

Additional Instructions

Conversion from 1-needle
to 3-needle machine

**IMPORTANT
READ CAREFULLY BEFORE USE KEEP
FOR FUTURE REFERENCE**

All rights reserved.

Property of Dürkopp Adler GmbH and protected by copyright. Any reuse of these contents, including extracts, is prohibited without the prior written approval of Dürkopp Adler GmbH.

Copyright © Dürkopp Adler GmbH 2022

1	General information	3
2	Conversion from 1-needle to 3-needle machine.....	5
2.1	Disassembling the sewing equipment	5
2.2	Replacing the needle holder	6
2.3	Disassembling hook and needle guard	7
2.4	Assembling the thread divider	8
2.5	Adjusting the ellipsis width.....	9
2.6	Assembling the hooks	10
2.7	Aligning the needle bar	11
2.8	Adjusting the hooks	13
2.9	Assembling the needle guard	14
2.10	Installing the thread guide	15
2.11	Changing the thread guides	16
2.12	Changing thread lever and thread lever guard	17
2.13	Assembling the sewing equipment	18
2.14	Replacing the thread tension	19
2.15	Assembling the reel stand	21

1 General information

Components of the kit


Check whether the scope of delivery for kit 0195 590074 is correct prior to installation.

Part number	Quantity	Description
0171 110130	2	Thread guide
0195 110064	1	Tensioning plate
0195 110090	2	Thread divider
0195 110100	1	Holder
0195 110120	1	Plate
0195 110140	2	Holder
0195 110164	3	Thread guide
0195 110170	1	Thread guide
0195 120020	1	Thread lever guard
0195 120030	1	Thread lever
0195 150120	1	Hook support
0195 150130	1	Hook support
0216 000046	3	Screw M4x15
0270 000256	1	Threaded pin M5x6.5
0702 000020	10	Threaded pin M5x4.9
0791 001109	2	Reel stand
0791 001110	2	Thread guide/unwinding bracket
0791 001128	6	Reel plate
0911 000668	1	Threaded pin M8x1x8.5
0913 000661	2	Guide rod
0933 000327	2	Hook support
0933 100068	2	Thread divider
0999 240408	1	Y-plug-in connection
9201 111257	1	Hexagon screw M3x8
9202 001688	2	Screw M3x12
9202 002537	2	Screw M5x35
9202 002887	4	Screw M6x12
9202 021667	1	Screw M3x8
9203 100002	2	Flat-head screw M3x4
9203 313057	1	Countersunk screw M3x8

Part number	Quantity	Description
9203 313647	1	Countersunk screw M4x6
9204 101657	1	Countersunk pan head screw M4x8
9205 101848	5	Threaded pin M4x4
9231 110107	2	Nut M5
9231 110127	4	Nut M6
9231 000347	1	Nut BM3
9330 000067	2	Washer A3.2
9330 000107	4	Washer A6.4
9790 020010	2	T-connecting piece PK3
H867 110390	6	Thread cover
0998 880550	4	Adjusting washer 4x8x0.1
0998 882510	2	Adjusting washer 4x8x0.2
0791 195701 EN	1	Additional Instructions



Important

The selected sewing equipment must be ordered separately and match the needle distance ( *Parts List*).

2 Conversion from 1-needle to 3-needle machine

WARNING



Risk of injury from sharp parts!

Puncture possible.

Switch off the machine before you convert the machine.

WARNING



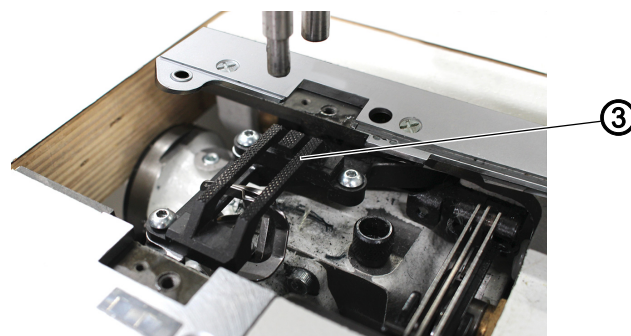
Risk of injury from moving parts!

Crushing possible.

Switch off the machine before you convert the machine.

2.1 Disassembling the sewing equipment

Fig. 1: Disassembling the sewing equipment



- (1) - Presser foot
- (2) - Walking foot
- (3) - Feed dog

- (4) - Throat plate
- (5) - Needle



Information

If installed in the machine, the thread trimmer must be removed first.

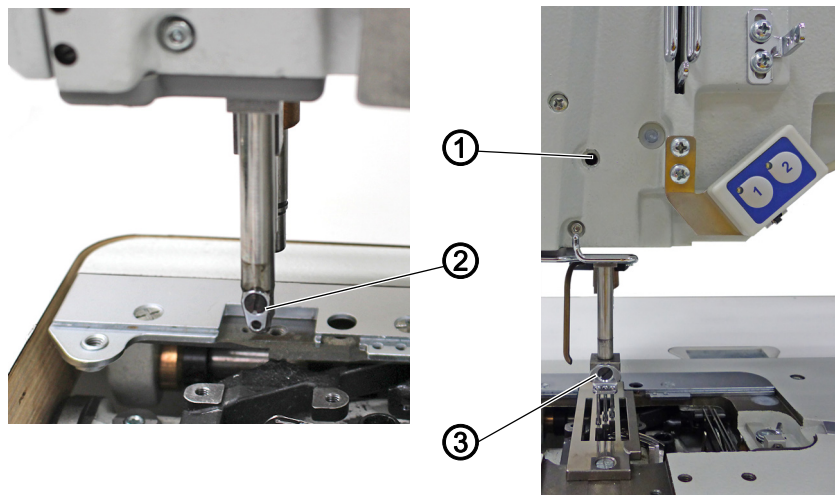


To disassemble the sewing equipment:

1. Open the throat plate slides on the left and the right.
2. Switch on the machine.
3. Before lifting the sewing feet, make sure that the needle bar is in OT.
4. Disassemble presser foot (1) and walking foot (2).
5. Remove the needle (5).
6. Disassemble the throat plate (4).
7. Disassemble the feed dog (3).

