

Barudan

KT-CBIII

**Maintenance Manual
(Installation & Service)**

Ver.190304R00E



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1. Packing and Transporting

【Packing condition】

The CBIII has been packed from the factory for shipping as shown in the photos below. Please remove all packing material before installing the CBIII.



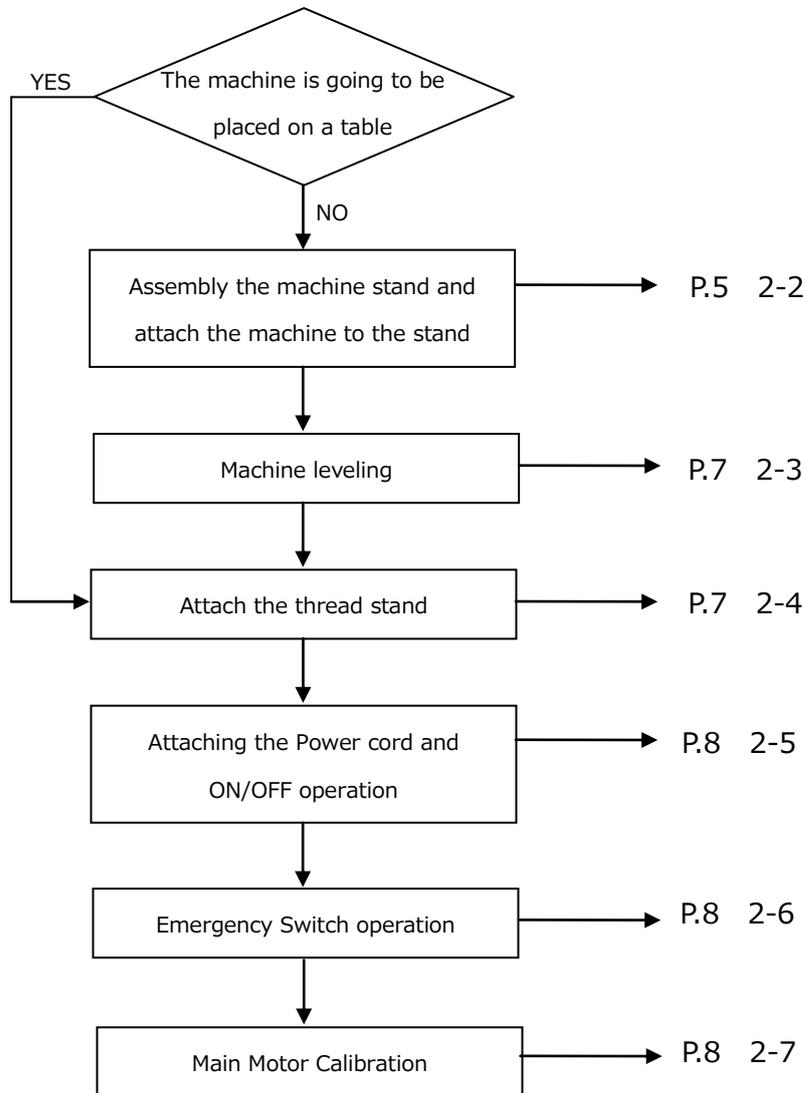
【Handling method】

It's recommended that the CBIII machine be lifted and positioned by 4 people, using the handles on the right and left sides of the machine.



2. CBIII Setup Procedure

[2-1] Flow chart



[2-2] Machine stand assembly and Attaching the machine to the stand

- ① Place the 2 base stands with the casters upwards.
Please hold the base stands steady, so they don't fall over.



- ② Attach the front and back joint brackets temporarily to the base stands.
Leave the bolts loose at this moment. Later they will be tightened.



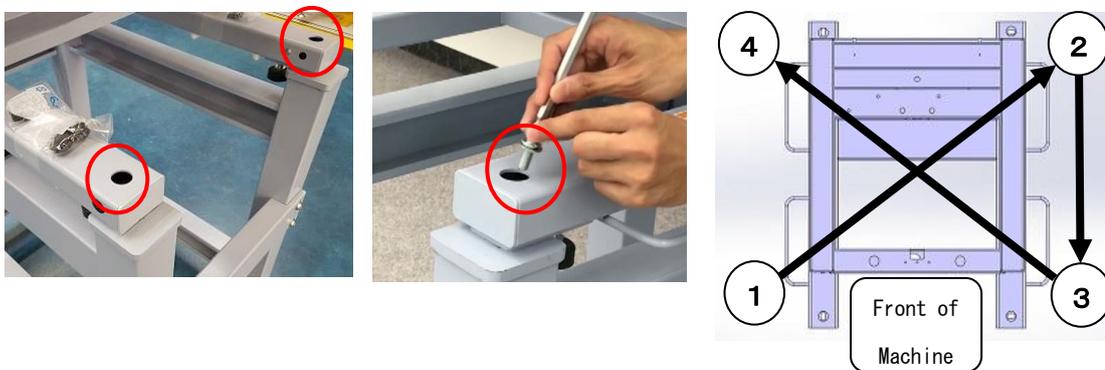
- ③ Turn the stand over so the casters are downwards.
Please be careful. The stand will be wobbly and slightly unstable at this stage.



- ④ Position the CBIII on the stand. The positioning pins on the bottom of the CBIII must be inserted into the elongated holes on the top of the stand.

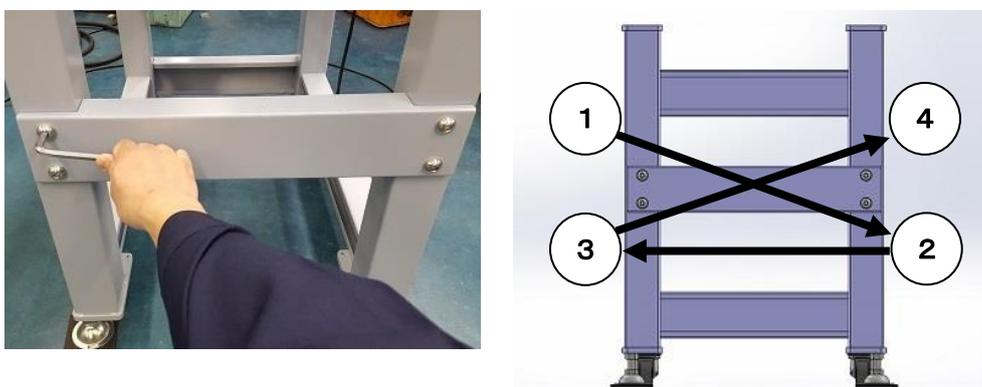


- ⑤ Attach the CBIII to the stand with the M10x30 Hex socket bolts in the accessories. Use the following tightening order shown below.



