



SERVICE MANUAL

S0100
S0105

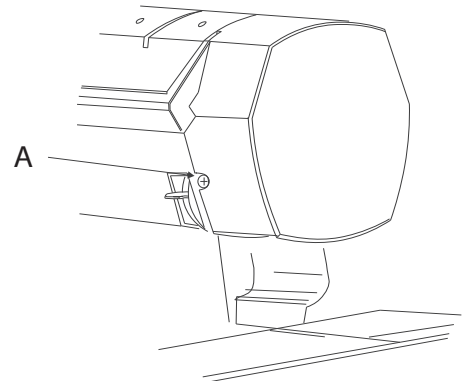
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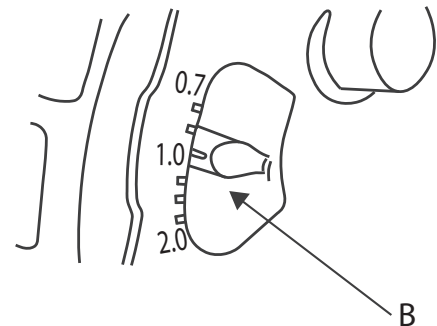
Cover Removal

1. Remove the light cover screw (A).

2. Remove the light cover by pressing down and to the left.



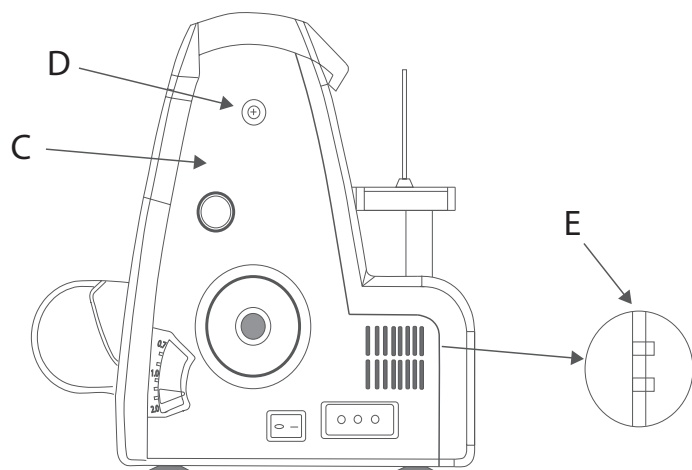
4. To remove the differential feed adjusting lever knob (B) pull it to the right.



5. Remove the motor cover screw (C) from the side of the machine.

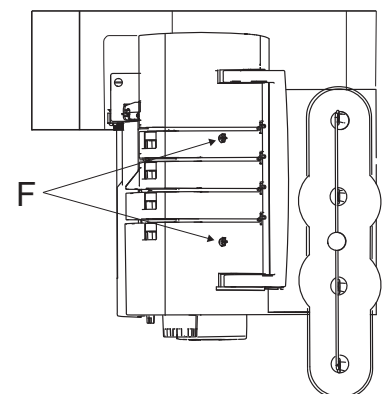
6. Remove the (D) Screw from the base of the machine.

7. When removing the motor cover also unhook the two hooks (E) from the back cover.

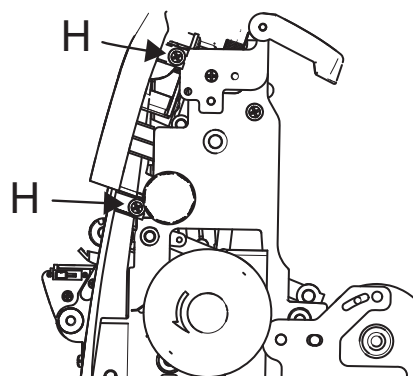
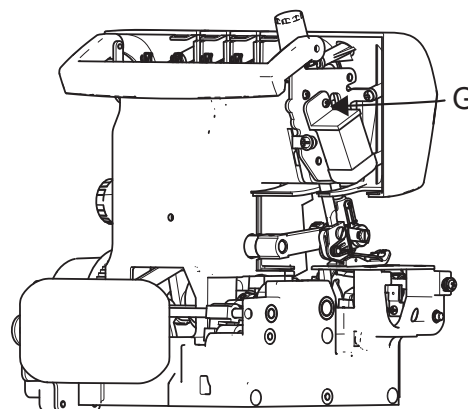


8. Remove the two top screws (F) of the top cover.

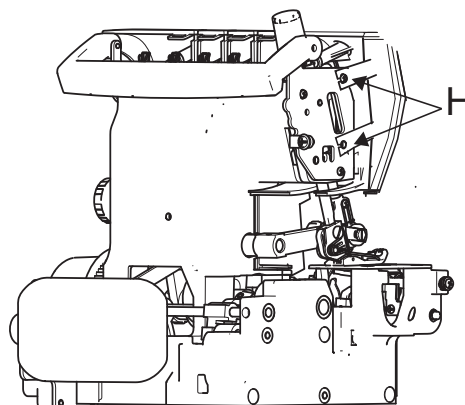
9. To remove it lift the top cover up.



11. Remove the screw (G) that holds the LED-light.
Disconnect LED-light and remove it.

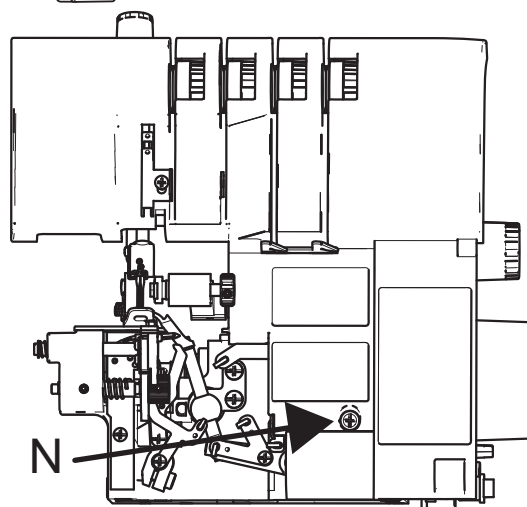


12. Loosen the four screws (H) on the left and right side.

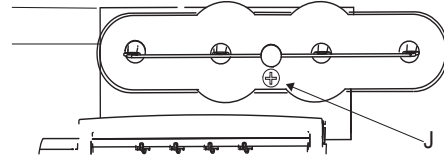


13. Remove the screw (I) located under the looper cover.

14. Remove the front cover.



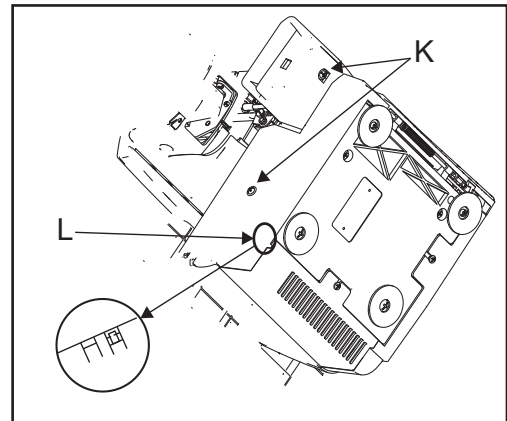
15. Remove the the screw that holds the thread undwinder (J).



