DÜRKOPP ADLER

D867

Additional Instructions

Skip Stitch Detection (SSD)
Including remaining thread monitor (RFW)

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

1 General information

Important

Machines of the M-TYPE DELTA class are not equipped with compressed air. If you wish to assemble the skip stitch detection including remaining thread monitor to a DELTA machine, you will need the following additional kit (see 🕮 *Parts List*):

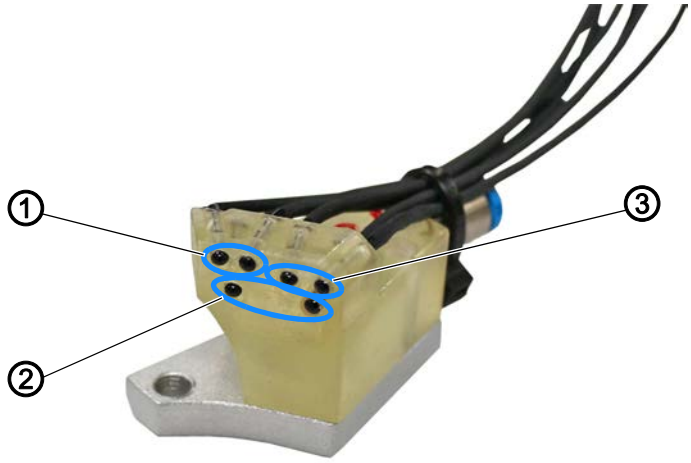
- 0867 594304: Pneumatic small parts pack
- 9780 000108: Compressed air maintenance unit
- 0797 003031: Pressure line

1.1 Sensor block

Sensor block offering the following functions:

- Remaining thread monitor (RFW/RTM)
- Skip stitch detection SSD composed of loop control (UK/LC) and bobbin rotation monitor (SDÜ/BRM)

Fig. 1: General information, sensor block



(1) - Sensor - loop control
(2) - Sensor - remaining thread monitor
(3) - Sensor - bobbin rotation monitor

1.2 Components of the kit

Check whether the scope of delivery for the kit is correct prior to installation.

Kit 0867 594414 (∅32 KFA 1-needle)

Part number	Quantity	Description
0667 155840	1	Holder
0667 155930	1	Cover
0867 154854	1	SSD hook Ø 32 mm
0867 151200	3	Bobbin Ø 32 mm
0867 594494	1	Sensor block
0867 594504	1	Blow tube
9202 002057	1	Screw M4x6
9202 002077	1	Screw M4x10
9203 003087	2	Screw M3x14
9204 201667	6	Screw M4x10-
9207 170437	2	Chipboard screws 4x20
9330 000087	1	Washer A4.3
9710 061412	1	2x3/2-way valve
9731 005004	1	Hose PUR, 2.2 m
9790 060102	2	WI-E coupling
9830 501014	4	Spacer
9840 121002	6	Cable tie
9850 001504	1	PCB
9874 867002	1	Cable CAN to SSD
9874 867023	2	Cable
B1100192.01	1	Reducer plug
B1300260.00	1	Double screw connection
B1400342.00	1	Sealing plug
0867 591390	1	Holder
9840 120106	3	Cable holder for cable tie
9731 006004	1	Hose PUR, 1 m

Kit 0867 594614 (∅32 FA 2-needle)

Part number	Quantity	Description
0867 151070	2	Compression spring
0867 494390	1	Holder
0667 155930	2	Cover
0867 154864	2	SSD bobbin case Ø 32 mm
0867 151200	6	Bobbin Ø 32 mm
0867 591354	2	Sensor block
0867 591423	2	Blow tube
9202 002057	2	Screw M4x6
9202 002077	2	Screw M4x10
9203 003137	2	Screw M3x25
9204 201667	10	Screw M4x10-H
9330 400017	2	Washer
9710 061412	2	2x3/2-way valve
9790 060102	2	WI-E coupling
9830 501014	8	Spacer
9840 121002	10	Cable tie
9850 001504	2	PCB
9874 867002	2	Cable CAN to SSD
9874 867023	4	Cable
9840 120106	2	Cable holder for cable tie
B1300256.00	1	3 times screw connection
0867 591390	1	Holder
9207 170437	2	Chipboard screws 4x20
B1100192.01	2	Reducer plug
9731 005004	1	Hose PUR, 4.4 m
9731 006004	1	Hose PUR, 2 m

