

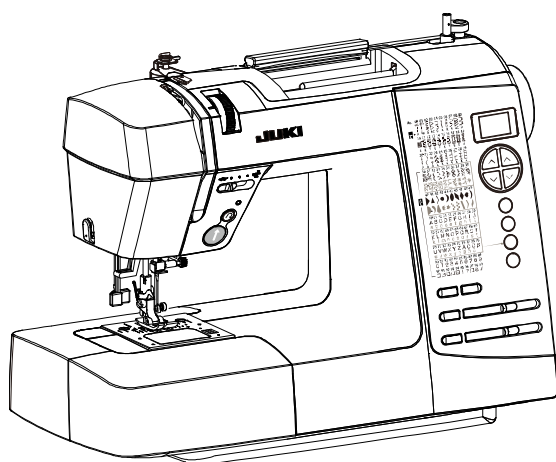
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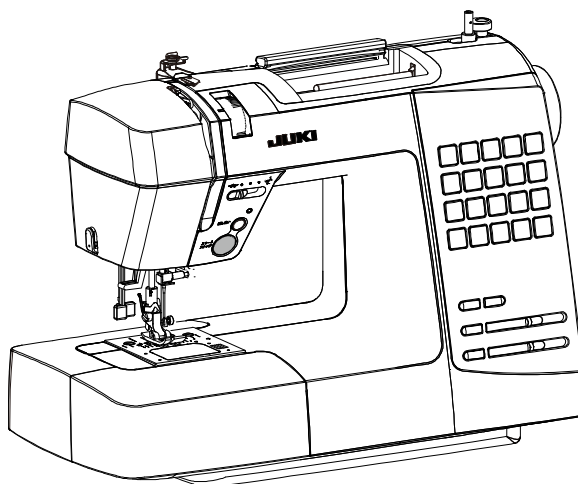
Model:
K65&K85

JUKI®



K85

K65



HZL-K85/65

Original issued: Sept.2011

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SEC. 01 Disassembling outer covers

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1. Lay the machine on its back.



2. Remove screw for rubber feet.



3. Remove rubber foot for adjustment by hand.



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4. Remove base cover.



5. Remove screw for bottom cover.



6. Remove the bottom cover.



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7. Lift the machine and remove screws on needle plate.



8. Remove needle plate.



9. Remove screw for face cover.



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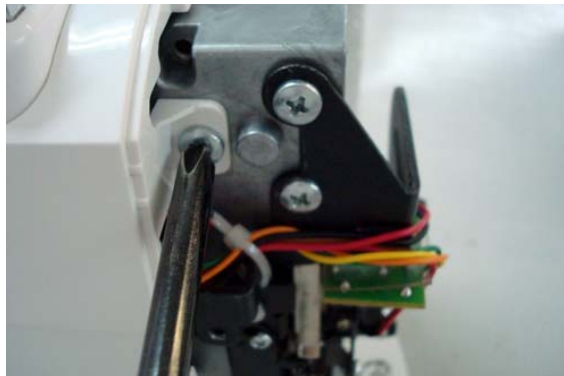
10. Remove screw on rear cover.



11. Remove screw on rear cover which is located near face cover.



12. Remove cover fixing screw near face cover.



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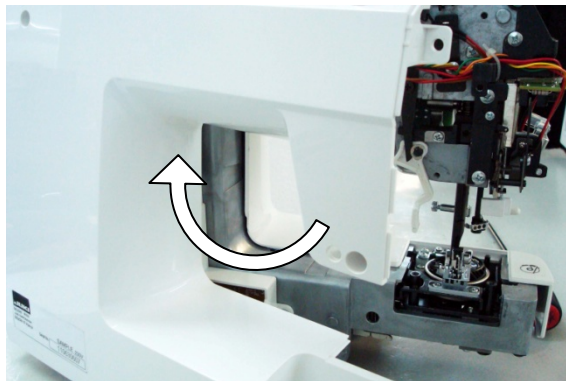
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13. Lift the rear cover using screw driver and remove projection of the cover from machine body.



14. Remove the rear cover.



15. Remove screw from top cover.



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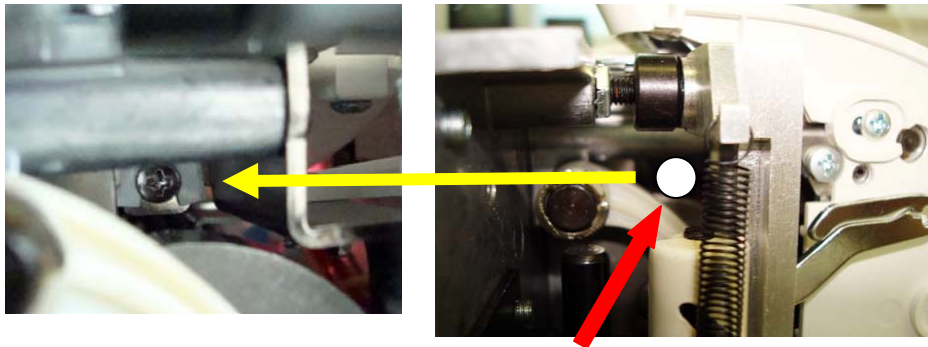
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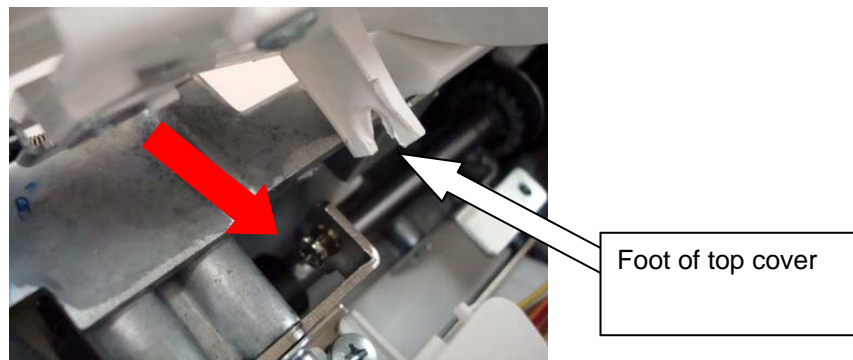
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16. Remove fixing screw inside the top cover.

Photo is left side (Lamp cover side) view.



17. Position of the above screw is shown below with the top cover removed.



18. Lift the top cover at side of hand wheel.



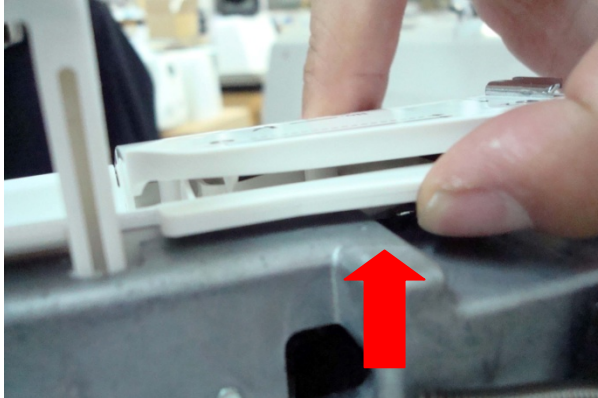
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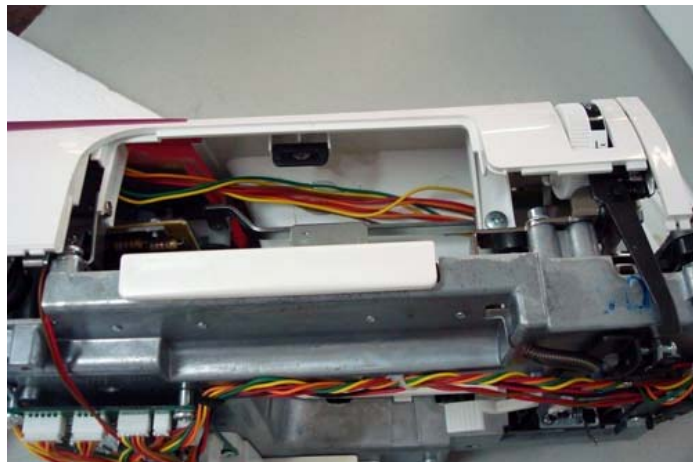
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Lift the top cover at the side of face cover.



