DÜRKOPP ADLER

M-Type PREMIUM

Additional Instructions

Adjusting the thread tensioning plate

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

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1 General information

These additional instructions describe how to set up the thread tensioning plate for the following classes:

Class	Subclass
667	• 667-180912 • 667-180932
669	• 669-180912
867	• 867-190922-M • 867-190929-M • 867-190942-M • 867-190945-M • 867-290942-M • 867-290945-M
868	• 868-190922-M • 868-290922-M
869	• 869-180922-M • 869-280922-M
878	• 878-160722-M • 878-260722-M

The setup process is described for 1-needle machines and must be completed in the same way for 2-needle machines.

Required tools/materials/software

The adjustment of the thread tensioning plate requires the use of the following components:

- Thread: **Serafil 30 black**
- Thread scale (preferably, **Schmidt MST-2000**)
- Sealing wax
- Locking peg
- Flat-head screwdriver
- 10 mm wrench
- Metal plate (for **Schmidt MST-2000**)
- Screw clamp (for **Schmidt MST-2000**)
- Software version **4.27** or later

Information

To attain the most accurate measuring result, we recommend that you use the **Schmidt MST-2000** thread scale.

2 Adjusting the thread tensioning plate

Preparing the adjustment using the Schmidt MST-2000

Use screw clamps to attach a plain sheet of metal (e.g. 6 mm aluminum) to the tabletop on the left-hand side of the machine.

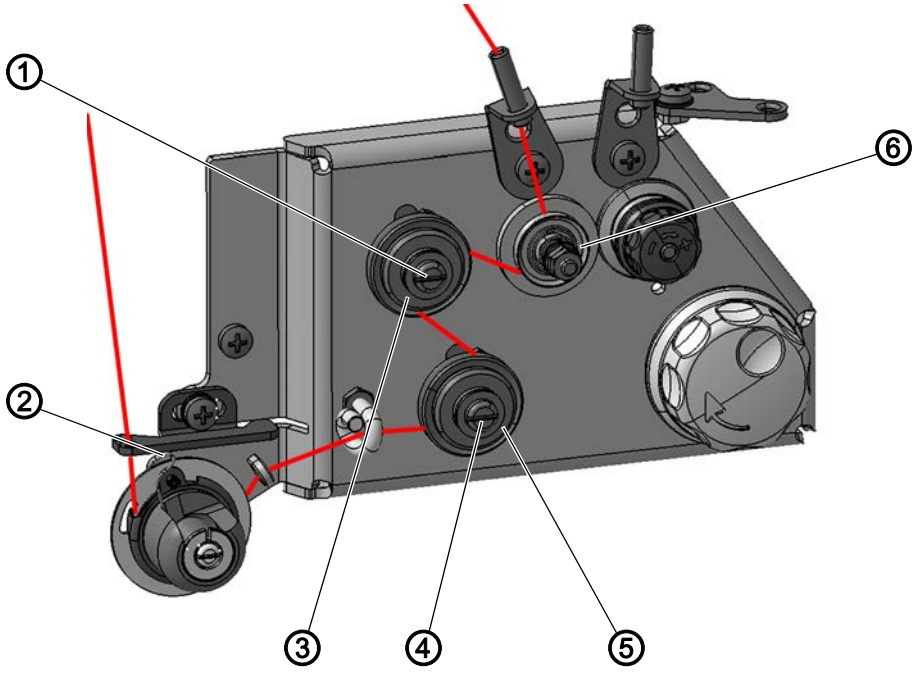
Set up the thread scale with its suction cup base on the metal plate in such a way that the sewing thread - coming from the thread lever - lines up with thread guides both horizontally and vertically.

Important

Use a **Serafil 30 black** thread to set the thread tensioning plate.
cw = turn clockwise
ccw = turn counterclockwise

2.1 Setting the machine

Fig. 1: Setting the machine



(1) - Lock screw
(2) - Thread tension spring
(3) - Stop screw
(4) - Lock screw
(5) - Stop screw
(6) - Pre-tensioner

To set the machine:

1. Switch on the machine.
2. Call up the service routine `Service > Settings > Thr.Tens.Top` (📖 *Service Instructions*).

↳ The software is used to define the necessary presettings on the machine.

