



650-10

Additional Instructions

Assembling the tape transport

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

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1 General information

Check whether the scope of delivery for kit 0650 590024 is correct prior to installation.

Part number	Quantity	Description
0580 490194	1	Rotary encoder
0650 340013	1	Mounting bushing
0650 340040	1	Toothed belt wheel
0650 340050	1	Toothed belt wheel
0650 340220	1	Bracket
0650 340610	1	Plate
0650 340624	1	Tensioning mechanism
0650 340700	1	Belt guide
9202 002077	4	Cylinder-head bolt
9202 002097	2	Cylinder-head bolt
9203 002422	2	Cylinder-head bolt
9204 002363	2	Countersunk screw
9205 102158	1	Threaded pin
9800 580050	1	Stepper motor
9870 001049	1	Adapter
9835 301003	1	USB key
9899 065000 700	1	Software
0791 650701 EN	1	Additional Instructions

2 Tape transport

2.1 Disassembling the old tape transport

Fig. 1: Disassembling the old tape transport (1)



(1) - Screws

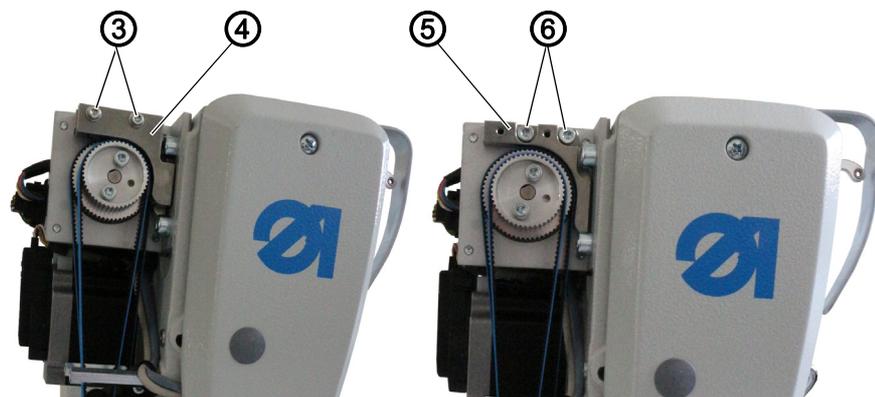
(2) - Cover



To disassemble the old belt transport:

1. Loosen the screws (1).
2. Remove cover (2).

Fig. 2: Disassembling the old tape transport (2)



(3) - Screws

(4) - Jump protection

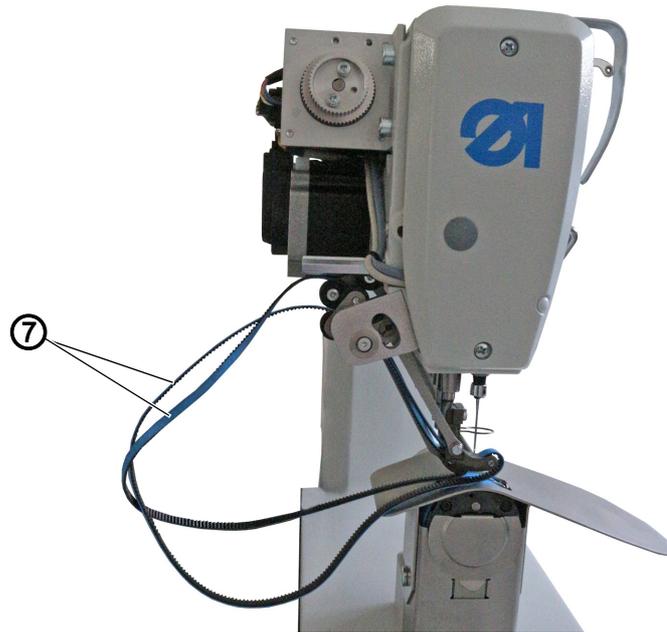
(5) - Jump protection

(6) - Screws



3. Loosen the screws (3).
4. Remove jump protection (4).
5. Loosen the screws (6).
6. Remove jump protection (5).

Fig. 3: Disassembling the old tape transport (3)

