

SERVICING MANUAL

634D

SERVICE MANUEL AND PARTS LIST FOR MODEL 634D

TO CHANGE THE FACE PLATE UNIT	1
TO CHANGE THE TOP COVER UNIT	2
TO CHANGE THE BELT COVER UNIT	3
TO CHANGE THE TENSION COVER UNIT	4
TO CHANGE THE FRONT PANEL UNIT	5
TO CHANGE THE SIDE COVER UNIT	6
TO CHANGE THE MACHINE BASE	7
TO CHANGE THE MACHINE SOCKET	8
TO ADJUST THE NEEDLE BAR HEIGHT	9
TO ADJUST THE PRESSER BAR HEIGHT	10
TO ADJUST THE FEED DOG HEIGHT	11
TIMING OF NEEDLE AND FEED DOG	12
TO ADJUST THE TENSION OF SUB THREAD TENSION DIAL	13
TO ADJUST THE NEEDLE AND THE UPPER KNIFE TIMING	14
TO ADJUST THE STITCH LENGTH	15
TO ADJUST THE CLEARANCE BETWEEN NEEDLE AND LOWER LOOPER / NEEDLE GUARDS	16
TO ADJUST THE CLEARANCE BETWEEN NEEDLE AND FIXED NEEDLE GUARD	17
TO ADJUST THE POSITION OF CHAINING FINGER	18
TO ADJUST THE NEEDLE AND THE LOWER LOOPER TIMING	19
TO ADJUST THE POSITION OF UPPER LOOPER	20
TO ADJUST THE UPPER & LOWER LOOPER TIMING	21
TO ADJUST THE CLEARANCE BETWEEN LOOPERS	22
TO ADJUST THE CLEARANCE BETWEEN NEEDLE AND UPPER LOOPER	23
TO ADJUST THE POSITION OF KNIVES	24
TO ADJUST THE POSITION OF LOWER LOOPER THREAD GUIDE	25
TO ADJUST THE THREAD TENTION DIAL	26
PARTS LIST	27 ~ 38

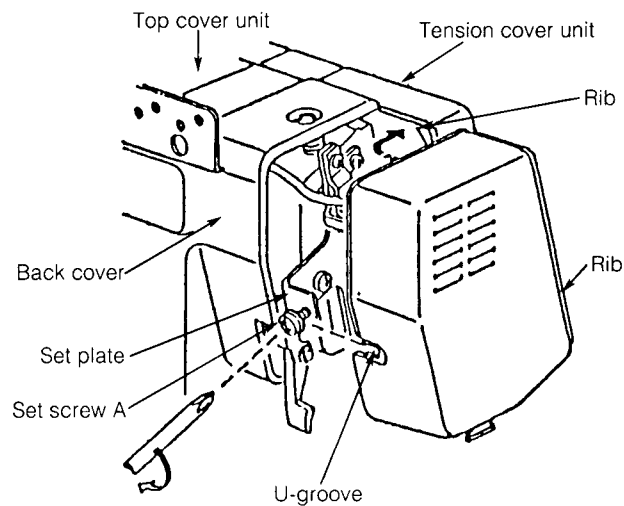
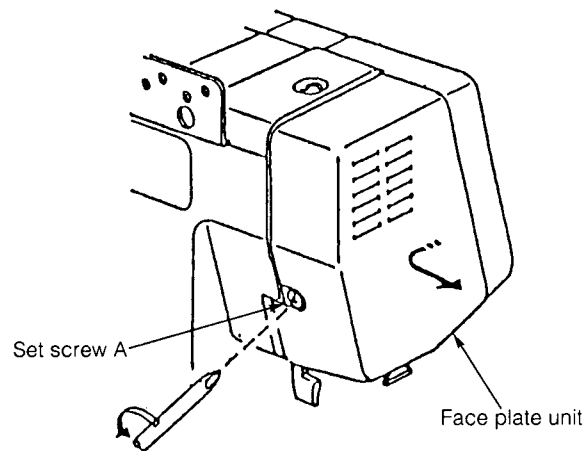
TO CHANGE THE FACE PLATE UNIT

To remove:

1. Loosen the set screw A and remove the face plate.

To attach:

2. Fit the U-groove in the face plate between the set screw and set plate, put the rib in the tension cover unit, top cover and back cover, and tighten the set screw.



TO CHANGE THE TOP COVER UNIT

To remove:

1. Loosen two screws through hole of tension thread guide plate as illustration A, and remove the top cover.

To attach:

2. Put the ribs in tension cover unit, and tighten the set screws.

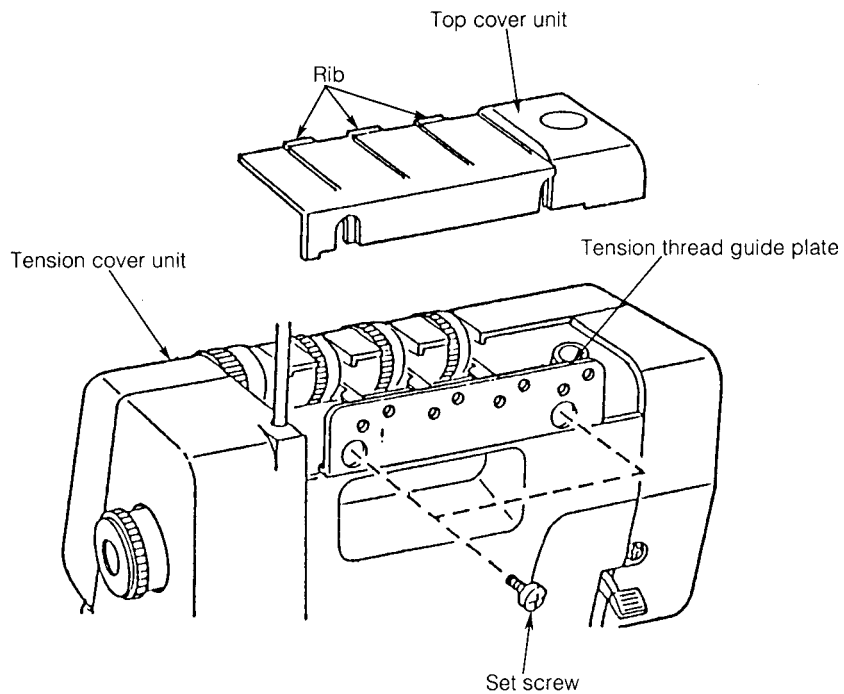


Illustration A

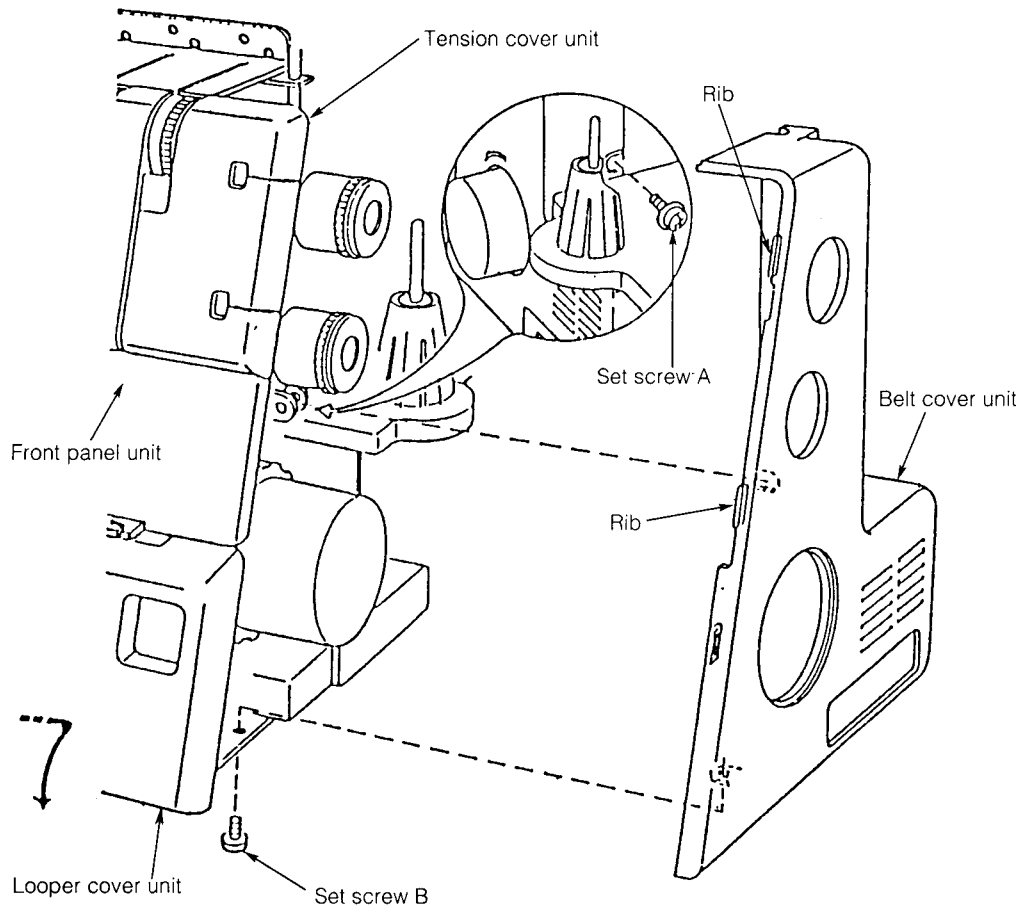
TO CHANGE THE BELT COVER UNIT

To remove:

1. Open the looper cover unit.
2. Loosen set screw A and remove the set screw B.
3. Remove the belt cover unit.

To attach:

4. Put the ribs in front panel unit and tension cover unit, and tighten set screws A and B.



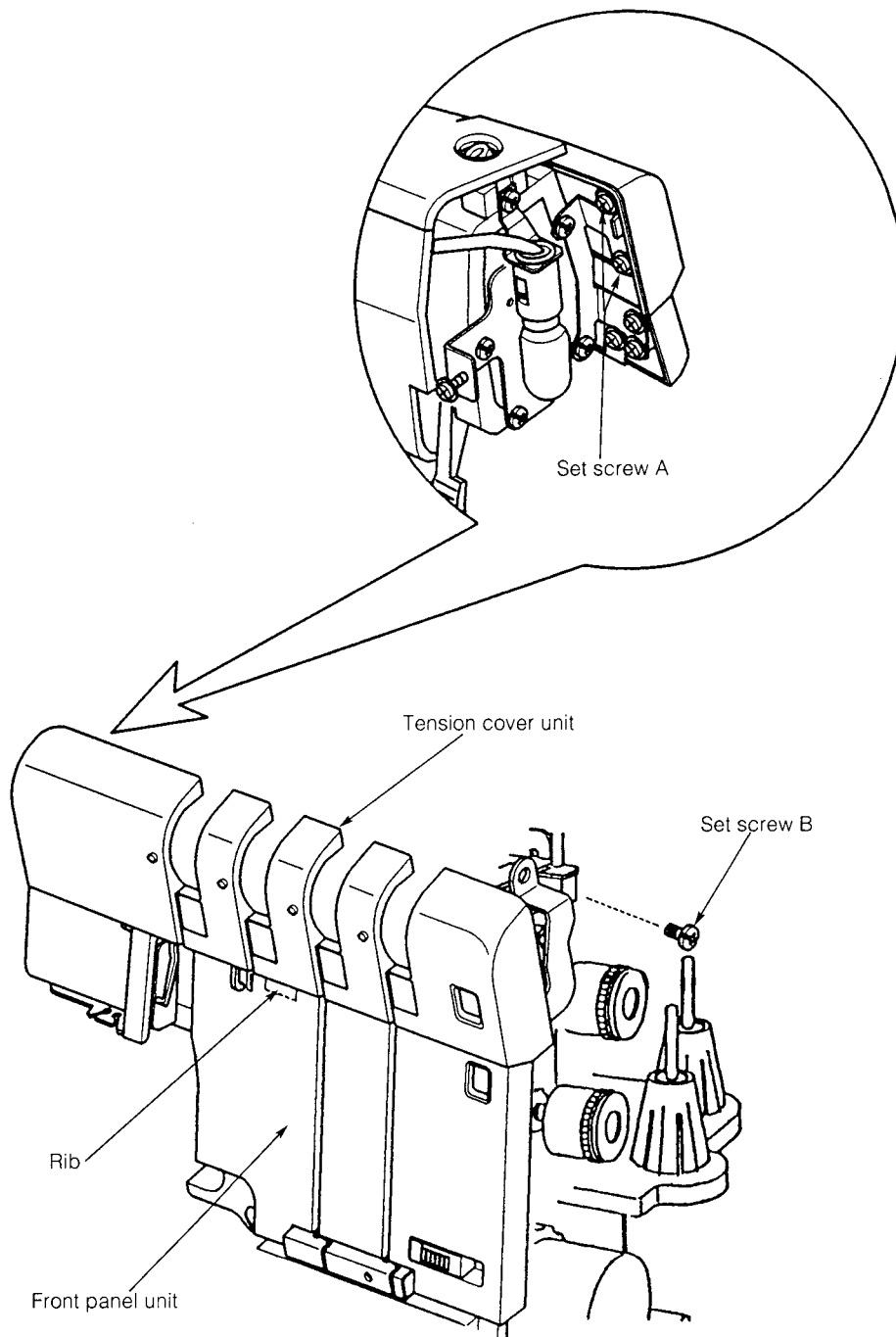
TO CHANGE THE TENSION COVER UNIT

To remove:

1. Remove face plate unit and belt cover unit.
2. Remove set screws A and B, and remove tension cover unit.

To attach:

3. Put ribs in front panel unit, and tighten the set screws A and B.
4. Attached the belt cover unit and face plate unit.



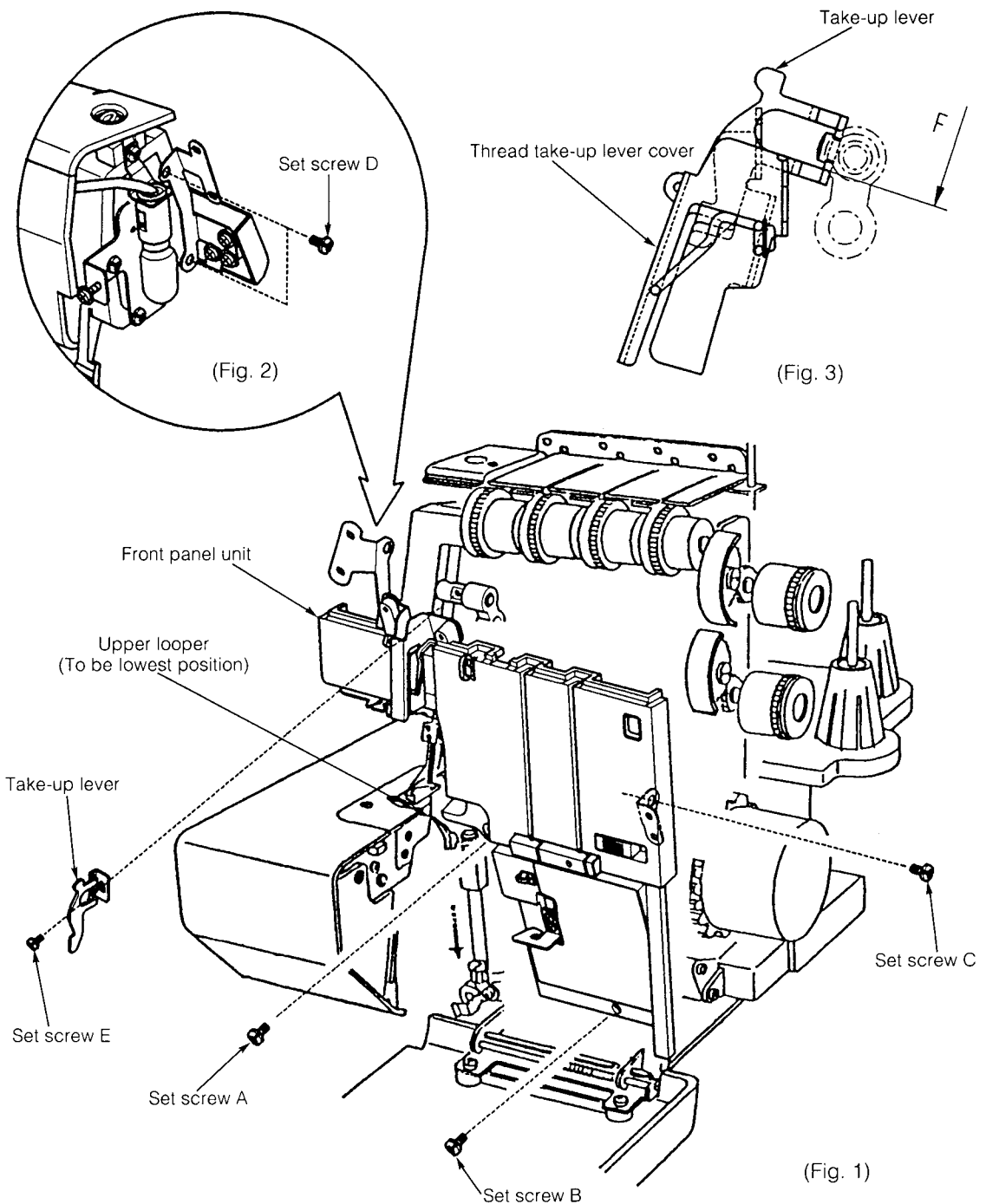
TO CHANGE THE FRONT PANEL UNIT

To remove:

1. Remove the face plate unit, belt cover unit and tension cover unit.
2. Move the upper looper to its lowest position by turning the balance wheel in counterclockwise.
3. Remove set screws A, B, C, D and E, and remove the front panel unit.

To attach:

4. Attach the front panel unit, and tighten set screws A, B, C, D and E.
(To set the thread take-up lever position, the thread take-up lever and the thread take-up lever cover should be set at F position as shown fig. 3.)
5. Attach the tension cover unit, belt cover unit and face plate unit.



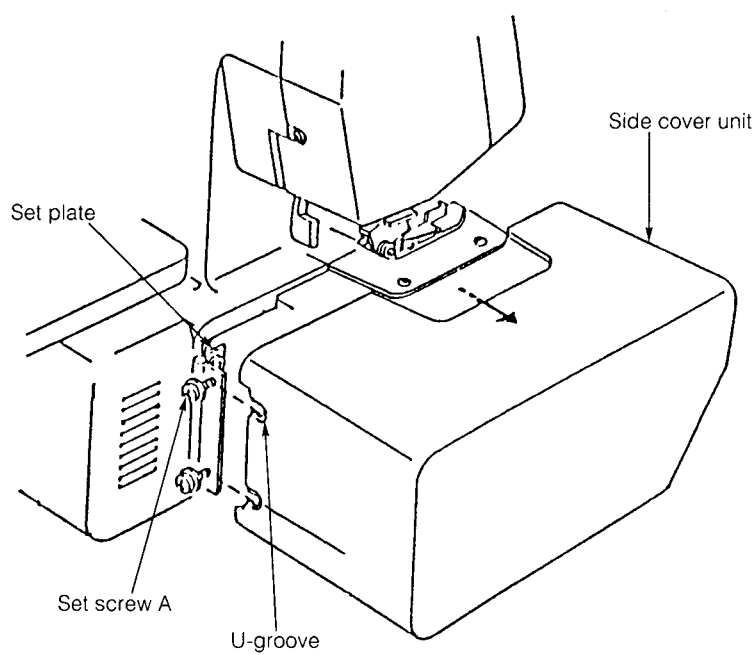
TO CHANGE THE SIDE COVER UNIT

To remove:

1. Loosen set screw A and remove the side cover unit.

To attach:

2. Fit the U-groove in the side cover unit between the set screw and set plate.
3. Tighten the set screw A.



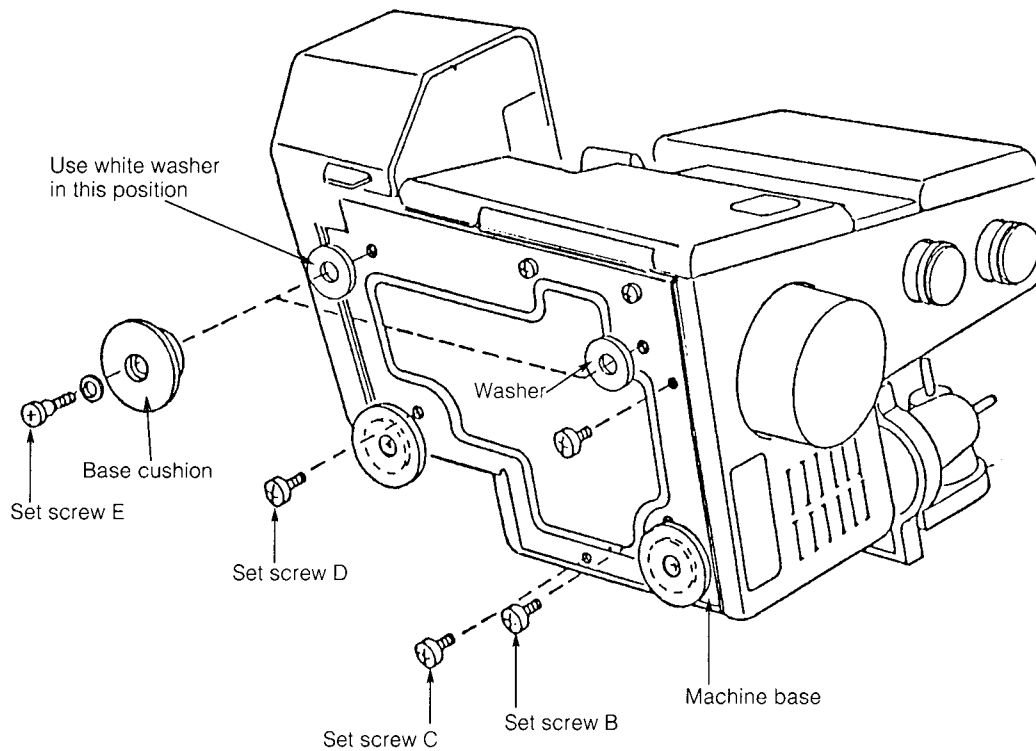
TO CHANGE THE MACHINE BASE

To remove:

1. Remove the screws A, B, C, D and two hinge screws E, and remove the base cushions.
2. Remove the machine base.

To attach:

3. Attach the machine base, and tighten the screws A, B, C and D.
4. Attach the base cushions, washers, and tighten the hinge screws.



