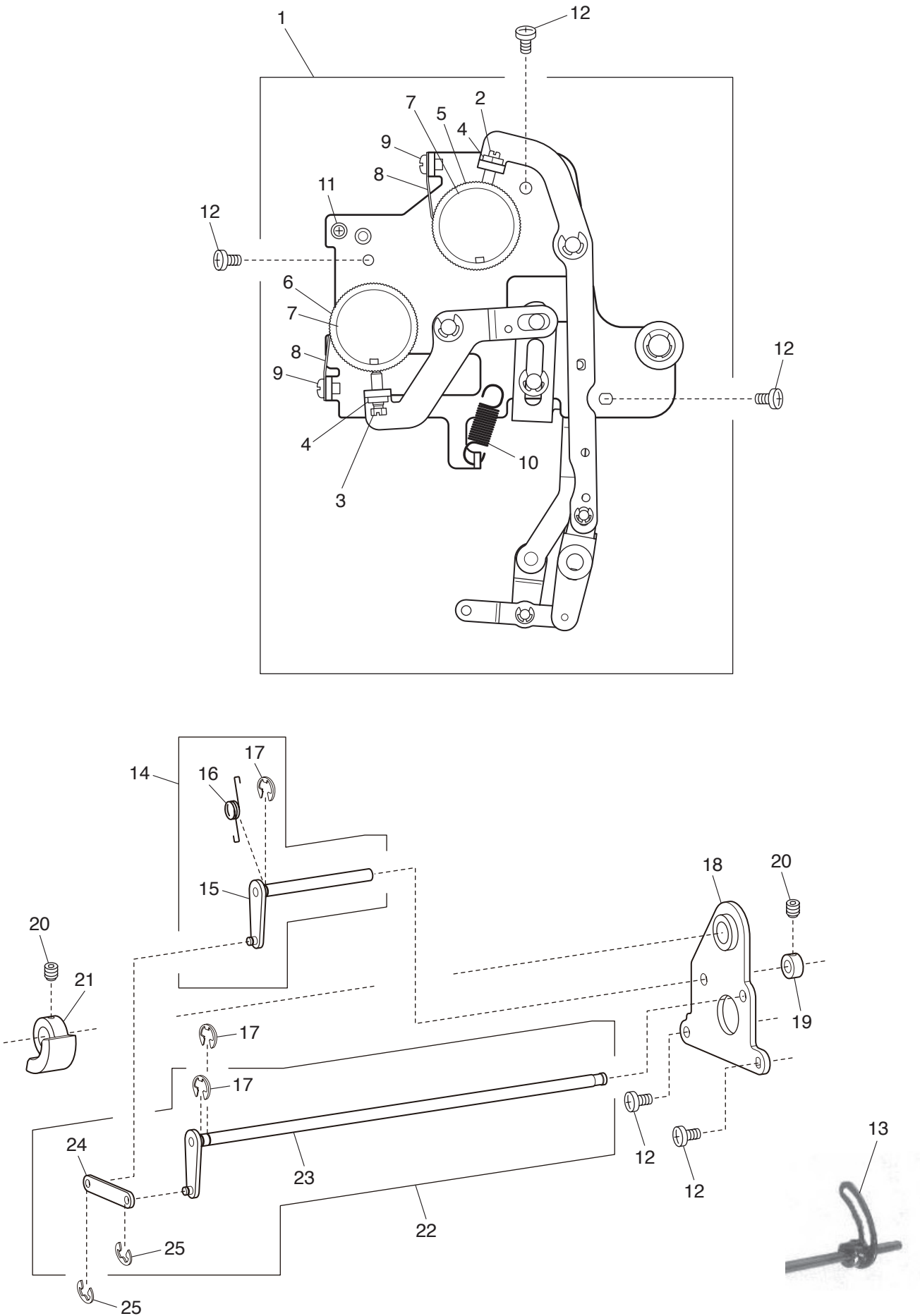


## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	795613100	Looper shaft (unit)
2	795092004	Looper shaft
3	795614101	Looper (unit)
4	778095004	Front needle guard
5	000078320	Setscrew 3x6
6	792048006	Looper shaft ring
7	795099012	Looper link arm
8	795101007	Looper release knob
9	000101116	Setscrew 3x4
10	000138008	Hexagonal bolt 4x16
11	795132007	Looper spring
12	795135000	Looper rocking spring
13	795612006	Looper crank arm (unit)
14	795512005	Looper arm (unit)
15	795089008	Looper rocking arm
16	795034008	Looper cam roller
17	795053003	Looper cam roller pin
18	795088007	Looper rocking shaft
19	000002909	Snap ring E-7
20	000038502	Washer
21	778123002	Looper crank spring
22	795085004	Rear needle guard
23	000081005	Setscrew 4x8
24	795610107	Main feed base (unit)
25	778026004	Main feed dog
26	778027005	Sub feed dog
27	785521109	Feed regulator (unit)
28	795073009	Link shaft support base
