

Barudan

Model Applied: BEVT-S901CAII
CAII Maintenance Guide
Ver.201202xxR00J

【Features】

- Servo motors employed to drive sewing head and pantograph
- Lighter and improved portability... separate power unit reduces machine weight to 70kg
- Single-head machine which conserves space and offers low noise, low vibration, as well as network capability

Installation procedure

- Machine leveling procedure
- Thread stand adjustment
- Automat controller positioning
- Positioning and wiring of the Power unit
- Table top installation (Optional)
- Main Motor calibration

Maintenance

- Primary part numbers required for machine maintenance
- Degree wheel reference for machine settings

Adjustments and replacement of parts

- Presser Foot Replacement
- Needle Bar Replacement
- Hook Timing Adjustment
- Slide Block Assembly Removal and Installation
- Needle Bar Driver Replacement
- Take-up Lever Replacement
- Zero Degree Head Adjustment (BDC) with and without jig
- Re-Setting Position Coder to 0 degrees
- Needle Depth Adjustment
- Jump Timing (Needle Bar Driver Position and Cloth Hold Support Adjustment)
- Presser Foot Height Adjustment
- Needle Bar Stocker Adjustment

Parameter settings

- MC settings
- MSU1, MSU2 settings

Belt tension

- Belt tension values

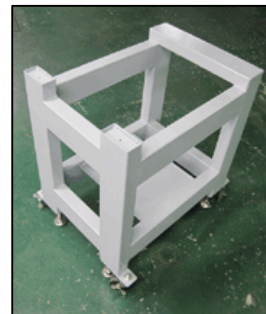
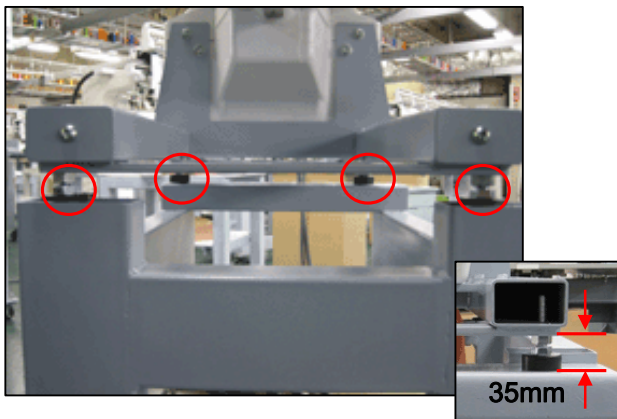
【Installation procedure】

Procedure is similar to BEVT-CA



- **Level adjustment of machine**
(Note: Following procedure is shown using optional Barudan cart)

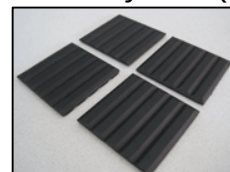
The distance between the bottom of the machine and bottom of leveling foot must be 35mm.
Please adjust the 4 leveling feet accordingly, using a 19mm wrench.



In order to reduce vibration, adjust the cart level adjusters to the floor with a 19mm wrench.



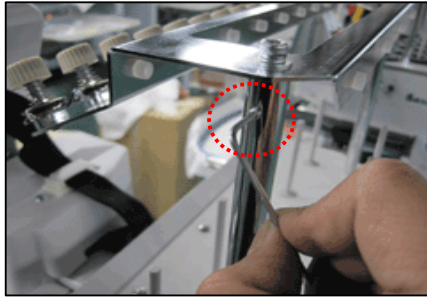
According to the floor condition,
please use the anti-vibration pads
under the level adjusters (Option)



• Thread stand adjustment procedure

Note: The thread stand is telescopic. The height of the upper thread guide base has been lowered for shipping.

The height adjustment is accomplished by loosening the (2) hex socket screws (2mm) on right and left support post of thread stand.

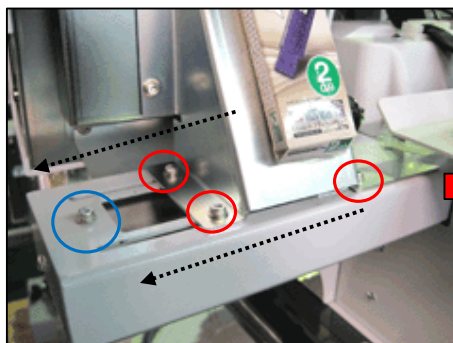


• Positioning the Automat controller

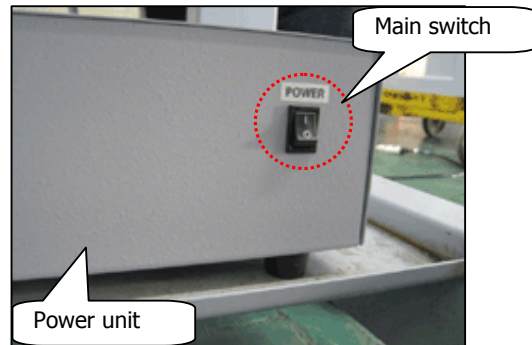
For shipping purposes, the Automat controller has been adjusted inward towards the sewing head as shown in the photo below.



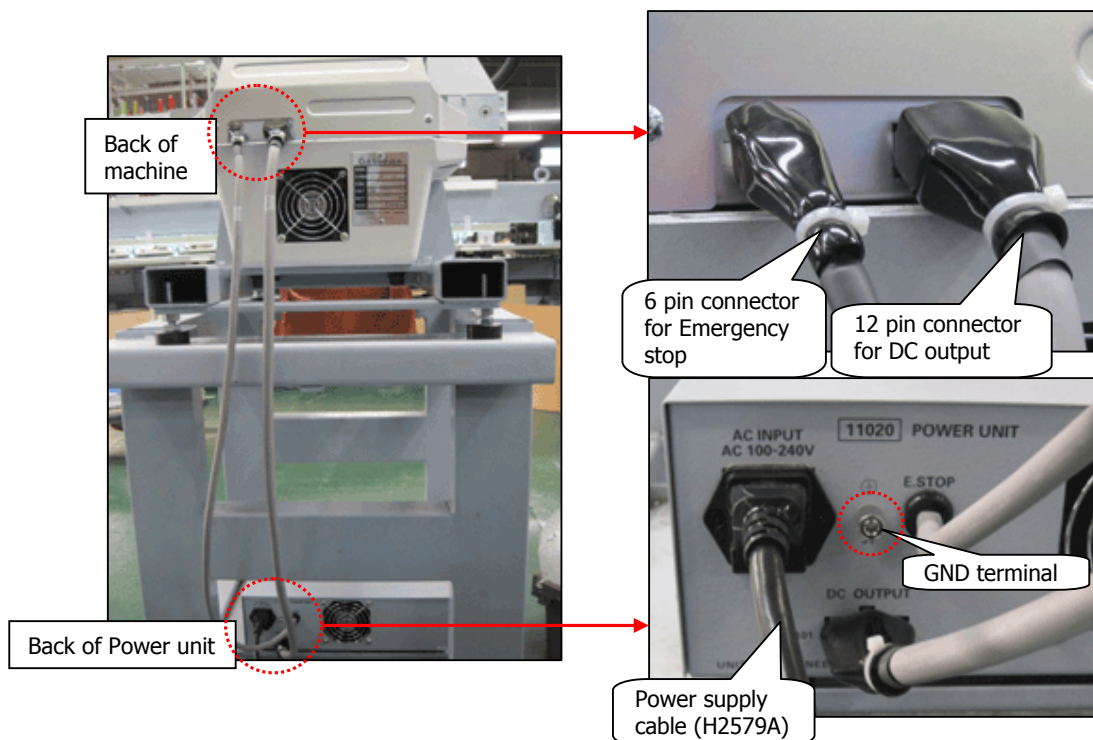
- Remove the hex socket screw (3mm) shown in the blue circle (○).
- Loosen the hex socket screws (3mm) shown in the 4 red circles (○).
- Move the Automat controller to the right and tighten the 4 screws.
- Reinstall the screw (○) into the screw hole of the plate.



• Positioning and wiring of the Power unit

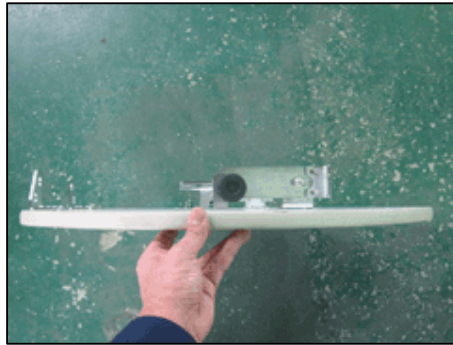
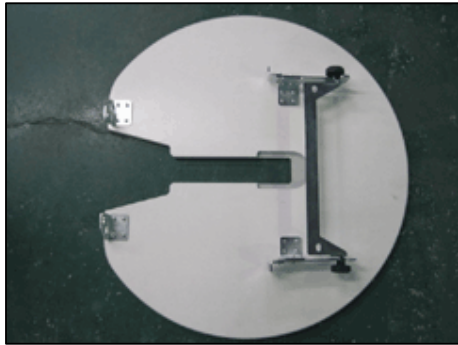


- 1) Connect the power supply cable (H2579A) to the AC INPUT of the power unit.
- 2) Connect the DC output cable by inserting the 12 pin connector to the power unit (DC OUTPUT) and the 12 pin receptacle to the machine.
- 3) Connect the Emergency stop switch cable (H3295A) from the E. STOP of the power unit to the 6 pin receptacle on the machine.
- 4) If required, connect the earth ground cable to the GND terminal on the power unit.

