

SERVICE MANUAL

MODEL: MYLOCK 454D

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CHANGING EXTERNAL PARTS

FACE PLATE

To remove:

1. Remove the setscrew and the face plate.

To attach:

2. Tighten the setscrew. Fit the U-groove of the face plate between the setscrew and set plate, put the ribs of face plate into the front cover, rear cover and tighten the setscrew.



CHANGING EXTERNAL PARTS

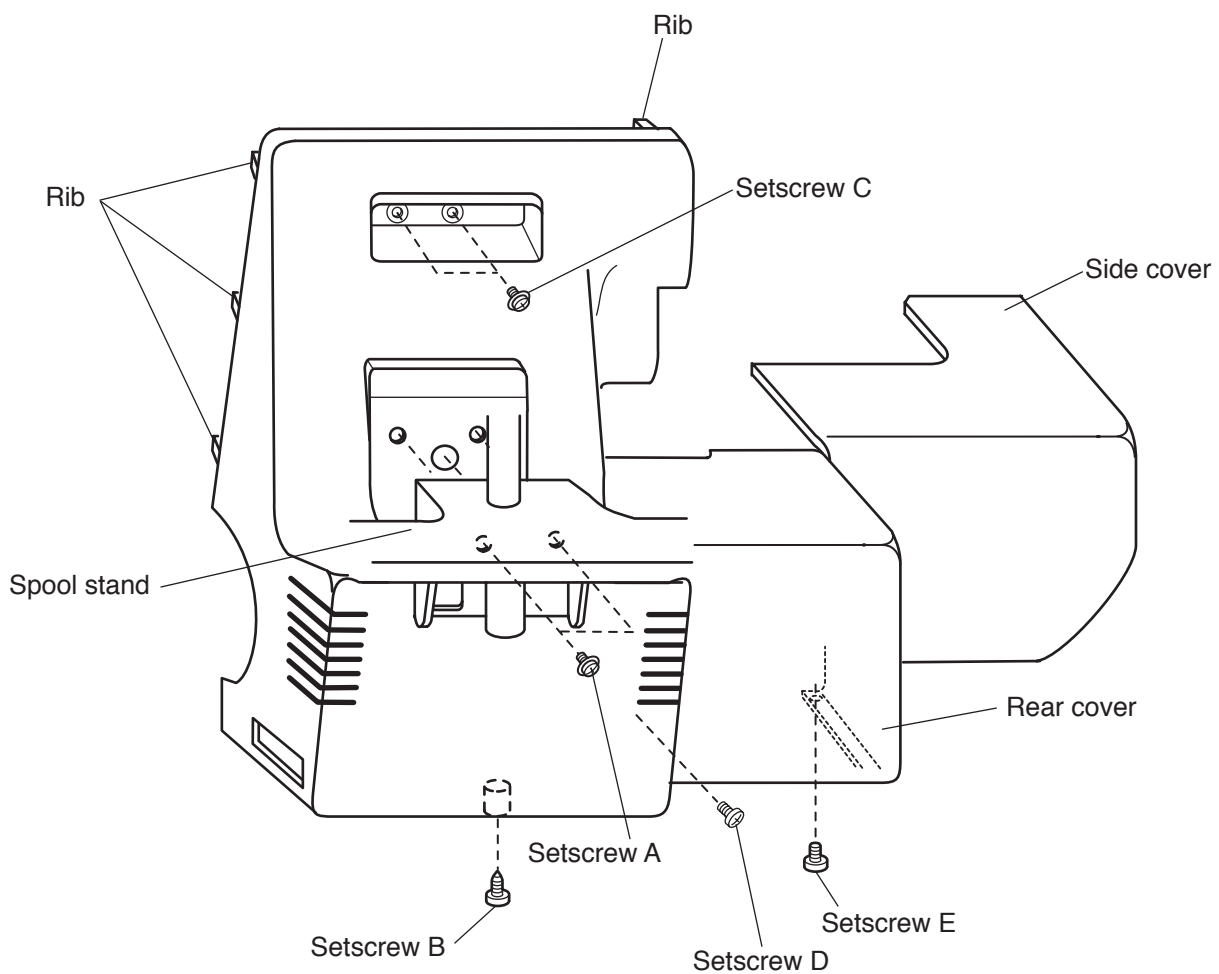
REAR COVER

To remove:

1. Remove setscrews A (2 pcs.) and the spool stand.
2. Remove setscrews B, C, D and E.
3. Open the side cover.
4. Unhook the ribs from the machine and remove the rear cover.

To attach:

5. Put the ribs of rear cover into the front cover and tighten setscrews E, D, C and B.
6. Close the side cover.
7. Attach the spool stand with setscrews A (2 pcs.).



CHANGING EXTERNAL PARTS

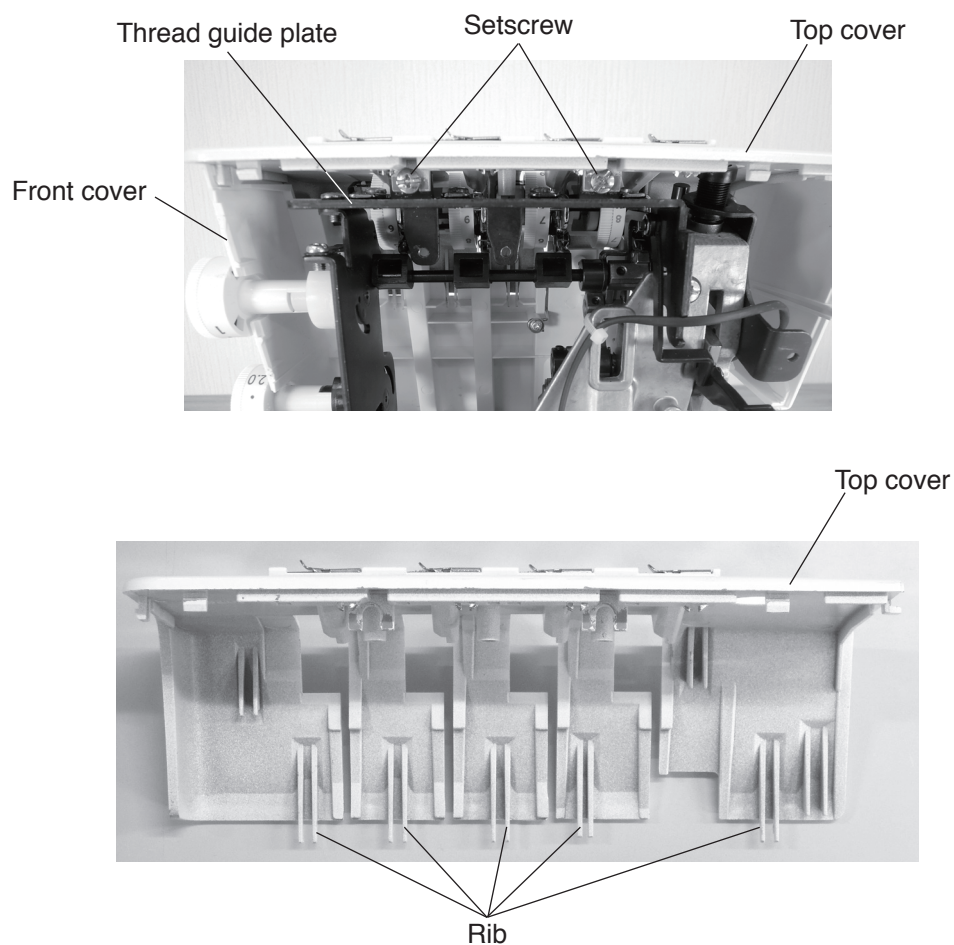
TOP COVER

To remove:

1. Remove the rear cover (see page 2).
2. Loosen setscrews (2 pcs.) and remove the top cover.

To attach:

3. Put the ribs of the top cover in the front cover.
4. Tighten the setscrews (2 pcs.).
5. Attach the rear cover.



CHANGING EXTERNAL PARTS

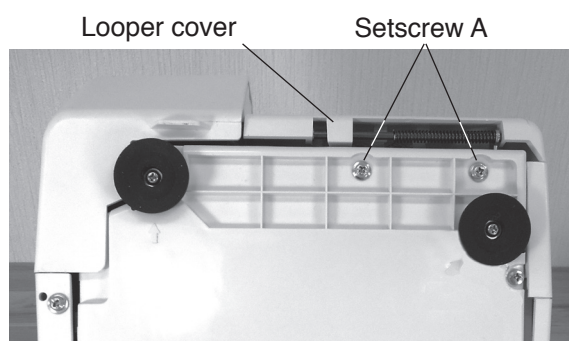
LOOPER COVER

To remove:

1. Remove setscrews A (2 pcs.) and the looper cover.

To attach:

2. Attach the looper cover with setscrews A (2 pcs.).



CHANGING EXTERNAL PARTS

FRONT COVER

To remove:

1. Remove the face plate, rear cover, top cover and looper cover (see pages 1 to 4).
2. Turn the handwheel toward you with your hand, and set the upper looper at its lowest position, and remove setscrews A, B, C, D. Remove the LED (unit) from the LED holder. Remove the front cover.

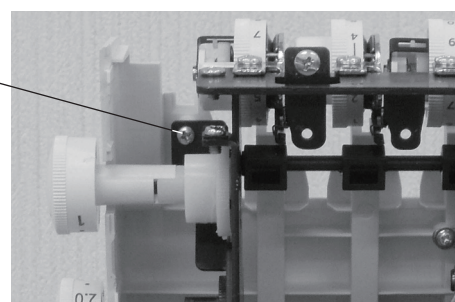
To attach:

3. Attach the front cover with the LED (unit), setscrews D, C, B and A.
4. Attach the looper cover, top cover, rear cover and face plate.

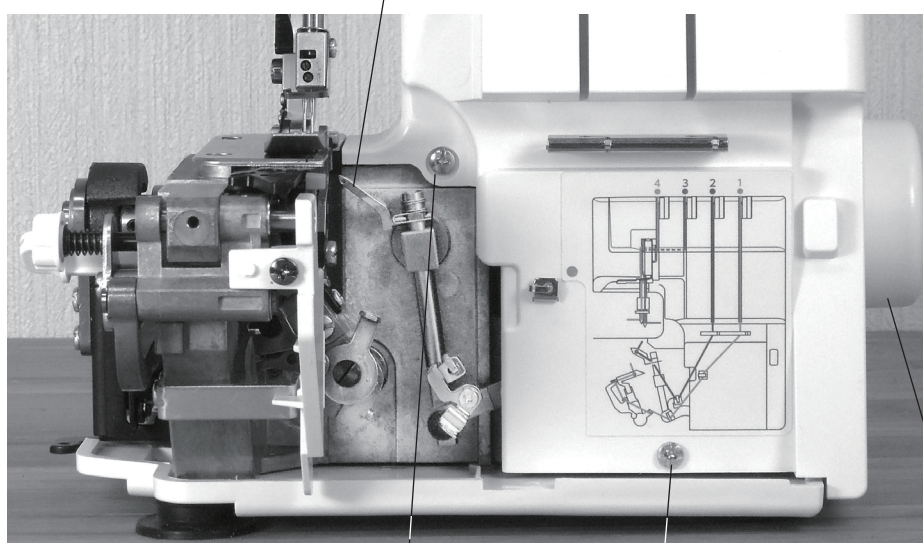


Setscrew A

Setscrew B



Upper looper should be set at its lowest position



Setscrew C

Setscrew D

Handwheel



LED(unit)

LED holder

CHANGING EXTERNAL PARTS

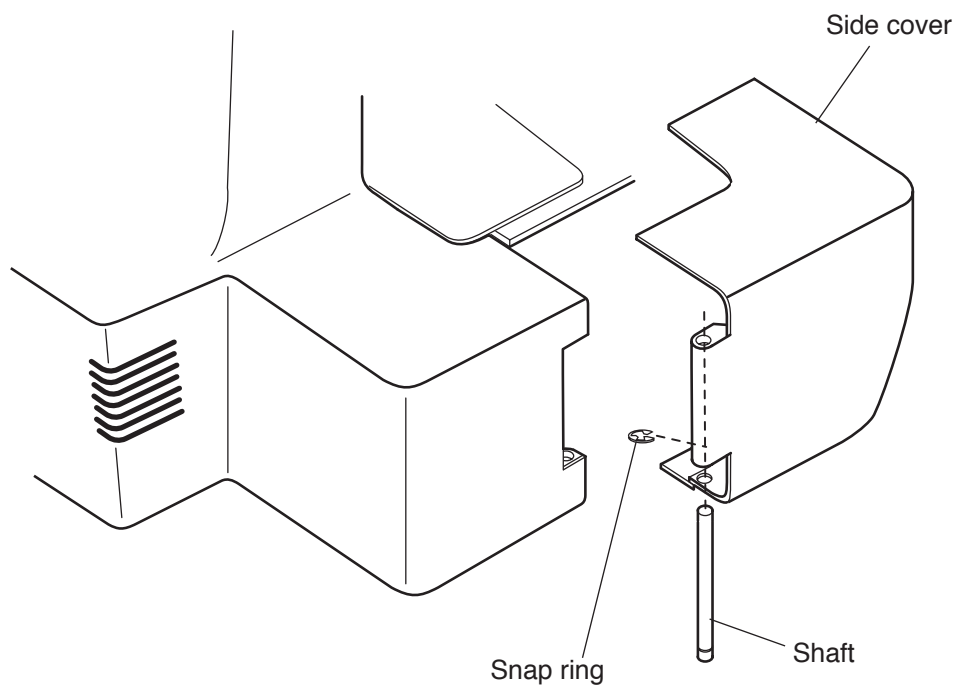
SIDE COVER

To remove:

1. Open the side cover. Remove the snap ring. Push down the shaft and remove the side cover.

To attach:

2. Set the side cover to the rear cover.
Insert the shaft and attach the snap ring. Close the side cover.



CHANGING EXTERNAL PARTS

BASE PLATE

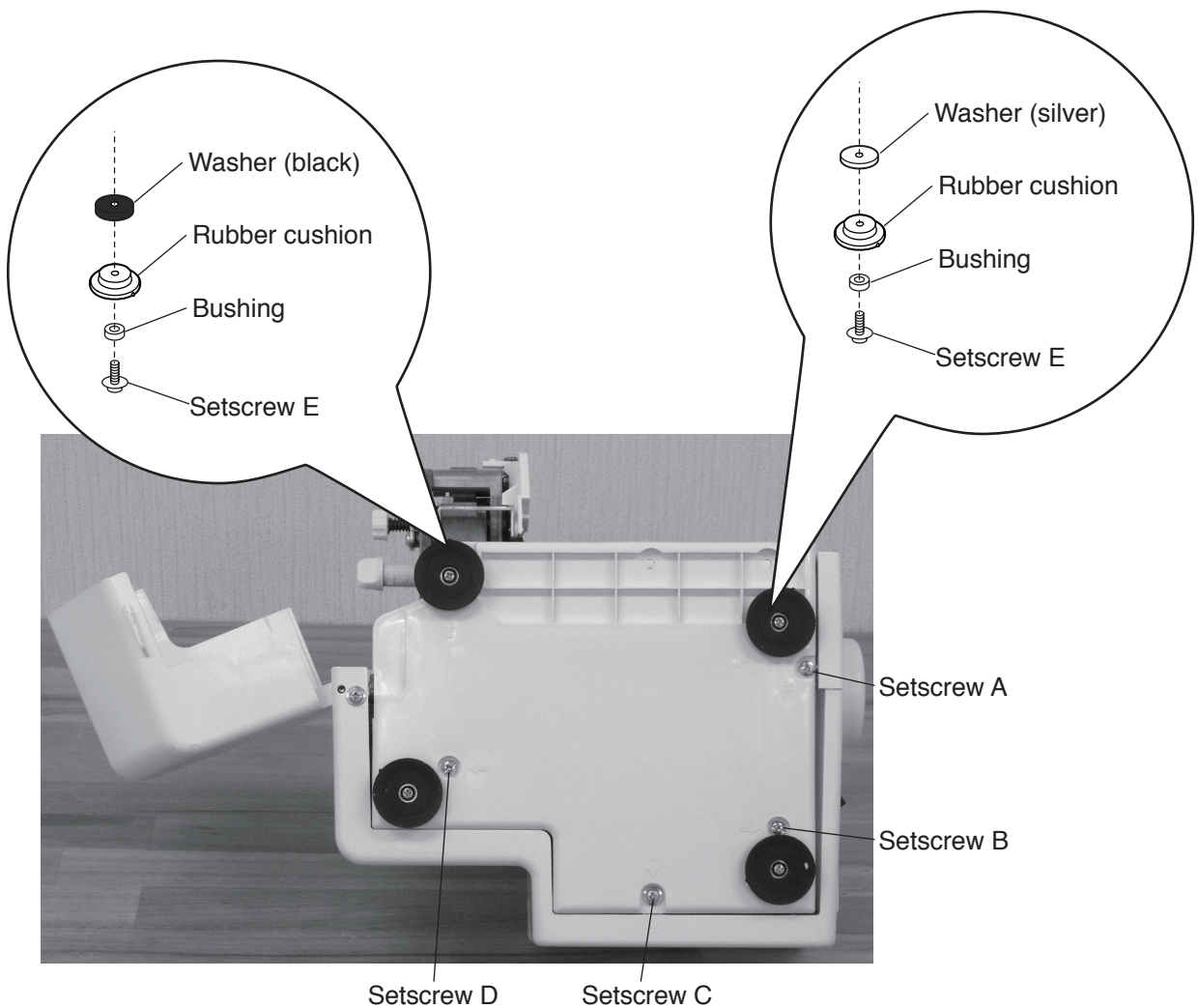
To remove:

1. Remove the looper cover (see page 4).
2. Open the side cover.
3. Remove setscrews A, B, C, D, washers (black/silver), rubber cushions (2 pcs.), bushing (2 pcs.) and setscrew E (2 pcs.).
4. Remove the base plate.

NOTE: Do not remove another two base cushions.

To attach:

5. Attach the base plate, and washers (2 pcs.), rubber cushions (2 pcs.), bushing (2 pcs.) and setscrew E (2 pcs.) .
6. Attach setscrews D, C, B and A.
7. Close the side cover.
8. Attach the looper cover.



REPLACING ELECTRONIC COMPONENTS

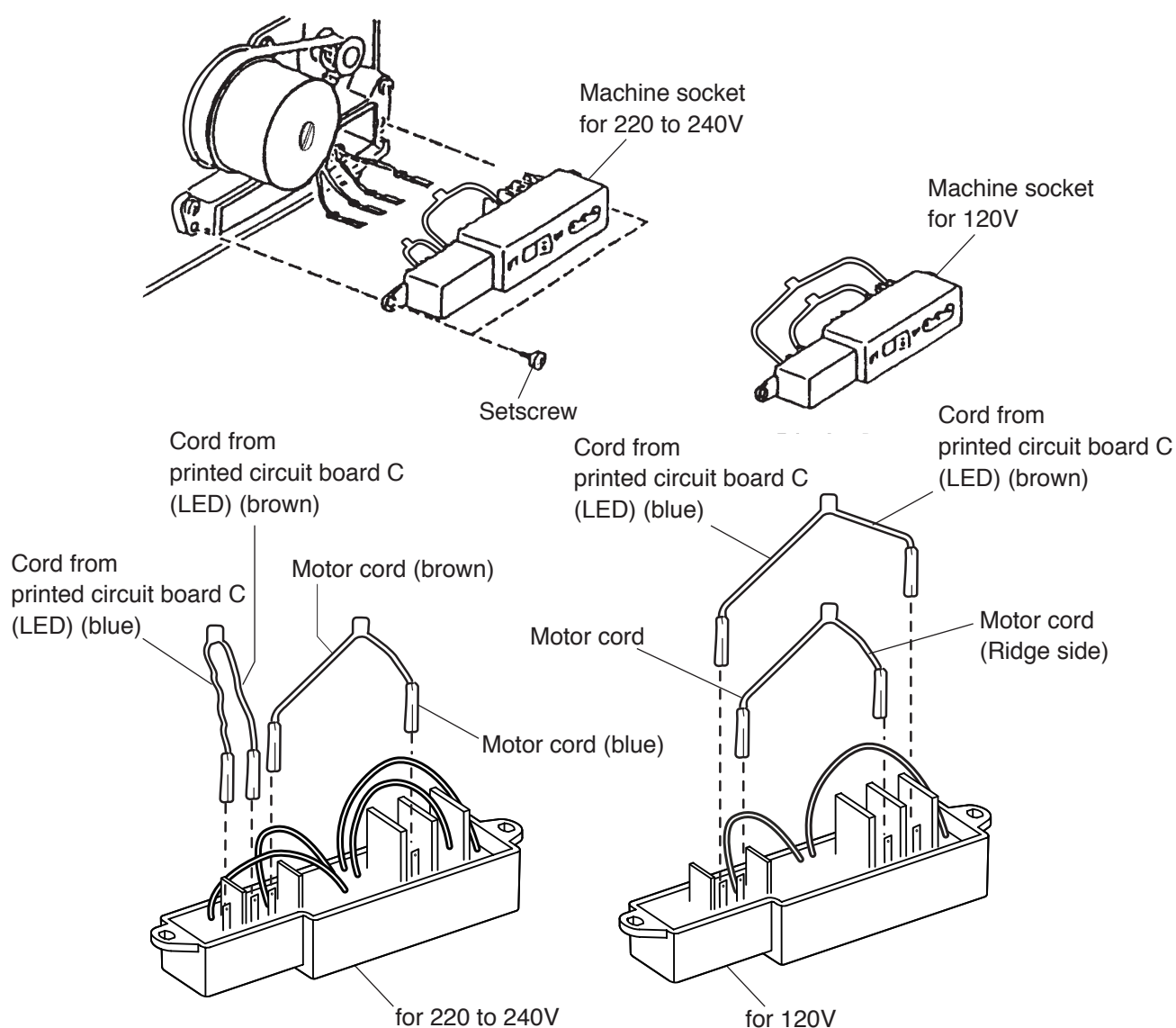
MACHINE SOCKET

To remove:

1. Remove the face plate, rear cover, top cover, looper cover and front cover (see pages 1 to 5).
2. Remove setscrews (2 pcs.) and pull out the cord connectors from the machine socket.

To attach:

3. Insert the cord connectors as shown below.
4. Attach the machine socket and tighten setscrews (2 pcs.).
5. Attach the front cover, looper cover, top cover, rear cover and face plate.



MECHANICAL ADJUSTMENT

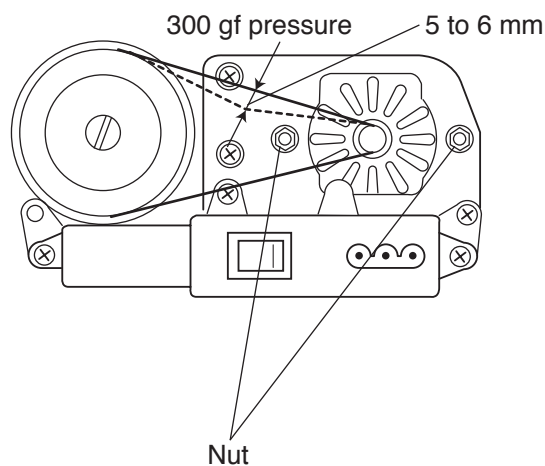
MOTOR BELT TENSION

Correct Setting:

To check for proper belt tension, press the belt in the middle of the span lightly with your finger (approximately 300 grams-force). The belt should bend 5 to 6 mm.

To adjust:

1. Remove the rear cover (see page 2).
2. Loosen the 2 nuts, then tighten them a little. Adjust the belt tension, then tighten the nuts securely.
3. Turn the handwheel for a few rotations and re-check the belt tension.
4. Attach the rear cover.



MECHANICAL ADJUSTMENT

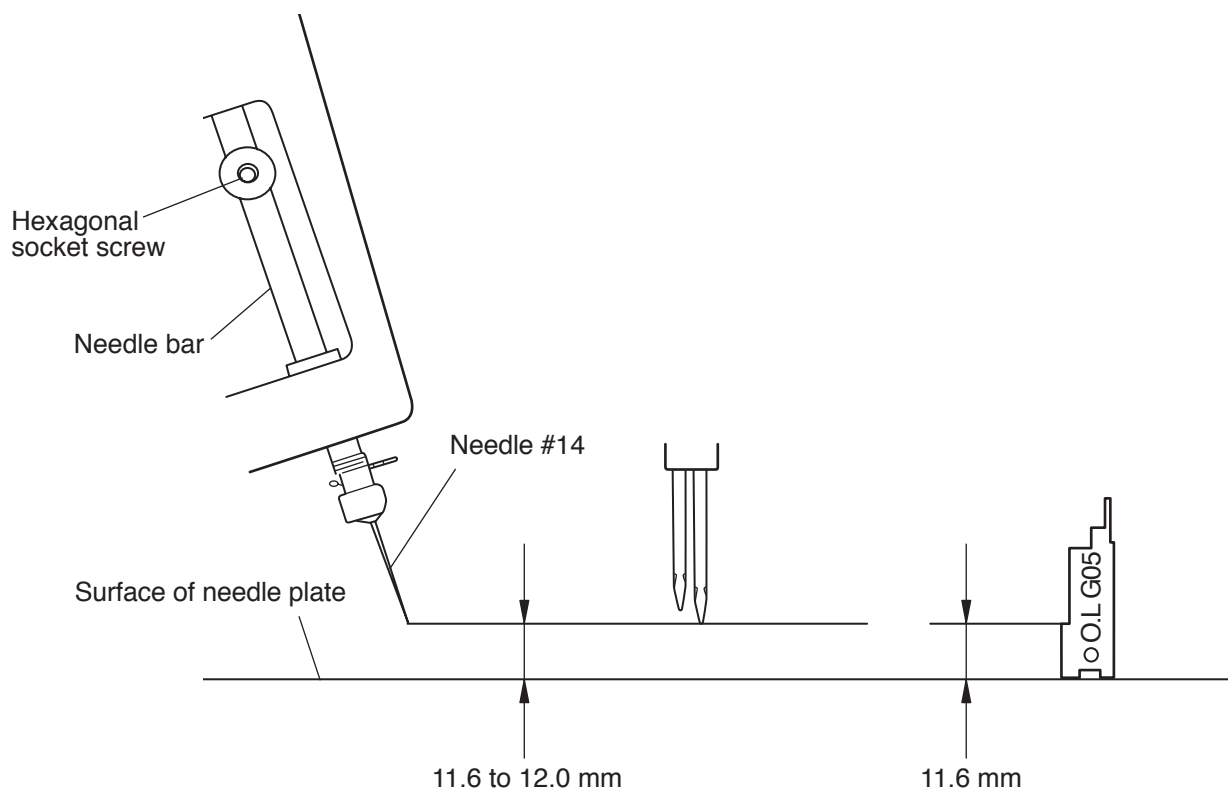
NEEDLE HEIGHT

Correct Setting:

The distance between the tip of needle on the right and the surface of needle plate should be 11.6 to 12.0 mm when the needle bar is at the highest position.