- ⑥ Tighten the bolts for the stand joint brackets. Use the following order to tightening the 3 joint brackets:
 - 1) Front Joint bracket.
 - 2) Upper Back Joint bracket.
 - 3) Lower Back Joint bracket.

Tightening the bolts for each bracket as shown below.



- ⑦ Insert the Black plugs from the accessories into the mounting holes in Step 5.

[2-3] Machine leveling

Adjust the height of the 4 adjuster feet under the machine stand to level the machine.

On a perfectly level floor the rollers on the 4 casters under the stand should just be rubbing the floor. In the case where the floor is not level, then adjust each adjuster foot so the machine base is level.



When not using the stand, please level the machine using the adjuster in the following photo.



[2-4] Attaching the Thread Stand

- ① Place the thread stand assembly on the top of the machine and attach with (5) M4x6 truss head screws in the red circled areas shown below.



- ② Mount the thread guide base assembly to the tension base and attach with (4) M3x8 cap bolts in the following red circled areas shown below.



[2-5] Attaching the Power cord and ON/OFF operation

Plug the power supply cable into the connector on the side of the machine and then into the wall outlet. Turning the power ON and OFF is operated by the switch under the Automat.



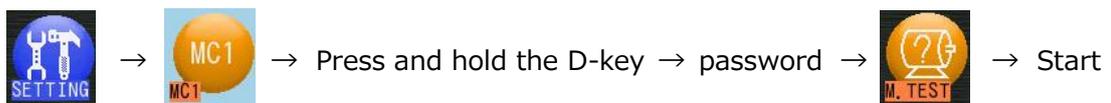
[2-6] Emergency Switch operation

Press the emergency switch to activate an emergency stop and turn to the right to cancel it.



[2-7] Main Motor Calibration

After completing the machine installation, turn the machine ON and execute the Main motor calibration using the following procedure.



3. Maintenance

Recommended spare parts for maintenance

Item	Part No.	Description	Q'ty per head	Memo
Needle	FN070011Q1	Needle DBXK5Q1-NY11	15/h	Organ
Hook	KF220711	Hook KHS12-RYPBNW	1/h	Sabun
Bobbin Case	KF221020	Bobbin Case 4B19-S6-BA	1/h	
Presser foot	QK230350C	Cloth hold (SH)	15/h	
Needle Bar	QK230451	Needle bar assembly	15/h	
Take up lever	QK230591	Take up lever (S head, small hook)	15/h	
Small O-Ring	A9014167	O-Ring (SS065)	15/h	
Large O-Ring	KF232130	O-Ring (S) = 6 mm dia.	15/h	
Spacer	HT230120	Spacer 2.4	15/h	
Needle Clamp	RH230450	Needle Clamp (ZQ-B/C)	15/h	
Needle Clamp Screw	RH230460	Needle Clamp Screw (ZQ-B/C)	15/h	
Needle Bar Driver	QK230720	Needle Bar Driver (SH)	1/h	
Needle Bar Driver Spring	QK230112	Needle Bar Driver Spring (SH)	1/h	
Rubber Support	HT230341	Cloth Hold Support Rubber	1/h	
Moving Trimmer Blades for MK8	GR270030	Moving Trimmer Blade (MK8)	1/h	
Fixed Trimmer Blades for MK8	GR270020	Fixed Trimmer Blade (MK8)	1/h	
Lower thread holding stay for MK8	GR270080	Lower thread holding stay (MK8)	1/h	
Check Spring for Tension	GK240300	Check Spring	15/h	
Needle Depth Jig	HB220041	Needle Depth Jig		

[3-1] Degree wheel timing settings (Main shaft angle)

Main shaft angles for maintenance

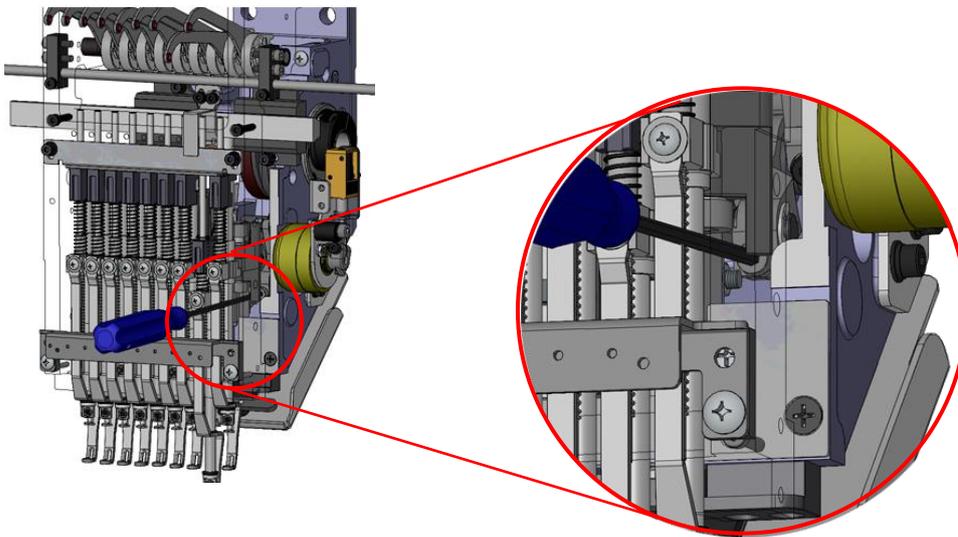
Item	Main shaft angle
Machine stop position	240
Needle bar bottom dead point	0
Needle depth position	25
Hook timing position	25
Take up lever cam position	0
Encoder fixing position	0