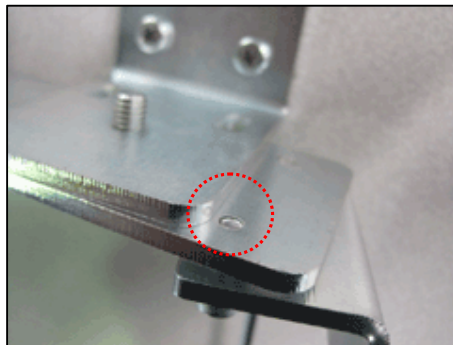
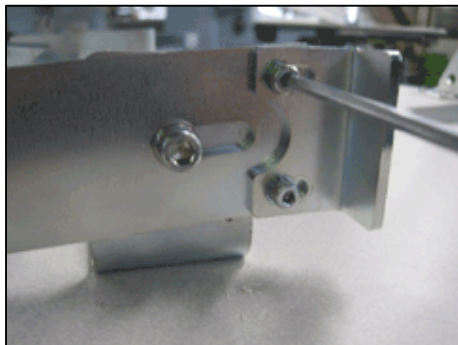


• Table Top installation for CAII (Option)

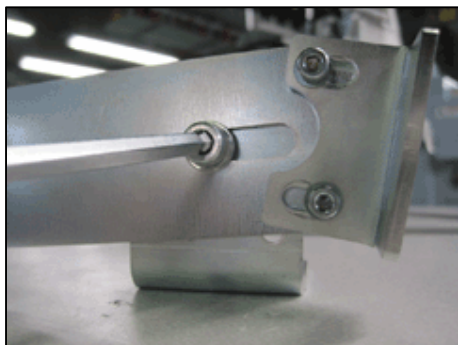
1) Note bottom and side view of table top below.



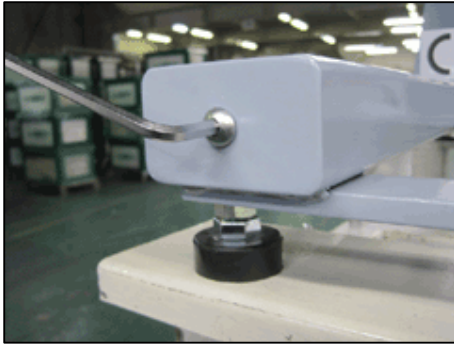
2) Loosen the (4) fixing screws for the brackets shown below so the tip of the bolts don't extend out of the bracket side as circled below (This will allow the bracket to rotate).



3) Rotate the bracket by loosening the (2) fixing screws and fix it to the table vertically. Adjust the bracket in step 2, flat to the table, and tighten the (4) screws.



- 4) Remove the screws of the front of the machine frame (one on each side) Left photo.
Loosen both Black knobs on table brackets– Right photo.



- 5) Attach the back table brackets to the (4) screw holes in the sewing head- Left photo
Attach the front table brackets to the (2) front machine frame screw holes- Right photo



- 6) Photo 1 – Adjust the height of the table. Please make sure the table surface is not higher than the needle plate.

Photo 2 – Adjust the bottom of the bracket to the frame and tighten the black knob bolts.

Photo 3 – Verify that the table height is correct and tighten the 2 screws.

Photo 4&5 – Tighten the 2 screws on both sides, to support the table position.

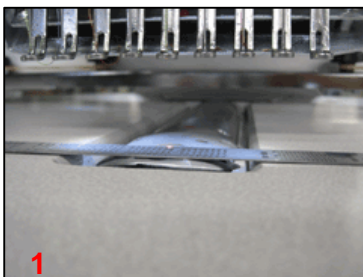


Table installation is now complete

• Main Motor calibration

Please make sure that the motor calibration is performed at installation.

【Following spare parts are recommended for maintenance】

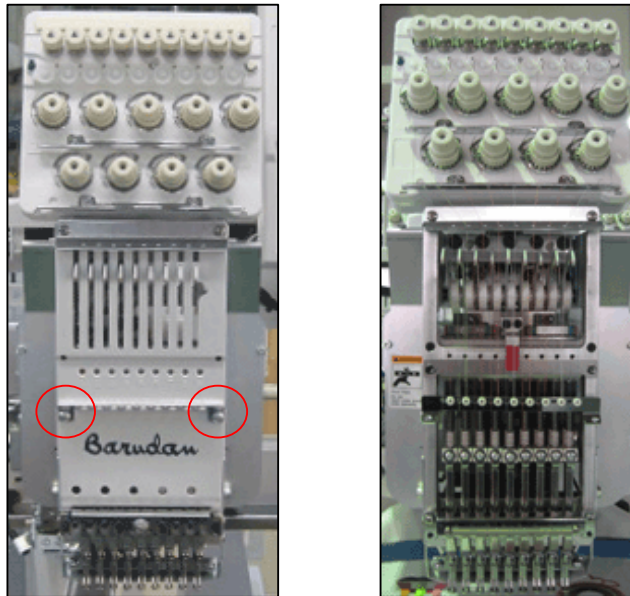
Item	No	Description	Quantity (per head)	Comment
Needle	FN070011Q1	Needle DBxK5Q1-NY11	9	Organ
Hook	KF220710	KHS12-RYPBNW	1	Koban
Bobbin Case	KF221020	BOBBIN CASE 4B19-S6-BA W/OVERSPIN SPRING	1	Towa
Check Spring	HT240094	CHECK SPRING (YN/ZN/ZQ)	9	
Presser foot	QK230350	Cloth hold (SH)	9	
Take up lever	NBOQK230300	Take up lever (S-head)	9	
Needle Bar	QK230451	Needle bar assembly	9	
Small O-Ring	A9014167	O-RING (SS065)	9	
Large O-Ring	KF232130	O-RING (S) = 6 mm dia.	9	
Needle Clamp	RH230450	NEEDLE CLAMP (ZQ-B/C)	9	
Needle Clamp Screw	RH230460	NEEDLE CLAMP SCREW (ZQ-B/C)	9	
Needle Bar Driver	NBOQK230120	Needle Bar Driver	1	
Needle Bar Driver Spring	QK230110C	Needle Bar Driver Spring	1	
Shim Ring	QK230460	Shim Ring 5x8.8x0.7 (For needle bar driver)	2	
Rubber Support	HT230340	Cloth Hold Support Rubber	1	
Moving Knife	SJ270030	MK-5 MOVING KNIFE ZQ6	1	
Fixed Knife	SJ270040	MK-5 FIXED KNIFE ZQ6	1	
Wave Washer	A9013066	WAVE WASHER (WW-5 SK)	1	

Degree wheel reference for machine settings.

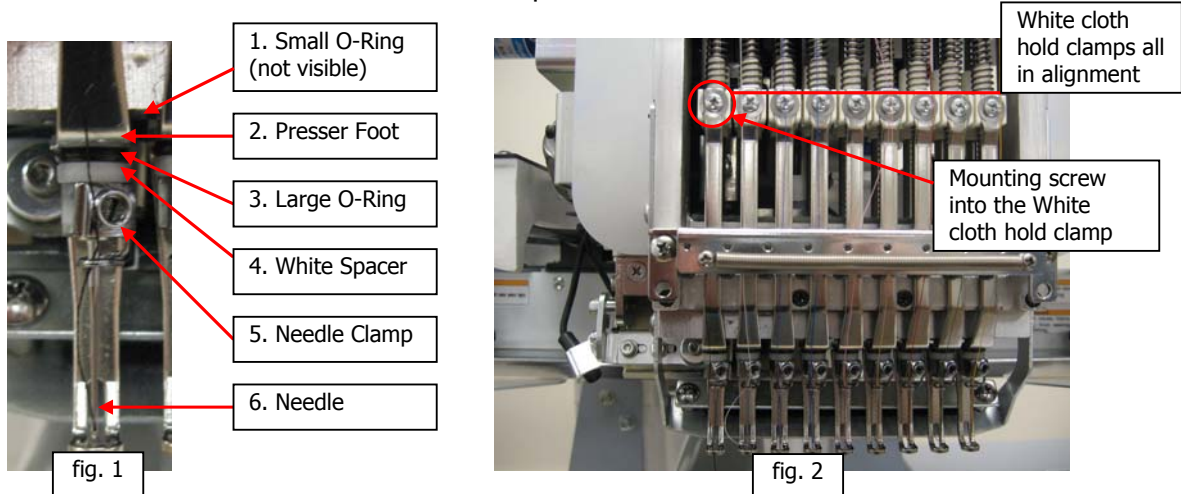
Item	Degree
<ul style="list-style-type: none">• Machine stop position	240°
<ul style="list-style-type: none">• Needle Dead point (BDC)• Position coder	0°
<ul style="list-style-type: none">• Needle Depth Adjustment• Hook timing	25°
<ul style="list-style-type: none">• Needle top point (TDC)	185°

1. Presser Foot Replacement

- 1) Remove the head cover by removing the (2) Truss screws shown circled in Red below.



- 2) Loosen and remove the screw for the needle set clamp of the presser foot that is being replaced. Be careful and catch the needle, spacer and large O-ring when you loosen and remove the needle clamp.



- 3) Remove the mounting screw for the presser foot (circled red above) and remove the presser foot from the bottom of the sewing head. Be careful not to lose the small O-ring on the needle bar above the presser foot.
- 4) Re-assemble by putting the parts back on the needle bar in the order listed above in fig 1.
- 5) Reinstall the mounting screw for the presser foot, then push up on the white cloth hold clamp (see fig. 2), until it lines up with the rest of the cloth hold clamps on the other needles (indicated by the red line in fig. 2) Tighten the presser foot screw. Make sure the cloth hold clamp aligns with the other needles when you finish tightening the screw.