To adjust:

1. Remove face plate, rear cover, top cover, looper cover and front cover (see pages 1 to 5).
2. Turn the handwheel toward you with your hand and set the needle bar at the highest position.
3. Loosen the hexagonal socket screw to adjust the height and tighten hexagonal socket screw after the adjustment is done.
4. Turn the handwheel toward you one cycle and recheck the needle bar height.
5. Attach the front cover, looper cover, top cover, rear cover and face plate.



MECHANICAL ADJUSTMENT

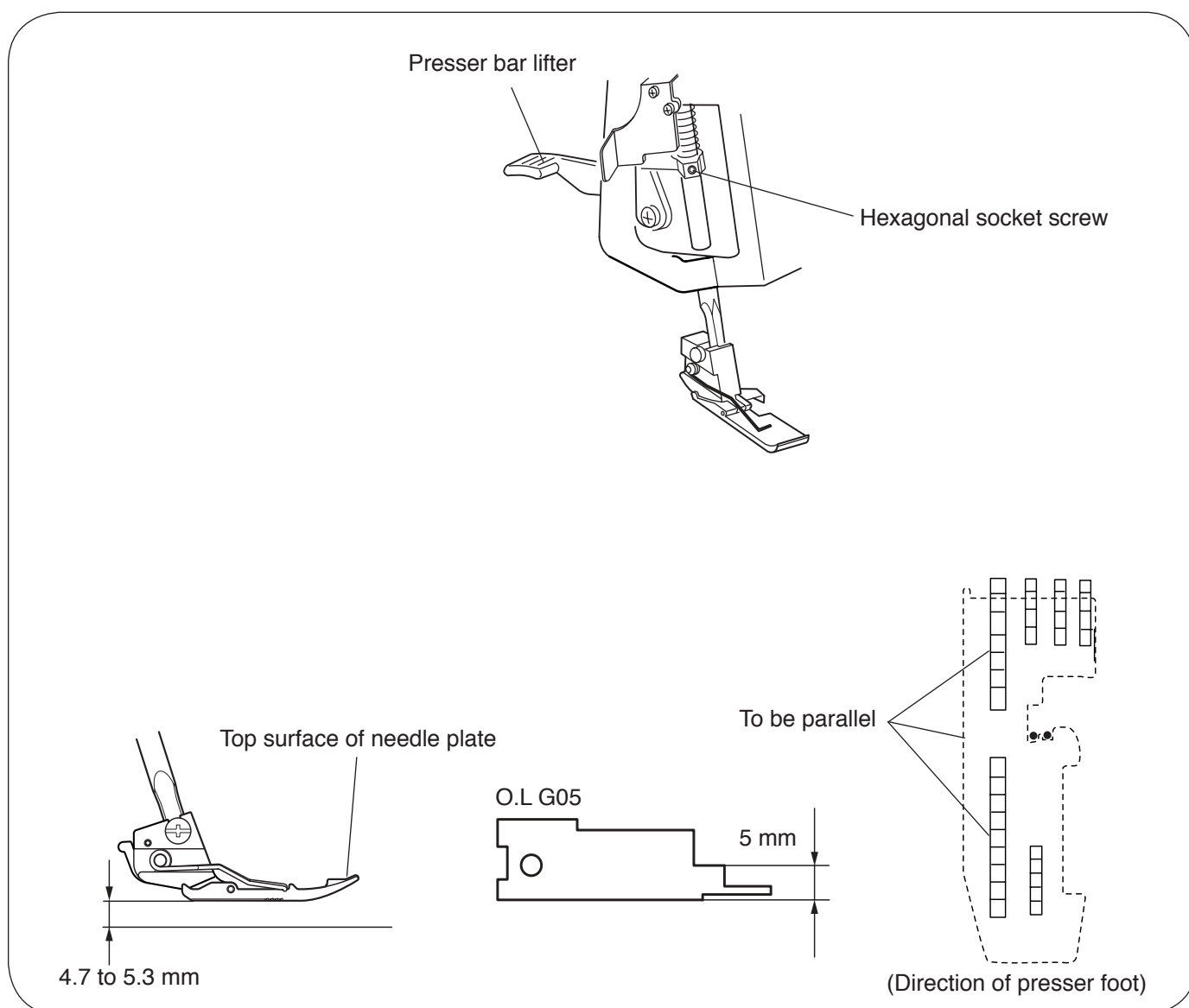
PRESSER BAR HEIGHT

Correct Setting:

The distance between the surface of needle plate and bottom of presser foot should be 4.7 to 5.3 mm when the presser bar lifter is raised.

To adjust:

1. Remove the face plate, looper cover, top cover and front cover (see pages 1 to 5).
2. Raise the presser bar lifter, and loosen the hexagonal socket screw.
Then adjust the presser bar height, the side of presser foot should be parallel with the side of feed dogs.
3. Tighten the hexagonal socket screw.
4. Attach the front cover, top cover, looper cover and face plate.



MECHANICAL ADJUSTMENT

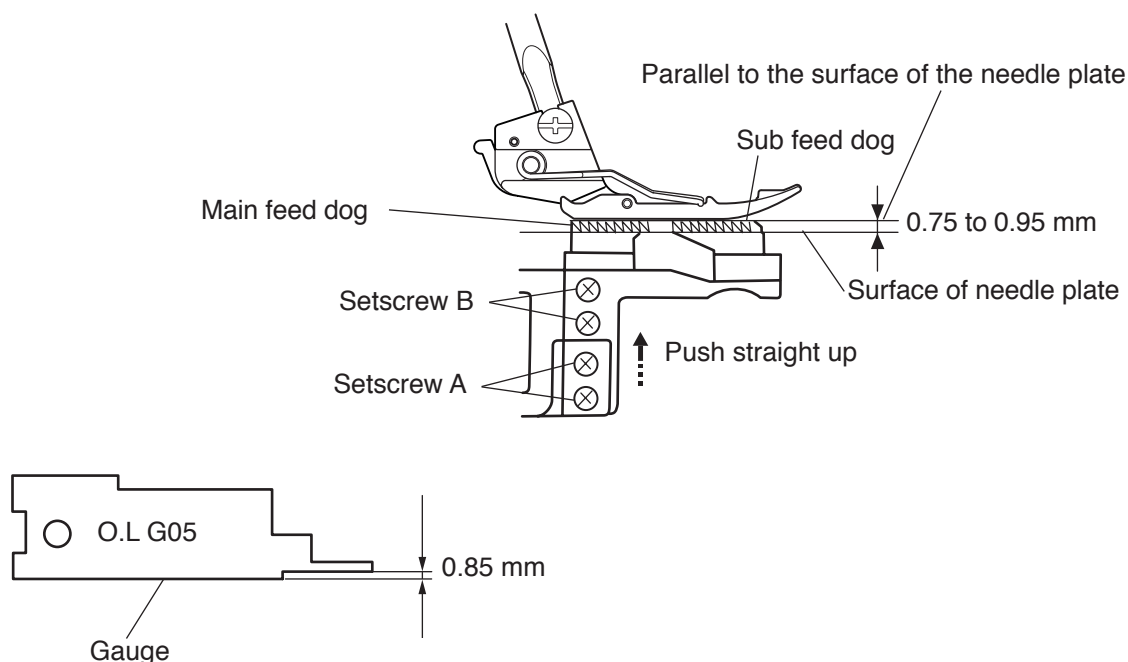
FEED DOG HEIGHT

Correct Setting:

When the presser foot is lowered and feed dogs are at their highest position, the distance between the surface of needle plate and bottom of presser foot should be 0.75 to 0.95 mm.

To adjust:

1. Set the stitch length dial at “ 3 ” and the differential feed dial at “ 1.0 ”.
2. Remove the rear cover (see page 2).
3. Lower the presser foot and raise the feed dogs to their highest position by turning the handwheel.
4. Loosen the setscrews A (2 pcs.) and B (2 pcs.).
5. Push the main feed dog straight up and adjust the distance between the surface of needle plate and bottom of presser foot to 0.85 mm (Use the service gauge O.L G05.), then tighten setscrews A (2 pcs.).
6. Turn the handwheel to get the top of the main feed dog is level with the surface of the needle plate in the downward motion.
Push the sub feed dog straight up until its top surface is to be level with the top surface of the needle plate, then tighten the setscrews B (2 pcs.) of the sub feed dog.
7. Check if these feed dogs are attached in parallel to the surface of needle plate while turning the handwheel.
8. Attach the rear cover.



MECHANICAL ADJUSTMENT

TIMING OF NEEDLE AND FEED DOG

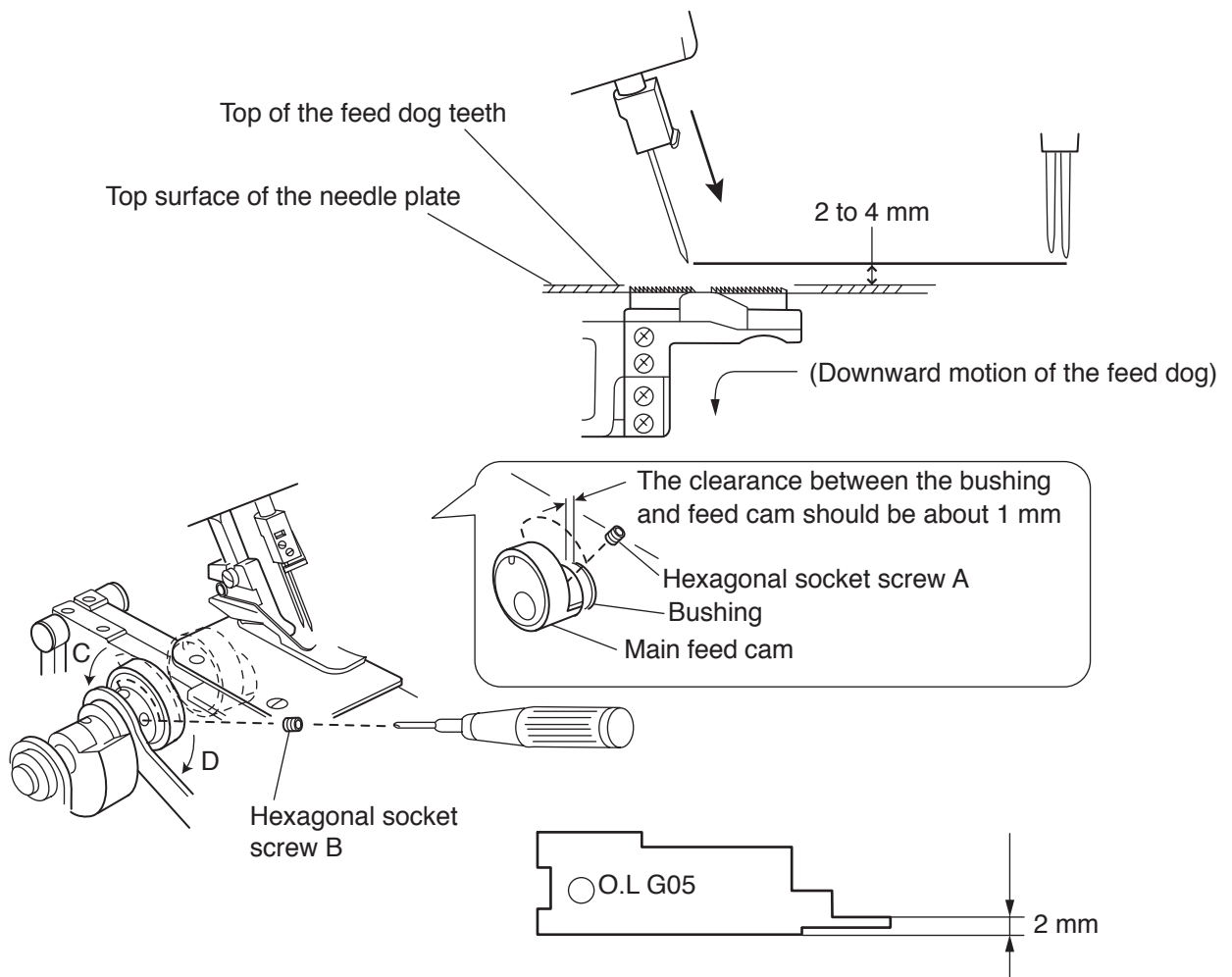
Correct Setting:

When the tip of right needle is at 2 to 4 mm above the needle plate in its downward motion, and the presser foot is lowered, the top of the feed dog teeth should be level with the top surface of needle plate at their rearmost position.