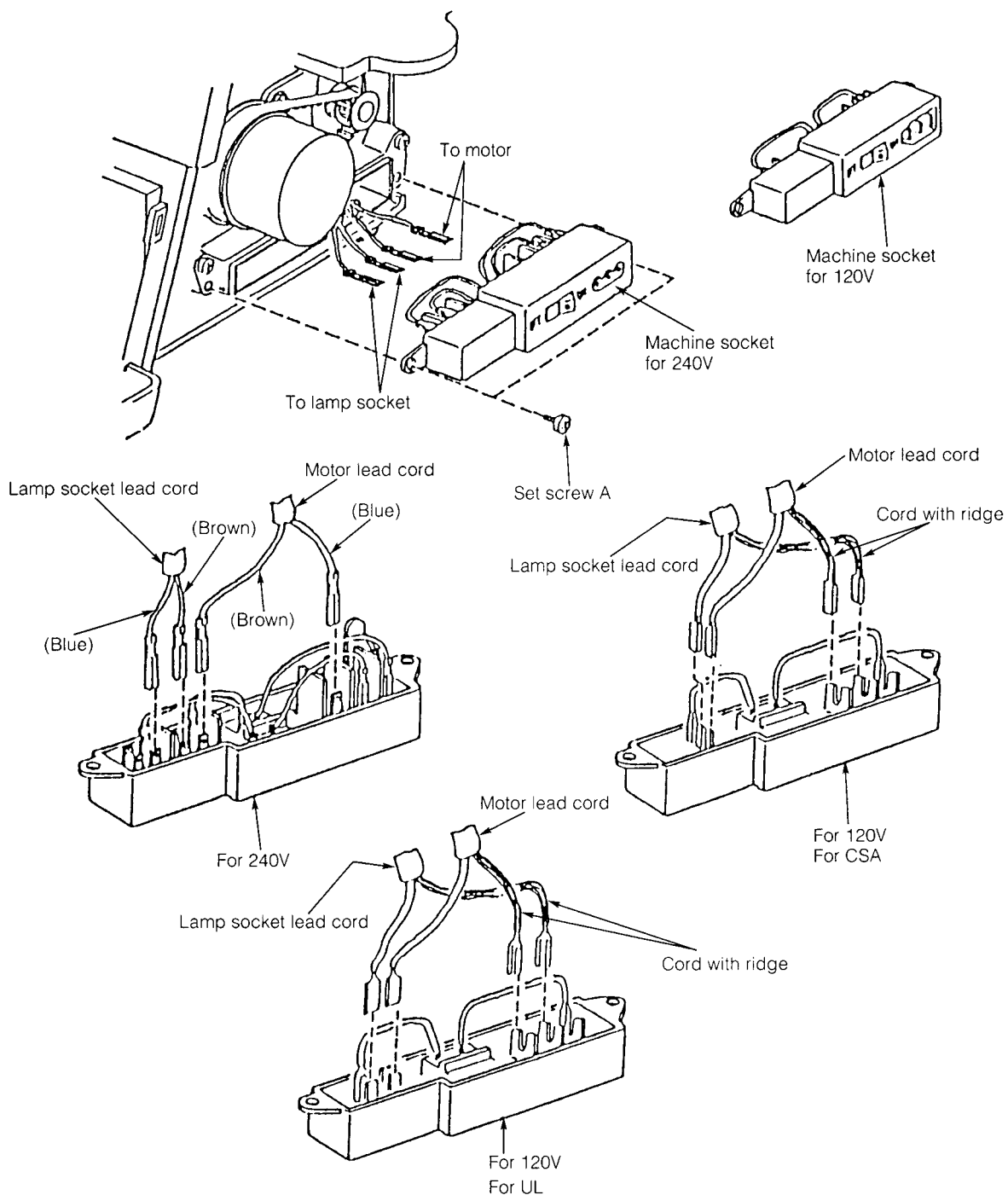
TO CHANGE THE MACHINE SOCKET

To remove:

1. Remove the belt cover.
2. Remove the two set screws A, and pull out the cord connectors.

To attach:

3. Insert the cord connectors as shown below.
4. Attach the machine socket, and tighten the two screws.
5. Attach the belt cover unit.



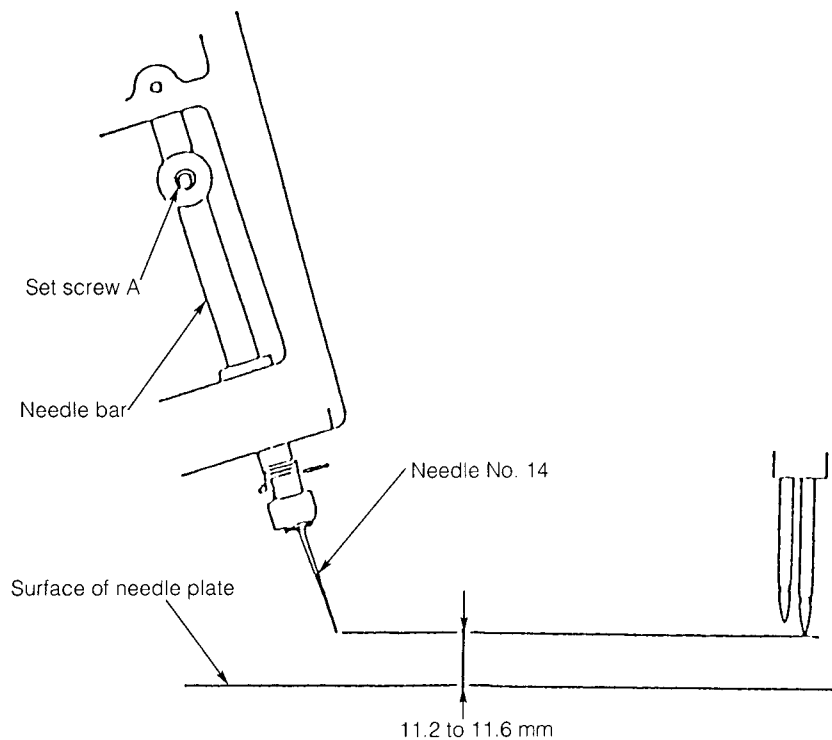
TO ADJUST THE NEEDLE BAR HEIGHT

Correct Setting:

The distance between the tip of needle on the right and the surface of needle plate should be 11.2 to 11.6 mm when the needle bar is at the highest position.

To adjust :

1. Remove the face plate unit.
2. Turn the balance wheel toward you with your hand, and set the needle bar at the heighest position.
3. Loosen the set screw A to adjust the height, and tighten, the set screw A after the adjustment is done.
4. Turn the balance wheel toward you one cycle, and recheck the needle bar height.
5. Attach the face plate unit.



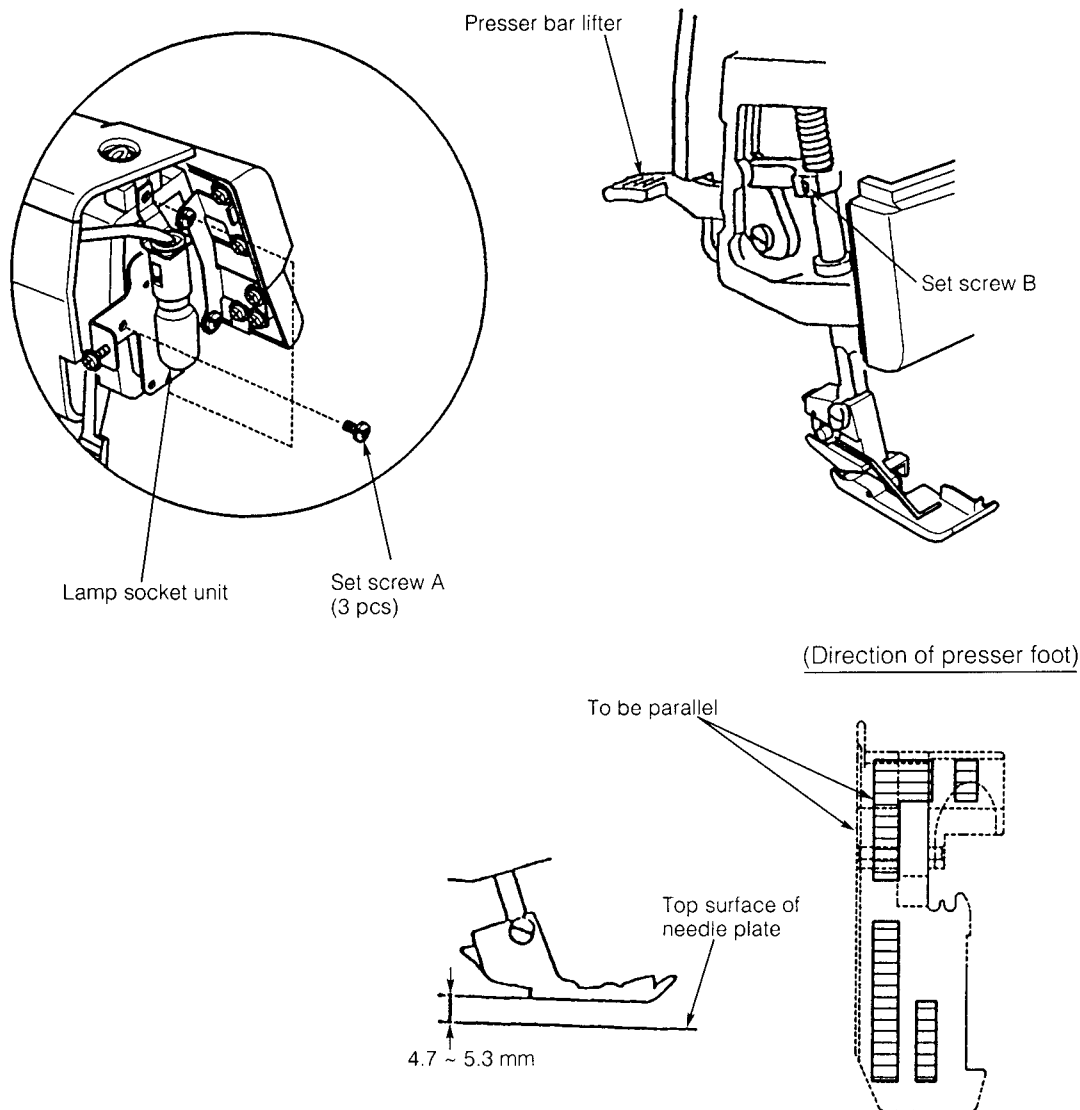
TO ADJUST THE PRESSER BAR HEIGHT

Correct Setting:

The distance between the surface of needle plate and bottom of presser foot should be 4.7 to 5.3 mm (47/254 to 53/254") when the presser bar lifter is raised.

