DÜRKOPP ADLER

171/173
Operating Manual

1 About this operating manual

The operating manual for the special sewing machine 171/173 was compiled with the utmost care. It contains information and notes in order to make long-term and reliable operation possible.

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback.

Please regard the operating manual as part of the product and keep it in a safe place where it can be easily accessed. Read the operating manual completely prior to using the machine for the first time. Only pass the product on to third parties together with the operating manual.

1.1 Scope of application of the operating manual

This operating manual describes the setting up and intended use of the special sewing machine 171/173.

1.2 For whom is this operating manual intended?

The operating manual is intended for:

- Operating personnel:
  This group of employees has been trained in operating the machine and can access the operating manual. Specifically, Chapter 🕮 *5 Operation* is important for this group of employees.
- Specialized staff:
  This group of employees has the appropriate technical training allowing them to perform maintenance on the machine or to repair faults. Specifically, Chapter 🕮 *6 Set-up* is important for the specialized staff.
  Service instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by the personnel, please also refer to Chapter 🕮 *3 Safety instructions*.

1.3 Representational conventions - Symbols and characters

Different information is depicted or highlighted in this operating manual by the following characters for easier and quicker understanding:

Symbol/character	Meaning
•	Lists are identified by bullet points.
1. 2. ...	Instructions are numbered and have to be performed in the specified order.
🕮	References to further information in this operating manual or other documents are identified by this symbol.

Safety

Important warnings for the user of the machine are specifically marked. Because safety constitutes an area of major importance, hazard symbols, levels of risk, and their signal words are described separately in Chapter 🕮 *3 Safety instructions*.

Location information

Information on where something is positioned using the terms “right” or “left” must always be regarded from the operator's viewpoint if the figure gives no other obvious indication for determining the location.

1.4 Other documents

The device contains built-in components from other manufacturers. The respective manufacturers have carried out hazard assessments for these purchased parts and confirmed compliance of the design with the applicable European and national regulations. The intended use of the built-in components is described in the corresponding manuals of the manufacturers.

1.5 Liability

All information and notes in this operating manual have been compiled in accordance with the latest technology and the applicable standards and regulations.

The manufacturer cannot be held liable for any damage due to:

- Damage during transport
- Failure to observe the operating manual
- Improper use
- Unauthorized modifications to the machine
- The deployment of untrained personnel
- Using unapproved spare parts

1.5.1 Transportation

Dürkopp Adler cannot be held liable for any damage during transport. Check the delivered product immediately after receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Keep the machines, devices and packaging material in the condition they were at the time when the damage was identified. This secures any claims towards the transport company.

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

1.5.2 Intended use

The Dürkopp Adler 171/173 is for sewing light to moderately heavy material. The material may not be thicker than 4 mm, when it is pressed together by the lowered sewing feet.

Intended thread strengths:

- 70/3 Nm (core spun thread)

The material must contain no hard objects.

The machine is only intended for processing dry material.

The machine may only be set up and operated in dry conditions on well-maintained premises. If the machine is operated on premises that are not dry and well-maintained, then further measures may be required which must be compatible with EN 60204-31:1999.

The sewing machine is intended for industrial use.

Only authorized/trained persons may work on the machine.

The manufacturer will not be held liable for damage resulting from improper use.

WARNING

Danger due to high voltage, crushing and sharp objects.
Improper use can result in injuries.
Please follow all instructions in the manual.

ATTENTION

Improper use could result in material damage.
Please follow all instructions in the manual.

2 Performance description

The Dürkopp Adler 171 and 173 are, respectively, single- and twin-needle double chain stitch crossline sewing machines for linear seams, using stitch type 401.

2.1 Features

Common features of the 171 and 173

- Mounted drive motor with corresponding controller (DAC eco or DAC classic - depending on the submodel)
- Automatic central oil wick lubrication with sight glass and looper drive operating in the oil bath
- With or without thread cutter depending on submodel
- Sews forwards only
- Needle bar drive via Scotch-yoke mechanism
- Needle stroke 32 mm
- Stitch length and stitch condensing adjustable via the adjusting wheel
- Automatic adaptation of the looper thread quantity to the stitch length; also adjustable for balloon stitch
- No automatic opening of the thread tensioner when sewing corners; on machines with a thread cutter, the thread tensioner is automatically triggered in the cutting process.
- Integrated adjusting disk with position markings on the handwheel

Special features of the 171

- Bottom feed

Special features of the 173

- Intermittent roller top feed (stable speed) with 7 mm maximum feed length and can be set independently of the bottom feed
- Stitch length and roller top feed length adjustable via the adjusting wheel
- Automatic adaptation of the roller top feed when switching to stitch condensing
- New roller suspension with particularly good climbing ability
- Ability to raise the carrier roller using a button or hand lever (depending on the submodel)
- Additional 16 mm wide asymmetric Vulkollan carrier roller in the accessories

2.2 Declaration of conformity

The machine complies with the European regulations specified in the declaration of conformity or in the installation declaration.

CE

2.3 Technical data

Noise emission

Workspace-specific emission value as per DIN EN ISO 10821 for class **171**:

L_{pA} = 79,4 dB(A); K_{pA} = 0,58 dB(A).

Workspace-specific emission value as per DIN EN ISO 10821 for class **173**:

L_{pA} = 79,0 dB(A); K_{pA} = 1,33 dB(A).

Features	Model 171		Model 173			
	171-131610	171-141621	173-141610	173-141621	550-2-2	550-15-5
Sewing stitch type	401					
Looper type	Crossline					
Number of needles	1 (2)	1	1 (2)	1	2	1
Needle system	934 RG or 933 (depending on E-No.)					
Max. needle strength [Nm]	80 - 130					
Max. sewing thread strength (core spun thread)	70/3					
Max. stitch length (forwards only) [mm]	1 - 4					
Needle gauge [mm] (with conversion kit 0175 5900074)	-		0.4 - 15	-	5	-
Roller top feed length [mm]	-		1 - 7			

Features	Model 171		Model 173			
	171-131610	171-141621	173-141610	173-141621	550-2-2	550-15-5
Max. number of stitches [per min.]	6,600	6,000	6,000	6,000	5,500	6,000
Number of stitches on delivery [per min.]	6,600	5,800	5,800	5,800	5,500	5,500
Number of stitches, use of hemming system [per min.]	5,500	-	-			
Max. number of stitches as twin-needle machine (depending on E-No.) [per min.]	5,500	-	5,500	-	5,500	-
Sewing foot stroke during sewing [mm]	4		4			
Sewing foot stroke during lifting [mm]	10	9	5			
Needle stroke [mm]	32		30	32	30	30
Operating pressure [bar]	-	6	-	6	-	-
Air consumption [NL]	-	0.1	-	0.1	-	-
Length/width/height [mm]	500/175/380					
Weight of the upper section [kg]	37	38	39	40	39	39
Rated voltage [V/Hz]	190 - 240 V/50 - 60 Hz					
Rated voltage on delivery	1x230 V/50 - 60 Hz					
Rated power [kVA]	0.5					

2.4 Additional equipment

Using a flexible system of additional equipment, the machine can be equipped optimally and cost-effectively to suit the relevant application.

● = Standard equipment

❍ = Optional extension

Additional equipment	Material number	Model 171		Model 173			
		171-131610	171-141621	173-141610	173-141621	550-2-2	550-15-5
Twin-needle kit to convert a single-needle into a twin-needle double chain stitch machine (For installation in 171-141621 without thread cutter)	0175 590074	❍	❍	❍	❍	●	
Parts set to build a 550-2-2 (Only in combination with twin-needle kit 0175 590074 and 173-E204/5)	0550 590344			❍		●	
Parts set to build a 550-15-5 (Only in combination with frame 0550 400224 [short table plate with sep. bundle table] and 173-E2) Maintenance unit and pneumatic connection package required!	0550 590334			❍			●
Compensating foot 0.8 mm to the right of the needle, cushioning sole	0274 006811			❍	❍		
Compensating foot 0.8 mm to the left of the needle, cushioning sole	0274 006831			❍	❍		
Compensating foot 1.6 mm to the right of the needle, cushioning sole	0274 006818			❍	❍		
Compensating foot 0.6 mm to the left of the needle, cushioning sole	0274 006834			❍	❍		
Edge stop right, swiveling, secured to the base plate, adjustable width 0 - 14 mm	N900 012015	❍	❍	❍	❍		
Edge stop right, swivels down, secured to the base plate, adjustable width 0 - 20 mm	N900 011035	❍	❍	❍	❍		
Edge stop right, swivels upwards, secured to the cloth pressure bar connector, adjustable width 0 - 50 mm	N900 020031	❍	❍	❍	❍		

Additional equipment	Material number	Model 171		Model 173			
		171-131610	171-141621	173-141610	173-141621	550-2-2	550-15-5
Edge stop right, swivels upwards, secured to the cloth pressure bar, adjustable width 0 - 40 mm (cannot be used for E1)	N900 023421	❍	❍				
Edge stop right and left, swivels upwards, secured to the cloth pressure bar connector, adjustable width 0 - 40 mm	N900 060034	❍	❍	❍	❍		
Edge stop right, swivels upwards, secured to the cloth pressure bar, adjustable width 0 - 40 mm	N900 023550	❍	❍	❍	❍		
Special stop to top stitch trouser side seams, can be switched to guide right and left seam allowances Only in combination with 0173 E00008 and N900 060035	N900 002631			❍	❍		
Edge stop for precise guidance of trouser side seams, can swivel in to the right and left of the needle and is secured to the cloth pressure bar connector. For alternate guidance of right and left seams, can also be swiveled into the sewing foot, right and left 0 - 40 mm Only in combination with 0173 E00008 and N900 002631	N900 060035			❍	❍		
Pneumatic sewing foot lifting with pneumatic valve in the motor linkage	Z115 001081	❍		❍			
Pneumatic connection package (Contains: Connection hose 5 m long, hose nozzles, hose clamps, coupling socket and coupling plug)	0797 003031	❍	❍	❍	❍	❍	❍
Maintenance unit	9780 000108	❍	❍	❍	❍	❍	❍
Sewing lamp (halogen)	9822 510003	❍	❍	❍	❍	❍	❍
Sewing light transformer with feeder for 230 V without switch	0798 500088	❍	❍	❍	❍	❍	❍

Additional equipment	Material number	Model 171		Model 173			
		171-131610	171-141621	173-141610	173-141621	550-2-2	550-15-5
Sewing lamp attachment set	0APP 001041	❍	❍	❍	❍	❍	❍
LED sewing lamp k	0271 590044	❍	❍	❍	❍		❍
Integrated LED sewing lamps	0171 590054	❍	❍	❍	❍	❍	❍
Sewing lamp transformer (for both sewing lamps)	9850 001089	❍		❍	❍	❍	❍
Steel carrier roller 1 mm, pyramid-tooth cut, 9 mm wide	0933 005736			❍	❍		
Steel carrier roller 1 mm, pyramid-tooth cut, 15 mm wide	0933 005737			❍	❍		
Steel carrier roller 2 mm, saw-tooth cut, 15 mm wide	0933 005738a			❍	❍		
Roller retrofit kit	MG55 007914						❍

3 Safety instructions

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

3.1 General safety instructions

The machine may only be used as described in this manual.

The operating manual must be available at the machine's location at all times.

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

For the following work, the machine must be disconnected from the power supply using the main switch or by disconnecting the power plug:

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

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

Transportation Use a lifting carriage or forklift to transport the machine. Raise the machine max. 20 mm and secure it against slipping off.

Set-up The connecting cable must have a power plug approved in the specific country. The power plug may only be connected to the power cable by a qualified specialist.