2.2 Replacing the needle holder

Fig. 2: Replacing the needle holder



- (1) - Screw
- (2) - Needle holder 1-needle

- (3) - Needle holder 3-needle



To replace the needle holder:

1. Loosen the needle holder 1-needle (2) from the needle bar.
2. Screw the needle holder 3-needle (3) into the needle bar.
3. Adjust the needle holder 3-needle (3).

To adjust the needle holder 3-needle (3):

1. Insert the needles.
2. Assemble the throat plate.

3. Loosen the screw (1) in the hole.
4. Adjust the needle holder 3-needle (3) such that the needles barely plunge into the needle holes on the throat plate.

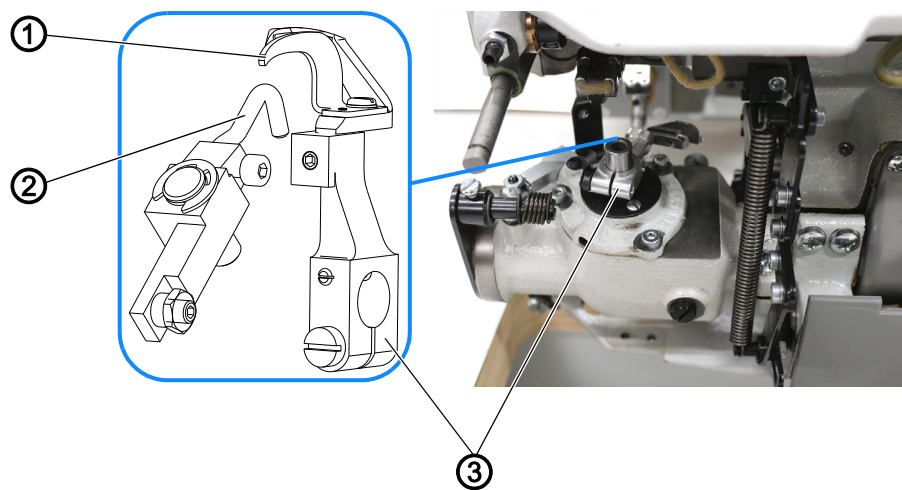


Information

Since the needle bar will have to be adjusted later on, do not yet tighten the screw (1).

2.3 Disassembling hook and needle guard

Fig. 3: Disassembling hook and needle guard



(1) - Hook
(2) - Needle guard

(3) - Hook support

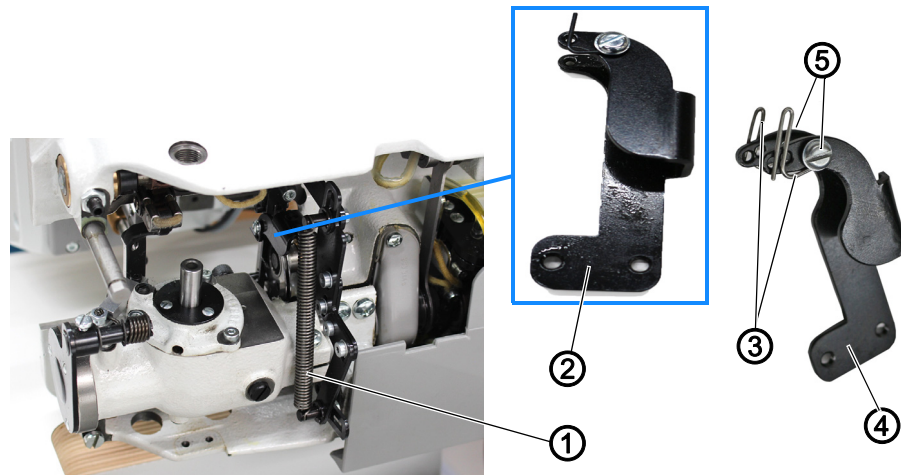


To disassemble hook and needle guard:

1. Tilt the machine head.
2. Loosen the screws on the hook support (3).
3. Disassemble the hook support (3) with the hook (1).
4. Loosen the screw on the needle guard (2).
5. Disassemble the needle guard (2).

2.4 Assembling the thread divider

Fig. 4: Assembling the thread divider



- | | |
|----------------------|--------------------|
| (1) - Spring | (4) - Thread guide |
| (2) - Thread guide | (5) - Screws |
| (3) - Thread divider | |



To assemble the thread divider:

1. Disassemble the spring (1).
2. Disassemble the thread guide (2).
3. Loosen the screws (5).
4. Attach the thread divider (3) to the new thread guide (4) using the screws (5).



Important

The thread divider (3) must be positioned in such a way that it is centered above the hole. There should be a small gap between the thread divider (3) and the surface of the thread guide (4).

5. Assemble the thread guide (4).
If seated too tightly, the thread guide (4) can be relieved using the second threaded pin on the opposite side of the thread guide (4).
6. Assemble the spring (1).