2. Needle Bar Replacement

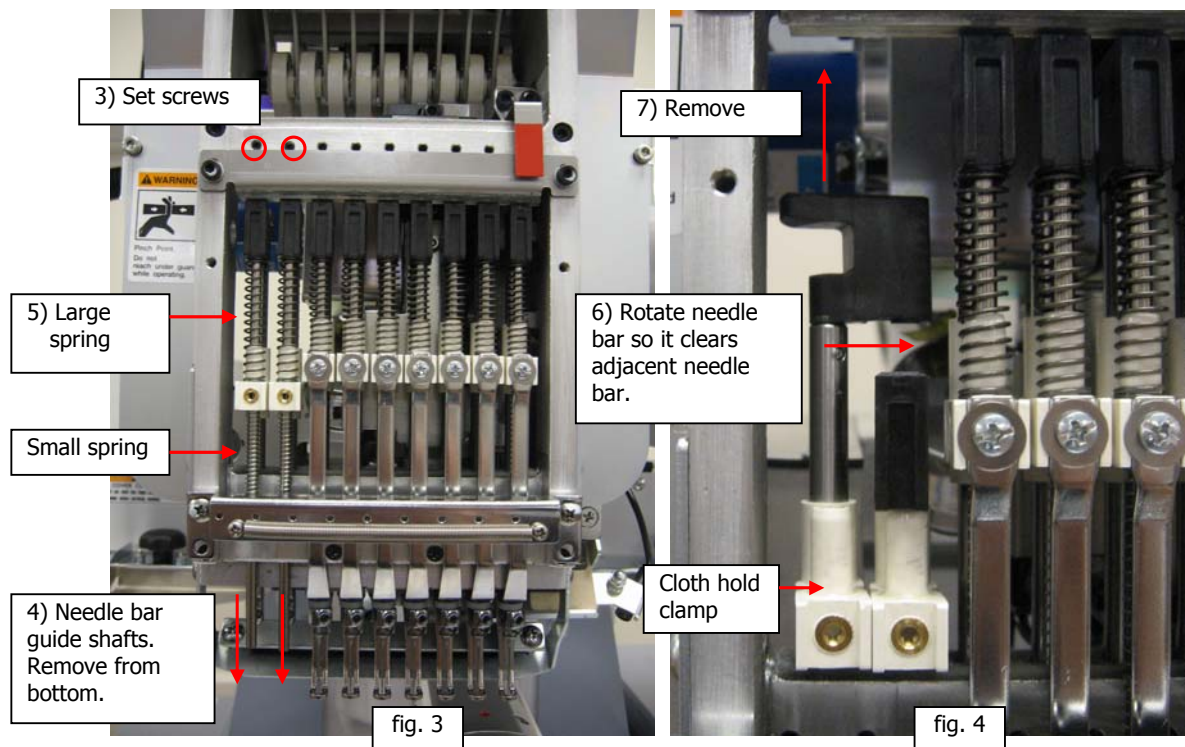
- 1) Determine which needle bar you want to replace and then color change the machine to the opposite end needle. In this example we show how to change needle bar number 1, so we want to set the machine on needle number 9.

Note: To remove needle bars 1~5 set machine to needle 9, for 6~9 set machine to needle 1.

- 2) Follow the instructions for "Presser Foot Replacement", and remove the presser feet on needles 1 and 2.

Note: To remove one needle bar, you must remove the presser feet and springs from 2 needle bars (the one you're removing, plus an adjacent needle bar).

- 3) Use a 2mm hex wrench to loosen the set screws (Circled red below) for the #1 and #2 needle bar guide shafts.
- 4) Pull the needle bar guide shafts out from the bottom of the head as shown below and completely remove along with the small spring. Watch out for the smaller lower needle bar spring so it doesn't pop out and you lose it when you remove the shaft.



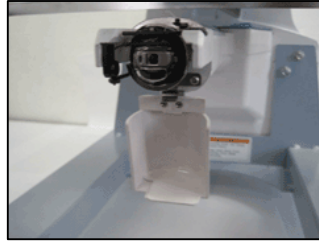
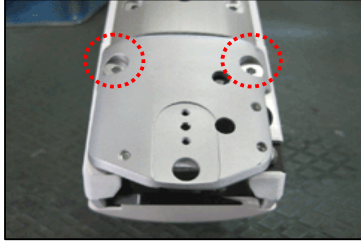
- 5) Remove the larger top needle bar springs for needles 1 and 2.
- 6) Pull needle bar number 1 up and turn it to the right, 90 degrees so it clears needle bar number 2 (as shown in fig. 4).
- 7) Lift needle bar #1 completely up and out of sewing head to remove it. Watch that you don't lose the cloth holding mounting base, when removing the needle bar.
- 8) To reassemble, replace parts in reverse order.

Caution: Make sure the Cloth hold clamp is installed correctly as pictured (Not upside down).

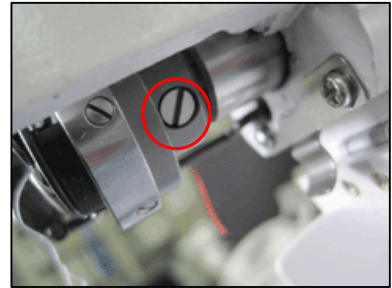
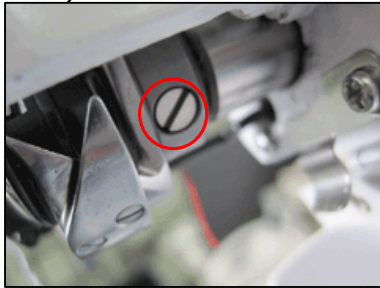
Note: After reassembly, push down on the replaced needle bars, and make sure they move smoothly up and down.

3. Hook Timing Adjustment

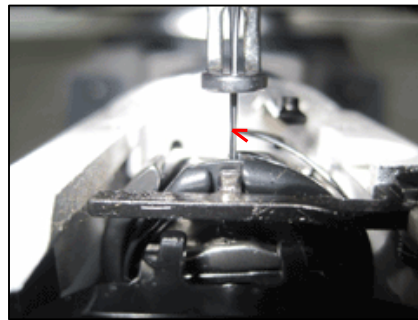
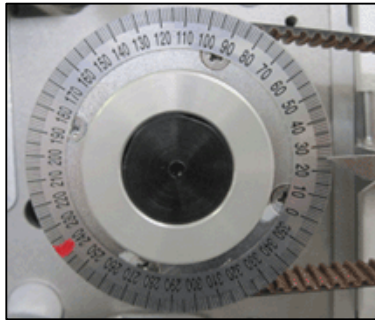
- 1) Remove the throat plate using a 2.5mm hex wrench.
Open the bed cover.



- 2) Loosen the screws on the hook by turning the main shaft.



- 3) Set the main shaft to 25 degree. Adjust the hook tip until it is directly behind the needle.



- 4) Set the gap between the hook tip and the needle to approximately 0.2mm (about a thread's width).



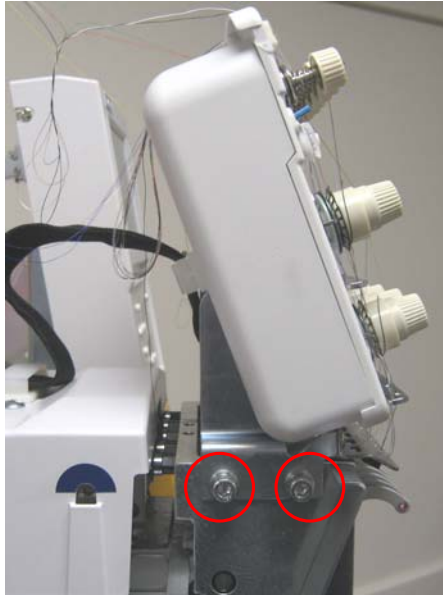
Check the gap by using a screw driver to push the needle towards the hook tip.

Once proper timing is achieved, tighten one screw temporarily, then turn the main shaft to get to each hook screw, and tighten all the hook screws.

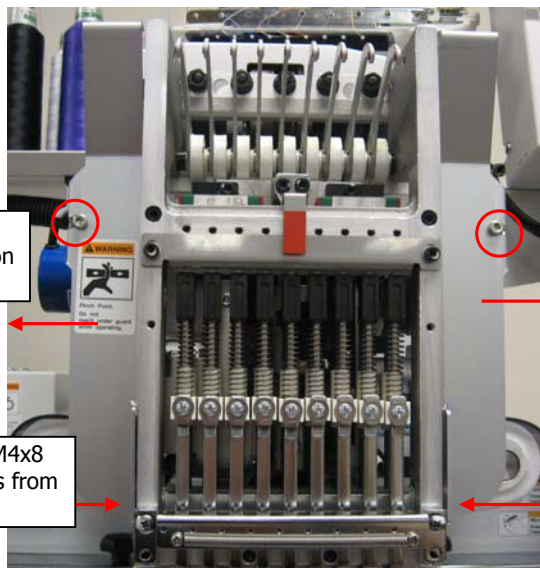
4. Slide Block Assembly Removal

This procedure is required when replacing the Needle bar driver and other internal sewing head parts.

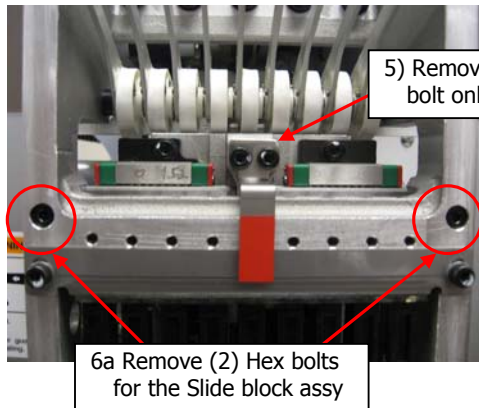
- 1) Needle number 5. If possible, color change to needle number 5 before disassembling.
- 2) Front cover. Remove the Front cover. See "Presser foot Replacement, step a." for instructions.



- 3) Tension Base. Remove the top tension base unit by completely removing the (4) M6x15 hex socket bolts. Left side mounting screws shown circled in Red in picture. Place the tension back towards the thread stand and out of the way once it's removed.



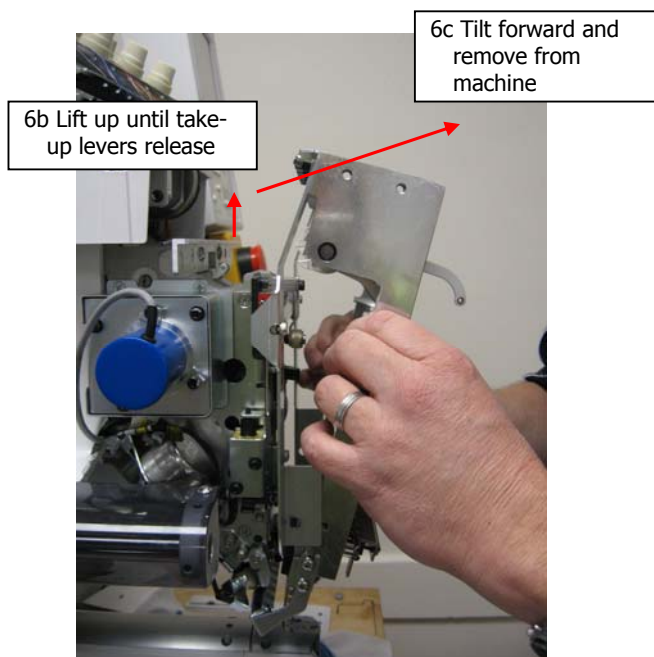
- 4) Head Side Covers.
 - a. Remove the lower M6x8 Button Bolts on both the Left and Right side head covers (Screws already removed in picture).
 - b. Loosen the top M4x12 Socket Cap screws (circled in Red) and move the left and right covers away from the head as far as it will go, and tighten the top screws to hold the covers out of the way.