[3-2] Needle depth adjustment

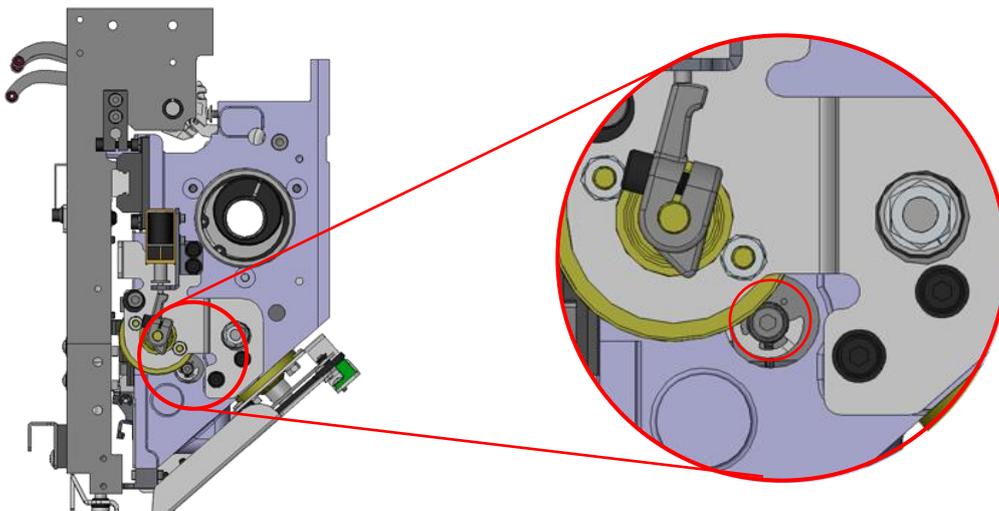
- (1) Change color to needle number 8 for 9 needles, or 14 for 15 needles.
- (2) Set the degree wheel to 25 degrees and insert the needle depth jig.
(Part Number : HB220040)



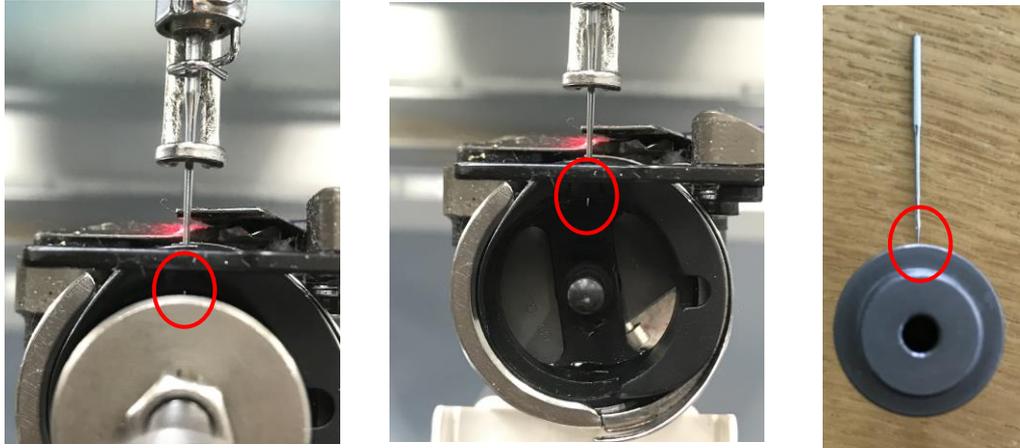
- (3) Loosen the fixing screw for the needle bar driving lever pin as shown below.



- (4) Rotate the adjusting screw for the needle bar driving lever pin to change the needle depth.



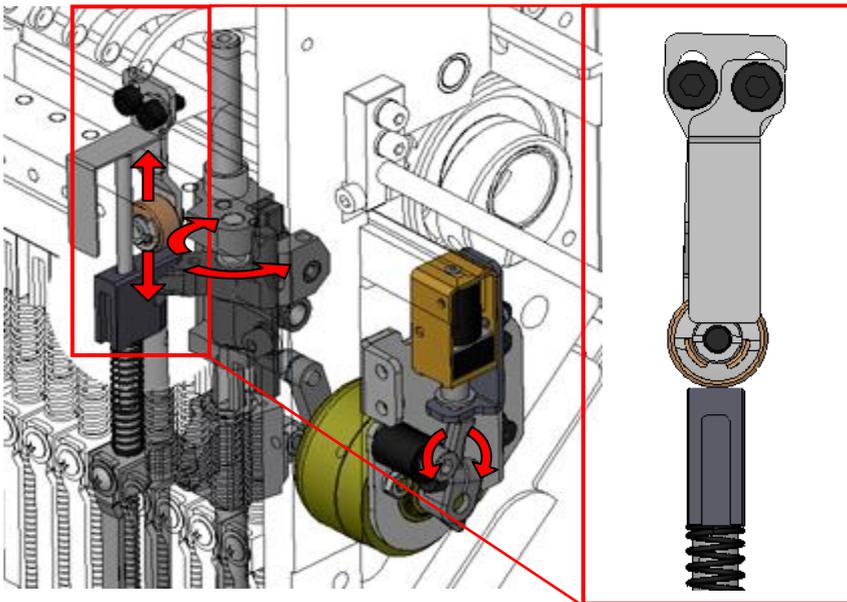
- (5) Rotate the adjusting screw to the position where the needle tip slightly hits the jig.
If the needle tip hits strongly, the needle tip may be damaged.



- (6) Tighten the fixing screw for the needle bar driving lever pin to lock it in place.