16. Remove the two screws (K) on the cylinder cover.

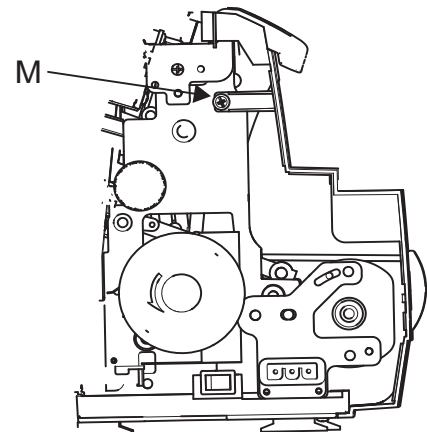
Remove the cylinder cover

17. When removing the cylinder cover unhook the hooks ((L))



18. Remove the back cover screw (M).

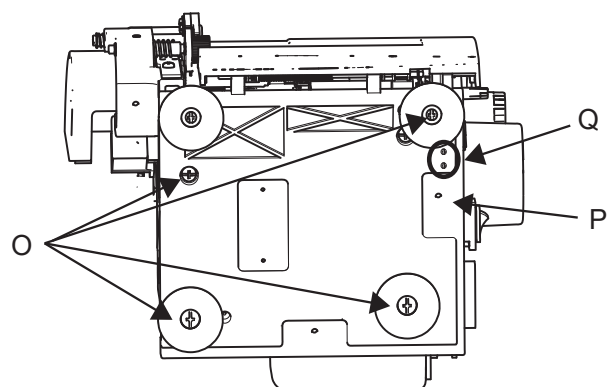
Remove the back cover.



19. Remove the four screws (O).

Remove the motorcover screw (P).

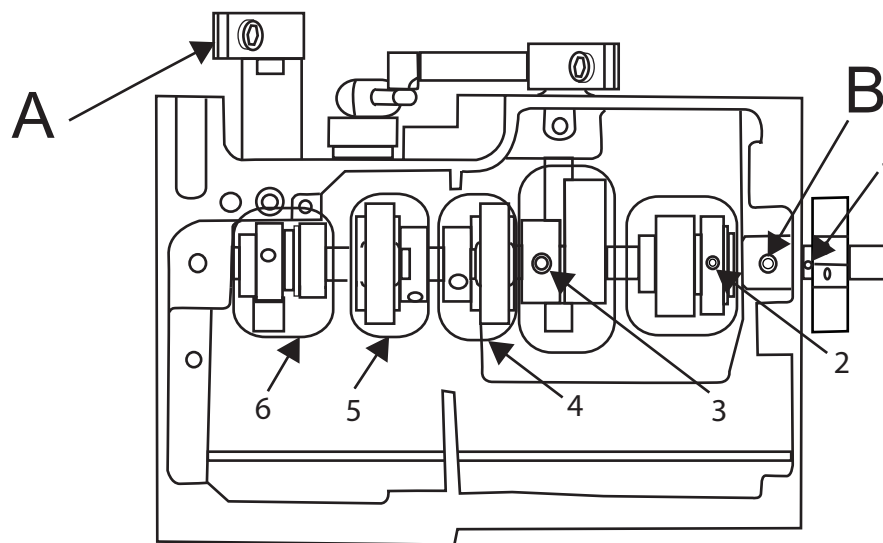
Remove the two safty swyitch screws (Q).



Setting of cams

This is checked to make sure so the cams are in its basic position.

Final setting of the each cam position is done when each individual setting has been performed.



#1 point - Pin In arm shaft and mark in counter weight

2 Cam - The Feed cam.

3 Cam - The Needle bar eccentric cam.

#4 Cam - Upper looper cam.

5 Cam - Lower looper cam.

6 Cam - Feed lifting cam.

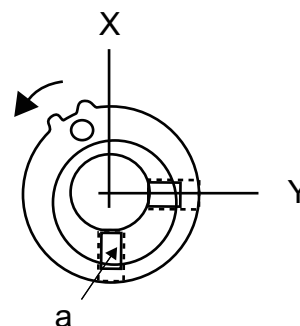
1. To check the setting of the cams, remove the base plate first.
2. For easier check also remove the hand wheel.

3. Set #1 point - the counter weight mark and fastening pin, so there are lined up against the (B) screw on the casting. See illustration above.

4. The # 2 Cam - The Feed cam.

It should now be position so its first set screw (a) is lining up against the (B) screw on the casting.

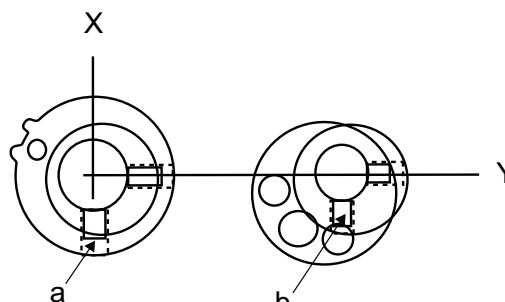
NOTE! The lower shaft has a flat spot where the Cam # 2's first screw (a) always must be positioned on.



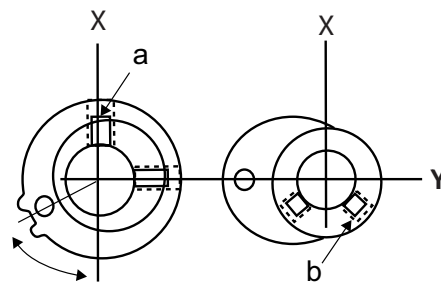
5. The # 3 Cam - The Needle bar eccentric cam.

It should now be position so its first set screw (a) is lining up against the (B) screw on the casting.

NOTE! The lower shaft has a flat spot where the Cam # 3's first screw (a) always must be positioned on.

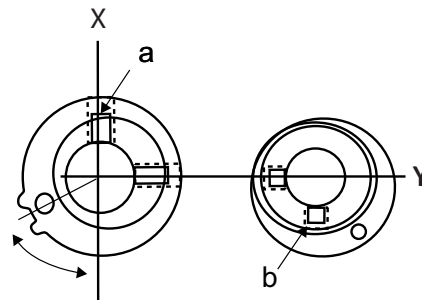


6. Turn the hand wheel in the sewing direction, so #1 point and Cam #2' first screw (a) is straight to the front (Y- direction)
7. The #4 Cam - Upper looper cam.
It should now be positioned so the centre position between the set screws (b) and (c) is according to the illustration (X- direction) .



8. The #2 Feed cam should remain in the same position.

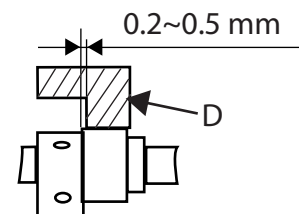
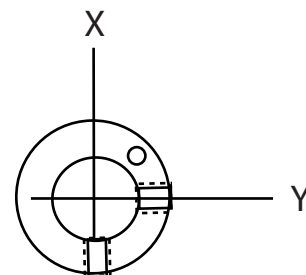
9. The # 5 Cam - Lower looper cam.
It should now be positioned so its first screw (b) is according to the illustration (X-direction).



10. Turn the handwheel in sewing direction to Set #1 point - the counter weight mark and fastening pin, so they are lined up against the (B) screw on the casting.

11. The # 6 Cam - Feed lifting cam.
It should now be positioned so its first screw (b) is according to the illustration (X-direction).

When setting the Feed lifting cam, set it so there is a clearance of 0.2~0.5 mm between it and the feed bar (D).