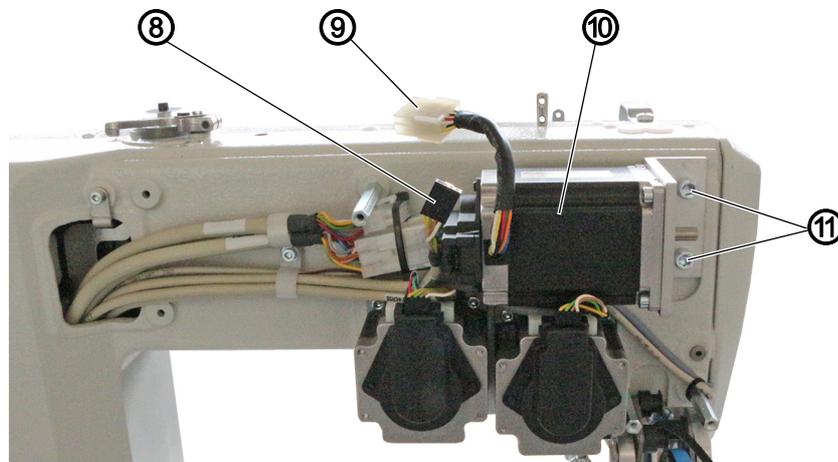


(7) - Conveyor belts



7. Remove the conveyor belts (7).

Fig. 4: Disassembling the old tape transport (4)



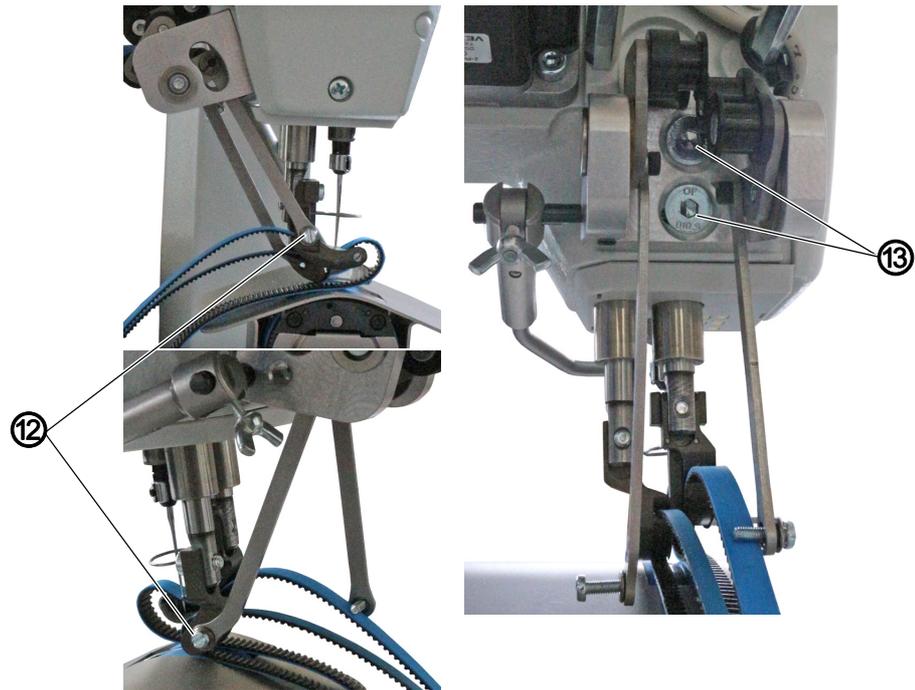
(8) - Encoder plug
(9) - Motor plug

(10) - Motor
(11) - Screws



8. Disconnect encoder plug (8) and motor plug (9).
9. Loosen the screws (11).
10. Disassemble the motor (10)

Fig. 5: Disassembling the old tape transport (5)