Kit 0867 594634 (∅32 FA 1-needle)

Part number	Quantity	Description
0667 155840	1	Holder
0667 155930	1	Cover
0867 151070	1	Compression spring
0867 154864	1	SSD hook Ø 32 mm
0867 151200	3	Bobbin Ø 32 mm
0867 591354	1	Sensor block
0867 591390	1	Holder
0867 591423	1	Blow tube
9202 002057	1	Screw M4x6
9202 002077	1	Screw M4x10
9203 003087	2	Screw M3x14
9204 201667	6	Screw M4x10-H
9207 170437	2	Tensioning plate screw
9330 400017	1	Washer
9710 061412	1	2x3/2-way valve
9731 005004	1	Hose PUR, 2.2 m
9731 006004	1	Hose PUR, 1 m
9790 060102	2	WI-E coupling
9830 501014	4	Spacer
9840 120106	2	Cable holder for cable tie
9840 121002	6	Cable tie
9850 001504	1	PCB
9874 867002	1	Cable CAN to SSD
9874 867023	2	Cable
B1100192.01	1	Reducer plug
B1300260.00	1	Double screw connection

2 Assembly

NOTICE

Property damage may occur!

The operation of the sensor may be impaired by a damaged bobbin.

Do NOT damage the bobbin when removing it. Do not use any metal objects to remove it. Use your fingers to remove the bobbin in order to avoid damage.

NOTICE

Property damage may occur!

Cables may sustain damage and impair the operation of the machine.

Always lay the cables so as not to create any chafing or pinching points.

These instructions are intended for specialists. This group has the appropriate technical training for performing modifications or repairing malfunctions.

2.1 Tools required for assembling the kit

Fig. 2: Required tools

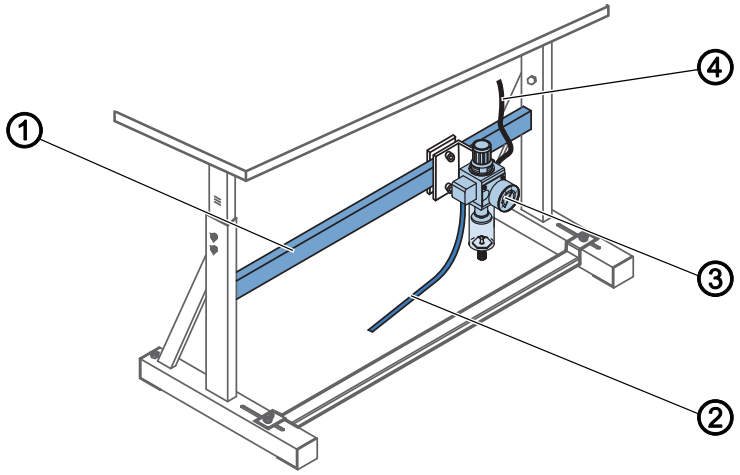
- Screw driver, cross-head
- Screw driver slot
- Allen key, size 3
- Allen key, size 5
- Wrench, size 14
- Wire cutter

2.2 Assembling the compressed air maintenance unit

Information

If the machine is not yet equipped with one, the compressed air maintenance unit must be assembled to the machine.

Fig. 3: Assembling compressed air maintenance unit and valve block (1)



(1) - Cross bar
(2) - System connection hose
(3) - Compressed air maintenance unit
(4) - Machine hose

To assemble the **compressed air maintenance unit**:

1. Assemble the maintenance unit (3) to the upper cross bar (1) of the stand using the bracket, screws and clip.
2. Assemble the machine hose (4), which is led to the upper part, to the compressed maintenance unit (3) at the top right using the elbow screw joint.
3. Connect the system connection hose (2) to the pneumatic system.