NOTE! Final setting of the each cam position is done when the individual setting is performed.

X = Top
Y = Front

1. Needle bar height

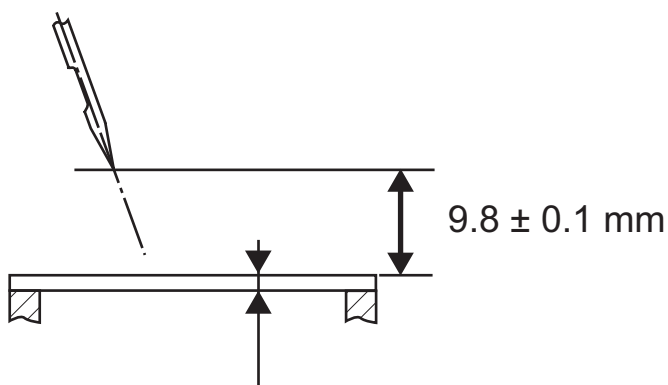
Check

1. Inset a new needle size 90 System EL x 705 in the machine.
2. Set the needle to it's highest turning position.
3. The distance between the right needle and the surface of the needle plate shall now be 9.8 ± 0.1 mm

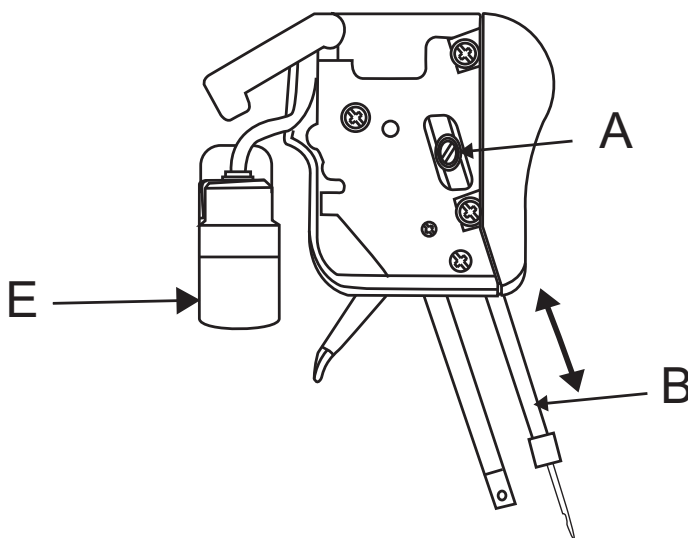
NOTE: Check and make sure the needle is inserted fully into the needle clamp.

Adjustment

1. Remove light cover.
2. Remove presser foot.
3. Remove Cylinder Cover.
4. Remove LED-light socket (E).
5. Inset a new needle size 90 System EL x 705.
6. Move needle by turning the handwheel so it comes to it's highest turning position.
7. Loosen screw (A) holding the needle bar. Move needle bar (B) until the distance between the right needle () and the surface of the stitch plate is 9.8 mm.
8. Tighten screw.



ATTENTION! If needle bar is twisted, clearance between lower looper and needles may differ.



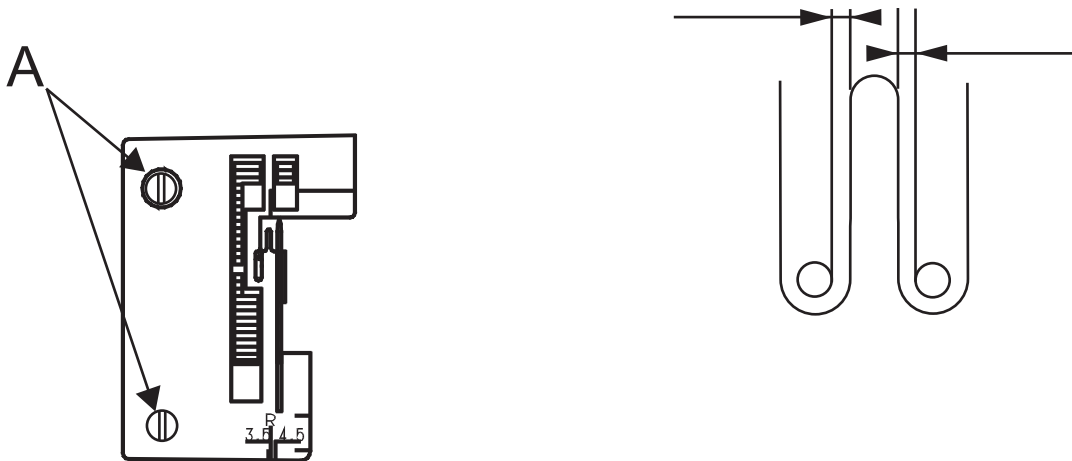
2. Needle plate sideways

Check

When the needles enters the needleplate hole the distance on both sides of the needle should be equal.

Adjustment

1. Loosen up the two screws (A) and (B) that holds needle plate.
2. Move the needle plate so it becomes equal distance on both sides of the needle.



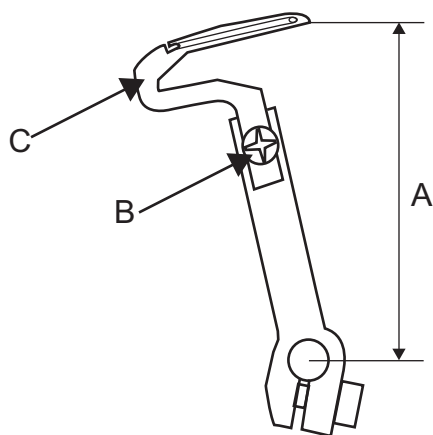
3. Height of lower looper

Check

The distance (A) between the centre of the looper shaft and tip of the looper should be 66.3 mm

Adjustment

1. Turn the handwheel so the lower looper comes to its most right position.
2. Loosen up the lower looper screw (B).
3. Move the looper (C) up or down until the distance between the centre of the looper shaft and tip of the looper is 66,3 mm.
4. Tighten the screw (B).
5. Check " Timing of lower looper and needle"



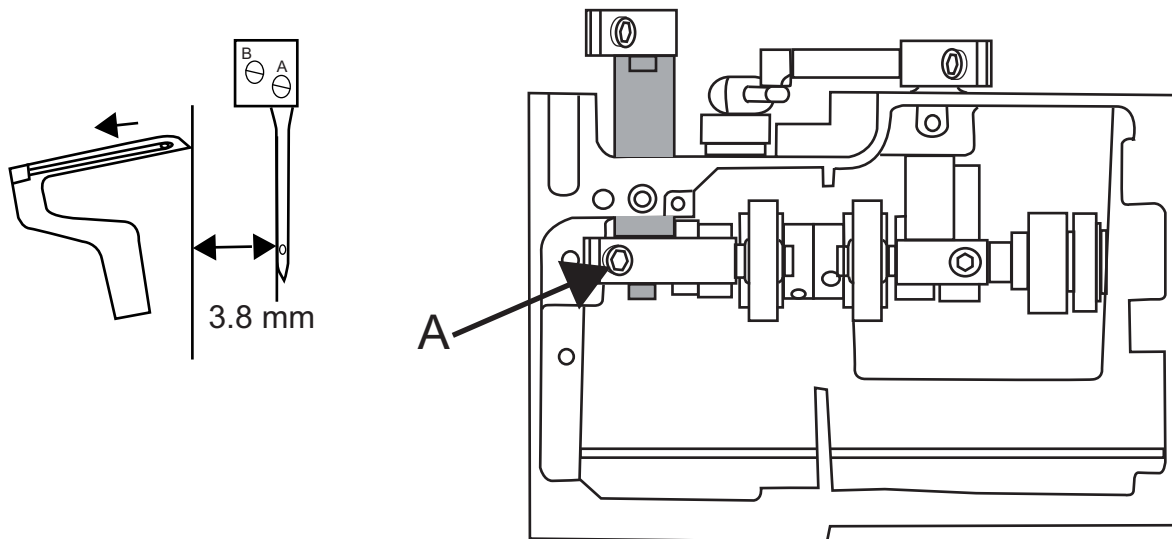
4. Clearance between lower looper and needle - End position of lower looper

Check

When lower looper is positioned at end of left side, the clearance between its point and left side of RIGHT (A-Needle) needle should be 3.8 mm.