Remove the top cover by lifting it at the same time.



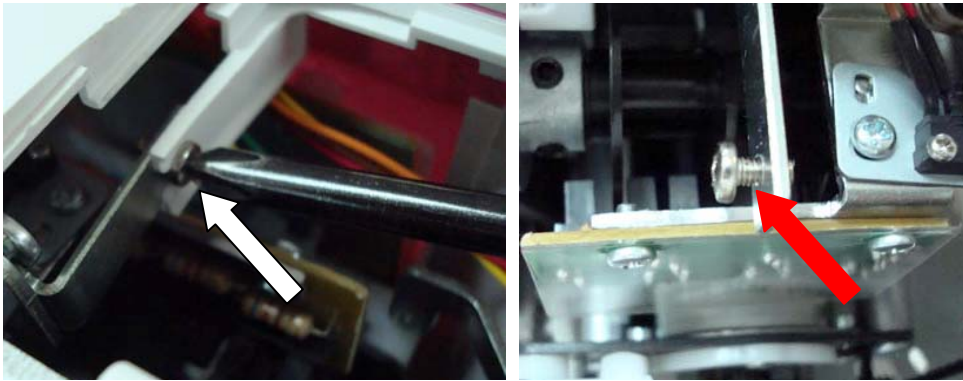
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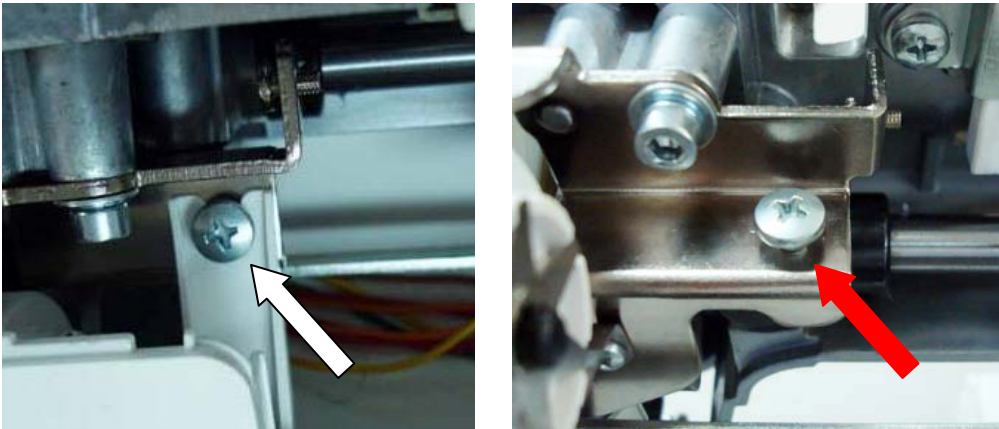
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19. Loosen screw of front cover at the side of hand wheel so that it may make it easier to re-assemble it.



20. Loosen screw of fixing foot of front cover at the side of hand wheel.



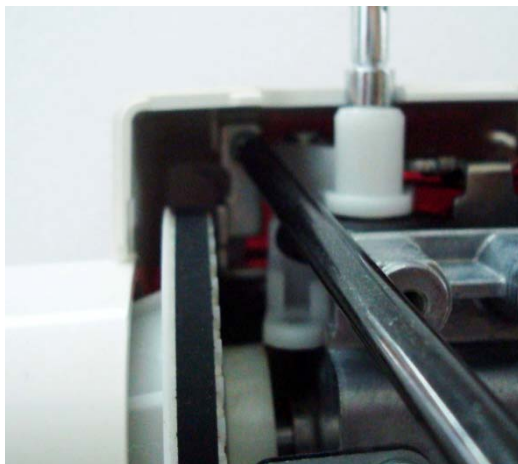
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21. Remove screw of front cover at the side of hand wheel.



22. Remove tapping screw at needle bar as shown.



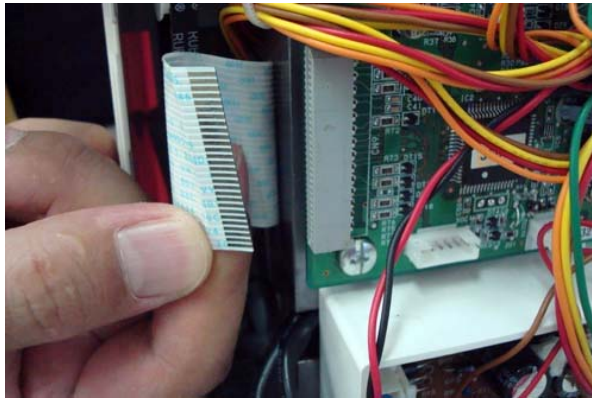
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23. Remove flat cable connected with circuit board from AC circuit board.



24. Remove the front cover from machine body.



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SEC. 02 Test mode

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Move bobbin-winder shaft to operating position.

Press and hold the "Reverse button".



Turn on sewing machine.

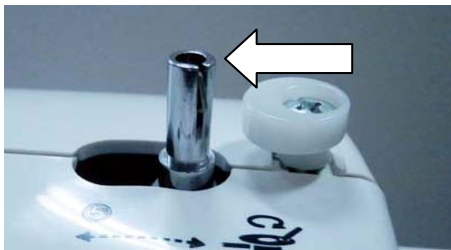
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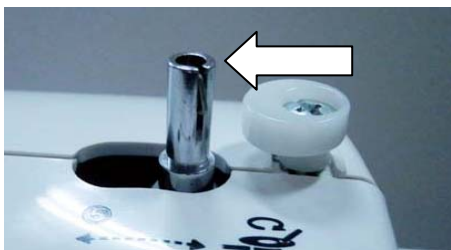
Model K65



Release bobbin-winder shaft by the time when LED of pattern select button is lit at lowest line.



Model K85



Release bobbin-winder shaft by the time when LED display is lit at "00" as illustrate below.



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Test mode 1

K65⇒ ① K85⇒ 「00」

Function: Zero feed, three needle positions (L/C/R)

Test mode 2

K65⇒ ② K85⇒ 「01」

Function: Zero feed, center needle position

Test mode 3

K65⇒ ③ K85⇒ 「02」

Function: 2mm feed, center position, 11stitches forward and back ward.

Test mode 4

K65⇒ ④ K85⇒ 「03」

Function: repeat 4mm feed forward and 3mm feed backward, three needle positions (L/C/R)

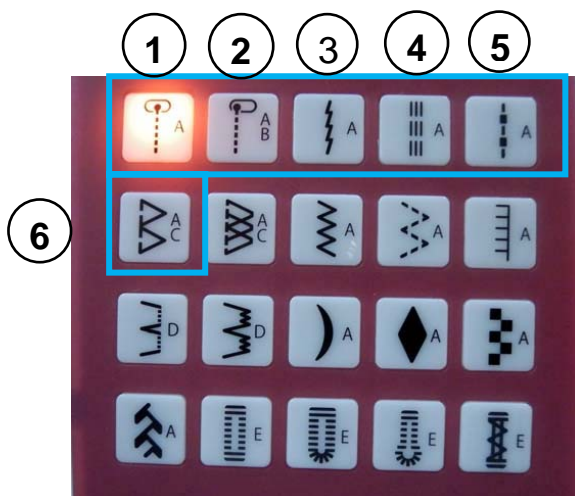
Test mode 5

K65⇒ ⑤ K85⇒ 「04」

Function: stitch "Darning pattern"

Model K65

Model K85



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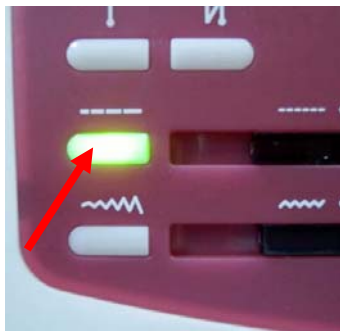
Test mode 6

K65⇒ (6) K85⇒ 「05」

Function: origin point positioning of zigzag bight and stitch length.