To adjust:

1. Remove the face plate unit.
2. Remove the set screws A to move the lamp socket unit.
3. Raise the presser bar lifter, and loosen the set screw B.
Then adjust the presser bar height, the side of presser foot should be parallel with the hole of needle plate.
4. Tighten the set screw B.
5. Tighten the set screw A.
6. Attach the face plate unit.



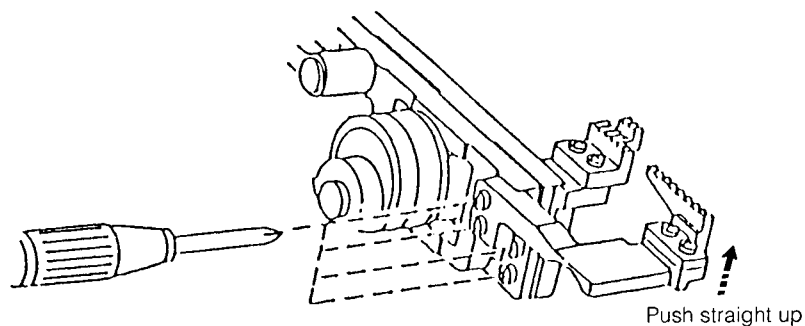
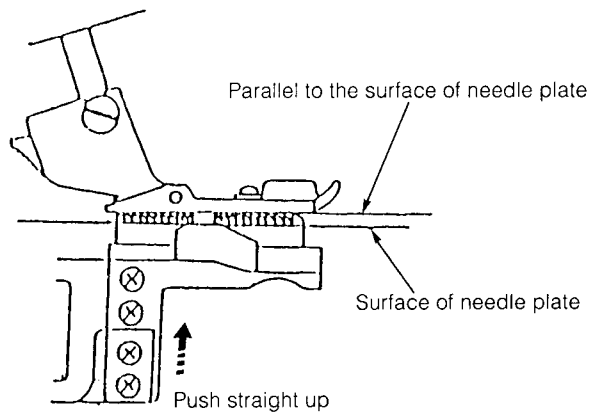
TO ADJUST THE FEED DOG HEIGHT

Correct Setting:

When the presser foot is lowered and the 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. Lower the presser foot and raise the feed dogs to their highest position by turning the balance wheel.
3. Loosen the main & sub feed dog screws (4 pcs).
4. Push the main feed dog straight upward and adjust the distance between the surface of needle plate and bottom of presser foot, then tighten the set screws (2 pcs).
5. When the top of the main feed dog is level to the top surface of needle plate in its downward motion by turning the balance wheel.
Loose set screws for sub feed dog (2 pcs), and push the sub feed dog straight upward until its top surface is to be level to the top surface of needle plate. Then tighten the set screws of sub feed dog.
6. Check if these feed dogs are attached in parallel to the surface of needle plate while turning the balance wheel.



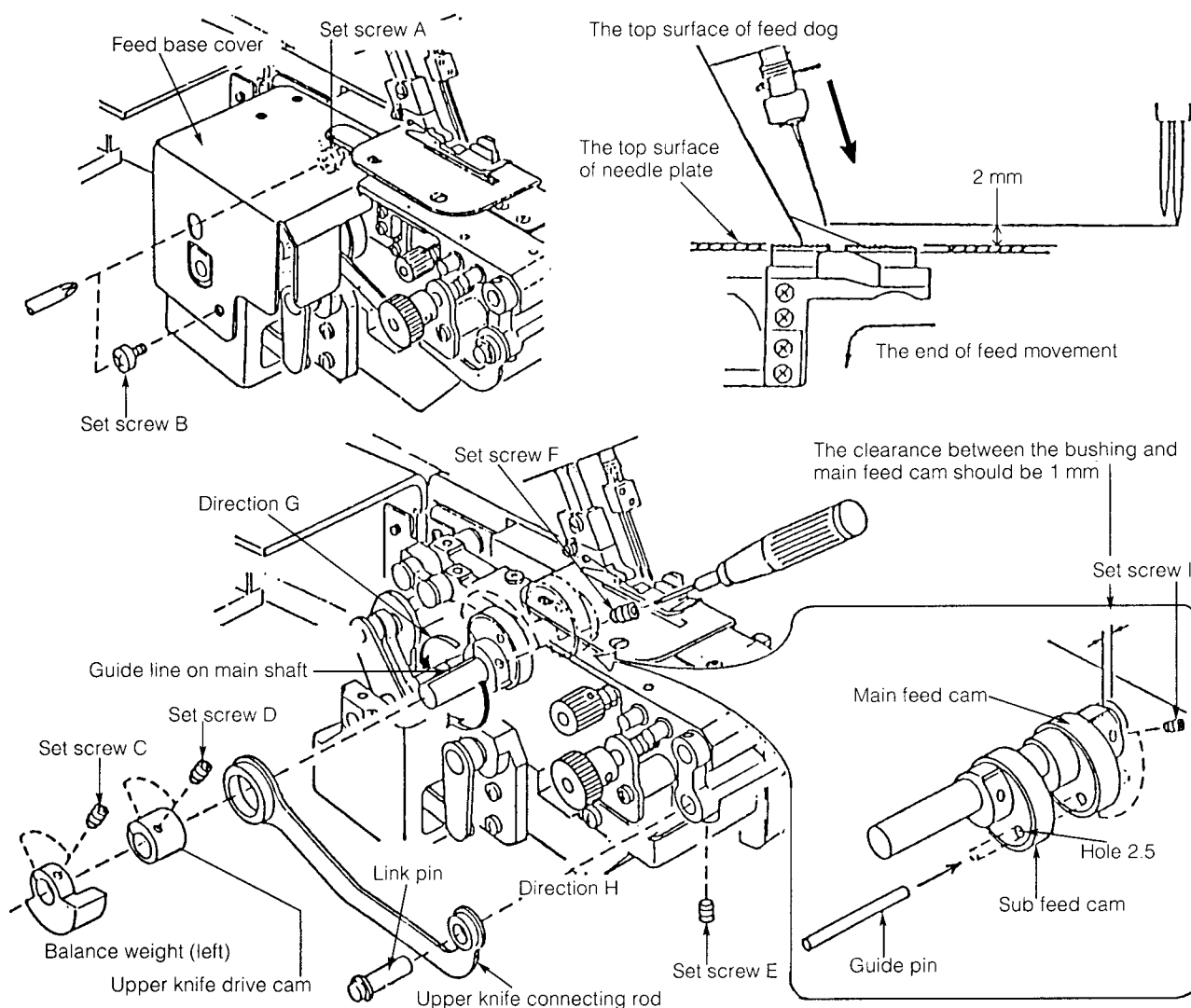
TIMING OF NEEDLE AND FEED DOG

Correct Setting:

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

To adjust:

1. Remove the machine base.
2. Loose set screw A and remove set screw B, remove feed base cover.
3. Loose set screw C and remove balance weight, loose set screw D and remove knife cam, loose set screw E and remove link pin, upper knife rod.
4. Set feed regulator dial to 3.0, differential dial to 1.0.
5. Raise the presser foot and move the tip of right needle is at 2 mm above the needle plate in its downward motion by turning the balance wheel.
6. Lower the presser foot, and loose the two screws F and adjust the position of the feed cam while aiming the guide line.
 - * Turn the feed cam to the direction G if the feed dogs are lower than the surface of the needle plate.
 - * Turn the feed cam to the direction H if the feed dogs are higher than the surface of the needle plate.
7. Loose the two screws I, turn the balance wheel to get the hole 2.5 mm of sub feed cam in front position, put the guide pin through the sub feed to main feed cam, tighten the set screws I. (Clearance between main feed cam and bushing is to be 1 mm).
8. Attach the link pin through the upper knife rod, and attach the balance weight and knife cam to main shaft, and set to guide line, tighten the set screws C and D.
9. Attach the feed base cover and machine base.



TO ADJUST THE TENSION OF SUB THREAD TENSION DIAL

After the correct thread tension for 4 thread overlock standard sewing, slide the slide lever from "STD." position to "R. H." position without turning the thread tension dials.

(Make sure the sliding thread guide is set at "3/4" position.)

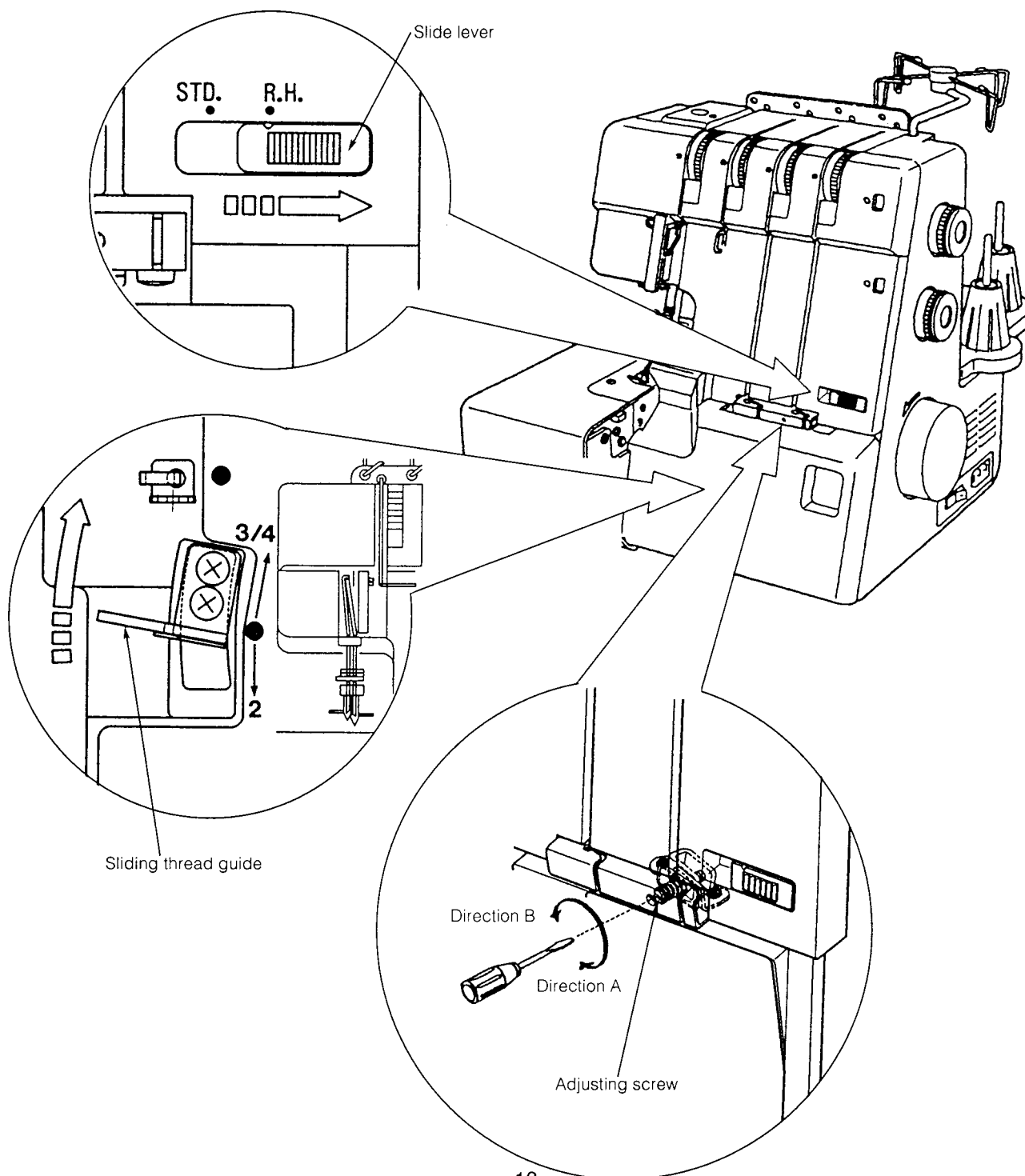
Also adjust the sub thread tension dial as follows.