Adjustment

1. Move lower looper to its left end position by turning the handwheel towards you.
2. Loosen screw (A) of the lever of the lower looper. Adjust distance between left side of the right needle (A-Needle) and the point of the lower looper to 3.8 mm.
3. Tighten screw (A).



5. Timing of lower looper and needle

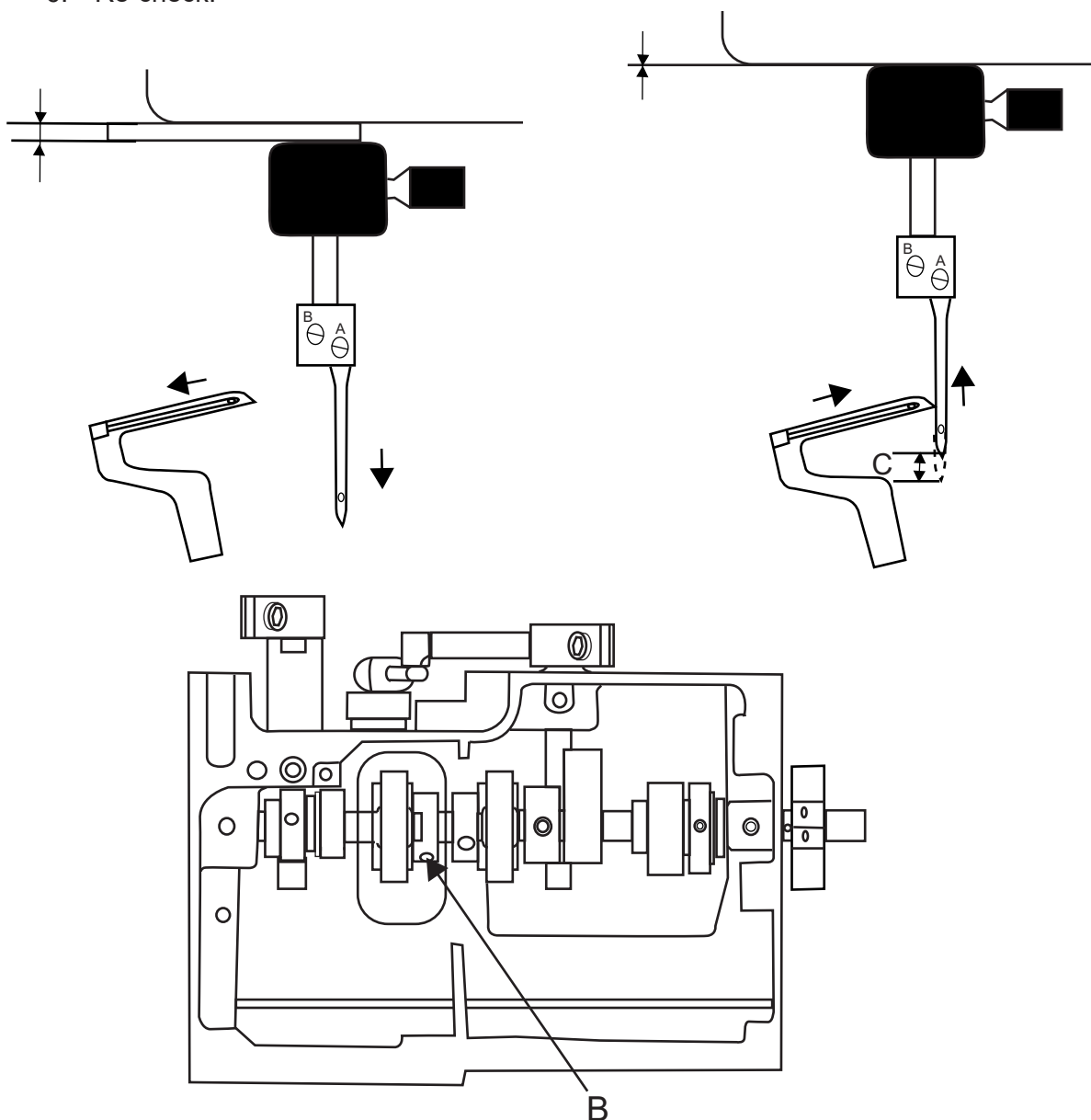
Check

When lower looper is aligned with left side face of RIGHT hand needle (A-needle) , the needle should have travelled 4.2 mm upwards (C) from its lowest position.

A = 4.2 mm.

Adjustment

1. Remove the LEFT needle and set the needle bar to its lowest position.
2. Put setting gauge on needle bar with a 4.2 mm distance washer between tool and body.
3. Remove distance washer and move needle upwards by means of handwheel until setting tool touches body.
4. Loosen the two screws (B) in cam of lower looper. Align point of lower looper with left side face of RIGHT hand needle.
5. Tighten screws.
6. Re-check.



6. Clearance between lower looper and needles

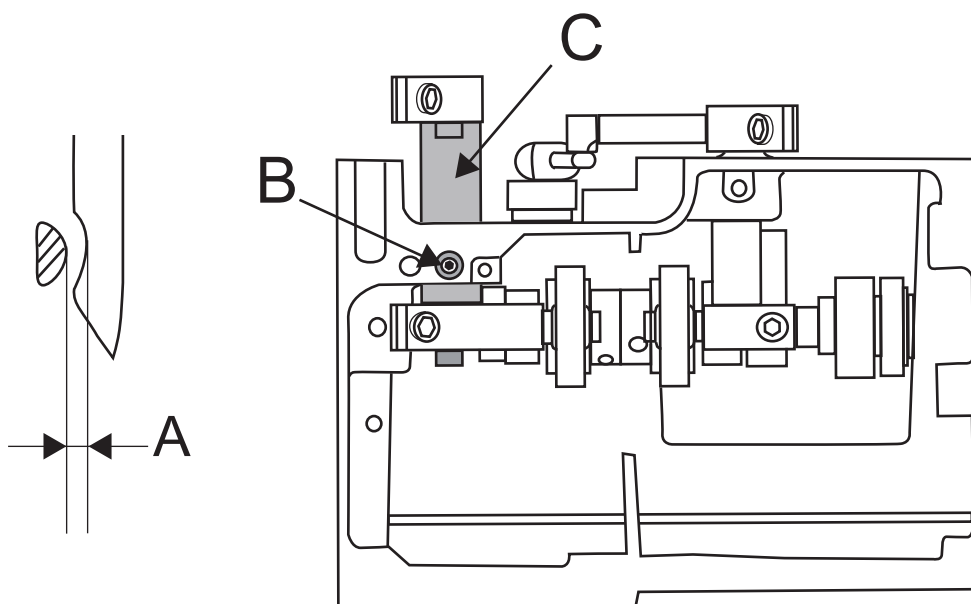
CHECK

When the point of lower looper is behind the needle it must be a clearance of 0 - 0.03 mm (A) between needles and lower looper.