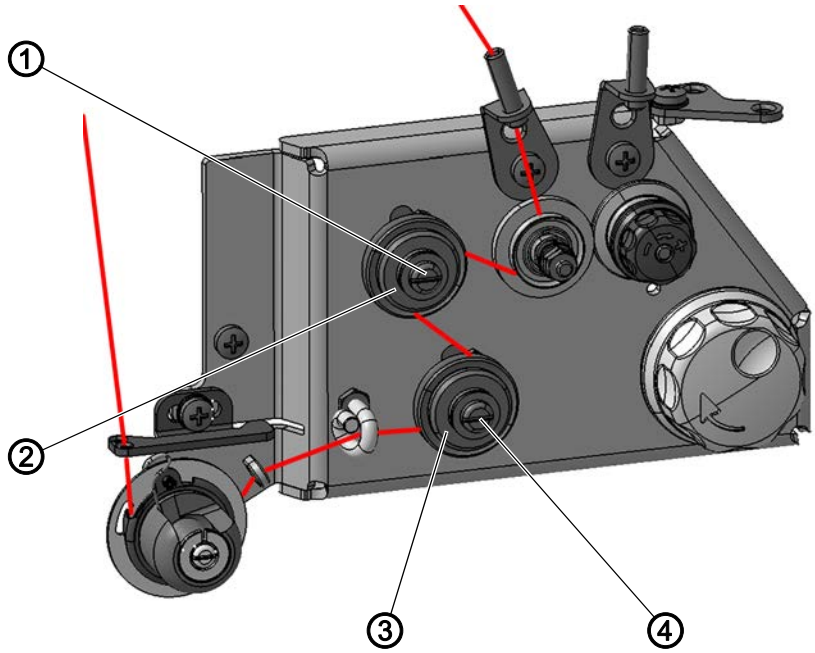
3. Set thread tension level 2 (50%).
4. Lock the machine in place at position 1 (handwheel position 0°).
5. Remove the thread tension spring from the operating range (cw).
6. Loosen lock screws (1) and (4).
7. Loosen stop screws (3) and (5) (ccw).
8. Set the pre-tensioner (6) to a tension force of 20 cN.

↳ Pretensioning must not significantly impair the thread tension.

2.2 Adjusting the tensioning plate

2.2.1 Adjusting the tensioning plate using the Schmidt MST-2000

Fig. 2: Adjusting the tensioning plate (1)

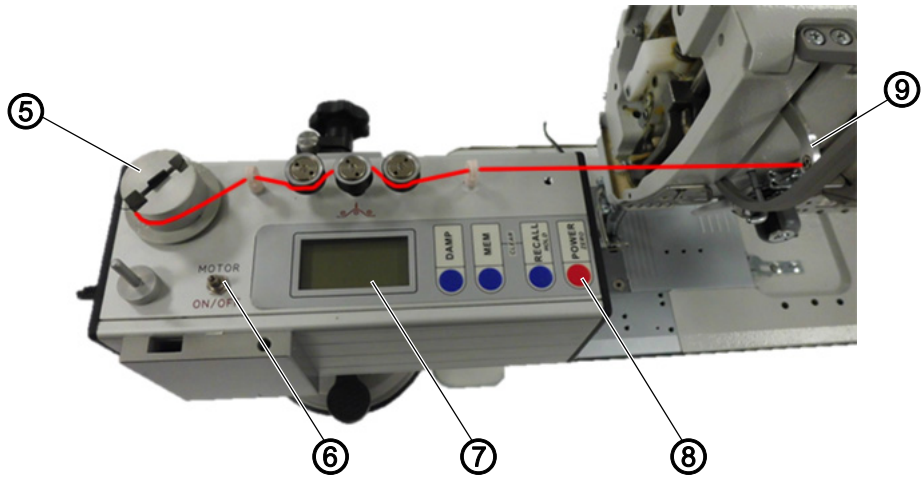


(1) - Lock screw
(2) - Stop screw
(3) - Stop screw
(4) - Lock screw

To adjust the tensioning plate:

1. Insert the needle thread as shown above.

Fig. 3: Adjusting the tensioning plate (2)



(5) - Winder
(6) - Motor ON/OFF
(7) - Display
(8) - POWER
(9) - Thread lever

2. Feed the needle thread through the thread lever (9) and the thread guides of the thread scale and clamp it at the winder (5).
3. Press POWER (8) to activate the thread scale.
4. Press Motor ON/OFF (6) to start the winder (5).
5. Screw in (cw) the stop screw (2) until the tension increases, peaks and decreases again.

   ↳ The tension value is indicated on the display (7).
6. When the tension drops while you are screwing in (cw) the stop screw (2), set the tension to 450±10 cN (average value).
7. Secure the stop screw (2) using the lock screw (1).

Important

To prevent it from turning while it is being secured, use a 10 mm wrench to hold the stop screw (2) in place.

8. Check the thread tension and readjust it if necessary.
9. Screw in (cw) the stop screw (3) until the tension increases, peaks and decreases again.

   ↳ The tension value is indicated on the display (7).
10. When the tension drops while you are screwing in (cw) the stop screw (3), set the tension to 720±50 cN (average value).
11. Secure the stop screw (3) using the lock screw (4).

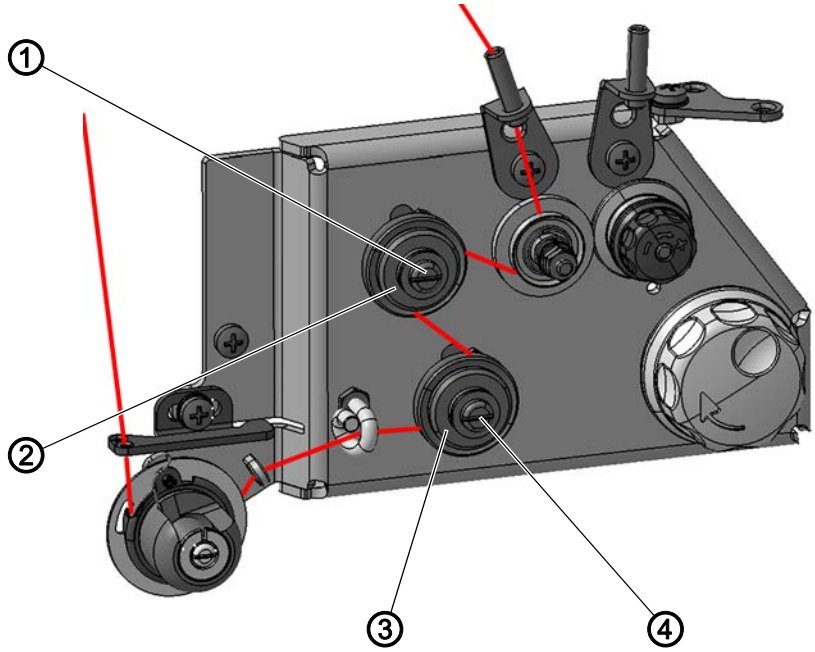
Important

To prevent it from turning while it is being secured, use a 10 mm wrench to hold the stop screw (3) in place.

12. Check the thread tension and readjust it if necessary.

2.2.2 Adjusting the tensioning plate using a mechanical thread scale

Fig. 4: Adjusting the tensioning plate (1)



(1) - Lock screw
(2) - Stop screw
(3) - Stop screw
(4) - Lock screw

To adjust the tensioning plate:

1. Insert the needle thread as shown above.
2. Feed the needle thread through the thread lever and the thread scale.
3. Pull the thread to the left at a **consistent rate of speed**.

Important

The thread must be pulled off **horizontally**.

4. Screw in (cw) the stop screw (2) until the tension increases, peaks and decreases again.
5. When the tension drops while you are screwing in (cw) the stop screw (2), set the tension to 450±10 cN.
6. Secure the stop screw (2) using the lock screw (1).