2.3 Assembling the SSD

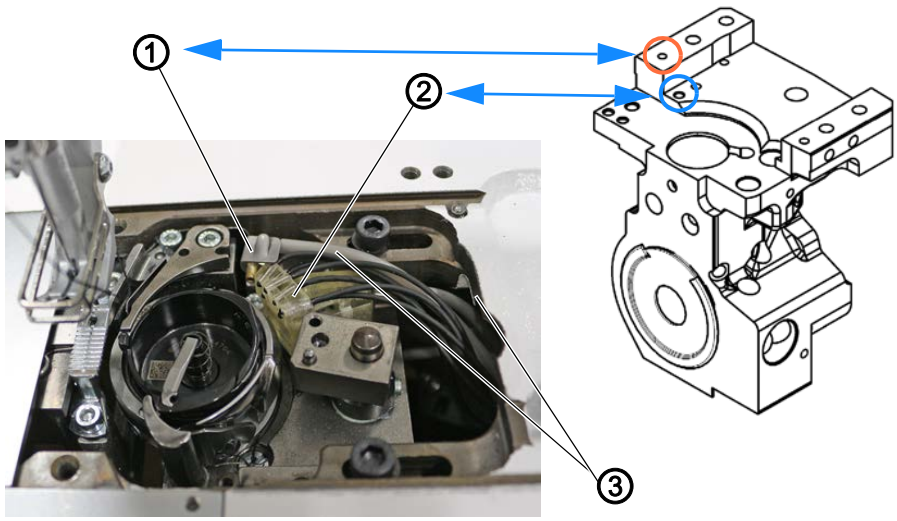
To assemble the SSD:

1. Switch off the machine and disconnect it from the power supply.
2. Disassemble any old components of the remaining thread monitor.

Fig. 4: Assembling the SSD (1)

3. Change the bobbin case (🕮 *Service Instructions*).

Fig. 5: Assembling the SSD (2)



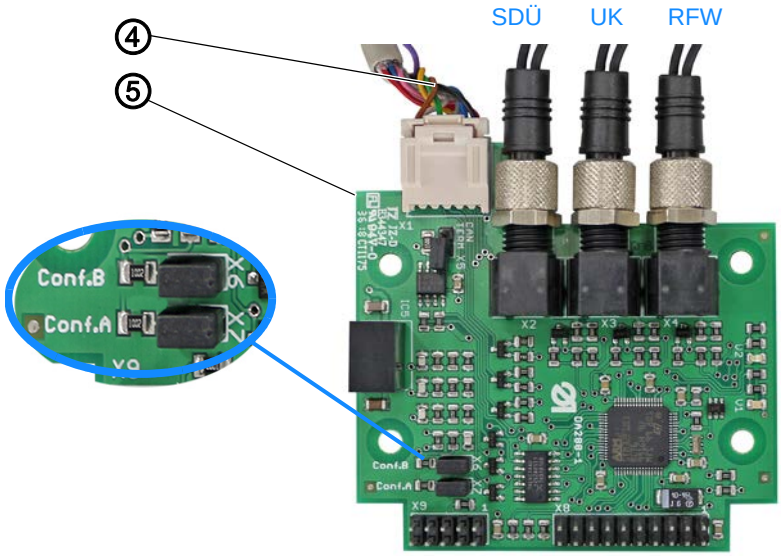
(1) - Blow tube
(2) - Sensor block
(3) - hose

4. Halve the hose (3) (2.2 m).
5. Fit the hoses onto the blow tube (1) and the sensor block (2).
6. Tighten the sensor block (2) on the hook support.
   While doing so, press the sensor block (2) against the casting and slide it to the right in the screw hole to position it correctly.
7. Tighten the blow tube (1) on the hook support.
   While doing so, align the blow tube (1) such that the flow of air hits the ground surface of the bobbin case.
8. Tilt the machine head.
9. Pull the cables and hoses through the base plate and to the underside of the machine.

