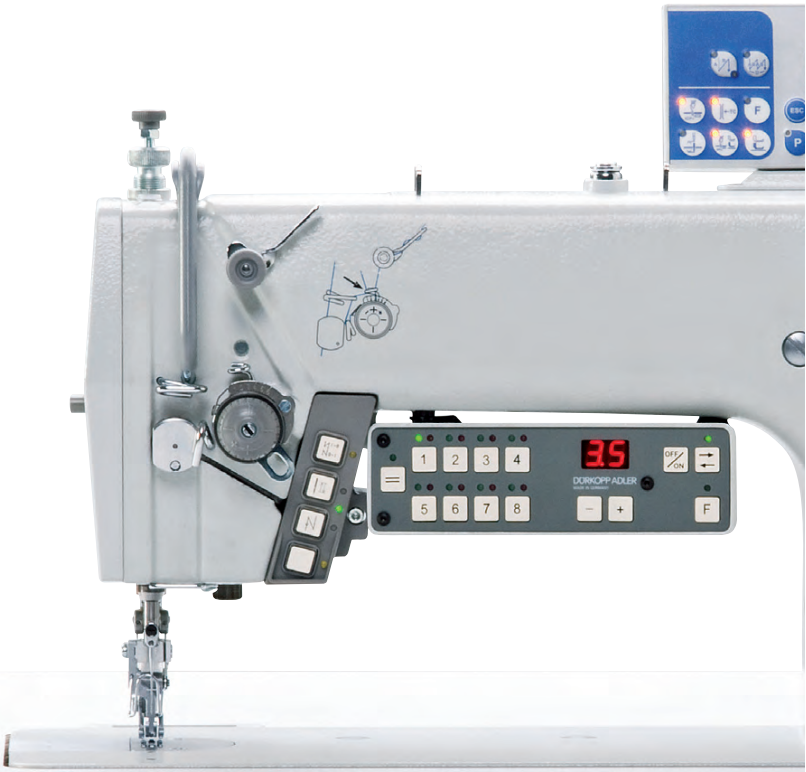
DÜRKOPP ADLER

275

Operating Instructions



IMPORTANT

READ CAREFULLY BEFORE USE

KEEP FOR FUTURE REFERENCE

1 About these instructions 5

1.1 For whom are these instructions intended? 5
1.2 Representation conventions – symbols and characters 6
1.3 Other documents 7
1.4 Liability 8

2 Safety 9

2.1 Basic safety instructions 9
2.2 Signal words and symbols used in warnings 10

3 Machine description 15

3.1 Components of the machine 15
3.2 Proper use 16
3.3 Declaration of Conformity 17

4 Operation 19

4.1 Preparing the machine for operation 19
4.2 Switching on and off the machine 20
4.3 Inserting or changing the needle 21
4.4 Threading the needle thread 23
4.5 Winding the hook thread 26
4.6 Changing the bobbin 28
4.7 Thread tension 29
4.7.1 Setting the needle thread tension 30
4.7.2 Setting the hook thread tension 32
4.8 Setting the needle thread regulator 33
4.9 Setting the stitch length 35
4.10 Upper transport (Multiple width) 36
4.10.1 Setting the upper transport length 36
4.10.2 Setting the second upper transport length (optional) 37
4.10.3 Limiting the upper transport length 38
4.11 Sewing foot 39
4.11.1 Setting the sewing foot pressure 39
4.11.2 Setting the downforce pressure for the upper transport foot 41
4.11.3 Lifting the sewing foot 42
4.11.4 Locking the sewing foot 43
4.12 Edge cutter 44
4.12.1 Setting the edge cutter without a DAC mini 44
4.12.2 Setting the edge cutter with a DAC mini 45
4.12.3 Enabling the edge cutter with a DAC mini 46
4.13 Buttons on the machine arm 46
4.14 Sewing 47

5 Programming 51

5.1 DAC mini ... 51
5.1.1 Smooth sewing ... 53
5.1.2 Sewing with multiple widths ... 54
5.1.3 Changing between smooth sewing and a single multiple width ... 55
5.1.4 Sewing with up to 8 different multiple widths ... 55
5.1.5 Alternately sewing left and right parts with programmed multiple widths ... 56
5.1.6 Sequence switching via thread cutting ... 56
5.1.7 Switching on or off the edge cutter ... 57
5.1.8 Selecting a program ... 57
5.1.9 Creating and changing a program ... 58
5.2 DAC basic/classic ... 59

6 Maintenance ... 65

6.1 Cleaning ... 66
6.2 Lubricating ... 67
6.2.1 Lubricating the machine head ... 68
6.2.2 Lubricating the hook ... 69
6.3 Servicing the pneumatic system ... 70
6.3.1 Setting the operating pressure ... 70
6.3.2 Draining the water condensation ... 71
6.3.3 Cleaning the filter element ... 72
6.4 Parts list ... 73

7 Setup ... 75

7.1 Checking the scope of delivery ... 75
7.2 Removing the transport locks ... 75
7.3 Assembling the stand ... 76
7.4 Tabletop ... 77
7.4.1 Completing the tabletop ... 77
7.4.2 Assembling the tabletop to the stand ... 79
7.4.3 Assembling the reel stand ... 81
7.5 Setting the working height ... 82
7.6 Assembling the pedal and the setpoint device ... 84
7.6.1 Machines without DAC mini ... 84
7.6.2 Machines with DAC mini ... 85
7.7 Inserting the machine head ... 86
7.8 Assembling the control ... 87
7.9 Assembling the knee switch ... 88
7.10 Electrical connection ... 89
7.10.1 Connecting the control ... 89
7.10.2 Creating the equipotential bonding ... 90
7.11 Checking the needle positions ... 91
7.12 Setting the DAC mini multiple width control ... 92
7.13 Checking the rotation to the reference position ... 96

7.14 Pneumatic connection 97
7.14.1 Assembling the compressed air maintenance unit 98
7.14.2 Setting the operating pressure 99
7.15 Performing a test run 100

8 Decommissioning 101

9 Disposal 103

10 Troubleshooting 105

10.1 Customer Service 105
10.2 Errors in sewing process 106

11 Technical Data 109

11.1 Data and characteristic values 109
11.2 Requirements for trouble-free operation 110

12 Appendix 111

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. 105*).

Consider the instructions part of the product and store them in a place where they are readily available.

1.1 For whom are these instructions intended?

These instructions are intended for:

- Operators:
  This group is familiar with the machine and has access to the instructions. Specifically, chapter **Operation** (📖 *p. 19*) is important for the operators.
- Specialists:
  This group has the appropriate technical training for performing maintenance or repairing malfunctions. Specifically, the chapter **Setup** (📖 *p. 75*) is important for specialists.

Service Instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by personnel, please also follow the chapter **Safety** (📖 *p. 9*).

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 setting.

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 a setting.

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. 9*).

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 damage during transport
- 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.

The instructions should 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 forklift to transport the machine. Raise the machine max. 20 mm and secure it to prevent it from slipping off.

Setup The connecting cable must have a power plug approved in the relevant country. The power plug may only be assembled to the power cable by qualified specialists.

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

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.