Zigzag width manual adjustment button LED lit when select #6 button first. For origin point positioning of stitch length, push stitch length manual adjustment button

Model K65



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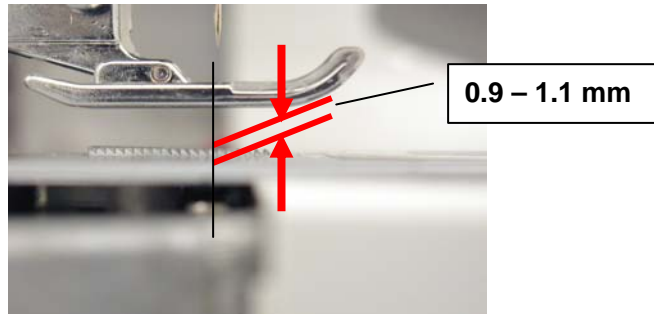
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SEC. 03 Adjustment of feed-dog height

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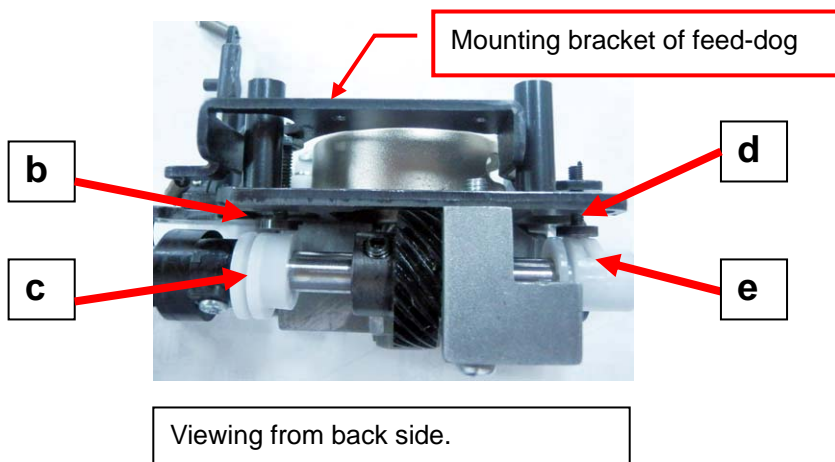
Checking:

1. Set stitch length at zero feed.
2. Move feed dog to its highest position by turning hand wheel.
Check to see if feed dog height is as illustrated below.



Adjustment:

1. Remove needle plate. Remove bottom cover.
Adjust feed-dog with reference photo for vertical movement below.
Note: When turning screw, use driver only.



Viewing from back side.

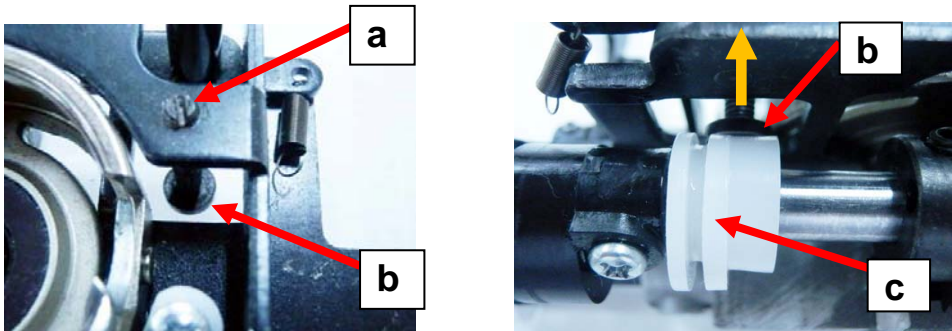
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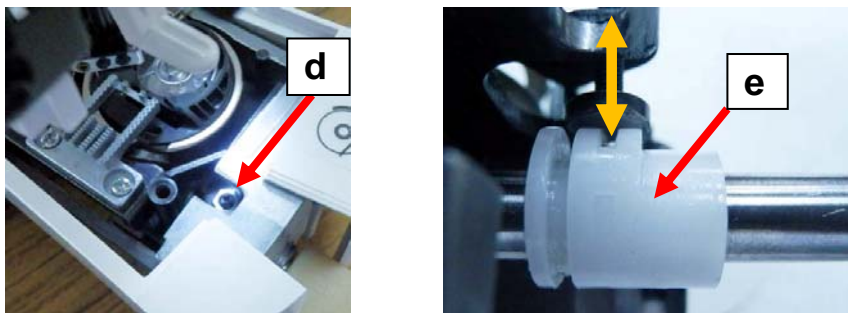
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Turn screw (a) to get gap between end (b) of screw (a) and vertical movement control cam 1 (c).

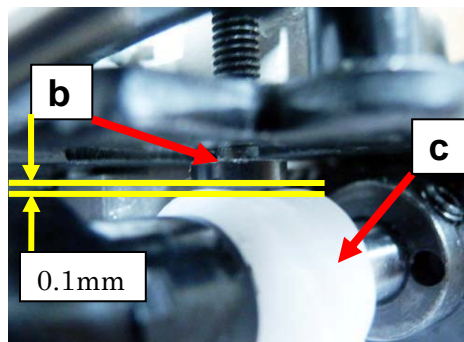


Open front cover and back cover as shown below for adjustment of screw (d).



Adjust the height of feed-dog by turning screw (d) at side of vertical movement control cam2 (e) until the height of feed-dog obtains correct position.

After adjustment screw (d), be sure that gap between end (b) of screw (a) and vertical movement control cam 1 (c) is 0.1mm.



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SEC. 04 Needle bar height

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Note: Make this checking before checking “**Needle timing to shuttle**” and “**Feed-dog timing (vertical motion)**”. Use needle #90/14.

Checking:

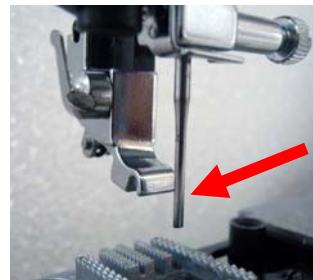
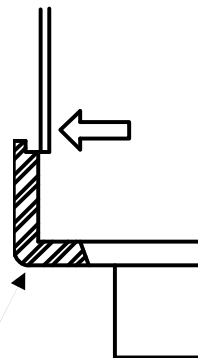
1. Select straight stitch at center needle position.
2. Remove presser foot and needle plate, and then remove bobbin case.
3. Replace needle with special needle gauge (L=29 mm).
4. Lower the needle gauge to its lowest position by turning hand wheel by hand.

Check to see if the bottom of the needle gauge aligns with shuttle race pushing the needle lightly as shown by arrow mark.

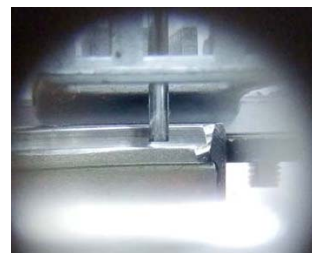
Lowest position of
Needle gauge



Shuttle race



Needle gauge L = 29 mm



Adjustment:

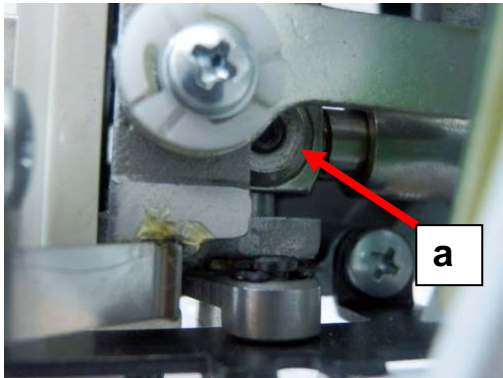
1. Remove face cover.
2. Loosen screw (a) of needle bar clamp using hex screw driver and adjust the height of needle bar.