Operator's obligations

Observe the country-specific safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.

All warnings and safety signs on the machine must always be in legible condition and may not be removed. Missing or damaged labels must be replaced immediately.

Requirements to be met by the personnel

The machine may only be set up by qualified specialists.

Maintenance work and repairs may only be carried out by qualified specialists.

Work on electrical equipment may only be carried out by qualified specialists.

Only authorized persons may work on the machine. Every person who works on the machine must have read the operating manual first.

Operation

Inspect the machine while in use for any externally visible damage. Interrupt your work if you notice any changes to the machine. Report any changes to your supervisor. A damaged machine must not be used any further.

Safety equipment

Safety equipment may not be removed or put out of service. If this cannot be avoided for a repair operation, the safety equipment must be refitted and put back into service immediately afterwards.

3.2 Signal words and symbols used in safety instructions

The safety instruction text is surrounded by colored bars.

Signal words specify the severity of a danger:

Signal word	Degree of severity
DANGER	Resulting in death or serious injury.
WARNING	Death or serious injury possible.
CAUTION	Moderate to minor injuries possible.
ATTENTION	Material damage possible.

In the case of dangers to personnel, the following symbols indicate the type of hazard:

Signal word	Type of danger
	General danger
	Danger due to electric shock
	Danger due to sharp objects
	Danger due to crushing

Examples of the layout of the safety instructions in the text:

DANGER

Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that will result in serious injury or even death if not complied with.

WARNING

Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that could result in serious injury or even death if not complied with.

CAUTION

Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that could result in moderate or minor injury if not complied with.

ATTENTION

Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a hazard note looks like for a hazard that could result in material damage if not complied with.

ENVIRONMENTAL PROTECTION

Type and source of the danger

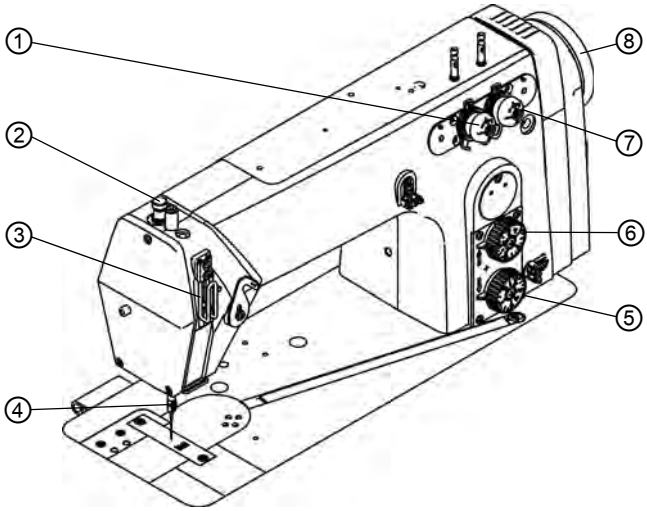
Consequences in the event of noncompliance

Measures for avoiding the danger

This is what an environmental hazard note looks like for a hazard that could result in environmental damage if not complied with.

4 Device description

Fig. 1: Complete overview



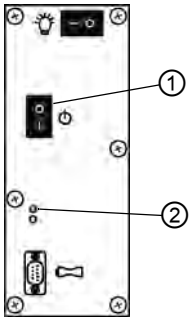
(1) - Thread tensioner for needle thread
(2) - Adjusting wheel for sewing foot pressure
(3) - Thread lever with thread regulator
(4) - Needle bar with needle
(5) - Adjusting wheel for the 2nd stitch length (stitch condensing)
(6) - Adjusting wheel for normal stitch length for sewing
(7) - Thread tensioner for looper thread
(8) - Handwheel

5 Operation

5.1 Switching the power supply on and off

The controller is located under the table plate. The main switch (1) on the controller regulates the power supply.

Fig. 2: Switching the power supply on and off



(1) - Main power switch
(2) - Indicator lamp on the controller

To switch on the power:

1. Press the main switch (1) down to position I.
   ↳The indicator lamp (2) lights up.

To switch off the power:

1. Press the main switch (1) up to position 0.
   ↳The indicator lamp (2) goes off.

5.2 Inserting and replacing the needle

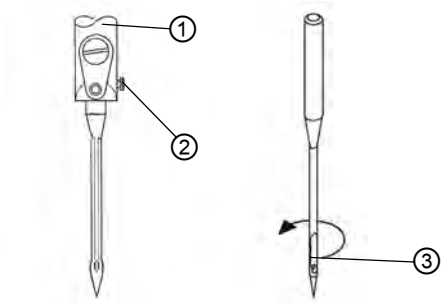
WARNING

Risk of injury from the needle point and moving parts.
Switch off the sewing machine before replacing the needle.
Do not touch the needle point.

Sequence

After changing to needles with strength 100 or greater, have a technician adjust the needle evasive movement of the looper (ellipse width). The correct settings are described in the 🕮 *Service manual*.

Fig. 3: Inserting and replacing the needle



(1) - Needle bar
(2) - Fastening screw
(3) - Groove

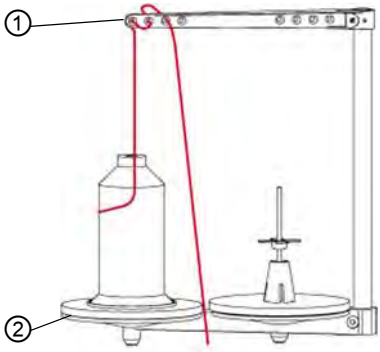
1. Turn the handwheel until the needle bar (1) reaches the upper end position.
2. Loosen the fastening screw (2).
3. Pull the needle out downwards.
4. Insert the new needle.
5. **Important:** Align the needle so that the groove (3) faces to the rear.
6. Tighten the fastening screw (2).

5.3 Threading the needle thread

WARNING

Risk of injury from the needle point and moving parts.
Switch off the sewing machine before inserting the thread.

Fig. 4: Fit the needle thread reel.



(1) - Guide on unwinding bracket (2) - Reel stand

1. Fit the thread reel on the left plate of the reel stand (2).
2. Insert the thread from the back to the front through the first hole and then in a wavelike manner through the next two holes of the guide on the unwinding bracket (1).

Important: The unwinding bracket (1) must be parallel to the reel stand (2).

Fig. 5: Threading procedure for needle thread - General overview

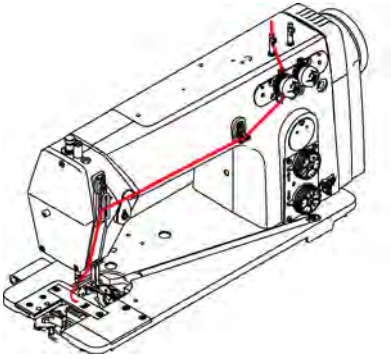
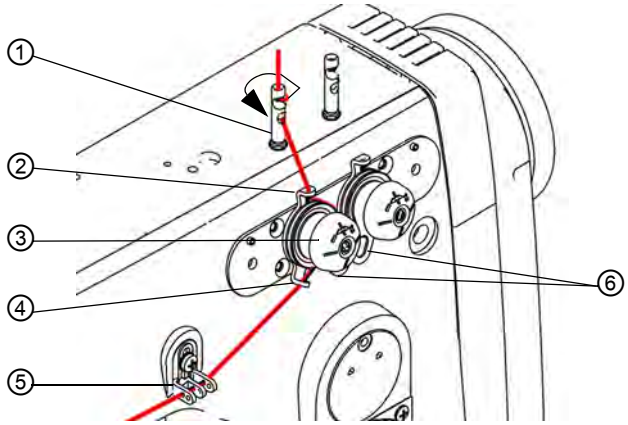


Fig. 6: Threading the needle thread - Part 1



(1) - Thread guide
(2) - Thread guide
(3) - Needle thread tensioner
(4) - Thread guide
(5) - Thread puller
(6) - Tensioner opener

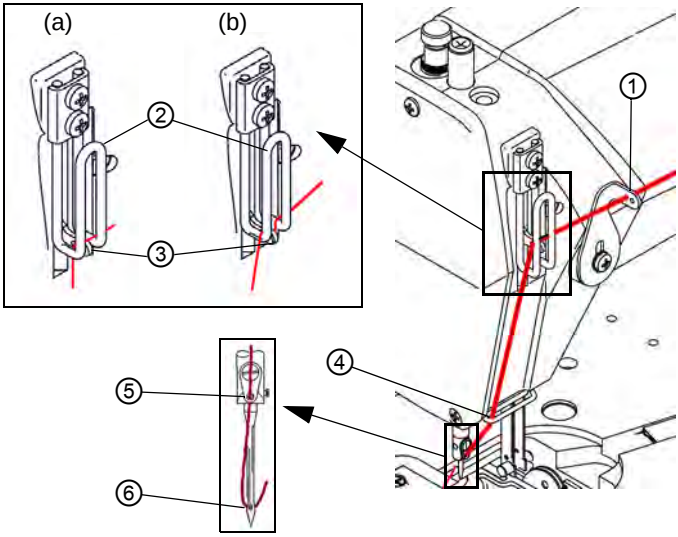
3. Feed the thread through the thread guide (1) from above downwards.
4. Guide the thread around the back of the thread guide (1) and from the rear to the front through the bottom hole.
5. Feed the thread from above downwards through the thread guide (2) to the needle thread tensioner (3).
6. Feed the thread clockwise around the needle thread tensioner (3).

The thread must always be fed around the relevant tensioning disk such that it covers the greater distance from thread guide (2) to thread guide (4).

Every tensioner has a tensioner opener (6).
By pressing on the tensioner opener, the relevant tensioner can be opened to allow the thread to be fed around.

7. Insert the thread through the thread guide (4).
8. Insert the thread from the right to the left through the thread puller (5).

Fig. 7: Threading the needle thread - Part 2



(1) - Deflector
(2) - Thread regulator
(3) - Thread lever
(4) - Thread guide, machine head
(5) - Thread guide, needle bar
(6) - Needle eye

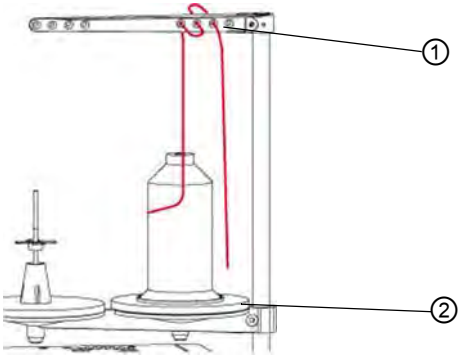
9. Feed the thread from the right to the left through the deflector (1).
10. Insert the thread from right to left through the thread regulator (2) and thread lever (3):
    - **For tight/normal seams** (🕮 pg. 28) and less elastic threads: Detail image (a) Feed the thread through the thread lever (3) and then directly downwards.
    - **For balloon stitch** (🕮 pg. 28) and very elastic threads: Detail image (b) Feed the thread through the thread lever (3) and then via the left bar of the thread regulator (2).
11. Feed the thread from above downwards through the thread guide (4) on the machine head.
12. Feed the thread from above forwards and downwards to the rear through the thread guide (5) on the needle bar.
13. Insert the thread from the front to the back through the needle eye (6).

5.4 Threading the looper thread

WARNING

Risk of injury from moving parts.
Switch the sewing machine off before threading.

Fig. 8: Fitting the looper thread reel



(1) - Guide on unwinding bracket (2) - Reel stand

1. Fit the thread reel on the right plate of the reel stand (2).
2. Insert the thread from the back to the front through the first hole and then in a wavelike manner through the next two holes of the guide on the unwinding bracket (1).