(Make sure the chaining finger position is set at "R" position and remove the left needle and thread.)

1. When the lower looper thread tension is looser, turn the adjusting screw to "A" direction.
2. When the lower looper thread tension is tighter, turn the adjusting screw to "B" direction as figure.

Note: If the tension is not correctly set within two turns of the adjusting screw, do not turn the adjusting screw.

Make sure the other part of mechanism or the other adjustments are correctly set or not.



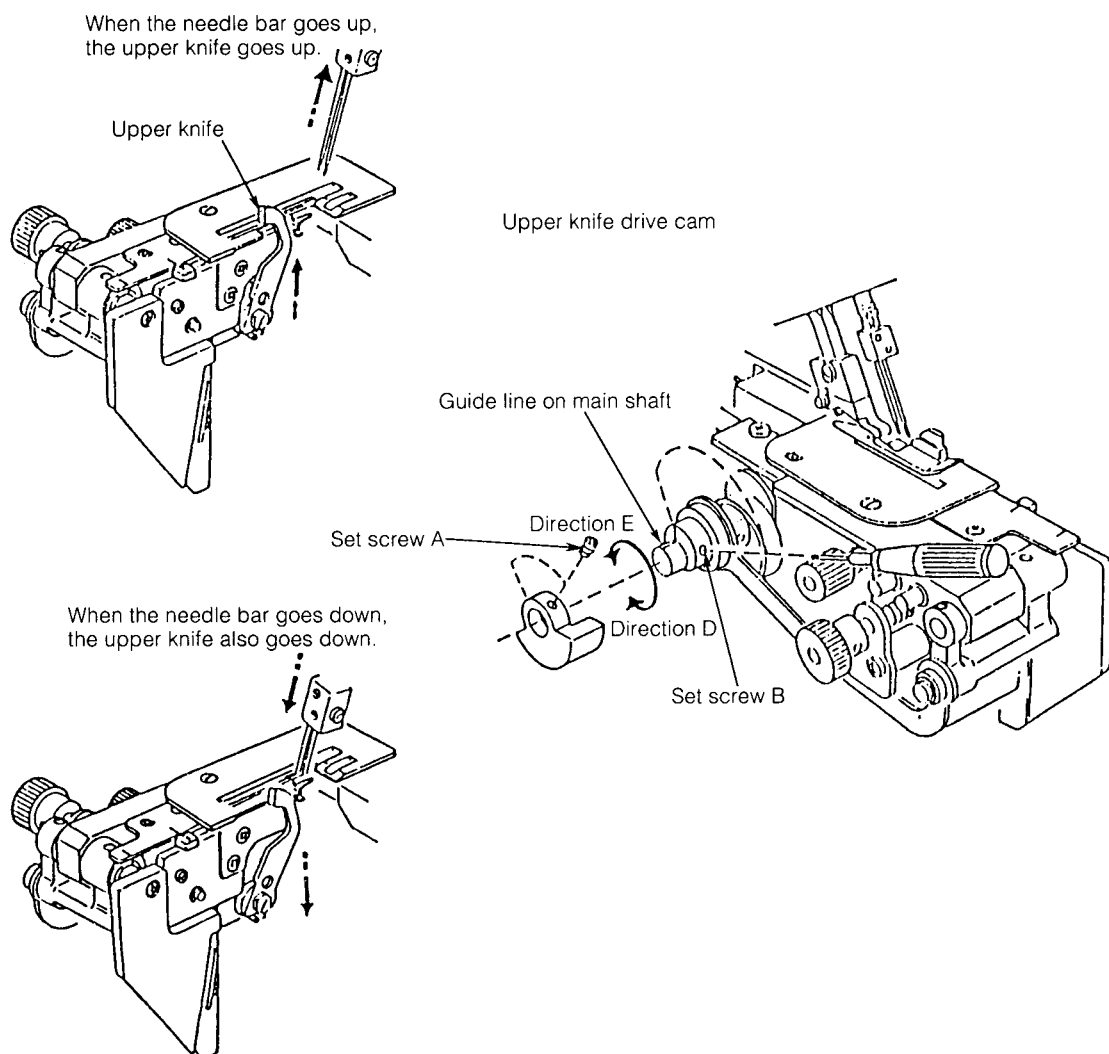
TO ADJUST THE NEEDLE AND THE UPPER KNIFE TIMING

Correct Setting:

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

To adjust:

1. Remove the feed base cover.
2. Loose the two set screws A and remove the balance weight.
3. Loose the two set screws B, and adjust the needle and upper knife timing.
 - * Turn the upper knife drive cam to the direction D when the upper knife timing is being delay.
 - * Turn the upper knife drive cam to the direction E when the upper knife timing is too soon.
4. Tighten the two set screws B firmly. Attach the balance weight and set to guide line on the balance weight is in line with the one on main shaft and tighten two set screws A.
5. Turn the balance wheel toward you one cycle, and recheck the needle and the upper knife timing.
6. Attach the feed base cover.



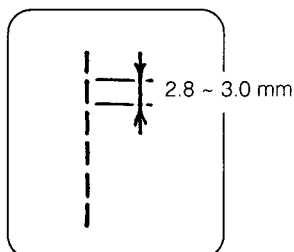
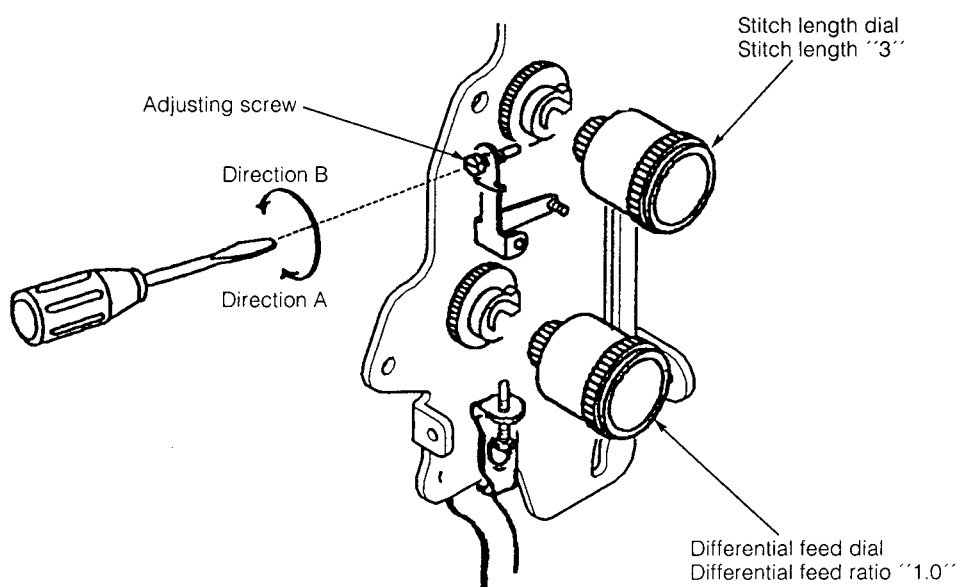
TO ADJUST THE STITCH LENGTH

Correct Setting:

The actual stitch length should be 2.8 ~ 3.0 mm when the stitch dial is set at "3".

To adjust:

1. Set the stitch length dial at "3" and the differential feed dial at "1.0".
2. Remove the face plate unit, belt cover unit, tension cover unit and front panel unit.
3. If the actual stitch length is larger 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 panel unit, tension cover unit, belt cover unit and face plate unit.



TO ADJUST THE CLEARANCE BETWEEN NEEDLE AND LOWER LOOPER / NEEDLE GUARDS.

Correct Setting:

when the tip of lower looper comes from the left just behind the needle on the left or right, the clearance between both needles and lower looper should 0 to 0.1 mm.

In this condition, the clearance between both needles and rear needle guard should be 0 to 0.2 mm.

To adjust:

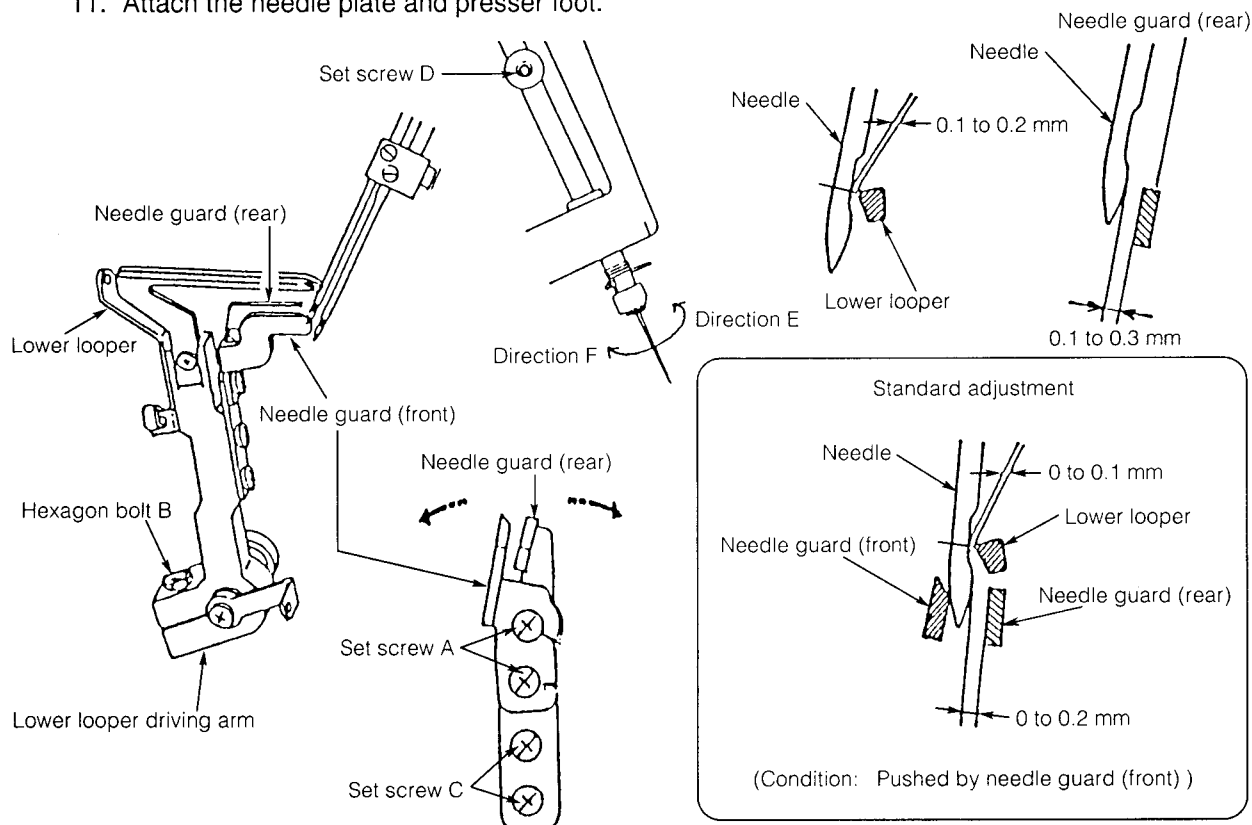
1. Remove the presser foot and needle plate. Loose screws A and B, move the needle guard(front) and needle guard(rear) to get clearance between needle guards and needle.
2. Turn the balance wheel toward you with your hand to bring the tip of looper just behind the needle on the right from the left.
3. Loose hexagon bolt B just enough to move lower looper driving arm, and move it to back or front to get the proper clearance between lower looper and needle on the right (should be 0.1 ~ 0.2 mm).
4. Adjust the clearance between needle on the left and lower looper, loose the screw D and move the needle bar to the direction E or F to get proper clearance between both needle and lower looper. This time, be careful not to change the needle height.
5. Recheck the clearance between the needle on the right and lower looper.