Requirements to be met by the personnel

Only qualified specialists may:

- set up the machine / put the machine in operation
- perform maintenance work and repairs
- perform work on electrical equipment

Only authorized persons may work on the machine and must first have understood these instructions.

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 removed or deactivated. If it is essential to remove 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
	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.

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.

CAUTION

Type and source of danger!

Consequences of non-compliance.

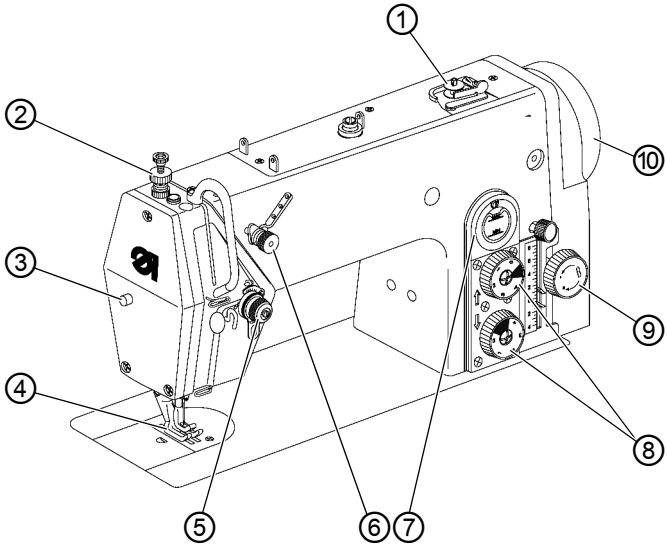
Measures for avoiding the danger.

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

3 Machine description

3.1 Components of the machine

Fig. 1: Components of the machine



(1) - Winder
(2) - Adjusting wheel sewing foot pressure/downforce pressure
(3) - Locking button
(4) - Sewing foot
(5) - Main tension
(6) - Preliminary tension
(7) - Oil reservoir
(8) - Stitch length adjusting wheels
(9) - Adjusting wheel upper transport
(10) - Handwheel

3.2 Proper use

WARNING

Risk of injury from live, moving and cutting parts as well as from sharp parts!

Improper use can result in electric shock, crushing, cutting and punctures.

Follow all instructions provided.

NOTICE

Non-observance will lead to property damage!

Improper use can result in material damage at the machine.

Follow all instructions provided.

The machine may only be used with sewing material that satisfies the requirements of the specific application at hand.

The machine is intended only for use with dry sewing material. The sewing material must not contain any hard objects.

The needle thicknesses permissible for the machine are listed in the **Technical data** (📖 *p. 109*) chapter.

The seam must be completed with a thread that satisfies the requirements of the specific application at hand.

The machine is intended for industrial use.

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 DIN EN 60204-31.

Only authorized persons may work on the machine.

Dürkopp Adler cannot be held liable for damages resulting from improper use.

3.3 Declaration of Conformity

The machine complies with European regulations ensuring health, safety, and environmental protection as specified in the declaration of conformity or in the declaration of incorporation.

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4 Operation

The operating sequence consists of several different steps. Fault-free operation is necessary in order to achieve a good sewing result.

4.1 Preparing the machine for operation

WARNING

Risk of injury from moving, cutting and sharp parts!

Crushing, cutting and punctures are possible.

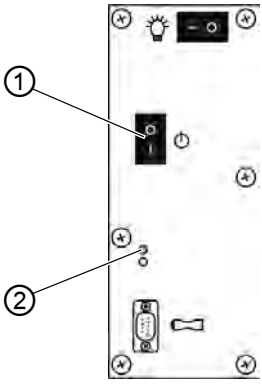
If possible, make preparations only when the machine is switched off.

Complete the following steps in preparation of sewing before starting to work:

- Inserting/changing the needle
- Threading the needle thread
- Inserting and winding on the hook thread
- Setting the thread tension

4.2 Switching on and off the machine

Fig. 2: Switching on and off the machine



(1) - Main switch *(2) - LED*

To switch on the machine:

1. Press the main switch (1) into position **I**.

↳ The LED (2) lights up.

To switch off the machine:

1. Press the main switch (1) into position **0**.

↳ The LED (2) goes out.

4.3 Inserting or changing the needle

CAUTION

Risk of injury from sharp parts!

Puncture possible.

Switch off the machine before inserting or changing the needle.

NOTICE

Property damage may occur!

Damage to the machine, needle breakage, or thread damage is possible due to an incorrect clearance between the needle and hook tip.

Check the clearance to the hook tip after inserting a new needle of a different size.

Order

After changing to a different needle size, adjust the distance between hook and needle (🕮 *Service Instructions*).

Distrubance caused by an incorrect hook clearance

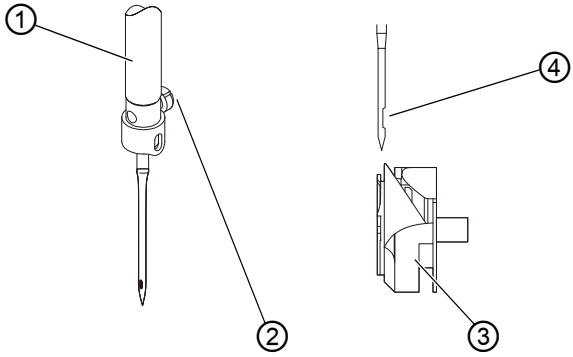
After inserting a thinner needle:

- Missing stitches
- Thread damage

After inserting a thicker needle:

- Damage to the hook tip
- Damage to the needle

Fig. 3: Inserting or changing the needle



(1) - Needle bar
(2) - Screw
(3) - Hook
(4) - Groove

To insert or change the needle:

1. Turn the handwheel until the needle bar (1) reaches the top dead centre.
2. Loosen the screw (2).
3. Pull the needle out towards the bottom.
4. Insert the new needle.

Important

Align the needle so that the groove (4) faces the hook (3).

5. Tighten the screw (2).

4.4 Threading the needle thread

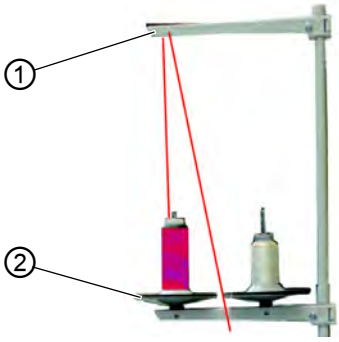
CAUTION

Risk of injury from sharp parts!

Puncture possible.

Swtich off the machine before threading the needle thread.

Fig. 4: Threading the needle thread (1)



(1) - Thread guide *(2) - Thread reel holder*

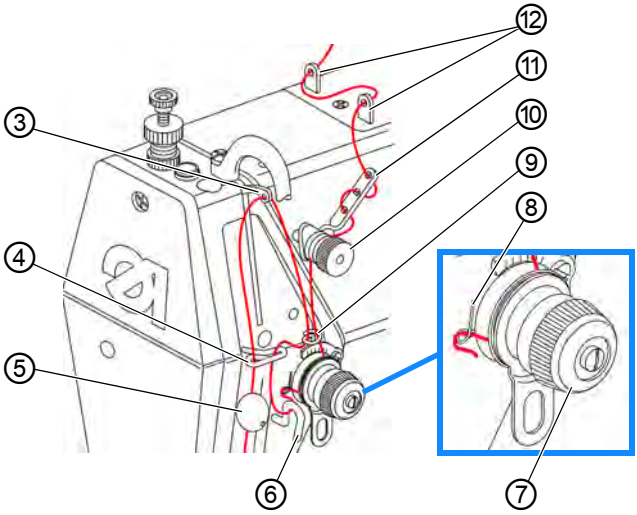
To thread the needle thread:

1. Fit the thread reel on the thread reel holder (2).
2. Insert the thread from the rear to the front through a hole in the thread guide (1).