(12) - Screws

(13) - Screws

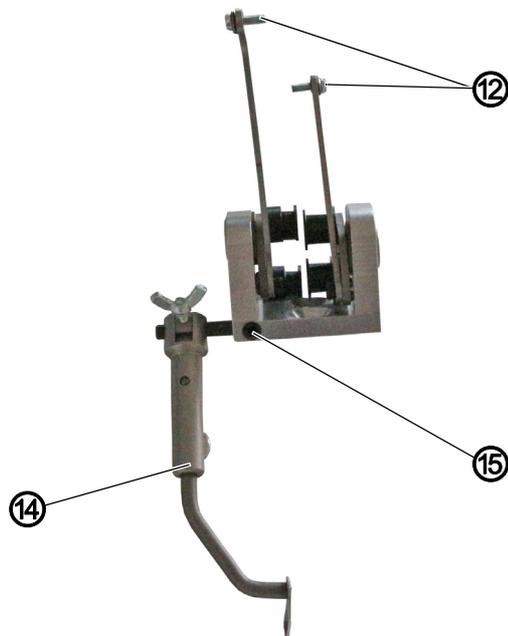


11. Loosen the screws (12) on the coupling rods.

12. Loosen the screws (13).

13. Disassemble the deflector mechanism.

Fig. 6: Disassembling the old tape transport (6)



(12) - Screws

(14) - Edge guide

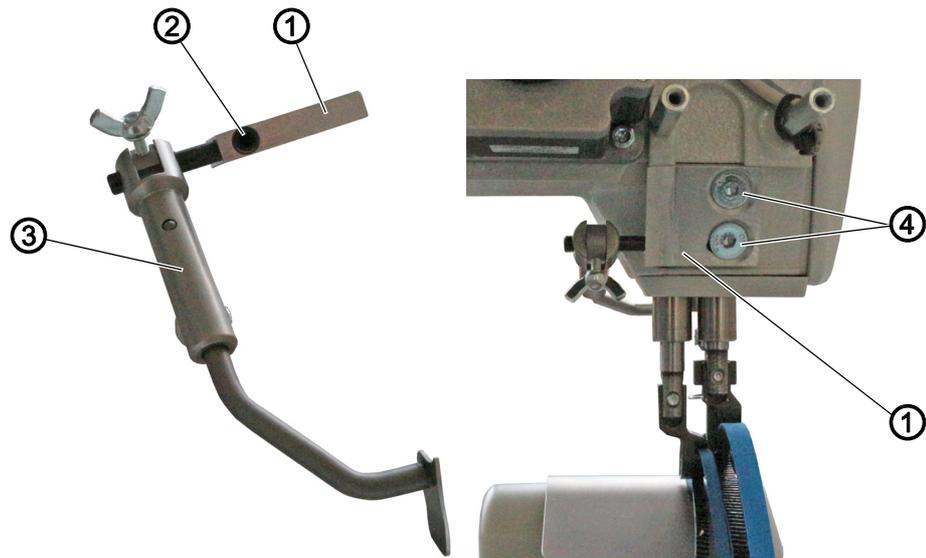
(15) - Threaded pin



14. Pull the screws (12) out of the coupling rods.
The screws will be needed for the assembly of the new tape transport.
15. Loosen the threaded pin (15).
16. Disassemble the edge guide (14)
The edge guide (14) and the threaded pin (15) will be needed for the assembly of the new tape transport.

2.2 Assembling the new tape transport

Fig. 7: Assembling the new tape transport (1)