Clearance between the needle and rear needle guard:

6. Bring the rear needle guard to the front to set the clearance between the needle and rear needle guard to 0.1 ~ 0.3 mm. Then tighten the two set screws C.

Clearance between the lower looper and needle:

7. Turn the balance wheel toward you to until the tip of lower looper comes just behind the center of needle from left. Push the front needle guard against the needle to adjust the clearance between the needle and lower looper. The clearance between needle and the tip of lower looper should be 0 to 0.1 mm. In this condition, the clearance between the needle and rear needle guard should be 0 to 0.2 mm. Tighten the two set screws A.
8. Check the lower looper position.
9. Check the clearance between the needle and lower looper.
10. Check the clearance between lower and upper loopers.
11. Attach the needle plate and presser foot.



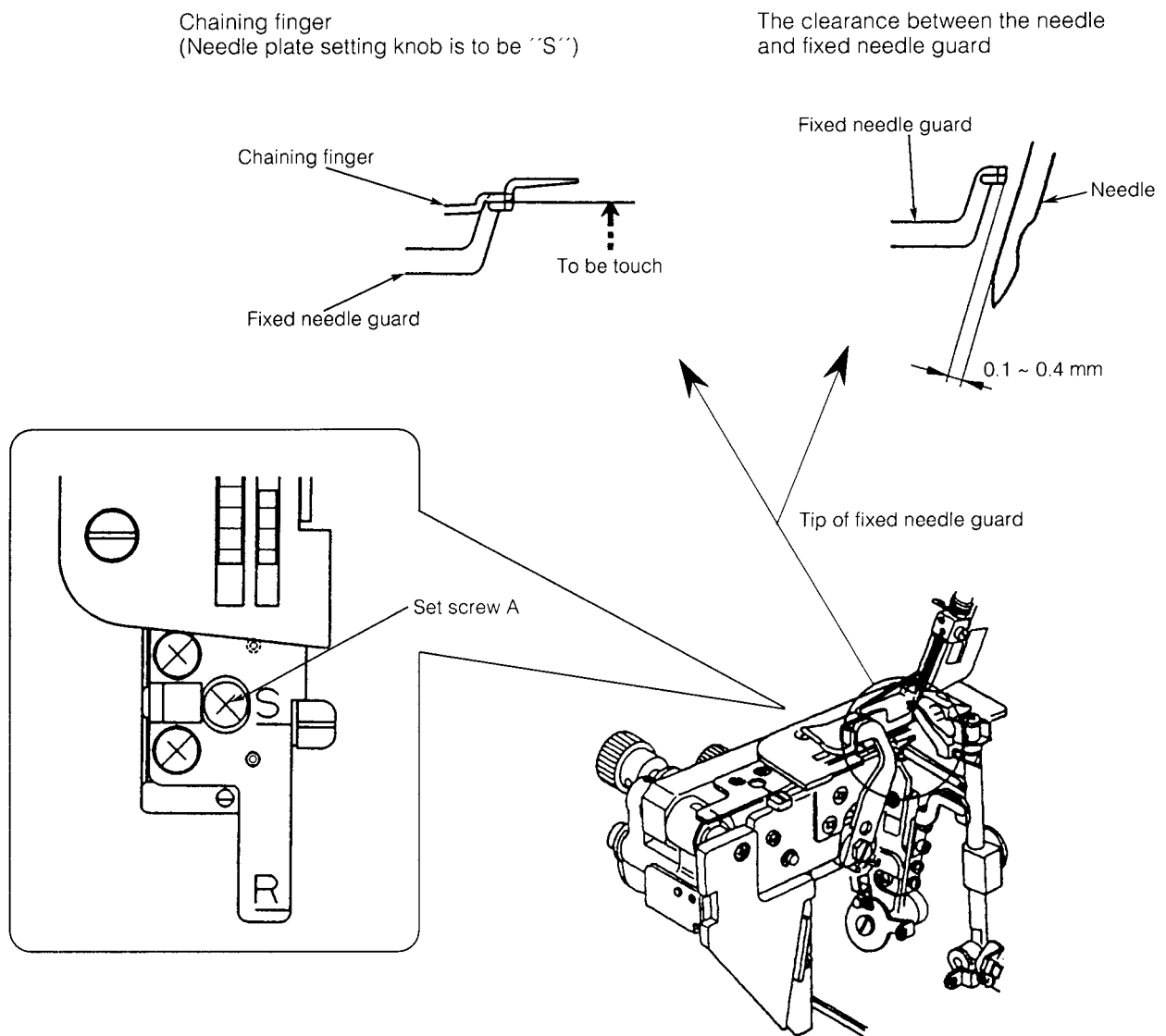
TO ADJUST THE CLEARANCE BETWEEN NEEDLES AND FIXED NEEDLE GUARD

Correct Setting:

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

To adjust:

1. Remove the foot and the needle plate and lower the needle to its lowest position.
2. Loose the set screw A and adjust the position of the fixed needle guard.
3. Tighten the set screw A.
4. Attach the needle plate and the foot.



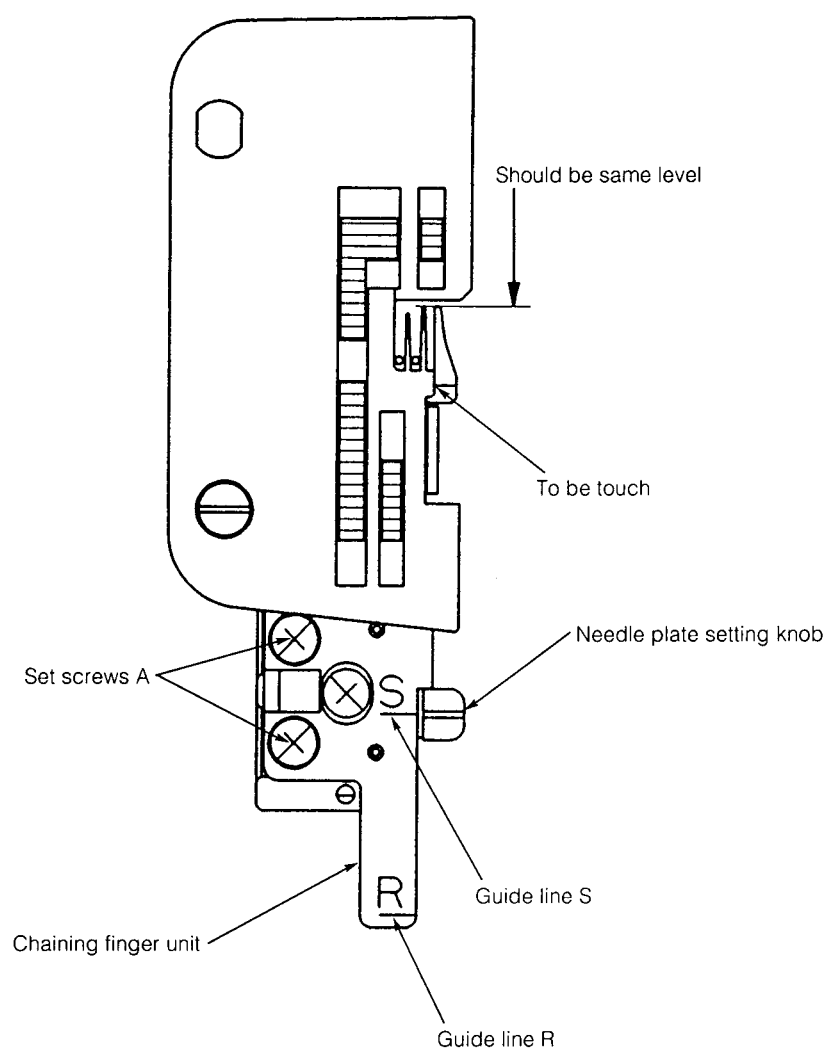
TO ADJUST THE POSITION OF CHAINING FINGER

Correct Setting:

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

To adjust:

1. Remove the presser foot.
2. Set the needle plate setting knob to guide line S on needle plate.
3. Loosen two (2) set screws A, and move chaining finger unit to correct position.
4. Tighten two (2) set screws A.
5. Set the needle plate setting knob to guide line S and R on needle plate, and check the position of chaining finger unit.
6. Attach the presser foot.



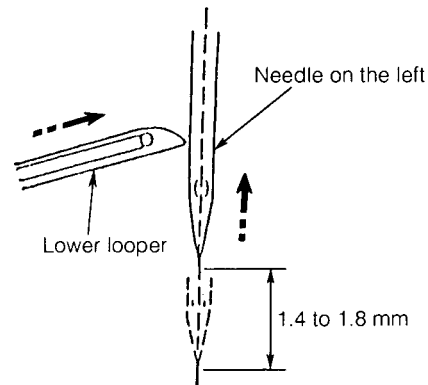
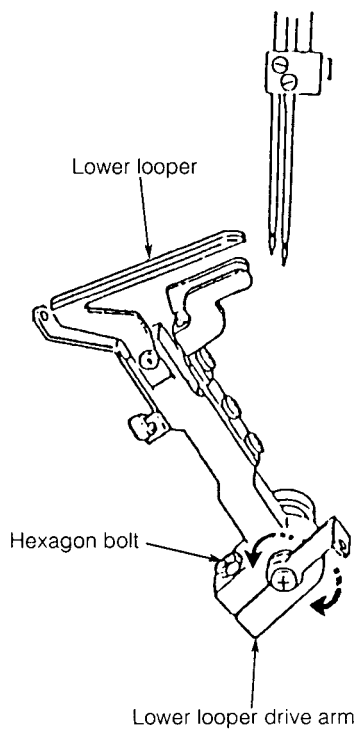
TO ADJUST THE NEEDLE AND THE LOWER LOOPER TIMING

Correct Setting:

When the needle comes up 1.4 to 1.8 mm from its lowest position, the tip of lower looper comes just to left side of needle on the left.