Important

The thread guide (1) must be parallel to the thread reel holder (2).

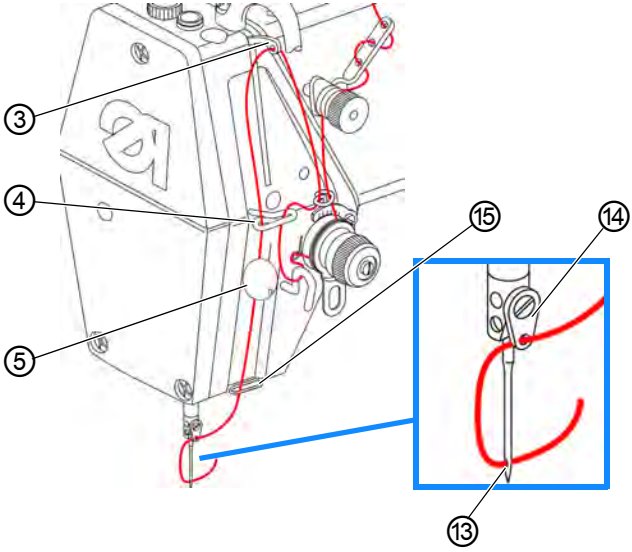
Fig. 5: Threading the needle thread (2)



(3) - Thread lever
(4) - Hook
(5) - Thread clamp
(6) - Hook
(7) - Main tension
(8) - Thread tensioning spring
(9) - Needle thread regulator
(10) - Pre-tension
(11) - Thread guide
(12) - Thread guide

3. Insert the thread through the thread guide (10):
   From the rear to the front through the rear hole and from the front to the rear through the front hole.
4. Insert the thread in a wavelike manner through the holes of the thread guide (9):
   From top to bottom through the uppermost hole, from bottom to top through the hole in the middle, and finally from top to bottom through the lowest hole.
5. Guide the thread counterclockwise around the pre-tension (8).
6. Feed the thread from top to bottom through the thread regulator (7).
7. Guide the thread clockwise around the main tension (5).
8. Pull the thread under the thread tensioning spring (6).
9. Guide the thread from the right to the left under the hook (4).
10. Feed the thread from bottom to top through the hook (2).
11. Feed the thread from bottom to top through the thread regulator (7).

Fig. 6: Threading the needle thread (3)



(3) - Thread lever
(4) - Hook
(5) - Thread clamp
(13) - Needle eye
(14) - Thread guide
(15) - Thread guide

12. Insert the thread from the right to the left through the thread lever (3).
13. Feed the thread from top to bottom through the hook (4).
14. Feed the thread from top to bottom through the thread clamp (5).
15. Feed the thread from top to bottom through the thread guide (15).
16. Insert the thread from the front to the rear through the thread guide (14).
17. Insert the thread from the left to the right through the needle eye (13) in such a way that the loose thread end faces the hook.

4.5 Winding the hook thread

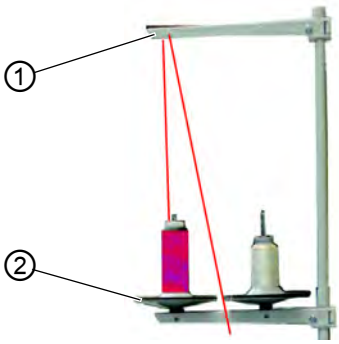
NOTICE

Property damage may occur!

Risk of damaging the machine when winding without material to be sewn.

Lock the sewing foot in place. Take the thread out of the thread lever and the bobbin capsule out of the hook if you wind on the hook thread without sewing the material in the process.

Fig. 7: Winding the hook thread (1)



(1) - Thread guide *(2) - Thread reel holder*

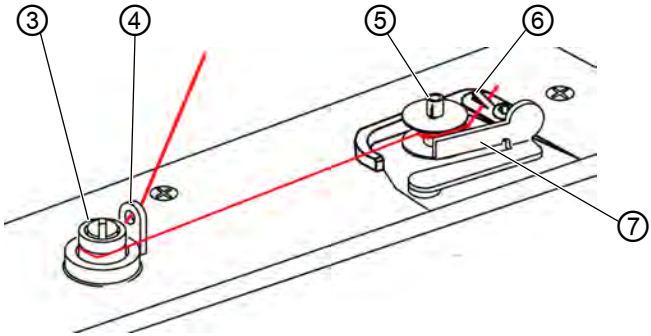
To wind the hook thread:

1. Fit the thread reel onto the threadreel holder (2).
2. Insert the thread from the rear to the front through a hole in the guide (1).

Important

3. The thread guide (1) must be parallel to the thread reel holder (2).

Fig. 8: Winding the hook thread (2)



(3) - Winder tension
(4) - Thread guide
(5) - Bobbin shaft
(6) - Cutting clamp
(7) - Bobbin winder flap

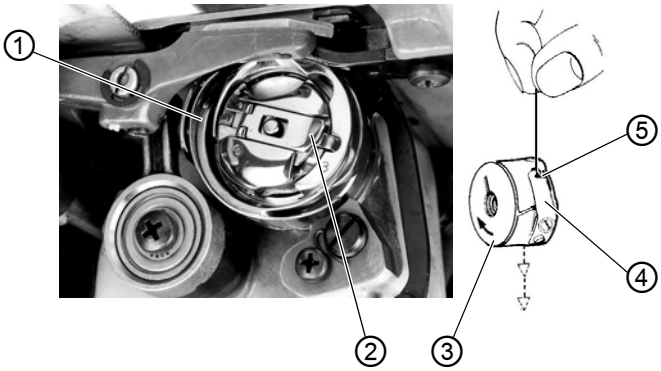
4. Fit the empty bobbin onto the bobbin shaft (5).
5. Insert the thread from the right to the left through the thread guide (4).
6. Guide the thread clockwise around the gap in the winder tension (3).
7. Wind some of the thread clockwise onto the bobbin.
8. Pull the thread through the cutting clamp (6) and cut it off after this.
9. Press the bobbin winder flap (7) against the bobbin.
10. Switch on the machine.
11. Press the pedal forwards.

↳ The machine starts sewing and winds on the hook thread in the process. When the set filling quantity (📖 *Service Instructions*) is reached, then the winding process will stop automatically..

The hook thread is normally wound on when sewing is in progress. However, you can also wind on the hook thread without sewing, e.g. if you require a full bobbin in order to start sewing.

4.6 Changing the bobbin

Fig. 9: Changing the bobbin



(1) - Bobbin case upper section
(2) - Bobbin case retainer
(3) - Bobbin
(4) - Tensioning spring
(5) - Hole

To change the bobbin:

1. Tilt the machine head.
2. Raise the bobbin case retainer (2).
3. Remove the bobbin case upper section (1) together with the bobbin (3).
4. Remove the empty bobbin.
5. Insert a full bobbin.