(1) - Plate
(2) - Threaded pin

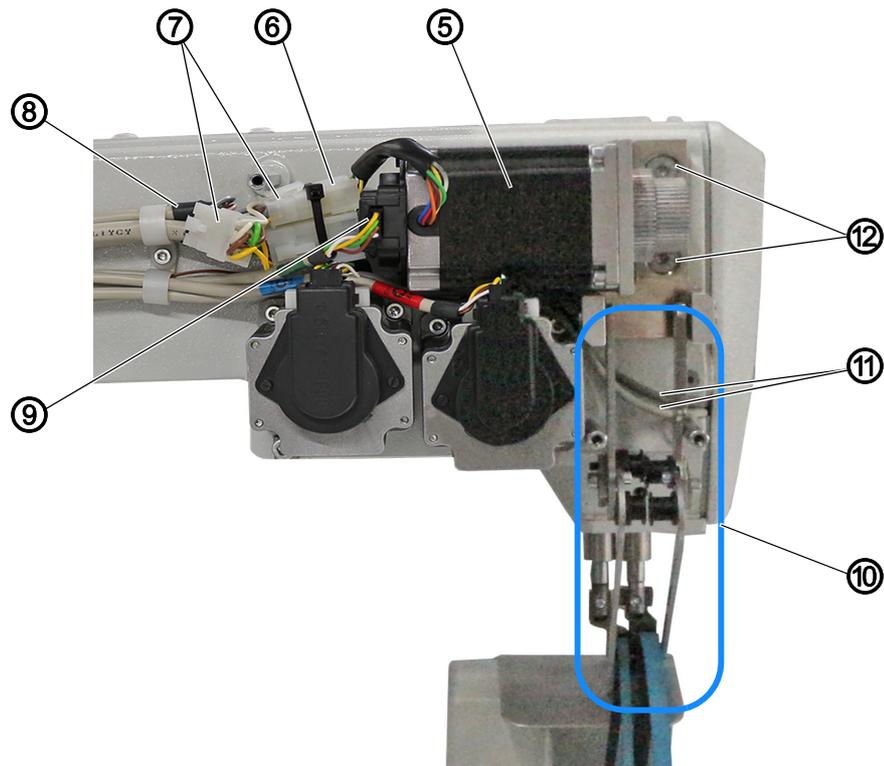
(3) - Edge guide
(4) - Screws



To assemble the new tape transport:

1. Screw the edge guide (3) to the plate (1).
Ensure that the threaded pin (2) is flush with the surface.
2. Screw the plate (1) and the edge guide (3) to the machine head using the screws (4).

Fig. 8: Assembling the new tape transport (2)



- (5) - Motor
- (6) - Motor plug
- (7) - Adapter
- (8) - Motor cable

- (9) - Encoder plug
- (10) - Deflector mechanism
- (11) - Cables
- (12) - Countersunk screws



3. Tighten the new motor (5) and the new deflector mechanism (10) to the machine head using the countersunk screws (12).

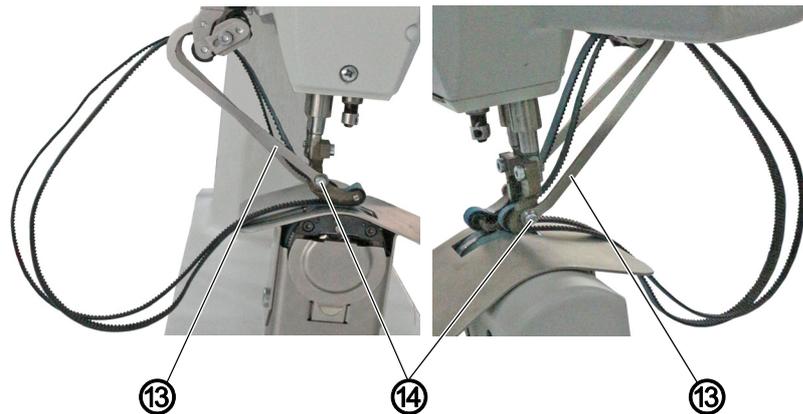


Important

Do not tighten the countersunk screws (12) all the way. The slotted holes in the bracket make it possible to later shift the position of the motor (5). Ensure that the cables (11) are properly fixed in place by cable ties without being pinched. The conveyor belts must not come into contact with the cables (11) following assembly.

- 4. Connect the encoder plug (9).
- 5. Connect the motor plug (6) and the motor cable (8) with the adapter (7).

Fig. 9: Assembling the new tape transport (3)