29	795609000	Looper thread take-up lever (unit)
30	778601009	Needle plate (unit)
31	681009101	Setscrew



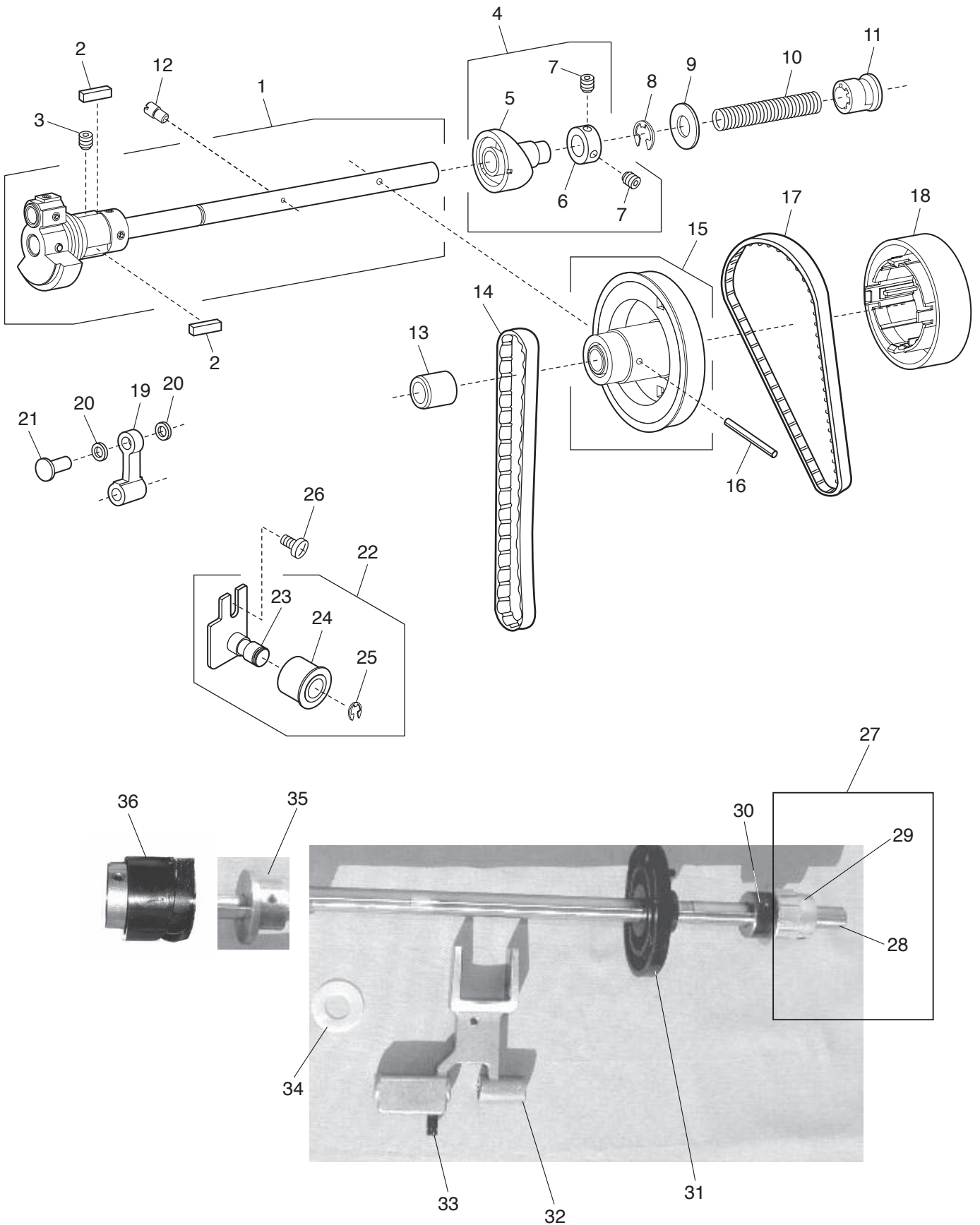
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	795611038	Feed adjuster bracket (unit)
2	652056000	Adjusting screw
3	785224006	Adjusting screw
4	000160102	Adjustable lock nut 4
5	795087D01	Stitch length dial
6	795087D02	Differential feed dial
7	794099905	Dial cap
8	787263003	Index spring
9	000081119	Setscrew 4x6
10	787259006	Spring
11	000115607	Setscrew TP 4x8
12	000081005	Setscrew 4x8
13	794053000	Sub feed link arm
14	795630000	Sub feed convert arm shaft (unit)
15	795074000	Sub feed convert arm shaft
16	795075001	Sub feed convert arm spring
17	000001609	Snap ring E-5
18	795076002	Lower shaft base
19	650136009	Ring
20	000111201	Hexagonal socket screw 4x4
21	792037002	Balance weight (left)
22	778638005	Sub feed link arm shaft (unit)
23	795077003	Sub feed link arm shaft