Important

Insert the bobbin (3) such that it moves in the direction of the arrow when pulling off the thread.

6. Guide the hook thread through the slot underneath the tensioning spring (4) and into the hole (5).
7. Pull the hook thread approx. 5 cm out of the bobbin case upper section (1).
8. Insert the bobbin case upper section (1) with the full bobbin.
9. Close the bobbin case retainer (2).
10. Erect the machine head.

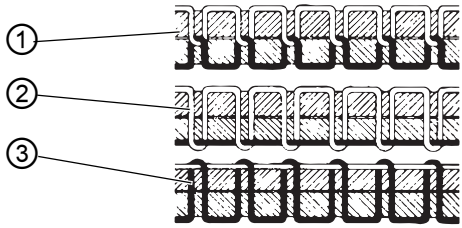
4.7 Thread tension

Together with the hook thread tension, the needle thread tension influences the final seam pattern. With thin sewing material, excessive thread tension can lead to undesired gathering and thread breakage.

Proper setting

If the tension of needle thread and hook thread is identical, the thread interlacing lies in the middle of the sewing material.
Set the needle thread tension so that the desired seam pattern is achieved with the lowest possible tension.

Fig. 10: Thread tension

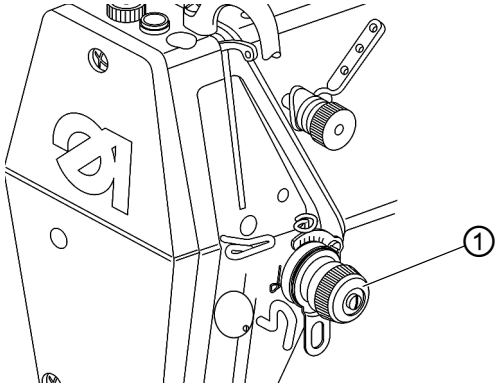


(1) - Identical needle thread and hook thread tension
(2) - Hook thread tension higher than needle thread tension
(3) - Needle thread tension higher than hook thread tension

4.7.1 Setting the needle thread tension

Main tension

Fig. 11: Setting the needle thread tension (1), Main tension



(1) - Adjusting wheel main tension

The main tension (1) determines the normal tension during sewing.

Proper setting

The main tension should be set as low as possible.
The thread interlacing should be exactly in the middle of the material being sewn.

Disturbance when the needle thread tension is too high

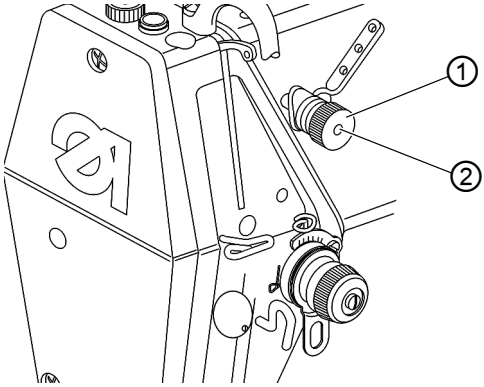
- Ruffing
- Thread breakage

To set the main tension:

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

Pre-tension

Fig. 12: Setting the needle thread tension (2), Pre-tension



(1) - Adjusting wheel pre-tension (2) - Bolt

The pre-tension (1) holds the thread in position while the main tensioner is open when cutting the thread.
The pre-tension (1) also determines the length of the initial thread for the new seam when the thread is cut:

Proper setting

In the basic position, the upper side of the adjusting wheel for the pre-tension (1) is flush with bolt (2).

To set the pre-tension:

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

Order

Check the tension of the needle thread after making major changes to the pre-tensioning. If necessary, adjust the main tension in order to achieve the desired result.

4.7.2 Setting the hook thread tension

Fig. 13: Setting the hook thread tension (1)

(1) - Bobbin
(2) - Braking spring
(3) - Tensioning spring
(4) - Screw

The braking spring (2) and tensioning spring (3) together determine the hook thread tension. The braking spring (2) also prevents the bobbin from running on when the thread is cut.

Proper setting

- The thread interlacing should be exactly in the middle of the material being sewn.
- If the loose thread end is held tightly, then the spool housing should slowly lower through its own weight when the bobbin (1) is full.
- The total value of the hook thread tension should be applied 50% respectively through the braking spring (2) and the tensioning spring (3).

To set the hook thread tension:

1. Turn back the adjusting screw (4) such that the tension on the tensioning spring (3) is completely removed.
2. Bend the braking spring (2) such that 50% of the recommended hook thread tension value is applied through the braking spring (2).
3. Insert the bobbin into the spool housing upper section and thread in the hook thread.

4. Insert the spool housing together with the bobbin into the hook.
5. Hold tight the free thread end with one hand.
6. Turn the handwheel until the sewing machine carries out one stitch.
7. Pull the hook thread onto the upper side of the needle hole using the needle thread.
8. Remove the hook thread in the direction of sewing at an angle of 45°.

↳ 50% of the tension value should be achieved.

9. Then tighten the adjusting screw (4) up to the total tension value.

4.8 Setting the needle thread regulator

The needle thread regulator determines the needle thread quantity to be guided around the hook. The required thread quantity depends on the thickness of the material to be sewn, thread strength, and stitch length.

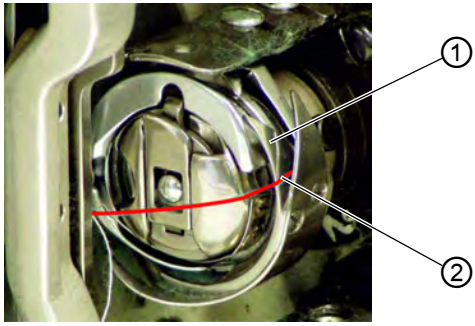
Larger thread quantity for

- thick material
- high thread strengths
- large stitch lengths

Lower thread quantity for

- thin material
- low thread strengths
- small stitch lengths

Fig. 14: Setting the needle thread regulator (1)

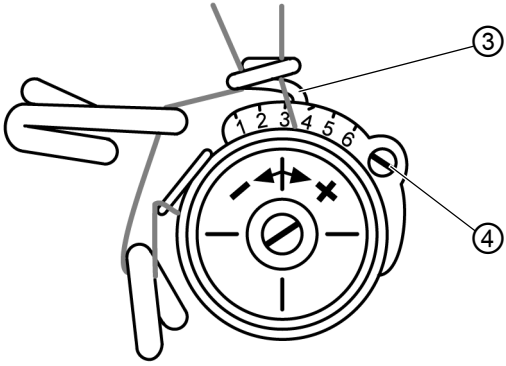


(1) - Hook *(2) - Needle thread loop*

Proper setting

The needle thread loop (2) slides at low tension over the thickest point of the hook (1).