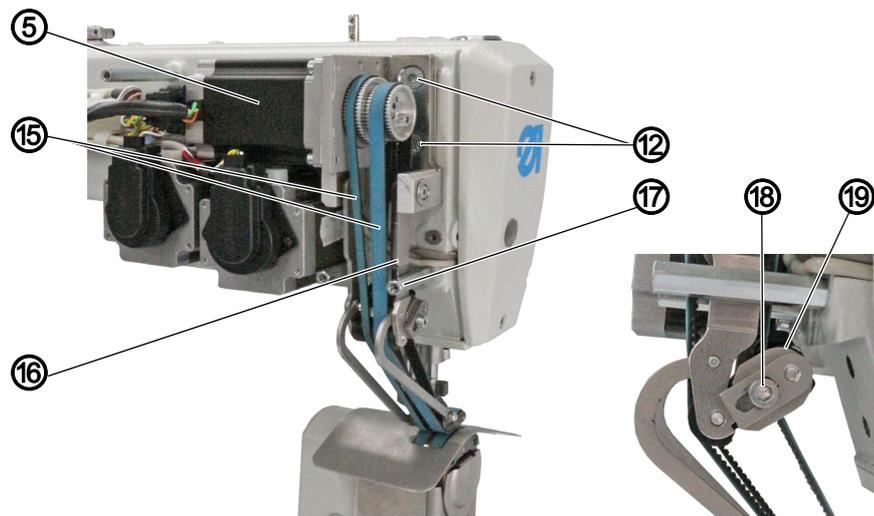
(13) - Coupling rods

(14) - Screws



6. Tighten the coupling rods (13) to the sewing foot using the screws (14).

Fig. 10: Assembling the new tape transport (4)



(5) - Motor

(12) - Countersunk screws

(15) - Conveyor belts

(16) - Guide

(17) - Spacer pin

(18) - Screw

(19) - Guide piece



7. Assemble the conveyor belts (15).

8. To tighten the conveyor belts (15), slightly lift the motor (5).

 The conveyor belts (15) tighten.

9. Tighten the countersunk screws (12).

10. To retighten the conveyor belts (15), loosen the screw (18) on the guide piece (19).

- To increase the tension: Slide the guide piece (19) to the left
- To reduce the tension: Slide the guide piece (19) to the right

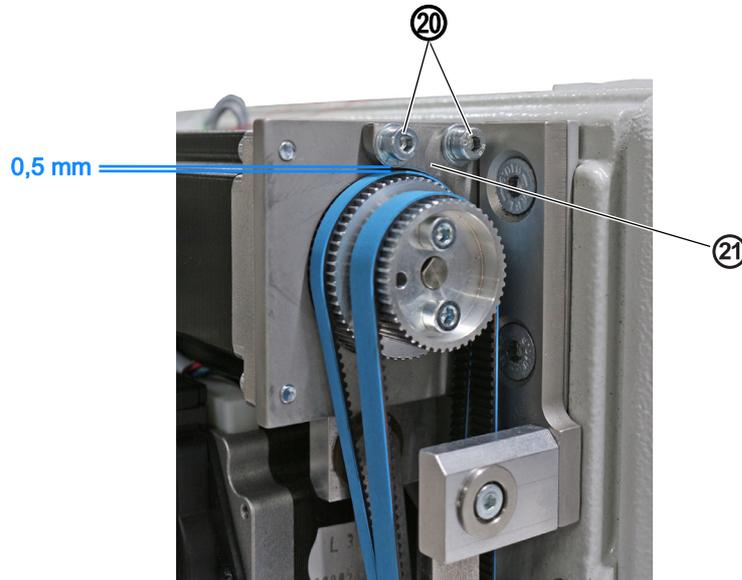
11. Tighten the screw (18).



Important

Make sure there is only a minimum gap between the guide (16) and the spacer pin (17).
Ensure that the guide piece (19) does not abut on the machine head when the sewing foot is lowered.

Fig. 11: Assembling the new tape transport (5)



(20) - Screws

(21) - Belt guide



Assemble the belt guide (21) with the screws (20).
Ensure that there is a distance of 0,5 mm between the belt guide (21) and the conveyor belt.

Fig. 12: Assembling the new tape transport (6)



(22) - Screws

(23) - Cover



- 12. Assemble the cover (23).
- 13. Tighten the screws (21).

3 Updating the software

3.1 Loading and setting up the software for OP3000

3.1.1 Loading the software

The software will already have been loaded onto machines equipped with the OP3000 control panel.

3.1.2 Calibrating the electronic thread tensioner



Important

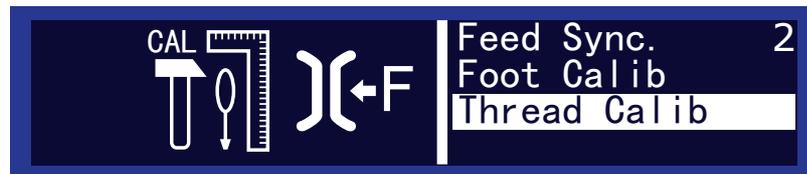
The thread tensioner only needs to be calibrated for software versions **BEFORE A03.61**.