2.5 Adjusting the ellipsis width



Information


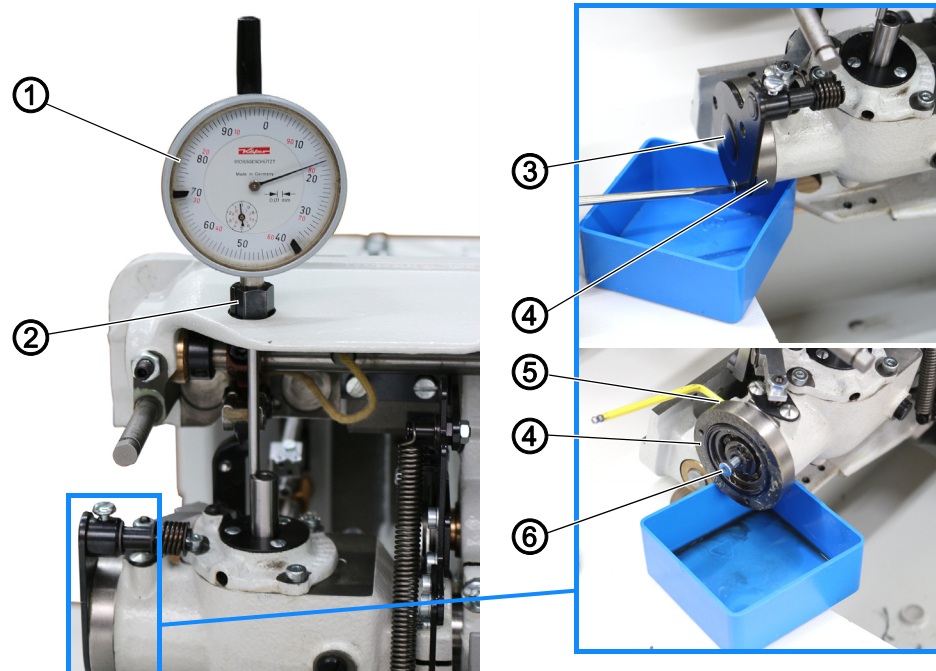
For a detailed description on how to adjust the ellipsis width, refer to the  *Service Instructions*.

Fig. 5: Adjusting the ellipsis width



- | | |
|-----------------------|--------------------|
| (1) - Dial gage | (4) - Rocker bolt |
| (2) - Clamping sleeve | (5) - Threaded pin |
| (3) - Cover | (6) - Screw |



To adjust the ellipsis width:

1. Screw in the clamping sleeve (2).
2. Insert the dial gage (1) into the clamping sleeve (2).
3. Set the dial gage (1) to the value **0**.
4. Place a plastic container under the rocker bolt (4).
Oil may escape while you adjust the ellipsis width.
5. Unscrew the cover (3) from the rocker bolt (4).
Catch any escaping oil using the plastic container.
6. Screw the screw (6) into the face of the rocker bolt (4).
7. Loosen the threaded pin (5).



Important

The ellipsis width must be set to **2.6** (for a size 160 needle). You shift the position of the rocker bolt by screwing the screw (6) in or out: The ellipsis width is increased or reduced.

8. Adjust the ellipsis width on the dial gage (1).

9. Tighten the threaded pin (5).
10. Unscrew the screw (6) from the rocker bolt (4).
11. Attach the cover (3) to the rocker bolt (4).
12. Unscrew the dial gage (1) from the clamping sleeve (2).
13. Unscrew the clamping sleeve (2).