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3. Tighten the screw (a) securely after adjustment. Replace needle gauge with normal needle #90/14.
4. Check to see if needle threader operates correctly and there is not interference in vertical movement of needle bar.

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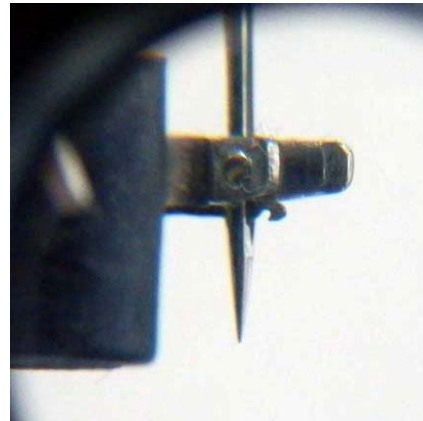
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SEC. 05 Needle threader height

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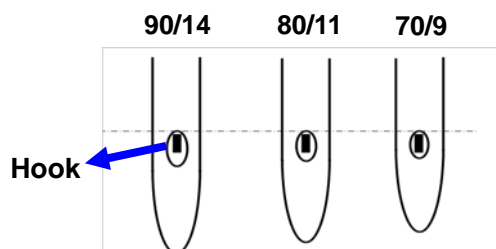
Checking

1. Use needle Singer 90/14.
2. Select straight stitch at center needle position.
3. Raise needle to its highest position by turning hand wheel toward you.
4. Lowering needle threader lever, check and see if hook is inserted into needle hole.



Adjustment

1. Remove face cover.
2. Turning hand wheel by hand, raise needle bar to its highest position.
3. Loosen screw (a) of threader stopper (b).
4. Insert hook into the upper side of needle hole moving the needle bar (c).
5. While holding the above situation, tighten the screw (a) attaching the threader stopper onto stopper pin (d).



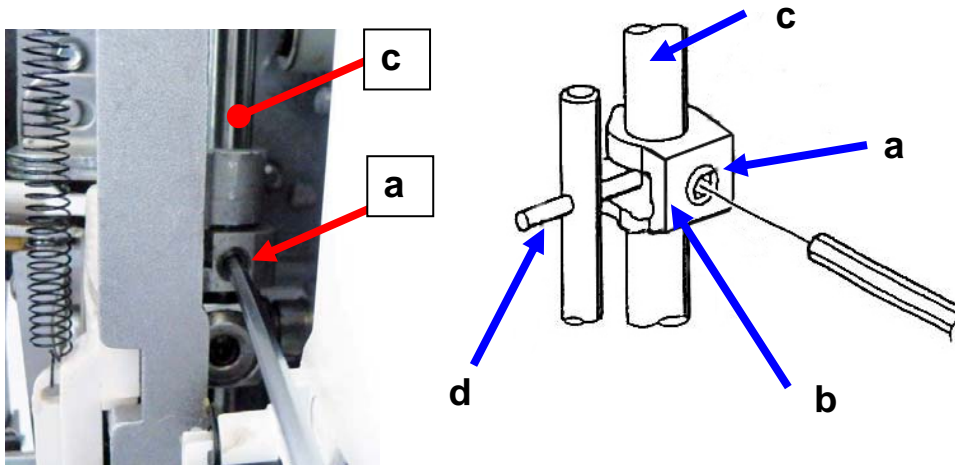
Insert the hook into the upper side of needle hole.

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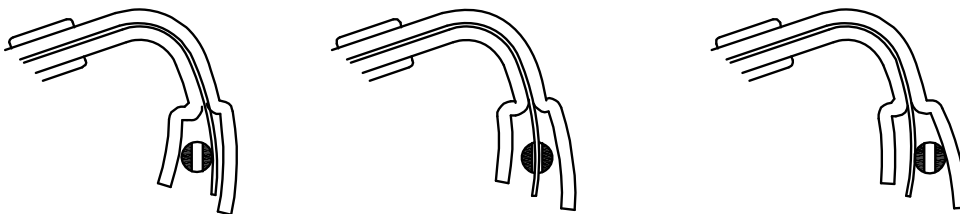
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7. If the direction of insert hook is deviated from correct position, adjust the hook position with the small screw driver in the accessory.



Correct

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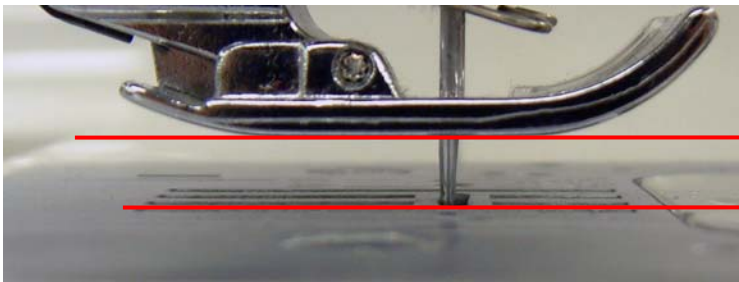
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SEC. 06 Presser foot height

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Checking

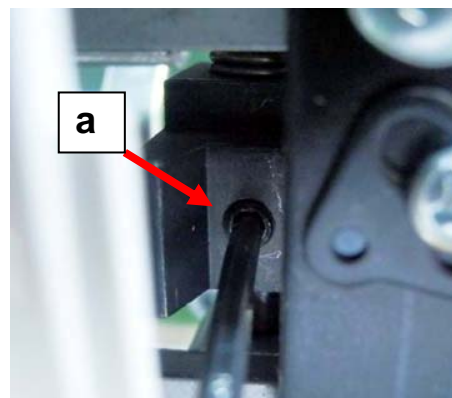
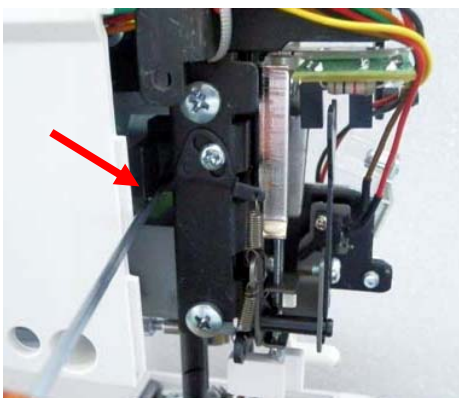


6 mm

1. Lower the feed dog below the needle plate.
2. Raise the presser foot lever.
3. Check and see if clearance between needle plate and presser foot is about 5.6 mm.

Adjustment

1. Remove the face cover, and raise the presser foot lever.
2. Loosen the screw (a) and adjust the presser foot height moving the presser bar.
3. Tighten the screw securely after checking the presser foot is parallel with the holes for feed dog on the needle plate.



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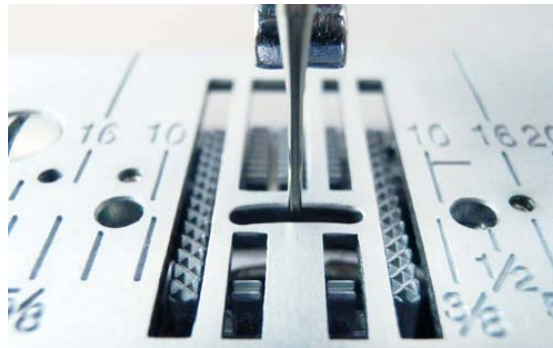
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SCE. 07 Needle position

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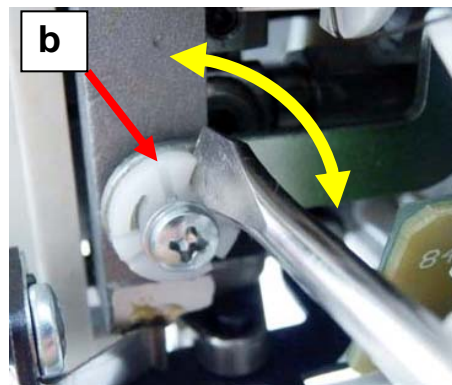
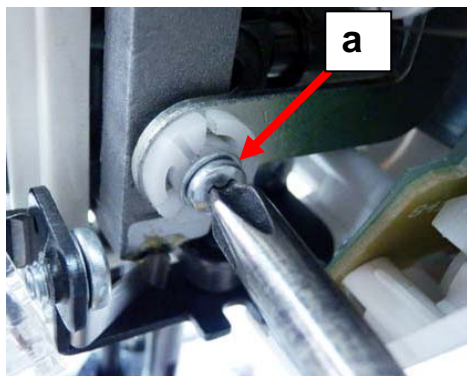
Checking:

1. Set test mode at 2.
2. Turn hand wheel by hand and see if the position of needle is at center of needle hole on needle plate.