- 5) Needle Bar Indication Plate. Remove the (1) M4x8 Hex bolt holding the Needle Bar Indication Plate.

Note: Do not remove the other bolt on the left side.

- 6) Remove the Slide Block Assembly.
- Remove the (2) M4x25 Hex socket bolts for the Slide Block Assembly.



- Gently lift up and out on the top of the Slide Block Assembly until the take-up levers release from the Stocker plate.
- Slowly tilt the top of the Slide Block Assembly towards you and pull it away from the head to remove. Remove carefully to avoid damaging any other parts on the head.

5. Slide Block Assembly Installation

- 1) Needle Number 5. If it wasn't done already in removal, color change the sewing head to needle number 5. The following instructions are based on being on the center needle, number 5.

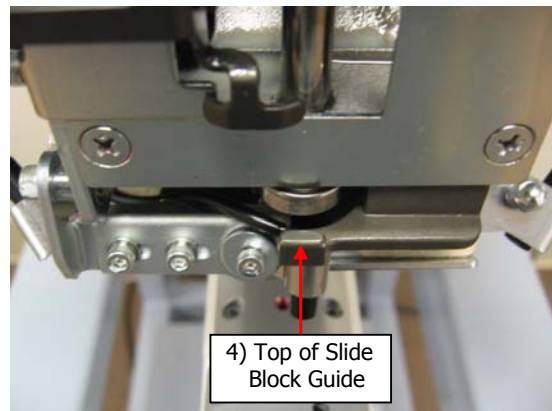
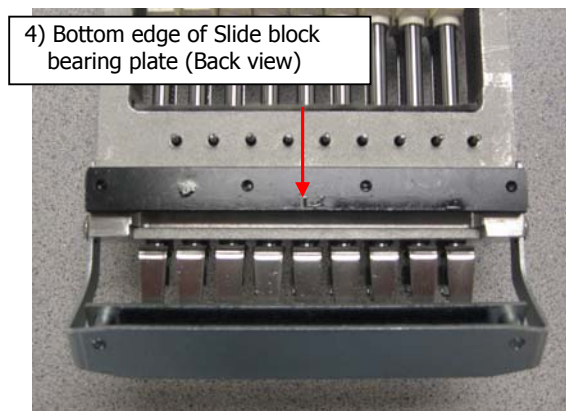
Note: You can assemble on another needle number, but you'll have to adjust the following instructions accordingly to the needle number you're using.

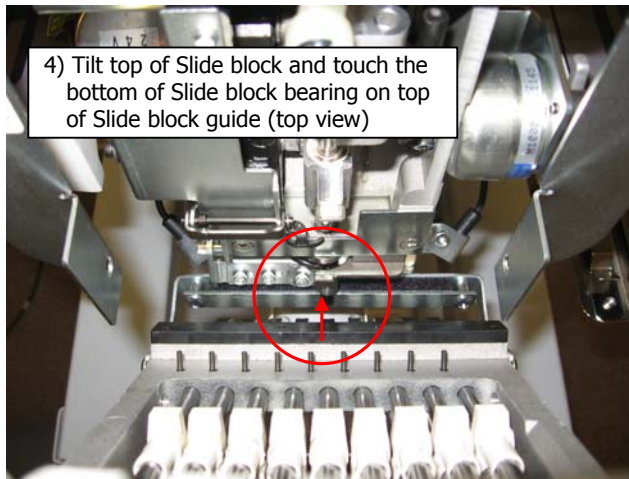


- 2) 240 Degree Wheel setting. Make sure the Degree is set to the 240 degree stop setting.

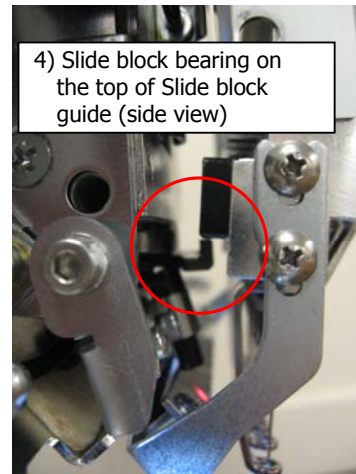


- 3) Alignment. Before you start, hold the Slide Block Assembly so the middle color change bearing on the Slide block is aligned with the groove in the color change cam. The number 5 needle bar should also be aligned with the needle bar driver on the sewing head.



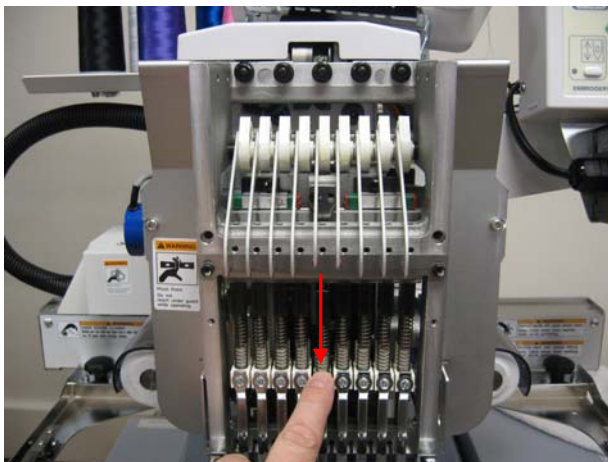


4) Tilt top of Slide block and touch the bottom of Slide block bearing on top of Slide block guide (top view)

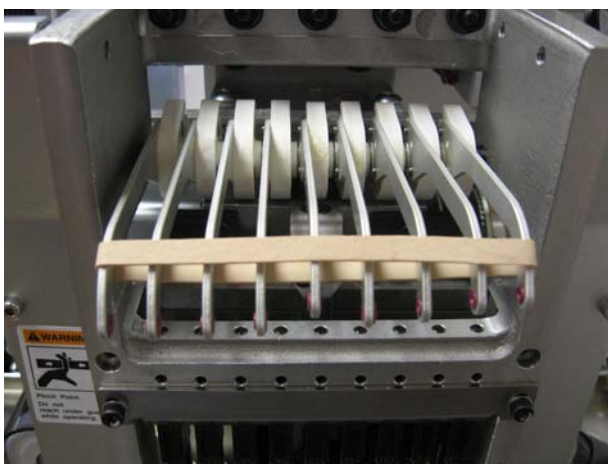


4) Slide block bearing on the top of Slide block guide (side view)

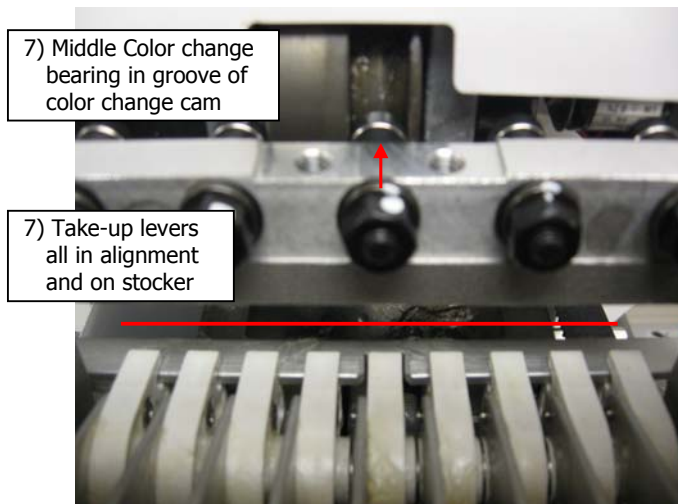
- 4) Slide Block Guide. Tilt the top of the Slide block towards you as you move it towards the sewing head. Touch the bottom of the Slide Block Bearing plate to the top of the Slide Block Guide and position the Slide block assembly vertically.



- 5) Needle Bar Driver. Gently push down on needle bar number 5 to where it aligns with the needle bar driver, and the slide block assembly will fall back in place on the head. Note: At this point the Slide block bearing plate is in place behind the Slide block guide.

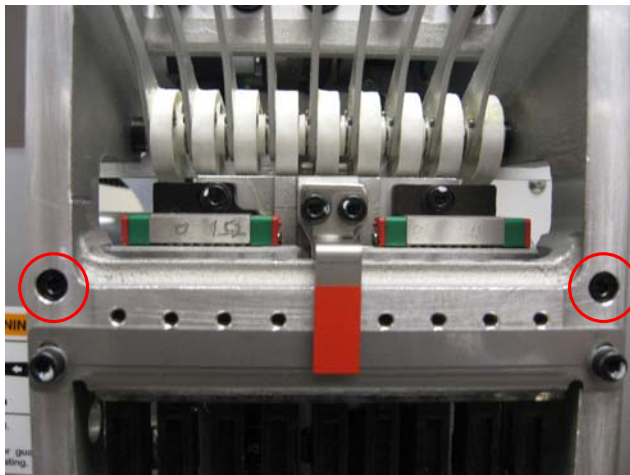


- 6) Take-up Levers. To make it easier, wrap a rubber band or string around the take-up levers so they are held all in alignment. Do not use too much force that bends and breaks the take up levers.



- 7) Take-up Lever Stocker. Align the take-up levers with the take-up lever driving lever and stocker. At the same time align the middle color change bearing with the groove in the color change cam. Push up and back gently on the Slide block assembly to put the take-up levers and color change bearing in place. You may have to wiggle the take-up levers individually to get them aligned on the stocker. Be patient and diligent, and the slide block will fall back in place.

Caution: Do not force the slide block assembly in place. Damage may occur.



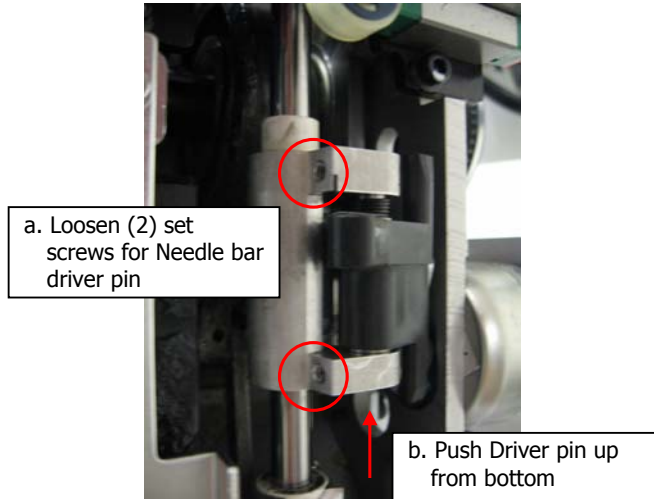
- 8) Reassembly. Reinstall the (2) M4x25 mounting screws (Circled in red) that hold the slide block assembly to the sewing head. Finish by reassembling in reverse order of steps 5 thru 6 of the "Slide Block Assembly Removal" instructions.