Before the adjustment, check if the needle bar height and the feed dog height are correct (see page 9 and 11).

To adjust:

1. Set the stitch length dial at “ 3 ” and differential feed dial at “ 1.0 ”.
2. Remove the rear cover (see page 2).
3. Raise the presser foot and move the tip of right needle at 3 mm above the needle plate in its downward motion by turning the handwheel.
4. Lower the presser foot, and loosen hexagonal socket screws A (2 pcs.) for main feed cam, hexagonal socket screws B (2 pcs.) for sub feed cam, and adjust the position of the sub feed cam and tighten hexagonal socket screws B (2 pcs.).
 - # Turn the sub feed cam to the direction C if the feed dog is lower than the surface of the needle plate.
 - # Turn the sub feed cam to the direction D if the feed dog is higher than the surface of the needle plate.
5. Set the main feed cam to keep the clearance between the bushing and main feed cam to about 1 mm, and tighten hexagonal socket screws A (2 pcs.).
6. Attach the rear cover.



MECHANICAL ADJUSTMENT

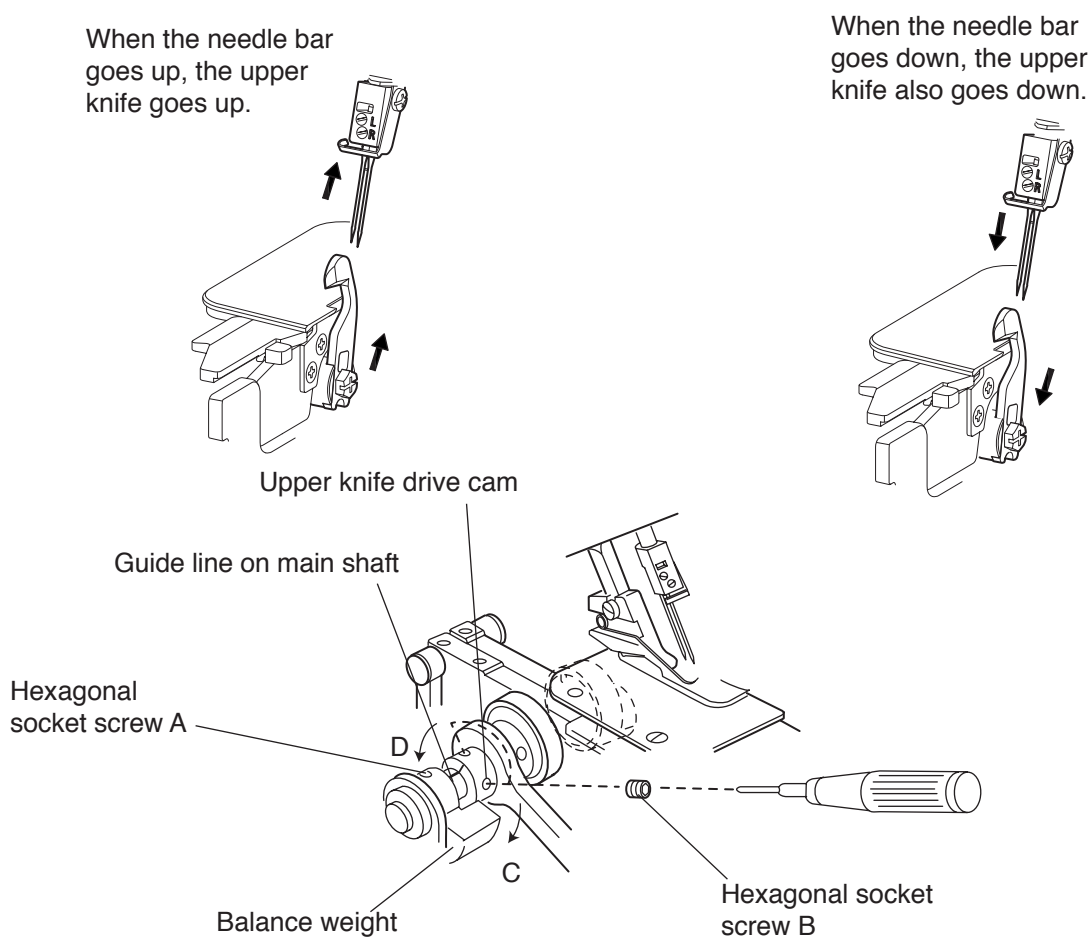
TIMING OF NEEDLE AND UPPER KNIFE

Correct Setting:

The upper knife timing is the same as that of the needle bar. When the needle bar is at highest position, the upper knife should be also at its highest position.

To adjust:

1. Remove the rear cover. (see page 2)
2. Loosen hexagonal socket screws A , and move the balance weight to left.
3. Loosen hexagonal socket screws B (2 pcs.), and adjust the needle and upper knife timing.
 - # Turn the upper knife drive cam to the direction C when the upper knife timing is being delay.
 - # Turn the upper knife drive cam to the direction D when the upper knife timing is too soon.
4. Tighten hexagonal socket screws B (2 pcs.) firmly. Move the balance weight to right.
Match the guide line on the balance weight with the one of the main shaft correctly.
Then tighten the hexagonal socket screws A .
5. Turn the handwheel toward you one cycle, and recheck the needle and the upper knife timing.
6. Attach the rear cover.



MECHANICAL ADJUSTMENT

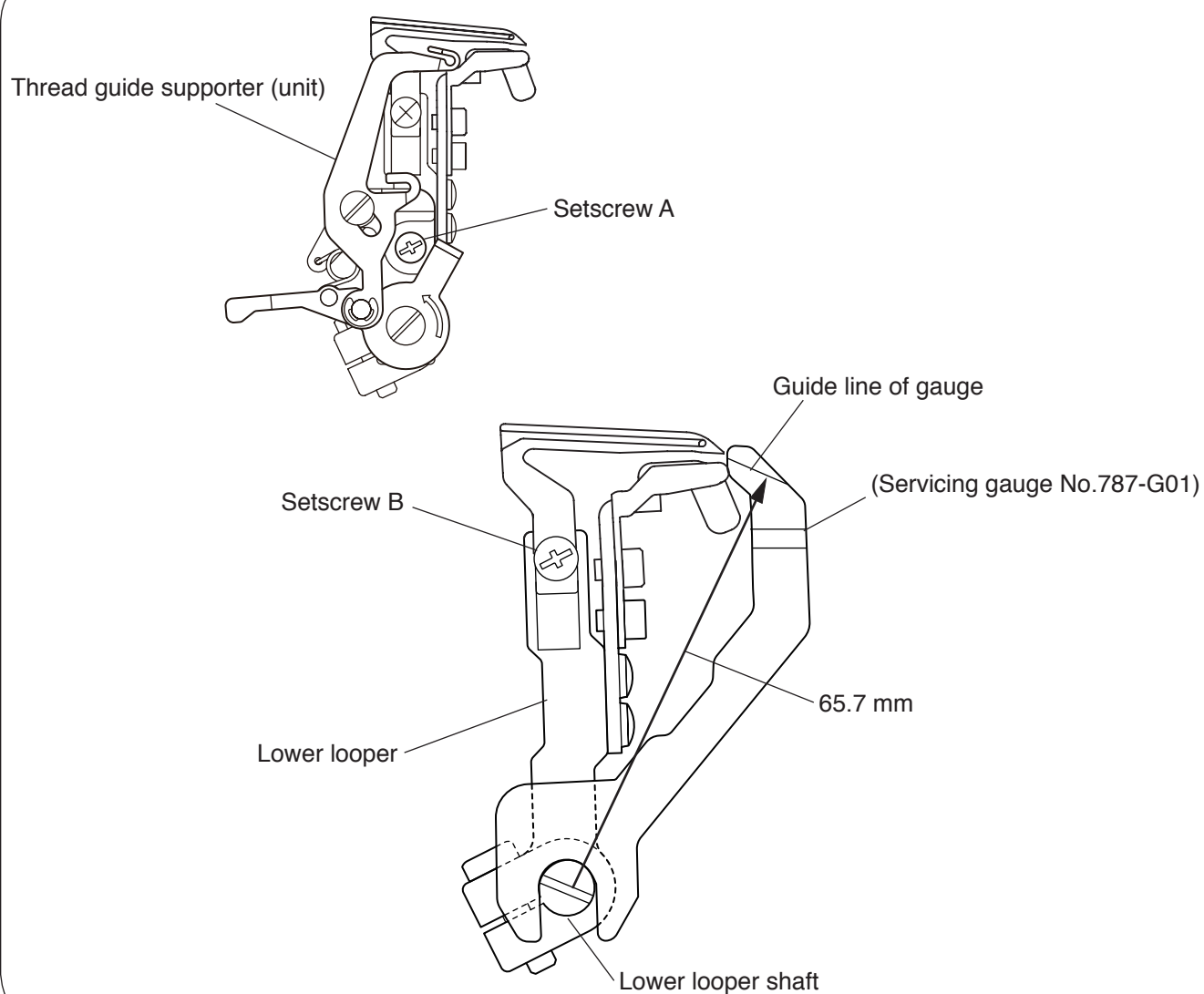
HEIGHT OF LOWER LOOPER

Correct Setting:

The height of lower looper is 65.7 mm from the center of lower looper shaft as shown in Illustration.

To adjust:

1. Remove the setscrew A and thread guide supporter (unit).
2. Set the upper knife in down position to loosen setscrew B.
3. Turn the handwheel to get the lower looper in rightmost position.
4. Replace the lower looper.
5. Turn the handwheel to get the lower looper in leftmost position.
6. Insert the gauge downwards into the lower looper shaft as shown.
7. Loosen setscrew B, and move the lower looper up or down to get the tip of lower looper is in line with guide line of gauge.
8. Tighten setscrew B.
9. Remove the gauge and set the upper knife in up position.
10. Attach the setscrew A and thread guide supporter (unit).



MECHANICAL ADJUSTMENT

CLEARANCE BETWEEN NEEDLES AND LOWER LOOPER/NEEDLE GUARDS (1 of 3)

Correct Setting:

Both right and left needles should have an equal clearance from the front edge of the needle holes on the needle plate.

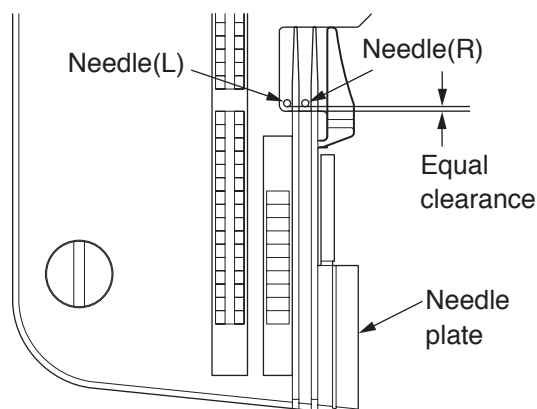
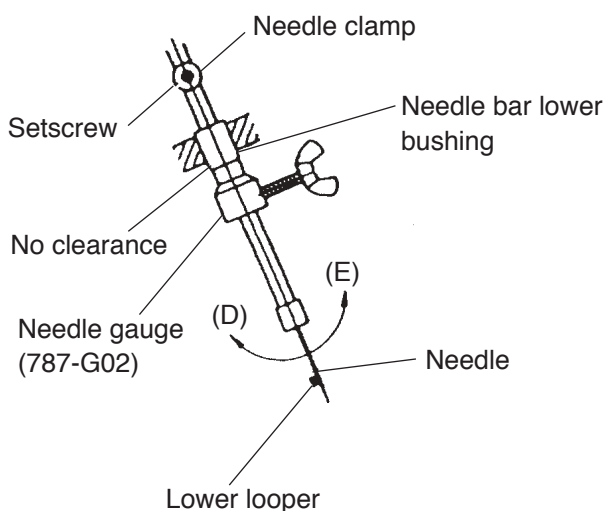
The standard clearance between the left and right needle and the lower looper is 0 mm to 0.1 mm (see page 16).