Important

To prevent it from turning while it is being secured, use a 10 mm wrench to hold the stop screw (2) in place.

7. Check the thread tension and readjust it if necessary.
8. Screw in (cw) the stop screw (3) until the tension increases, peaks and decreases again.
9. When the tension drops while you are screwing in (cw) the stop screw (3), set the tension to 720±50 cN.
10. Secure the stop screw (3) using the lock screw (4).

Important

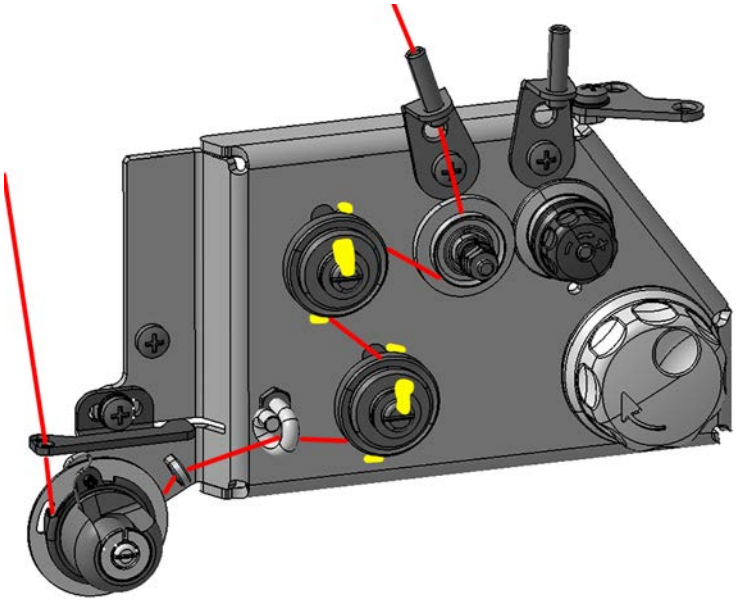
To prevent it from turning while it is being secured, use a 10 mm wrench to hold the stop screw (3) in place.

11. Check the thread tension and readjust it if necessary.

2.3 Checking the adjusted thread tension

2.3.1 Checking the adjusted thread tension using the Schmidt MST-2000

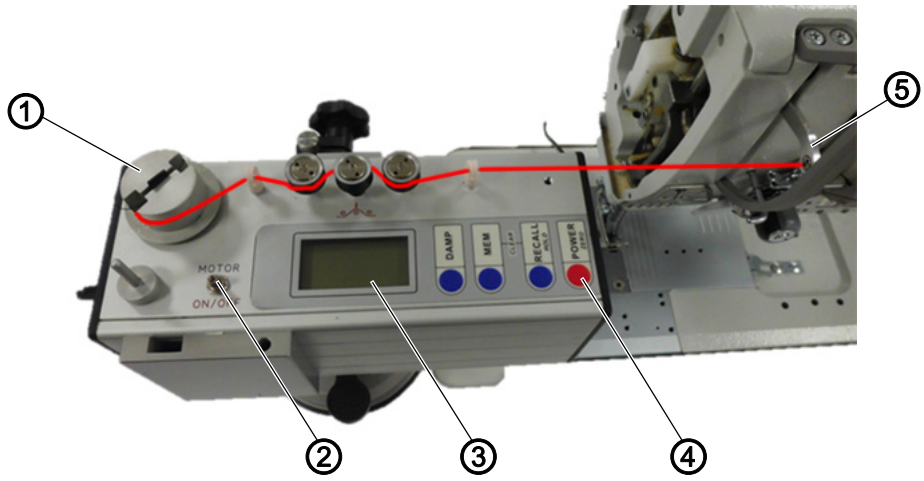
Fig. 5: Checking the adjusted thread tension (1)



To check the adjusted thread tension:

1. Insert the needle thread as shown above.

Fig. 6: Checking the adjusted thread tension (2)