To adjust:

1. Remove the presser foot and the needle plate.
2. Turn the balance wheel toward you with your hand to bring the needle comes up 1.4 to 1.8 mm from its lowest position. Loosen the hexagon bolt just enough to move the lower looper driving arm, and move it to until the tip of lower looper comes just to left side of needle on the left.
3. Tighten the hexagon bolt. Check if the needle and the lower looper timing is correct.
Check the clearance between the needle and lower looper/ needle guards.
4. Attach the presser foot and the needle plate.



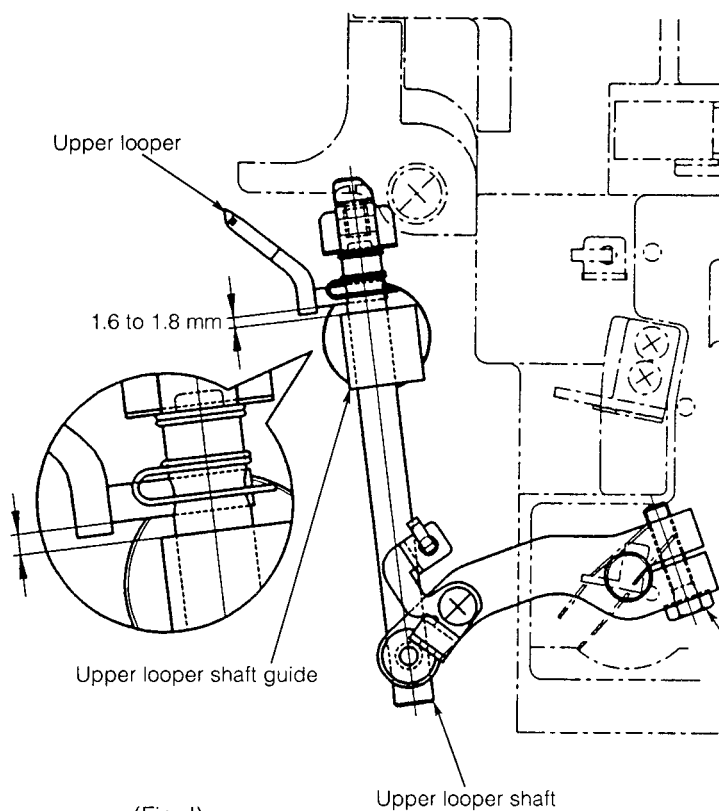
TO ADJUST THE POSITION OF UPPER LOOPER

Correct Setting:

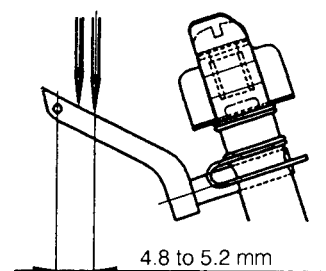
When the upper looper is at the leftmost position, the distance between the center of needle on the right and the center of looper eye should be 4.8 to 5.2 mm.

To adjust:

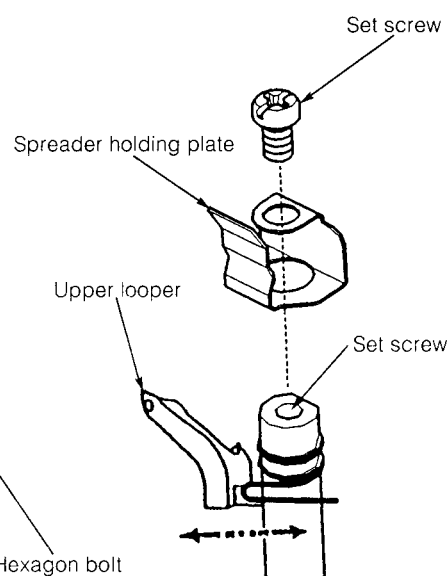
1. Remove the machine base.
2. Make sure that the marking-off line on the upper looper drive cam is in line with the one on the main shaft.
3. Loose the hexagon bolt, and adjust the distance between upper looper shaft guide and bottom of upper looper. The distance should be 1.6 to 1.8 mm when the upper looper is at the lowest position as show in Fig. 1.
4. Tighten the hexagon bolt. Be careful not to tighten too much, otherwise the upper looper driving arm will be cracked.
5. Turn the balance wheel and bring the upper looper to the leftmost position.
6. Loose the hexagon socket screw, and adjust the distance between the center of needle and center of upper looper eye as shown in Fig. 2 and Fig. 3.
7. Tighten the hexagon socket screw.
8. Check the upper and lower loopers timing and clearance between upper and lower loopers.



(Fig. 1)



(Fig. 2)



(Fig. 3)

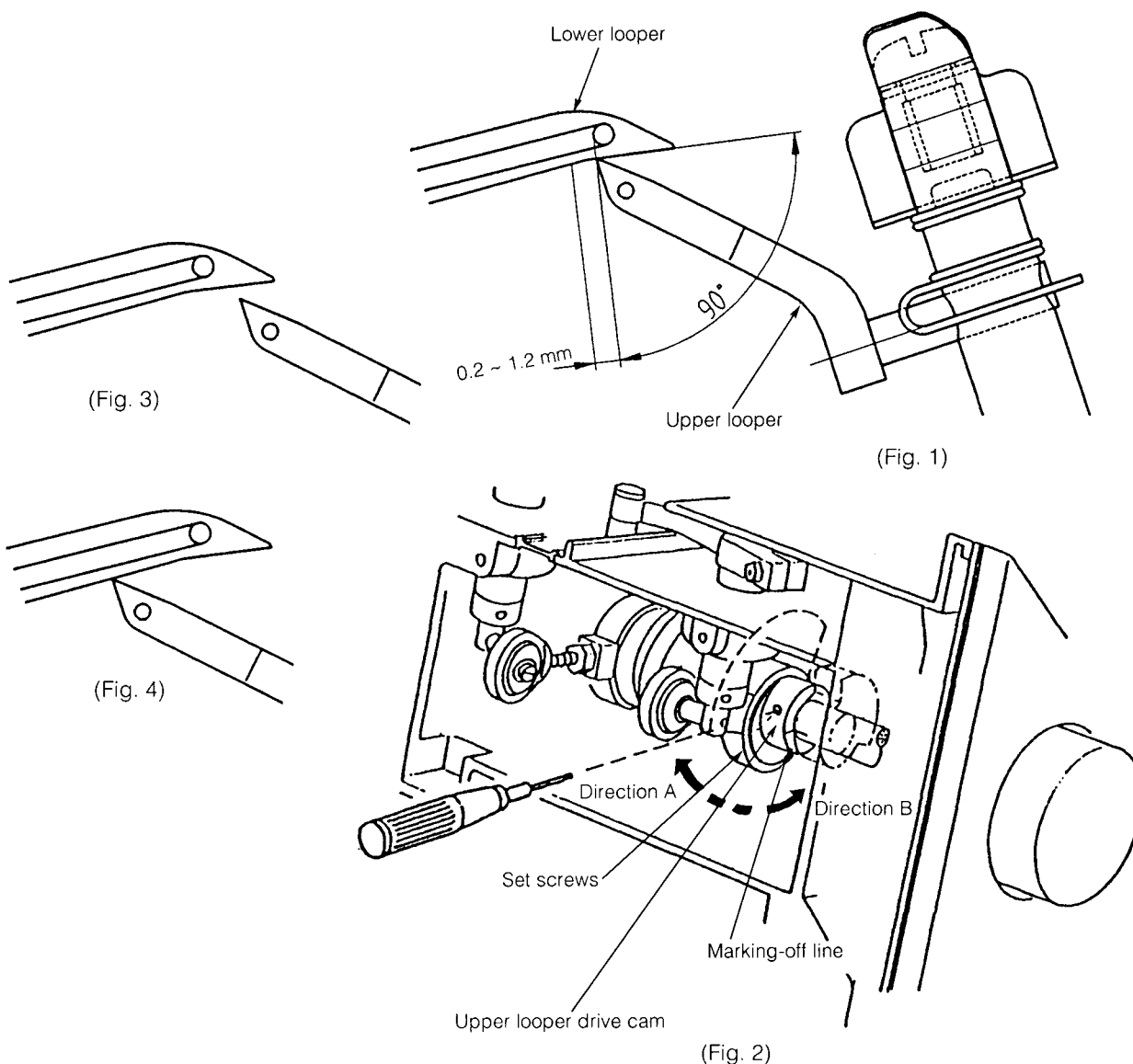
TO ADJUST THE UPPER & LOWER LOOPERS TIMING

Correct Setting:

When lower looper moves to the right, the lower looper meets the upper looper within 1 mm from the left of lower looper eye at a right angle as shown in Fig. 1.

To adjust:

1. Before proceeding with this adjustment, check the lower looper timing and the position of upper looper.
2. Remove the machine base.
3. Loosen the two set screws, 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 Fig. 3.
 - B If the timing of upper looper is delayed as shown in Fig. 4.The allowance is 1 mm from the left edge of lower looper eye as shown in Fig. 1.
4. Tighten the two set screws.
5. Check the clearance between the loopers.
6. Attach the machine base.



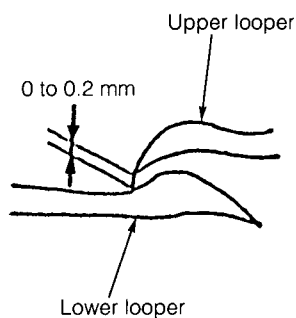
TO ADJUST THE CLEARANCE BETWEEN LOOPERS

Correct Setting:

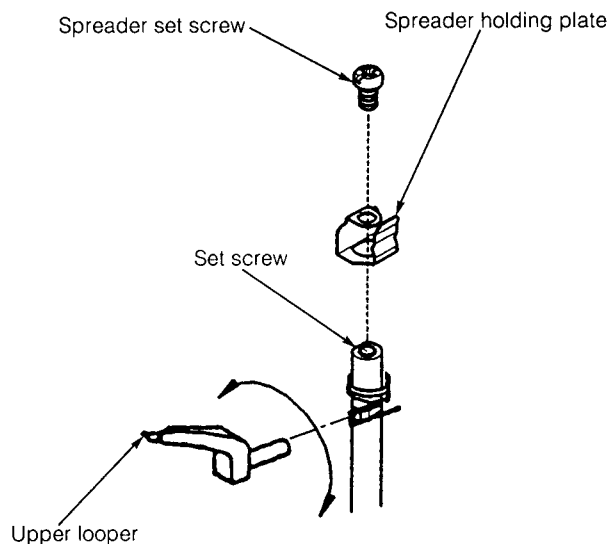
When the loopers meet as shown in Fig. 2, the clearance should be 0 to 0.2 mm as shown in Fig. 1.