The standard clearance between the needles and the rear needle guard is 0 mm to 0.2 mm (see page 17).

The above standard clearance allows the needle to slightly touch the front needle guard.

To adjust:

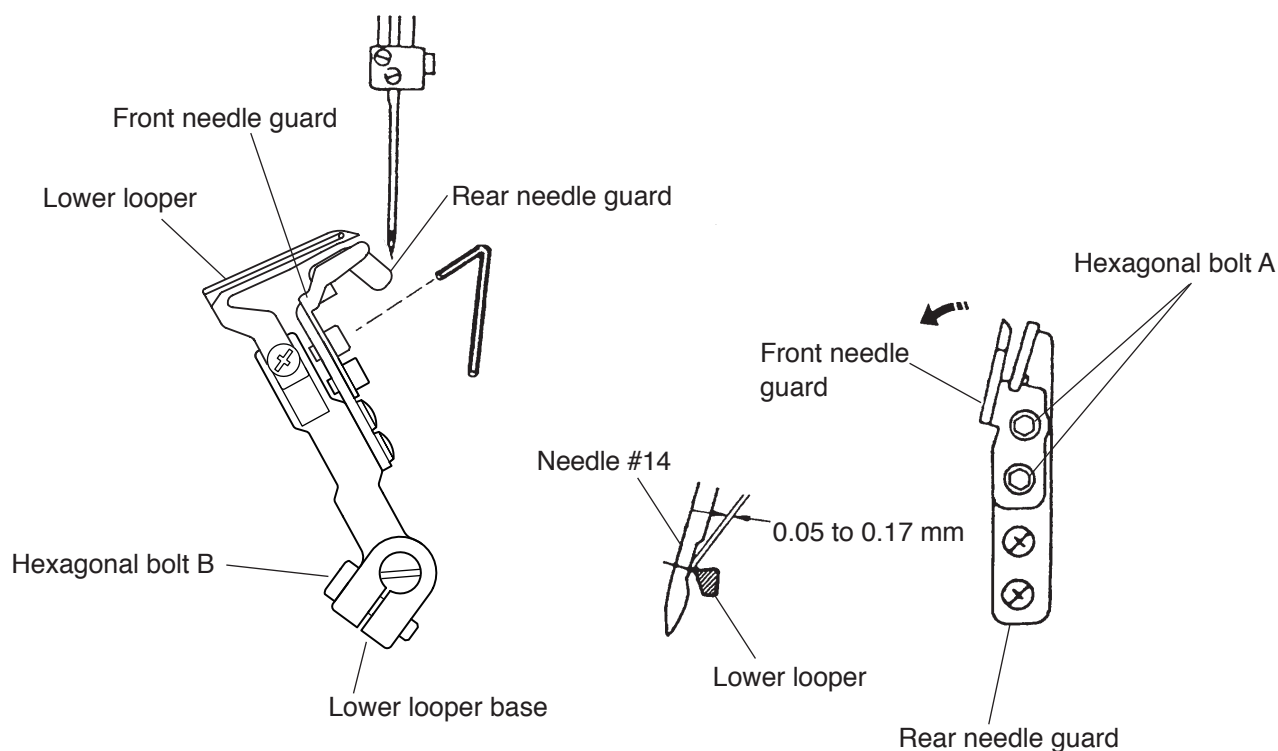
1. Remove the looper cover, top cover, front cover, presser foot and needles (see pages 3 to 5).
2. Before loosening setscrew, attach the needle gauge #787-G02 to prevent change of needle bar height during the adjustment.
3. Attach two #11 needles on the needle clamp and loosen the setscrew. Adjust the two needles, to make the clearance between both needles and the front edge of the needle hole of the needle plate equal by turning the needle bar in the D or E direction while pushing up the needle bar to prevent change of needle bar height.
4. Retighten the setscrew and remove the needle gauge.
5. Attach the needles, presser foot, front cover, top cover and looper cover.
(Please give priority to adjusting the clearance between the needles and the lower looper and upper looper rather than this adjustment.)



MECHANICAL ADJUSTMENT

CLEARANCE BETWEEN NEEDLES AND LOWER LOOPER/NEEDLE GUARDS (2 of 3)

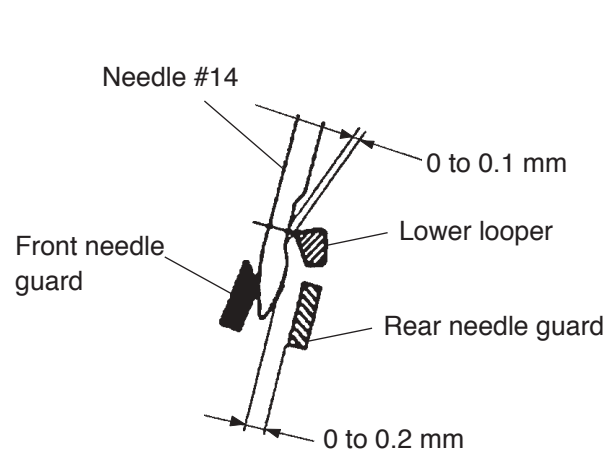
1. Remove the left needle only.
2. Turn the handwheel toward you to bring the tip of the lower looper from the left side to the rear side of the right needle.
3. Loosen the hexagonal bolt A (2 pcs.) on the front needle guard and open a space between the front needle guard and the needle.
4. Next, loosen the hexagonal bolt B and slide the lower looper to the front or to the back to adjust the clearance between the right needle and the lower looper. The clearance should be 0.05 mm to 0.17 mm. Retighten the hexagonal bolt B.
5. Attach the left needle.



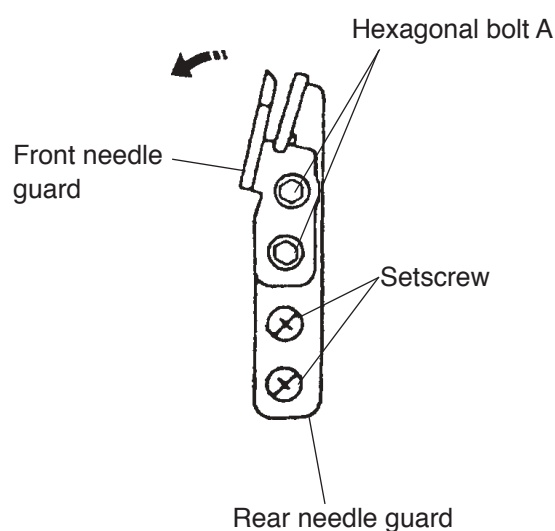
MECHANICAL ADJUSTMENT

CLEARANCE BETWEEN NEEDLES AND LOWER LOOPER/NEEDLE GUARDS (3 of 3)

1. Loosen the hexagonal bolts A (2 pcs.) and setscrews (2 pcs.).
2. Push the right needle by the front needle guard to adjust the clearance between the needle and the lower looper. The clearance should be 0 mm to 0.1 mm.
3. Attach #14 needle on the left needle position and turn the handwheel toward you to check the clearance between the left needle and looper.
Make sure the front needle guard is touching the needle slightly and the rear needle guard is not touching the needle.
4. Tighten the hexagonal bolts A (2 pcs.) and setscrews (2 pcs.).
5. Check the timing between the needle and the lower looper.
6. Recheck the needle bar height and the clearance between the needle and the lower looper.



(Rear needle guard is not touching the needle.)



MECHANICAL ADJUSTMENT

CLEARANCE BETWEEN NEEDLES AND FIXED NEEDLE GUARD

Correct Setting:

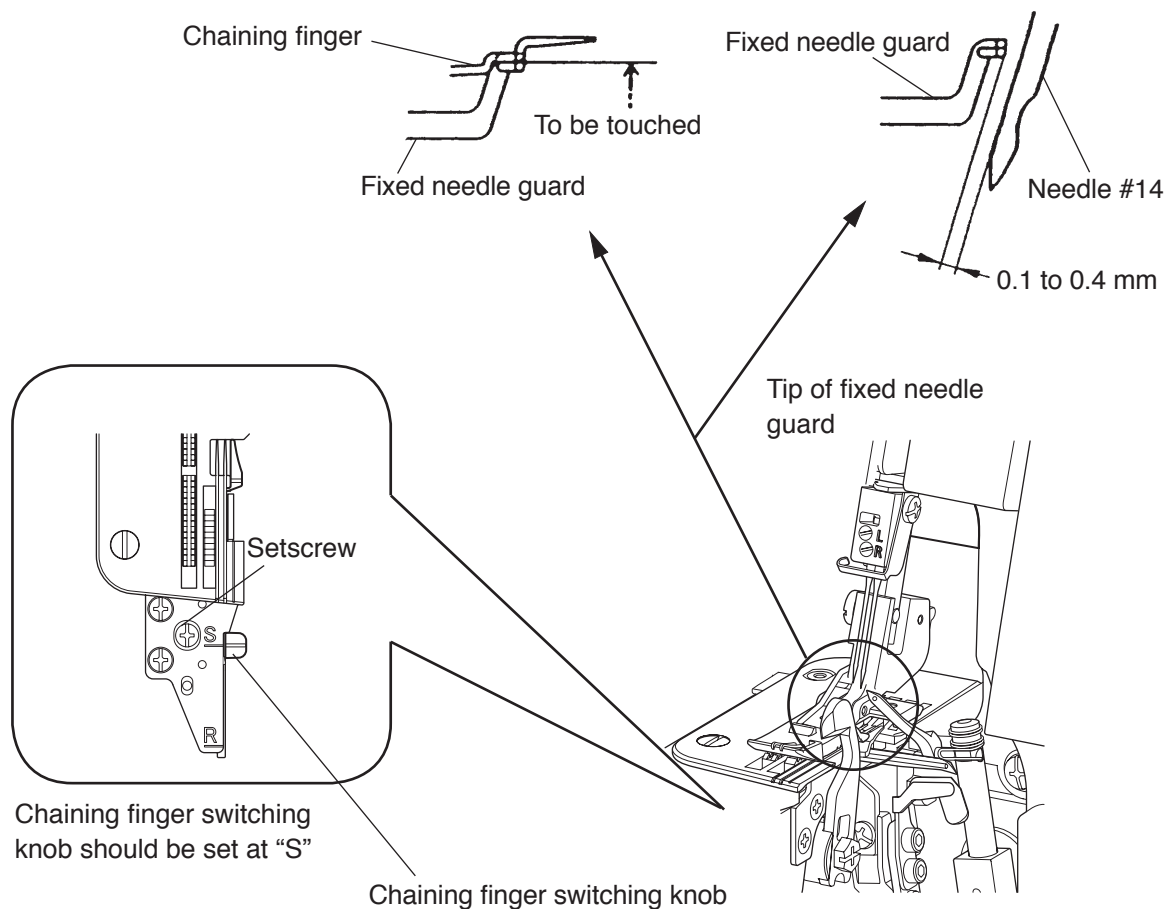
The clearance between needle and the fixed needle guard should be 0.1 to 0.4 mm.

To adjust:

1. Remove the presser foot and the needle plate and lower the needle to its lowest position.
2. Loosen setscrew and adjust the position of the fixed needle guard.
3. Tighten setscrew.
4. Attach the needle plate and the presser foot.