Fig. 15: Setting the needle thread regulator (2)



(3) - Needle thread regulator *(4) - Screw*

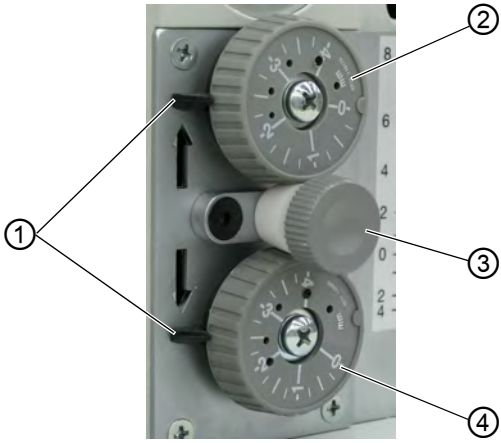
To set the needle thread regulator:

1. Loosen the screw (2).
2. Move the needle thread regulator (1):
   - **Lower thread quantity:** Slide the needle thread regulator (1) to the right
   - **Larger thread quantity:** Slide the needle thread regulator (1) to the left
3. Tighten the screw (2).

4.9 Setting the stitch length

The stitch length can be continuously adjusted between 1 and 4 mm by turning the adjusting wheels on the machine column.
The upper adjusting wheel is for the stitch length when sewing forwards and the lower adjusting wheel is for the stitch length when sewing in reverse.
The adjusting marks to the left of the wheels indicate the stitch length that is currently set.
The blocking mechanism between the adjusting wheels prevents unintentional misadjustment of the stitch length.

Fig. 16: Setting the stitch length



(1) - Adjusting mark
(2) - Stitch length adjusting wheel
(3) - Blocking mechanism
(4) - Stitch length adjusting wheel

To set the stitch length:

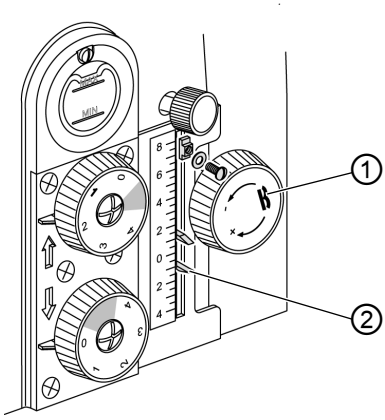
1. Turn the blocking mechanism (3) counterclockwise until the adjusting wheels can be moved.
2. Turn the desired adjusting wheel (2 or 4):
   - **Larger stitch length:** Turn the adjusting wheel counterclockwise.
   - **Smaller stitch length:** Turn the adjusting wheel clockwise.
3. Turn the blocking mechanism (3) clockwise until the adjusting wheels can no longer be moved.

4.10 Upper transport (Multiple width)

4.10.1 Setting the upper transport length

When the stitch length for sewing forwards is changed at the adjusting wheel the upper transport length is automatically adjusted to suit.

Fig. 17: Setting the upper transport length



(1) - Adjusting wheel *(2) - Pointer*

To set the upper transport length:

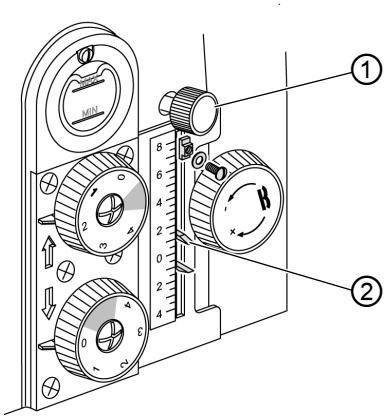
1. Turn the adjusting wheel (1):
   - **Larger upper transport length:** Turn the adjusting wheel (1) counterclockwise.
   - **Smaller upper transport length:** Turn the adjusting wheel (1) clockwise.

   The pointer (2) shows the value that is currently set.

4.10.2 Setting the second upper transport length (optional)

When using mechanically or electropneumatically switched multiple widths (additional equipment) a second (larger) upper transport length can be set at the adjusting wheel.

Fig. 18: Setting the second upper transport length



(1) - Adjusting wheel *(2) - Pointer*

To set the second upper transport length:

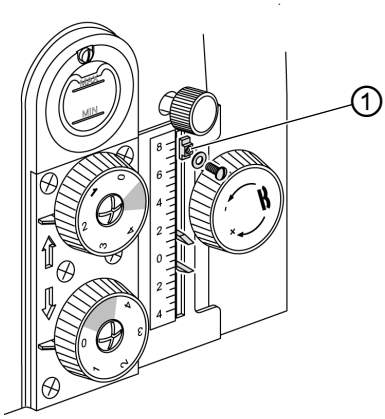
1. Turn the adjusting wheel (1):
   - **Larger second upper transport length:** Turn the adjusting wheel (1) counterclockwise.
   - **Smaller second upper transport length:** Turn the adjusting wheel (1) clockwise.

↳ The pointer (2) shows the value that is currently set.

4.10.3 Limiting the upper transport length

Certain equipment requires the maximum upper transport length to be limited to a value less than 8 mm.
The limiter for this is supplied with the corresponding sewing equipment.

Fig. 19: Limiting the upper transport length



(1) - Limiter

To limit the upper transport length:

1. Complete the assembly of the limiter (1) with washer and screw.
2. Insert the limiter (1) into the slot and turn by 90°.
3. Slide the limiter (1) to the value on the scale corresponding to the maximum upper transport length for the sewing equipment being used.
4. Screw the limiter (1) tight at the desired position with the screw.

4.11 Sewing foot

CAUTION

Risk of injury from moving parts!

Crushing possible.

DO NOT place your hands under the sewing foot.

4.11.1 Setting the sewing foot pressure

The adjusting wheel on the machine head determines the contact pressure of the sewing foot on the material to be sewn. The pressure can be adjusted continuously by turning the wheel.

Proper Setting

The material being sewn does not slip and is correctly transported.

Important

The upper transport foot must lie on the transporter when checking the sewing foot pressure.

Disturbance when the sewing foot pressure is set incorrectly

- pressure too high: Tearing of the material being sewn
- pressure too low: Slipping of the material being sewn

Fig. 20: Setting the sewing foot pressure

(1) - Adjusting wheel *(2) - Counternut*

To set the sewing foot pressure:

1. Loosen the counternut (2).
2. 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
3. Tighten the counternut (2).

4.11.2 Setting the downforce pressure for the upper transport foot

The downforce pressure for the upper transport foot (gripper transport) is set using the adjusting wheel on the machine head. The pressure can be adjusted continuously by turning the wheel.

Proper setting

The material being sewn does not slip and is correctly transported.

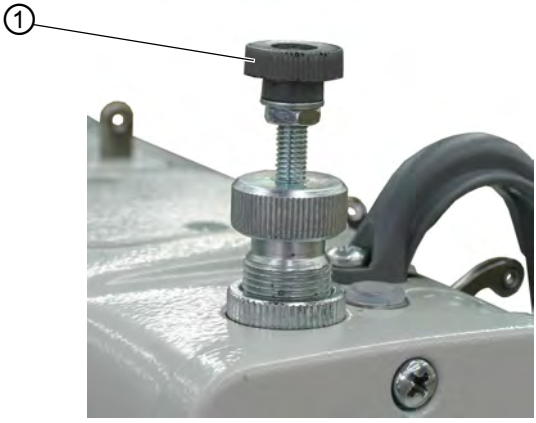
Important

The upper transport foot must lie on the transporter when checking the upper transport foot downforce pressure.