6. Needle Bar Driver Replacement

Needle Bar Driver Removal

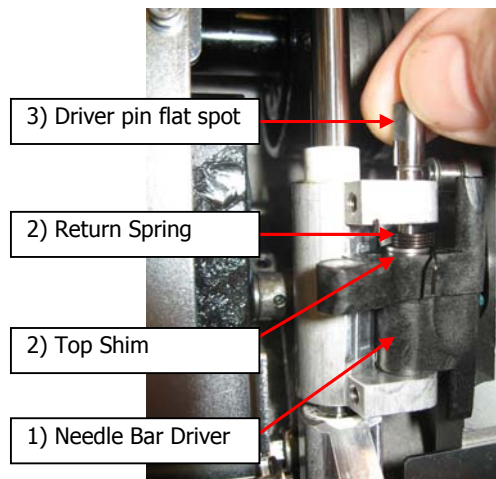
- 1) Remove the Slide Block Assembly. See "Slide Block Assembly Removal" instructions.
- 2) Remove the Needle Bar Driver.

Note: You may want to remove the Degree wheel cover and rotate the degree wheel to lower and raise the needle bar driver for easier access for the following steps.



- a. Use a 2mm hex wrench and loosen the (2) M4 set screws for the Needle bar driver pin.
- b. Slide the Driver pin up and out of the Needle bar driver. Be careful not to lose the (2) shim washers above and below the needle bar driver and the needle bar return spring.

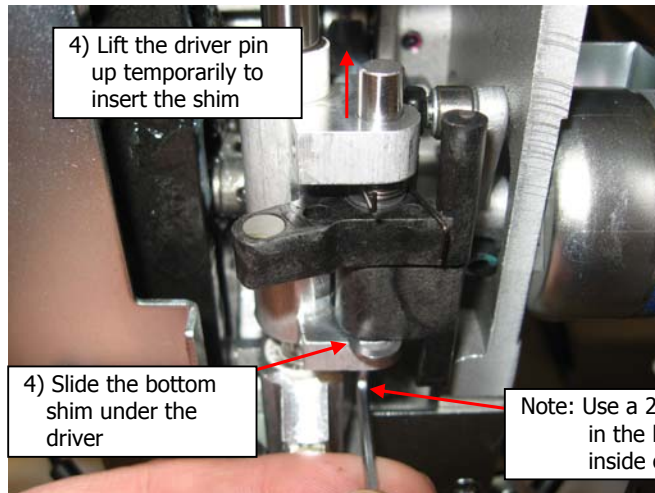
Needle Bar Driver Installation



- 1) Insert the Needle bar driver into position in the Needle bar driver block assembly
- 2) Insert the top shim and the return spring on top of the driver.

Note: Lay the spring in place with the long tab pointed downward, and both tabs angled towards the front of the sewing head. There should be no pressure on the spring.

- 3) Align the top of Driver pin so the flat spot is towards the left (towards set screw) and gently slide the pin down thru the Needle bar driver block assembly and the spring, shim and needle bar driver.



4) Lift the driver pin up temporarily to insert the shim

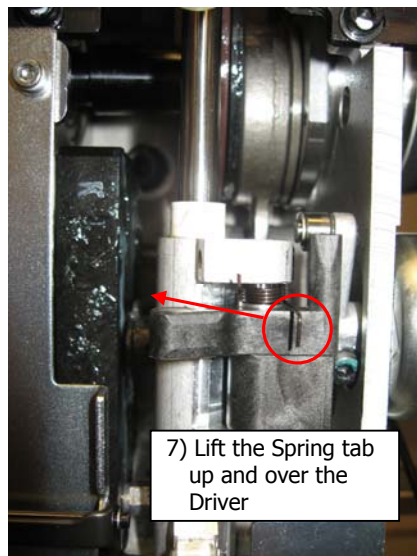
4) Slide the bottom shim under the driver

Note: Use a 2mm hex wrench inserted in the bottom hole, to catch the inside of the shim.

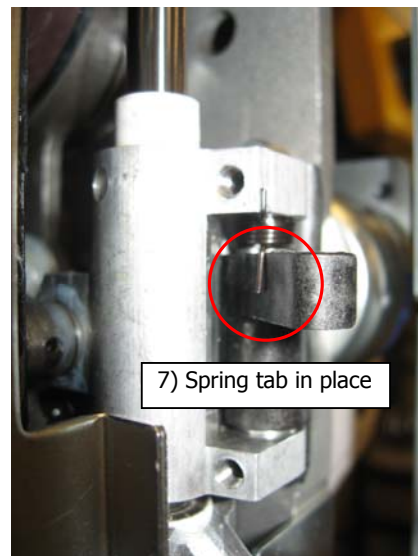
4) Bottom shim insertion. Lift up on the Driver pin and insert the bottom shim under the driver. Slowly push the Driver pin downward and thru the bottom shim and into the needle bar driver block.

Note: If having a problem with the pin aligning with the shim, use a 2mm hex wrench and poke it thru the bottom of the needle bar driver block hole to catch the inside of the shim. Then use a circle motion with the hex wrench in the hole of the block to align the shim with the hole, while pushing down on the pin.

- 5) Tighten the top set screw against the flat of the driver pin. At this point the needle bar driver should rotate freely and have no up or down play. Readjust if necessary before moving to step 6.
- 6) Tighten the bottom set screw last.



7) Lift the Spring tab up and over the Driver



7) Spring tab in place

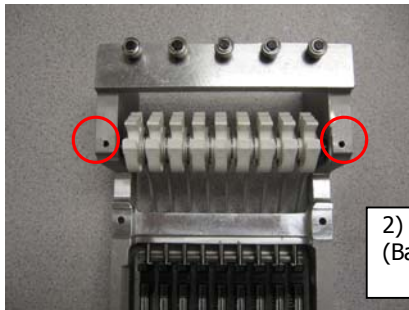
- 7) Lift the long bottom tab of the driver return spring to the left, up and over the driver so it catches on the driver. Use a small flat screwdriver or the 2mm hex wrench to move the tab in place.

Note: Oil the Driver and pin and check that the driver and spring action moves freely.

- 8) Re install the Slide block Assembly. See "Slide Block Assembly Installation" for instructions.

7. Take-up Lever Replacement

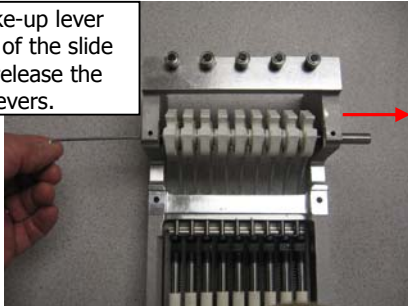
- 1) Slide Block Assembly Removal. See "Slide Block Assembly Removal" instructions.



- 2) Use a 2mm hex wrench and loosen the (2) set screws for the take up lever collars and shaft.

2) Set screw locations.
(Backside of Slide block assembly)

- 3) Push Take-up lever shaft out of the slide block to release the take-up levers.



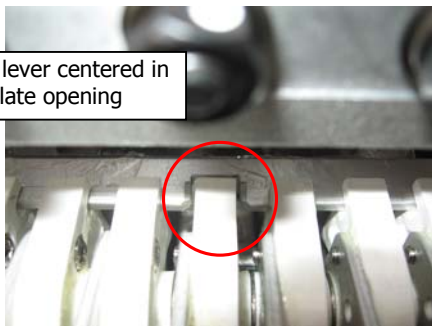
- 3) Push the shaft in on the right side or left side to release the take-up levers and in-between shim rings.
4) Remove the broken take-up levers, and re-install the new take-up levers. Make sure to have (1) shim ring between each take-up lever, and on the outside of the first and last take-up lever.

- 5) Center the Take-up lever shaft and (2) collars in the slide block assembly.

Note: The (2) Take-up lever collars should be positioned with the slot to the top of the slide block assembly.

- 6) Tighten the (2) set screws for the Take-up lever shaft and collars as shown in step 2. Not too tight, just secure. This will need to be adjusted in the final reassembly.
7) Reinstall the Slide Block Assembly. See "Slide Block Assembly installation" for instructions. Just attach the Slide Block Assembly to the head at this point. Do not re-assembly the rest of the sewing head yet.

- 8) Take-up lever centered in stocker plate opening



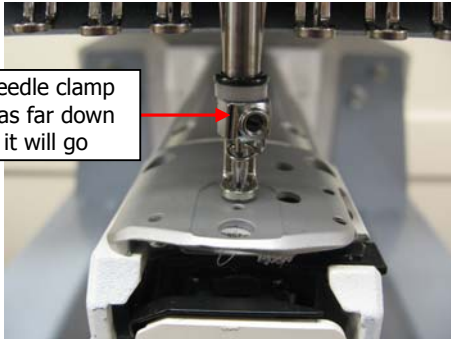
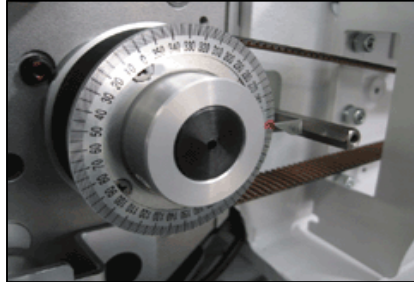
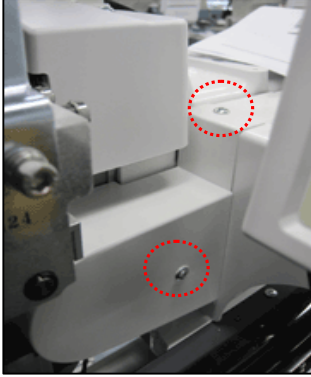
- 8) Center the take-up lever to the stocker plate opening. At this point, the head should be on needle 5. So check that the number 5 take-up lever is centered in the stocker opening as shown. To adjust, loosen the (2) set screws for the take-up lever shaft and collars, and move the set of take-up levers left or right so the number 5 take-up lever is perfectly centered in the stocker opening.