ADJUSTMENT

ATTENTION! Before adjusting, make sure that timing of lower looper is correct and that the needle bar isn't twisted, because then the clearance between lower looper and needles may differ.

1. Set point of lower looper behind centre line of the needle by turning the handwheel towards you.
2. Loosen the lower looper shaft bushing screw (B) and adjust clearance between needle and point of looper by moving looper shaft (C) until it is 0 - 0.03 mm.
4. Tighten the screw (C).



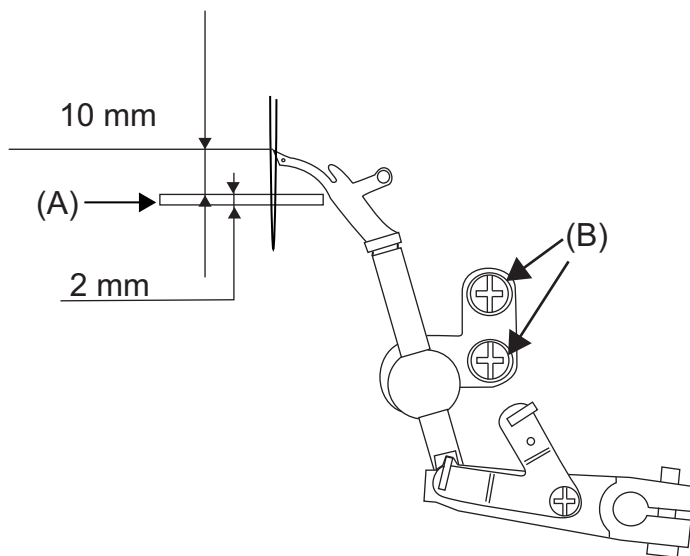
7. Upper looper retainer bracket

CHECK

When the upper looper point so its is at center of the right needle the upper looper height should be 10 mm over the needle plate (A).

ADJUSTMENT

1. Set the upper looper point so its is at center of the right needle.
2. Loosen two upper looper retainer guide bracket screw's (B) and move upper looper retainer, as required, so that the upper looper height is 10 mm over the needle plate.
3. Firmly tighten the two upper looper retainer guide bracket screws taking every care not to move the upper looper retainer guide bracket out of position.



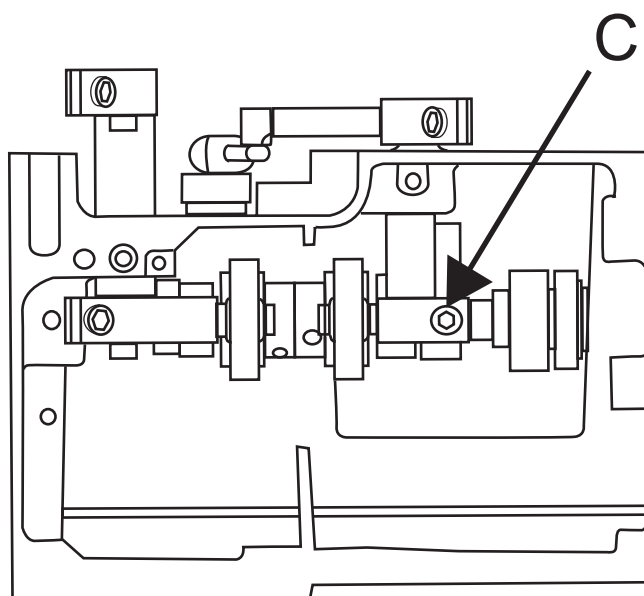
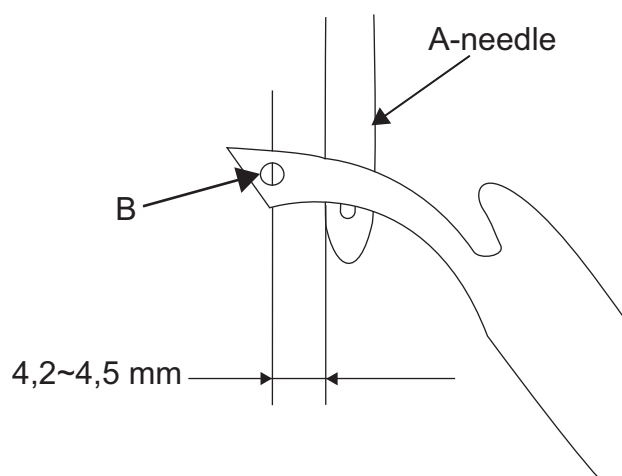
8. Setting of upper looper in relation to the needle

CHECK

When upper looper is set at its highest position the clearance between the thread hole of the upper looper (B) and the left side face of the A-needle (right needle) should be according to 4.2~4.5 mm.

ADJUSTMENT

1. Move upper looper to its highest position by turning the handwheel towards you.
2. Loosen screw (C) of the link arm of the upper looper and adjust the looper so that the clearance between the thread hole of the looper (B) and the left side face of the A-needle (right needle) is 4.2 - 4.5 mm.
3. Tighten screws (a).



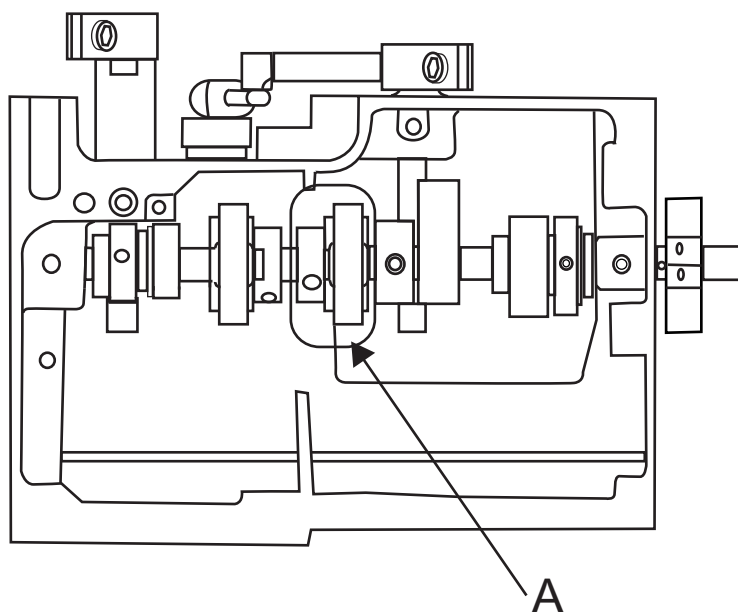
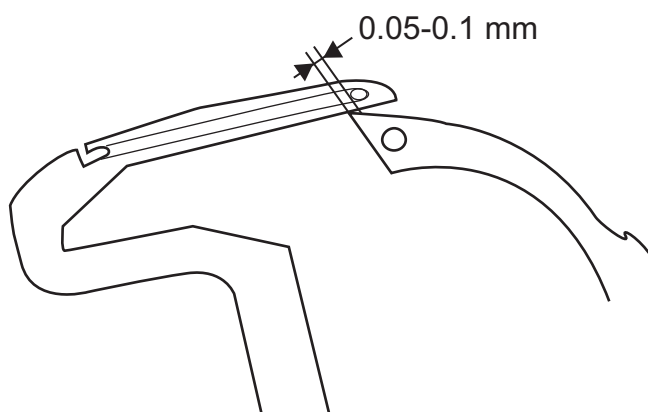
9. Timing of upper looper and lower looper

CHECK

When point of upper looper is aligned with the of lower side of lower looper, the clearance between the point of the upper looper and the thread hole of the lower looper should be 0.05 - 0.1 mm.