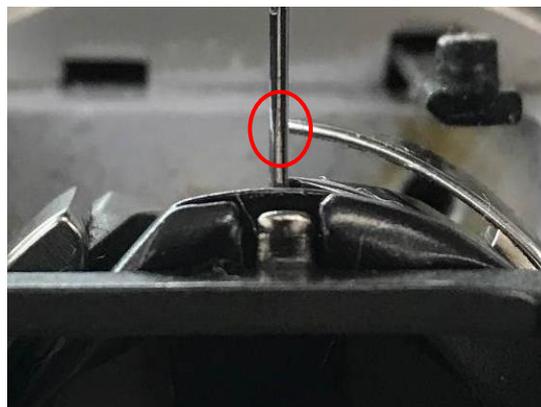
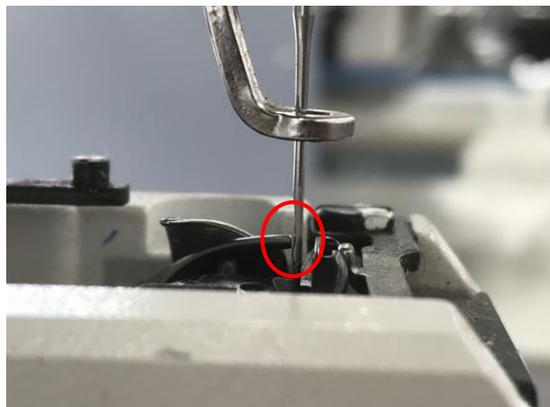
[3-3] Jump timing adjustment

- (1) Set the degree wheel to 185 degrees.
- (2) Operate the jump lever and verify that the needle bar driver moves smoothly in and out of the needle bar guide.
- (3) If not, loosen the 2 fixing screws for the Needle bar stopper.
Adjust the Needle bar driver up or down to where the needle bar driver operates properly as explained in step 2.
- (4) After proper adjustment, tighten the 2 screws for Needle bar stopper.
Note: Make sure the red indication plate is straight up and down and not crooked.



[3-4] Hook timing

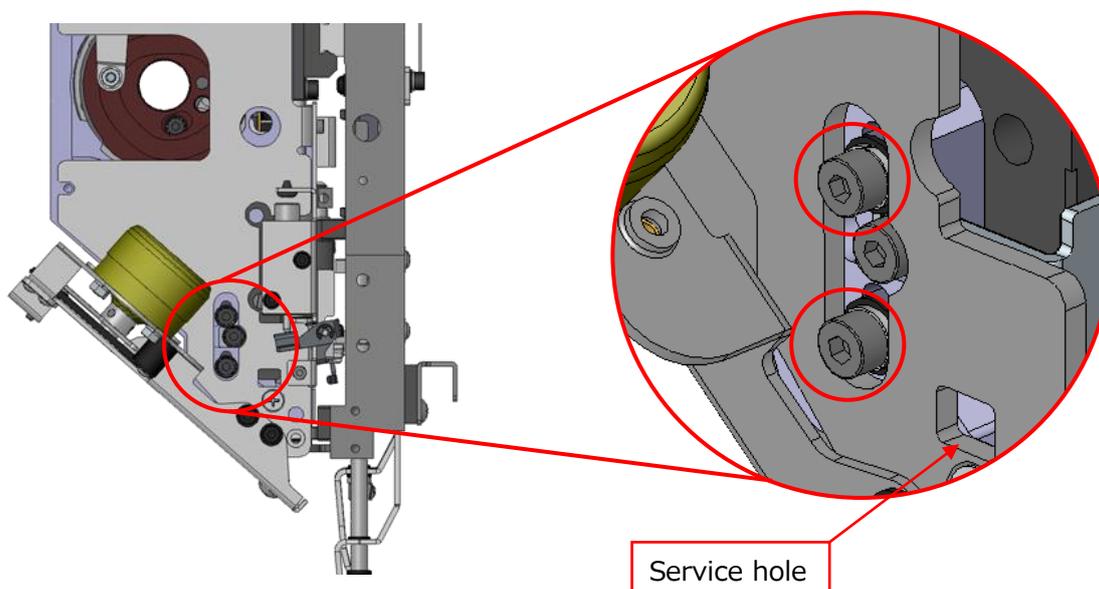
- (1) Remove the needle plate and loosen the 3 hook screws.
- (2) Set the degree wheel to 25 degrees.
- (3) Position the hook so the distance between the needle and the hook point is 0.1mm and the hook point is directly behind the needle. Lightly tighten one of hook screws to hold the hook in place to check it's position.



- (4) Check the hook timing on Needle number 1, the Middle needle, and Last needle.
If any of the needles hits the hook point, adjust +0.1mm wider.
- (5) Fully tighten the 3 hook screws to lock it in place.
- (6) Replace the needle plate.

[3-5] Adjusting the Presser foot height

(1) Loosen the 2 fixing screws for the K4 Cam as shown below.



(2) Insert a screwdriver into the service hole and lift the K4 cam.

(3) Set the gap between the presser foot and the needle plate to 0.8mm and tighten the 2 fixing screws.

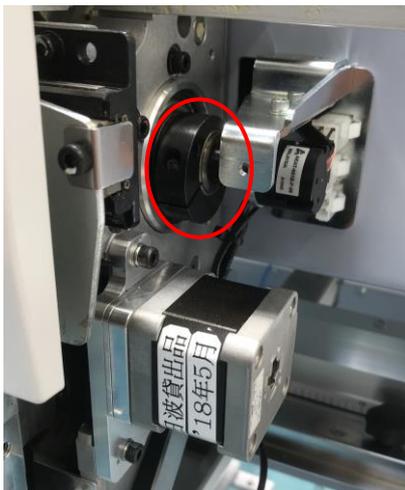
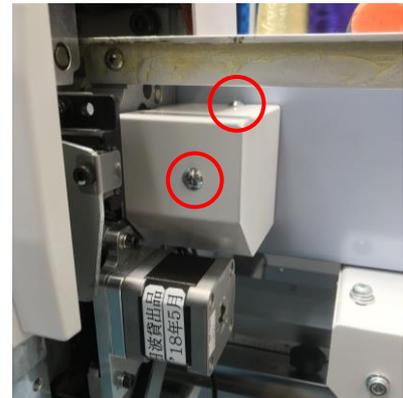
[3-6] Checking and Adjusting the Sewing head bottom dead center (BDC)

- (1) Change colors to needle number 1 and set the degree wheel to 0 degrees.
- (2) Remove the left cover and insert the BDC jig (Part number : F7TGR1014) into the take up lever cam as shown below.