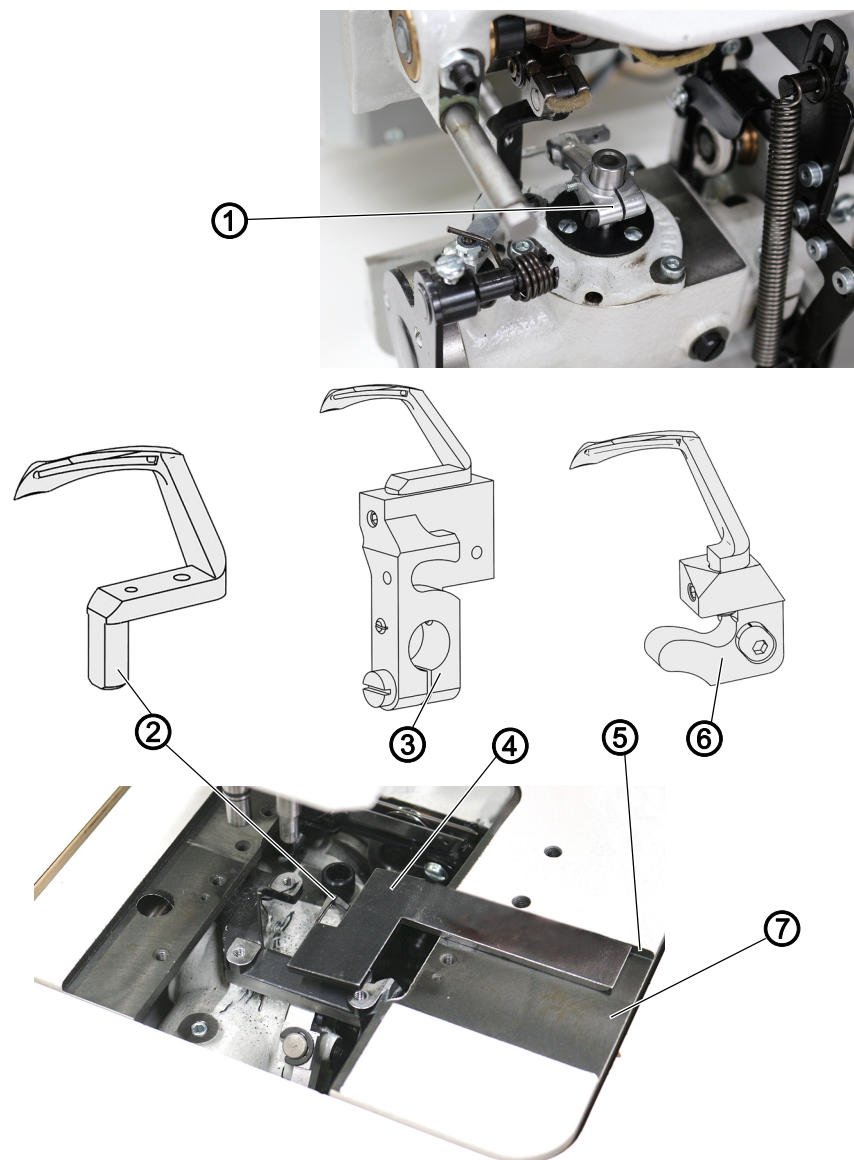


Order

Check the oil level afterwards.

2.6 Assembling the hooks

Fig. 6: Assembling the hooks




- (1) - Hook support
- (2) - Hook
- (3) - Hook support
- (4) - Gage (0171 29010)

- (5) - Edge
- (6) - Hook support
- (7) - Front cover plate

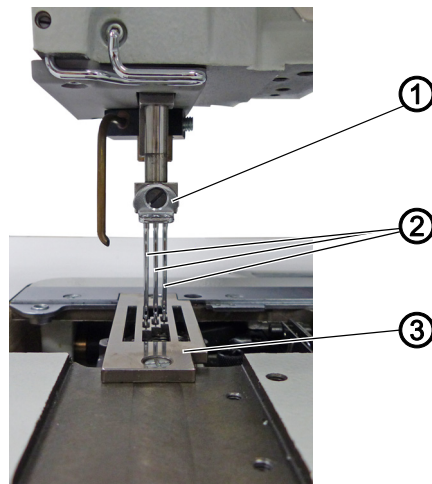


To assemble the hooks:

1. Attach the hook (2) to the hook support (1).
2. Assemble the bottom hook support (1).
3. Erect the machine head.
4. Disassemble the front cover plate (7).
5. Position the gage (4) at the edge (5).
6. Align the bottom hook with the gage (4).
7. Tilt the machine head.
8. Assemble the center hook support (3).
9. Erect the machine head.
10. Align the top hook with the gage (4).
11. Tilt the machine head.
12. Assemble the front hook support (6) to the center hook support (3).
13. Erect the machine head.
14. Align the top hook with the gage (4).
15. Tilt the machine head.
16. In order to be able to adjust the hooks later ( p. 13), slightly loosen the screws on the hook support.

2.7 Aligning the needle bar

Fig. 7: Aligning the needle bar (1)



(1) - Needle holder
(2) - Needles

(3) - Throat plate

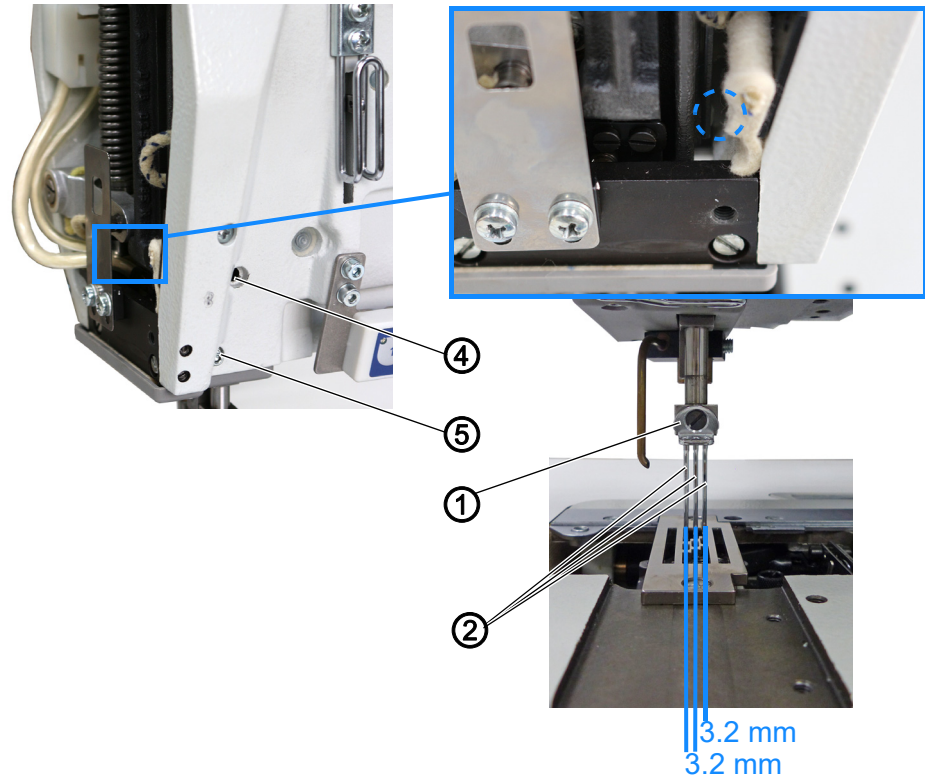


To align the needle bar:

1. Assemble the new throat plate (3).
2. Attach the needles (2) in the needle holder (1).
3. Lower the needles (2) by turning the handwheel until the needle tips are positioned just above the throat plate (3).