Note: There should be no play or gaps between any of the take-up levers and the collars on the ends when finished. Tighten the (2) set screws when finished.

- 9) Reassemble the rest of the sewing head. For instructions, see reassembling in reverse order of steps 5 thru 2 of the "Slide Block Assembly Removal" instructions.

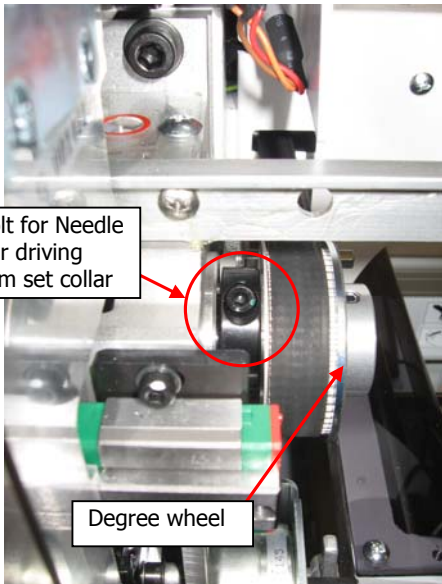
8. Zero Degree Head Adjustment (BDC) without jig

- 1) Needle Number 9. Color change to needle 9 for easier adjustment.
- 2) Remove the (2) M4x10 Truss screws for the degree wheel cover.



3) Needle clamp is as far down as it will go

- 3) Rotate the degree wheel and watch the needle bar lower down to the throat plate. When the clamp is all the way to the bottom, you should be able to wiggle the degree wheel forward and backwards without the needle clamp rising.
- 4) At this point, check the degree wheel setting. It should be pointed to 0 Degrees.



Bolt for Needle Bar driving cam set collar

Degree wheel

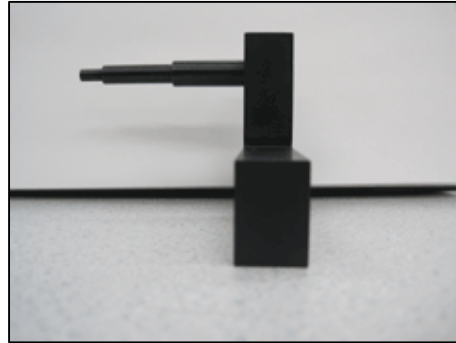
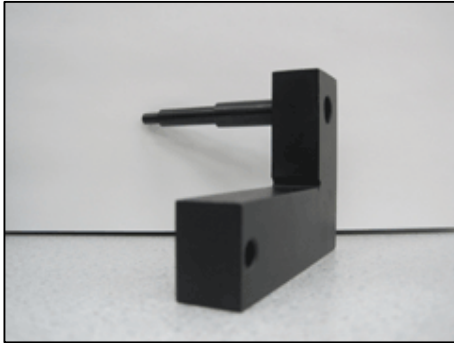
If the position is not correct and needs adjustment see the following steps:

- 1) Loosen the (1) M5x18 Hex socket bolt on the Needle Bar driving cam set collar (circled in red). This is located on the right side of the sewing head.
- 2) Hold the Needle clamp down, and then rotate the Degree wheel so the pointer is at 0 degrees.
- 3) Tighten the M5x18 hex socket bolt on the Needle Bar driving cam set collar.

Note: After making this adjustment, rotate the degree wheel 360 degrees and check the setting again. You may have to make this adjustment a couple of times to get it exactly correct.

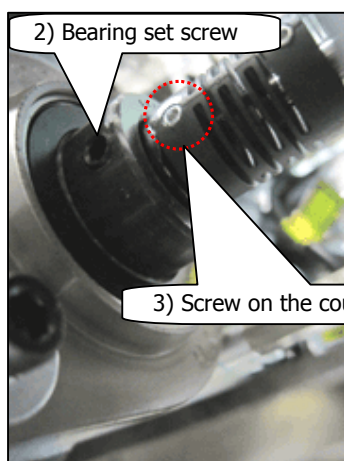
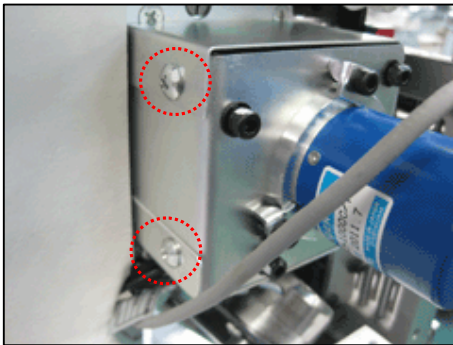
9. Zero Degree Head Adjustment (BDC) with jig

Prepare Jig (Part No : F7TGS0189) to adjust the position.



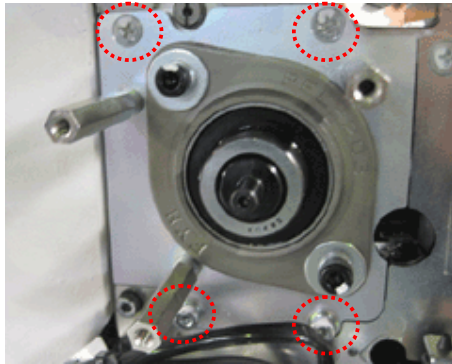
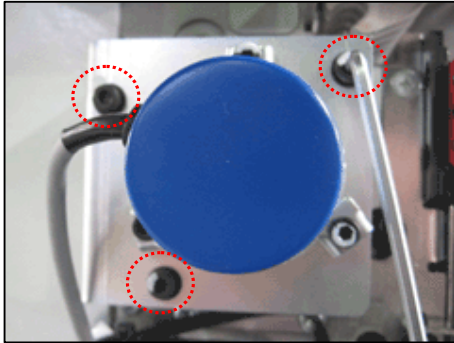
- To utilize the jig, the position coder cover must be removed.

1) Remove the (2) M4x6 screws on the position coder cover, as shown below.



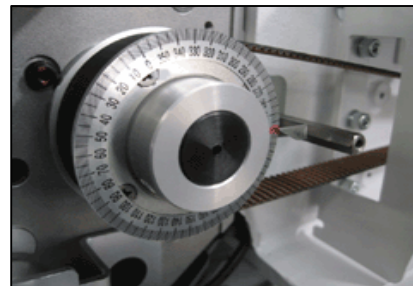
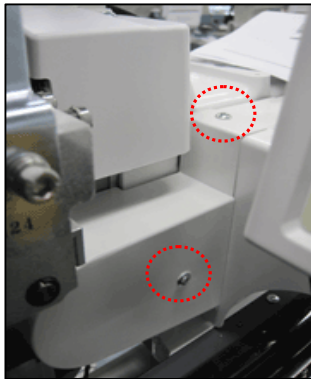
- 2) Loosen the (2) sets screws on the bearing
- 3) Loosen the (2) set screws (near the head side) on coupling to remove the position coder.

- 4) Remove the position coder bracket by removing the (3) M4x10 Hex socket bolts

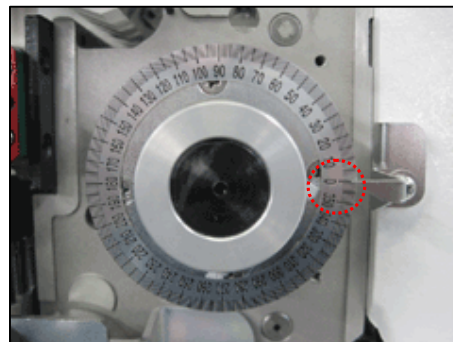
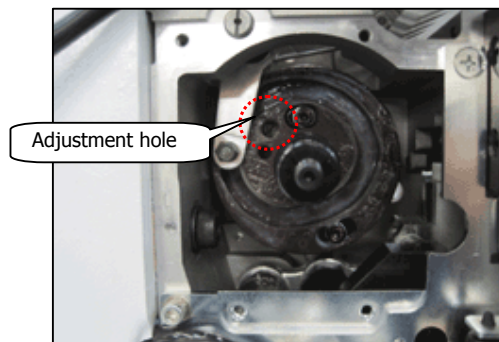


- 5) Remove the Bearing plate with bearing by removing the (2) flat head screws at the top and the (2) M4x10 Hex socket bolts at bottom.

- 6) Remove the (2) M4x10 Truss screws for the degree wheel cover

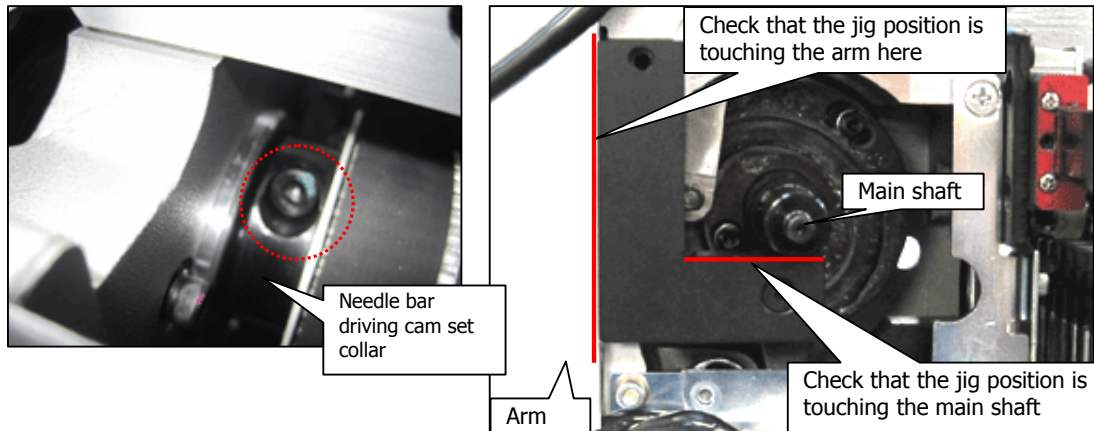


- 7) Turn the main shaft to 0 degrees. Then try inserting the jig pin into the adjustment hole. This should insert smoothly.



If the position is not correct, loosen the (1) M5x18 Hex socket bolt on the Needle Bar driving cam set collar (located on the right side of head). Then rotate the head position until smooth insertion of jig pin is achieved. With the pin inserted, check and adjust the degree wheel to 0 degrees. Make sure the degree wheel is set at 0 degrees, and the jig pin can be smoothly inserted. Tighten the collar screws after verifying the correct position.

※ Main shaft must be at 0 degrees at proper setting.