ADJUSTMENT

1. Align the point of the upper looper with the lower side of lower looper by turning the hand-wheel towards you.
2. Loosen cam screw (A) of the upper looper and adjust the position of the upper looper so that the clearance between the point of the upper looper and the thread hole of the lower looper is 0.05 - 0.1 mm.
3. Tighten screw (A).



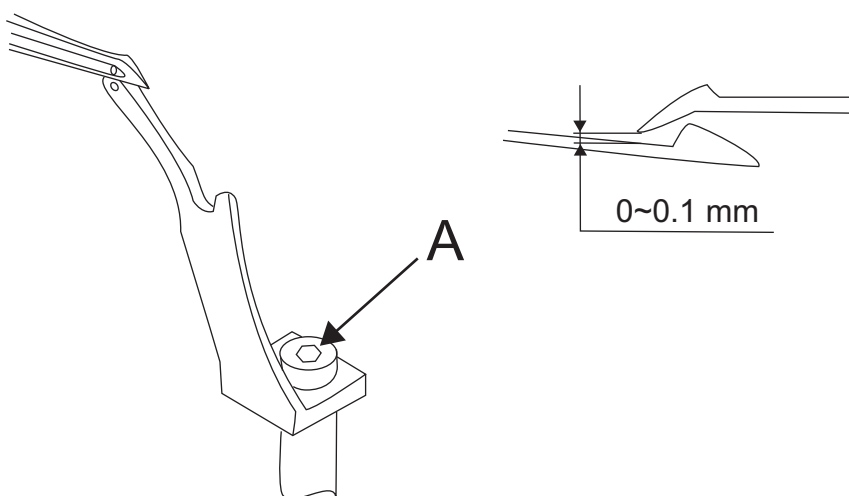
10. Clearance between upper looper and lower looper

CHECK

The clearance between upper looper and lower looper should be 0 - 0.1 mm.

ADJUSTMENT

1. Align point of upper looper with back of upper end of lower looper by turning the handwheel towards you.
2. Loosen fixing screw (A) of the upper looper and adjust the clearance between upper looper and lower looper. (0 - 0.1 mm).
3. Tighten screw (A).



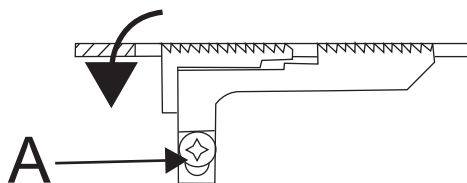
11. Feed dog height

CHECK

Turn the hand wheel in sewing direction so the top of rear feed dog teeth is level with the needle plates top surface, then should also the front feed dog teeth be level with the needle plates top surface.

ADJUSTMENT

1. Turn the hand wheel in sewing direction so the top of rear feed dog teeth is level with the needle plates top surface.
2. Loosen up the screw (A) on the front feed dog.
3. Move the front feed dog so it becomes level with the needle plates top surface.
4. Tighten screw (A).



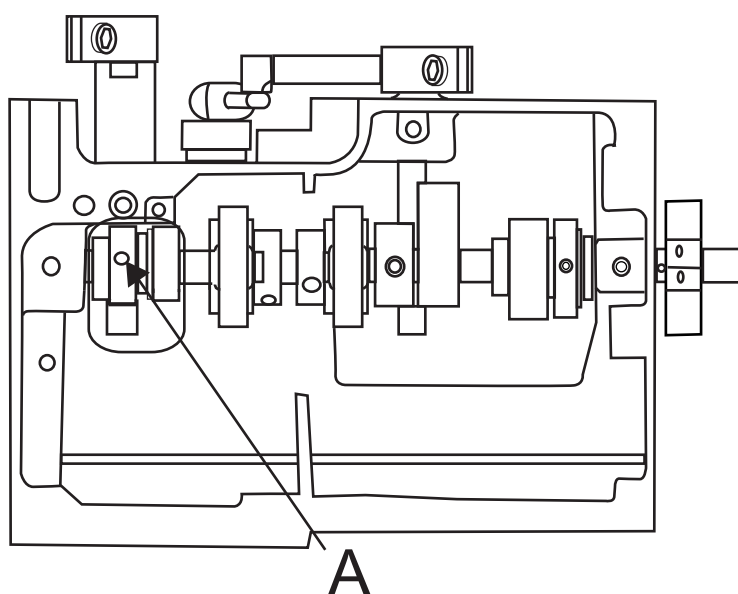
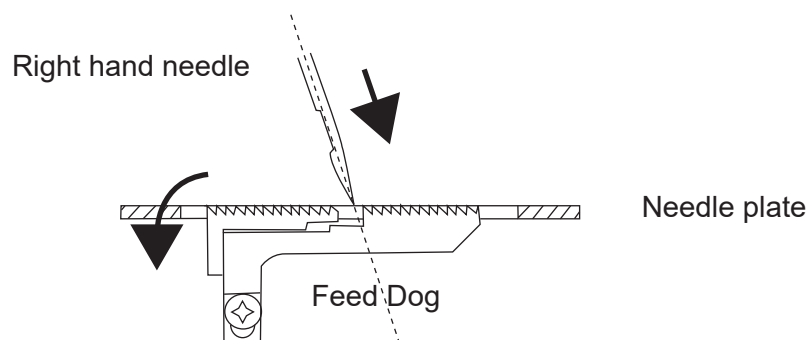
12. Feed timing

CHECK

Turn the hand wheel in the sewing direction and when the needle is going down set the tip of right needle (A-needle) so its aligned with the surface of the needle plate, then should the feed dog teeth be aligned with top surface of the needle plate.

ADJUSTMENT

1. Check so the basic feed cam setting is correct.
2. Turn hand wheel in sewing direction you so that the tip of the right needle (A-needle) is aligned with the surface of the needle plate.
3. Loosen feed lifting cam screw (A) and adjust feed dog so that it is aligned with surface of the needle plate.
4. Tighten screw (A).