4. Align the needles (2) with the holes in the throat plate (3).
- ↪ The distance between the three needles (2) is 3.2 mm.
The needles (2) plunge into the center of the holes on the throat plate (3).

Fig. 8: Aligning the needle bar (2)



(1) - Needle holder
(2) - Needles

(4) - Screw
(5) - Screw



Information

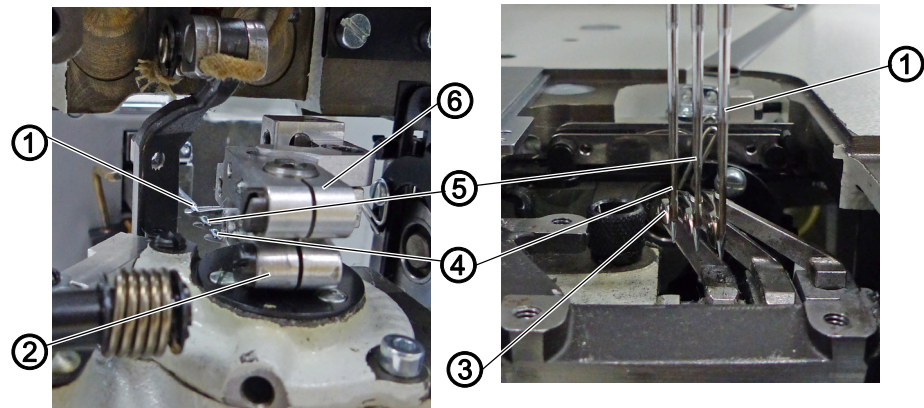
Old machines may require that you adjust the needle bar towards the rear. You can do so by using additional adjustable washers.

5. If present, disassemble the sewing light on the side.
6. Disassemble the head cover.
7. Loosen the screw (5).
8. Place the included adjusting washers onto the screw (5) from the inside.
9. Tighten the screw (5).

10. Use a precision ruler to check if the needles (2) are at the specified distance from one another.
11. Tighten the screw (4).

2.8 Adjusting the hooks

Fig. 9: Adjusting the hooks






(1) - Left needle
(2) - Hook support
(3) - Hook

(4) - Right needle
(5) - Center needle
(6) - Hook support



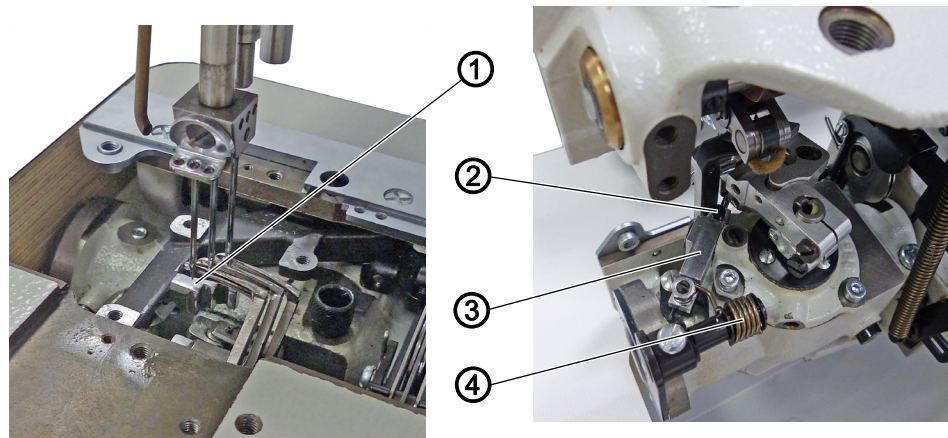
To adjust the hooks:

1. Disassemble the throat plate.
2. Lock the machine in place at position **E**.
3. Tilt the machine head.
4. Position the bottom hook support (2) on the shaft such that the hook (3) is behind the right needle (4).
5. Slightly tighten the screws on the hook support (2).
6. Erect the machine head.
7. Check the distance between hook tip and needle.
- ↳ The distance between hook tip and needle is 0.1 mm.
8. Tilt the machine head.
9. Tighten the screws on the hook support (2).
10. Check the symmetry of the hook (positions **E** and **F**) ( *Service Instructions*).
11. Lock the machine in place at position **E**.
12. Place the front hook support onto the rear hook support and position it such that the hook is behind the left needle (1).
13. Slightly tighten the screws on the hook support (6).
14. Check the distance between hook tip and needle.
- ↳ The distance between hook tip and needle is 0.1 mm.
15. Tilt the machine head.
16. Tighten the screws on the hook support (6) all the way.
17. Check the symmetry of the hook (positions **E** and **F**) ( *Service Instructions*).
18. Lock the machine in place at position **E**.
19. Slightly tighten the third hook inside the hook support (6).

20. Erect the machine head.
21. Check the distance between hook tip and needle.
 - ↳ The distance between hook tip and needle is 0.1 mm. If necessary, use adjusting washers under the hook support to adjust the distance.
22. Tilt the machine head.
23. Tighten the screws on the hook support.
24. Check the symmetry of the hook (positions **E** and **F**) ( *Service Instructions*).

2.9 Assembling the needle guard

Fig. 10: Assembling the needle guard



(1) - Needle guard
(2) - Screw

(3) - Needle guard mounting plate
(4) - Spring



To assemble the needle guard:

1. Erect the machine head.
2. Insert the needle guard (1) from above.
The needle guard must be attached behind the needles with the grooves facing the needles.
3. Tilt the machine head.
4. Use the screw (2) to tighten the needle guard in the needle guard mounting plate (3).
5. Assemble the spring (4).
6. Erect the machine head.
7. Check if the needle guard swivels properly and the needles are pushed away evenly.