Disturbance when the sewing foot pressure is set incorrectly

- pressure too high: Tearing of the material being sewn
- pressure too low: Slipping of the material being sewn

Fig. 21: Setting the downforce pressure for the upper transport foot



(1) - Adjusting wheel

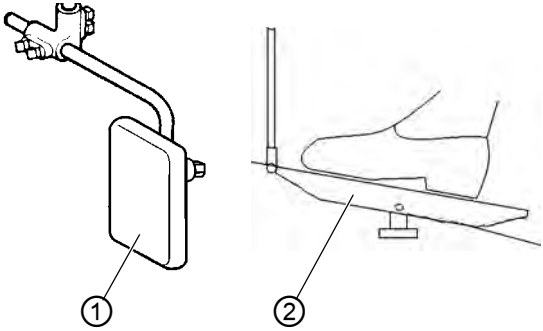
To set the downforce pressure for the upper transport foot:

1. Turn the adjusting wheel (1):
   - **increasing the pressure**: Turn the adjusting wheel (1) clockwise
   - **reducing the pressure**: Turn the adjusting wheel (1) counterclockwise

4.11.3 Lifting the sewing foot

The sewing foot can be lifted mechanically using the knee switch or electromagnetically using the pedal to insert or move the material being sewn.

Fig. 22: Lifting the sewing foot



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

To lift the sewing foot with the **knee switch**:

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

↳ The sewing foot is lifted.
The sewing foot stays up for as long as the knee switch is pressed.

To lift the sewing foot with the **pedal**:

1. Press the pedal (2) halfway back.

↳ The sewing foot is lifted.
The sewing foot stays up while the pedal is held in position.

1. Press the foot pedal (2) fully back at the **end of the seam**.
2. The sewing foot is lifted.
The thread cutter is activated.

To **lower** the sewing foot:

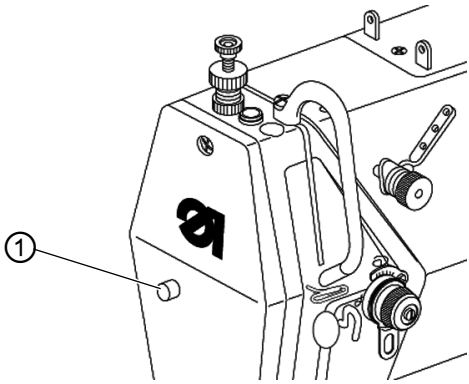
1. Release the knee switch (1) or return the pedal (2) back to the neutral position.

↳ The sewing foot is lowered.

4.11.4 Locking the sewing foot

The button on the machine head can be used to hold the lifted sewing foot in the upper position, e. g. in order to wind the hook thread.

Fig. 23: Locking the sewing foot



(1) - Locking button

To lock the sewing foot:

1. Raise the sewing foot with the knee switch or pedal.
2. Press the locking button (1).
3. Release the knee switch or pedal.

↳ The sewing foot is locked in place in the upper position.

To remove the lock:

1. Press the lever to the right again or press the pedal halfway back.

↳ The sewing foot is lowered.
The locking mechanism is removed.

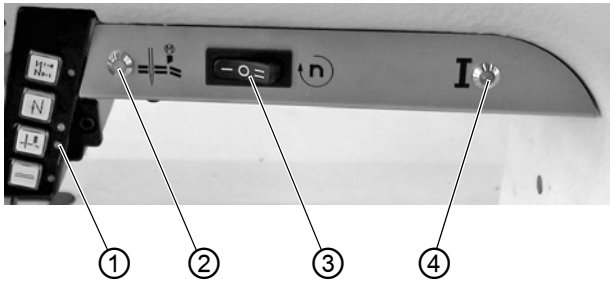
4.12 Edge cutter

The lowering and raising of the edge cutter is defined via the parameter settings in the control (🕮 *Operating manual DAC basic/classic*).
The cutting speed of the edge cutter is defined via a 3-position switch. The positioning of the switch depends on whether or not the DAC mini control is used.

4.12.1 Setting the edge cutter without a DAC mini

On machines without a DAC mini the switch for the edge cutter is located on the machine arm. The LED lights up green when the machine is switched on.

Fig. 24: Setting the edge cutter without a DAC mini



(1) - LED edge cutter
(2) - LED edge cutter
(3) - Switch
(4) - LED machine on/off

To set the edge cutter without a DAC mini:

1. Set the switch (3) to the desired position:
   - **switch off the edge cutter**: Position **0**

↳ LEDs (1) and (2) are off.

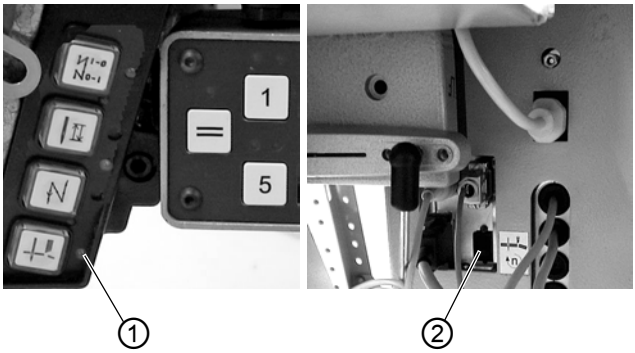
- **low speed**: Position **I** (for small to medium stitch lengths)
- **high speed**: Position **II** (for medium to large stitch lengths)

↳ After moving the switch (3) to position **I** or **II** the LED (2) flashes. At the start of sewing the edge cutter switches on automatically after the 1st stitch.
The LEDs (1) and (2) light up constantly while the edge cutter is working.

4.12.2 Setting the edge cutter with a DAC mini

On machines with a DAC mini the switch for the edge cutter is located on the rear side of the DAC mini under the table plate.

Fig. 25: Setting the edge cutter with a DAC mini



(1) - LED edge vutter *(2) - Switch*

To set the edge cutter with a DAC mini:

1. Set the switch (2) to the desired position:
   - **switch off the edge cutter**: Position **0**

   The LED (1) is off.
   - **low speed**: Position **I** (for small to medium stitch lengths)
   - **high speed**: Position **II** (for medium to large stitch lengths)

   After moving the switch (2) to position **I** or **II** the LED (1) flashes. At the start of sewing the edge cutter switches on automatically after the 1st stitch.
   The LED (1) lights up constantly while the edge cutter is working.

4.12.3 Enabling the edge cutter with a DAC mini

The edge cutter must be enabled via the DAC mini for every sequence in which it is to work (📖 *p. 92*).

To enable the edge cutter with a DAC mini:

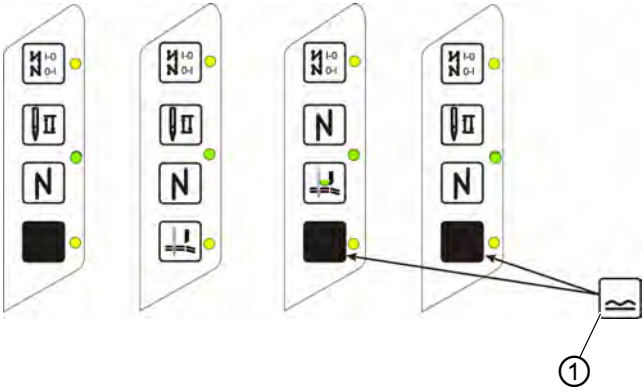
1. Press the **F** button on the DAC mini control panel.