Needle plate setting knob
should be set at "S"

The clearance between the
needle and fixed needle guard



MECHANICAL ADJUSTMENT

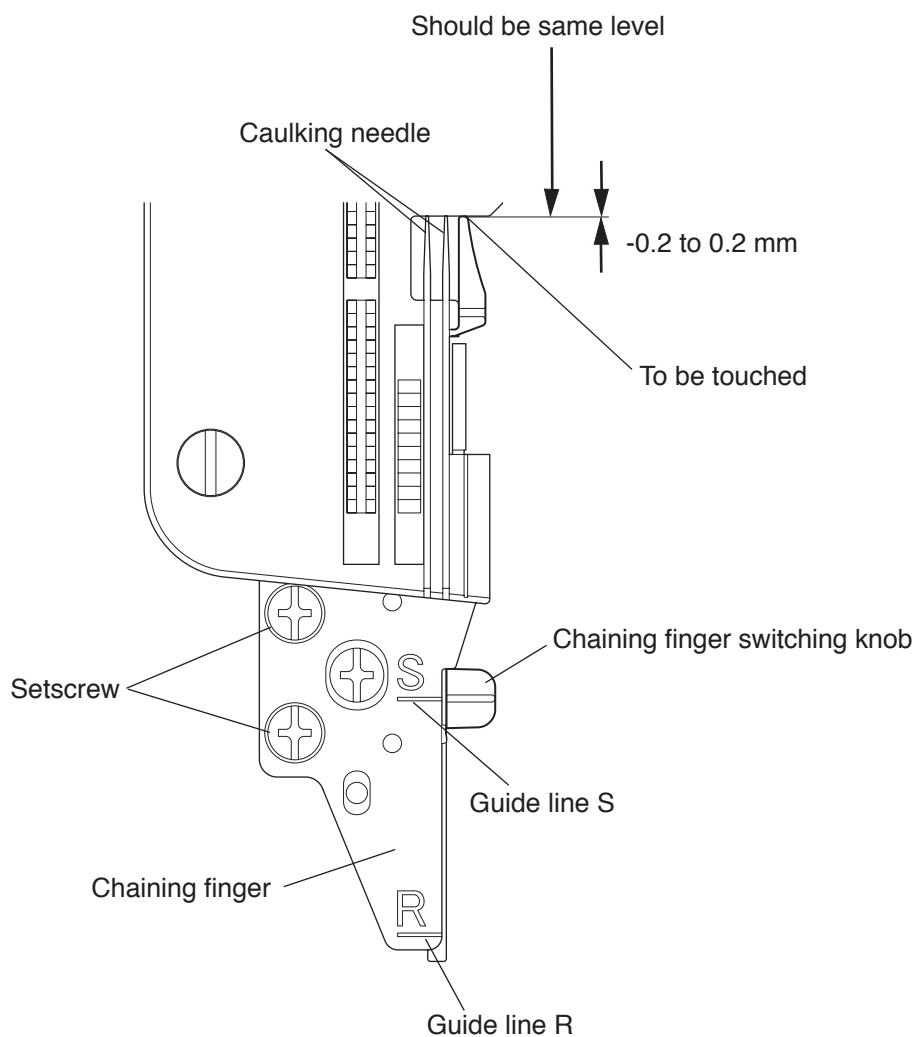
POSITION OF CHAINING FINGER

Correct Setting:

When set the needle plate setting knob to the guide line S, the chaining finger should touch the side of needle plate, and the tip of chaining finger should be same level with the tip of the needle on the needle plate.

To adjust:

1. Remove the presser foot.
2. Set the chaining finger switching knob to the guide line S on the chaining finger.
3. Loosen setscrews (2 pcs.), and move the chaining finger to the correct position.
The chaining finger should touch the side of needle plate, and the tip of chaining finger should be same level with the tip of the caulking needle on the needle plate. The clearance between the caulking needle and the tip of the chaining finger should be -0.2 to 0.2.
4. Tighten setscrews (2 pcs.).
5. Set the chaining finger switching knob to the guide line S and R, and check the position of chaining finger.
6. Attach the presser foot.



MECHANICAL ADJUSTMENT

POSITION OF UPPER LOOPER

Correct Setting:

When the upper looper is at the leftmost position, the distance between the center of needle on the right and the center of looper eye should be 4.8 to 5.2 mm.

To adjust:

1. Remove the base plate (see page 6).
2. Loosen the hexagonal socket screws A (2 pcs.), and adjust the distance between upper looper shaft guide and bottom of upper looper. The distance should be 1.6 to 1.8 mm when the upper looper is at the lowest position as shown in Figure 1.
3. Tighten the hexagonal socket screws A (2 pcs.).
4. Turn the handwheel and bring the upper looper to the leftmost position.
5. Loosen the hexagonal socket screw B, and adjust the distance between the center of needle and center of upper looper eye as shown in Figure 2 and Figure 3.
6. Tighten the hexagonal socket screw B. Attach the base plate.
7. Check the upper and lower loopers timing and the clearance between upper and lower loopers and the clearance between needle and upper looper.

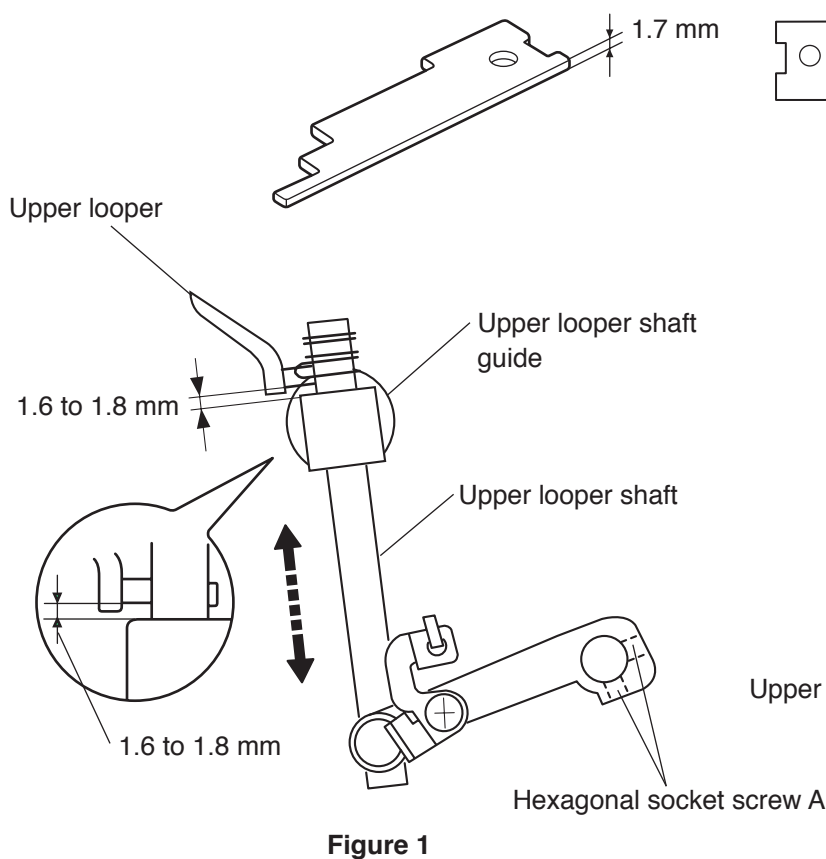


Figure 1

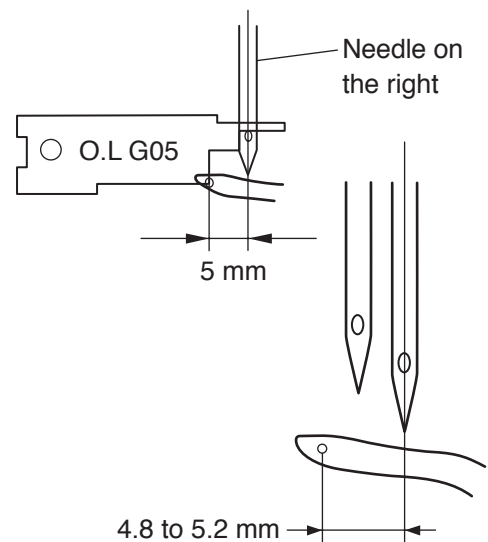


Figure 2

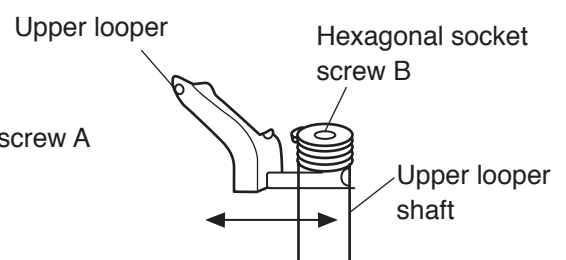


Figure 3

MECHANICAL ADJUSTMENT

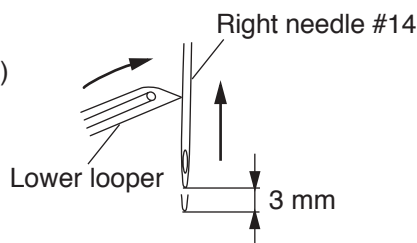
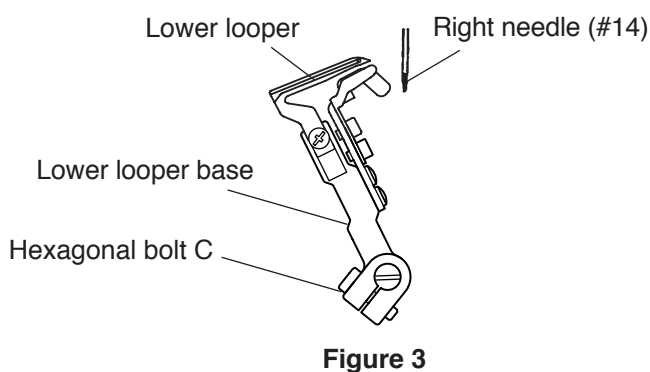
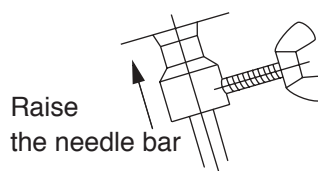
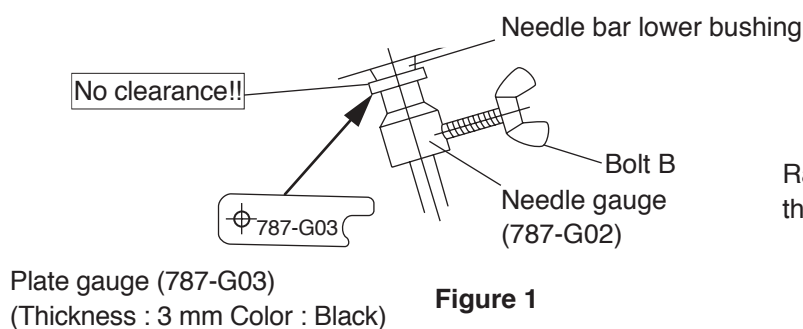
TIMING OF NEEDLE AND LOWER LOOPER

Correct setting:

When the needle comes up 2.8 to 3.2 mm from its lowest position, the tip of the lower looper comes just left of the needle (#14) on the right.

To adjust:

1. Remove the presser foot, needle plate and left-side needle.
2. Replace right-side needle with a #14 needle.
3. Turn the handwheel toward you to get the lowest needle position.
4. Set the two gauges (787-G02, 787-G03), as shown in Figure 1 and tighten the bolt B.
* There should be no clearance between the gauges and the needle bar lower bushing.
5. Remove the plate gauge (787-G03). Then turn the handwheel toward you until the needle gauge touches the needle bar lower bushing, as shown in Figure 2.
6. In this condition, loosen the hexagonal bolt C in figure 3 just enough to move the lower looper base.
Adjust the lower looper position in order to meet the tip of lower looper with left-side of needle (#14) as shown in Figure 4.
Tighten hexagonal bolt C.
7. Remove the gauge (787-G02).
Check the clearance between the needle and lower looper.
Check the clearance between the loopers (see page 24).
8. Replace the right side needle with the original needle.
9. Attach the needle, needle plate and presser foot.
* Be careful not to tighten bolt B too much.



MECHANICAL ADJUSTMENT

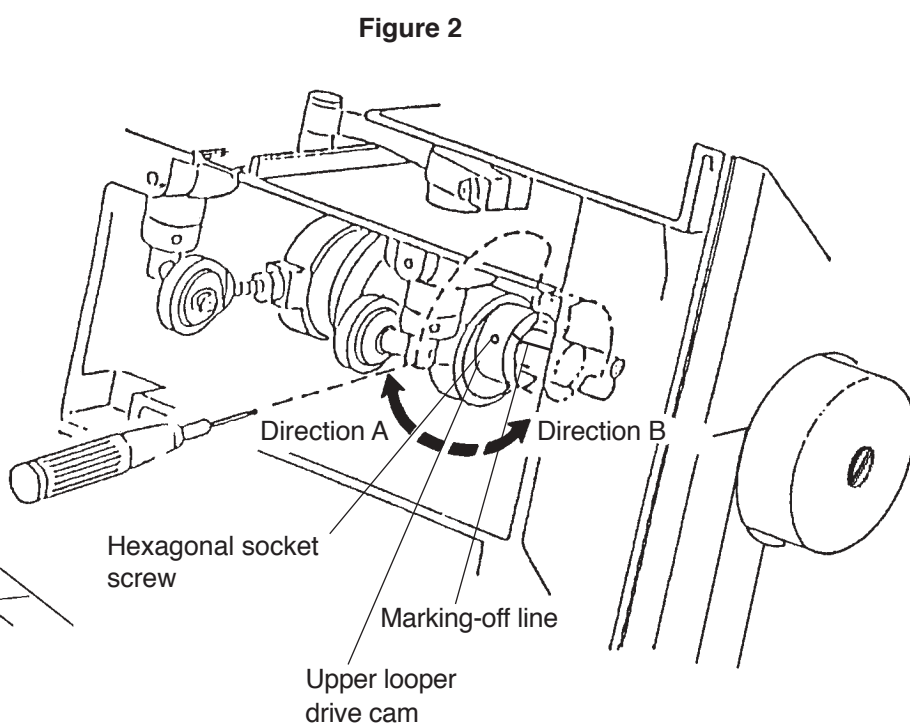
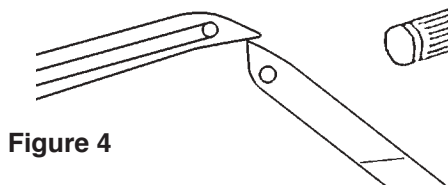
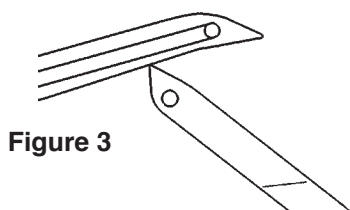
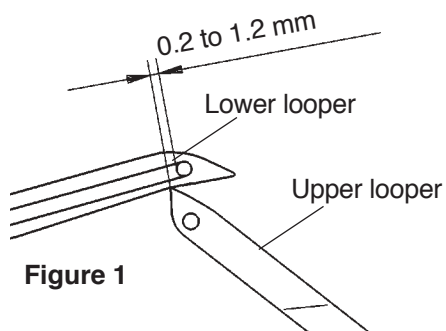
TIMING OF UPPER AND LOWER LOOPERS

Correct setting:

When the lower looper moves to the right, the tip of upper looper meets the lower looper within 0.2 to 1.2 mm from the left of lower looper eye as shown in Figure 1.