- (3) Press the jig up against the main shaft and back against the bridge mounting surface so there are no gaps. The jig should be able to be freely inserted in and out of the cam when the cam is positioned correctly. You may have to rotate the main slightly to position it correctly.
- (4) Once positioned correctly, check the degree setting. It should be 0 degrees. If it's not, it needs adjusted.
- (5) Change the color to the last needle number
- (6) Remove 2 screws and remove the cover

- (7) To adjust, loosen the clamping collar on main shaft, on the right side of the sewing head.



- (8) Repeat steps 3 & 4 until the cam position is set properly at 0 degrees.
- (9) Tighten the clamping collar when finished with adjustment.

[3-7] Adjusting the Magnetic Encoder

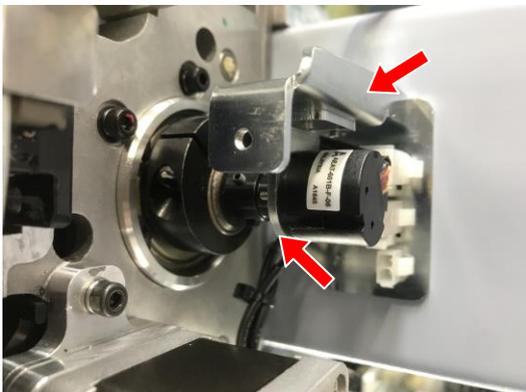
- (1) Change the color to the last needle and set the degree wheel to 0 degrees.
- (2) Remove the cover for the encoder on the right side of the sewing head.
- (3) Loosen the 3 screws on the collar shown below.
- (4) Rotate the collar slowly and stop when the Automat gives a constant beep sound.
- (5) Tighten the 3 screws to lock the collar in place.



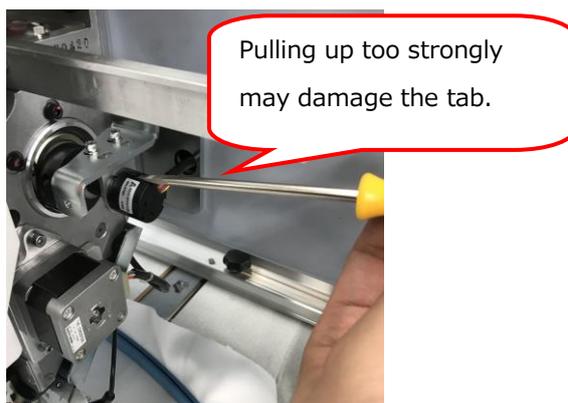
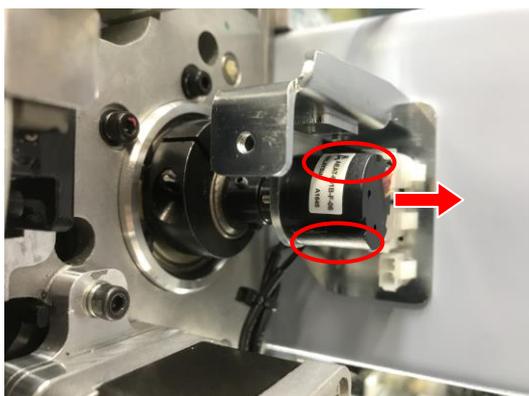
<< How to replace the Magnetic Encoder >>

* Important note: Do not remove or adjust the two brackets shown in the following picture as much as possible.

If removed, please check <<How to adjust Magnet Encoder brackets>>.



- (1) Release the 3 white locking tabs as shown in the photo gently with a small screwdriver and pull the encoder away from its base.



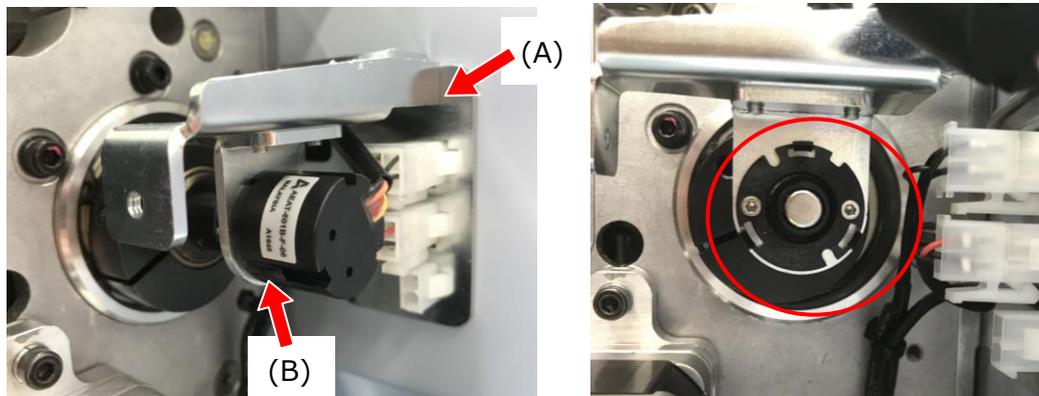
- (2) Pull the cable out the machine frame, and unplug the connector to replace the encoder.



- (3) Insert the cable back into the machine base and snap the encoder into the encoder base.
- (4) After the encoder is secured to the base, check and adjust the encoder to 0 degrees.

<<How to adjust the Magnetic Encoder brackets >>

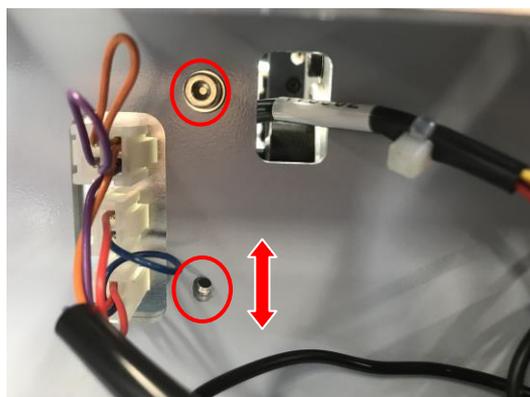
(1) The Connector plate (A) and Encoder bracket (B) need to be set so they are centered with the collar and shaft magnet. The collar has a step on it that just fits in the hole in the encoder base. See the following steps to make the adjustment if needed.