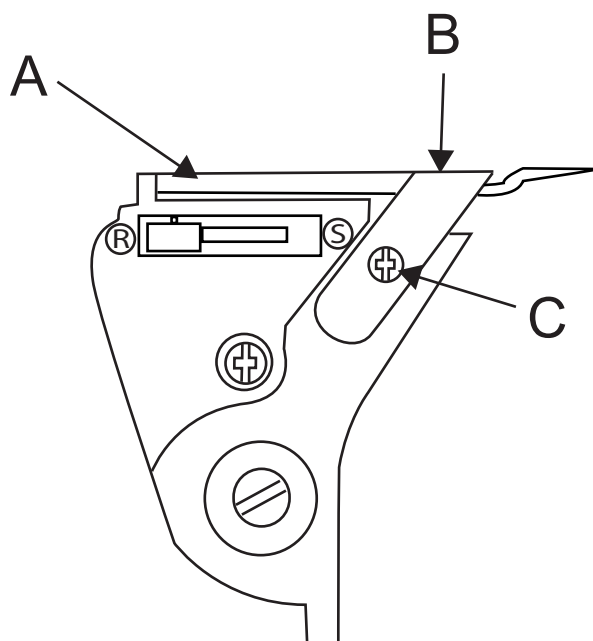
13. Position of the lower knife

CHECK - LOWER KNIFE

1. The lower knife cutting edge (B) should be aligned with the surface of the needle plate (A).

ADJUSTMENT

1. Loosen the screw (C).
2. Adjust so the lower knife cutting edge (B) is aligned with the surface of the needle plate (A).



14. Position of upper knife against the lower knife

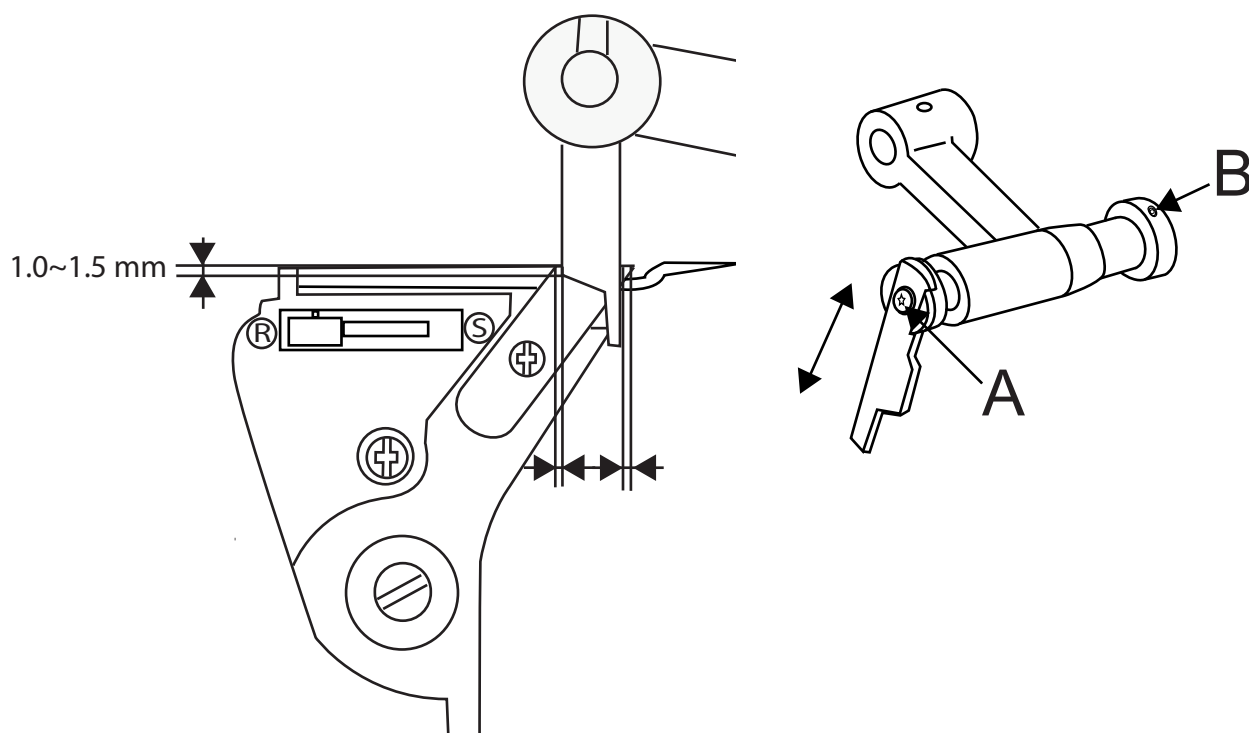
CHECK

When upper knife is in its lowest position, its cutting edge should be positioned 1.0-1.5 mm lower than the cutting edge of the lower knife.

At the same position should the upper knife be positioned, front to back, so its equal distance on both sides of the lower knife.

ADJUSTMENT

1. Check so the lower knife is set correct.
2. Check so the basic cam settings is correct.
3. By turning handwheel towards you, move upper knife to its lowest position.
4. Loosen upper knife fixing screw (A) and adjust position of upper knife downwards 1.0-1.5 mm from the cutting edge of the lower knife.
5. Loosen the (B) screw and turn upper knife so its equal distance on both sides of the lower knife (B).
6. Tighten screw (B).



15. Clearance between rear needle support and needle

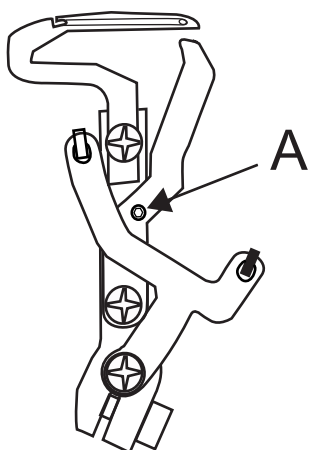
CHECK

When Lower looper is behind the left needle, the clearance between rear needle support and left needle should be 0 - 0.03 mm.

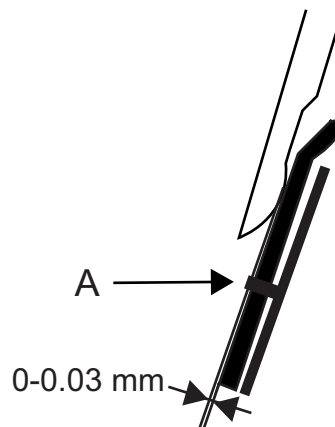
Valid for #90 needle.

ADJUSTMENT

1. Turn screw (A) of the needle support and turn it until its clearance to the needle is 0 - 0.03 mm.
2. Make sure the screw is secured with equivalent adhesive.



Right hand needle



16. Clearance between Front needle support and needle

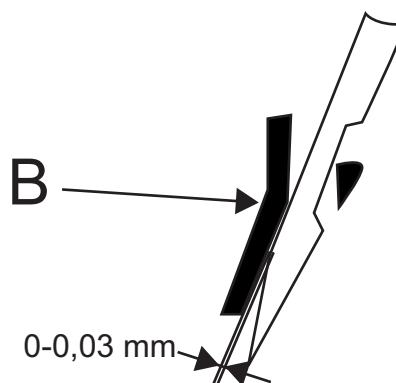
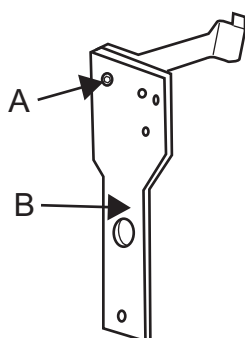
CHECK

When Lower looper is behind the left needle, the clearance between front needle support and left needle should be 0 - 0.03 mm.

Valid for #90 needle.

ADJUSTMENT

1. Check so the setting " 6.Clearance between lower looper and needles" is correct.
It should be a clearance of 0 - 0.03 mm between needles and lower looper.
2. Turn screw (A), on the front needle support (B) , it until its clearance to the needle is 0 - 0.03 mm.
3. Make sure the screw is secured with equivalent adhesive.