To adjust:

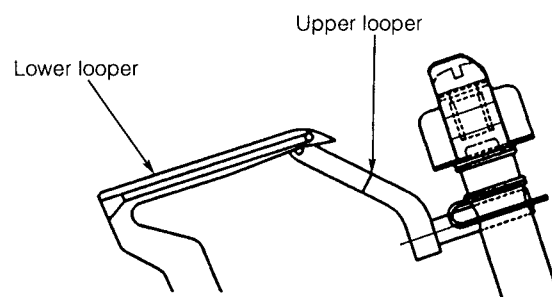
1. Remove the spreader set screw and the spreader holding plate.
2. Turn the balance wheel toward you with your hand to bring the loopers as shown in Fig. 2.
3. Loose the set screw, and adjust the clearance by moving the upper looper to the back or front as shown in Fig. 3.
4. Tighten the set screw firmly.
5. Check the clearance between the upper looper and needle.
6. Set the spreader holding plate and tighten the spreader set screw.



(Fig. 1)



(Fig. 3)



(Fig. 2)

TO ADJUST THE CLEARANCE BETWEEN NEEDLE AND UPPER LOOPER

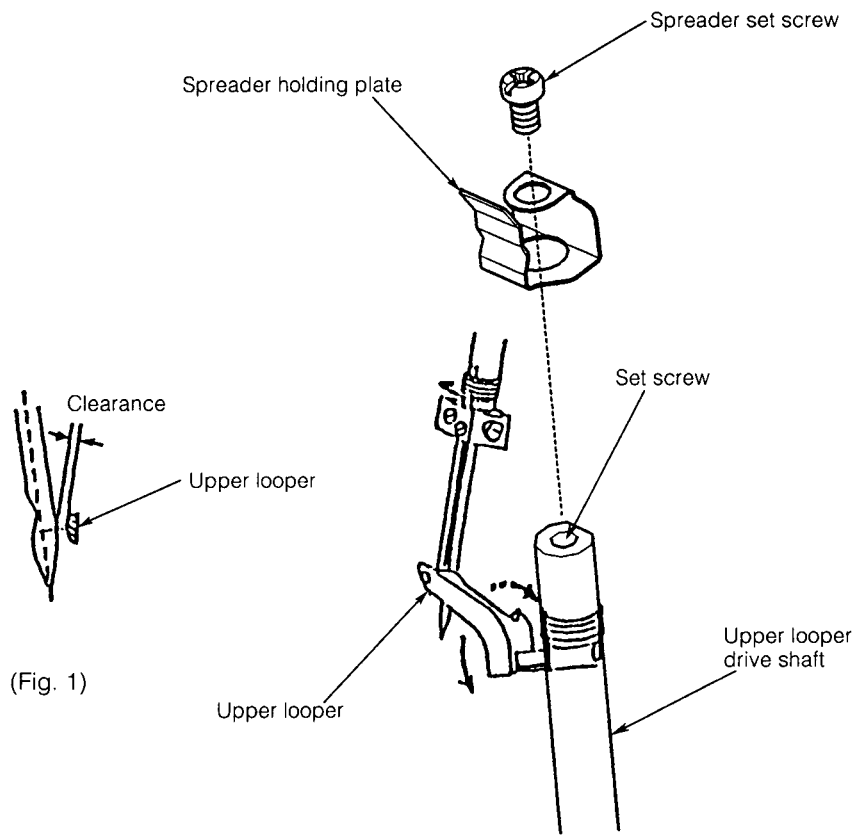
Correct setting:

When the upper looper meets with needle. Clearance should be:

- 0.1 to + 0.15 mm at the needle on the left.
- 0.2 to + 0.05 mm at the needle on the right.

To adjust:

1. Turn the balance wheel toward you with your hand to bring the needle just behind the upper looper in downward travel.
2. Loose the set screw, and adjust the clearance between the both needles and upper looper.
3. Tighten the set screw.
4. Check the clearance between the loopers.



(Fig. 2)

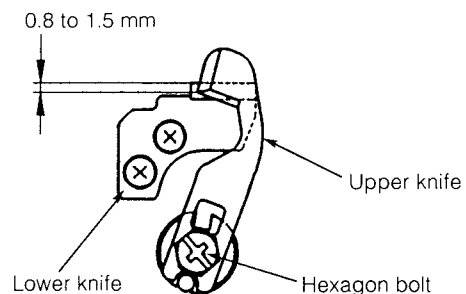
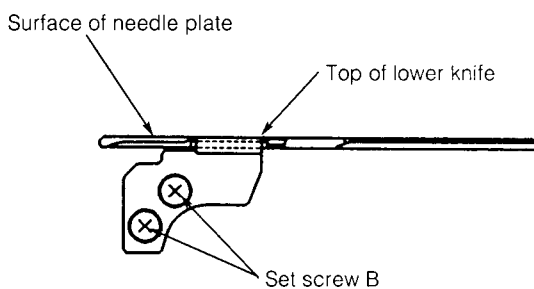
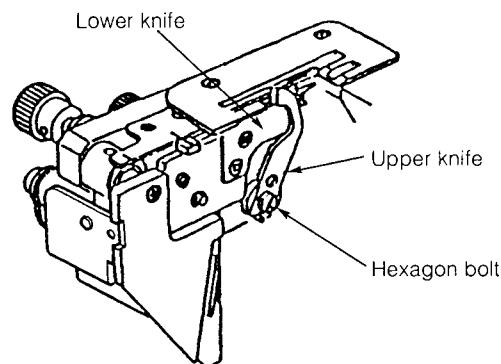
TO ADJUST THE POSITION OF KNIVES

Correct Setting:

The tip of the lower knife should be levelled 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 the upper knife timing.
2. Loose the two set screws B, and adjust the lower knife position.
3. Turn the balance wheel to bring upper knife to the lowest position.
4. Loose the hexagon bolt, and abjust the position of upper knife.
5. Tighten the hexagon bolt.



TO ADJUST THE POSITION OF LOWER LOOPER THREAD GUIDE

Lower Looper Thread Guide (3)

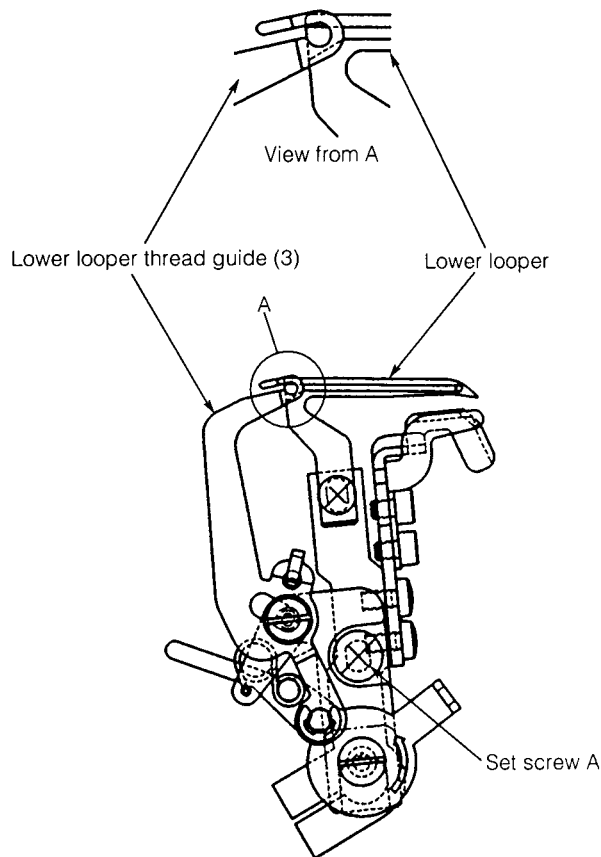
Loose the set screw A, and adjust the lower looper thread guide so that the hole of thread guide is in line with the groove of lower looper as shown in Fig. 1.

Looper Thread Guide (Lower)

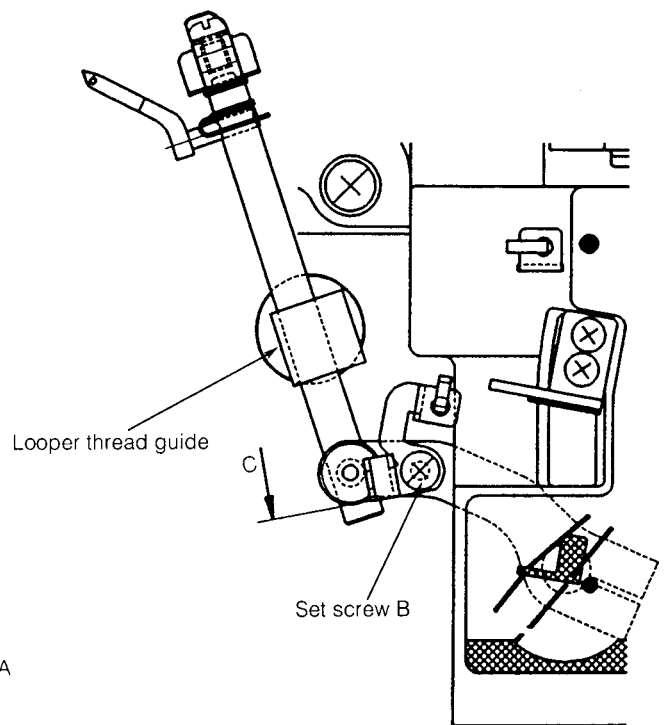
Loosen the set screw B and set the bottom side of external on the looper thread guide (Fig. 2) and the bottom side of external of the upper looper titubation arm C.

Tighten the set screw B to secure the position.

The hole is in line with the groove of lower looper.



(Fig. 1)



(Fig. 2)

TO ADJUST THE THREAD TENTION DIAL

Correct Setting:

When each dial is set at “3” and No. 50 polyester filament thread is used, the thread tension should be as follows;

Needle (Left)	: 25 ~ 35 g
Needle (Right)	: 15 ~ 25 g
Upper looper	: 10 ~ 20 g
Lower looper	: 20 ~ 30 g

When each dial is set at “9” and No. 50 polyester filament thread is used, the thread tension should be as follows;

Needle (Left)	: 125 g or more
Needle (Right)	: 60 g or more
Upper looper	: 55 g or more
Lower looper	: 120 g or more

To adjust:

1. Remove the top cover unit.
2. Match the scale “3” on the thread tension dial with the notch in the thread tension regulating plate.
3. Adjust each thread tension with the adjusting plate.
 - * If the thread tension is higher than the above level, shift the adjusting plate in the direction A.
 - * If the thread tension is lower than the above level, shift the adjusting plate in the direction B.
4. Match the scale “9” with the notch, and check if each thread tension is as specified.
5. Attach the top cover unit.