(2) See << How to replace the Magnetic Encoder >> to remove the encoder from its base.

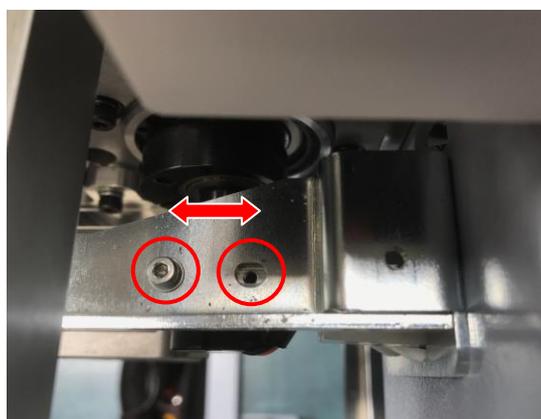
(3) How to adjust Connector plate (A),

Remove the lower plate of the thread stand and loosen the 2 screws from the inside of the frame to allow the Connector plate to adjust up and down.

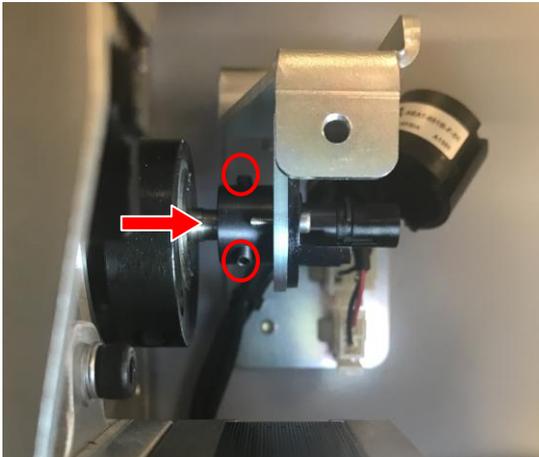


(4) How to adjust Encoder bracket (B),

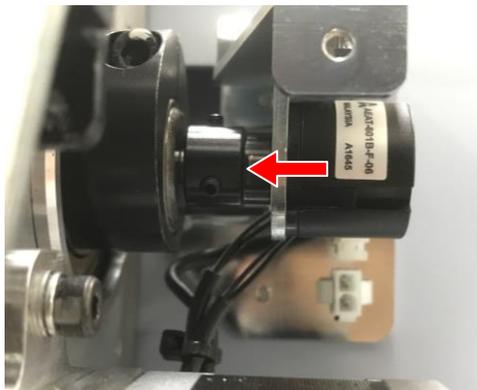
Loosen the 2 screws on the Encoder bracket (B) to allow it to adjust left and right.



- (5) Loosen the 3 set screws completely for the Encoder collar, and slide the collar all the way to the right so it inserts into the Encoder bracket (b). When the collar is fully inserted in the Encoder bracket, it will center the plate with the collar.



- (6) See previous steps 2 and 3, and tighten the screws for the Connector plate (A) and Encoder bracket (B) so they are tighten in place.
- (7) Slide the Encoder collar all the way to the left, to disengage it from the Encoder bracket.



- (8) Follow the instructions << How to replace the Magnetic Encoder >> and [3-7] Adjusting the Magnetic Encoder to reassembly and adjust the encoder.

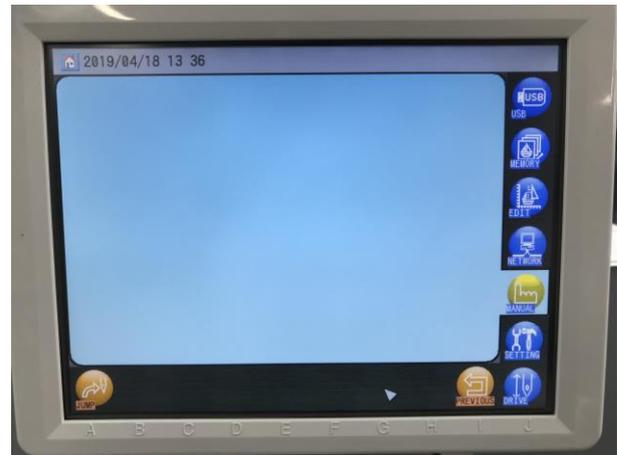
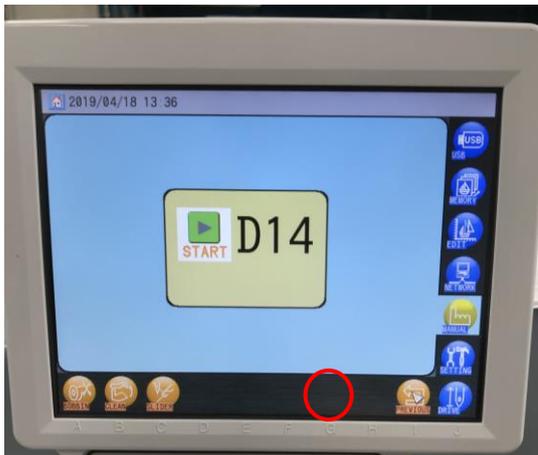
(9) [3-8] Positioning the Jump lever

(1) Remove the 4 mounting bolts for the motor fixing bracket.



(2) Go into Jump adjusting mode using the following procedure.

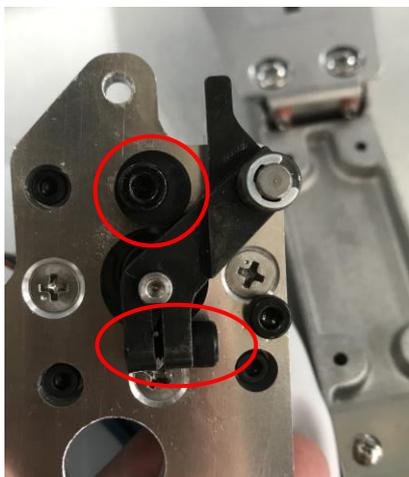
Trim mode screen → Press and hold the area above the letter “G”.