※ Note: The needle bar driving cam set collar is next to the main pulley.

After completing the adjustment, install the bearing plate and position coder bracket.

※ After installation of the bearing plate, verify that the bearing turns smoothly.

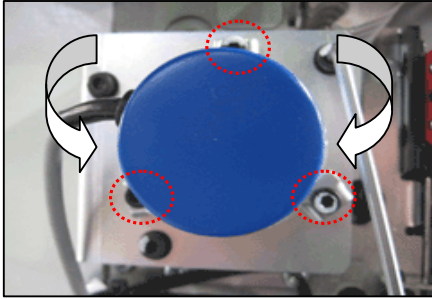
※ After installing the position coder bracket, re-set the position coder to 0 degrees.

See "Re-Setting Position Coder to 0 Degrees" for instructions

8) Replace the position coder cover.

10. Re-Setting Position Coder to 0 degrees

1. Turn the machine power On and Seek origin.
2. Machine must be out of Drive mode.

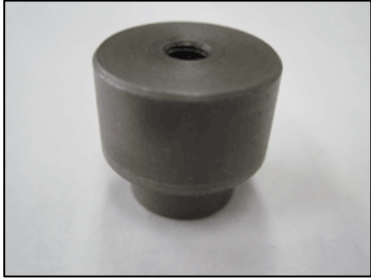


3. Loosen the (3) M4x12 Hex Socket bolts for the position encoder (Circled in Red).
4. Set the Degree wheel to 0 Degrees and hold it so it doesn't move.
5. Rotate the position encoder until the Automat gives a continuous beep sound.
6. Tighten the (3) screws to hold the position coder in place.

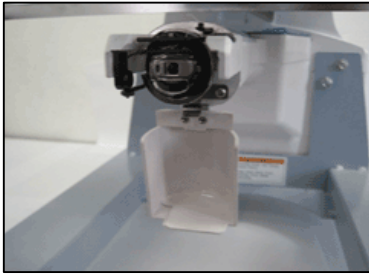
Note: After you've finished with the adjustment, spin the degree wheel 360 degrees and set to 0 degrees again to double check that the Automat beeps at 0 degrees.

11. Needle Depth Adjustment (25 Degrees)

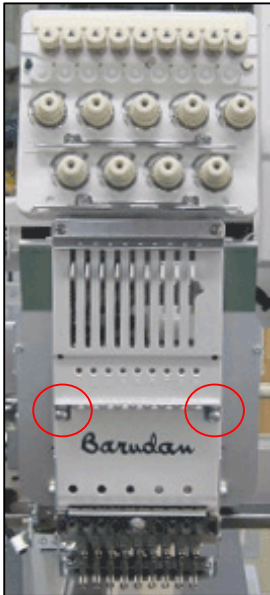
- 1) Prepare the Jig (Part number: HB220040)



- 2) Open the bed cover.
※No need to remove the throat plate



- 3) Remove the head cover by removing the (2) Truss screws shown below



4) Change the needle position to needle number 5 (For easy adjustment)

- ※ If the machine cannot be powered on, use the manual color change operation as follows:

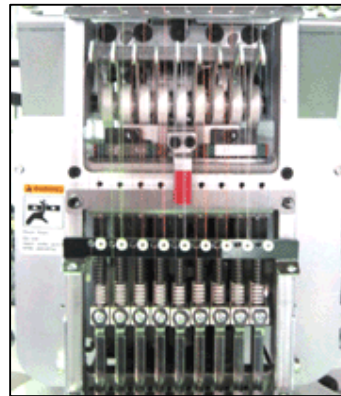
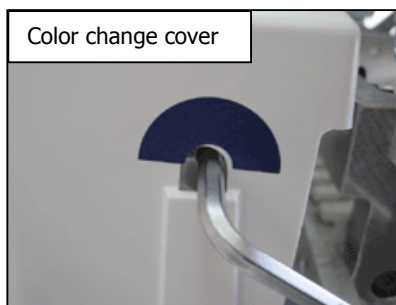
Turn the color change motor using a 4mm hex wrench.

Insert the wrench into hole at the left side of the color change cover

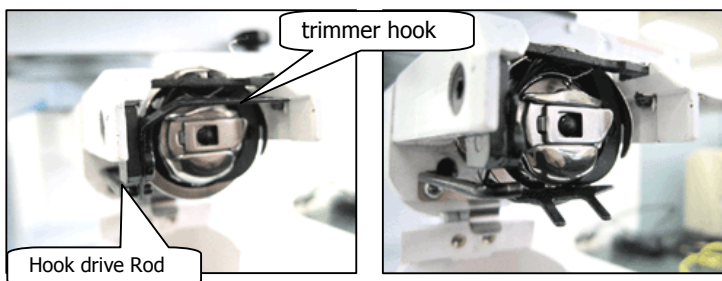
- ※ Do not turn the motor quickly

When turning the motor, manually cancel the needle bar driver by hand.

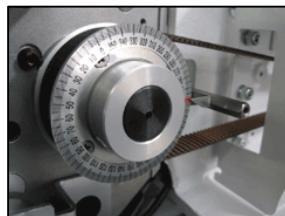
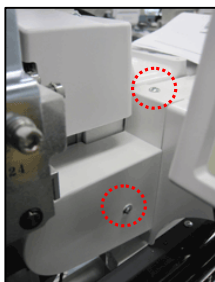
- ※ If the machine is powered on, cancelling the driver operation can be skipped.



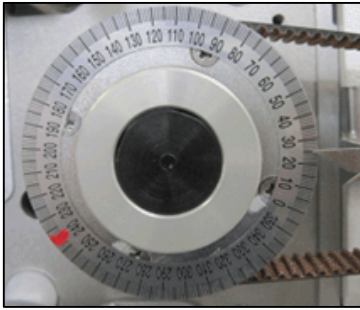
5) Remove the trimmer hook from the hook driver rod.
Remove the bobbin.



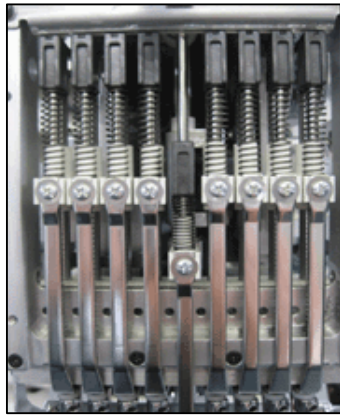
6) Remove the main shaft cover by removing the (2) M4x6 screws shown below.



7) Set the main shaft to 25 degrees



8) Press down on the needle bar by hand so the needle bar is in the down position.
※ Example) picture shown, using needle 5.

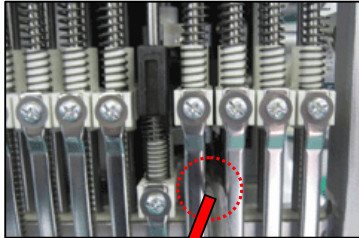


9) Insert the jig into the hook. Check that the needle is slightly touching the jig top surface.

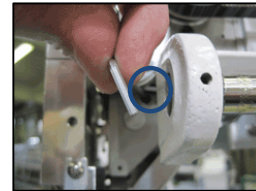
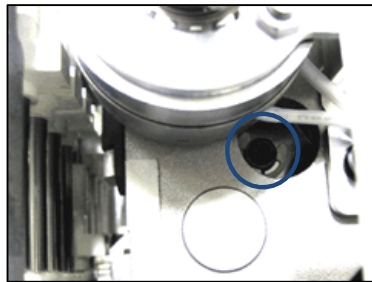
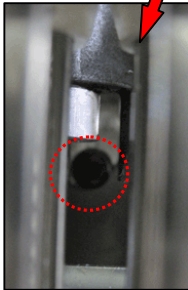


10) If the height is not correct, re-adjust the height.

Adjust by loosening the Needle bar driving lever fixing screw (M4x12 Hex socket bolt shown below by the Red circle○)

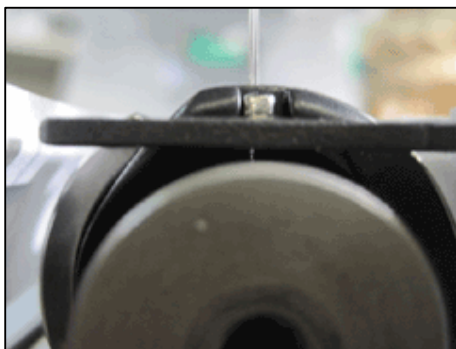


To adjust the needle height, turn the needle bar driving lever adjustment screw located on the right side of the head. (M3x4 Hex socket bolt, shown by the Blue circle ○)



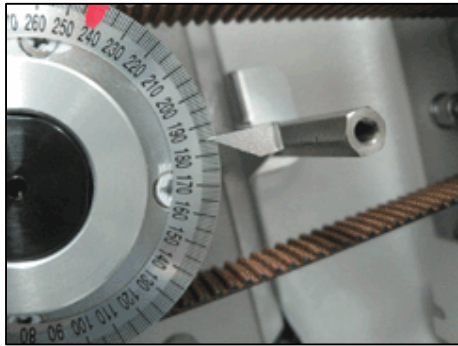
※ Do not adjust the contact of the needle tip too firmly with the jig.

When proper adjustment is achieved, tighten the needle bar driving lever screw (Red circle○) to lock in the setting.