Important

Electrostatic sensitive components. Handling is only permitted in protected workplaces.

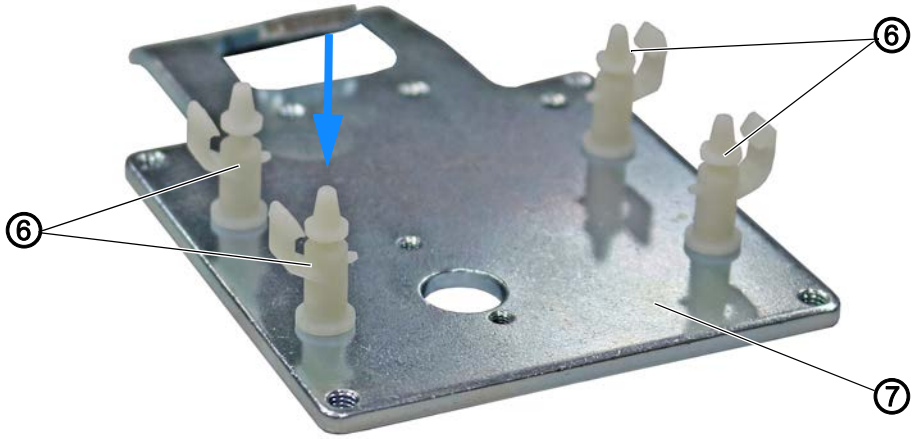
Fig. 6: Assembling the SSD (3)



(4) - Cable *(5) - PCB*

10. Control the SSD PCB (5):
    - Jumpers (**X6, X7**) must be inserted as shown above: **open**
    - Plug of cable (4): Slot **X1**
    - Light conductor SDÜ: Slot **X2**
    - Light conductor UK: Slot **X3**
    - Light conductor RFW: Slot **X4**

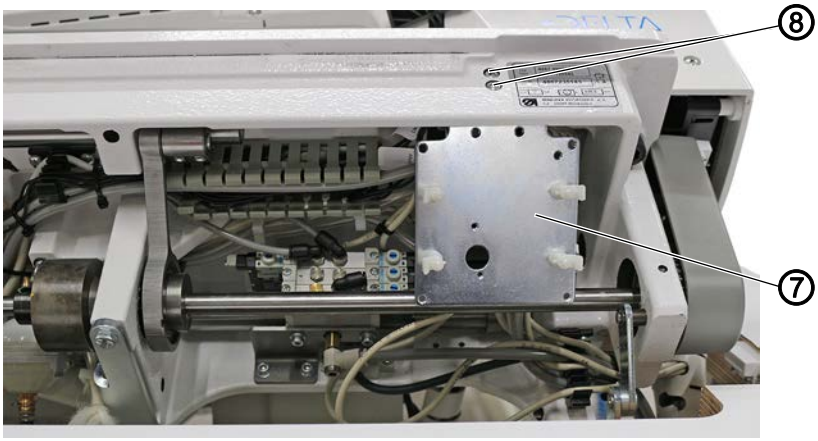
Fig. 7: Assembling the SSD (4)