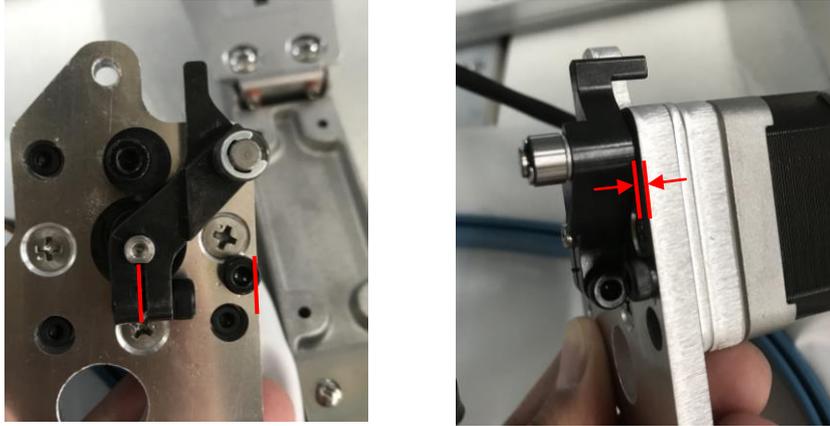
Jump adjusting mode screen

* After entering Jump adjusting mode screen, the motor will be powered on and held steady.

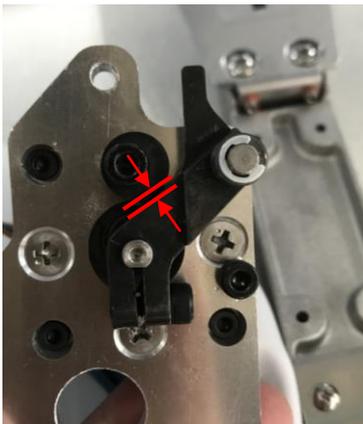
(3) Loosen the jump lever and the stopper.



- (6) Position the jump lever so it's parallel with the bracket as shown in the photo below.
 Also set the gap between the bracket and the jump lever to 0.5mm.
 Tighten the jump lever to hold this position.



- (7) Adjust the stopper so there is a 0.5mm gap between the jump lever and stopper as shown below. Tighten the stopper in place.

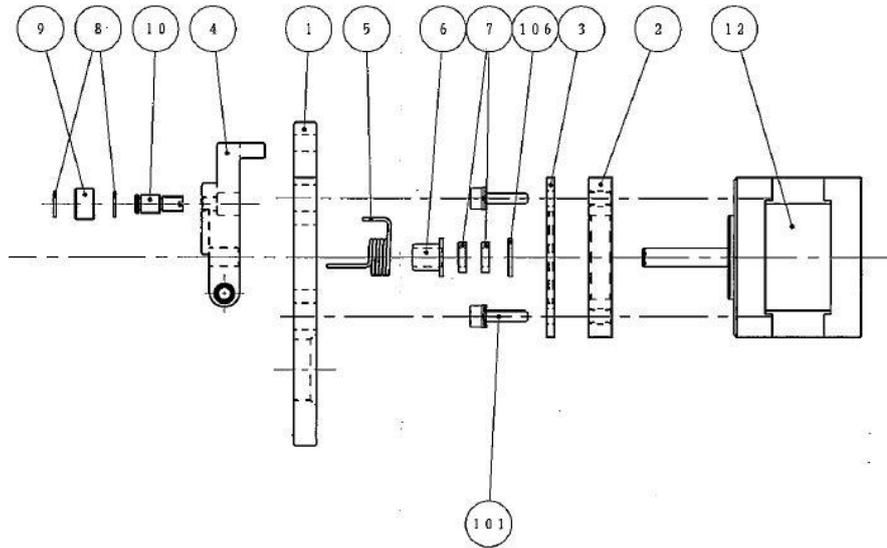


- (6) Press the Jump Icon a few times on the screen to see if the lever moves smoothly.
 When removing or replacing the jump lever, make sure to insert the end of the spring into the split part of the jump lever.



<< In case the jump motor was removed >>

Re-assemble the parts in the following order.

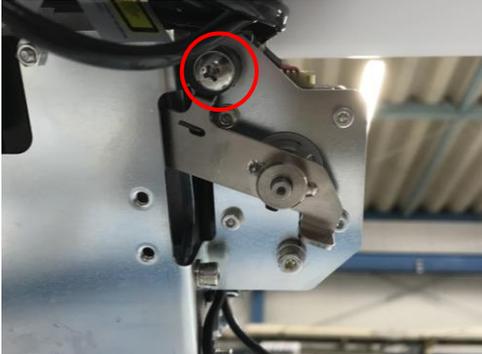


No.	Part number	Description	Q'ty	Memo
1	VB240010	Jump motor bracket A	1	
2	VB240020	Jump motor bracket B	1	
3	VB240030	Jump motor bracket C	1	
4	VB240040	Jump lever (motor)	1	
5	VB240050	Jump lever recovering spring (motor)	1	
6	VB240060	Flange bush (80F-0507, Oiled)	1	
7	VB240070	Plastic washer (8-5-t2)	2	
8	A9012127	E ring #3	2	
9	KF230531	Roller	1	
10	QK240040C	Jump roller shaft	1	
12	EDY01120	Head pulse motor for KT	1	
101	-	Hex socket bolt 3-point sems M3x12 (black oxide finish)	4	tightening torque 3.2kgf·cm
106	-	Plain washer #5 small round	1	

[3-9] Positioning the Slider lever

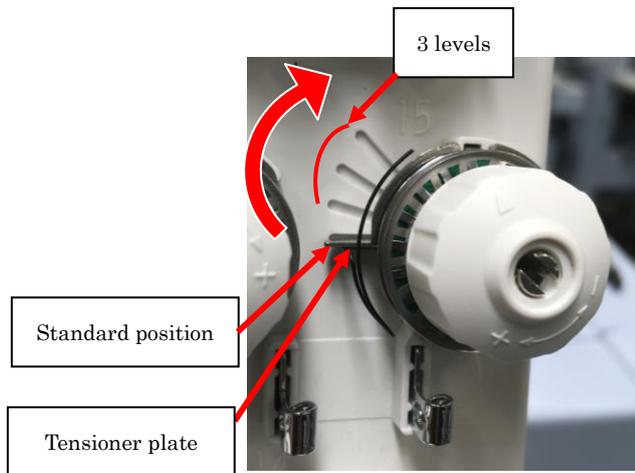
- (1) With the power on, adjust the lever so it touches the stopper as shown below.
Tighten the screws for the lever to lock it in place.