Adjustment:

1. Remove face cover.
2. Loosen screw (a) and turn plastic nut (b) to adjust position of needle.
Turn to clockwise direction --- needle moves to left side
Turn to counter clockwise direction --- needle moves to right side
3. After adjustment secure screw (a).



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SEC.08 Clearance between needle and shuttle

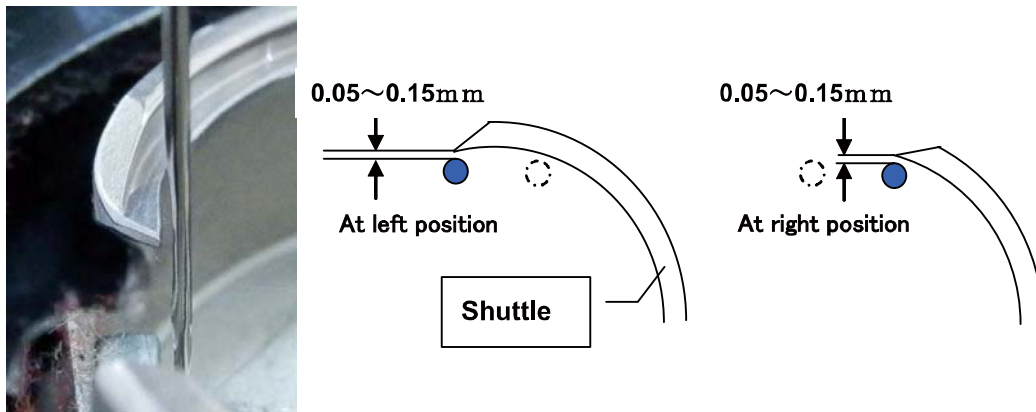
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Note: Set machine at test mode and select test mode 1 for needle at L/C/R positions. Make this checking before checking “Needle timing to shuttle”.

Checking:

1. Remove needle plate, bobbin case and face cover.
2. Shift shuttle hook at the rear of needle by turning hand wheel.

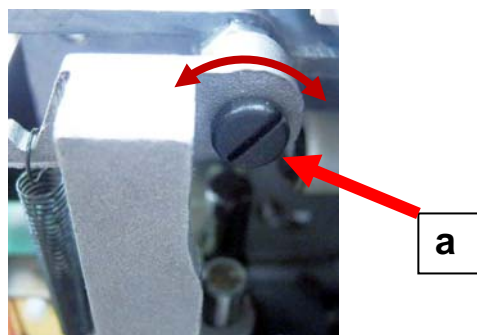
Check to see if needle clearance to shuttle is within 0.05 to 0.15 mm.



Adjustment:

1. Turn screw (a) to either direction as illustrated and adjust needle position by moving support shaft back and forth.

To decrease clearance, turn screw to counter-clockwise.



Note: Set machine at test mode and select test mode 1 for needle at L/C/R.

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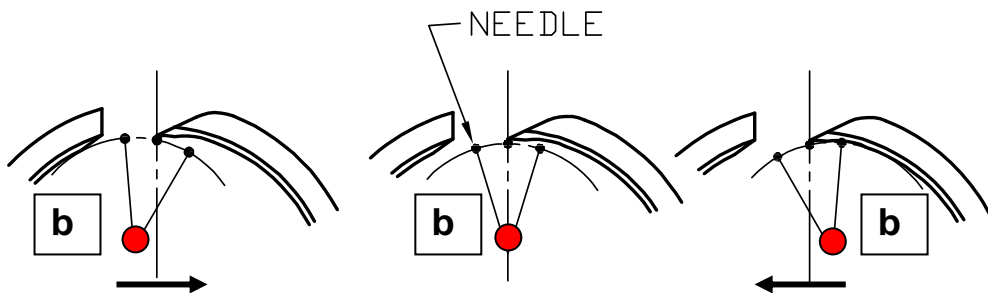
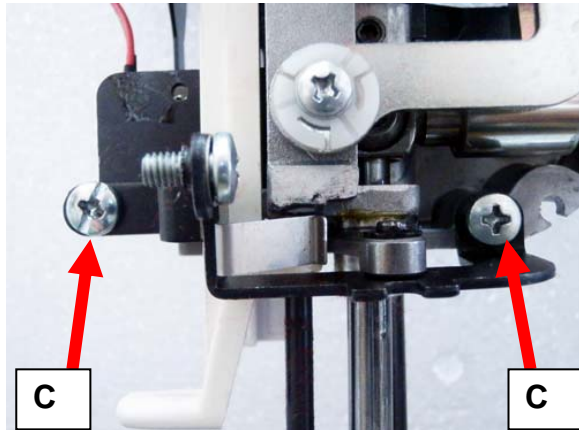
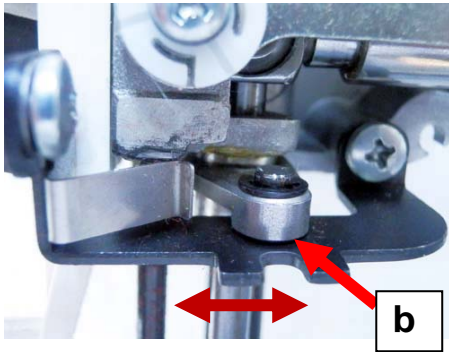
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2. If needle clearance to shuttle at right and left position is not same, adjust position of fulcrum (b) for needle swing support.

Loosen two screws (c) located under bottom of support plate and adjust position of fulcrum (b).



If needle touches with shuttle at left side, adjust position of fulcrum (b) for needle swing support to the right.

If it touches at right side, adjust position of fulcrum (b) for needle swing support to the left.

3. After adjustment, tighten two screws (c) securely.

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SEC. 09 Needle timing to feed-dog

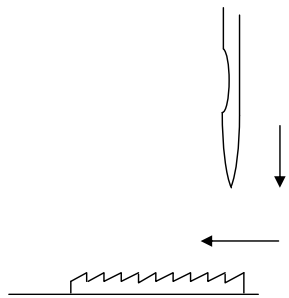
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Note: After adjustment, be sure to follow “**Needle timing to shuttle**”.

As horizontal and vertical feed motion is unitized on this model, adjustment of feed timing is as follows:

Checking:

1. Bring needle bar to its highest position by turning hand wheel.
2. Check to see if feed dog starts to move when needle starts to go down by turning hand wheel towards you.

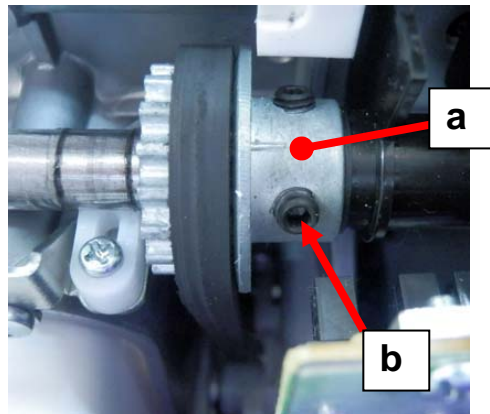


Feed dog starts to move a little bit earlier than when needle starts to go down.

Adjustment:

1. Turn off the machine with feed amount set at maximum for adjustment.
2. Loosen one of two screws (b) of timing belt gear (a) on main shaft.

Turn hand wheel by hand and stop it when needle tip arrives at the surface of needle plate. Holding this position, loosen the other screw so that the gear may be perfectly freed from the main shaft.