(6) - Spacer *(7) - Circuit board holder*

11. Slip the spacers (6) onto the circuit board holder (7) and fix them in place by pushing them down.

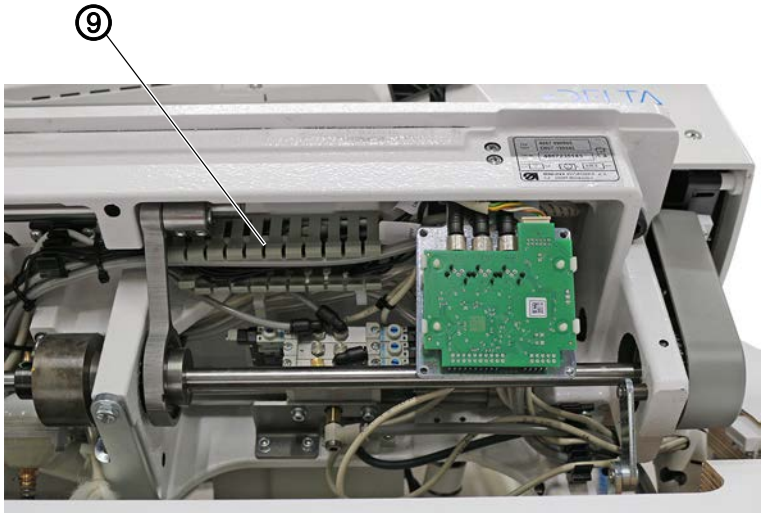
Fig. 8: Assembling the SSD (5)



(7) - Circuit board holder *(8) - Screws*

12. Assemble the circuit board holder (7) to the base plate of the machine using 2 screws (8).
    While tightening the screws, make sure not to pinch any cables.
13. Press the PCB (5) onto the circuit board holder (7) until it locks into place.

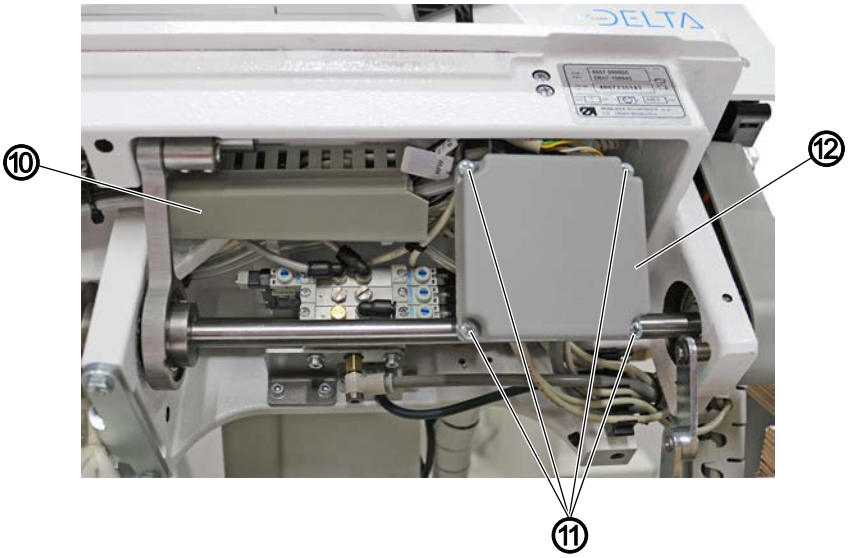
Fig. 9: Assembling the SSD (6)



(9) - Cable duct

14. Lay the cables in the cable duct (9).

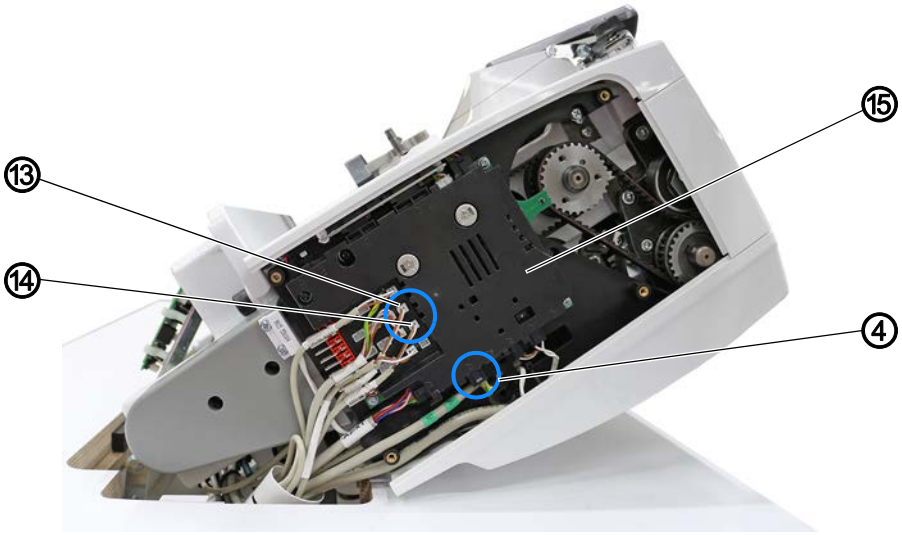
Fig. 10: Assembling the SSD (7)