↳ The green LED above the **F** button lights up.
The edge cutter is enabled.

4.13 Buttons on the machine arm

A keypad is located on the machine arm, which is equipped with different buttons depending on the subclass and installed equipment.

Fig. 26: Buttons on the machinearm



(1) - Additional equipment

Element	Function/Meaning
	**Bartack toggle** When bartacking is generally switched on then this button switches off the next bartack. When bartacking is generally switched off then this button switches on the next bartack.
	**Setting the needle to the high/low positions** The procedure for setting the position is described in the control.

Element	Function/Meaning
	**Manual reverse sewing** The machine sews in reverse while the button is pressed.
	**Edge cutter** Switch the edge cutter on and off.
	**Multiple width** Switch additional multiple widths on and off.
Yellow LED	Lights up when a function is activated.
Green LED	Lights up when the sewing drive is switched on.

4.14 Sewing

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

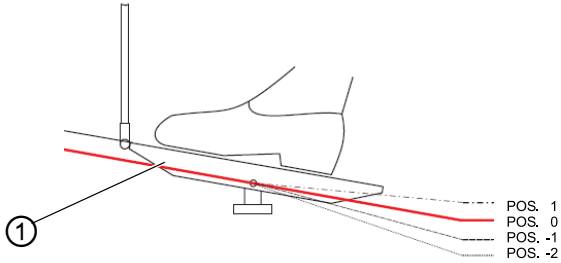
NEVER hold your hands in the area of the sewing feet and needle when sewing.

Sewing process

Initial position of the machine before sewing starts.

- The main switch is switched on.
- The pedal (1) is in rest position (**POS 0**).
- The machine is at a standstill.
- The needle is up.
- The sewing feet are down.
- The last sewing process is completed with an end bartack and cutting off the thread.

Fig. 27: Sewing



(1) - Pedal

To sew:

1. Press the pedal (1) to **POS. -1**.

   ↳ Lift the sewing feet.

2. Slide the sewing material up to the needle.
3. Press the pedal (1) to **POS. 1** and hold it down.

   ↳ The machine sews at the speed specified by the pedal.

Options during sewing

Process	Description
Stopping sewing	Press the pedal to **POS. 0**. ↳The machine stops. The needle is down. The sewing foot is down.
Continue the sewing process	Press the pedal to **POS. 1**. ↳The machine sews at the speed specified by the pedal.
Sew a corner	Press the pedal to **POS -1**. ↳The machine stops. The needle is down. The sewing foot is up. Turn the material around the needle.
Sewing a multiple width without a DAC mini	Activate the multiple width button 🕮 *p. 46*. ↳The multiple width is sewn with the set value Deactivate the multiple width button. ↳Sewing continues without multiple width.
Sewing a multiple width with a DAC mini	🕮 *p. 92*
Sew an intermediate bartack	Activate the manual reverse sewing button 🕮 *p. 46*. ↳The machine sews in reverse while the button is pressed. The speed is determined by the pedal.

To remove the sewing material:

4. Finish the seam **without end bartack**: Activate the bartack toggle button (🕮 *p. 46*).
5. Finish the seam **with end bartack**: Press the pedal to **POS. -2** and hold it down.

↳ The thread is cut off.
The machine stops.
The needle is up.
The sewing foot is raised.

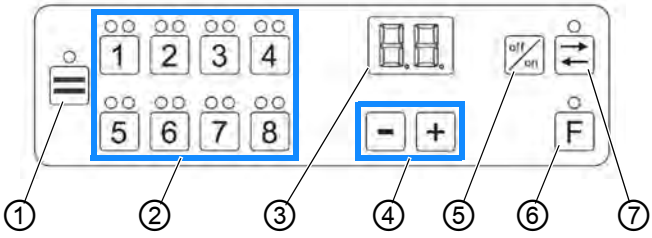
6. Release the pedal and remove the sewing material.

5 Programming

5.1 DAC mini

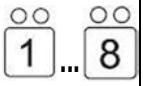
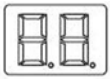
The DAC mini allows programming and semi-automatic calling of different multiple widths within a seam.
You can save up to 30 different programs, each with up to 8 different multiple width sequences. The current multiple width is shown in the display in every sequence and can be manually changed at any time.
Switching from one sequence to the next is performed using the knee switch or automatically when the thread is cut at the end of a seam.

Fig. 28: DAC mini



(1) - Button smooth sewing
(2) - Sequence buttons
(3) - Display
(4) - Plus-/Minus-buttons
(5) - Activation/Deactivation button
(6) - Button F (Enable/Function)
(7) - Direction change button

Button	Function
	**Button for smooth sewing** The Plus/Minus buttons should be used to assign an upper transport value to this button, which is to be used for sewing material without crimping. The green LED above the button lights up when the function is switched on.

Button	Function
	**Sequence buttons 1 to 8** Each of the sequence buttons can be assigned its own upper transport value via the Plus/Minus buttons. The LEDs above the buttons indicate the following states: • Red LED on = sequence is active • Both LEDs off = sequence is activated but not currently being executed • Green LED on = Sewing sequence currently being executed
	**Plus/Minus buttons** These buttons are used to setting the upper transport length for the respective sequence or for smooth sewing. Values from 1 to 8 can be set. The upper transport length can only be a maximum of 1 mm smaller than the stitch length. If the upper transport length is reduced further then the stitch length is also reduced.
	**(De-) Activation button** Pressing this button and a sequence button at the same time switches the corresponding sequence from active to inactive and vice-versa. The red LED above the sequence button lights up for inactive sequences and goes out for active sequences.
	**Button for automatic direction change** The sequences are normally processed in increasing order. After the last sequence the controller begins again with the first sequence. When the button for automatic direction change is actuated, the sequences are processed alternately, first in increasing order and then in decreasing order. The green LED above the button lights up when this function is active.
	**F button** This button can be used for enabling the edge cutter for every sequence and for smooth sewing. The green LED above the button lights up when the edge cutter is active.
	**Display** The display shows the current upper transport length. The values can lie between 1.0 and 8.0. In the case of errors the error code is displayed.

Information
The machine performs an internal system self-test when switched on. The machine is not ready for operation during this self-test. On completion of the system self-test the last program used is briefly shown in the display. After this, the LED above the button for the first active sequence of this program is switched on and the associated upper transport length is displayed.

↳ The machine is ready for operation.

5.1.1 Smooth sewing

1. To sew smoothly:

1. Press the button  .

↳ The green LED above the button lights up.
The display shows the current upper transport length.

Information
The upper transport length can be adjusted using the Plus/Minus buttons if the sewing results are not satisfactory.
The changed setting of the upper transport length is stored immediately.

5.1.2 Sewing with multiple widths

To sew with multiple widths:

1. Deactivate all sequence buttons that are not required:
   To do this, press the corresponding sequence button and the Activation/deactivation button  at the same time.

↳ The red LEDs above the deactivated buttons light up.