To adjust:

1. Before proceeding with this adjustment, check the needle and lower looper timing (see page 22) and the position of upper looper (see page 21).
2. Remove the base plate.
3. Loosen hexagonal socket screws (2 pcs.), and adjust the timing by turning the upper looper drive cam in the direction of:
A) if the timing of upper looper is advanced as shown in Figure 3.
B) if the timing of upper looper is delayed as shown in Figure 4.
The allowance is 0.2 to 1.2 mm from the left edge of lower looper eye as shown in Figure 1.
(Aligning the marking-off line on the upper looper drive cam and the shaft provides a rough guide for adjustment.)
4. Tighten hexagonal socket screws (2 pcs.).
5. Check the clearance between the loopers (see page 24).
6. Attach the base plate.



MECHANICAL ADJUSTMENT

CLEARANCE BETWEEN LOOPERS

Correct setting:

When the upper and lower loopers meet as shown in Figure 2, the clearance should be 0 to 0.1 mm as shown in Figure 1.

To adjust:

1. Remove the presser foot and needle plate.
2. Turn the handwheel toward you with your hand to bring the loopers as shown in Figure 2.
3. Loosen the setscrew and adjust the clearance between the loopers by moving the upper looper to the back or front as shown in Figure 3.
4. Tighten the setscrew firmly.
5. Check the clearance between the upper looper and needle and the position of the upper looper.
6. Attach the needle plate and presser foot.

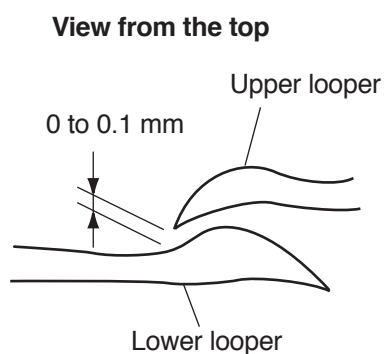


Figure 1

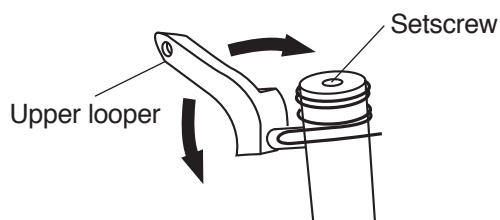


Figure 3

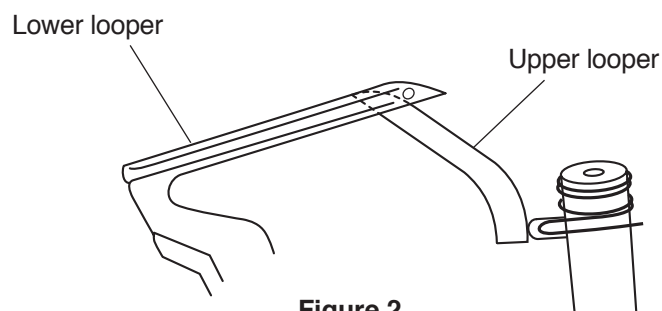


Figure 2

MECHANICAL ADJUSTMENT

CLEARANCE BETWEEN NEEDLE AND UPPER LOOPER

Correct setting:

When the upper looper meets with needle, the clearance should be:

0 to + 0.1 mm at the needle on the left.

-0.05 to + 0.05 mm at the needle on the right.

To adjust:

1. Turn the handwheel toward you with your hand to bring the needle just behind the upper looper in downward travel.
2. Loosen the setscrew, and adjust the clearance between the both needles and upper looper.
3. Tighten the setscrew.
4. Check the clearance between the loopers (see page 24).

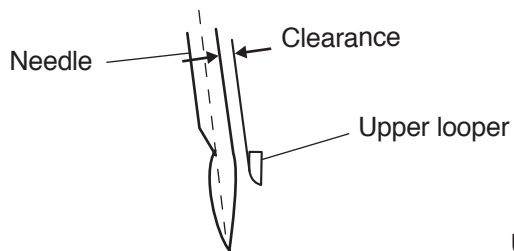


Figure 1

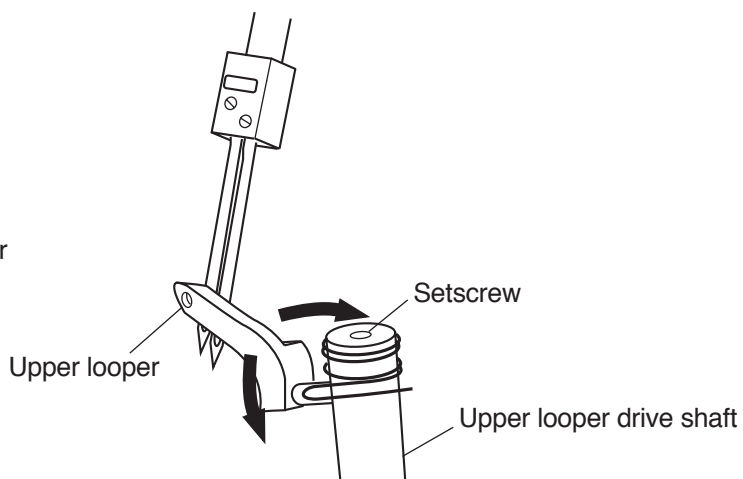


Figure 2

MECHANICAL ADJUSTMENT

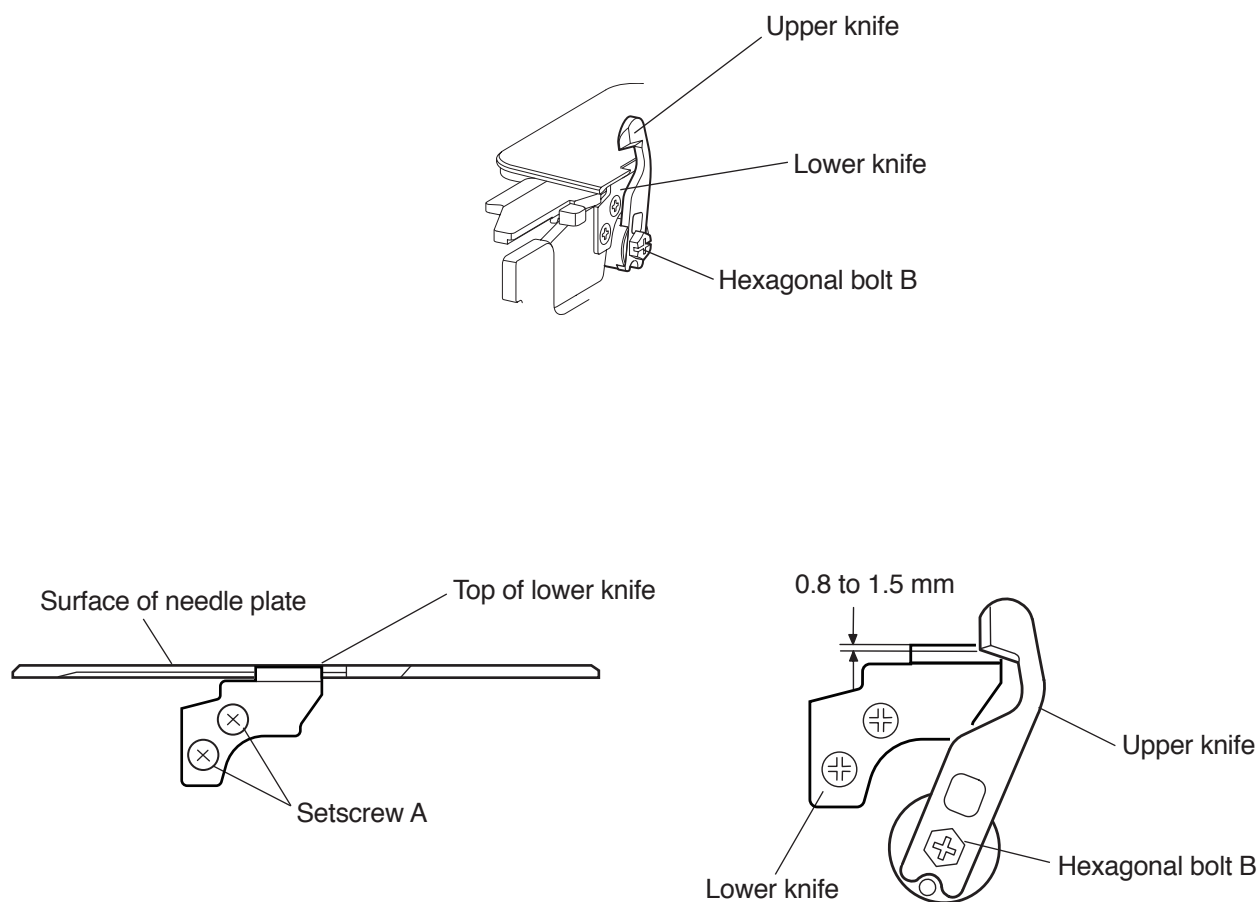
POSITION OF KNIVES

Correct setting:

The tip of the lower knife should be leveled with the surface of needle plate. When the upper knife is at the lowest position, the front lower corner of upper knife should be 0.8 to 1.5 mm below the edge of lower knife.

To adjust:

1. Before proceeding with this adjustment, check "TO ADJUST THE TIMING OF THE NEEDLE AND THE UPPER KNIFE" (see page 14).
2. Loosen the setscrews A (2 pcs.), and adjust the lower knife position. Tighten the setscrews A (2 pcs).
3. Turn the handwheel to bring upper knife to the lowest position.
4. Loosen the hexagonal bolt B, and adjust the position of upper knife.
5. Tighten the hexagonal bolt B.