(10) - Cover
(11) - Screws
(12) - Cover

15. Tighten the cover (12) to the circuit board holder (7) using M4x10 screws (11).
16. Clip the cover (10) onto the cable duct (9).
17. Lay the hoses (3) at the rear out of the oil pan under the tabletop.

Fig. 11: Assembling the SSD (8)



(4) - Cable
(13) - Valve connector
(14) - Valve connector
(15) - PCB

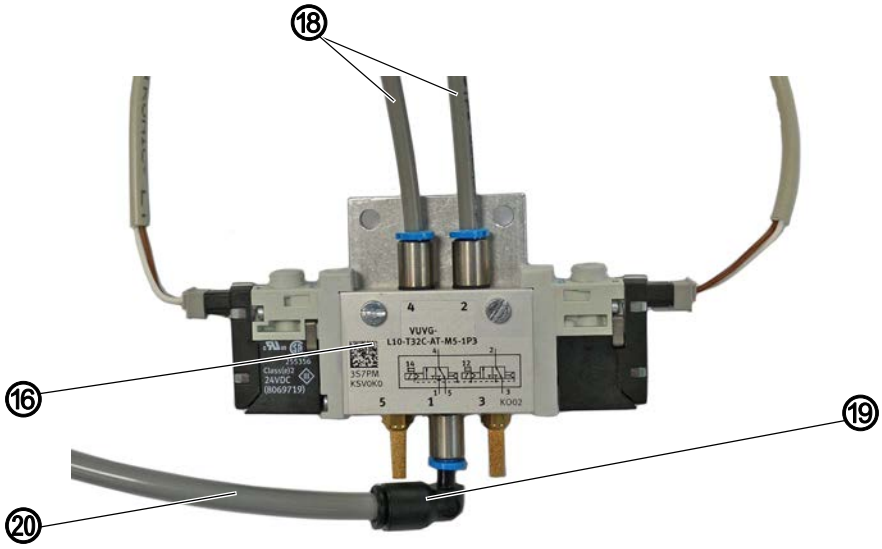
18. Slip valve connectors (13) and (14) onto the solenoid valve (16).
19. Connect the cable (3) at slot **X2** (for 1-needle machines) on PCB A2 (15).

Fig. 12: Assembling the SSD (9)

(16) - Solenoid valve
(17) - Support plate

20. Assemble the solenoid valve (16) on the support plate (17).

Fig. 13: Assembling the SSD (10)



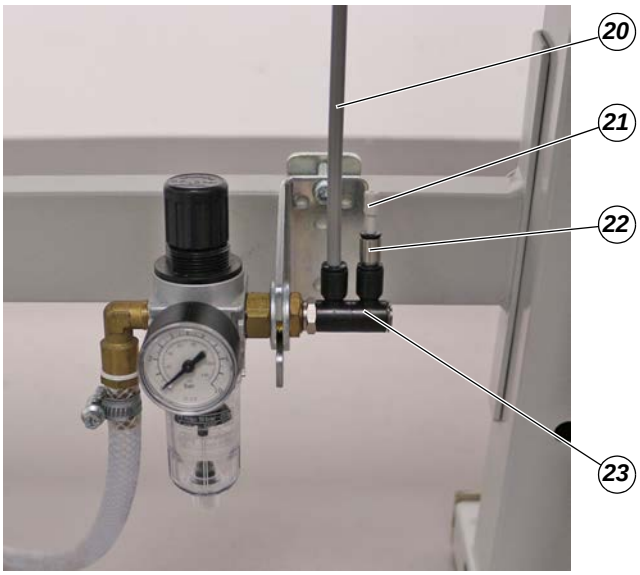
(16) - Solenoid valve
(18) - Pneumatic hoses
(19) - Bracket plug-in connection
(20) - Pneumatic hose

21. Insert the bracket push-in connector (19) into the solenoid valve (16).
22. Fit the pneumatic hoses (18) from the blow tube and sensor block and the pneumatic hose (20) to the solenoid valve (16).