To calibrate the electronic thread tensioner:

1. Open the menu item *Service > Calibration* and select the *Thread Calib* option.

Fig. 13: Calibrating the electronic thread tensioner (1)



You use this subitem to calibrate the needle thread tension. You will need a thread tension measurement device to perform the calibration.



Order

Calibration points

You need to set the calibration points 3 – 1 one after the other:

- **Point 3** – maximum tension (300 g)
- **Point 2** – medium tension (150 g)
- **Point 1** – minimum tension (5 g)

Calibration steps



To calibrate the needle thread tension:

Step 1: Set calibration point 3

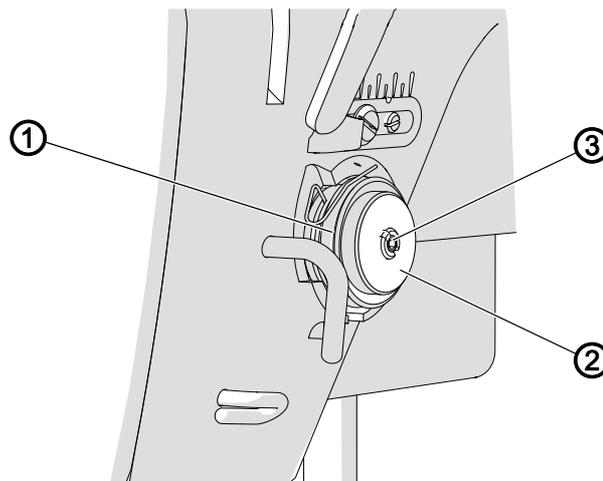
1. Insert the thread and guide it up to the thread lever ( *Operating Instructions*).
2. After the thread lever, feed the thread into the measurement device.
3. Use ▲/▼ to select calibration point 3:

Fig. 14: Calibrating the electronic thread tensioner (2)



4. Press **OK**.

Fig. 15: Calibrating the electronic thread tensioner (3)



(1) - Tension disks
(2) - Adjusting nut

(3) - Threaded pin



5. Completely loosen the threaded pin (3) in the middle of the thread tensioner.
6. Screw in the adjusting nut (2) as far as possible without pressing the tension disks (1) against each other.
7. Slowly loosen the adjusting nut (2) again while observing the display on the tension measurement device.
8. At the point at which the measurement device displays a value of 300 g: Tighten the threaded pin (3) without changing the position of the adjusting nut (2).
9. Press **OK**.

Step 2: Set calibration point 2

1. Use ▲/▼ to select calibration point 2.
2. Press **OK**.
3. Use ▲/▼ to change the thread tension until the measurement device shows 150 g.
4. Press **OK**.

Step 3: Set calibration point 1

1. Use ▲/▼ to select calibration point 1.
2. Press **OK**.
3. Use ▲/▼ to change the thread tension until the measurement device shows 5 g.
4. Press **OK**.

3.1.3 Calibrating the sewing foot pressure



To calibrate the sewing foot pressure:

1. Open the menu item *Service* > *Calibration* and select the *Foot Calib* option.

Fig. 16: Calibrating the sewing foot pressure



The control must know the upper and lower position of the sewing feet. The upper and the lower position are defined by the calibration performed in this subitem.



Order

Always calibrate the sewing feet after making adjustments to the sewing foot lifting gear ( *Service Instructions*).



Calibrate the sewing feet as follows:

1. Call up the *Foot Calib* subitem.
2. Press **OK**.
3. The machine will calibrate automatically:
Both sewing feet move up and down once.
The calibration is then complete.

3.1.4 Setting the *Serial Wiring* parameter

Tape transport requires that the series connection of the upper transport motor be activated.

To set the parameter:

1. Switch off the machine.
2. Keep the **S** button pressed down and switch on the machine.
3. Enter the password 85627.
4. Open the menu item *Feed > Feed Diff Top > Serial Wiring* and select the value *1*.
5. Confirm with **OK**.