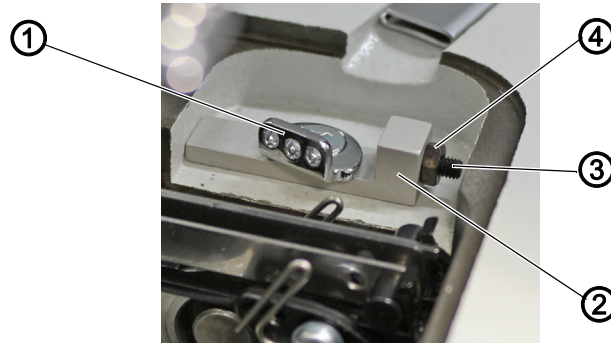
2.10 Installing the thread guide



Information

Machines built in 2022 or later come with the thread already milled into the casting. The holder is not needed, and the thread guide can be assembled directly.

Fig. 11: Installing the thread guide



(1) - Thread guide
(2) - Holder

(3) - Threaded pin
(4) - Nut



To assemble the thread guide:

1. Screw the thread guide (1) onto the holder (2).
2. Clamp the holder (2) in place using the threaded pin (3) and secure it with the nut (4).

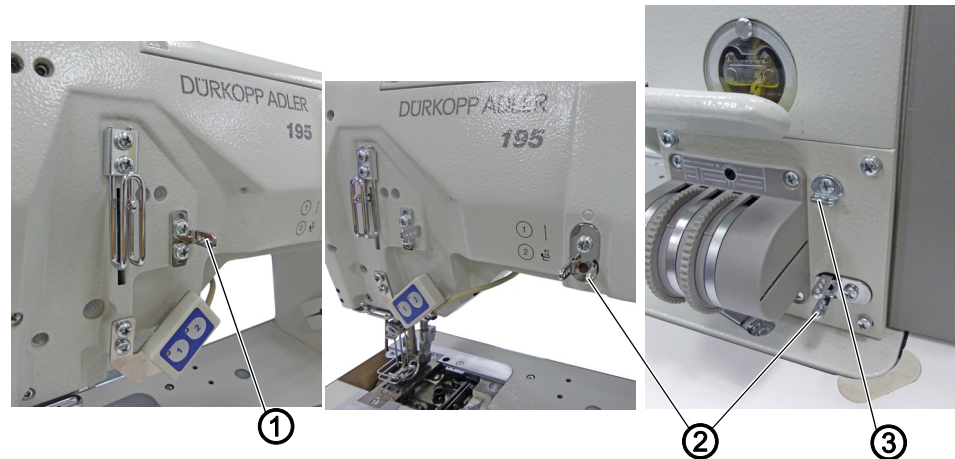
2.11 Changing the thread guides



Information

Machines built in 2022 or later already come with thread guides for up to three needles.

Fig. 12: Changing the thread guides



(1) - Thread guide
(2) - Thread guide

(3) - Thread guide

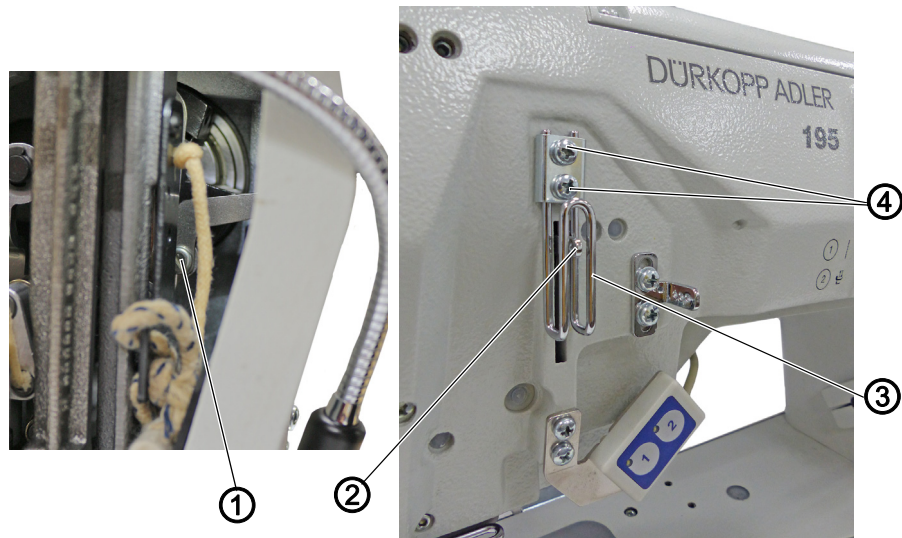


To change the thread guides:

1. Disassemble the old thread guides and replace them with thread guide (1), (2) and (3) for up to 3 needles.

2.12 Changing thread lever and thread lever guard

Fig. 13: Changing thread lever and thread lever guard



(1) - Screw
(2) - Thread lever

(3) - Thread lever guard
(4) - Screws



To change the thread lever and the thread lever guard:

1. Loosen the screw (1) and replace the old thread lever with the new thread lever (2).
2. Slightly loosen the screws (4) and replace the old thread lever guard with the new thread lever guard (3).