Important: The unwinding bracket (1) must be parallel to the reel stand (2).

Fig. 9: Threading procedure for looper thread - General overview

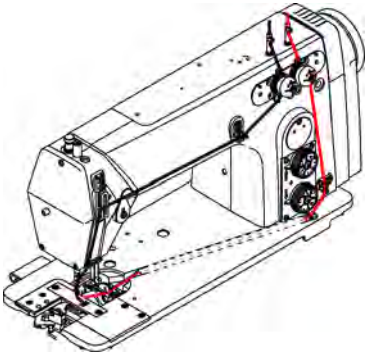
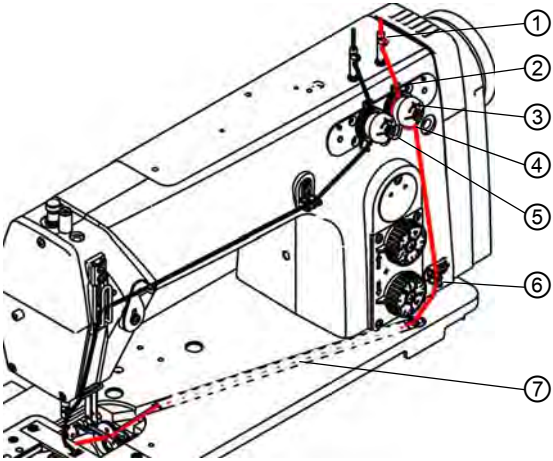


Fig. 10: Threading the looper thread - Part 1



(1) - Thread guide
(2) - Thread guide
(3) - Looper thread tensioner
(4) - Thread guide
(5) - Tensioner opener
(6) - Thread puller
(7) - Thread groove

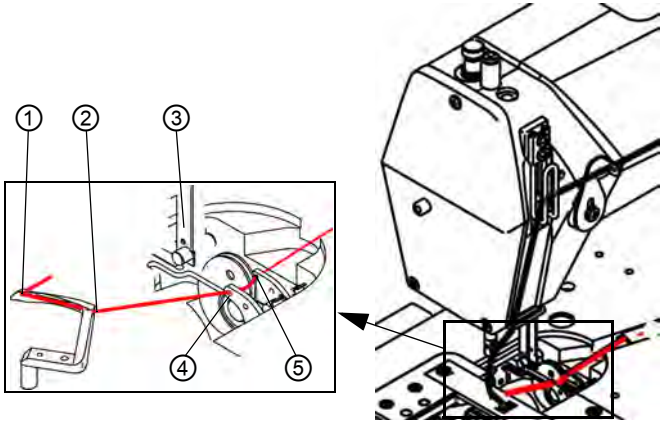
3. Feed the thread through the thread guide (1) from above downwards.
4. Guide the thread around the back of the thread guide (1) and from the rear to the front through the bottom hole.
5. Feed the thread from above downwards through the thread guide (2) on the looper thread tensioner (3).
6. Guide the thread counterclockwise around the looper thread tensioner (3).

The thread must always be fed around the relevant tensioning disk such that it covers the greater distance from thread guide (2) to thread guide (4).

By pressing on the tensioner opener (5), the tensioner can be opened to allow the thread to be fed around.

7. Insert the thread from above downwards through the thread puller (6).
8. Guide the thread through the thread groove (7). To do this, pull the thread from the back under the cover plate of the groove.

Fig. 11: Threading the looper thread - Part 2



(1) - Looper hole
(2) - Looper hole
(3) - Thread down-holder
(4) - Hole, looper thread guide
(5) - Hole, looper thread guide

9. Remove the cover plates to the right and left of the throat plate.
10. Lift the thread down-holder (3) from its latching.
11. Insert the thread from the right to the left through holes (5) and (4) of the looper thread guide.
12. Turn the handwheel until the looper hole (2) is accessible.
13. Insert the thread from right to left through the looper hole (2).
14. Insert the thread from left to right through the looper hole (1) and pull out approx. 3 cm.
15. Press down the thread down-holder (3) and engage.
16. Fit the cover plates to the right and left of the throat plate.

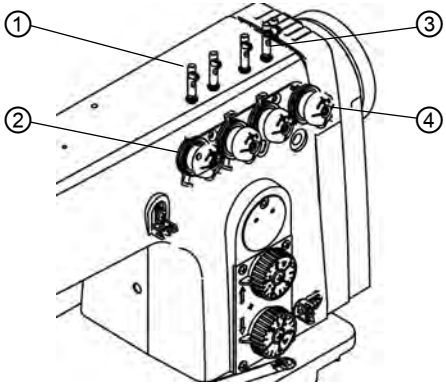
5.5 Threading twin-needle machines

WARNING

Risk of injury from the needle point and moving parts.
Switch off the sewing machine before threading.

Twin-needle machines have a second tensioning wheel and a second thread guide on the machine arm, to accommodate both the needle thread and the looper thread.

Fig. 12: Threading twin-needle machines



(1) - 2nd Needle thread guide
(2) - 2nd Needle thread tensioner
(3) - 2nd Looper thread guide
(4) - 2nd Looper thread tensioner

The thread puller and the other thread guides on all machines have two holes so that two threads can also be threaded.

The threading procedure corresponds to that for the single-needle machines:

- 🕮 *5.3 Threading the needle thread*, pg. 21
- 🕮 *5.4 Threading the looper thread*, pg. 24

Important: Take care when threading the machine that the threads do not cross over one another.

5.6 Adjusting the thread tension and quantity

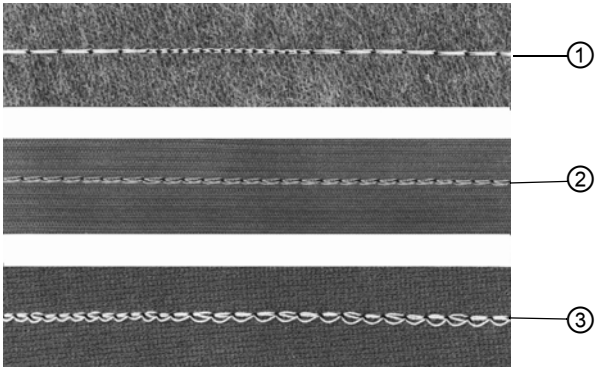
5.6.1 Thread types and stitch formation

Both the thread tension and the thread quantity for stitch formation must be adjusted to the desired seam appearance for both needle thread and looper thread.

A differentiation is made between 3 seam types:

- Tight seams (1)
- Normal seams (2)
- Highly elastic seams (balloon stitch) (3)

Fig. 13: Different seam types



(1) - Tight seam
(2) - Normal seam
(3) - Highly elastic seam (balloon stitch)

5.6.2 Adjusting the thread tension

Correct setting

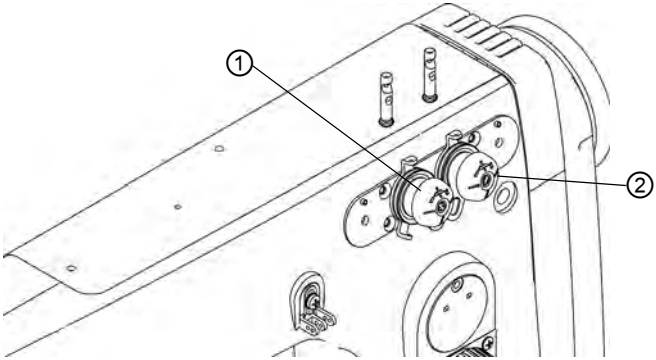
The desired stitch formation is achieved.
The tension of the needle thread must be tighter than the tension of the looper thread.

Faults due to incorrectly set tension

- Excessively tight tensions: The sewing material is pulled together
- Looper thread tension too loose: Missed stitches

The thread tension is adjusted using the adjusting wheels of the relevant thread tensioner on the machine column.

Fig. 14: Adjusting the thread tensions



(1) - Adjusting wheel, needle thread tension

(2) - Adjusting wheel, looper thread tension

Adjusting the thread tension

- **To increase the tension:**
  Turn the adjusting wheel (1 or 2) for the relevant thread clockwise.
- **To reduce the tension:**
  Turn the adjusting wheel (1 or 2) for the relevant thread counterclockwise.

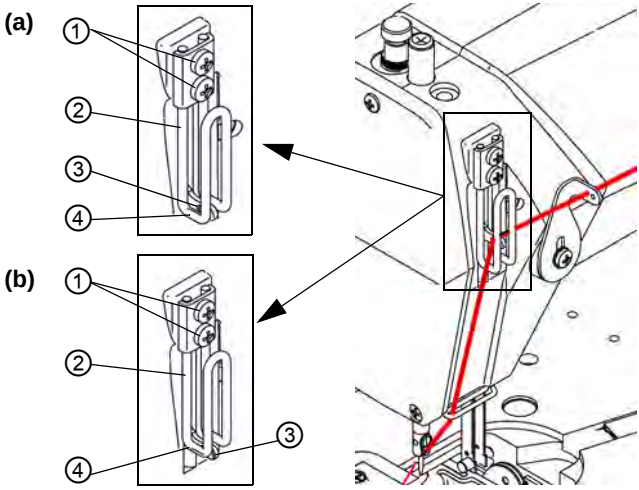
5.6.3 Adjusting the needle thread quantity

WARNING

Risk of injury from moving parts.
Switch the sewing machine off before adjusting the thread regulator.

The needle thread quantity released for stitch formation is determined by the position of the thread regulator. The required thread quantity depends on the thickness of the sewing material, thread strength and seam type. For different threads and seam types, the threading procedure also differs (🕮 pg. 23).

Fig. 15: Setting the thread regulator



(1) - Fastening screws
(2) - Thread regulator
(3) - Hole of the thread lever
(4) - Thread regulator: Lower bar

Correct setting

- **Less elastic threads:** The hole (3) of the thread lever is visible in the thread lever's bottom position just above the lower bar (4) of the thread regulator: position (a).
- **Very elastic threads:** The hole (3) of the thread lever is visible in the thread lever's bottom position just below the lower bar (4) of the thread regulator: position (b).

Adjusting the thread regulator

1. Turn the handwheel until the thread lever reaches its lower end position.
2. Loosen the fastening screws (1) of the thread regulator (2).
3. Move the thread regulator (2) to the correct position.
4. Tighten the fastening screws (1) of the thread regulator (2).

5.6.4 Adjusting the looper thread quantity

WARNING

Risk of injury from moving parts.
Switch the sewing machine off before setting the looper thread take-up.

The looper thread take-up adjusts the looper thread quantity to the relevant set stitch length so that the stitch pull is optimal for every length and also for stitch condensing.

The looper thread take-up can be adjusted continuously on a scale from 0 to 5. The larger the value, the greater the released thread quantity and the more elastic the seam.

Correct setting

The correct setting is dependent on the stitch length and the seam type (📖 *5.6.1 Thread types and stitch formation*, pg. 28).

In particular for extreme settings, it must be ensured that the looper thread quantity is not too large:

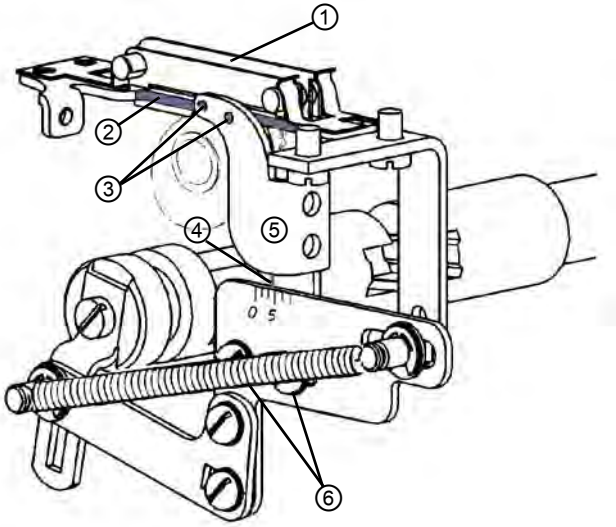
Extreme settings

- Elastic seam (largest possible thread quantity) with very short stitch length
- Considerable enlargement of the stitch length for elastic seams

Faults due to excessively large looper thread quantity

- Missed stitches
- Looper thread jumps off the thread pick-up disk

Fig. 16: Adjusting the looper thread take-up



(1) - Thread down-holder
(2) - Thread down-holder: Lower bar
(3) - Looper thread take-up: Holes for thread guide
(4) - Looper thread take-up edge: Scale reading point
(5) - Looper thread take-up
(6) - Fastening screw

Adjusting the looper thread take-up

1. Tilt the upper part of the machine backwards.
2. Loosen the fastening screws (6).
3. Move the looper thread take-up (5):
   - **Tighter seam:**
     Move front edge (4) in the direction of **0**.
   - **More elastic seam:**
     Move front edge (4) in the direction of **5**.

Important: Ensure that the height of the looper thread take-up (5) is not changed. The holes (3) must always remain above the bar (2) of the thread down-holder (1).

4. Tighten the fastening screws (6).
5. Return the upper part of the machine to the upright position.

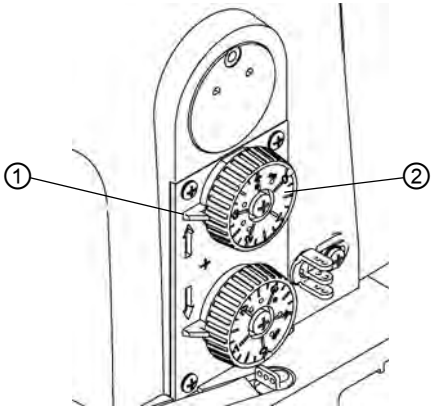
5.7 Adjusting the stitch length/bottom feed

Bottom feed and stitch length are adapted to one another. When adjusting the stitch length using the adjusting wheels on the machine column, the length of the bottom feed is automatically adapted.

5.7.1 Adjusting the stitch length

The stitch length can be adjusted by turning the adjusting wheel (2) continuously between 1 and 4 mm. The adjusting mark (1) on the left of the wheel indicates the stitch length selected.

Fig. 17: Adjusting the bottom feed/stitch length



(1) - Adjusting mark *(2) - Stitch length adjusting wheel*

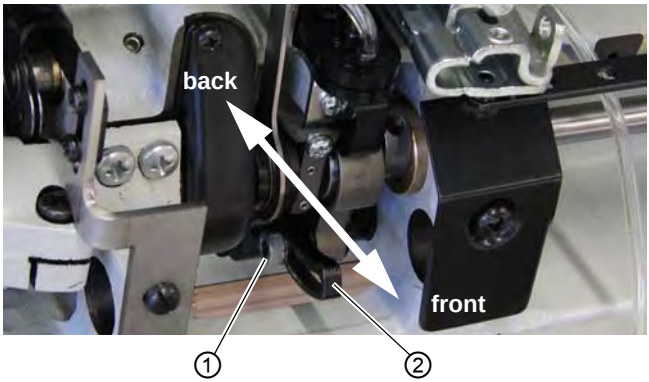
Adjusting the stitch length

1. Turn the adjusting wheel (2):
   - **To increase the stitch length:**
     Turn the adjusting wheel counterclockwise.
   - **To reduce the stitch length:**
     Turn the adjusting wheel clockwise.

Adjusting the stitch length on the 171-131610

The submodel 171-131610 does not have adjusting wheels for the stitch length. Here, the stitch length is adjusted on the machine underside.

Fig. 18: Adjusting the bottom feed/stitch length on the 171-131610



(1) - Fastening screw *(2) - Stitch length lever*

WARNING

Risk of injury from moving parts.
Switch off the sewing machine before tilting the machine upper part back and adjusting the stitch length on the 171-131610.

Adjusting the stitch length

1. Tilt the upper part of the machine backwards.
2. Loosen the fastening screw (1).
3. Moving the stitch length lever (2):
   - **To increase the stitch length:**
     Push the stitch length lever (2) to the back.
   - **To reduce the stitch length:**
     Pull the stitch length lever (2) to the front.
4. Tighten the fastening screw (1).
5. Return the upper part of the machine to the upright position.

5.7.2 Adjusting the stitch condensing

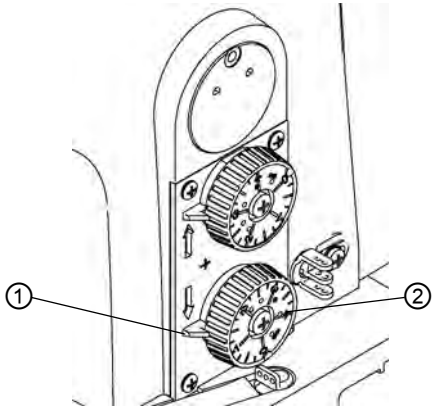
For machines with pushbuttons on the machine arm (*5.12 Keypad on the machine arm*, pg. 42) it is possible to switch over to stitch condensing while sewing. The stitch length for stitch condensing can be adjusted by turning the adjusting wheel (2) continuously between 1 and 4 mm. The adjusting mark (1) on the left of the wheel indicates the stitch length selected.

Important: The stitch length for stitch condensing must not be larger than the normal stitch length.

ATTENTION

Machine damage possible if the adjusting wheels are turned using excessive force.
The machine is designed in such a way that it is not possible to select a larger stitch length on the lower adjusting wheel than on the upper adjusting wheel.
Do not use excessive force in attempting to select a larger stitch length on the lower adjusting wheel.

Fig. 19: Adjusting the stitch condensing



(1) - Adjusting mark *(2) - Stitch length adjusting wheel*

Adjusting the stitch length for stitch condensing:

1. Turn the adjusting wheel (2):
   - **To increase the stitch length:**
     Turn the adjusting wheel counterclockwise.
   - **To reduce the stitch length:**
     Turn the adjusting wheel clockwise.

5.8 Adjusting the top feed

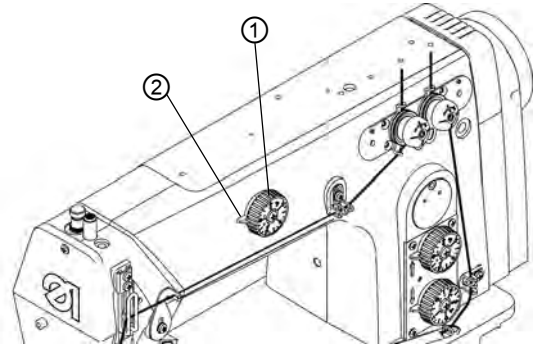
On the 173, there is another roller top feed in addition to the bottom feed. The top feed can be set independently of the bottom feed and can thus be adjusted individually to the feed behavior of the relevant sewing material.

When sewing the stitch condensing at the start and end of the seam, the roller top feed is automatically adjusted to the shortened bottom feed.

5.8.1 Adjusting the top feed length

The top feed length can be adjusted by turning the adjusting wheel (1) continuously between 1 and 4 mm. The adjusting mark (2) on the left of the wheel indicates the value selected.

Fig. 20: Adjusting the top feed



(1) - Adjusting wheel, top feed length *(2) - Adjusting mark*

Adjusting the top feed length

1. Turn the adjusting wheel (1):
   - **For a larger top feed length:**
     Turn the adjusting wheel counterclockwise.
   - **For a smaller top feed length:**
     Turn the adjusting wheel clockwise.

5.8.2 Adjusting the contact pressure of the carrier roller

WARNING

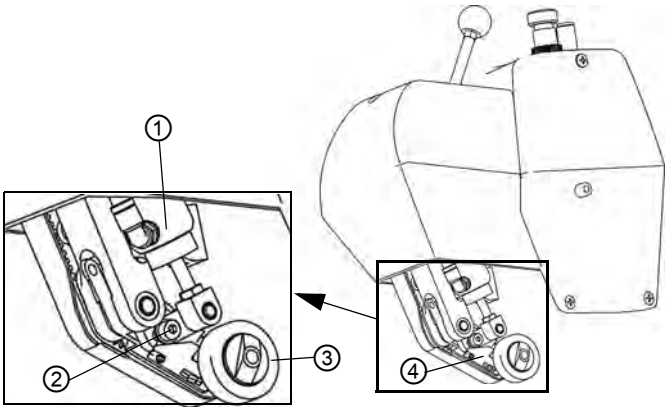
Risk of crushing from moving parts.
Switch off the sewing machine before adjusting the contact pressure of the carrier roller.

The contact pressure of the carrier roller must be adapted to the relevant sewing material.

Correct setting

The sewing material does not slip and is fed through correctly.

Fig. 21: Adjusting the contact pressure of the carrier roller



(1) - Cylinder
(2) - Screw
(3) - Carrier roller
(4) - Fabric deflector

1. Loosen the screw (2).
2. Move the cylinder (1):
   - **To increase the contact pressure**:
     Move the cylinder (1) towards the front of the machine.
   - **To reduce the contact pressure**:
     Move the cylinder (1) towards the rear of the machine.
3. Tighten the screw (2).

Separating the thread chain without a thread cutter

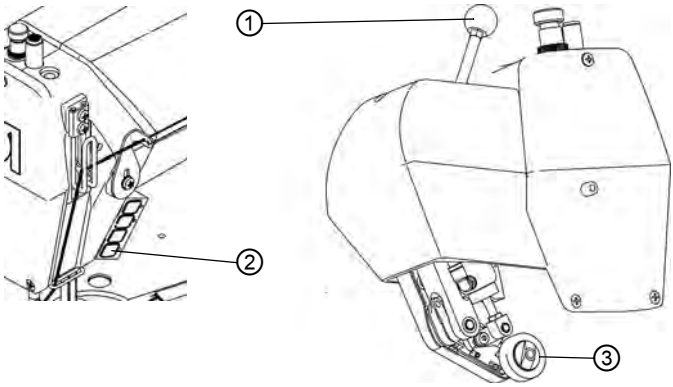
For machines without a thread cutter, the fabric deflector (4) can be used during linking as a cutting knife for the thread chain.

5.8.3 Lifting the carrier roller

To sew corners or radii, the carrier roller (3) can be lifted a little using the button (2).

Using the hand lever (1), the carrier roller (3) can be raised completely out of the sewing area, e.g., if only the bottom feed is to be used for sewing.

Fig. 22: Lifting the carrier roller



(1) - Hand lever
(2) - Button for lifting the roller
(3) - Carrier roller

Lifting the carrier roller briefly:

1. Press the bottom-most button (2) on the keypad.

↳ The LED on the button (2) lights up. The roller is raised.

2. Press the bottom-most button (2) on the keypad again.

↳ The LED on the button (2) goes out. The roller is lowered.

Raising the carrier roller completely:

1. Pull the hand lever (1) to the front.

↳ The lever engages. The roller is completely raised.

2. Push the hand lever (1) to the back.

↳ The lever disengages. The roller is lowered.

5.9 Setting the sewing foot pressure

The adjusting wheel (1) on the machine head determines the pressure of the sewing foot on the sewing material.
The pressure can be adjusted continuously by turning the wheel.

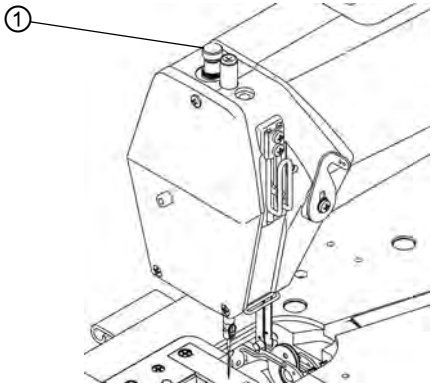
Correct setting

The sewing material does not slip and is fed through correctly.
The correct pressure depends on the sewing material.

Faults due to incorrect sewing foot pressure

- Excessively high pressure: Tearing of the sewing material
- Excessively low pressure: Slipping of the sewing material

Fig. 23: Setting the sewing foot pressure



(1) - Adjusting wheel

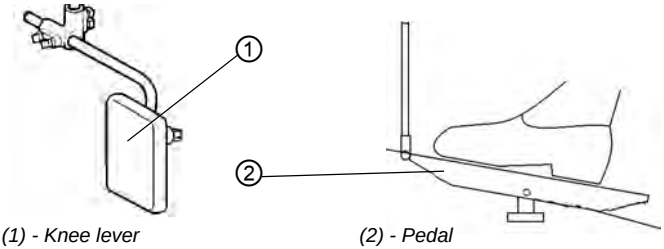
Setting the sewing foot pressure:

1. Turn the adjusting wheel (1):
   - **To increase the sewing foot pressure**:
     Turn the adjusting wheel (1) clockwise.
   - **To reduce the sewing foot pressure**:
     Turn the adjusting wheel (1) counterclockwise.

5.10 Lifting the sewing foot

To insert or feed the sewing material, the sewing foot - depending on the machine equipment - is lifted either mechanically with the knee lever or electromagnetically with the food pedal.

Fig. 24: Lifting the sewing foot



(1) - Knee lever *(2) - Pedal*

Lifting the sewing foot with the knee lever

1. Push the knee lever (1) to the right.

↳ The sewing foot is lifted and remains up as long as pressure is maintained on the knee lever.

Lifting the sewing foot using the foot pedal

1. Press the foot pedal (2) half-way back.

↳ The sewing foot is lifted and remains up as long as the pedal is kept in that position.

At the seam end:

1. Press the foot pedal (2) fully back.

↳ The sewing foot is lifted and the thread cutter is activated.

Lowering the sewing foot

CAUTION

Risk of crushing when lowering the sewing foot.
Do not put your hands underneath the lifted sewing foot.

Lowering the sewing foot

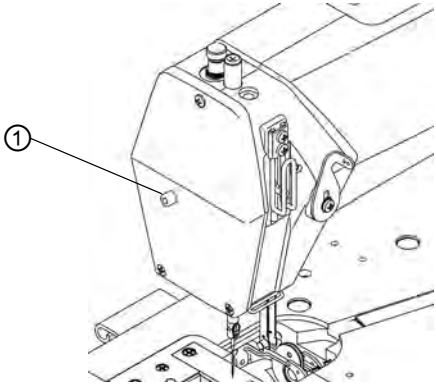
1. Release the knee lever (1) or
   bring the pedal (2) back into the neutral position.

↳ The sewing foot lowers.

5.11 Locking the sewing foot in the upper position

The pushbutton on the machine head can be used to hold the lifted sewing foot in the upper position.

Fig. 25: Locking the sewing foot in the upper position



(1) - Locking pushbutton

Locking the sewing foot in the upper position

1. Lift the sewing foot with the knee lever or the pedal. (🕮 *5.10 Lifting the sewing foot*, pg. 40)
2. Press the locking pushbutton (1).
3. Release the knee lever or pedal.

↳ The sewing foot is locked in the upper position.

Canceling the lock

CAUTION

Risk of crushing when lowering the sewing foot.
Do not put your hands underneath the sewing foot when the lock is being canceled.

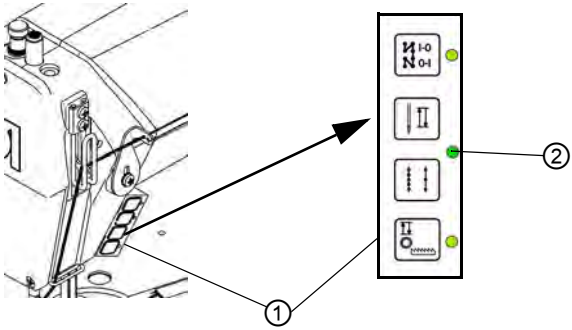
1. Push the knee lever to the right again or press the pedal half-way back.

↳ The sewing foot is lowered. The lock is canceled.

5.12 Keypad on the machine arm

Depending on the equipment, there is a keypad located on the machine arm to quickly call up various functions.

Fig. 26: Keypad on the machine arm



(1) - Keypad

(2) - Indicator lamp, power supply

Element	Function/meaning
	**Inverts stitch condensing** Reverses the general setting for automatic stitch condensing at the start and end of the seam: If stitch condensing is generally switched on, it is suppressed for the next stitch condensing. If stitch condensing is generally switched off, stitch condensing is enabled.
	**Positions needle in the upper/lower position** The setting position is described in the controller's 🕮 *operating manual.*
	**Manual stitch condensing during sewing** As long as the button is pressed, the machine sews using the stitch length selected on the upper adjusting wheel for the stitch condensing. (🕮 *5.7.2 Adjusting the stitch condensing*, pg. 35)
	**Lifts the carrier roller** When the button is pressed, the carrier roller is raised (🕮 *5.8.3 Lifting the carrier roller*, pg. 38). Renewed pressing of the button lowers the roller again. As long as the roller is raised, the yellow LED next to the button lights up.
Yellow LED	Lights when function is activated.
Green LED	Lights when the sewing drive is switched on.

5.13 Operating the controller

The machine is operated using the DAC eco or DAC classic controller. Operation of the controller is described in its own 🕮 *operating manual*.

The operating manual for the DAC eco or DAC classic is provided in the accessory pack delivered with the controller.
The operating manual is also available in the download area at *www.duerkopp-adler.com*

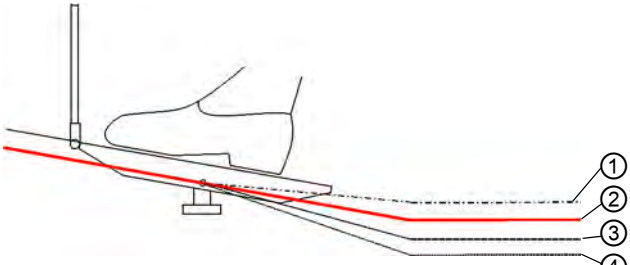
5.14 Sewing

WARNING

Risk of injury from the needle tip on unintentional start of sewing.
Take care not to accidentally press the foot pedal when your fingers are in the needle tip area.

The foot pedal starts and controls the sewing process.

Fig. 27: Sewing with the foot pedal



(1) - Pedal position +1: Sewing active
(2) - Pedal position 0: Rest position
(3) - Pedal position -1: Raises the sewing foot
(4) - Pedal position -2: Sews an end strip and cuts thread

START OF SEWING

Initial position

1. Switch on the sewing machine.
2. Pedal position 0:

↳ Machine stationary, needles up, sewing foot down.

Positioning the sewing material

1. Press the foot pedal half-way back to pedal position -1:

↳ The sewing foot is raised.

2. Push the sewing material into the initial position.
3. Release the foot pedal to pedal position 0.

↳ The sewing foot lowers onto the sewing material.

To start sewing

1. Press the foot pedal forwards to pedal position +1:

↳ The machine sews. The sewing speed increases the further forward the pedal is pressed.

WHEN SEWING

To interrupt sewing

1. Release the foot pedal to pedal position 0:

↳ The machine stops, needles and sewing foot are down.

To continue sewing

1. Press the foot pedal forwards to pedal position +1:

↳ The machine continues to sew.

END OF SEWING

To finish sewing

1. Press the foot pedal back completely to pedal position -2 and hold it there.

↳ The thread is cut.
The machine stops.
Needle and sewing foot are raised.

2. Remove the sewing material.

5.15 Maintenance

This section describes simple maintenance work that needs to be carried out on a regular basis. This maintenance work can be carried out by the operating personnel.

Advanced maintenance work must only be carried out by qualified specialists. Advanced maintenance work is described in the 🕮 *Service manual*.

5.15.1 Cleaning work

WARNING

Risk of injury due to flying particles.
Switch off the machine at the main power switch before starting any cleaning work.
Flying dirt particles can get in the eyes, causing injury.
Hold the compressed-air pistol in such a way that no particles fly near persons.
Take care that no particles fly into the oil pan.

ATTENTION

Malfunctions possible due to machine contamination.
Sewing dust and thread remains can impair the operation of the machine.
Clean the machine at regular intervals as described in the manual.
Observe the cleaning intervals set out in the table. In the case of materials with a high lint content, the machine must be cleaned more frequently.

Places that need to be cleaned particularly thoroughly and cleaning intervals

Machine area	Cleaning interval
• Area under the throat plate • Area around the looper • Area around the thread pick-up disk • Bobbin housing • Thread cutter • Area around the needle • Air inlet openings on the motor fan sieve	Every 8 operating hours
• Oil pan	Every 40 operating hours

Cleaning steps

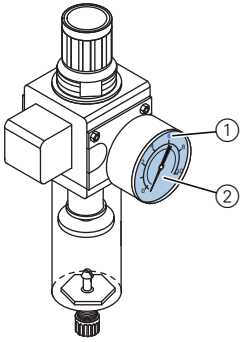
1. Switch off the power supply at the main switch.
2. Remove any sewing dust and thread remains using a compressed-air pistol or a brush.
3. Remove any sewing dust and cutoffs from the oil pan.

ATTENTION

Possible damage to the paintwork from solvent-based cleaners.
Solvent-based cleaners damage the paintwork of the machine.
Use only solvent-free substances when wiping down the machine.

5.16 Checking the pneumatic system

Fig. 28: Pressure indicator on the maintenance unit



(1) - Reference value: 6 bar
(2) - Pressure indicator

Check the pressure:

1. Check the pressure on the pressure indicator (2) each day.

   Reference value: 6 bar.

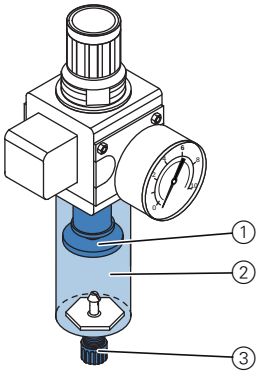
Important: The pressure must not deviate from the reference pressure by more than 1 bar.

ATTENTION

Machine damage possible due to incorrect pressure.
Incorrect pressure can cause damage to the machine.
Check the pressure on a daily basis.
Have the pressure adjusted by qualified specialists if the pressure deviates from the reference value.

Water condensation accumulates in the water separator of the maintenance unit.

Fig. 29: Water level in the maintenance unit



(1) - Filter element
(2) - Water separator
(3) - Drain screw

Checking the water level:

1. Check the water level every day.

Important: The condensation water must not rise to the level of the filter element (1).

Drain water as required:

1. Switch off the sewing machine at the main switch.
2. Place the collection tray under the drain screw (3).
3. Remove the compressed air hose from the compressed air supply.
4. Unscrew the drain screw (3) completely.
5. Allow water to drain into the collection tray.
6. Re-tighten the drain screw (3).
7. Connect the compressed air hose to the compressed air supply.
8. Switch on the sewing machine at the main switch.

ATTENTION

Machine damage possible due to excess water.
Excess water can cause damage to the machine.
Check the water level every day and drain the condensation water if there is too much water in the water separator.

5.16.1 Oil lubrication

WARNING

Skin injuries due to contact with oil.
Oil can cause a rash if it comes into contact with the skin.
Avoid any skin contact with the oil.
If oil gets on your skin, wash the affected skin areas thoroughly.

ENVIRONMENTAL PROTECTION

Risk of environmental damage from oil.
Oil is a pollutant and must not enter the sewage system or the soil.
Collect waste oil carefully and dispose of it and oily machine parts in accordance with the applicable statutory regulations.

ATTENTION

Machine damage possible due to incorrect oil level.
Too little or too much oil can cause damage to the machine.
Ensure that there is always sufficient oil in the relevant reservoir.

ATTENTION

Machine damage possible due to incorrect oil.
An incorrect oil type can cause damage to the machine.
Only use oil that complies with the data in the operating manual.

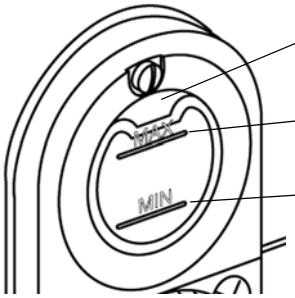
Oil to be used:

Only DA 10 or an oil of equivalent quality that has the following properties may be used for the machine:

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

Lubrication of the upper part of the machine

Fig. 30: Lubrication of the upper part of the machine



(1) - Refill opening
(2) - Maximum level marking
(3) - Minimum level marking

Checking the oil level

1. Check the oil level indicator every day.

Correct setting

The oil level must always be between the minimum level marking (3) and the maximum level marking (2).

Topping up with oil

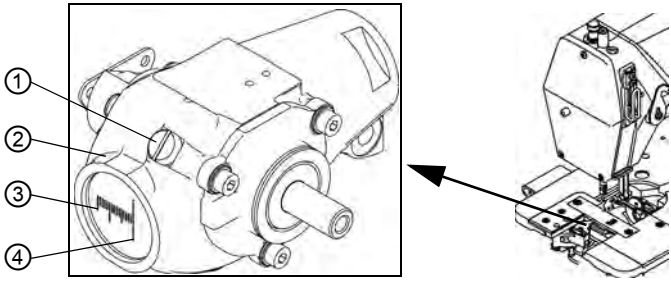
Pour in oil through the refill opening (1) as required:

1. Switch off the sewing machine at the main switch.
2. Pour in oil, up to but not past the maximum level marking (2).
3. Switch on the sewing machine at the main switch.

Looper lubrication

Check the oil level for looper lubrication approx. once every week.

Fig. 31: Looper lubrication



(1) - Locking screw
(2) - Oil reservoir
(3) - Maximum level marking
(4) - Minimum level marking

Checking the oil level

1. Switch off the sewing machine at the main switch.
2. Tilt the upper part of the machine back through 90°.
3. Check the quantity of oil in the reservoir (2).

Correct setting

With the upper part of the machine tilted half-way back,
the oil level must not fall below the minimum level marking (4).

Topping up with oil

1. Switch off the sewing machine at the main switch.
2. Tilt the upper part of the machine back through 90°.
3. Loosen the locking screw (1) on the refill opening.
4. Pour in oil, up to but not past the maximum level marking (3).
5. Tighten the locking screw (1).
6. Return the upper part of the machine to the upright position.
7. Switch on the sewing machine at the main switch.

5.17 Customer service

Contacts for repair in the event of damage to 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

6 Set-up

WARNING

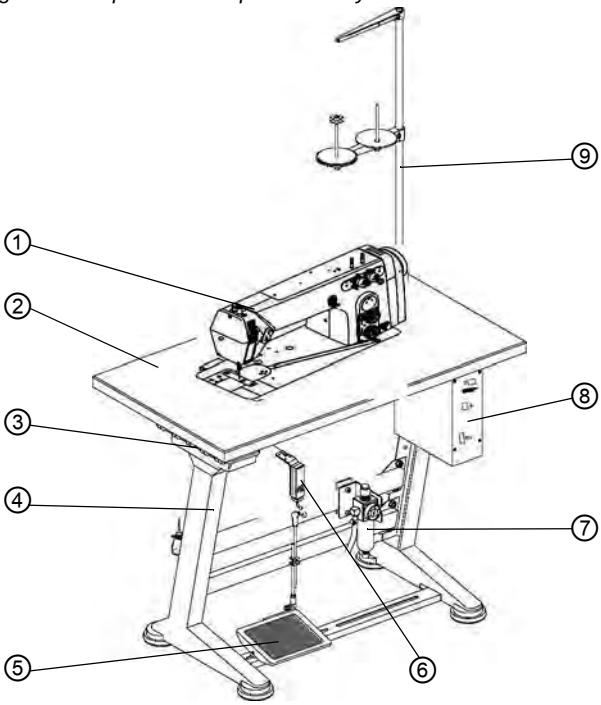
Risk of injury.
The machine may only be set up by trained specialists.
Wear safety gloves and safety shoes when unpacking and setting up.

6.1 Checking the scope of delivery

Important: The scope of delivery depends on your specific order.

1. Prior to set-up, check that all parts are present.

Fig. 32: Example of the scope of delivery



(1) - Machine upper section
(2) - Table plate
(3) - Drawer
(4) - Frame
(5) - Pedal
(6) - Setpoint device
(7) - Maintenance unit
(8) - Controller
(9) - Reel stand

Maximum delivery scope:

- Upper section of the machine (1) with sewing drive
- Table plate (2)
- Oil pan (not shown) - in the accessory pack
- Drawer (3)
- Frame (4)
- Pedal (5) with rod
- Setpoint device (6) with rod
- Pneumatic maintenance unit (7)
- Controller (8)
- Control panel for DAC classic (not shown)
- Reel stand with unwinding bracket (9) - in the accessory pack
- Small parts in an accessory pack

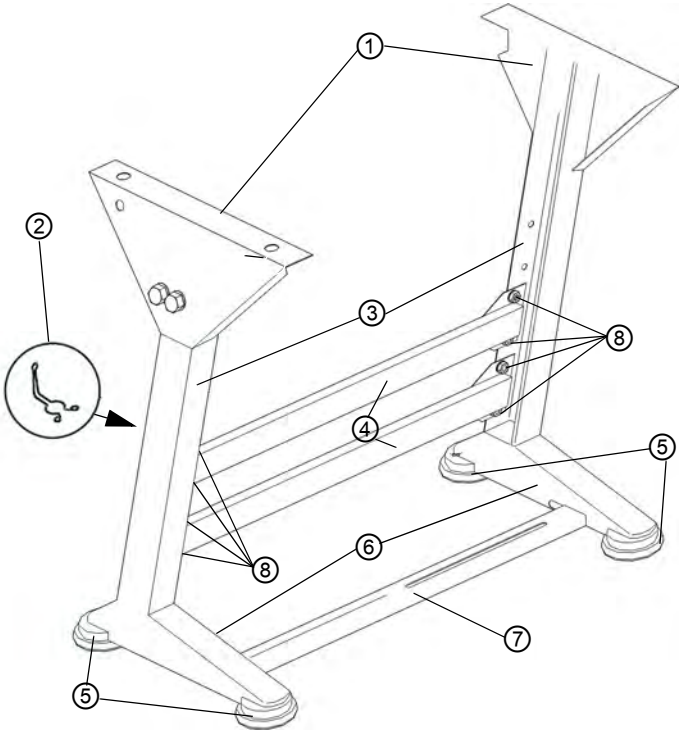
6.2 Removing the transport securing devices

All transport securing devices must be removed prior to set-up.

1. Remove the lashing straps and wooden blocks from the machine upper section, the table and the frame.
2. Remove the supporting wedges between the machine arm and throat plate.

6.3 Fitting the frame components

Fig. 33: Fitting the frame components



(1) - Head sections
(2) - Oil can holder
(3) - Frame bars
(4) - Cross bars
(5) - Frame feet
(6) - Foot struts
(7) - Cross strut
(8) - Fastening screws

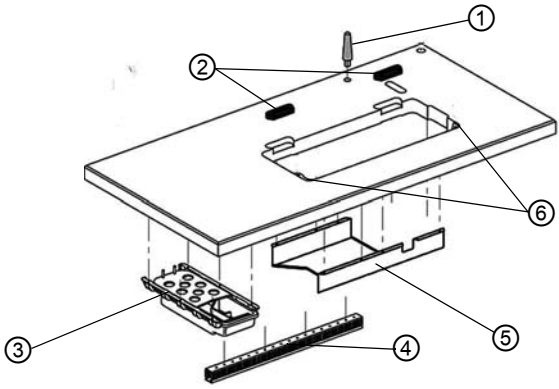
1. Screw the cross bars (4) onto the frame bars (3).
2. Screw the cross strut (7) onto the foot struts (6).
3. Screw the head sections (1) onto the frame bars (3).
4. Push all 4 frame feet (5) onto the foot struts (6).
5. Loosen all 8 fastening screws (8) on the cross struts (4) slightly and ensure that the machine is standing securely.

   Important: The frame must sit evenly on the ground with all 4 feet.
6. Tighten all 8 fastening screws (8).
7. Screw the oil can holder (2) at the rear to the upper cross bar (4).

6.4 Completing the table plate

The table plate belongs to the optional delivery scope. Drawings are provided in 🕮 *9 Appendix*, pg. 77 to allow you to independently assemble a table plate.

Fig. 34: Completing the table plate



(1) - Upper section support (only on 171)
(2) - Rubber mounts
(3) - Drawer
(4) - Cable duct
(5) - Oil pan
(6) - Corners

Only on 171:

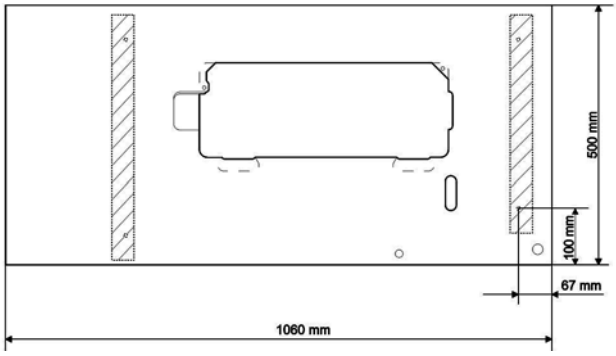
1. Insert the upper section support (1) in the hole of the table plate.

2. Fit the rubber mounts (2) into the recesses.
3. Fit the rubber corners into the corners (6) in the table plate cutout.
4. Screw the drawer (3) with its brackets on the left under the table plate.
5. Screw the cable duct (4) at the back under the table plate.
6. Mark the fastening positions of the oil pan (5) and screw with wood screws under the table plate cutout.

6.5 Fastening the table plate to the frame

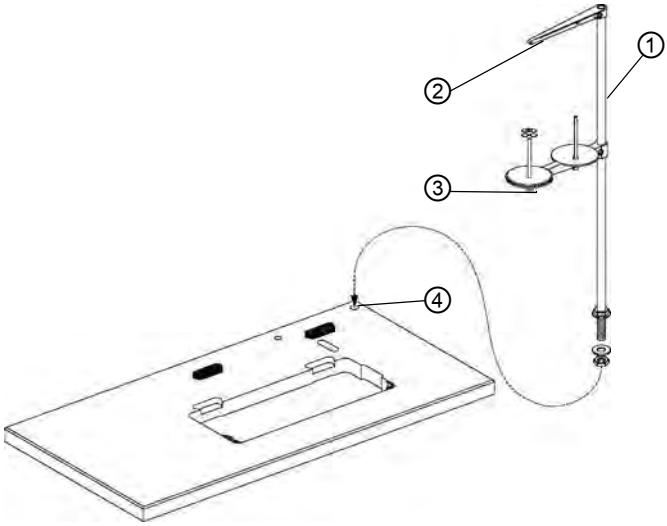
1. Secure the table plate with wood screws (B8 x 35) onto the frame, in accordance with the dimensions on the diagram.

Fig. 35: Dimensions for fastening the table plate to the frame



6.5.1 Installing the reel stand

Fig. 36: Installing the reel stand



(1) - Reel stand
(2) - Unwinding bracket
(3) - Thread reel holder
(4) - Hole

1. Insert the reel stand (1) in the hole (4).
2. Fasten the reel stand (1) with nut and washer.
3. Screw the thread reel holder (3) and the unwinding bracket (2) onto the reel stand (1) so that they are precisely parallel to one another.

6.6 Setting the working height

The working height can be adjusted continuously between 750 and 900 mm (clearance between the floor and upper edge of the table plate).

Fig. 37: Setting the working height

(1) - Screws

1. Loosen all four screws (1) on the head sections.
2. Set the table plate to the desired height.

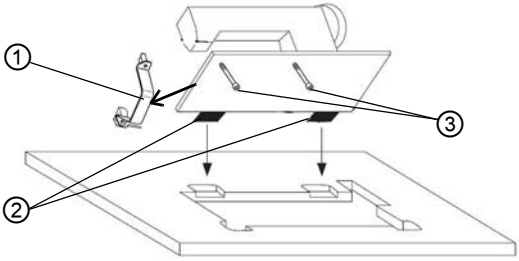
   Important: Pull out or push in the table plate evenly at both sides to prevent it from jamming.
3. Tighten the screws (1) on the head sections.

6.7 Fitting the machine upper section

WARNING

Risk of crushing.
The machine upper section is heavy.
Take care not to jam your hands when fitting.
This especially applies when fitting the hinge upper parts into the rubber inlays.

Fig. 38: Fitting the machine upper section

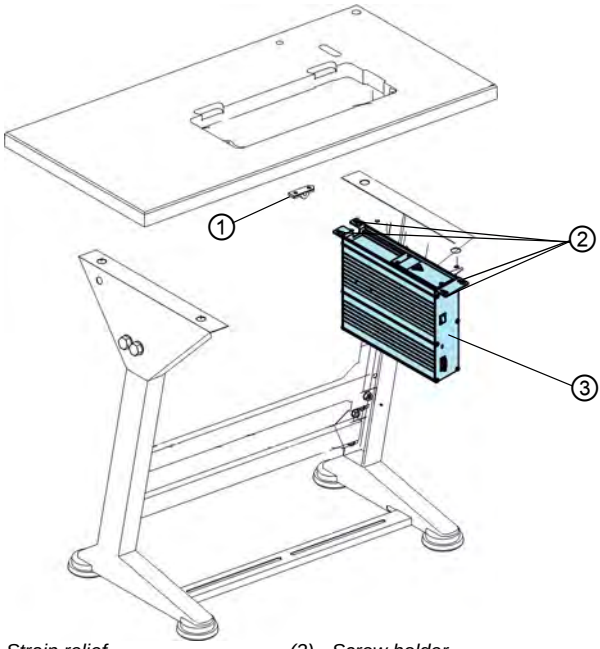


(1) - Protective bar
(2) - Hinge upper parts
(3) - Support screws

1. Insert the machine upper section at a 45° angle from above with the hinge upper parts (2) in the rubber inlays.
2. Tilt the upper part of the machine backwards.
3. **Important:** Remove the protective bar (1) and support screws (3).
4. Straighten up the upper part of the machine.

6.8 Fitting the controller

Fig. 39: Fitting the controller



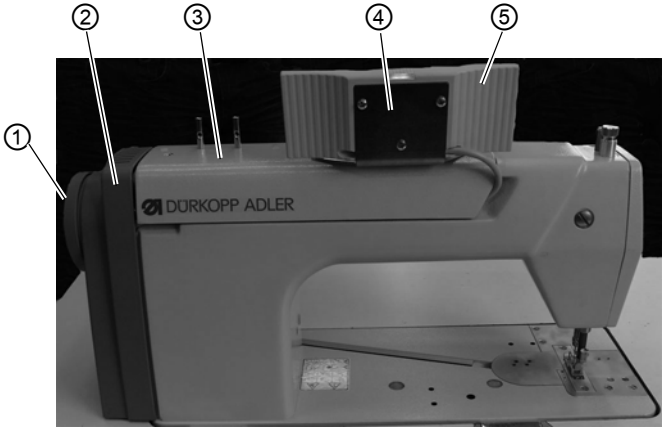
(1) - Strain relief
(2) - Screw holder
(3) - Control

1. Screw the control (3) onto the 4 screw holders (2) under the table plate.
2. Clamp the power cable of the control into the strain relief mechanism (1).
3. Screw the strain relief mechanism (1) under the table plate.

6.9 Fitting the control panel for the controller

For machines with the DAC classic controller, the OP 1000 control panel must be fitted.

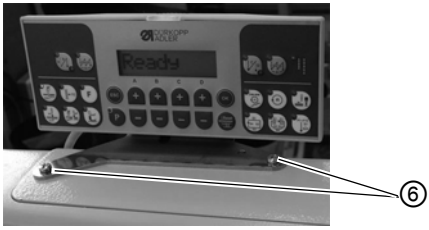
Fig. 40: Fitting the control panel - Part 1



(1) - Handwheel
(2) - Handwheel cover
(3) - Arm cover
(4) - Control panel bracket
(5) - Control panel

1. Loosen the 3 fastening screws of the arm cover (3) and remove the arm cover (3).
2. Remove the handwheel (1) and handwheel cover (2).
3. Screw the control panel (5) firmly onto the control panel bracket (4).

Fig. 41: Fitting the control panel - Part 2

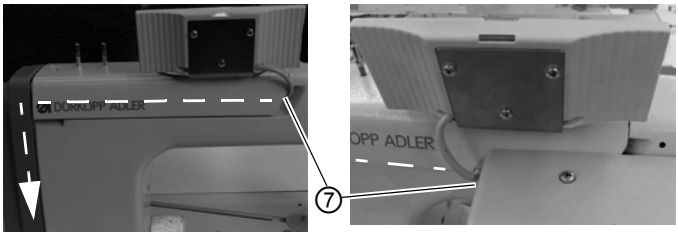


(6) - Arm cover fastening screws

4. Secure the control panel bracket to the arm cover using the arm cover fastening screws (6).
5. Position the arm cover including control panel.

Fig. 42: Laying the control panel cable

Cable guide 171 ***Cable guide 173***



(7) - Cable inlet

Laying the control panel cable

6. Laying the cable behind the rear of the arm cover.

   Important: Note the different cable inlets (7) of the 171 and 173.

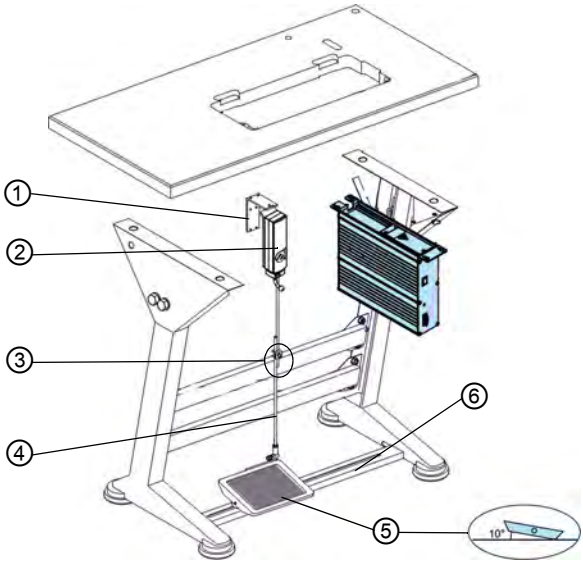
7. Guide the cable down under the handwheel cover.
8. Feed the cable through the table plate cutout downwards to the controller.

   Important: Lay and secure the cable such that it does not come into contact with any moving parts.

9. Screw the arm cover including control panel tight.
10. Position the handwheel and handwheel cover and screw tight.

6.10 Fitting the pedal and setpoint device

Fig. 43: Fitting the pedal and setpoint device



(1) - Bracket
(2) - Setpoint device
(3) - Screw
(4) - Pedal rod
(5) - Pedal
(6) - Cross strut

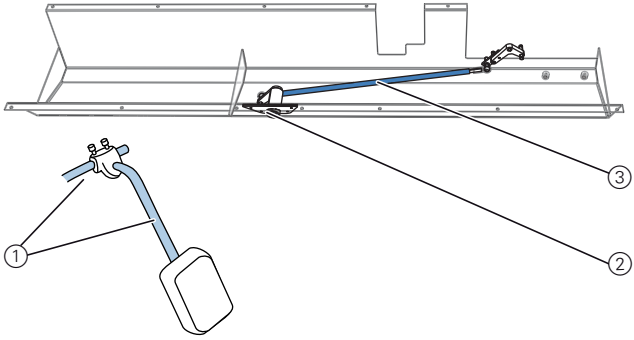
1. Place the pedal (5) on the cross strut (6) and align it in such a way that the middle of the pedal is under the needle. The cross strut has elongated holes to allow alignment of the pedal.
2. Screw the pedal (5) firmly onto the cross strut (6).
3. Screw the setpoint device (2) onto the bracket (1).
4. Screw the bracket (1) under the table plate so that the pedal rod (4) runs to the pedal (5) at right-angles to the setpoint device (2).
5. Hang the pedal rod (4) with the ball socket on the setpoint device (2) and the pedal (5).
6. Pull the pedal rod (4) to the correct length:

   Correct setting: 10° inclination with pedal (5) released
7. Tighten the screw (3).

6.11 Fitting the knee lever

The machine has a mechanical knee lever, depending on the submodel and equipment.

Fig. 44: Fitting the mechanical knee lever



(1) - Knee lever rod

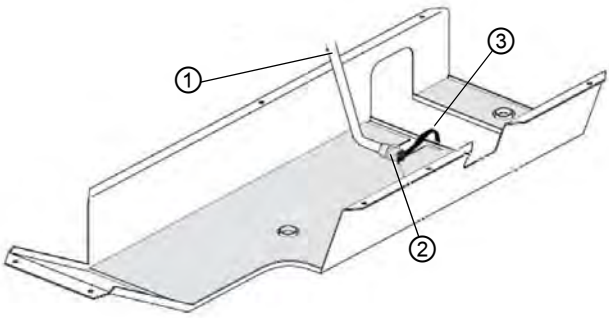
(2) - Hole in the oil pan
(3) - Transmission rod

1. Tilt the upper part of the machine backwards.
2. Fit the transmission rod (3) in the oil pan.
3. Screw the knee lever (1) rods together.
4. Guide the rod (1) through the hole in the oil pan (2) and connect it to the transmission rod (3).

6.12 Fitting the oil return line

The oil return line collects the oil that runs into the oil pan and returns it via a pump to the oil circuit.

Fig. 45: Fitting the oil return line



(1) - Oil hose
(2) - Suction filter
(3) - Clamp

1. Tilt the upper part of the machine backwards.
2. Wrap the suction filter (2) with its felt and secure to the oil plate using the clamp (3).
3. **Important:** Lay and secure the oil hose (2) such that it does not come into contact with any moving parts.
4. Return the upper part of the machine to the upright position.

6.13 Electrical connection

DANGER

Danger to life due to electric shock.
The machine may only be connected by trained electrical specialists.
Disconnect the power plug before carrying out work on the electrical equipment.
Make sure the power plug cannot be unintentionally reinserted.
The voltage on the type plate of the sewing drive must correspond to the mains voltage.

6.13.1 Checking the mains voltage

Important: The voltage on the type plate of the sewing drive must correspond to the mains voltage.

1. Check the mains voltage before connecting the machine.

6.13.2 Connecting the controller

DANGER

Danger to life due to electric shock.
Disconnect the power plug before connecting the controller.
Make sure the power plug cannot be unintentionally reinserted.

Connecting the controller consists of the following work:

- Insert the plugs of all connecting cables in the sockets on the back of the controller.
- Connect the controller to the power supply using the power cable.

To do this, read the 🕮 *operating manual* for the DAC eco or DAC classic controller. The operating manual is provided in the controller accessory pack. You can also find the operating manual for the controller in the download area at *www.duerkopp-adler.com*.

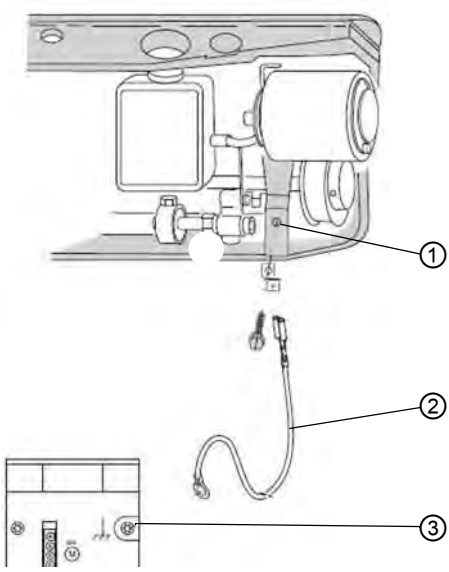
6.13.3 Establishing equipotential bonding

The earthing cable conducts away any static charging to ground.

DANGER

Danger to life due to electric shock.
Disconnect the power plug before establishing equipotential bonding.
Make sure the power plug cannot be unintentionally reinserted.

Fig. 46: Establishing equipotential bonding



(1) - Connection point on the machine base plate
(2) - Earthing cable
(3) - Connection point on the controller

1. Secure earthing cable (2) to the connection point on the controller (3).
2. Guide the earthing cable (2) upwards.
3. Secure earthing cable (2) with screw and tab connector to the connection point on the machine base plate (1).

6.14 Pneumatic connection

6.14.1 Fitting the maintenance unit

The pneumatic connection package is available under order number 0797 003031. It consists of:

- System connection hose
  (length 5 m, diameter 9 mm)
- Hose connectors and hose clamps
- Coupling socket and coupling plug

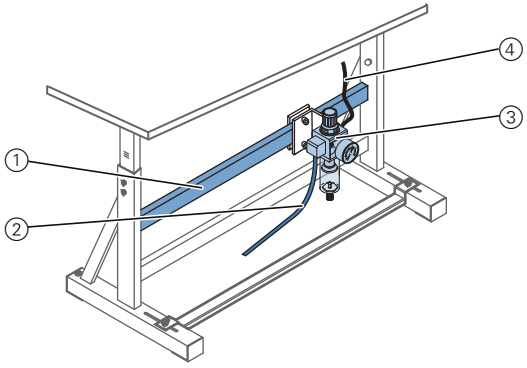
Correct setting

The system pressure for the pneumatic unit is 8 - 10 bar.

ATTENTION

Machine damage possible due to incorrect pressure.
Incorrect pressure can cause damage to the machine.
Make sure that the system pressure is set to 8 - 10 bar before fitting the pneumatic unit.

Fig. 47: Fitting the pneumatic maintenance unit



(1) - Cross bar
(2) - System connection hose
(3) - Maintenance unit
(4) - Machine hose

1. Attach the maintenance unit (3) to the upper cross bar (1) of the frame using the bracket, screws and clip.
2. Connect the machine hose (4) coming out of the upper section to the maintenance unit (3) at the top right.
3. Connect the system connection hose (2) to the pneumatic system.

6.14.2 Setting the operating pressure

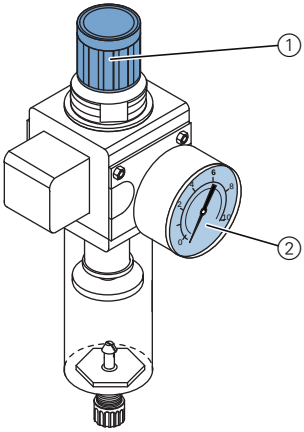
Correct setting

The operating pressure for the pneumatic unit is 6 bar.

ATTENTION

Machine damage possible due to incorrect pressure.
Incorrect pressure can cause damage to the machine.
Make sure that the operating pressure is set correctly before putting the machine into operation.

Fig. 48: Setting the operating pressure



(1) - Turning handle
(2) - Pressure indicator

1. Pull the turning handle (1) up.
2. Set the operating pressure in such a way that the pressure indicator (2) indicates 6 bar precisely:
   - **To increase the pressure:**
     Turn the rotary handle (1) clockwise.
   - **To reduce the pressure:**
     Turn the rotary handle (1) counterclockwise.
3. Push the turning handle (1) down.

6.15 Oil lubrication

5.16.1 Oil lubrication, pg. 48.

6.16 Sewing test

Carry out a sewing test before starting up the machine.
Adjust the machine to the requirements of the sewing material.

To do this, read the corresponding sections in Chapter 🕮 *5 Operation*.

Read the corresponding section of the 🕮 *Service manual* in order to make adjustments to the machine if the sewing results do not conform the to the requirements.

WARNING

Risk of injury from the needle point and moving parts.
Switch the sewing machine off, before you:
- change the needle
- thread the thread
- adjust the looper thread take-up
- set the thread regulator
- adjust the contact pressure of the carrier roller.

Performing a sewing test

1. Switch off the machine at the main power switch. (🕮 pg. 19)
2. Insert the needle. (🕮 pg. 20)
3. Thread the needle thread. (🕮 pg. 21)
4. Thread the looper thread. (🕮 pg. 24)
5. Adjust the thread tension (🕮 pg. 28) with respect to the sewing material.
6. Switch the machine on using the main switch. (🕮 pg. 19)
7. Adjust the sewing foot pressure (🕮 pg. 39) with respect to the sewing material.
8. Adjust the stitch and feed length (🕮 pg. 33 and 🕮 pg. 36) with respect to the sewing material.
9. Start the sewing test at low speed.
10. Increase the sewing speed continuously until the working speed is reached.

7 Decommissioning

A number of activities must be performed if the machine is to be shut down for a longer period of time or completely decommissioned.

WARNING

Risk of injury due to a lack of care.
A lack of care or a lack of sufficient technical knowledge when decommissioning the machine can result in serious injuries.
ONLY clean the machine when it is switched off.
Avoid contact with oil residues.
Allow ONLY trained personnel to disconnect the machine.

Decommission the machine as follows:

1. Switch off the main switch.
2. Unplug the power plug.
3. Disconnect the pneumatic connection.
4. Remove residual oil from the oil pan under the sewing material support using a cloth.
5. Cover the control panel to protect it from soiling.
6. Cover the entire machine if possible to protect it from soiling and damage.

Observe the necessary safety precautions for transport.

8 Disposal

The machine must not be disposed of in the normal household waste. The machine must be disposed of in an appropriate and correct manner according to the national regulations.

ENVIRONMENTAL PROTECTION

Risk of environmental damage due to incorrect oil disposal.

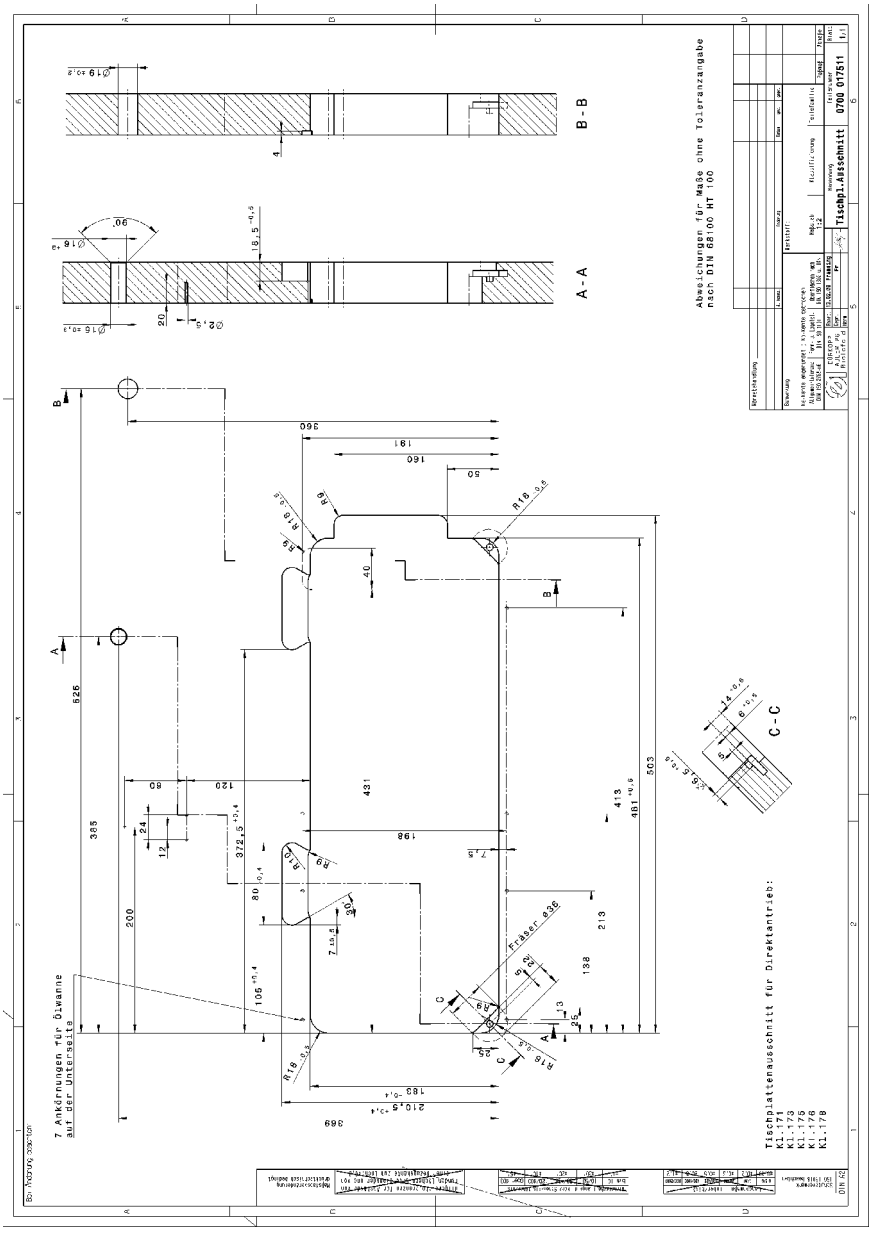
Incorrect disposal of old oil can result in severe environmental damage.

ALWAYS observe the legally prescribed regulations for disposal of oil.

When disposing of the machine, be aware that it consists of a range of different materials (steel, plastic, electronic components, etc.). Observe the applicable national regulations for disposal.

9 Appendix

Dimensions for manufacturing a table plate



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