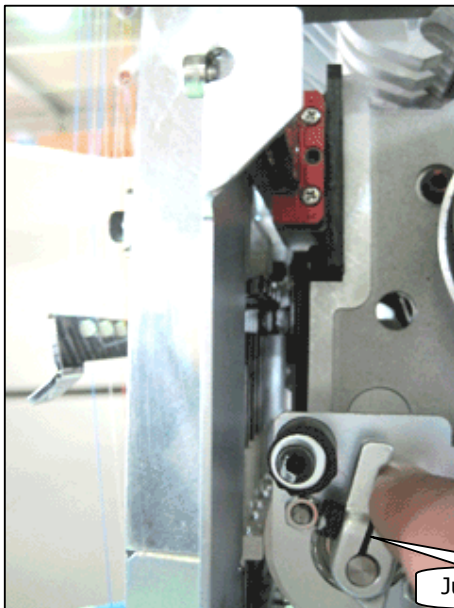


11. Jump Timing

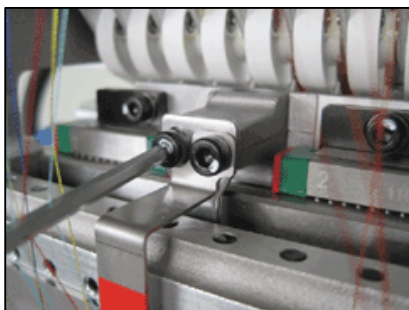
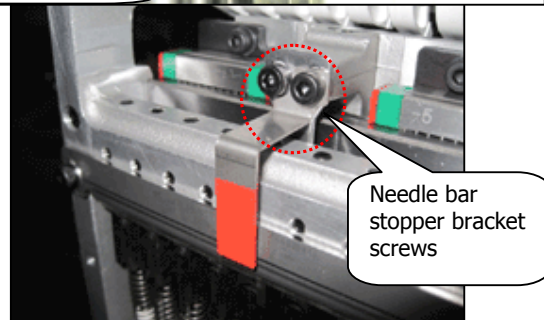
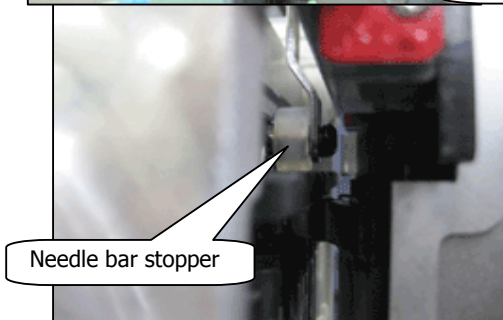
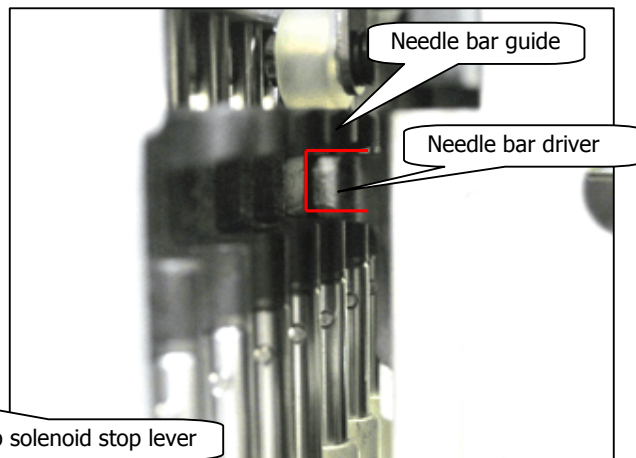
1. Needle Bar Driver position adjustment in the needle bar guide



1) After adjusting the needle bar height, you should check and re-adjust the position between the needle bar driver and the guide, cloth hold clamp and cloth hold support slide block. Begin by turning the main shaft to 185 degrees.



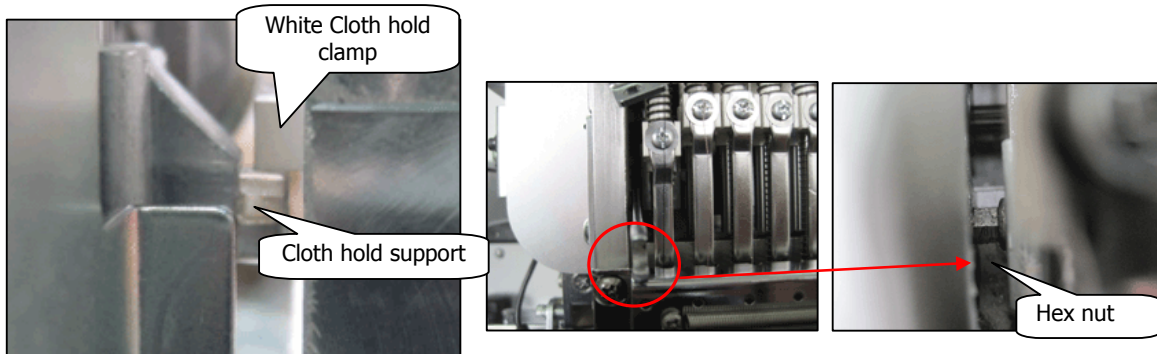
2) Verify that the needle bar driver moves smoothly in and out of the needle bar guide. There should be a slight gap between the needle bar driver and the needle bar guide. Move the jump solenoid stop lever to check the motion of the driver in and out of the guide.



3) To adjust, loosen the (2) M4x8 Hex socket bolts for the needle bar stopper bracket and adjust the position of the stopper up or down to allow a gap between the needle bar driver and the needle bar guide.

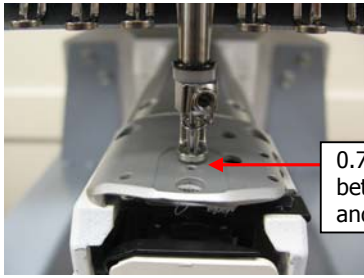
2. Cloth Hold Support adjustment

- 1) Go to needle number 1 and turn the main shaft to 185 degrees. Check the gap between the White cloth hold clamp and the cloth hold support on the slide block.

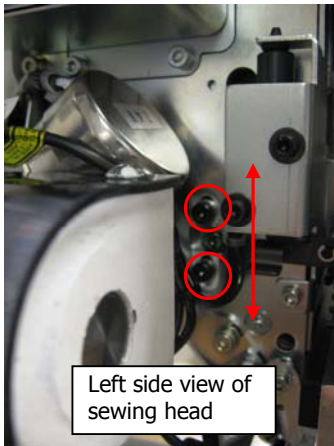


To adjust, loosen the hex nut for the link pin using a 7mm wrench. Adjust the slide block's position to allow 0.2~0.3mm gap between the cloth hold support and the White cloth hold clamp. After adjusting, tighten the hex nut. Check the gap by disengaging the needle bar driver and pressing down on the presser foot to check gap.

12. Presser Foot Height Adjustment



- 1) Turn the main shaft to 0 degrees and check the gap between the bottom of the presser foot and the top of the throat plate. There should be a 0.7 mm gap.

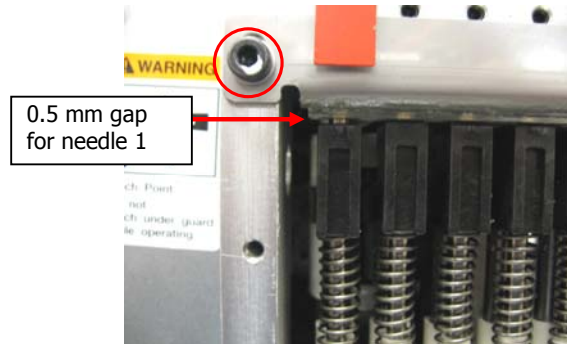


To adjust, loosen the (2) M4x 22 Hex socket bolts for the K4 Cloth hold cam (circled in red). Move the cam up or down to achieve the proper gap. Afterwards, re-tighten the K4 cam screws to lock in the adjustment.

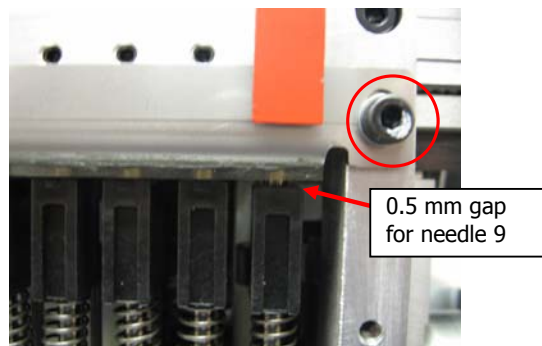
13. Needle Bar Stocker Adjustment.

This adjustment should be checked after adjusting the Jump timing, or when replacing the Needle bar stocker

- 1) Remove the Front cover of the sewing head.



- 2) Color change to Needle number 1. Check the gap between the top of the needle bar guide on needle 1 and the bottom of the needle bar stocker. There should be about a 0.5mm gap. Loosen the needle bar stocker mounting screws (Circled in red) and adjust the stocker up or down to achieve the proper gap.



- 3) Color change to Needle number 9. Check the gap again for needle 9. Make the necessary adjustment to achieve the gap for needle 9.

- 4) After making adjustments, repeat steps 2 and 3 to double check adjustments.
- 5) When finished make sure the needle plate stocker mounting screws are tight, and replace the front cover.

【Parameter settings】
MC, MSU1, and MSU2 setting list

MC Settings

No	Item	Default	Setting value
01	Borer 1	0	
02	Trim jumps	2	
03	Lock stitch	1	
04	Clamp type	3	1
05	Slow up count	3st	
06	Trim type	1	
07	Trim dir	0	
08	Trim vector	15	
09	Low speed	450	
10	Jump divide	127	
11	Stitch back	4	
12	Overlap	4	
13	Auto start	1	
14	Swing	0	
15	Frame start	70°	
16	S. frame	0	
17	Needle down	1	
18	Applique	80°	
19	T. break	3	
20	0 admit	0	
21	Combine data	0	
22	Right limit	115mm	120
23	Left limit	115mm	280
24	Back limit	110mm	150
25	Front limit	110mm	100
26	LCD mode	0	
27	LCD bright	2	
28	Roll to roll	---	
29	WS system	---	
30	Clamp frame	0	
31	V. clamp	0	

32	H. clamp	0	
33	Frame option	---	
34	Sequin size L1	0	
35	Sequin size R1	0	
36	Network type	---	
37	Marker type	1	
38	Borer 2	0	
39	Borer 3	0	
40	Sequin size L2	---	
41	Sequin size R2	---	
42	Special MC	---	

CAII belt tension list

H shaft belt (Pantograph driving) N (Kgf)	V shaft belt (Pantograph driving) N (Kgf)	H shaft belt (Reduction) N (Kgf)	V shaft belt (Reduction) N (Kgf)	Main shaft belt N (Kgf)
75 (7.7) (020-MA3) White Span : 365mm	75 (7.7) (020-MA3) White Span : 500mm	40 (4.1) (B150S3M) Black Span : 66mm	40 (4.1) (B150S3M) Black Span : 90mm	70 (7.1) (B150S3M) Black Span : 260mm

Model of belt	Unit mass
B***S3M	0.0190
020-MA3 (Free-span belt)	0.0208

Tolerance of tension $\pm 4.9\text{N}$ ($\pm 0.5\text{Kgf}$)

※Unit mass of Timing belt and Free-span belt: Weight (kg/10mm width×1m)