MECHANICAL ADJUSTMENT

POSITION OF LOWER LOOPER THREAD GUIDE

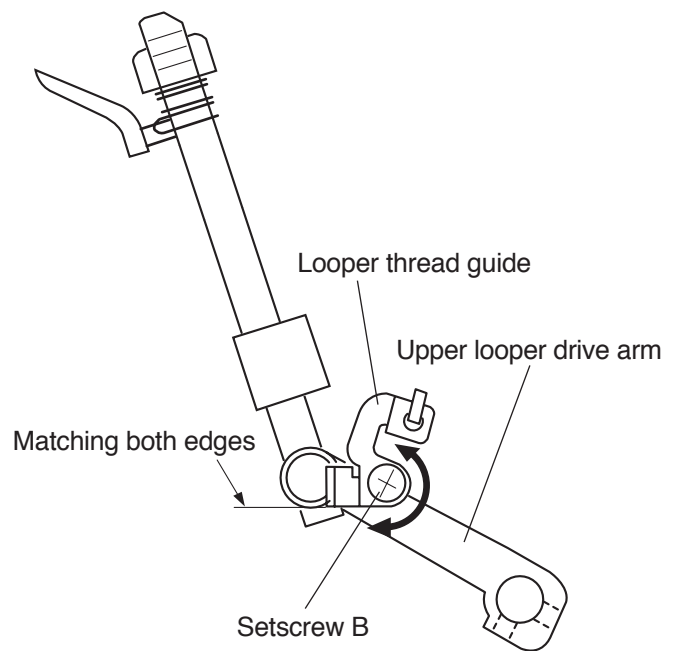
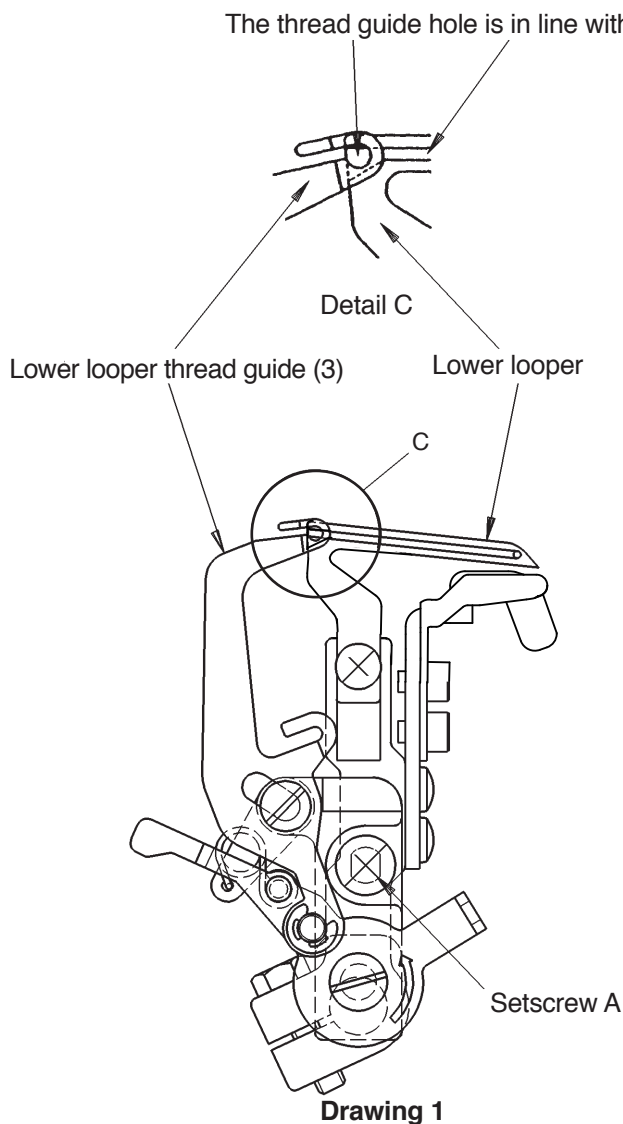
Lower looper thread guide (3)

Loosen the setscrew A, and adjust the lower looper thread guide (3) so that the hole of thread guide is in line with the groove of lower looper as shown in Drawing 1.

Looper thread guide

Loosen the setscrew B, and swing the looper thread guide up or down to match the bottom edge of both looper thread guide and upper looper drive arm as shown in Drawing 2.

Tighten the setscrew B to secure the position.



Drawing 2

MECHANICAL ADJUSTMENT

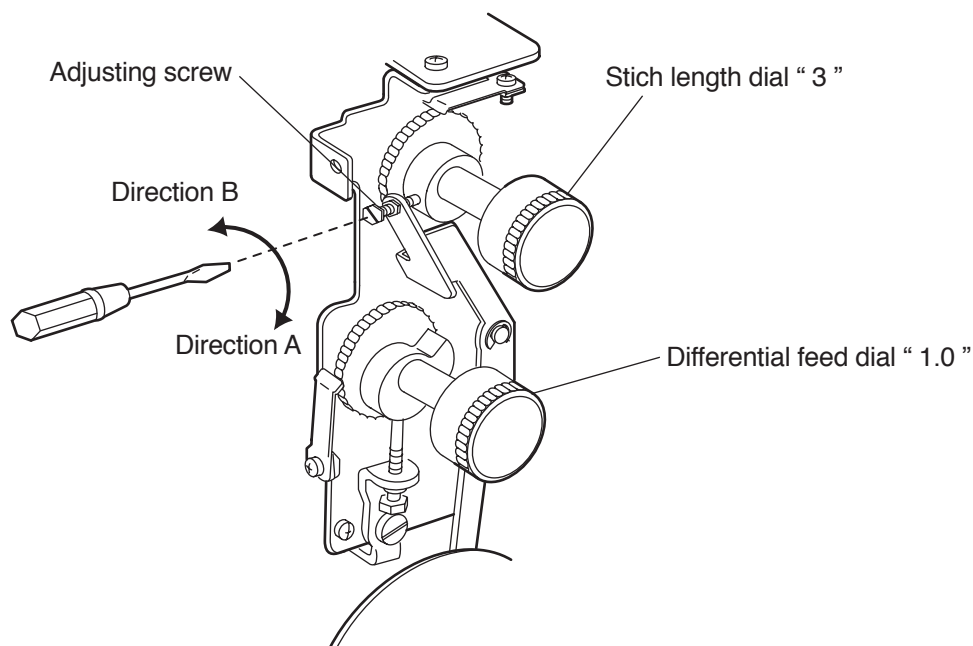
STITCH LENGTH

Correct setting:

The actual stitch length should be 2.8 to 3.0 mm when the stitch length dial is set at “ 3 ” and the differential feed dial at “ 1.0 ”.

To adjust:

1. Set the stitch length dial at “ 3 ” and the differential feed dial at “ 1.0 ”.
2. Remove the looper cover, face plate, rear cover, top cover and front cover (see pages 1 to 5).
3. If the actual stitch length is longer than 3.0 mm, turn the adjusting screw in the direction A.
If the actual stitch length is smaller than 2.8 mm, turn the adjusting screw in the direction B.
4. Attach the front cover, looper cover, top cover, rear cover and face plate.



MECHANICAL ADJUSTMENT

THREAD TENSION DIALS

Correct setting:

Use a standard thread #50. Do not pass the thread through the top cover thread guide.

Standard tension:

Left needle: Tension dial set to 3, 29 to 35 grams-force, Tension dial set to 9, 75 grams-force or more

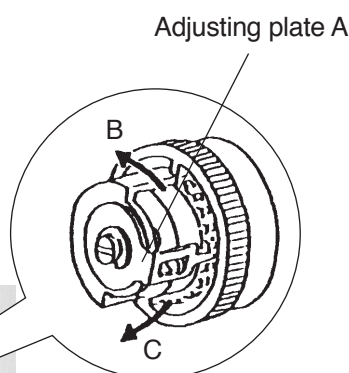
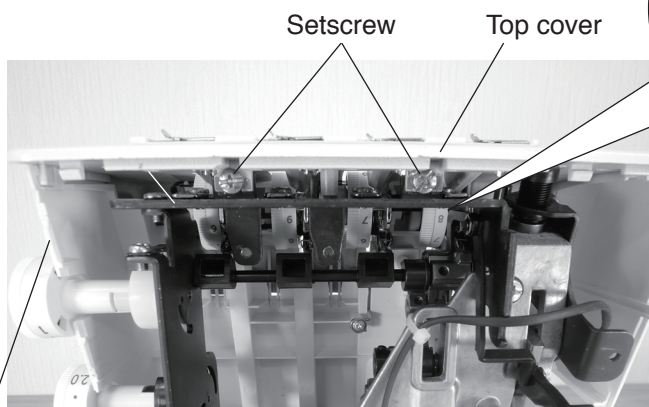
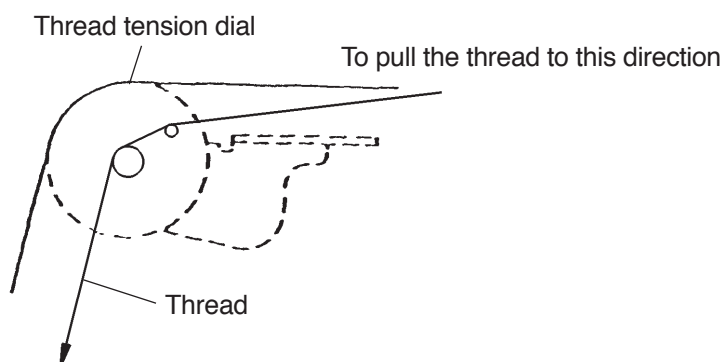
Right needle: Tension dial set to 3, 15 to 19 grams-force, Tension dial set to 9, 50 grams-force or more

Upper looper: Tension dial set to 3, 9 to 13 grams-force, Tension dial set to 9, 30 grams-force or more

Lower looper: Tension dial set to 3, 37 to 47 grams-force, Tension dial set to 9, 117 grams-force or more

To adjust:

1. Remove the rear cover and the top cover (see pages 2 and 3).
2. Adjust each thread tension with the adjusting plate A.
 - * If the thread tension is at stronger level, shift the adjusting plate in the direction B.
 - * If the thread tension is at weaker level, shift the adjusting plate in the direction C.
3. Rotate the thread tension dial while sewing to check the sewing performance.
4. Attach the top cover and the rear cover.

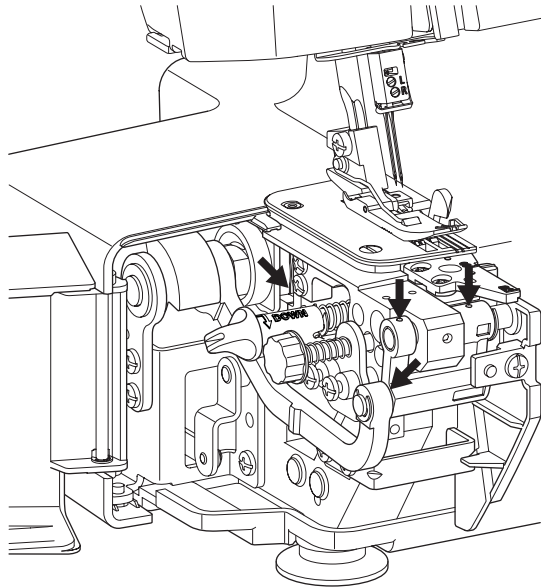


Pull the adjusting plate A with your fingers, then shift the adjusting plate A in direction of arrows.

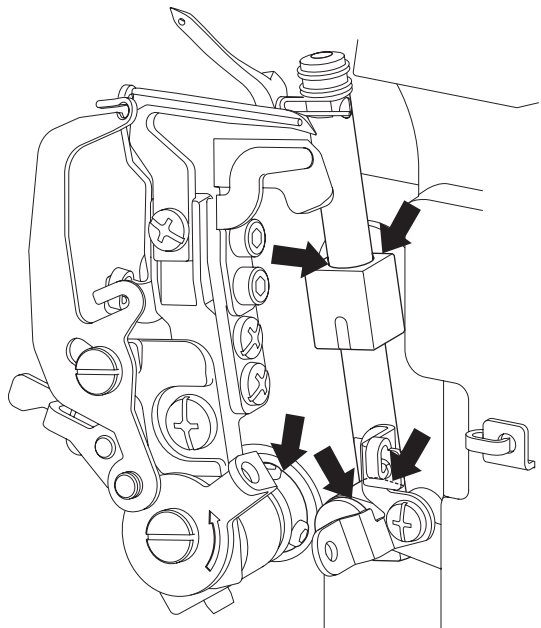
OILING

Apply a few drops of fine quality sewing machine oil to the parts indicated with arrows.

It is recommended to apply oil once a week in normal use, once in ten working-hours in continuous use.

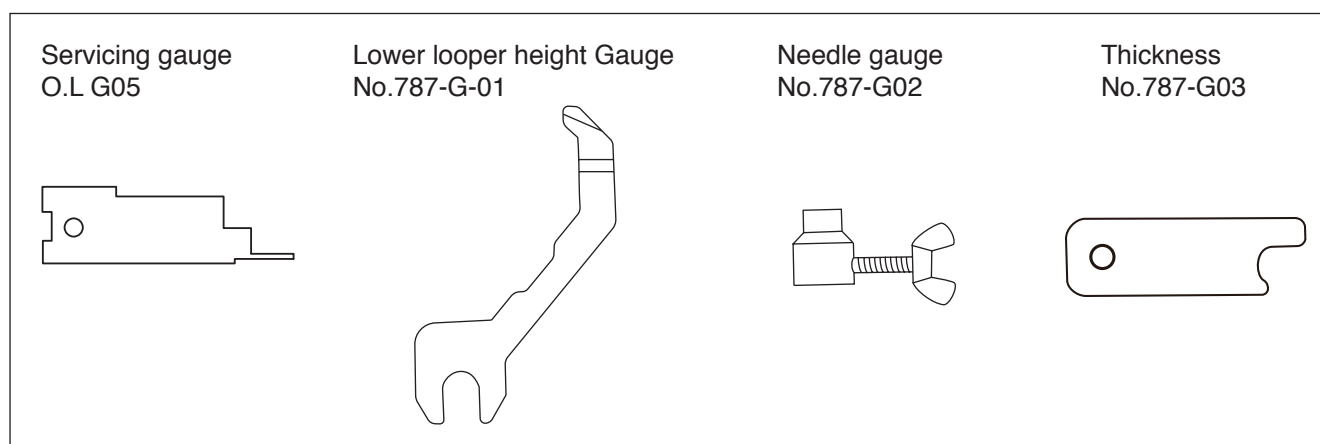


Open the side cover and apply oil.



Open the looper cover and apply oil.

GAUGES FOR SERVICING



Adjusting gauge O.L G05

This gauge is used for adjusting the following characteristics:

