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Service Instruciones



IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

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1 About these instructions

These instructions have been prepared with utmost care. They contain information and notes intended to ensure long-term and reliable operation.

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback through **Customer Service** ( p. 83).

Consider these instructions as part of the product and keep it easily accessible.

1.1 For whom are these instructions intended?

These instructions are intended for:

- Specialists:
This group has the appropriate technical training for performing maintenance or repairing malfunctions.

With regard to minimum qualification and other requirements to be met by personnel, please also follow the chapter **Safety** ( p. 7).

1.2 Representation conventions – symbols and characters

Various information in these instructions is represented or highlighted by the following characters in order to facilitate easy and quick understanding:



Proper setting

Specifies proper setting.



Disturbances

Specifies the disturbances that can occur from an incorrect adjustment.



Cover

Specifies which covers must be disassembled in order to access the components to be set.



Steps to be performed when operating the machine (sewing and equipping)



Steps to be performed for service, maintenance, and installation



Steps to be performed via the software control panel

The individual steps are numbered:

1. First step
 2. Second step
 - ...
- The steps must always be followed in the specified order.

- Lists are marked by bullet points.



Result of performing an operation

Change to the machine or on the display/control panel.



Important

Special attention must be paid to this point when performing a step.



Information

Additional information, e.g. on alternative operating options.



Order

Specifies the work to be performed before or after an adjustment.

References



Reference to another section in these instructions.

Safety

Important warnings for the user of the machine are specifically marked. Since safety is of particular importance, hazard symbols, levels of danger and their signal words are described separately in the chapter **Safety** ( p. 7).

Location information

If no other clear location information is used in a figure, indications of **right** or **left** are always from the user's point of view.

1.3 Other documents

The machine includes components from other manufacturers. Each manufacturer has performed a hazard assessment for these purchased parts and confirmed their design compliance with applicable European and national regulations. The proper use of the built-in components is described in the corresponding manufacturer's instructions.

1.4 Liability

All information and notes in these instructions have been compiled in accordance with the latest technology and the applicable standards and regulations.

Dürkopp Adler cannot be held liable for any damage resulting from:

- Breakage and transport damages
- Failure to observe these instructions
- Improper use
- Unauthorized modifications to the machine
- Use of untrained personnel
- Use of unapproved parts

Transport

Dürkopp Adler cannot be held liable for breakage and transport damages. Inspect the delivery immediately upon receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Leave machines, equipment and packaging material in the condition in which they were found when the damage was discovered. This will ensure any claims against the transport company.

Report all other complaints to Dürkopp Adler immediately after receiving the product.

2 Safety

This chapter contains basic information for your safety. Read the instructions carefully before setting up or operating the machine. Make sure to follow the information included in the safety instructions. Failure to do so can result in serious injury and property damage.



2.1 Basic safety instructions

The machine may only be used as described in these instructions.

These instructions must be available at the machine's location at all times.

Work on live components and equipment is prohibited. Exceptions are defined in the DIN VDE 0105.

For the following work, switch off the machine at the main switch or disconnect the power plug:

- Replacing the needle or other sewing tools
- Leaving the workstation
- Performing maintenance work and repairs
- Threading

Missing or faulty parts could impair safety and damage the machine. Only use original parts from the manufacturer.

Transport	Use a lifting carriage or stacker to transport the machine. Raise the machine max. 20 mm and secure it to prevent it from slipping off.
Setup	The connection cable must have a power plug approved in the relevant country. The power plug may only be assembled to the connection cable by qualified specialists.
Obligations of the operator	<p>Follow the country-specific safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.</p> <p>All the warnings and safety signs on the machine must always be in legible condition. Do not remove! Missing or damaged warnings and safety signs must be replaced immediately.</p>
Requirements to be met by the personnel	<p>Only qualified specialists may:</p> <ul style="list-style-type: none"> • Setting up the machine/putting the machine into operation • Performing maintenance work and repairs • Performing work on electrical equipment <p>Only authorized persons may work on the machine and must first have understood these instructions.</p>

Operation Check the machine during operating for any externally visible damage. Stop working if you notice any changes to the machine. Report any changes to your supervisor. Do not use a damaged machine any further.

Safety equipment Safety equipment should not be disassembled or deactivated. If it is essential to disassemble or deactivate safety equipment for a repair operation, it must be assembled and put back into operation immediately afterward.

2.2 Signal words and symbols used in warnings

Warnings in the text are distinguished by color bars. The color scheme is based on the severity of the danger. Signal words indicate the severity of the danger.

Signal words Signal words and the hazard they describe:

Signal word	Meaning
DANGER	(with hazard symbol) If ignored, fatal or serious injury will result
WARNING	(with hazard symbol) If ignored, fatal or serious injury can result
CAUTION	(with hazard symbol) If ignored, moderate or minor injury can result
CAUTION	(with hazard symbol) If ignored, environmental damage can result
NOTICE	(without hazard symbol) If ignored, property damage can result

Symbols The following symbols indicate the type of danger to personnel:

Symbol	Type of danger
	General
	Electric shock

Symbol	Type of danger
	Puncture
	Crushing
	Environmental damage

Examples Examples of the layout of warnings in the text:

DANGER



Type and source of danger!
Consequences of non-compliance.
Measures for avoiding the danger.

↪ This is what a warning looks like for a hazard that will result in serious injury or even death if ignored.

WARNING



Type and source of danger!
Consequences of non-compliance.
Measures for avoiding the danger.

↪ This is what a warning looks like for a hazard that could result in serious or even fatal injury if ignored.

CAUTION



Type and source of danger!
Consequences of non-compliance.
Measures for avoiding the danger.

↪ This is what a warning looks like for a hazard that could result in moderate or minor injury if the warning is ignored.

CAUTION



Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

-
- ↪ This is what a warning looks like for a hazard that could result in environmental damage if ignored.

NOTICE

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

-
- ↪ This is what a warning looks like for a hazard that could result in property damage if ignored.

3 Working basis

3.1 Order of the adjustments



Order

The adjustment positions for the machine are interdependent.

Always comply with the order of individual adjustment steps as specified.

It is absolutely essential that you follow all notices regarding prerequisites and subsequent settings that are marked with  in the margin.

NOTICE

Property damage may occur!

Risk of machine damage from incorrect order.

It is essential to follow the working order specified in these instructions.

3.2 Laying the cables

NOTICE

Property damage may occur!

Excess cables can impair the functioning of moving machine parts. This impairs the sewing function and can result in damage.

Lay excess cable as described above.

Ensure that all cables are laid in the machine such that the function of moving parts is not hampered.



To lay the cables:

1. Lay any excess cabling neatly in proper cable snakes.
2. Bind together the cable loops with cable ties.



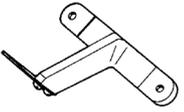
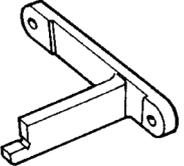
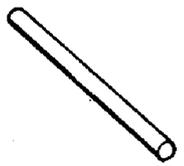
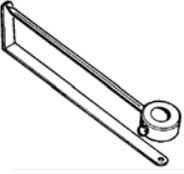
Important

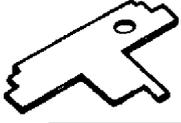
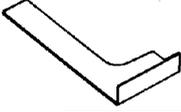
Tie loops wherever possible to fixed parts. The cables must be secured firmly.

3. Cut off any overlapping cable ties.

3.3 Gage set and handwheel positions

3.3.1 Gage set

Gage	Setting
	Position of the rocker bolt in the hook drive housing
	Position of the hook drive housing
	Locking peg
	Dial gage for measuring the needle evasive movement (Ellipsis width) of the hook drive.
	Hook slant of 89° 30'
	Even hook movement for symmetry

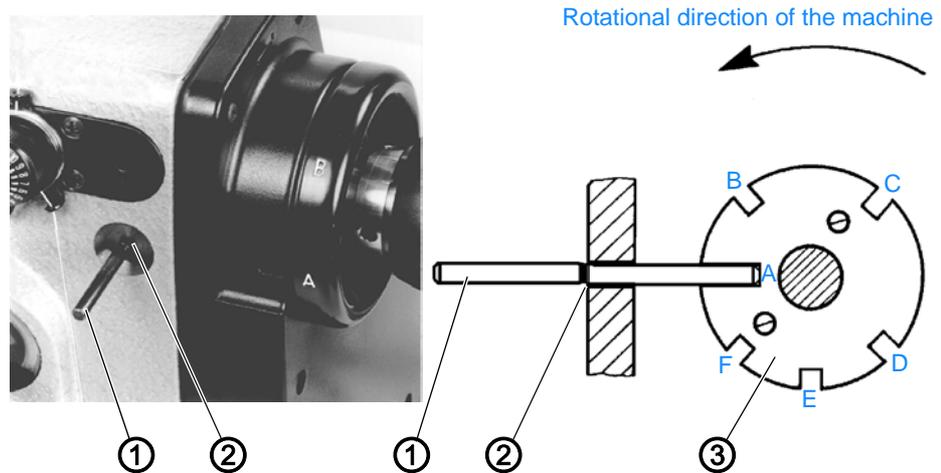
Gage	Setting
	Height of the thread take-up disk
	Pusher eccentric for the feed dog
	Expansion screw for replacing the arm shaft crank

3.3.2 Handwheel positions

Some settings require that the machine be set to a specific position.

Position	Setting
A	Adjusting disk on the upper toothed belt wheel with its deepest slot A to the groove in the arm shaft crank
B	Symmetry of the hook movement
C	<ul style="list-style-type: none"> • Position of the lower toothed belt wheel • Looping stroke • Needle bar height
D	Stroke and pusher eccentric of the feed dog on right-hand machines
E	<ul style="list-style-type: none"> • Thread pick-up disk • Eccentric for the puller
F	Stroke and pusher eccentric of the feed dog on left-hand machines

Fig. 1: Handwheel positions



(1) - Locking peg
(2) - Hole

(3) - Adjusting disk



To lock the machine in place at a specific position:

1. Turn the handwheel to the desired position.
 2. Insert the locking peg (1) into the hole (2).
- ↪ The locking peg (1) is seated in the corresponding slot of the adjusting disk (3).
The machine has been locked in place.

4 Adjusting the adjusting disk relative to the arm shaft crank

CAUTION

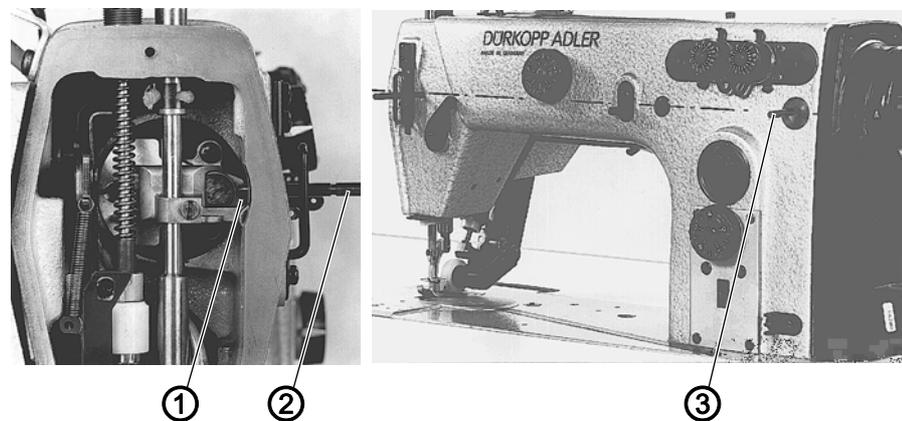


Risk of injury from moving parts!

Crushing possible.

Switch off the machine before you adjust the adjusting disk.

Fig. 2: Adjusting the adjusting disk relative to the arm shaft crank



(1) - Slot
(2) - Locking peg

(3) - Locking peg



Proper setting

The deepest slot A of the adjusting disk is in line with the slot in the arm shaft crank.



To adjust the adjusting disk relative to the arm shaft crank:

1. Loosen the screws of the set collar.
The set collar is on the left next to the upper toothed belt wheel.
2. Insert the locking peg (2) into the slot (1) of the arm shaft crank.
3. Turn the handwheel until the locking peg (3) can be inserted into the deepest slot A of the adjusting disk (📖 p. 13).
4. Move the arm shaft crank to the right until it makes contact with the arm shaft bearing.
5. Tighten the screws of the set collar.

5 Placing the toothed belt at the bottom

CAUTION

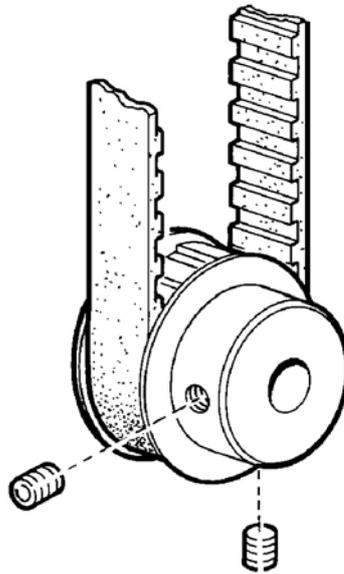


Risk of injury from moving parts!

Crushing possible.

Switch off the machine before you adjust the adjusting disk.

Fig. 3: Placing the toothed belt at the bottom



To place the toothed belt at the bottom:

1. Place the toothed belt.
Make sure both screws in slot C assume the position shown above and can be accessed with a screw driver (📖 p. 13).

6 Position of needle and hook

WARNING



Risk of injury from moving parts!

Crushing possible.

Switch off the machine before you check and adjust the position of the hook and needle.

NOTICE

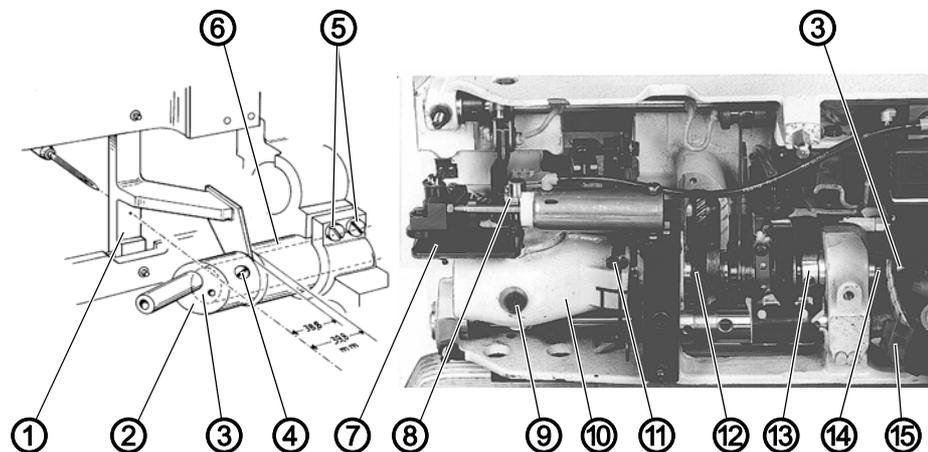
Property damage may occur!

There is a risk of machine damage, needle breakage or damage to the thread if the distance between needle groove and hook tip is incorrect.

Check and, if necessary, reset the distance to the hook tip after inserting a needle with a new size.

6.1 Adjusting the rocker bolt for the hook drive and the lower shaft bearing on the left

Fig. 4: Adjusting the rocker bolt for the hook drive and the lower shaft bearing on the left



- (1) - Gage
- (2) - Rocker bolt
- (3) - Face
- (4) - Screws
- (5) - Screws
- (6) - Lower shaft bearing
- (7) - Thread trimmer
- (8) - Hook carrier

- (9) - Screw
- (10) - Hook drive housing
- (11) - Screw
- (12) - Gear wheel
- (13) - Eccentric
- (14) - Set collar
- (15) - Oil collection tray


Proper setting

The distance between the middle of needle and the lower shaft bearing on the left is 39.8 mm.

The distance between the middle of the needle and the end of the rocker bolt is 38.8 mm.

The rocker bolt must be pushed up against the face of the lower shaft.

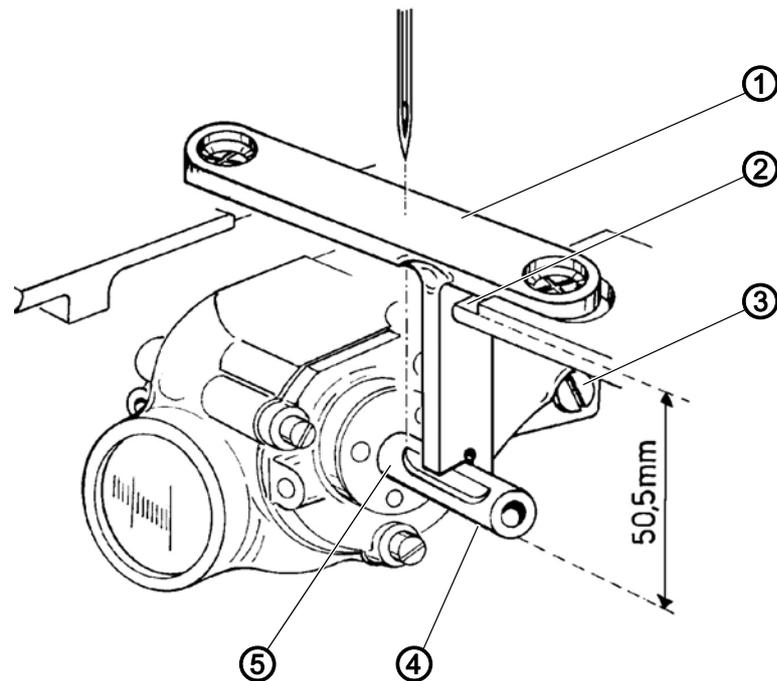


To adjust the rocker bolt for the hook drive and the lower shaft bearing on the left:

1. Tilt the machine head.
2. Loosen the screw (9).
3. Drain the oil.
4. Erect the machine head.
5. Disassemble the following components:
 - Needle
 - Needle guard
 - Hook carrier (8) with hook
 - Thread trimmer (7)
6. Loosen the screw (11).
7. Carefully pull off the hook drive housing (10).
While doing so, slowly turn the lower shaft (3).
8. Tighten the gage (1).
9. Loosen the screws (5).
10. Move the lower shaft bearing (6) up to the gage (1).
11. Tighten the screws (5).
12. Loosen the screws (4).
13. Check if the rocker bolt (2) is pushed up against the face (3) of the lower shaft.
14. Disassemble grease cap and oil collection tray (15).
15. Loosen eccentric (13), set collar (14) and gear wheel (12).
16. Move the lower shaft (3) such that there is a distance of 1 mm between lower shaft bearing (6) and rocker bolt (2).
- ↳ The rocker bolt (2) abuts on the gage (1).
17. Push the set collar (14) up against the eccentric (13).
18. Align the gear wheel (12).
19. Tighten the screws.
20. Check the movement of the toothed belt on the lower toothed belt wheel.
21. If required, align the lower toothed belt wheel.
22. Tighten the screw (9).
23. Assemble the hook drive housing (10).
24. Top off the oil.

6.2 Adjusting the hook drive housing

Fig. 5: Adjusting the hook drive housing



(1) - Gage
(2) - Throat plate support
(3) - Screw

(4) - Lower edge of the hook shaft
(5) - Hook shaft



Proper setting

The needle tip points to the center of the hook shaft (5).

The lower edge of the hook shaft (4) is parallel to the underside of the throat plate.

The distance between the lower edge of the hook shaft (4) and the throat plate support (2) is 50.5 mm.

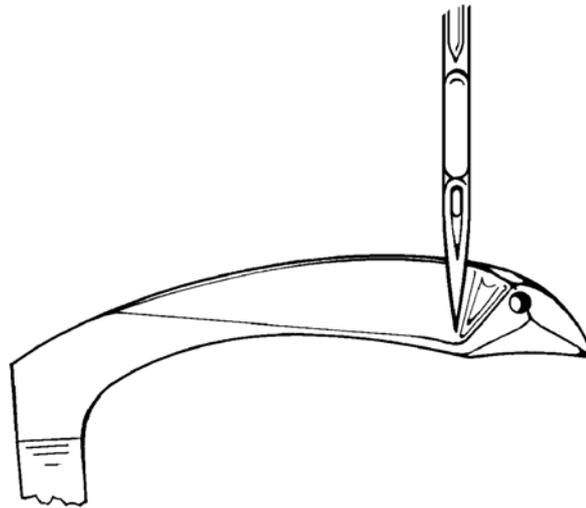


To adjust the hook drive housing:

1. Disassemble the throat plate and the hook carrier with hook.
2. Loosen the screw (3).
3. Align the hook drive housing such that the hook shaft (5) abuts inside the cutout of the gage (1).
4. Tighten the screw (3).

6.3 Adjusting the needle evasive movement (ellipsis width)

Fig. 6: Adjusting the needle evasive movement (ellipsis width) (1)

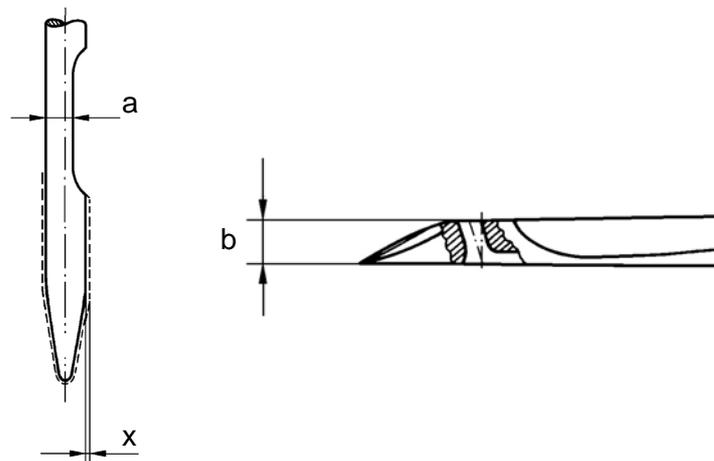


Proper setting

The distance to the needle is 0.1 mm during the hook movement from left to right.

While the hook is moving from left to right, the tip of the descending needle abuts on the back of the hook at the moment when the hook and the needle assume the position shown above.

Fig. 7: Adjusting the needle evasive movement (ellipsis width) (2)



The precise measurement of the evasive movement depends on the needle system and the needle strength.

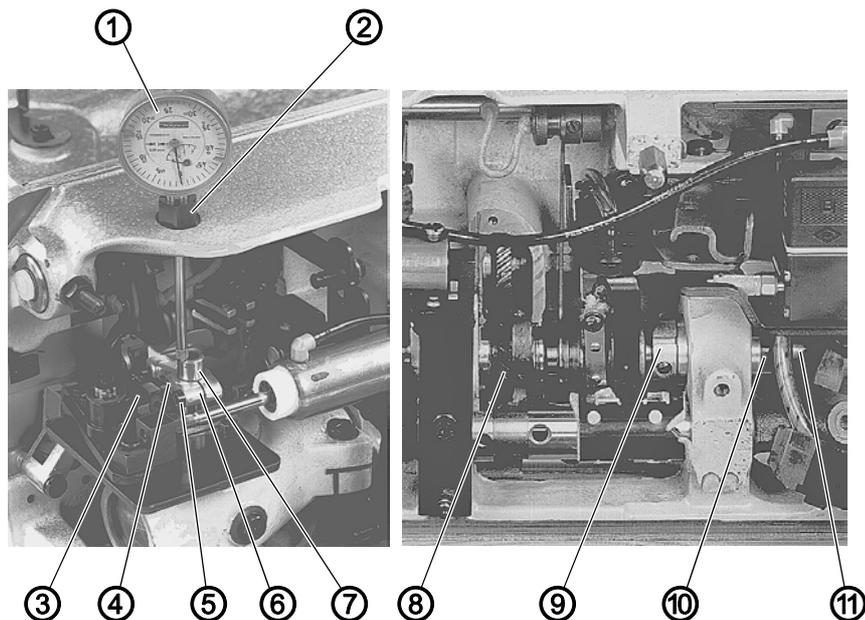
The evasive movement is calculated using the following formula:

$$E = a + b + 0.1 + x$$

Example using a 934 SIN/Nm 110 needle

Values for addition	
Needle strength a	0.7 mm
Hook thickness b	1.4 mm
Distance between hook tip and needle	0.1 mm
For greater needle strength 110 Nm X*	0.1 mm
Result	
Ellipsis width E	2.3 mm
*X = larger measurement a for greater needle strength: X for Nm 100 = 0 mm X for Nm 110 and 120 = 0.1 mm X for Nm 130 = 0.2 mm	

Fig. 8: Adjusting the needle evasive movement (ellipsis width) (3)



- | | |
|-----------------------|--------------------|
| (1) - Dial gage | (7) - Hook shaft |
| (2) - Clamping sleeve | (8) - Gear wheel |
| (3) - Needle guard | (9) - Eccentric |
| (4) - Screws | (10) - Set collar |
| (5) - Screw | (11) - Lower shaft |
| (6) - Hook carrier | |



To adjust the needle evasive movement:

1. Insert the needle.
2. Screw in the clamping sleeve (2).
3. Insert the dial gage (1).

4. Turn the handwheel and set the hook shaft (7) to the lowest point.
5. Set the value **0** on the dial gage (1).
6. Turn the handwheel and set the hook shaft (7) to the highest point.
7. Read the difference off the dial gage (1).
8. If the measurement does not match the calculated measurement, loosen the lower shaft (11) and shift its position.



Information

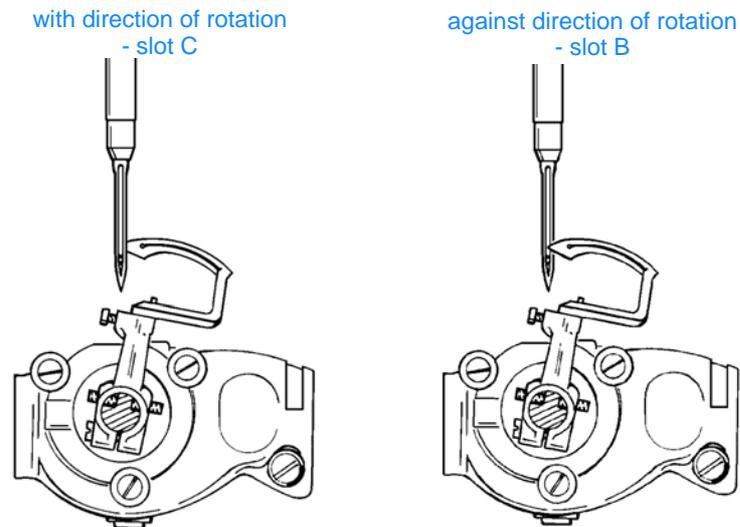
An adjustment in the axial direction changes the ellipsis width at a ratio of 1:2.

(Example: When the lower shaft (11) is moved by 0.2 mm, the ellipsis width changes by 0.1 mm.)

9. Disassemble throat plate and feed dog.
10. Swivel down the needle guard (3).
11. Loosen eccentric (9), set collar (10) and gear wheel (8).
12. Shift the lower shaft (11) in axial direction.
 - **Ellipsis width decreases:** Slide the lower shaft (11) to the right
 - **Ellipsis width increases:** Slide the lower shaft (11) to the left
13. Tighten eccentric (9) and set collar (10) such that they are pushed up against the lower shaft (11).
14. Align and tighten the gear wheel (8).
15. Loosen the screw (5).
16. Loosen one of the screws (4).
17. Move the hook carrier (6) such that the distance of the hook tip from the needle is 0.1 mm.
18. Tighten screws (4) and (5).
19. Check the movement of the toothed belt.
20. If necessary, align the lower toothed belt wheel.

6.4 Adjusting the symmetry of the hook

Fig. 9: Adjusting the symmetry of the hook (1)



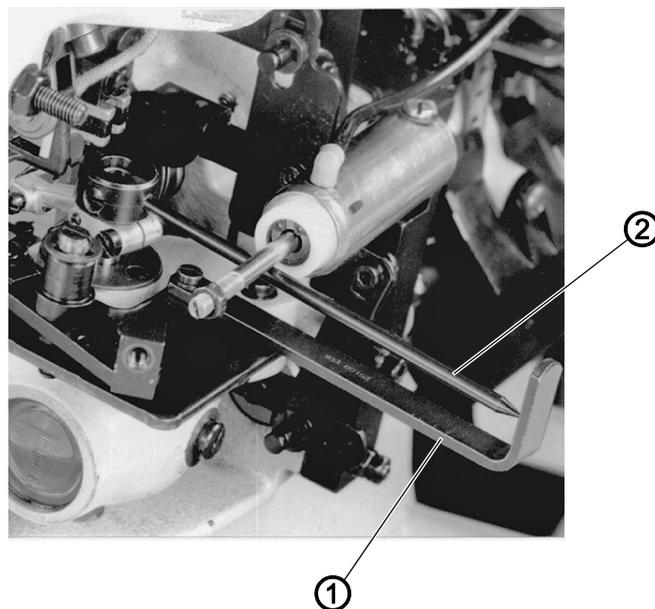
Proper setting

With the machine locked in place, the hook tip is lined up with the middle of the needle in both slot B and slot C (📖 p. 13).

The hook tip is behind the needle in slot C (📖 p. 13).

The hook tip is in front of the needle in slot B (📖 p. 13).

Fig. 10: Adjusting the symmetry of the hook (2)



(1) - Gage

(2) - Pointer



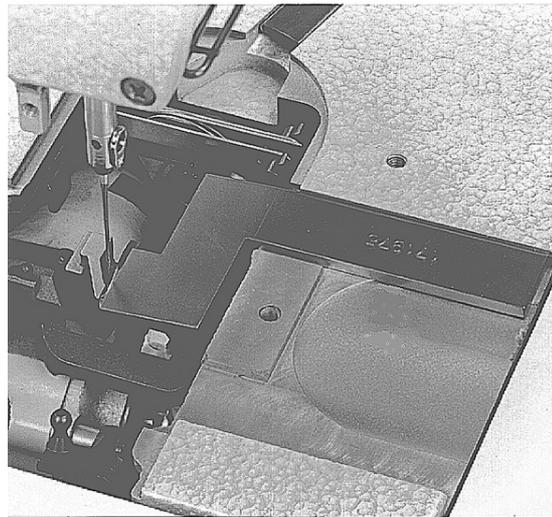
To adjust the symmetry of the hook:

1. Fasten the gage (1) on the hook drive housing.
2. Assemble the pointer (2) on top of the hook shaft.

3. Loosen the screws on the lower toothed belt wheel.
4. Turn the lower shaft such that the pointer (2) is above the marking on the gage (1) both in slot B and slot C (📖 p. 13).
- ↳ When you turn the handwheel, the pointer (2) must swing out to the left.
5. Tighten the screws on the lower toothed belt wheel.

6.5 Adjusting the hook in the hook carrier

Fig. 11: Adjusting the hook in the hook carrier



Proper setting

The front of the hook is positioned at an angle of $89^{\circ} 30'$ to the edge of the machine plate.

If there are 2 hooks, the rear one must be aligned and tightened first, followed by the front one.

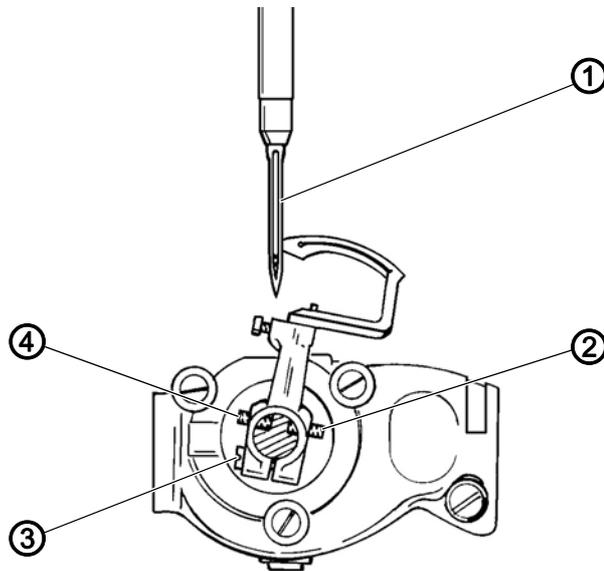


To adjust the hook in the hook carrier:

1. Adjust the width using the gage as shown above.

6.6 Adjusting looping stroke and needle bar height

Fig. 12: Adjusting looping stroke and needle bar height (1)



(1) - Needle
(2) - Screw

(3) - Screw
(4) - Screw



Proper setting

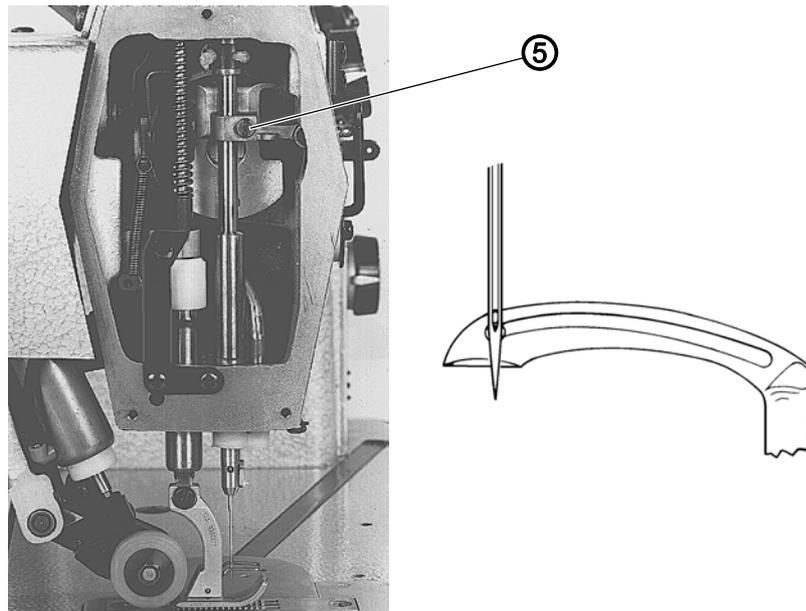
The looping stroke is 3.5 mm: When the needle has risen by 3.5 mm from its bottom dead center as a result of turning the handwheel in the direction of rotation, the hook tip must be at the center of the needle. This setting must also be present in the opposite direction of rotation. When the hook eye is in line with the middle of the needle, the lower edge of the needle eye and the upper edge of the hook eye are at the same level.



To adjust the looping stroke and the needle bar height:

1. Insert the needle.
2. Lock the machine in place in slot C ( p. 13).
3. Loosen the screw (3).
4. Turn screws (2) and (4) such that the hook tip behind the needle is in line with the middle of the needle.
5. Tighten the screw (3).

Fig. 13: Adjusting looping stroke and needle bar height (2)

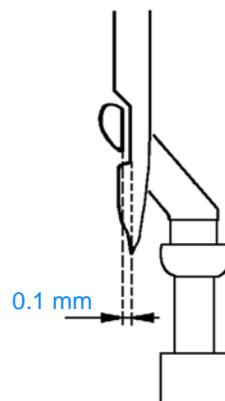


(5) - Screw



6. Loosen the screw (5).
7. Set the needle bar height such that the lower edge of the needle eye and the upper edge of the hook eye are at the same level.
8. Tighten the screw (5).

Fig. 14: Adjusting looping stroke and needle bar height (3)



9. Loosen the screw (3).
10. Shift the hook carrier in axial direction.
 - ↳ The distance between hook tip and groove is 0.1 mm.
11. Tighten the screw (3).



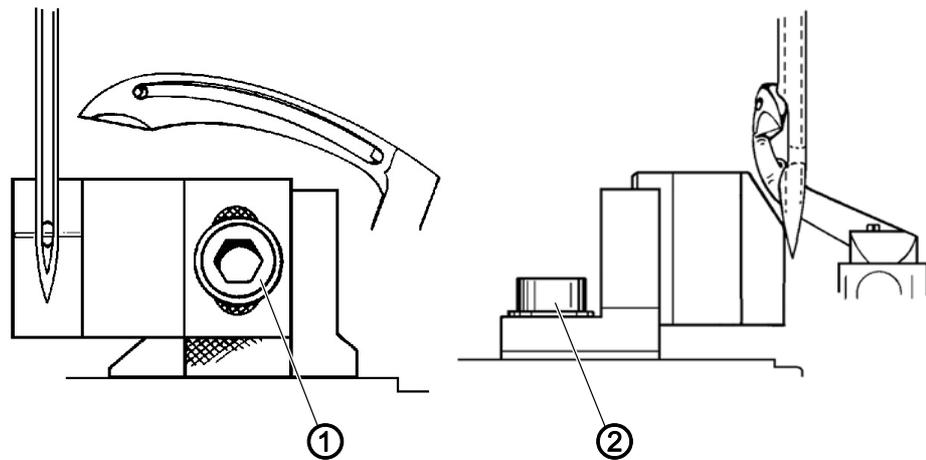
Order

Then check the following adjustment:

- Symmetry of the hook movement (📖 p. 23)

6.7 Adjusting the needle guard

Fig. 15: Adjusting the needle guard



(1) - Screw

(2) - Screw



Proper setting

The needle tip abuts when the hook tip moves to the left and reaches the needle.

When you press against the needle at that moment, it must not be possible to push the needle into the path of the hook tip.

In the lowest needle position, half of the needle eye must remain clear.



To adjust the needle guard:

1. Loosen the screw (1).
2. Adjust the height of the needle guard.
3. Tighten the screw (1).
4. Loosen the screw (2).
5. Push the needle guard up against the needle tip.
- ↳ The needle must not be pushed aside any more than is required.
6. Tighten the screw (2).

7 Feed dog

CAUTION



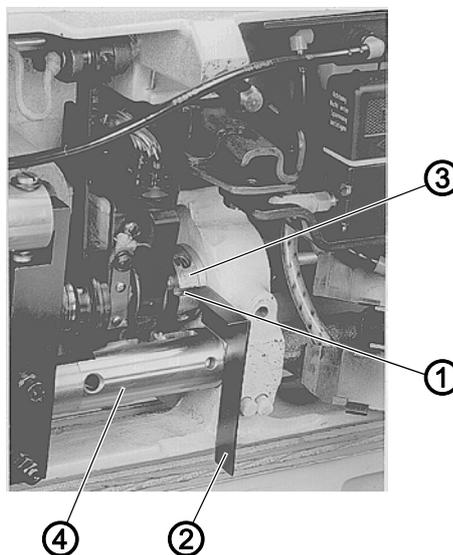
Risk of injury from moving parts!

Crushing possible.

Switch off the machine before adjusting the feed dog.

7.1 Adjusting the thrust movement of the feed dog

Fig. 16: Adjusting the thrust movement of the feed dog (1)



(1) - Slot
(2) - Gage

(3) - Pusher eccentric
(4) - Stitch regulator linkage



Proper setting

To ensure proper stitch formation, the feed dog completes a slight subsequent advance after the needle bar has reached the top dead center.



To adjust the thrust movement of the feed dog:

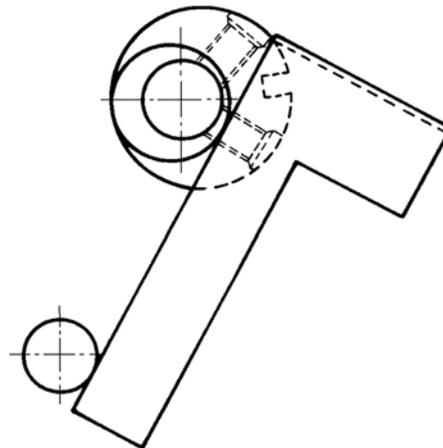
1. Loosen the screws of the pusher eccentric (3).
2. Lock the machine in place in slot D (📖 p. 13).
3. Insert the gage (2) into the slot (1) of the pusher eccentric (3).
4. Turn the pusher eccentric (3) such that the edges of the gage (2) rest on the stitch regulator linkage (4).

5. Tighten the screws of the pusher eccentric (3).
Ensure that the lower shaft is pushed up all the way.
- ↙ The feed dog must not strike any sides in the throat plate cutouts at maximum feed length.



Information

Fig. 17: Adjusting the thrust movement of the feed dog (2)



An **exception** in terms of the settings is the class 171-131110 without linkage shaft and permanently adjustable stitch lengths. Class 171-131110 can be retrofitted for use on hemming systems. Keep in mind that the pusher eccentric is set differently for right-hand and left-hand machines!

Left-hand machine: Slot F ( p. 13)

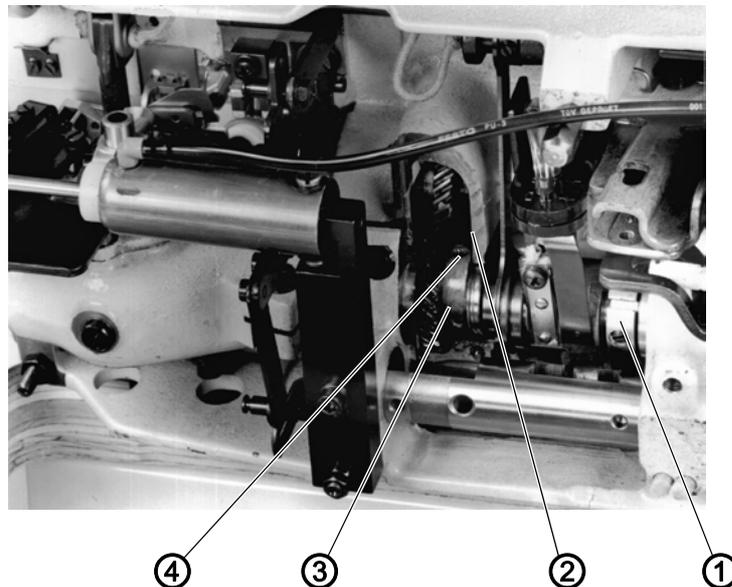
Set the 1st screw in the direction of rotation of the pusher eccentric (3) such that its lower edge lines up with the upper edge of the gage (2).

Right-hand machine: Slot D ( p. 13)

Set the 2nd screw in the direction of rotation of the pusher eccentric (3) such that its lower edge lines up with the upper edge of the gage (2).

7.2 Adjusting the stroke movement of the feed dog

Fig. 18: Adjusting the stroke movement of the feed dog



- | | |
|---------------------------|------------------------|
| (1) - Pusher eccentric | (3) - Stroke eccentric |
| (2) - Edge of the housing | (4) - Screw |



Proper setting

When the needle tip reaches the needle hole, the descending tooth point of the feed dog is level with the surface of the throat plate. This position corresponds to slot D (📖 p. 13).



To adjust the stroke movement of the feed dog:

1. Loosen the screws of the stroke eccentric (3).
 2. Lock the machine in place in slot D (📖 p. 13).
 3. Turn the stroke eccentric (3) such that the middle of the 1st screw (4) in the direction of rotation is level with the edge of the housing (2).
 4. Align the gear wheel.
- ↳ When at its highest position, the feed dog is 0.8 mm above the surface of the throat plate.
5. Tighten the screws of the stroke eccentric (3).



Information

Exception for class 171-131110:

Left-hand machine: Slot F (📖 p. 13)

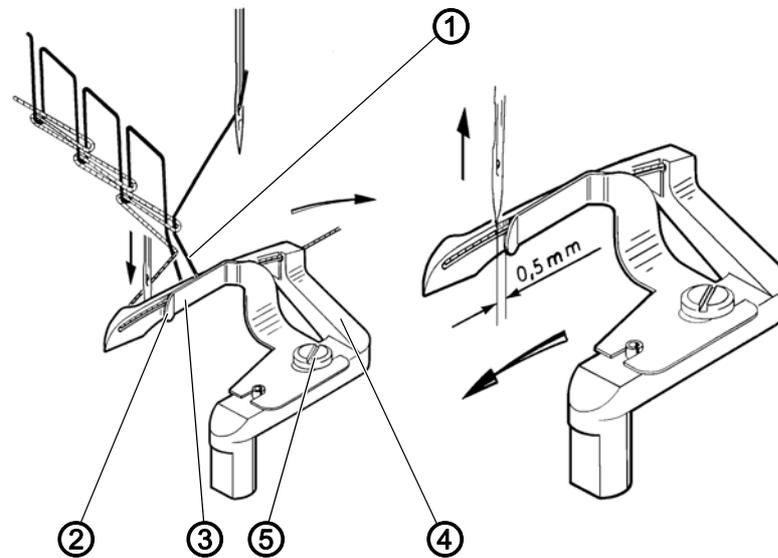
Set the 2nd screw in the direction of rotation of the stroke eccentric (3) level with the 2nd screw in the direction of rotation of the pusher eccentric (1).

Right-hand machine: Slot D (📖 p. 13)

Set the 2nd screw in the direction of rotation of the stroke eccentric (3) level with the 1st screw in the direction of rotation of the pusher eccentric (1).

7.3 Adjusting the retention spring on the hook

Fig. 19: Adjusting the retention spring on the hook



(1) - Needle thread loop
(2) - Holding point
(3) - Retention spring

(4) - Hook
(5) - Screw



Proper setting

While the **hook is moving from right to left**, the needle thread loop (1) must slide beyond the holding point (2) between retention spring (3) and hook (4).

While the **hook is moving from left to right**, the needle thread loop (1) will be held at the holding point (2) until the descending needle has plunged into the thread triangle to the left of the needle thread loop (1). When needle and hook (4) move to the top dead center and the bottom position, respectively, the needle moves past the retention spring (3) at a distance of approx. 0.5 mm.



To adjust the retention spring on the hook:

1. Align the retention spring (3) such that it abuts flush on the hook (4). Make sure that the pressure is greatest in front at the holding point (2).
2. Loosen the screw (5).
3. Shift the retention spring (3).
- ↳ Set the distance to 0.5 mm.
4. Tighten the screw (5).

Check the amount of contact pressure the retention spring (3) exerts on the hook (4) when the machine is fully assembled and threaded.



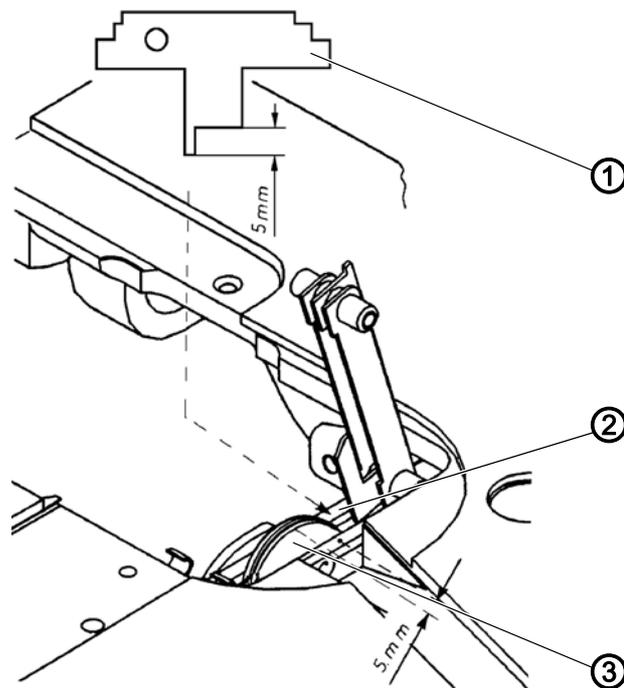
To check the amount of contact pressure exerted by the retention spring (3):

1. Erect the machine head.
2. Turn by hand.

3. Check the stitch formation when the hook moves from right to left and from left to right.
4. If necessary, correct the contact pressure of the retention spring (3) by aligning the spring.
 - **Reduce the contact pressure** if the needle thread loop (1) is not pushed beyond the holding point (2)
 - **Increase the contact pressure** if the needle thread loop (1) is not held at the holding point (2) until the needle plunges into the thread triangle

7.4 Adjusting the thread take-up disk

Fig. 20: Adjusting the thread take-up disk



(1) - Gage
(2) - Carrier plate

(3) - Thread take-up disk



Proper setting

When the machine is locked in place at top dead center of the needle bar, the thread take-up disk (3) is positioned 5 mm above the carrier plate (2) (slot E (📖 p. 13)).



To adjust the thread take-up disk:

1. Loosen the screws of the thread take-up disk (3).
2. Lock the machine in place in slot E ( p. 13).
3. Turn the thread take-up disk (3).
Use the gage (1) for measuring.
4. Push up the thread take-up disk (3).
5. Tighten the screws of the thread take-up disk (3).

8 Adjusting the thread trimmer

CAUTION

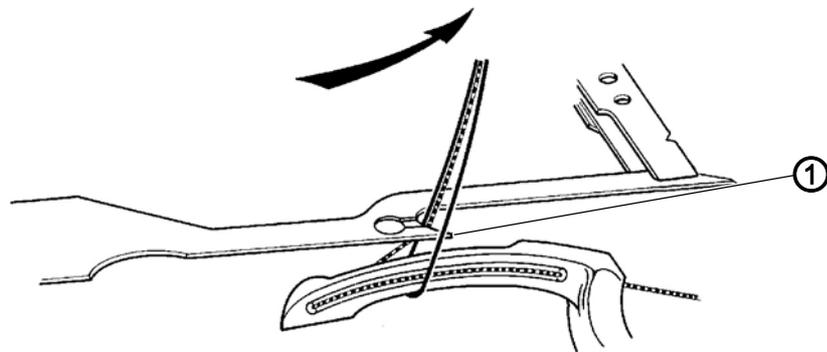


Risk of injury from sharp parts!

Cutting injuries may be sustained.

Switch off the machine before adjusting the thread trimmer.

Fig. 21: Adjusting the thread trimmer (1)



(1) - Point

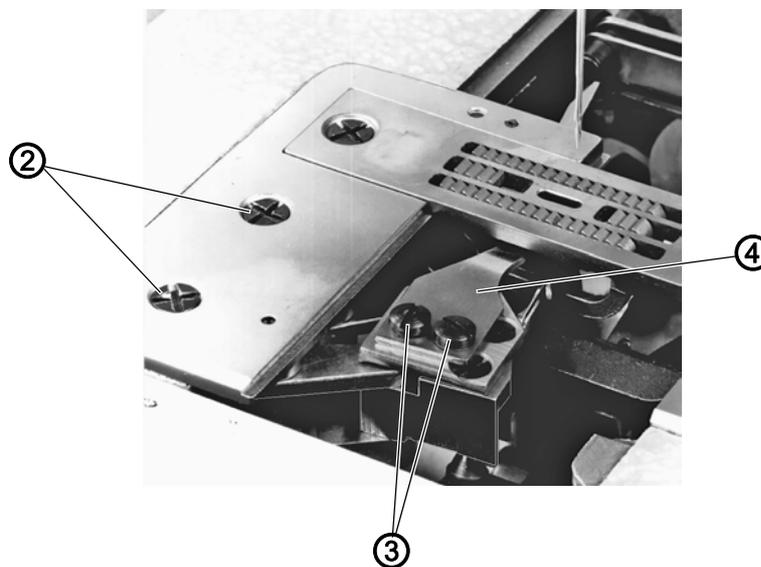


Proper setting

The hook thread behind the hook and the rear thread of the needle thread loop are picked up during cutting by the point (1) of the movable knife.

Disassembling the knife

Fig. 22: Adjusting the thread trimmer (2)



(2) - Screws
(3) - Screws

(4) - Movable knife

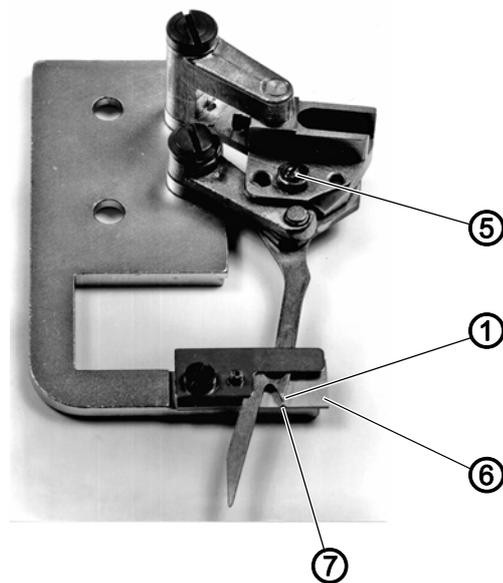


To disassemble the knife:

1. Loosen the screws (3).
2. Remove the movable knife (4).
3. Loosen the screws (1).
4. Disassemble the entire thread trimmer.

Performing a manual cutting test

Fig. 23: Adjusting the thread trimmer (3)



(1) - Point
(5) - Screw

(6) - stationary knife
(7) - Notch

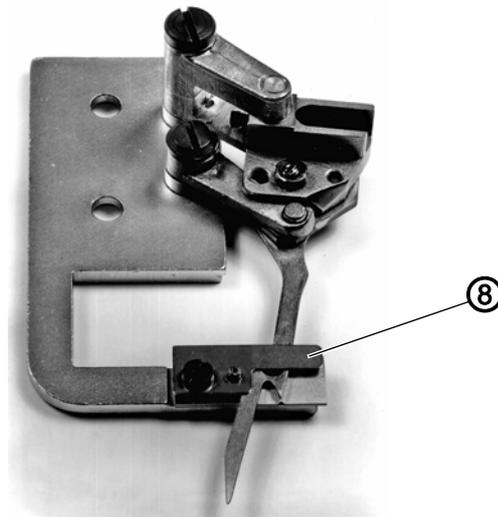


To perform a manual cutting test:

1. Loosely assemble the movable knife (4) with the screws (3).
- ↳ Set the screws (2) approximately to the middle of the slotted holes.
2. Align the point (7) of the movable knife (4) with the notch (7) of the stationary knife (6).
3. Tighten the screws (3).
4. Perform a cutting test with thread.
- ↳ If the cut is not clean, sharpen the knives or assemble new knives.
5. Align the movable knife (4) by lightly turning in the screw (5) until the knife is set to the cutting position.
- ↳ The movement of the knife must be smooth.

Checking the thread clamping plate

Fig. 24: Adjusting the thread trimmer (4)



(8) - Thread clamping plate



Proper setting

The thread clamping plate (10) holds the cut thread end gently in place to ensure a secure seam beginning.

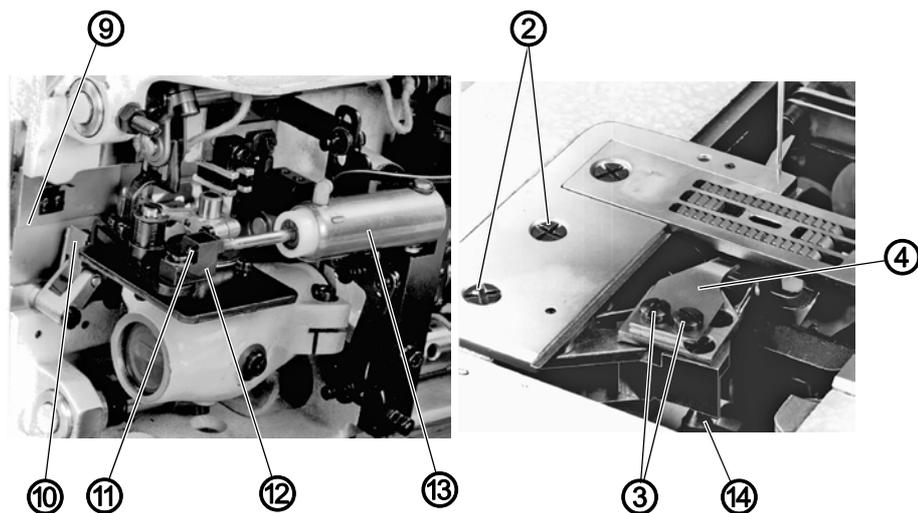


Disturbance

If set too tight, the clamping plate may cause ruffing at the seam beginning.

Assembling the thread trimmer and adjusting the end positions

Fig. 25: Adjusting the thread trimmer (5)



- (2) - Screws
- (3) - Screws
- (4) - movable knife
- (9) - Edge
- (10) - Knife carrier

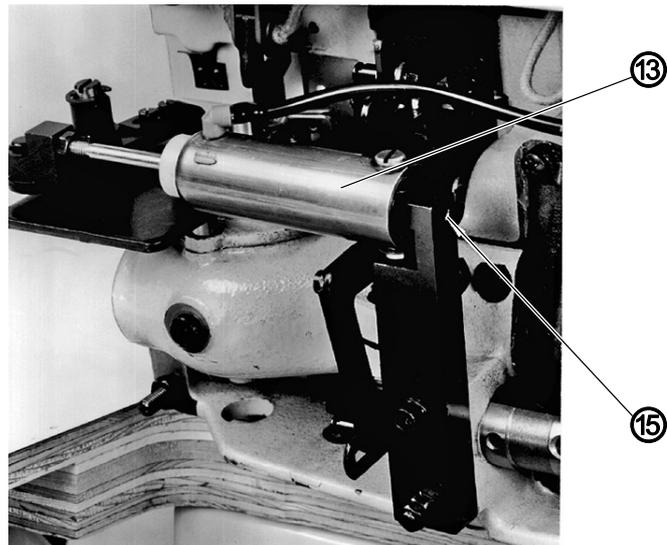
- (11) - Piston rod
- (12) - Block
- (13) - Cylinder
- (14) - Ball lever



To assemble the thread trimmer and adjust the end positions:

1. Loosen the screws (3).
2. Remove the movable knife (4).
3. Position the thread trimmer such that the knife carrier (10) fits over the ball lever (14).
4. Tighten the screws (2).
5. Screw the piston rod (11) into the block (12) until the piston rod (11) lines up flush with the front of the block.

Fig. 26: Adjusting the thread trimmer (6)



(13) - Cylinder

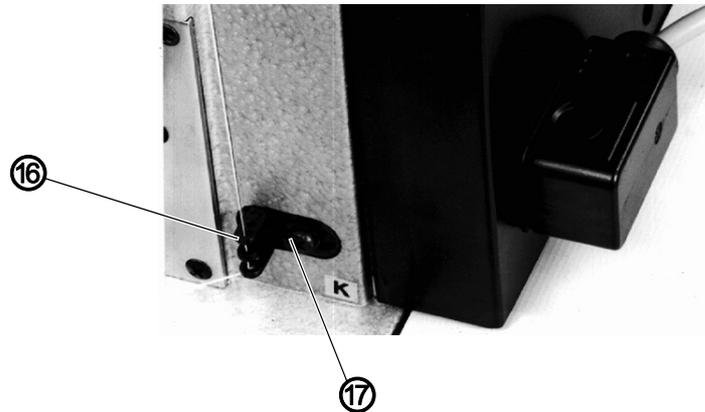
(15) - Screw



6. Adjust the end position of cylinder (13) using the screw (15).
 - ↳ When the piston rod (11) is moved to the right end position, the edge of the knife carrier (10) is flush with the edge (14) of the plate.
7. Use the screw (3) to tighten the movable knife (4) in such a way that the settings are as follows:
 - Point (1) points to the notch (7)
 - The cutting edges of the knife move over top of each other at approx 1 mm
8. Perform a cutting test by sewing with the shortest and with the longest stitch length.
9. If necessary, correct the point (1) slightly.

Adjusting the thread advancing device for needle and hook thread

Fig. 27: Adjusting the thread trimmer (7)



(16) - Thread advancing device

(17) - Stop



Proper setting

The thread tensions are opened and the thread advancing devices (16) for needle thread and hook thread are pressed while the thread is being cut. The advanced, tension-free thread serves to ensure proper stitch formation at the next seam beginning.

No more thread than is required should be advanced as this determines the length of the thread end remaining at the seam beginning.



To adjust the thread advancing device for needle and hook thread:

1. Adjust the stop (17) to advance more or less thread.
↳ The thread advancing device (18) is stepped.

9 Adjusting the sewing foot stroke

CAUTION



Risk of injury from moving parts!

Crushing possible.

Switch off the machine before adjusting the sewing foot stroke.

The height of the sewing foot stroke depends on the needle bar stroke of the class and the needle system used.

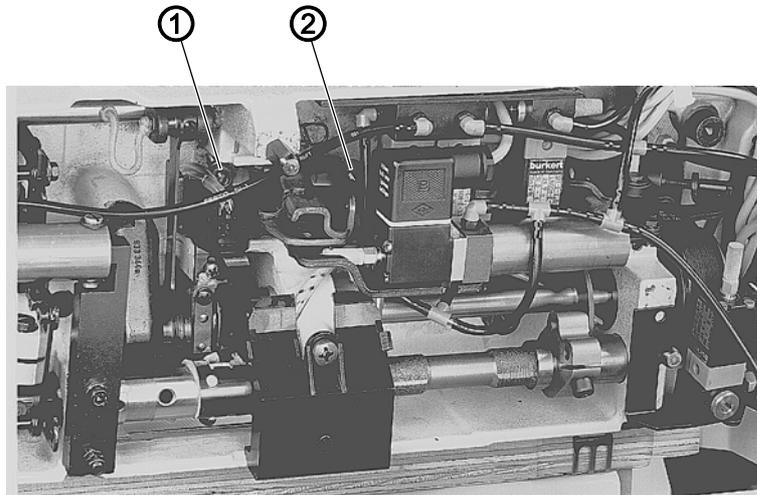
As a general rule, the sewing foot stroke is:

- 5 mm in needle system 934
- 10 mm in needle system 933

If the settings are higher and the material passing through is thicker, make sure the needle bar / the needle block does not come into contact with the sewing foot during sewing.

9.1 Adjusting the sewing foot stroke for presser feet

Fig. 28: Adjusting the sewing foot stroke for presser feet (1)



(1) - Screw

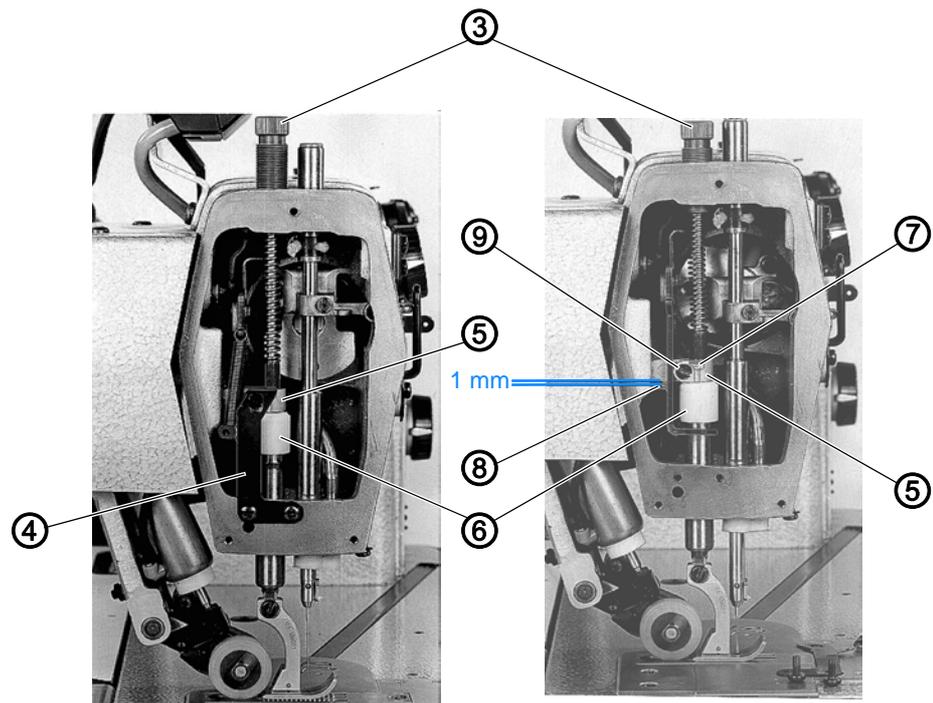
(2) - Screw



To adjust the sewing foot stroke for presser feet:

1. Unscrew screws (1) and (2) by a few turns.
 - ↳ The sewing foot sole must rest on the throat plate. To do so, turn the handwheel accordingly.
2. Place an object between sewing foot sole and throat plate that corresponds to the thickness of the sewing foot stroke.

Fig. 29: Adjusting the sewing foot stroke for presser feet (2)



- (3) - Pressure sleeve
- (4) - Support plate
- (5) - Block
- (6) - Sleeve

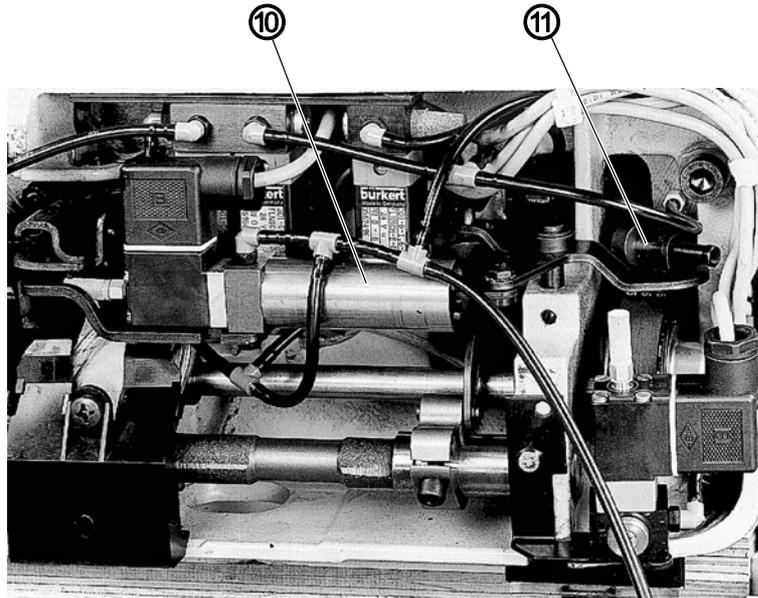
- (7) - Support lug
- (8) - Lifter bracket
- (9) - Screw



3. Loosen the screw (9).
4. Adjust the block (5) on top of the presser bar in such a way that the support plate (4) can swivel unhindered below the support lug (7).
5. Align the sewing foot towards the needle.
6. Tighten the screw (9).
7. Remove the object.
- ↙ There must be a gap between block (5) and sleeve (6) when the sewing foot is resting on the throat plate.
8. Tighten the screw (1) until there is a gap of approx. 1 mm between lifter bracket (8) and block (5).
- ↙ The sewing foot sole must be resting on the throat plate.
9. To limit the path of the knee lever block, tighten the screw (2).
- ↙ There is just enough space for the support plate (4) to swivel unhindered below the support lug (7).

**Information**

Fig. 30: Adjusting the sewing foot stroke for presser feet (3)



(10) - Cylinder

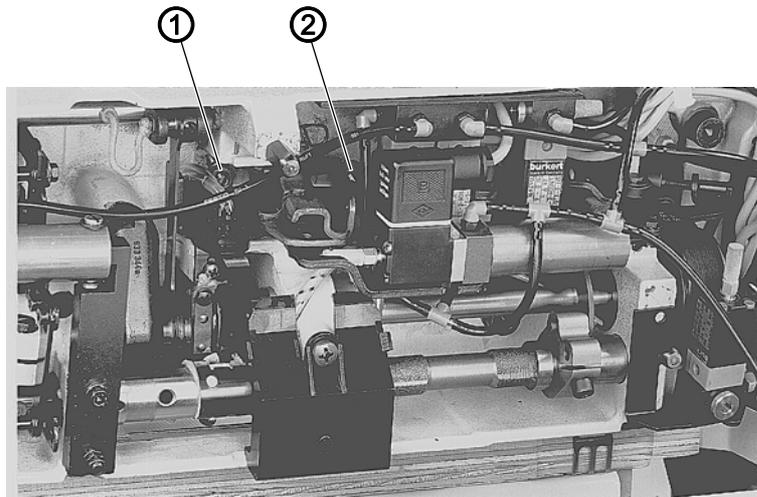
(11) - Screw

The stroke of the cylinder (10) must be taken into account for the pneumatic sewing foot lift.

The sewing foot stroke must be limited with screw (11).

9.2 Adjusting the sewing foot stroke for hinged lever feet

Fig. 31: Adjusting the sewing foot stroke for hinged lever feet (1)



(1) - Screw

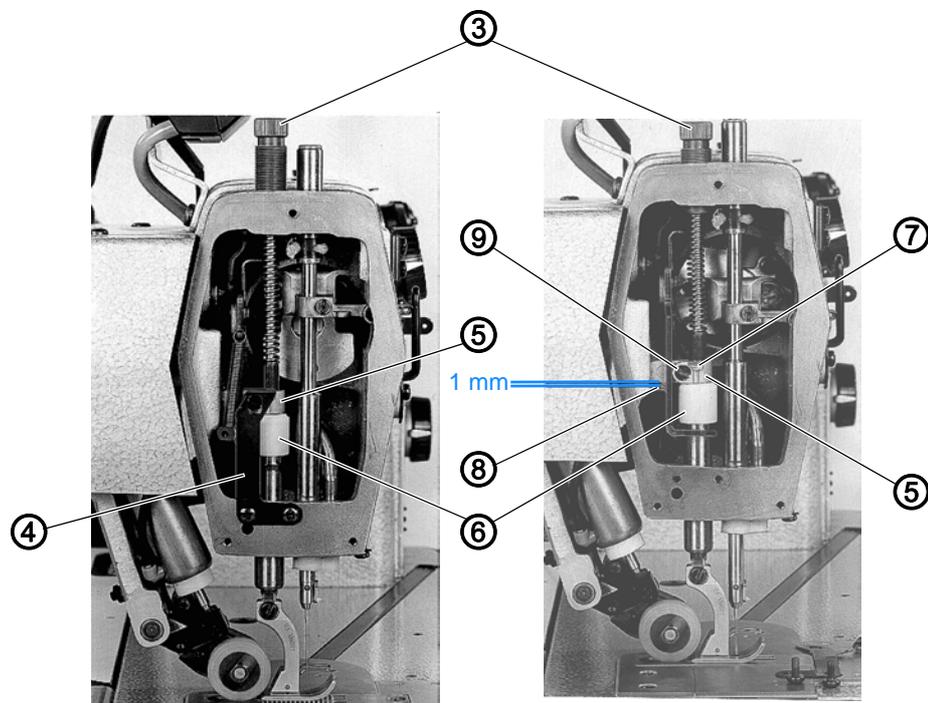
(2) - Screw



To adjust the sewing foot stroke for presser feet:

1. Unscrew screws (1) and (2) by a few turns.
- ↪ The sewing foot sole must rest on the throat plate.
To do so, turn the handwheel accordingly.

Fig. 32: Adjusting the sewing foot stroke for hinged lever feet (2)



(3) - Pressure sleeve

(4) - Support plate

(5) - Block

(6) - Sleeve

(7) - Support lug

(8) - Lifter bracket

(9) - Screw

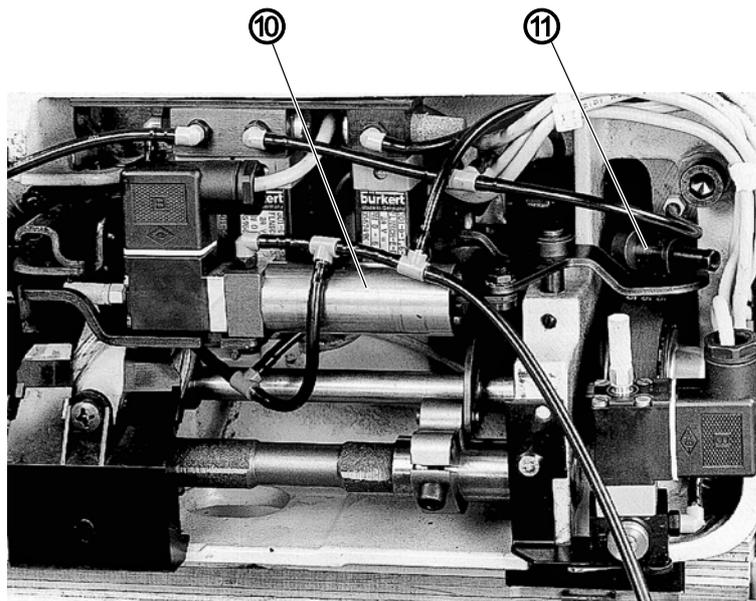


2. Screw the pressure sleeve (3) out to reduce the sewing foot pressure.
3. Loosen the screw (9).
4. Move down the presser bar until the sewing foot sole rests flush on the throat plate.
5. Set a distance of approx. 0.5 mm between block (5) and sleeve (6).
6. Align the sewing foot towards the needle.
7. Tighten the screw (9).
8. Screw the pressure sleeve (3) in to increase the sewing foot pressure.
- ↳ The spring tension must be significantly greater than that of the hinged lever foot.
The lowest position of the hinged lever foot is held by the sleeve (6).
9. Tighten the screw (1) until there is a gap of approx. 1 mm between lifter bracket (8) and block (5).
- ↳ The sewing foot sole must be resting on the throat plate.



Information

Fig. 33: Adjusting the sewing foot stroke for hinged lever feet (3)



(10) - Cylinder

(11) - Screw

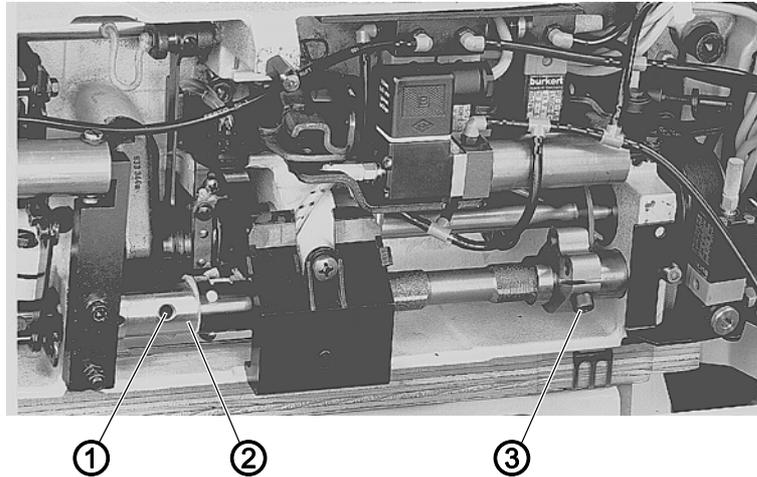
The stroke of the cylinder (10) must be taken into account for the pneumatic sewing foot lift.

The sewing foot stroke must be limited with screw (11).

10 Stitch lengths

10.1 Adjusting normal stitch lengths

Fig. 34: Adjusting the normal stitch length



(1) - Hole

(2) - Linkage shaft

(3) - Screw



Proper setting

If the stitch length is set to 3 mm, 11 punctures on thin cardboard will equal a feed of 30 mm.

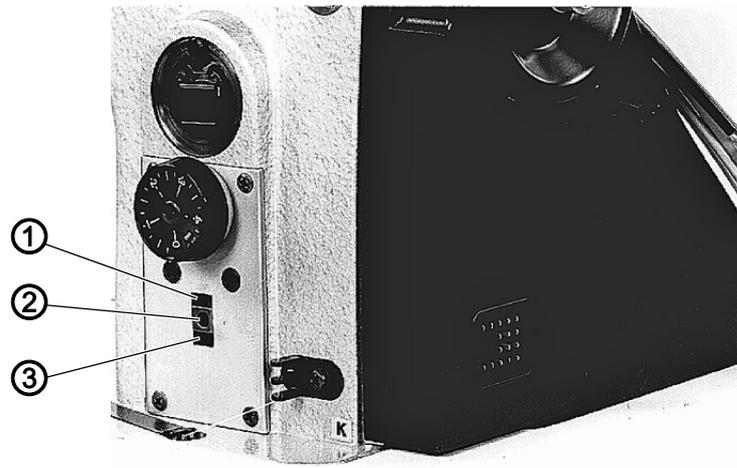


To adjust the normal stitch length:

1. Loosen the screw (3).
2. Insert a pin into the hole (1).
3. Adjust the linkage shaft (2) accordingly.
4. Tighten the screw (3).

10.2 Adjusting stitch condensing for the bottom feed

Fig. 35: Adjusting stitch condensing for the bottom feed



(1) - Stop
(2) - Screw

(3) - Cutout



Proper setting

The length of the condensing stitches must not be less than 1.2 mm.

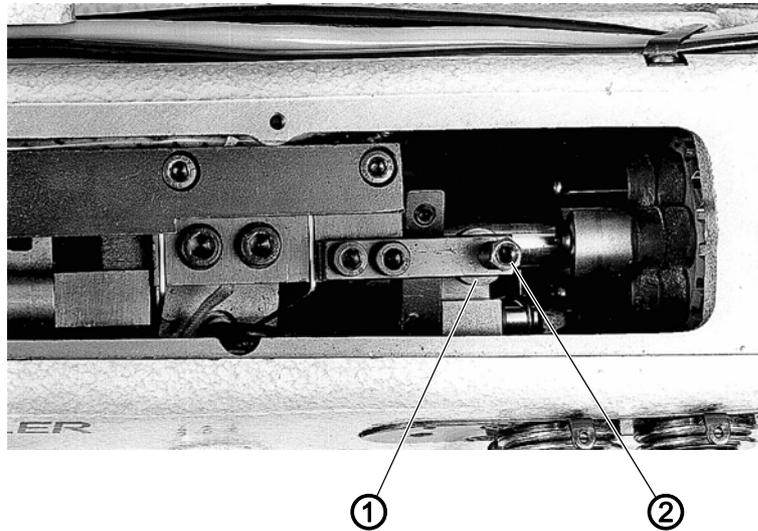


To adjust stitch condensing for the bottom feed:

1. Swivel up the carrier roller.
2. Allow the needle to puncture a thin piece of cardboard.
Carry out condensing stitches by pressing the button on the machine arm.
- ↳ 11 punctures equal a measurement of 12 mm.
3. Insert the screw driver into the cutout (3).
4. Loosen the screw (2).
5. Adjust the stop (1) accordingly.
6. Tighten the screw (2).

10.3 Adjusting stitch condensing for the puller

Fig. 36: Adjusting stitch condensing for the puller



(1) - Stop

(2) - Counternut



Proper setting

The carrier roller should always transport a slightly greater amount than the bottom feed.

This will keep the sewing material under tension and prevent ruffing during stitch formation.

Reduce the sewing foot pressure such that it is barely possible for a thin piece of cardboard to pass through between sewing foot and feed dog.



To adjust stitch condensing for the puller:

1. Lower the carrier roller.
2. Allow the needle to puncture a thin piece of cardboard.
Carry out condensing stitches by pressing the button on the machine arm.
- ↳ 11 punctures equal a measurement of 13 mm.
3. Loosen the counternut (2).
4. Adjust the stop (1) accordingly.
5. Tighten the counternut (2).

11 Puller

CAUTION



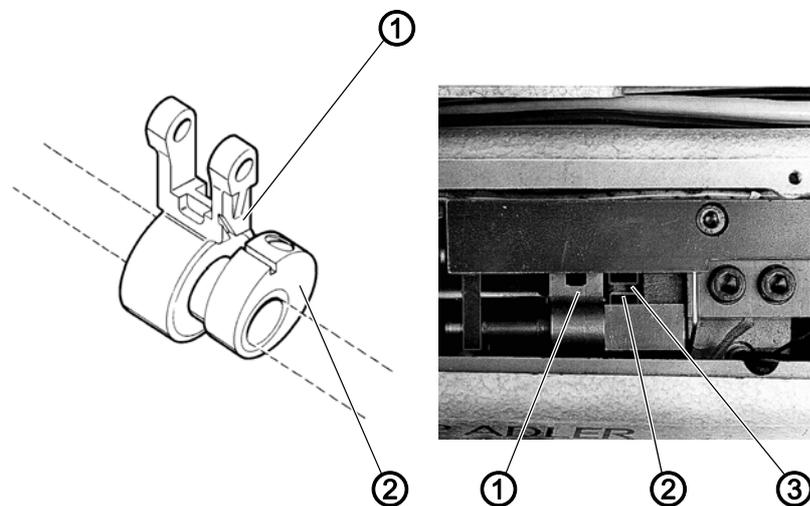
Risk of injury from moving parts!

Crushing possible.

Switch off the machine before adjusting the puller.

11.1 Adjusting the synchronization of bottom feed and puller

Fig. 37: Adjusting the synchronization of bottom feed and puller (1)



(1) - Pull rod
(2) - Eccentric

(3) - Slot



Proper setting

Bottom feed and puller operate in sync.

The movement of the carrier roller must NOT end before the movement of the feed dog. This will keep the sewing material under tension and prevent ruffing at seam beginning.

Adjusting synchronization



To adjust the synchronization of bottom feed and puller:

1. Disassemble the winder lid.
2. Loosen the screws of the eccentric (2) until the eccentric (2) can be turned on the arm shaft with minimal force.
3. Insert a screw driver into the slot (3) of the eccentric.

4. Turn the handwheel to set the machine to position E.
- ↳ The slots of pull rod (1) and eccentric (2) line up on top of each other.
5. Tighten the screws of the eccentric (2).

Checking synchronization

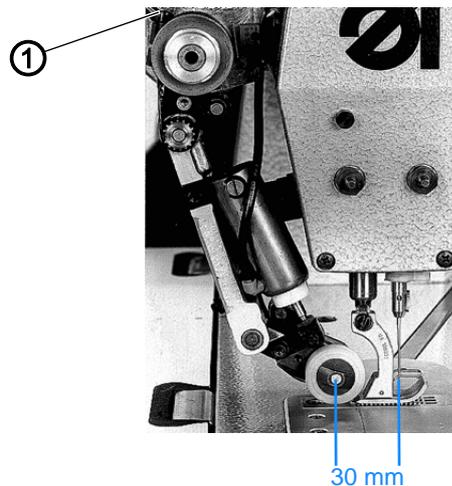


To check the synchronization of bottom feed and puller:

1. Set the adjusting wheels for bottom feed and puller to 3 mm.
2. Place 2 thin strips of cardboard end to end under sewing foot and carrier roller.
3. Turn the handwheel.
- ↳ The strips of cardboard must not shift against each other.
4. If necessary, correct the adjusting wheel of the carrier roller until the feed is in sync.
5. Loosen the scale wheel for the carrier roller and fit it such that the indicated value is 3 mm.

11.2 Adjusting the distance between carrier roller and needle

Fig. 38: Adjusting the distance between carrier roller and needle



(1) - Screw



Proper setting

The distance between the middle of the carrier roller and the middle of the needle is 30 mm.

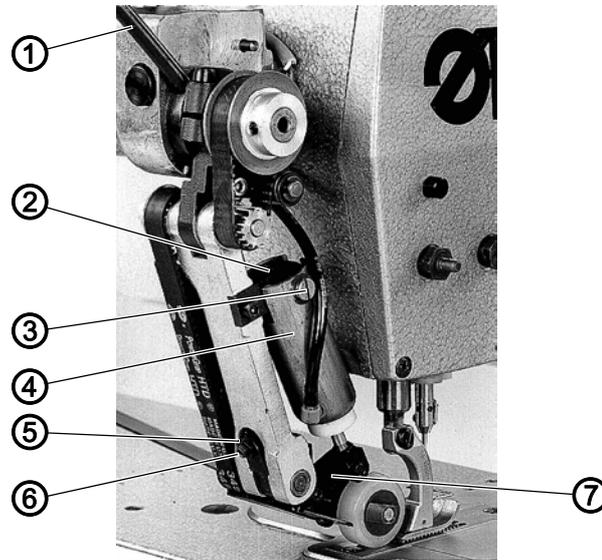


To adjust the distance between the carrier roller and needle:

1. Loosen the screw (1).
2. Adjust the distance.
3. Tighten the screw (1).

11.3 Adjusting the lift stroke of the carrier roller

Fig. 39: Adjusting the lift stroke of the carrier roller



- (1) - Lever
- (2) - Screw
- (3) - Bolt
- (4) - Cylinder

- (5) - Counternut
- (6) - Threaded pin
- (7) - Rocker



Proper setting

Upper end position: The raised carrier roller must not come into contact with the sewing foot.

Lower end position: After the carrier roller has been placed on the throat plate, the rocker (7) must still be deflecting by approx. 2 mm before the stop of the lever (1) reaches its end position. This will slightly tension the sewing material while the roller is being placed.

Adjusting the upper end position



To adjust the upper end position:

1. Turn the bolt (3) until the slot is vertical.
2. Limit the piston stroke in the cylinder (4) with the screw (2). Use a 2.5 mm allen key.

Adjusting the lower end position



Important

The steel carrier rollers must not rest on the throat plate. There must be a gap of approx. 0.2 mm between carrier roller and throat plate.

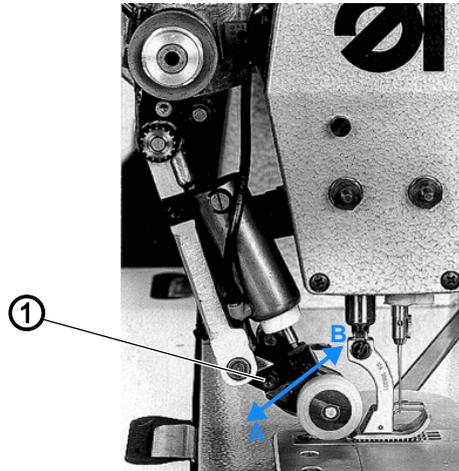


To adjust the lower end position:

1. Loosen the counternut (5).
2. Turn the threaded pin (6).
3. Tighten the counternut (5).

11.4 Adjusting the carrier roller pressure

Fig. 40: Adjusting the carrier roller pressure



(1) - Screw

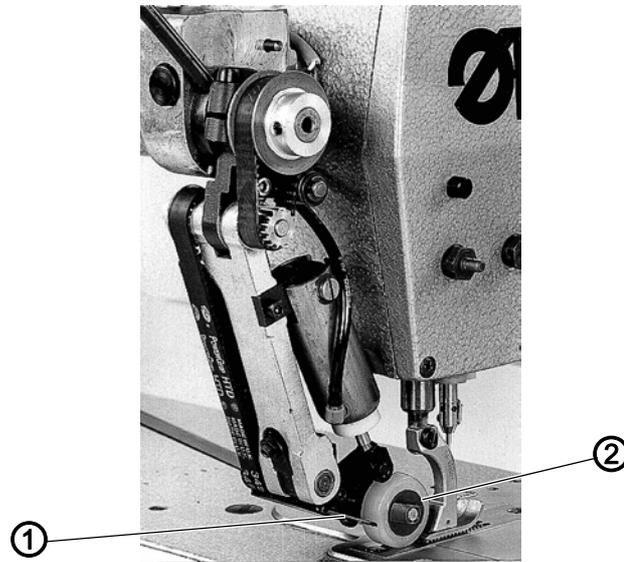


To adjust the carrier roller pressure:

1. Loosen the screw (1).
2. Move the cylinder.
 - **To increase pressure:** Push the cylinder towards the **A**
 - **To reduce pressure:** Push the cylinder towards the **B**
3. Tighten the screw (1).

11.5 Fabric deflector

Fig. 41: Fabric deflector



(1) - Fabric deflector

(2) - Carrier roller



Proper setting

The distance between carrier roller (2) and fabric deflector (1) must be as small as possible.

To keep the sewing material from entering into the slot, the distance must be adjusted in line with the wear of the carrier roller (2).



Information

For machines without a thread trimmer, the fabric deflector (1) can also be used as a thread-pulling knife for the thread chain.

11.6 Toothed belt tension



Proper setting

The toothed belt is tensioned enough to ensure an exact transmission of the carrier roller step lengths.

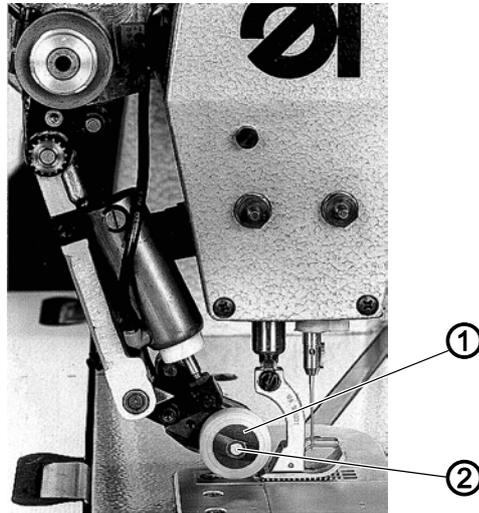


Disturbance

If too great, the toothed belt tension can result in excessive wear and malfunctions.

11.7 Changing the carrier roller

Fig. 42: Changing the carrier roller



(1) - Nut

(2) - Axle



Important

When exchanging a Vulkollan carrier roller for a steel carrier roller, you need to readjust the lower end position of the carrier roller stroke (📖 p. 50).



To change the carrier roller:

1. Remove the nut (1).
CAUTION: Left-handed thread!
2. Lock the axle (2) with a screw driver.

Carrier rollers for different areas of application

Material	Width	
Vulkollan	9 mm	assembled as standard
Vulkollan	16 mm	asymmetrical*
Steel	9 mm	1mm pyramid-tooth cut
Steel	15 mm	1mm pyramid-tooth cut
Steel	15 mm	2 mm saw-tooth cut

* If assembled accordingly, the asymmetric carrier roller can effect a different position relative to the seam / folding of the material.
The asymmetric carrier roller can also be used on 2-needle machines.

12 Edge pinker

WARNING



Risk of injury from sharp parts!
Cutting injuries may be sustained.
Do NOT reach into the knife blades.

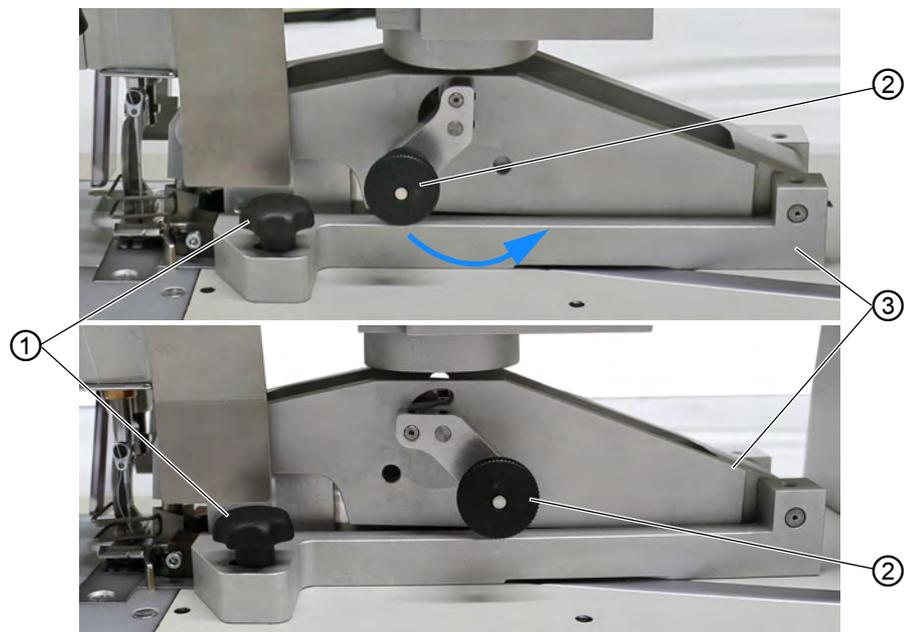
CAUTION



Risk of injury from moving parts!
Crushing possible.
Do NOT reach into the area of the edge cutter.

12.1 Disassembling the edge pinker

Fig. 43: Disassembling the edge pinker



(1) - Screw
(2) - Lever

(3) - Edge pinker



To disassemble the edge pinker:

1. Move the lever (2) to the right.
Make sure the lever (2) snaps into place.
2. Loosen the screw (1).

3. Press the pedal back.
- ↳ The sewing foot is lifted.
The edge pinker (3) can be removed completely.

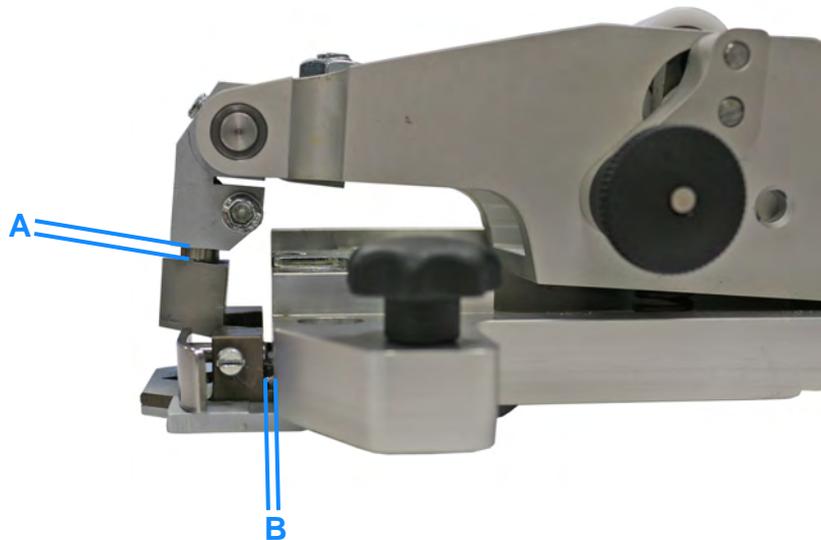
12.2 Changing the knives



To change the knives:

1. Disassemble the edge pinker ( p. 54).

Fig. 44: Changing the knives (1)



Information

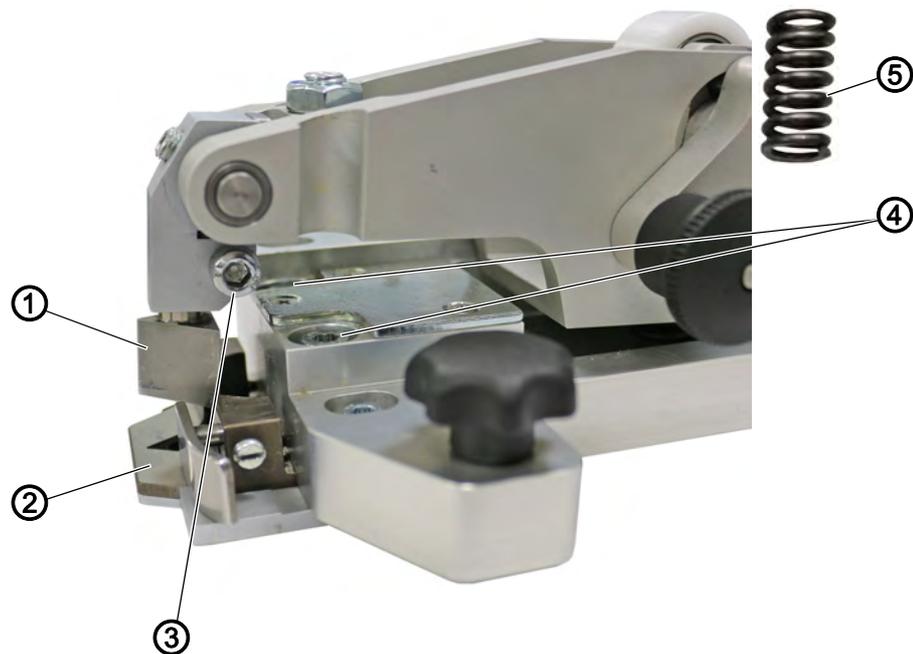
Take measurements **A** and **B** using a gage or another suitable tool.

Measurement **A**: approx. 2.8 mm

Measurement **B**: approx. 1.8 mm

- ↳ The new knives must later be set to the same measurement.

Fig. 45: Changing the knives (2)



- | | |
|--------------------|--------------|
| (1) - top knife | (4) - Screws |
| (2) - bottom knife | (5) - Spring |
| (3) - Screw | |



2. Loosen the screws (4).
3. Remove the bottom knife (2).

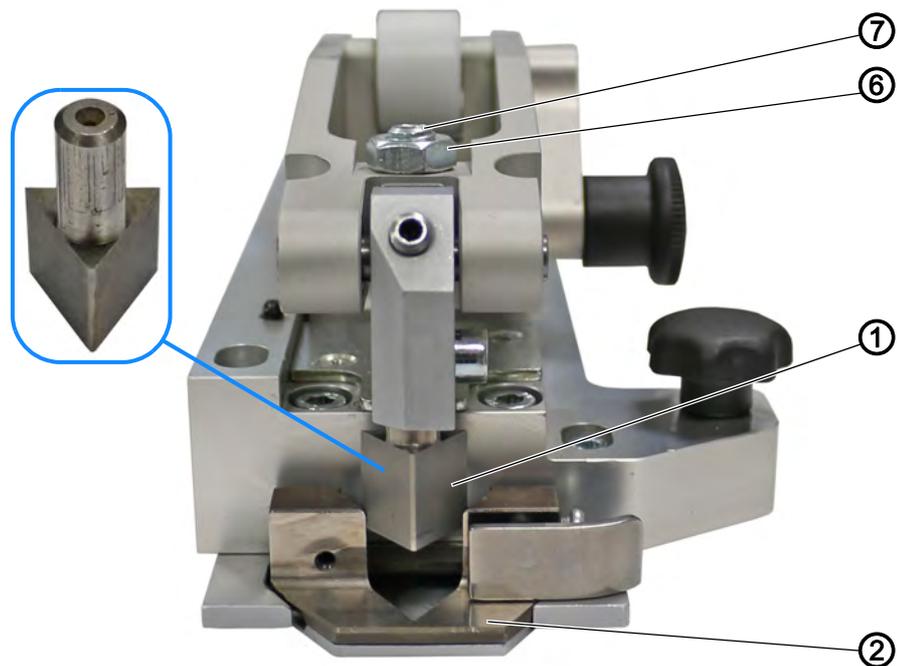


Important

The spring (5) will drop out of its holder above the top knife (1). Pick up the spring (5) as it needs to be reinserted later.

4. Loosen the screw (3).
5. Remove the top knife (1).

Fig. 46: Changing the knives (3)



- | | |
|--------------------|--------------------|
| (1) - top knife | (6) - Nut |
| (2) - bottom knife | (7) - Threaded pin |



6. Slide the top knife (1) into the holder as far as it will go. Make sure to insert the top knife (1) such that the rounded edge faces the front.
7. Tighten the bottom knife (2) using the previously taken measurement **B** (approx. 1.8 mm). Make sure the bottom knife (2) is tightened straight.
8. Set the top knife (1) to the previously taken measurement **A** (approx. 2.8 mm).
9. Align the top knife (1) such that it fits exactly in the cutout of the bottom knife (2).

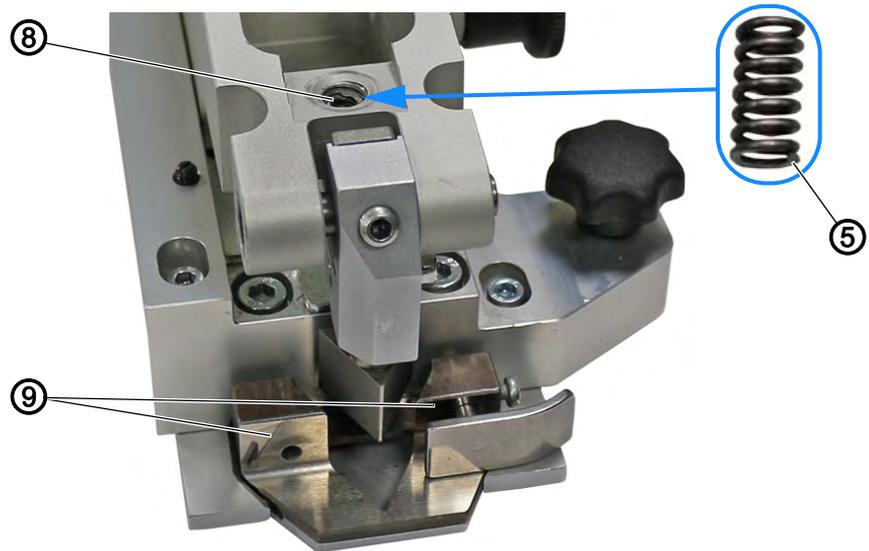


Important

The point of the top knife (1) must plunge exactly 1 mm into the cutout of the bottom knife (2).

10. Loosen the nut (6).
11. Loosen the threaded pin (7).

Fig. 47: Changing the knives (4)



(5) - Spring
(8) - Hole

(9) - Guide surfaces



12. Insert the spring (5) into the hole (8).
13. Screw in the threaded pin (7) and lock it with the nut (6).
The position of the threaded pin (7) determines the cutting pressure.
14. Lubricate the guide surfaces (9).
15. Adjust the cutting pressure (📖 p. 59).

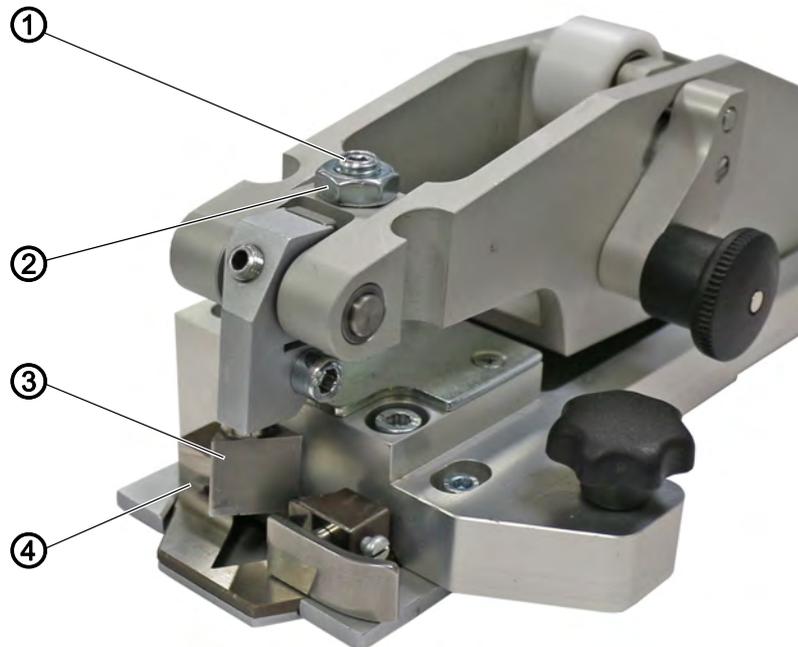
12.3 Adjusting the cutting pressure



Proper setting

The top knife (3) abuts evenly on the guide surfaces (4) of the bottom knife. The cutting pressure is as low as possible, and the cut is clean.

Fig. 48: Adjusting the cutting pressure (1)



(1) - Threaded pin
(2) - Nut

(3) - top knife
(4) - Guide surface



To adjust the cutting pressure:

1. Disassemble the edge pinker ( p. 54).
2. Loosen the nut (2).
3. Screw the threaded pin (1) in or out until you have reached the desired cutting pressure.



Important

The point of the top knife (3) must plunge exactly 1 mm into the cutout of the bottom knife.

4. Tighten the nut (2).

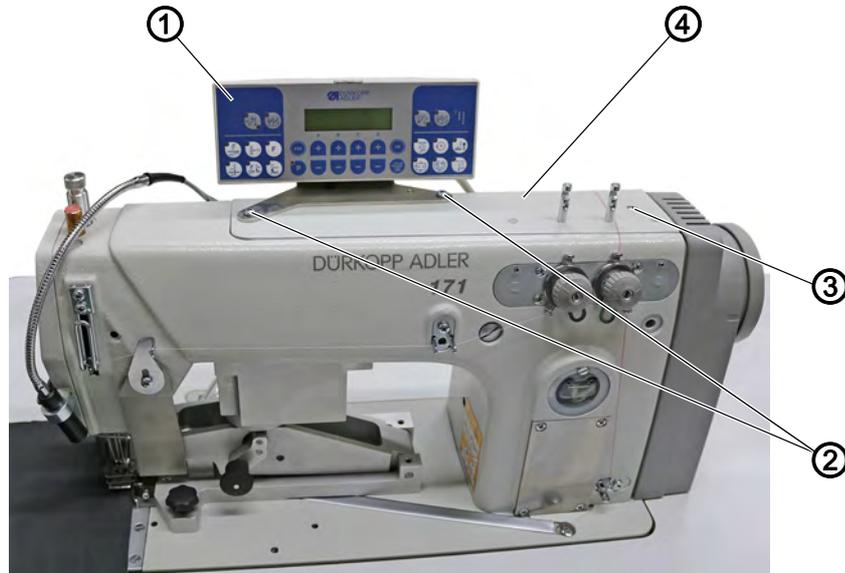
12.4 Adjusting point in time for cutting



Proper setting

The edge pinker cuts when the material is not being fed.
This setting applies when the handwheel is set to position **A** and the needle plunges into the throat plate.

Fig. 49: Adjusting point in time for cutting (1)



(1) - Control panel

(2) - Screws

(3) - Screw

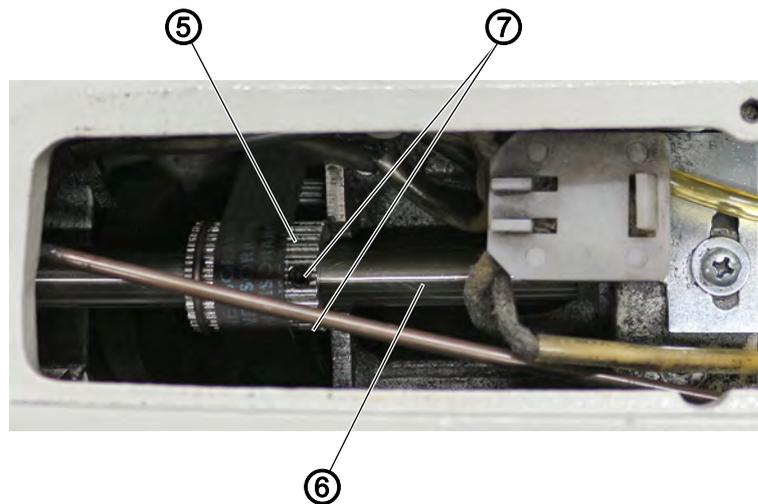
(4) - Arm cover



To adjust the point in time for cutting:

1. Loosen the screws (2).
2. Disassemble the control panel (1).
3. Loosen the screw (3).
4. Disassemble the arm cover (4).

Fig. 50: Adjusting point in time for cutting (2)



(5) - Gear wheel
(6) - Arm shaft

(7) - Threaded pins



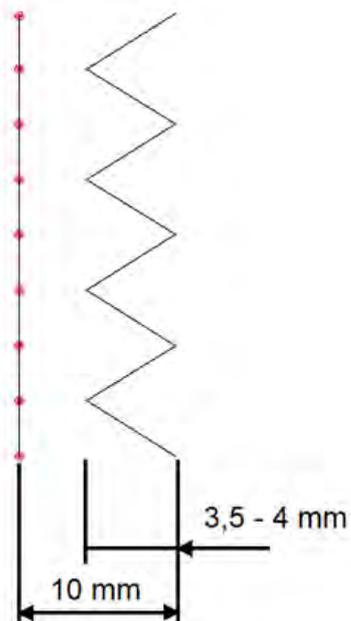
5. Loosen the 2 threaded pins (7) on the gear wheel (5). Turn the handwheel to reach both threaded pins.
6. Turn the gear wheel (5) on the arm shaft (6) to adjust the point in time for cutting.
7. Tighten the threaded pins (7).
8. Perform a sewing test. Readjust the point in time for cutting if necessary.
9. Assemble the arm cover (4).
10. Tighten the screw (3).
11. Assemble the control panel (1).
12. Tighten the screws (2).

12.5 Checking the seam pattern



Proper setting

Fig. 51: Checking the seam pattern



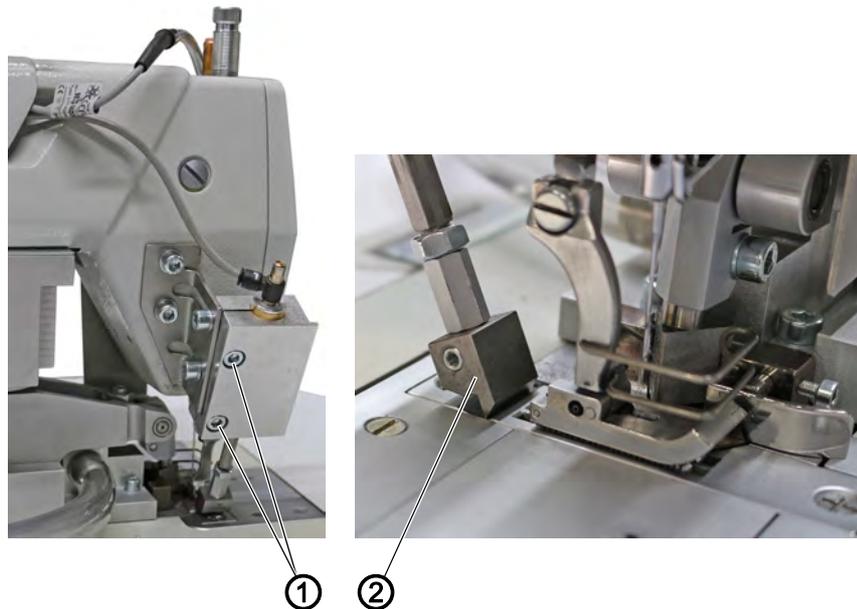
12.6 Adjusting the chain cutter



Proper setting

When the chain cutter is extended, the point of the knife - exerting minimum pressure - lies flat and straight in the slot of the throat plate.

Fig. 52: Adjusting the chain cutter



(1) - Screws

(2) - Knife



To adjust the chain cutter:

1. Loosen the screws (1).
2. Adjust the height of the chain cutter.



3. Press the  and  buttons at the same time.

↳ You are on the Technician level.

4. Select parameter $t\ 51\ 12$.

5. Use the buttons **A+/A-** to select the 3rd output display.

6. Press the  button.

7. Select the value $X1.37$.

8. Use the buttons **D+/D-** to retract and extend the chain cutter.

↳ The chain cutter is set correctly when the knife (2) - exerting minimum pressure - lies flat and straight in the slot of the throat plate.



9. Check the position and pressure of the knife (2) and adjust if necessary.
10. Tighten the screws (1).

13 Programming

All software settings are performed using the OP1000 control panel.

The control panel is composed of a display and buttons.

Using the control panel you can:

- Use groups of buttons to select machine functions
- Read service and error messages.

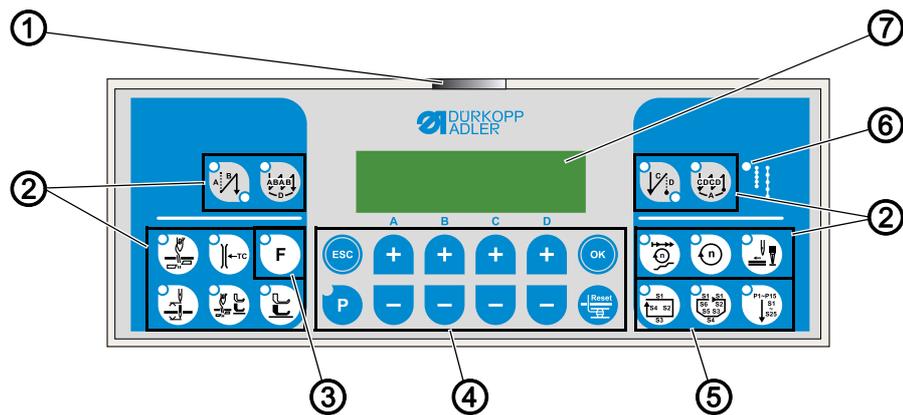


Information

This chapter describes the machine-specific functions of the OP1000 control panel.

Refer to the *Instructions for use DAC basic/classic* for further information on the control and the OP1000 control panel.

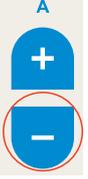
Fig. 53: Programming



- | | |
|--------------------------------|---|
| (1) - Power LED | (5) - Seam program button group |
| (2) - Thread button group | (6) - LED for 2 nd stitch length |
| (3) - Function button | (7) - Display |
| (4) - Programming button group | |

OP1000 buttons and functions

Button	Function
Thread button group	
 Start bartack	<ul style="list-style-type: none"> • Sets the start bartack
 Multiple start bartack	<ul style="list-style-type: none"> • Sets the multiple start bartack
 End bartack	<ul style="list-style-type: none"> • Sets the end bartack
 Multiple end bartack	<ul style="list-style-type: none"> • Sets the multiple end bartack
 Thread trimmer	<ul style="list-style-type: none"> • Activates or deactivates the thread trimmer
 Thread clamp	<ul style="list-style-type: none"> • Activates or deactivates the thread clamp
 Needle position after sewing stop	<ul style="list-style-type: none"> • Sets the needle position after sewing stop
 Sewing foot lift after thread trimmer	<ul style="list-style-type: none"> • Activates or deactivates the sewing foot lift after the thread trimmer
 Sewing foot lift after sewing stop	<ul style="list-style-type: none"> • Activates or deactivates the sewing foot lift after sewing stops
 Soft start	<ul style="list-style-type: none"> • Activates or deactivates the soft start
 Speed	<ul style="list-style-type: none"> • Reduces the motor speed
 Function button	<ul style="list-style-type: none"> • Activates or deactivates any stored function
Programming button group	
 ESC	<ul style="list-style-type: none"> • Ends parameter mode

Button		Function
	A+	<ul style="list-style-type: none"> Increases parameter Changes user level Selects subprogram
	B+	<ul style="list-style-type: none"> Increases parameter Changes to next higher category Selects subprogram
	C+	<ul style="list-style-type: none"> Increases parameter Selects subprogram
	D+	<ul style="list-style-type: none"> Increases parameter Selects subprogram
	OK	<ul style="list-style-type: none"> Calls parameter or saves it
	P	<ul style="list-style-type: none"> Starts or ends the parameter mode
	A-	<ul style="list-style-type: none"> Decreases parameter Changes user level Selects subprogram
	B-	<ul style="list-style-type: none"> Decreases parameter Changes to next lower category Selects subprogram
	C-	<ul style="list-style-type: none"> Decreases parameter Selects subprogram

Button		Function
	D-	<ul style="list-style-type: none"> Decreases parameter Selects subprogram
	Reset	<ul style="list-style-type: none"> Resets the (piece) counter
Seam program button group		
	Seam program I	<ul style="list-style-type: none"> Activates seam program I
	Seam program II	<ul style="list-style-type: none"> Activates seam program II
	Seam program III	<ul style="list-style-type: none"> Sets seam program III

13.1 Adjusting the electropneumatic switching of the carrier roller



To adjust the electropneumatic switching of the carrier roller:

1. Press the  button.
2. Enter the parameters for the automatic stitch loosening device:
t 14 00.
 - Use **A+** to set the value to t.
 - Use **B+** to set the value to 14.
 - Use **D+** to set the value to 00.
3. Press the  button.
4. Enter the desired mode:
 - Use **D+** to enter the value **0**: do not raise
 - Use **D+** to enter the value **1**: raise on sewing foot lift
 - Use **D+** to enter the value **2**: raise on bartack
 - Use **D+** to enter the value **3**: raise on bartack and sewing foot lift
5. Press the  button to save the setting.
6. To switch to sewing mode, press the  button.

For additional parameter settings, refer to  *Parameter list*.

13.2 Adjusting the stitch count before the carrier roller is lowered



To adjust the stitch count before the carrier roller is lowered:

1. Press the  button.
2. Enter the parameters for the s.p.m. before the carrier roller is lowered:
t 14 03.
3. Use the buttons **A+**, **B+**, **C+** and **D+** to enter the desired s.p.m.
4. Press the  button to save the setting.
5. To switch to sewing mode, press the  button.

For additional parameter settings, refer to  *Parameter list*.

13.3 Adjusting subclass 550-121 for machines with an edge pinker

You will only have to adjust this subclass if you replaced the control.



To set the subclass for machines with an edge pinker:

1. Plug the dongle with the machine class into the control.
2. Press the  and  buttons at the same time.
 - ↳ You are on the Technician level.
3. Select parameter `t 51 04`.
4. Press the  button.
5. Use the buttons **A+/A-** to select class 171.
6. Press the  button.
7. Use the buttons **A+/A-** to select subclass 550-121.
8. Press the  button.
 - ↳ The data is uploaded to the machine.

14 Maintenance

WARNING



Risk of injury from sharp parts!

Punctures and cutting possible.

Prior to any maintenance work, switch off the machine or set the machine to threading mode.

WARNING



Risk of injury from moving parts!

Crushing possible.

Prior to any maintenance work, switch off the machine or set the machine to threading mode.

This chapter describes maintenance work that needs to be carried out on a regular basis to extend the service life of the machine and achieve the desired seam quality.

Maintenance intervals

Work to be carried out	Operating hours			
	8	40	160	500
Remove sewing dust and thread residues	●			
Top off the oil	●			
Check the hook lubrication		●		
Service the pneumatic system	●			

14.1 Cleaning

WARNING



Risk of injury from flying particles!

Flying particles can enter the eyes, causing injury.

Wear safety goggles.

Hold the compressed air gun so that the particles do not fly close to people.

Make sure no particles fly into the oil pan.

NOTICE

Property damage from soiling!

Lint and thread remnants can impair the operation of the machine.

Clean the machine as described.

NOTICE

Property damage from solvent-based cleaners!

Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

Areas requiring special cleaning

- Area under the throat plate
- Area around the hook
- Area around the thread take-up disk
- Thread trimmer
- Area around the needle
- Air inlet openings on the motor fan mesh
- Oil pan



To clean the machine:

1. Switch off the machine.
2. If present, disassemble the edge pinker ( p. 54).
3. Remove any lint and thread remnants using a compressed air gun or a brush.
4. If present, empty the waste bin of the edge pinker.

14.2 Lubricating

CAUTION



Risk of injury from contact with oil!

Oil can cause a rash if it comes into contact with skin.

Avoid skin contact with oil.
If oil has come into contact with your skin, wash the affected areas thoroughly.

NOTICE

Property damage from incorrect oil!

Incorrect oil types can result in damage to the machine.

Only use oil that complies with the data in the instructions.

CAUTION



Risk of environmental damage from oil!

Oil is a pollutant and must not enter the sewage system or the soil.

Carefully collect up used oil.
Dispose of used oil and oily machine parts in accordance with national regulations.

The machine is equipped with a central oil-wick lubrication system. The bearings are supplied from the oil reservoir.

For topping off the oil reservoir, use only lubricating oil **DA 10** or oil of equivalent quality with the following specifications:

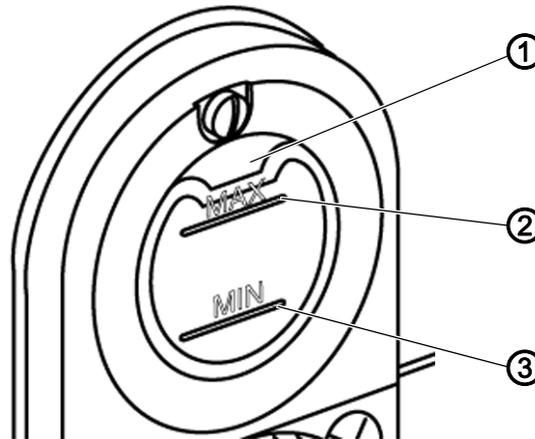
- Viscosity at 40 °C: 10 mm²/s
- Flash point: 150 °C

You can order the lubricating oil from our sales offices using the following part numbers:

Container	Part no.
250 ml	9047 000011
1 l	9047 000012
2 l	9047 000013
5 l	9047 000014

14.2.1 Checking the lubrication of the machine head

Fig. 54: Checking the lubrication of the machine head



(1) - Refill opening
(2) - MAX marking

(3) - MIN marking



Proper setting

The oil level is be between the MIN (3) and the MAX (2) marking.

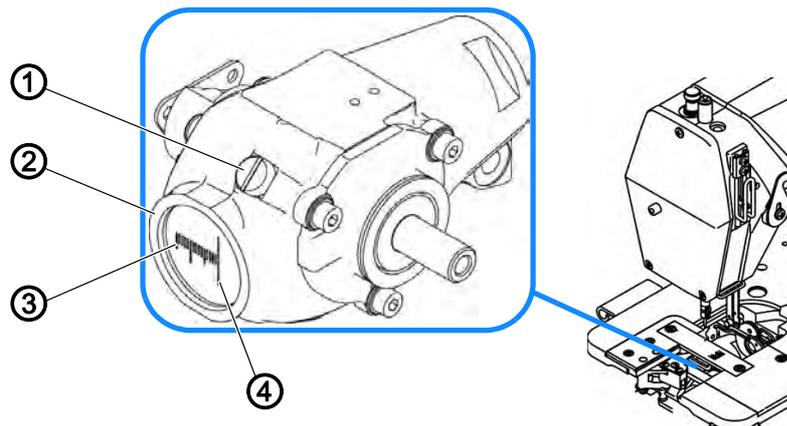


To top off the oil:

1. Switch off the machine.
2. Fill oil through the refill opening (1) until the oil level reaches the MAX marking (2).

14.2.2 Checking the hook lubrication

Fig. 55: Checking the hook lubrication



(1) - Screw
(2) - Oil reservoir

(3) - MAX marking
(4) - MIN marking



To top off the oil:

1. Switch off the machine.
2. Tilt the machine head.
3. Loosen the screw (1).

4. Add oil up to the MAX marking (3).
5. Tighten the screw (1).
6. Erect the machine head.

14.3 Servicing the pneumatic system

14.3.1 Adjusting the operating pressure

NOTICE

Property damage from incorrect adjustment!

Incorrect operating pressure can result in damage to the machine.

Ensure that the machine is only used when the operating pressure is set correctly.

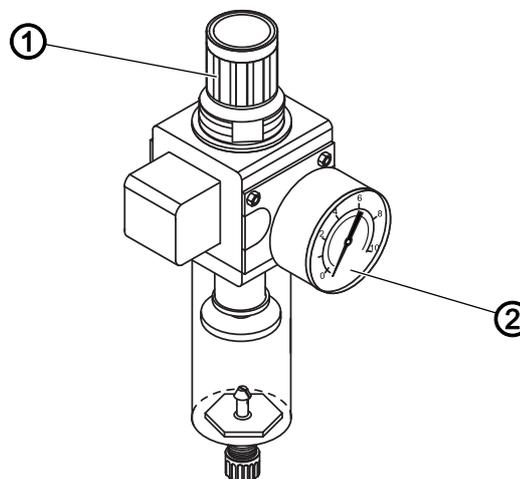


Proper setting

Refer to the **Technical data** (📖 p. 85) chapter for the permissible operating pressure. The operating pressure cannot deviate by more than ± 0.5 bar.

Check the operating pressure on a daily basis.

Fig. 56: Adjusting the operating pressure



(1) - Pressure regulator

(2) - Pressure gage



To adjust the operating pressure:

1. Pull the pressure regulator (1) up.
2. Turn the pressure regulator until the pressure gage (2) indicates the proper setting:
 - Increase pressure = turn clockwise
 - Reduce pressure = turn counterclockwise
3. Push the pressure regulator (1) down.

14.3.2 Draining the water-oil mixture

NOTICE

Property damage from excess liquid!

Too much liquid can result in damage to the machine.

Drain liquid as required.

The collection tray (2) of the pressure regulator will show accumulation of a water-oil mixture.

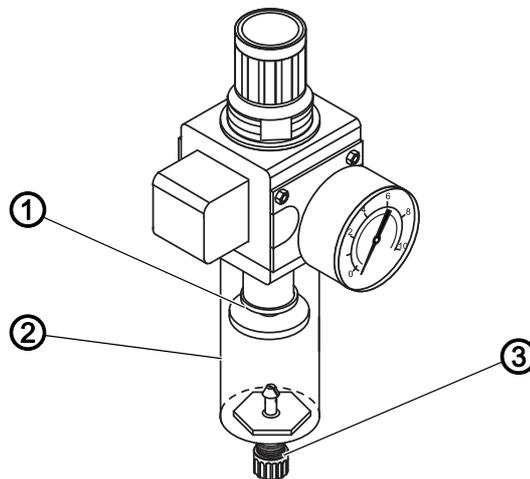


Proper setting

The water-oil mixture must not rise up to the level of the filter element (1).

Check the level of the water-oil mixture in the collection tray (2).

Fig. 57: Draining the water-oil mixture



(1) - Filter element
(2) - Collection tray

(3) - Drain screw



To drain the water-oil mixture:

1. Disconnect the machine from the compressed air supply.
2. Place the vessel under the drain screw (3).
3. Loosen the drain screw (3) completely.
4. Allow the water-oil mixture to drain into the vessel.
5. Tighten the drain screw (3).
6. Connect the machine to the compressed air supply.

14.3.3 Cleaning the filter element

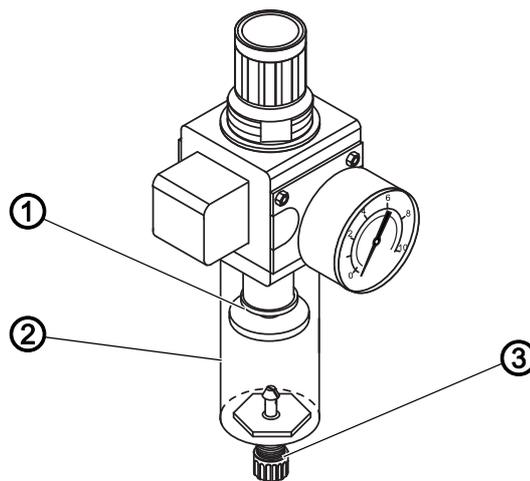
NOTICE

Damage to the paintwork from solvent-based cleaners!

Solvent-based cleaners damage the filter.

Use only solvent-free substances for washing out the filter tray.

Fig. 58: Cleaning the filter element



(1) - Filter element
(2) - Collection tray

(3) - Drain screw



To clean the filter element:

1. Disconnect the machine from the compressed air supply.
2. Drain the water-oil mixture ( p. 76).
3. Unscrew the collection tray (2).
4. Unscrew the filter element (1).
5. Blow out the filter element (1) using the compressed air gun.
6. Wash out the filter tray using benzine.
7. Tighten the filter element (1).
8. Tighten the collection tray (2).
9. Tighten the drain screw (3).
10. Connect the machine to the compressed air supply.

14.4 Parts list

A parts list can be ordered from Dürkopp Adler. Or visit our website for further information at:

www.duerkopp-adler.com



15 Decommissioning

WARNING



Risk of injury from a lack of care!

Serious injuries may occur.

ONLY clean the machine when it is switched off.
Allow ONLY trained personnel to disconnect
the machine.

CAUTION



Risk of injury from contact with oil!

Oil can cause a rash if it comes into contact with
skin.

Avoid skin contact with oil.
If oil has come into contact with your skin, wash
the affected areas thoroughly.



To decommission the machine:

1. Switch off the machine.
2. Unplug the power plug.
3. If applicable, disconnect the machine from the compressed air supply.
4. Remove residual oil from the oil pan using a cloth.
5. Cover the control panel to protect it from soiling.
6. Cover the control to protect it from soiling.
7. Cover the entire machine if possible to protect it from contamination and damage.

16 Disposal

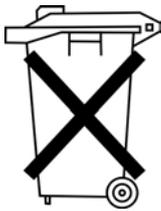
CAUTION



Risk of environmental damage from improper disposal!

Improper disposal of the machine can result in serious environmental damage.

ALWAYS comply with the national regulations regarding disposal.



The machine must not be disposed of in the normal household waste.

The machine must be disposed of in a suitable manner in accordance with all applicable national regulations.

When disposing of the machine, be aware that it consists of a range of different materials (steel, plastic, electronic components, etc.). Follow the national regulations when disposing these materials.

17 Troubleshooting

17.1 Customer Service

Contact for repairs and issues with the machine:

Dürkopp Adler AG

Potsdamer Str. 190
33719 Bielefeld, Germany

Tel. +49 (0) 180 5 383 756
Fax +49 (0) 521 925 2594
Email: service@duerkopp-adler.com
Internet: www.duerkopp-adler.com



17.2 Errors in sewing process

f

Error	Possible causes	Remedial action
Unthreading at seam beginning	Needle thread tension is too firm	Check needle thread tension
Thread breaking	Needle thread and hook thread have not been threaded correctly	Check threading path
	Needle is bent or sharp-edged	Replace needle
	Needle is not inserted correctly into the needle bar	Insert the needle correctly into the needle bar
	The thread used is unsuitable	Use recommended thread
	Thread tensions are too tight for the thread used	Check thread tensions
	Thread-guiding parts, such as thread tube, thread guide or thread take-up disk, are sharp-edged	Check threading path
	Throat plate, hook or spread have been damaged by the needle	Have parts reworked by qualified specialists

Error	Possible causes	Remedial action
Skip stitches	Needle thread and hook thread have not been threaded correctly	Check threading path
	Needle is blunt or bent	Replace needle
	Needle is not inserted correctly into the needle bar	Insert the needle correctly into the needle bar
	The needle thickness used is unsuitable	Use recommended needle thickness
	The reel stand is assembled incorrectly	Check the assembly of the reel stand
	Thread tensions are too tight	Check thread tensions
	Throat plate, hook or spread have been damaged by the needle	Have parts reworked by qualified specialists
Loose stitches	Thread tensions are not adjusted to the sewing material, the sewing material thickness or the thread used	Check thread tensions
	Needle thread and hook thread have not been threaded correctly	Check threading path
Needle breakage	Needle thickness is unsuitable for the sewing material or the thread	Use recommended needle thickness

18 Technical data

Noise emission

Workplace-specific emission value as per DIN EN ISO 10821:

Class 171-131110 (1-needle)

$L_{pA} = 79.4$ dB (A); $K_{pA} = 0,58$ dB (A) at

- Stitch length: 3.2 mm
- Speed: 4100 rpm
- Sewing material: 2-layer material G1 DIN 23328

Class 171-131110 (2-needle)

$L_{pA} = 78.8$ dB (A); $K_{pA} = 0.80$ dB (A) at

- Stitch length: 3.2 mm
- Speed: 4300 rpm
- Sewing material: 2-layer material G1 DIN 23328

Class 171-141521

$L_{pA} = 79.0$ dB (A); $K_{pA} = 1.0$ dB (A) at

- Stitch length: 3.2 mm
- Speed: 4200 rpm
- Sewing material: 2-layer material G1 DIN 23328

Class 173-141110, 173-141521

$L_{pA} = 79.0$ dB (A); $K_{pA} = 1.33$ dB (A) at

- Stitch length: 3.2 mm
- Speed: 4000 rpm
- Sewing material: 3-layer material G1 DIN 23328

18.1 Data and characteristic values

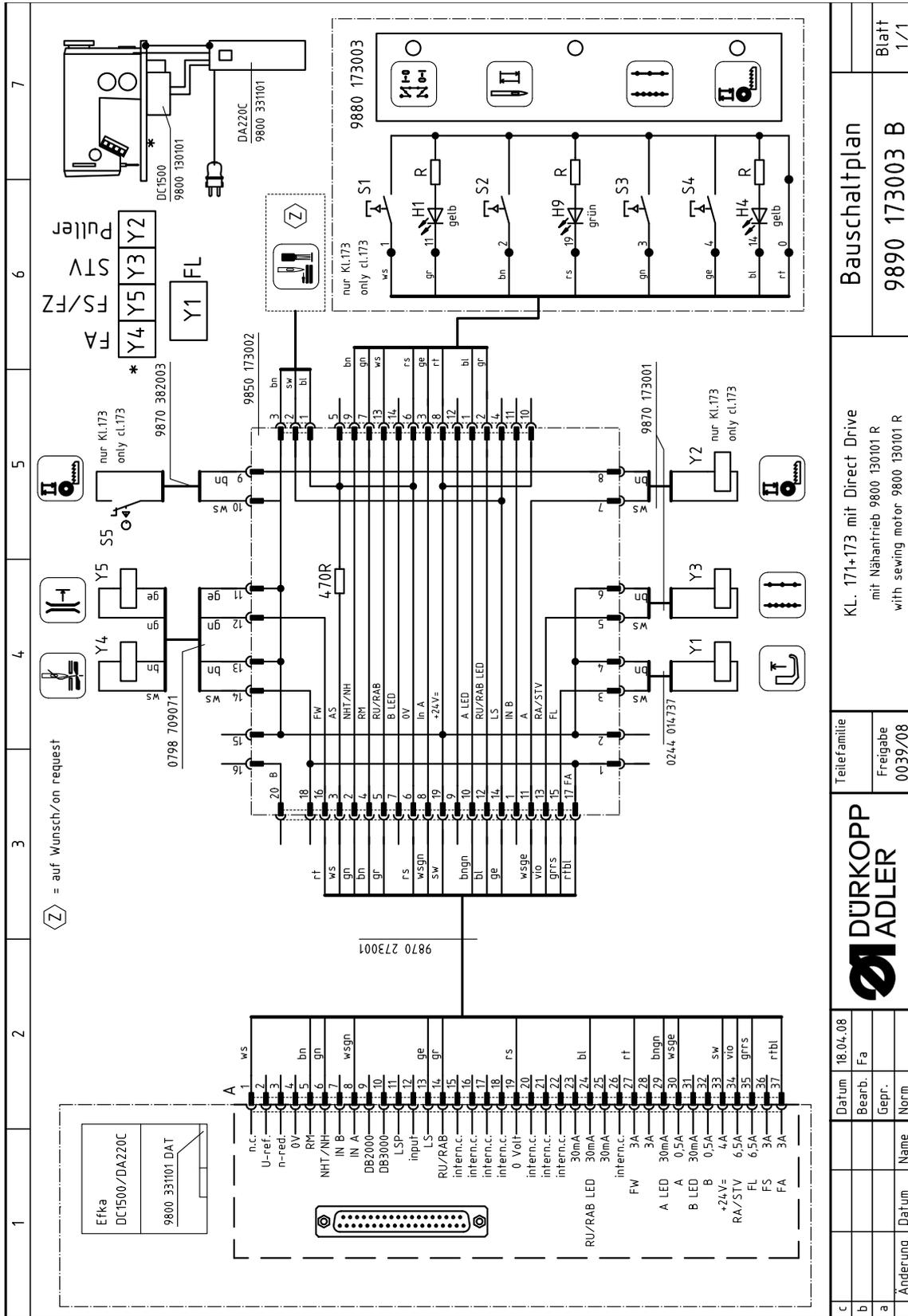
Technical data	Unit	0171-131610	0171-141621	0171-131610 + 550-121	0173-141610	0173-141521	550-2-2	550-15-5
Type of stitches		401						
Hook type		Crossline						
Number of needles		1 (2)	1		1 (2)	1	2	1
Needle system		934 RG or 933						
Needle strength	[Nm]	80 - 130						
Thread strength	[Nm]	70/3						
Stitch length	[mm]	1 - 4		2.5	1 - 4			
Speed maximum	[min ⁻¹]	6600	6000	2500	6000			
Speed on delivery	[min ⁻¹]	6600	5800	2200	5800		5500	
Mains voltage	[V]	190 - 240						
Mains frequency	[Hz]	50/60						
Operating pressure	[bar]	6						
Length	[mm]	550			500			
Width	[mm]	175						
Height	[mm]	380						
Weight	[kg]	37	38		39	40	39	
Power input	[kVA]	0.5						

18.2 Requirements for fault-free operation

Compressed air quality must conform to ISO 8573-1: 2010 [7:4:4].

19 Appendix

Wiring diagram



c		Datum		18.04.08	
b		Bearb.		Fa	
a		Gepr.			
Änderung		Datum		Name	
				Norm	
				Teilerfamilie	
				DÜRKOPP ADLER	
				KL. 171+173 mit Direct Drive mit Nähantrieb 9800 130101 R with sewing motor 9800 130101 R	
				Freigabe 0039/08	
				Bauschaltplan	
				9890 173003 B	
				Blatt 1/1	

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