Sensor block	Blow tube
Cable 1	Cable 2
Output 2	Output 4

23. Fit the plugs (13) and (14) of the cables of the solenoid valve onto the solenoid valve.
24. Tighten the solenoid valve (16) with the support plate (17) under the tabletop.
25. Shorten the length of the pneumatic hoses if necessary.

Fig. 14: Assembling the SSD (12)



(20) - Pneumatic hose
(21) - Blanking plug
(22) - Reducer plug
(23) - Double screw connection

26. Assemble the double screw connection (23) in the kit on the compressed air maintenance unit.
27. Insert the reducer plug (22) and blanking plug (21) into the double screw connection (23).
28. Insert the pneumatic hose (20) from the solenoid valve into the double screw connection (23).
29. Shorten the length of the pneumatic hose if necessary.
30. Reconnect the power supply and compressed air connection.
31. Switch on the machine and make adjustments in the software (📖 *p. 16*).

3 Software settings

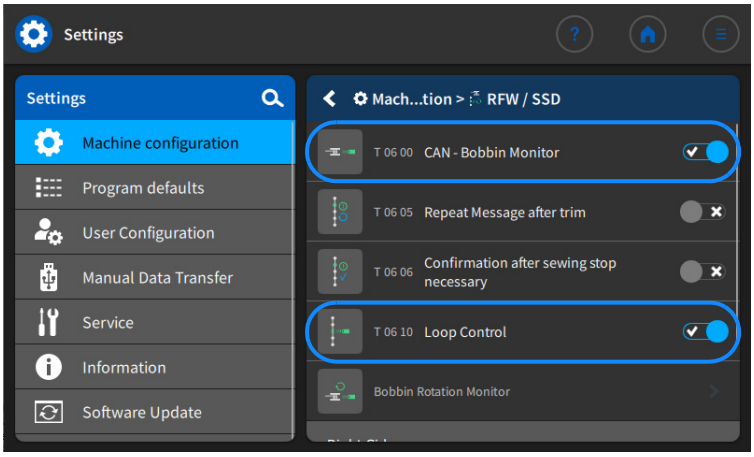
3.1 Activating the SSD

To activate the SSD:

1. Log in as a technician.
   User: technician
   Password: 25483

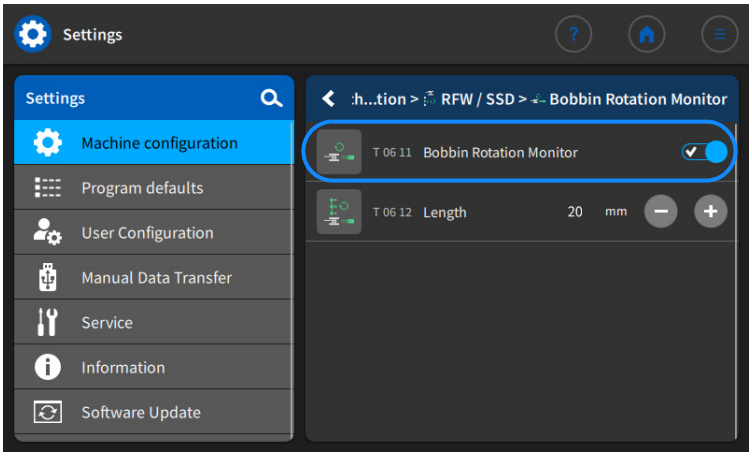
2. Open the menu `Navigation` > `Settings` > `Machine Configuration` and press the **RFW/SSD** button.