24	787081005	Feed convert arm link
25	000002105	Snap ring E-3

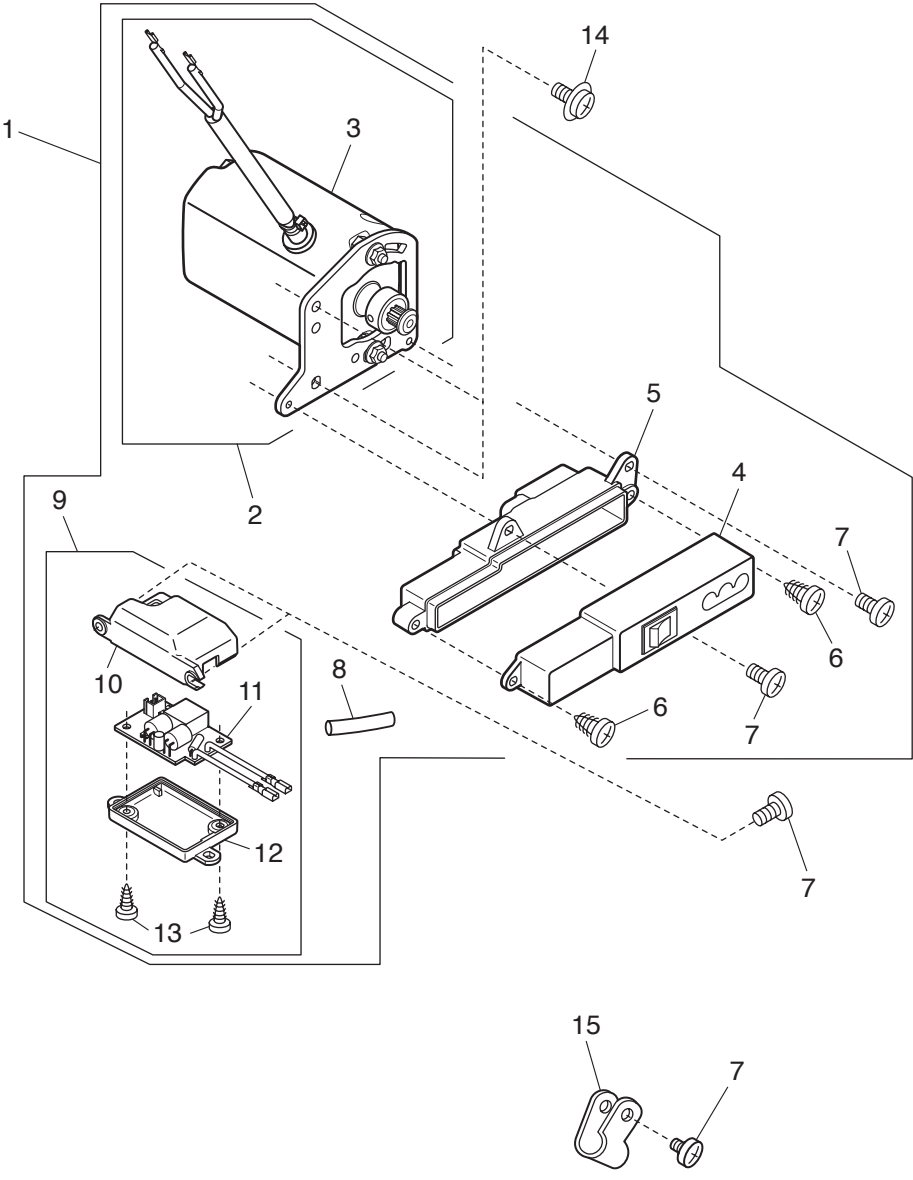
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778614005	Upper shaft (unit)
2	731384008	Felt
3	000111201	Hexagonal socket screw 4x4
4	778636003	Top cover stitch cam (unit)
5	778108001	Top cover stitch cam
6	778114000	Ring
7	000111108	Hexagonal socket screw 4x6
8	000002208	Snap ring E-9
9	000071600	Washer 10
10	778091000	Spring
11	778092001	Needle threader take-up lever cam
12	778093002	Take-up lever cam pin
13	673062004	Upper shaft rear bushing
14	795162006	Timing belt 185XL
15	795632013	Belt wheel (unit)
16	000004406	Spring pin 3x24
17	795050000	Timing belt 164XL
18	778094003	Handwheel
19	639016007	Needle bar crank rod
20	000038502	Washer
21	795017005	Needle bar crank pin
22	795607008	Idler (unit)
23	795118007	Idler base
24	625217100	Idler
25	000002806	Snap ring E-6
26	000081005	Setscrew 4x8
27	795608102	Lower shaft (unit)