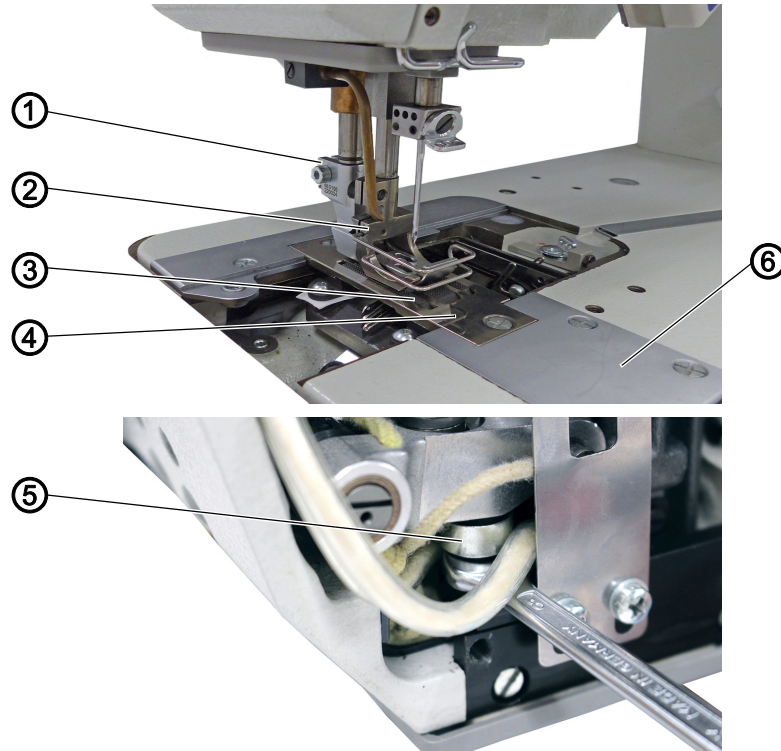
2.13 Assembling the sewing equipment



Important

The selected sewing equipment must be ordered separately and match the needle distance (*Parts List*).

Fig. 14: Assembling the sewing equipment (1)



(1) - Presser foot
(2) - Walking foot
(3) - Feed dog

(4) - Throat plate
(5) - Intercept buffer
(6) - Front cover plate

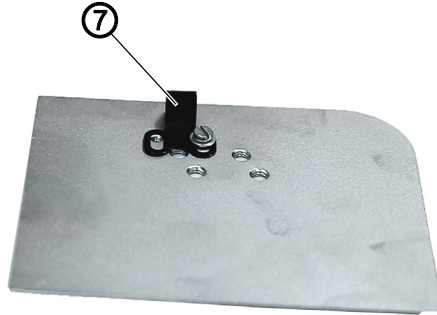


To assemble the sewing equipment:

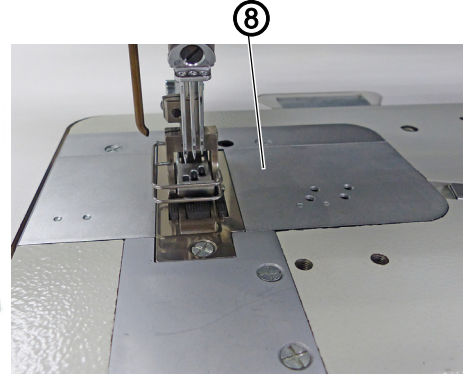
1. Insert the feed dog (3) and align it correctly (*Service Instructions*).
2. Assemble the throat plate (4).
3. Assemble the front cover plate (6).
4. Tighten the feed dog (3).
5. Check the height of the feed dog and adjust it if necessary (*Service Instructions*).
6. Switch on the machine.
7. Lift the sewing feet.
8. Assemble the walking foot (2).
9. Assemble the presser foot (1).
10. Lower the sewing feet.
11. Check if the needles move in the center of the walking foot (2).
12. Check if there is enough clearance between sewing feet and throat plate. If necessary, adjust the intercept buffer (5) (*Service Instructions*).

13. Perform a sewing test to check the stitch length.
14. Assemble the head cover.
15. If present, assemble the sewing light on the side.

Fig. 15: Assembling the sewing equipment (2)



(7) - Spring



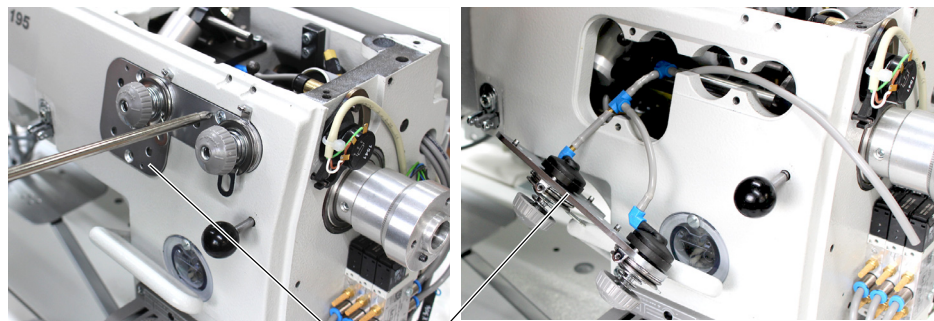
(8) - Throat plate slide



16. Unscrew the spring (7) on the underside of the old throat plate slide.
17. Tighten the spring (7) on the underside of the new throat plate slide (8).
18. Assemble the left and the right throat plate slide.