Fig. 15: Activating the SSD (1)



3. Activate the parameter `t 06 00` CAN - Bobbin Monitor.
4. Activate the parameter `t 06 10` Loop Control.
5. Press the **Bobbin Rotation Monitor** button.

Fig. 16: Activating the SSD (2)



6. Activate the parameter `t 06 11` Bobbin Rotation Monitor.

Press the button to return to the main screen.

7. Restart the machine to adopt the settings.

3.2 Testing the SSD

You can use the menu *Navigation* > *Settings* > *Service* > *Multi test* > *t 60 09 Test Loop Control* to test the SSD:

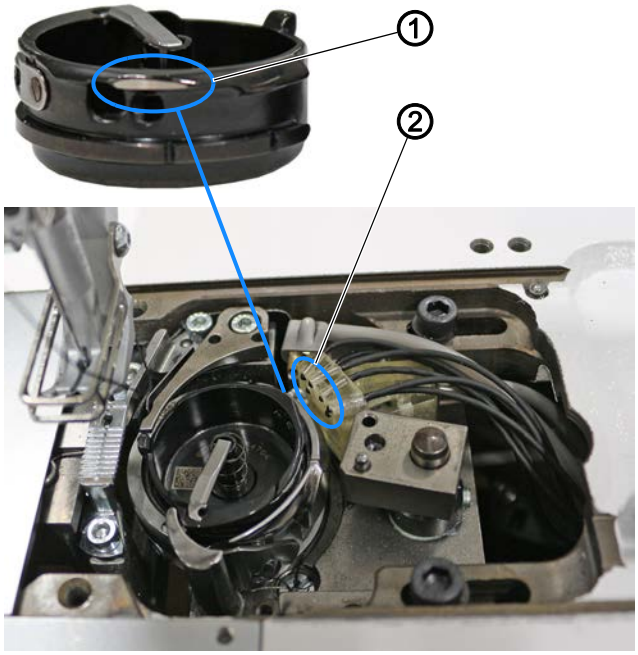
Icon	Description
	RFW limit • Value range: 0.0 - 4.0 • Default value: 1.7
	RFW intensity • Value range: 0.0 - 4.0 • Default value: 1.7
	Test the stitch counter hook thread • Check: Switch to the display *Stitch counter hook thread* and turn the bobbin; the counter is incremented with every half turn
	Test value of the hook thread stitch counter • Check: Switch to the display *Value hook thread stitch counter* and turn the empty bobbin slowly into the reflecting area. ↳With the proper setting, the value of the hook thread stitch counter must be > 1500.
	Test the remaining thread monitor signal ↳Check the signal of the reflecting surface
	Test the bobbin rotation counter • Check: Switch to the display *Bobbin rotation counter* and turn the bobbin; the counter is incremented 12 times per turn
	Test the value of the bobbin rotation counter • Check: Switch to the display *Value hook thread stitch counter* and turn the empty bobbin slowly into the reflecting area. ↳With the proper setting, the value of the hook thread stitch counter must be > 1500.

Icon	Description
	Test the skip stitch counter • Check: Switch to the display *Stitch counter skip stitch* and simulate a thread cycle; the counter is incremented each time the thread passes through
	Test the value of the skip stitch counter • Check: Switch to the display *Value skip stitch counter* and simulate a thread cycle ↳With the proper setting, the value of the skip stitch counter must be > 1500.
	Test the degree of soiling ↳Display of the degree of soiling in % If the degree of soiling rises above 80%, the display will show a warning. In this case, the SSD needs to be cleaned 📖 *p. 19*

4 Cleaning the SSD

If the degree of soiling rises above 80%, the display will show a warning. In this case, the SSD needs to be cleaned.

Fig. 17: Cleaning the SSD



(1) - Surface on the hook *(2) - Sensors*

To clean the SSD:

1. Clean the surface on the hook (1) and the sensors (2) with a cloth.

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