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3. Holding such condition, turn belt gear at the side of lower shaft by hand, so that teeth of feed dog may be at the same level of needle plate.



Holding this position, tighten one of screws of belt gear on the main shaft.

4. Turning the machine by hand, check to see if feed timing is approximately as explained above.
5. Tighten two screws (b) on the belt gear securely after adjustment.

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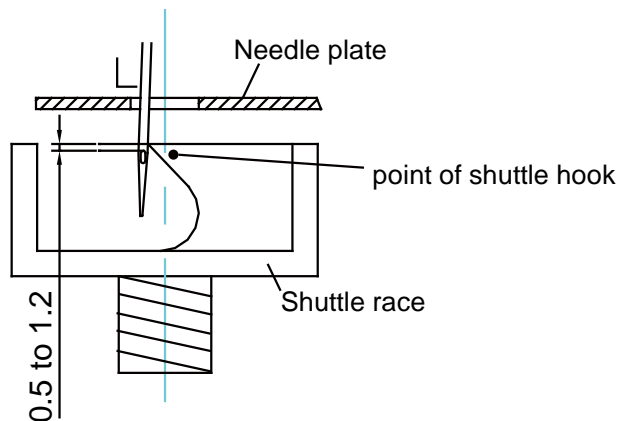
SEC. 10 Needle timing to shuttle

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Check “Feed timing (vertical movement)” and “Needle height” beforehand.

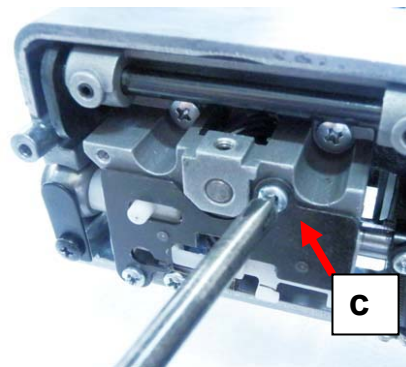
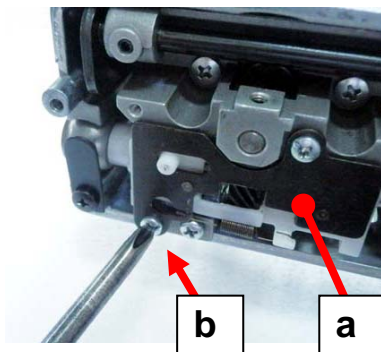
Checking

1. Set machine at test mode and select mode 1.
2. Remove needle plate. Check to see if needle is not bent.
3. Move needle to left position by turning hand wheel. Raise needle from its lowest position slowly and check if distance is as illustrated below when point of shuttle hook aligns with right side of needle.



Adjustment

1. Remove front cover and bottom cover.
Remove “Drop feed control unit”(a) by removing two screws (a &b) on shuttle base.



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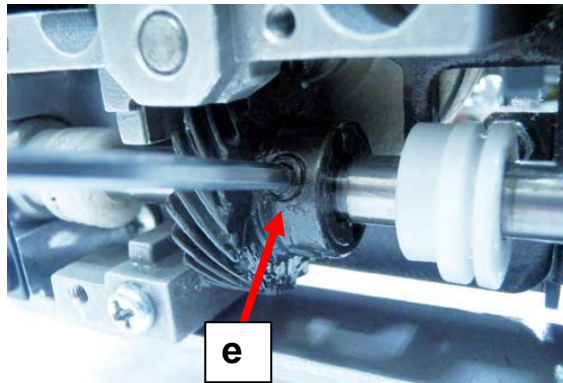
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2. While needle is placed around the lower area, loosen a screw, but not the one (d) which can be touched for adjustment.

Holding this position, adjust needle timing shuttle by turning hand wheel with a tool inserted into the screw hole as illustrated below.



3. Check to see if the distance is correct as illustrated above.
Tighten two screws securely after adjustment.

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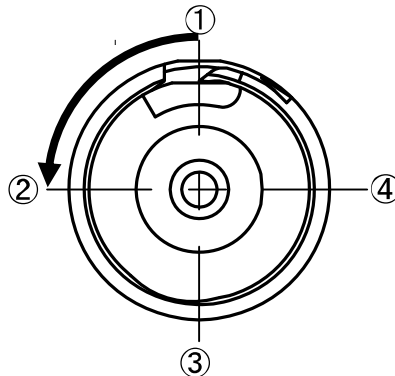
SEC. 11 Meshing condition of shuttle gear and lower gear

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1. Check meshing condition of gears after adjustment.

Check play of the gear at 4 positions –each 90 degree angle of 1 rotation of shuttle race.

No play on 2 positions to save too loose condition – play on other 2 positions to save too tight condition.

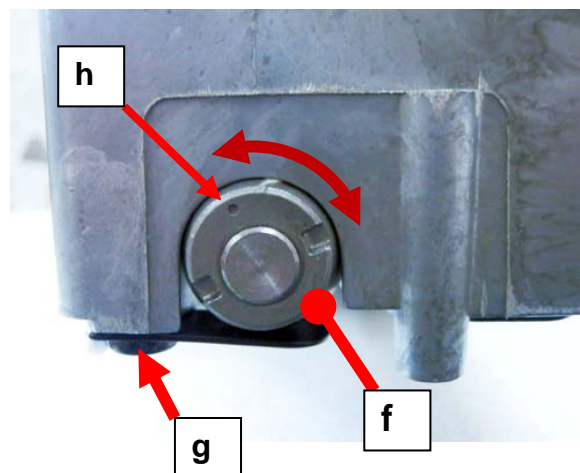


2 Adjustment of play between shuttle gear and lower shaft gear is made by turning eccentric ball bushing (f).

*loosen screw (g) on pressing plate so that the ball bushing (f) may be turned.

*Turn the ball bushing (f) in either way by using concave portion.

*The ball bushing is to be placed with mark (h) positioned at upper side within angle of 180 degrees



3. Tighten the screw (C) securely after adjustment.

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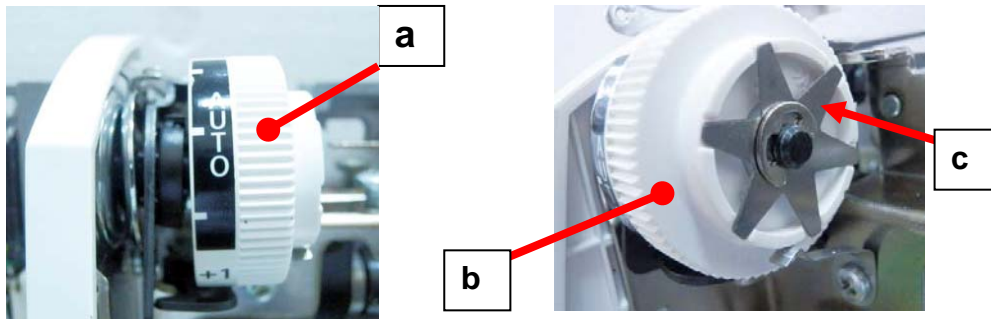
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SEC. 12 Adjustment of thread tension