(1) - Winder
(2) - Motor ON/OFF
(3) - Display
(4) - POWER
(5) - Thread lever

2. Feed the needle thread through the thread lever (5) and the thread guides of the thread scale and clamp it at the winder (1).
3. Press POWER (4) to activate the thread scale and the display (3).
4. Press Motor ON/OFF (2) to activate the motor of the thread scale.
5. Set the thread tension to level 1 (**1%**) at the control panel.
   ↳ The thread scale should show a tension of 190±12 cN (average value).
6. Set the thread tension to level 2 (**50%**) at the control panel.
   ↳ The thread scale should show a tension of 720±50 cN (average value).
7. Set the thread tension to level 3 (**99%**) at the control panel.
   ↳ The thread scale should show a tension of 1600±100 cN (average value).

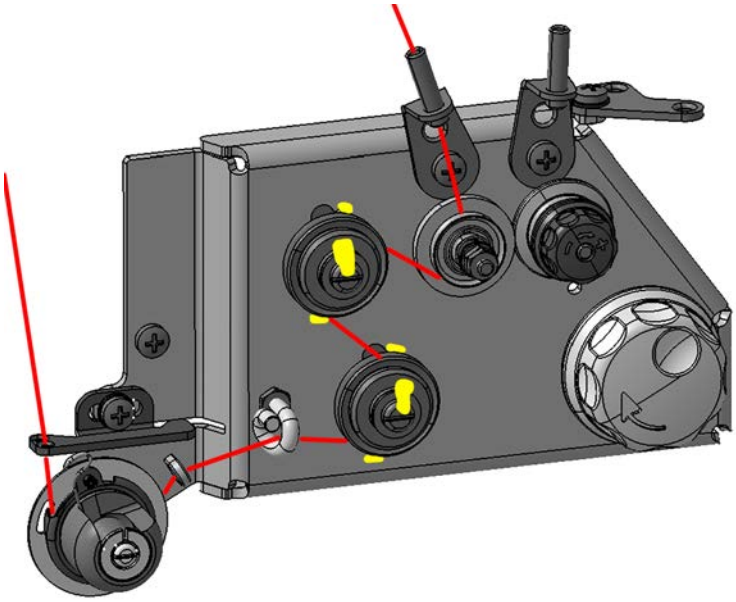
Important

After completing the settings, you need to seal the magnets and the 4 nuts that keep the magnets in place at the thread tensioning plate with sealing wax (see figure 5).

8. Remove the locking peg from the machine.
9. Remove the needle thread from the thread scale.
10. Remove the thread scale.
11. Set the thread tension spring back to sewing operation (ccw, 🕮 *Service Instructions*, chapter **Setting the thread tension spring**).
12. Insert the needle thread.
13. Finish the service routine.
    ↳ The machine is ready for sewing.

2.3.2 Checking the adjusted thread tension using a mechanical thread scale

Fig. 7: Checking the adjusted thread tension (1)



To check the adjusted thread tension:

1. Insert the needle thread as shown above.
2. Feed the needle thread through the thread lever and the thread scale.
3. Pull the thread to the left at a **consistent rate of speed**.

Important

The thread must be pulled off **horizontally**.

4. Set the thread tension to level 1 (**1%**) at the control panel.
   - The thread scale should show a tension of 190±12 cN.
5. Set the thread tension to level 2 (**50%**) at the control panel.
   - The thread scale should show a tension of 720±50 cN.
6. Set the thread tension to level 3 (**99%**) at the control panel.
   - The thread scale should show a tension of 1600±100 cN.

Important

After completing the settings, you need to seal the magnets and the 4 nuts that keep the magnets in place at the thread tensioning plate with sealing wax (see figure 7).

7. Remove the locking peg from the machine.
8. Remove the needle thread from the thread scale.
9. Remove the thread scale.

10. Set the thread tension spring back to sewing operation (ccw, 🕮 *Service Instructions*, chapter **Setting the thread tension spring**).
11. Insert the needle thread.
12. Finish the service routine.

↳ The machine is ready for sewing.

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Subject to design changes - Part of the machines shown with additional equipment - Printed in Germany
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