* This is the same method as before to replace and adjust.



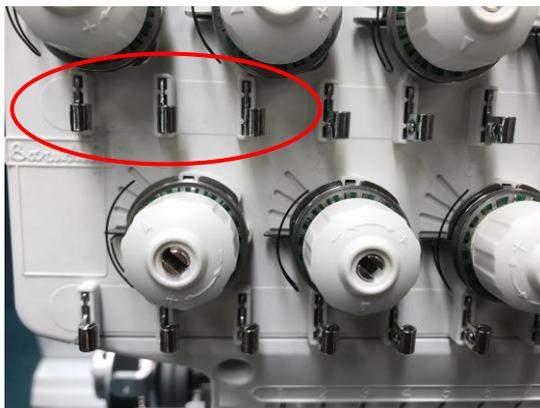
[3-10] Tensioner Details

(1) The Check Spring position has 3 stronger levels of adjustment. Please use this adjustment when using thicker thread or when tightening thread tension is not enough.



Note: When installing a machine, please make sure the tension plate position is set to the standard position.

(2) If the tensioner guides get burrs or have other damage, they can be easily removed from behind the tensioner assembly as shown in the photos below.



[Parameter settings]

This is a list of default MC1, MC2, MSU1, and MSU2 settings from the factory.

Model : BEKT-S1501CBIII 330x500

● MC1 parameter setting

No.	Item	Default	Setting value	Memo
01	Borer1	0	0	
02	Borer2	0	0	
03	Borer3	0	0	
04	T.break count	3	3	
05	T.B. Discern	0	0	
06	Needle down	1	1	
07	Stitch back	4	4	
08	Overlap	----	----	
09	Auto start count	1	1	
10	Slow up count	3st	3st	
11	Low speed	450rpm	450rpm	
12	Trim jumps	2	2	
13	Jump divide	127	127	
14	Swing	0	0	
15	S.frame	0	0	
16	0 admit	0	0	
17	Combine data	0	0	
18	LCD bright	4	4	
19	Display off	0	0	
20	ROLL to roll	----	----	
21	WS system	----	----	
22	Sequin sizeL1	0	0	
23	Sequin sizeR1	0	0	
24	Sequin sizeL2	0	0	
25	Sequin sizeR2	0	0	
26	TSQ detectL	0	0	
27	TSQ detectR	0	0	
28	Buzzer type	0	0	
29	Buzzer volume	4	4	
30	BT.break range	3	3	

● MC2 parameter setting

No.	Item	Default	Setting value	Memo
1	MC2 password	1234	1234	
2	MC1 change	1	1	
3	Right limit	200	210	
4	Left limit	200	210	
5	Back limit	110	125	
6	Front limit	110	235	
7	Lock stitch	1	3	
8	Clamp type	1	1	
9	Trim type	1	1	
10	Trim dir	0	0	
11	Trim vector	15	35	
12	Frame start	70	70	
13	Frame option	----	----	
14	Applique angle	80	80	
15	Marker type	1	1	
16	Presser foot	----	----	
17	Rotary sequin	0	0	
18	Clamp frame	0	0	
19	Warm up speed	800	800	
20	Warm up end	100	100	
21	Option port	----	----	
22	Speed limit	1500	1500	
23	Trim mode	0	0	
24	Function mode	1	1	
25	HS option	----	----	
26	Color motor speed	3	3	
27	MK8 parameter	1	1	
28	Head LED pattern	0	1	

● MSU 1 & MSU 2 Parameter setting

MSU 1			
No.	Item	Default	Setting value
01	MC2 change	1	2
02	T.break off	10	10
03	Float speed	180	180
04	Jump on speed	650	1100
05	Jump on angle	190	190
06	Jump off angle	120	190
07	Jump on delay	25	16
08	Jump off delay	25	25
09	Slider off time	500	500
10	Fork off time	540	540
11	Trim motor off	15	15
12	ATC option	0	0
13	Trim option	0	0
14	Trim top shift	0	0
15	Clamp off angle	295	295
16	Clamp control	3	7
17	Cancel control	0	0
18	Color motor off	5	5
19	Light curtain	0	0
20	F.motor option	0	0
21	F.move mode	0	0
22	M.up /10Hz	0	0
23	M.down /10Hz	0	0
24	B.changer time	0	0
25	Detect disable	2	2
26	Mandatory trace	0	0
27	T. break type	1	1
28	T. break off2	3	3

MSU 2			
No.	Item	Default	Setting value
01	MSU2 protect	0	0
02	MSU1 password	5	5
03	Heads	---	---
04	Needles	9	15
05	Max.speed	1000	1300
06	Slow down start	45	40
07	Slow down speed	600	650
08	ATC type	1	5
09	Color motor type	3	3
10	Brake type	----	----
11	Motor ratio	375	375
12	Motor capacity	----	----
13	Stop angle	240	240
14	P.coder	2	2
15	F.motor type	3	3
16	F.move pattern	2	7
17	V.motor	1	0
18	H.motor	0	0
19	V.sensor	0	0
20	H.sensor	1	0
21	Origin sensor	1	1
22	Roll to roll type	----	----
23	WS type	----	----
24	WS head space	----	----
25	Sequin devise	0	0
26	Bobbin changer	----	----
27	Chenille type	----	----
28	LSC type	----	----
29	Punch type	---	---