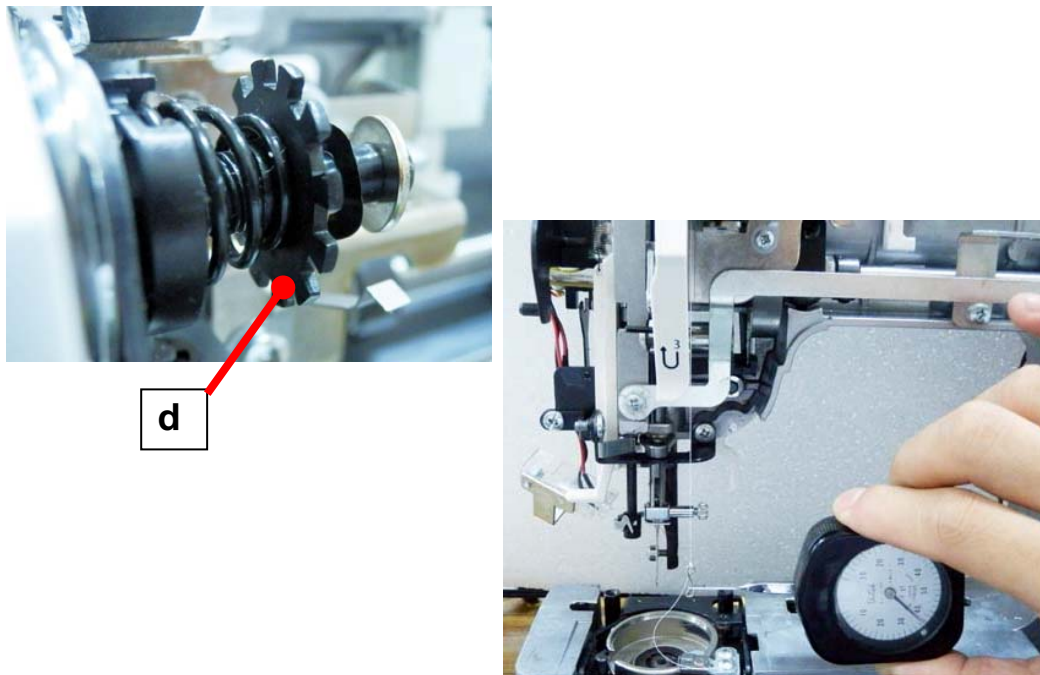
Model:
K65&K85

Adjustment of needle thread tension is explained below.

1. Remove face and front covers.
2. Pull out outer dial (a) on needle thread tension mechanism.
Remove star-shaped plate spring (c) on inner dial (b).



3. Pull out the inner dial (b) and turn adjustment nut (d) to adjust tension at approximately 60 g using span polyester thread No. 60 and tension gauge.



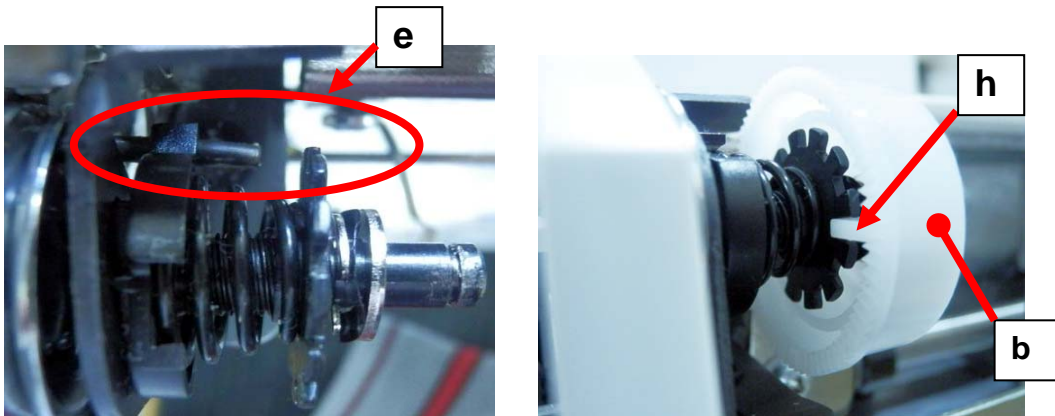
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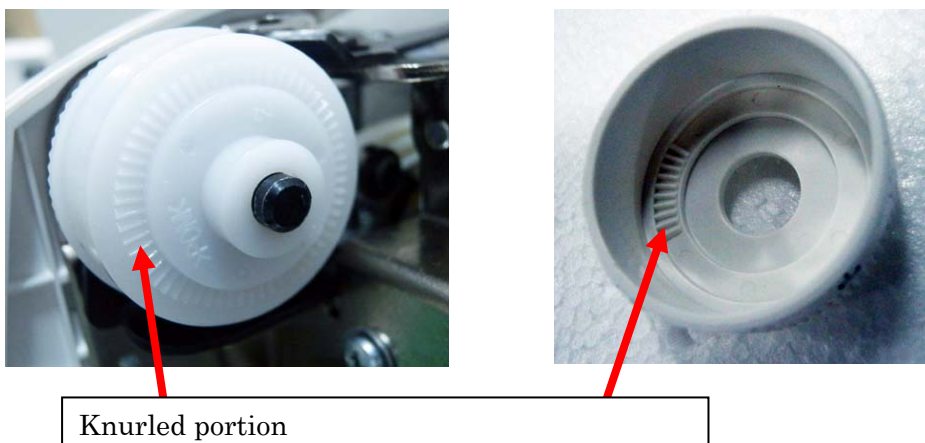
Model:
K65&K85

4. Insert the inner dial (b) into place after adjustment. Fix wall portion (h) of the inner dial into position where it is around opposite side of pipe knock pin (e).



Though tension value may be deviated a little from the one adjusted on section 3,,
Re-adjust it in last step.

5. Outside surface of inner dial (b) is knurled and inside surface of outer dial (a) is partly knurled. The knurled portions of both dials are meshed each other.



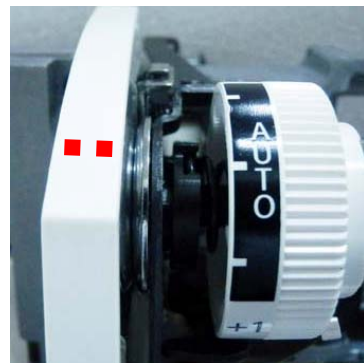
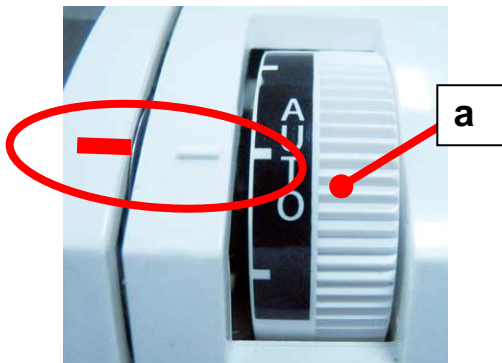
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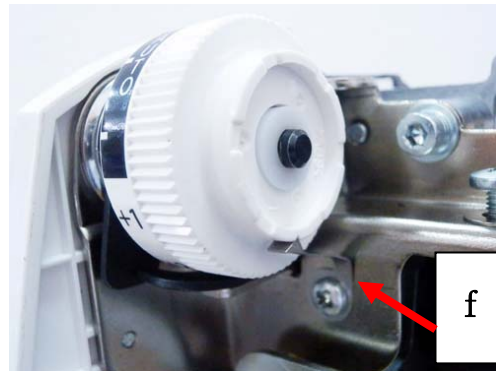
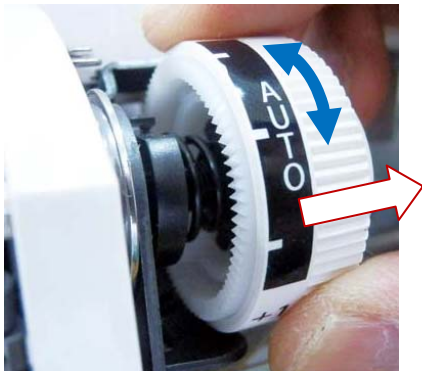
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Model:
K65&K85

6. Make sure where indicator of the front cover is to be positioned on thread guide plate beforehand. Insert the outer dial (a) so that the center position may be aligned with indicator on front cover .



7. Re-confirm tension value using the tension gauge in the position above.
If adjustment is needed, slide the outer dial (a) to outside to release knurled portion and turn it either way and mesh it again.



After adjustment is completed, insert plate spring (f) into V groove on the outer dial (a) and tighten screw securely. This position is the one for the indicator of the front cover.

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SEC. 13 Retaining bracket for bobbin case

Model:
K65&K85

1. Remove needle plate.
2. Loosen screw (a & b) and adjust the position of retaining bracket until the projection (c) of bobbin case can be positioned against the plate spring.
3. Place needle plate into position, check clearance between projection of bobbin case when move bobbin case in reverse rotation. Clearance is 1 to 2 mm.