28	795051104	Lower shaft
29	795173000	Lower shaft timing gear
30	619006002	Upper shaft ring
31	795057007	Looper take-up lever cam
32	795056006	Looper rod
33	795134009	Screw (2)
34	000038605	Washer
35	778640103	Looper cam (unit)
36	795628005	Looper rocking cam (unit)

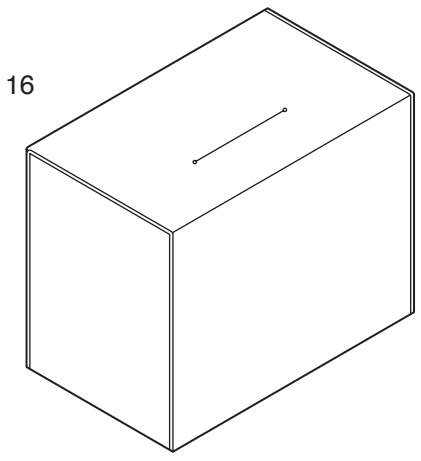
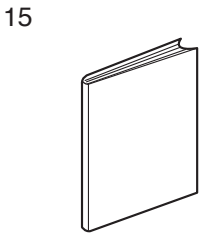
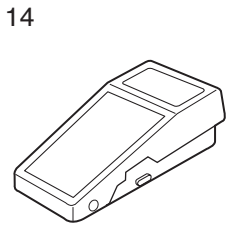
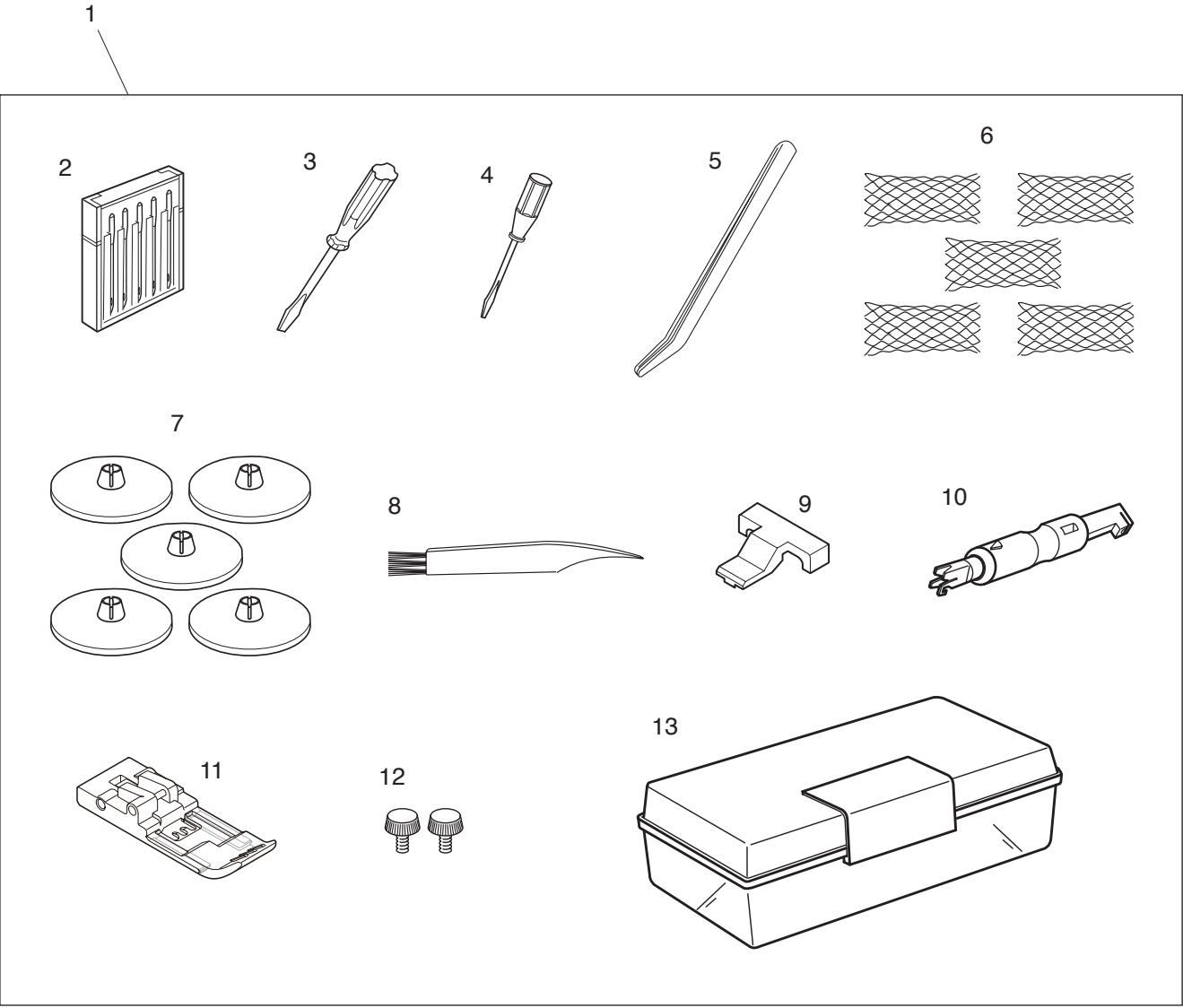
# PARTS LIST



## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778618607	Machine socket (whole unit) (Continental Europe)
	778618700	Machine socket (whole unit) (Australia) (UK)
2	778620004	Motor (unit) (Continental Europe)
	778620107	Motor (unit) (Australia) (UK)
3	778511001	Motor
4	777502109	Machine socket (unit)
5	794087003	Machine socket cover
6	000121905	Setscrew 4x12 (B)
7	000081005	Setscrew 4x8
8	652102909	PVC tube
9	778621108	Switching regulator (unit)
10	795181012	Printed circuit board C case
11	778514107	Switching regulator
12	795182002	Printed circuit board C case cover
13	000120203	Setscrew 3x8 (B)
14	000115504	Setscrew TP 5x10
15	000188209	Nylon clip ACC-1.5

# PARTS LIST





## PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	778870001	Standard accessories (unit)
2	778805005	Needle case (unit)
3	784810002	Screwdriver (large)
4	792030005	Screwdriver (small)
5	624801001	Tweezers
6	624806006	Net
7	822020503	Spool cap
8	802424004	Lint brush
9	797813005	Tension release clip
10	202024002	Needle threader
11	778524007	Clear view foot
12	200217134	Thumbscrew (for fixing optional accessories)
13	366401400	Accessory box
14	C-2060-1	Foot control (Continental Europe)
	C-2065-1	Foot control (Australia)
	C-2064-1	Foot control (UK)
15	778800055	Instruction book (English)
	778800066	Instruction book (French)
	778800022	Instruction book (German)
	778800033	Instruction book (Dutch)
16	795801107	Cover