2.14 Replacing the thread tension

Fig. 16: Replacing the thread tension (1)



①

(1) - Tensioning plate



Information

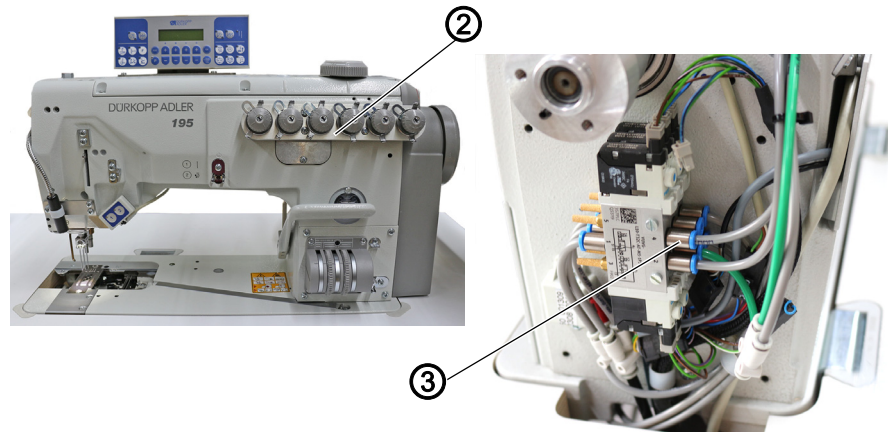
If the machine is equipped with a direct sewing motor, the valve rail is located below the toothed belt cover. In this case, the handwheel and the toothed belt cover need to be removed as well.



To replace the thread tension:

1. Disassemble the arm cover.
2. Disassemble the tensioning plate (1) with the tensioner elements.

Fig. 17: Replacing the thread tension (2)



(2) - Tensioning plate

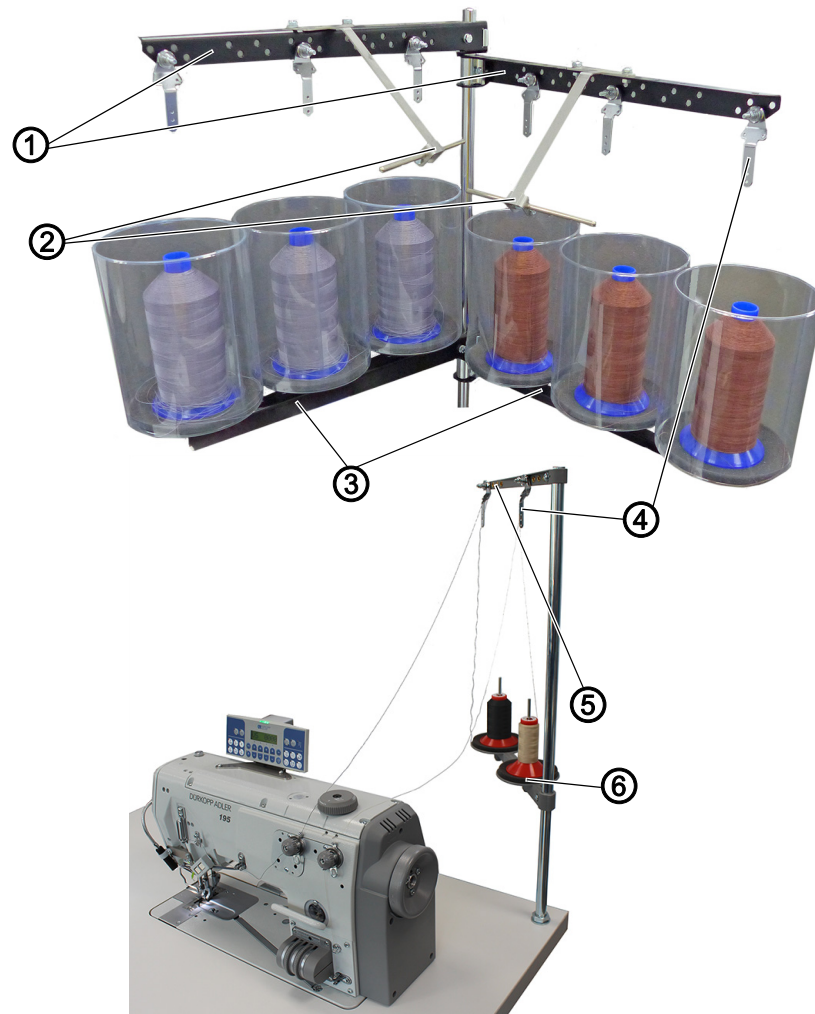
(3) - Valve



3. Disconnect the hose of the old tensioning plate (1) from valve 4 (3).
4. Disconnect the plug from the valve 4 (3).
5. Assemble the new tensioning plate (2) with the tensioner elements.
6. Tighten the tensioning plate (2).
7. Assemble the covers.

2.15 Assembling the reel stand

Fig. 18: Assembling the reel stand



- | | |
|--|--------------------------|
| (1) - Thread guides/unwinding brackets | (4) - Thread guides |
| (2) - Thread guides | (5) - Thread guide |
| (3) - Thread reel holder | (6) - Thread reel holder |



To assemble the reel stand:

1. Disassemble the old thread reel holder (6) and thread guide (5).
2. Assemble, align and tighten the thread reel holders (3).
3. Position and tighten the thread guides/unwinding brackets (1) above the thread reel holders (3).
4. Tighten the thread guides (2) on the thread guides/unwinding brackets (1).
5. Disassemble the thread guides (4) from the old thread guide (5) and replace them with the included thread guides (4) on the new thread guides/unwinding brackets (1).



DÜRKOPP ADLER GmbH
Potsdamer Str. 190
33719 Bielefeld
Germany
Phone: +49 (0) 521 925 00
Email: service@duerkopp-adler.com
www.duerkopp-adler.com