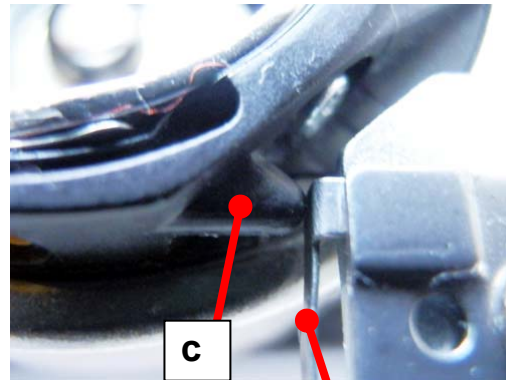
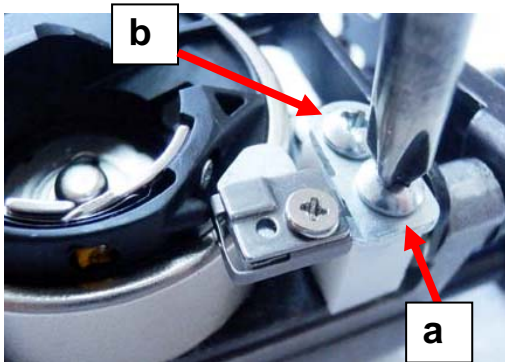
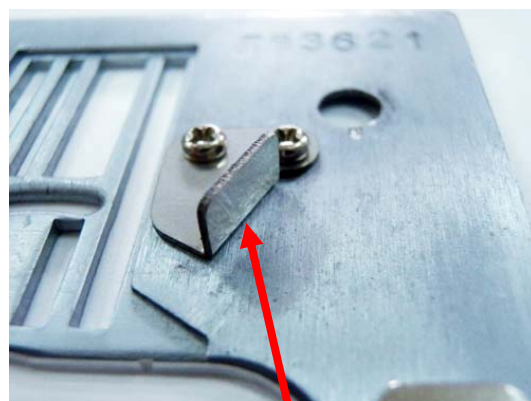


Plate spring



Retainer for reverse rotation

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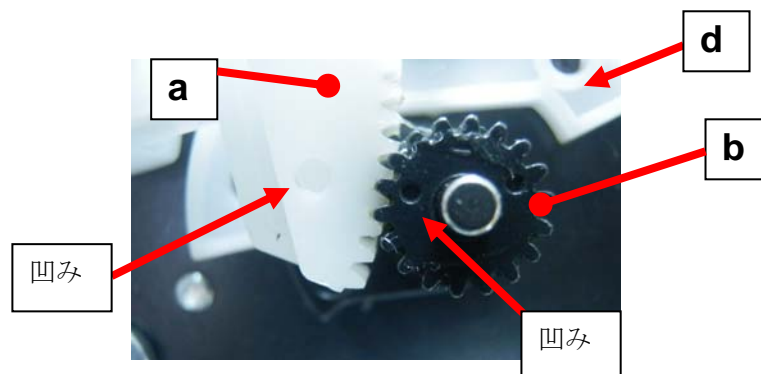
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SEC. 14 Origin point positioning of zigzag bight

Model:
K65&K85

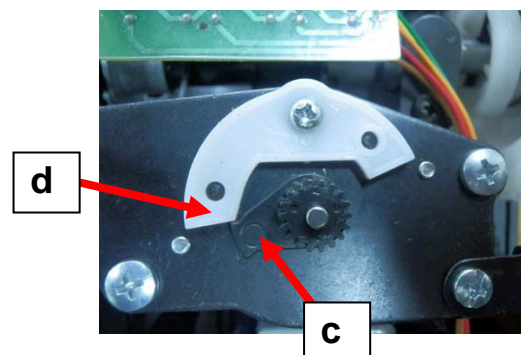
This section is to explain how to restore meshing position of pinion gear and operation gear of step motor for zigzag bight.

1. Remove face and front covers.
2. Turn on the machine and set test mode at 05.(see section 02). Push zigzag bight adjustment switch on operation panel and confirm if LED is lit.
3. Loosen two screws fixing pinion of step motor onto motor shaft. There is a dent on the pinion gear (b) as well as on operation gear (a). These dents are meshed at the position where they face each other.



*Step motor is energized in this position.
Push start switch a few times for confirmation.

4. Holding this situation, turn the pinion gear (b) fully clockwise until the projection (c) touches with rotation stopper (d) and tighten the screw on the pinion gear.



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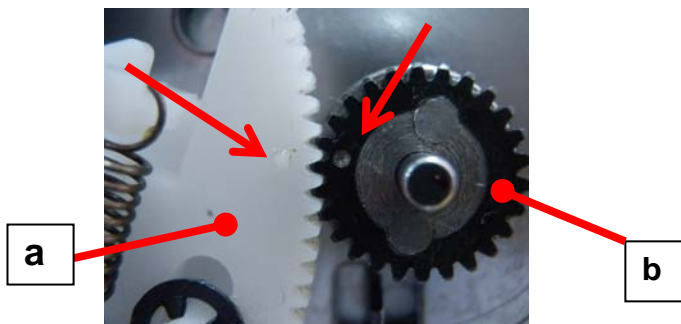
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SCE. 15 Origin point positioning of stitch length

Model:
K65&K85

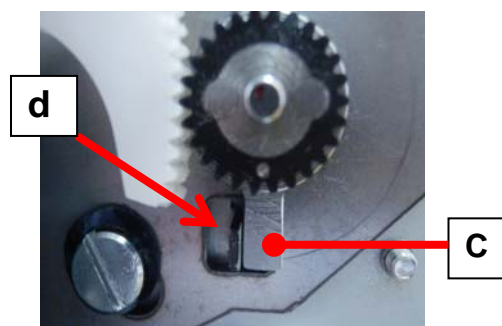
This section is to explain how to restore meshing position of pinion gear and operation gear of step motor for feed.

4. Remove face and front covers.
5. Turn on the machine and set test mode at 05.(see section 02). Push feed adjustment switch on operation panel and confirm if LED is lit.
6. Loosen two screws fixing pinion of step motor onto motor shaft. There is a dent on the pinion gear (b) as well as on operation gear (a). These dents are meshed at the position where they face each other.



*Step motor is energized in this position. Push switch a few times for confirmation.

4. Holding this situation, turn the pinion gear (b) fully clockwise until the projection (c) touches with rotation stopper (d) and tighten the screw on the pinion gear.



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SEC. 16 Electronic components area

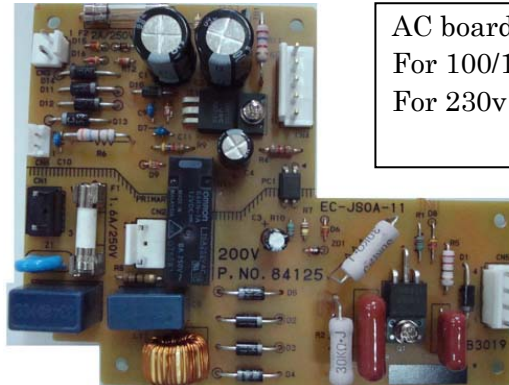
Model:
K65&K85

List of main circuit boards for K series

	K65		K85	
	120V	230V	120V	230V
Transformer	87514	87519	87514	87519
CPU circuit board	84130			
Power supply circuit board	84120	84125	84120	84125
SW control circuit board	84123		84124	
Stepping motors	85522			



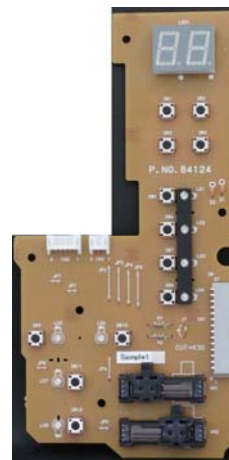
CPU
board



AC board
For 100/120v
For 230v



SW board
For K-65



SW board
For K-85

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Model: K65&K85

SEC. 17 Wiring diagram