3.2 Loading and setting up the software for OP7000

3.2.1 Loading the software

The control software for machines equipped with the OP7000 control panel is included on a USB key.



To load the software:

1. Plug in the USB key into the OP7000 control panel.
 2. Start the machine.
- ↳ The software is updated automatically.

3.2.2 Calibrating the electronic thread tensioner



Important

The thread tensioner only needs to be calibrated for software versions BEFORE A03.61.



To calibrate the electronic thread tensioner:

1. Open the menu item *Service > Calibration* and select the *Thread Tension Calibration* option.

You use this subitem to calibrate the needle thread tension.

You will need a thread tension measurement device to perform the calibration.



Order

Set the following 3 calibration positions one after the other for the needle thread:

- **Position 3** – maximum tension (300 g)
- **Position 2** – medium tension (150 g)
- **Position 1** – minimum tension (5 g)

Calibration steps

To set calibration position 3:

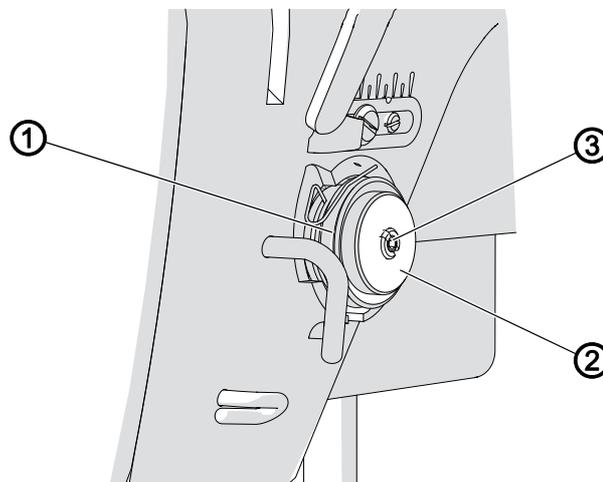


1. Insert the thread and guide it up to the thread lever ( *Operating Instructions*).
2. After the thread lever, feed the thread into the thread tension measurement device.



3. Select *Tension Top 300g*.
4. Press *On/Off*.
- ↳ The tension element is closed.
5. Measure the tension value. It must be at 300 g.

Fig. 17: Calibrating the electronic thread tensioner



(1) - Tension disks
(2) - Adjusting nut

(3) - Threaded pin

If it is not at 300 g, correct as follows:



6. Loosen the threaded pin (3).
7. Press *On/Off*.
8. The tension element opens.
9. Very gently turn the adjusting nut (1):
 - Turn clockwise = reduce value
 - Turn counterclockwise = increase value
10. Select *Tension Top 300g* again.
11. Press *On/Off* and measure the tension value.
12. At the point at which the thread tension measurement device displays a value of 300 g:
Tighten the threaded pin (3) without changing the position of the adjusting nut (1).
13. Press *On/Off*.
- ↳ The tension element opens.



To set calibration position 2:

1. Select *Tension Top 150g*.
2. Change the thread tension with +/-1 or +/-10 until the thread tension measurement device displays 150 g.
3. Exit the menu item.



To set calibration position 1:

1. Select *Tension Top 5g*.
2. Change the thread tension with +/-1 or +/-10 until the thread tension measurement device displays a value.
3. Exit the menu item.

3.2.3 Calibrating the sewing foot pressure



To calibrate the sewing foot pressure:

1. Open the menu item *Service > Calibration* and select the *Feet Difference Calibration* option.
- ↘ The values for the sewing feet are calibrated automatically.

3.2.4 Setting the *Serial Wiring* parameter

Tape transport requires that the series connection of the upper transport motor be activated.



To set the parameter:

1. Switch off the machine.
2. Switch on the machine.
3. The boot loader screen is displayed:

Fig. 18: Setting the Serial Wiring parameter





4. Press the  button.
5. Enter the password 85627.
6. Open the menu item *Service On Start > Machine Configuration > Transport Top Motor Serial Wiring* and select the value 1.
7. Confirm with **OK**.



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