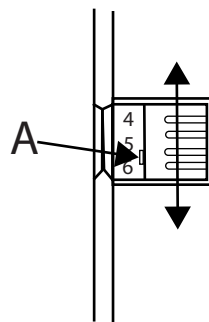
17. Thread height

CHECK

When the thread tension dials are in its normal position and sewing a normal 4-thread stitch and it should be balance between the 4 threads.

ADJUSTMENT

1. Set all thread tension dial at normal position.
2. The basic setting can be adjusted by first push the index ring to the left using a small screw driver at (A).
3. Move the thread tension dial in the direction needed.
4. When thread tension is correct. Push back the index ring on the tension dial so normal position (N) is to the front.



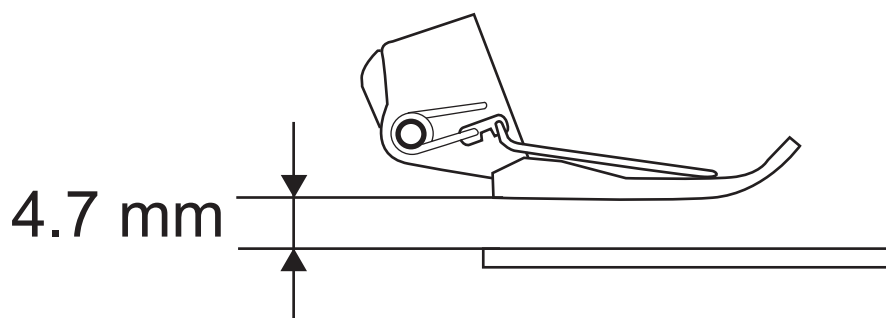
18. Presser foot height

Check

When the presser foot is in it's highest position the distance between the needle plate and the presser foot should be 4.7 mm.

Adjustment

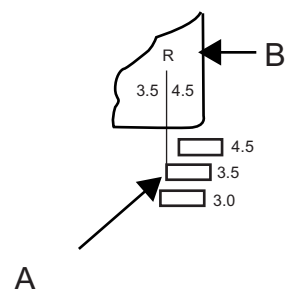
1. Loosen the screw (A).
2. The presser bar height can now be adjusted up or down until the distance is 4.7 mm between the presser foot and the needle plate.
3. Tighten the screw (A).



19 . Stitch width finger

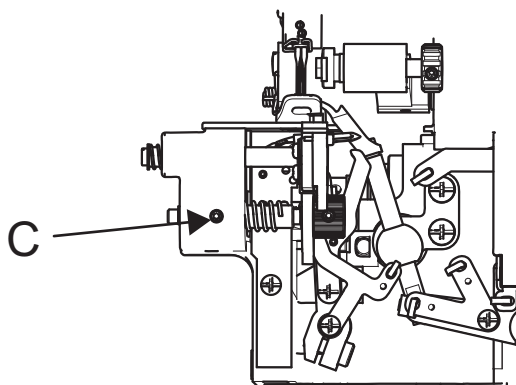
CHECK

1. Open the Front cover.
2. Place the upper knife in non working position.
3. Set the seam width to 3.5 mm.
4. The left of the white stitch width unit (A) should now be lining up with the 3.5 mark on the needle plate (B).



ADJUSTMENT

1. Open the Front cover.
2. Place the upper knife in non working position.
3. Set the seam width to 3.5 mm.
4. Loosen up the set screw (C) in the front.
5. Move the stitch width unit until the left side of it is lining up with 3.5 marking on the needle plate.
6. Tighten the screw (C) in the front.



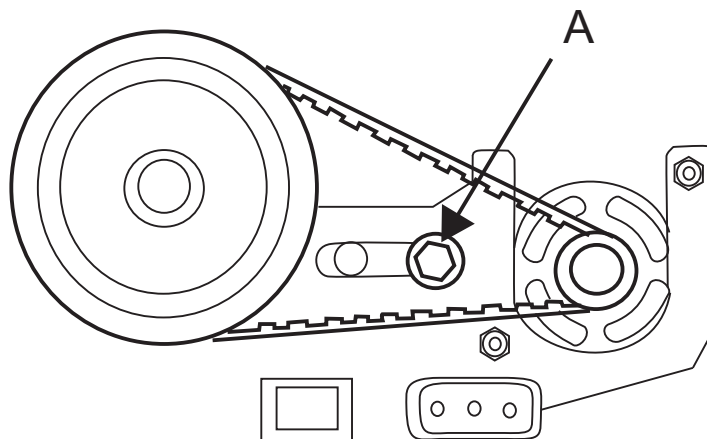
20. Motor belt tension

CHECK

It should be possible to push down the belt 7~8 mm when applying a pressure of 0.5 kg.

ADJUSTMENT

1. Loosen screw (A) that is holds the motor.
2. Adjust belt tension by moving the motor back or forth
3. Tighten the screw (A).



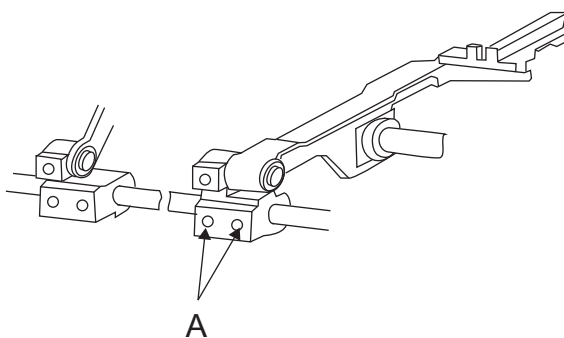
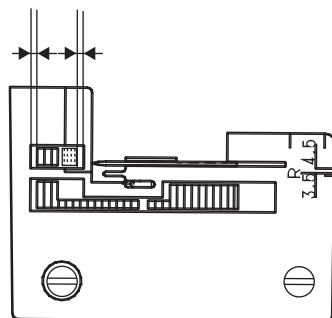
21. Lengths movement of feed dog in needle plate slot

CHECK

1. Remove the presser foot.
2. Set the feed dial at "4".
3. Turn the hand wheel and set the feed dog is in its most rear position.
Check the distance between the feed dog and needle plate. See illustration
4. Turn the hand wheel and set the feed dog is in its most front position,
Check the distance between the feed dog and needle plate. See illustration
5. These two distances, front to back, should always be the equal.

ADJUSTMENT

1. Remove the Covers.
- 2 Loosen the two screws (A) on the left feed crank.
3. Move the feed dog unit until the distances is equal



22. Stitch lengths

CHECK

1. Set stitch length to 4.0 mm and differential feed ratio to 1,0.
2. Put a piece of paper under the presser foot and run the machine.
3. Check if the movement of feed dog represents $4.0 + 0,1\text{mm}$ between each hole in the paper.

ADJUSTMENT

1. Remove the covers.
2. Check so the Feed timing is correct set.
3. Loosen the screw (A) of the Feed regulator lever.
4. Move the Feed regulator lever.
5. Tighten the screw (A).
6. Check so the feed regulator cam (C) is against the Feed regulator lever pin (D).
7. If not loosen up Screw (B) the feed regulator cam screw and move the the feed regulator cam (C) so it's in lowest position against the Feed regulator lever pin (D).
8. Tighten the screw (B).
9. Re- check from Check point 1.