If the button for the desired sequence is deactivated (red LED is lit):

2. Activate all sequence buttons that are not required:
   To do this, press the corresponding sequence button and the Activation/deactivation button  at the same time.

↳ The red LED goes out.
The button is activated.

3. Press the button for the desired sequence.

↳ The green LED above the button lights up.
The display shows the upper transport value for this sequence.

Information
The upper transport length can be adjusted using the Plus/Minus buttons if the sewing results are not satisfactory.
The changed setting of the upper transport length is stored immediately.

5.1.3 Changing between smooth sewing and a single multiple width

To change between smooth sewing and a single multiple width:

1. Press the button  and the button for the desired multiple width sequence at the same time.

↳ The green LEDs above both buttons light up.

2. **Changing between smooth sewing and multiple width**: Actuate the knee switch (or at the end of the seam, press the pedal all the way back to cut the thread).
3. **Switching off the alternating processing mode:** Press the button  .

5.1.4 Sewing with up to 8 different multiple widths

To sew with up to 8 different multiple widths:

1. Deactivate all sequence buttons that are not required:
   To do this, press the corresponding sequence button and the Activation/deactivation button  at the same time.

↳ The red LEDs above the deactivated buttons light up.

2. Activate all sequence buttons that are not required:
   To do this, press the corresponding sequence button and the Activation/deactivation button  at the same time.

↳ The red LEDs go out.
The buttons are activated.
The first activated sequence is started when sewing starts.
The green LED above the currently sewn sequence lights up and the display shows the current upper transport value.

3. **Changing to the next sequence**: Actuate the knee switch (or at the end of the seam, press the pedal all the way back to cut the thread).

↳ The machine automatically switches to the first multiple width sequence after the last multiple width sequence.

Information
If the desired multiple width cannot be achieved in a sequence then the upper transport length can be changed using the Plus/ Minus buttons.
The change is saved as soon as the next sequence is switched to.

5.1.5 Alternately sewing left and right parts with programmed multiple widths

To sew alternately left and right parts with programmed multiple widths:

1. Press the button  .

↳ The green LED above the button lights up.
The sequences are processed alternately in increasing order and then in decreasing order.

important

When this function is activated, under the settings provided on delivery, two thread cutting procedures are required in the first and last sequences in order to switch to the next sequence.

5.1.6 Sequence switching via thread cutting

The setting provided on delivery causes the next multiple width sequence to be automatically activated by the thread cutting procedure (pedal pressed fully backwards). When the automatic direction change is activated then two thread cutting procedures are required in the first and last sequences in order to switch to the next sequence.

2 other settings can be selected if this is not desired:

- No sequence switching on thread cutting
- Sequence switching on thread cutting but without double thread cutting when automatic direction change is activated

5.1.7 Switching on or off the edge cutter

On machines with an edge cutter, this must be enabled for every sequence and for smooth sewing (📖 *p. 46*).

To switch on the edge cutter:

1. In the sequence before the start of sewing, press the button F.

↳ The green LED above the button lights up.
The edge cutter is activated.

To switch off the edge cutter:

2. Press the buton F again.

↳ The green LED above the button goes out.
The edge cutter is deactivated.

5.1.8 Selecting a program

After the machine is switched on, the current program is displayed briefly.

A program consists of a series of sequences, each of which having a particular upper transport value.
The sequences are processed consecutively from 1 to 8. Individual sequences can be deactivated but the sequences cannot be assigned more than once and their consecutive positions cannot be changed.

To select a program:

1. Press and hold the button off/on and also press the button ☰.

↳ The current program number is displayed briefly.

The LED above the button F flashes to indicate that you are in the **program selection** function.
The sewing drive is not ready for operation during program selection.

2. Set the desired program number using the − + buttons.

3. Press the button F.

↳ The LED above the button goes out.
The program selection function exits.
The selected program is activated.

5.1.9 Creating and changing a program

All changes to sequences and programs are immediately adopted and are save on the transition to the next step.

To create or change a program:

1. Set the desired program number (📖 *p. 57*).
2. Make the desired settings.
3. Change to next step.

↳ The settings are now saved.

5.2 DAC basic/classic

All software settings are performed using the OP1000 control panel.

The control panel is composed of a display and buttons.

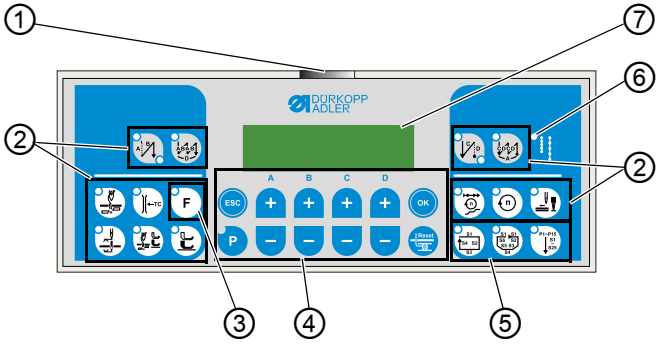
Using the control panel you can:

- 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. 29: Programming



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

OP1000 buttons and functions

Button		Function
Thread button group		
	Start bartack	• Sets the start bartack
	Multiple start bartack	• Sets the multiple start bartack
	End bartack	• Sets the end bartack
	Multiple end bartack	• Sets the multiple end bartack
	Thread cutter	• Activates or deactivates the thread cutter
	Thread clamp	• Activates or deactivates the thread clamp
	Needle position after sewing stop	• Sets the needle position after sewing stop
	Sewing foot lift after thread cutter	• Activates or deactivates the sewing foot lift after the thread cutter
	Sewing foot lift after sewing stop	• Activates or deactivates the sewing foot lift after sewing stops
	Soft start	• Activates or deactivates the soft start

Button	Function
 Speed	• Reduces the motor speed
 **Function button**	• Activates or deactivates any stored function
Programming button group	
 ESC	• Ends parameter mode
 A+	• Increases parameter • Changes user level • Selects subprogram
 B+	• Increases parameter • Changes to next higher category • Selects subprogram
 C+	• Increases parameter • Selects subprogram
 D+	• Increases parameter • Selects subprogram
 OK	• Calls parameter or saves it
 P	• Starts or ends the parameter mode

Button	Function
 A-	• Decreases parameter • Changes user level • Selects subprogram
 B-	• Decreases parameter • Changes to next lower category • Selects subprogram
 C-	• Decreases parameter • Selects subprogram
 D-	• Decreases parameter • Selects subprogram
 Reset	• Resets the (piece) counter

Button	Function
Seam program button group	
 Seam program I	• Activates seam program I
 Seam program II	• Activates seam program II
 Seam program III	• Sets seam program III

6 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.

Advanced maintenance work may only be carried out by qualified specialists (🕮 *Service Instructions)*.

Maintenance intervals

Work to be carried out	Operating hours			
	8	40	160	500
Cleaning the machine	●			
Lubricating the machine head	●			
Lubricating the hokk		●		
Servicing the pneumatic system	●			

6.1 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.

To clean teh machine:

1. Switch off the machine.
2. Remove any lint and thread remnants using a compressed air gun or a brush.
3. Remove lint and thread remnants from the oil pan.

6.2 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:

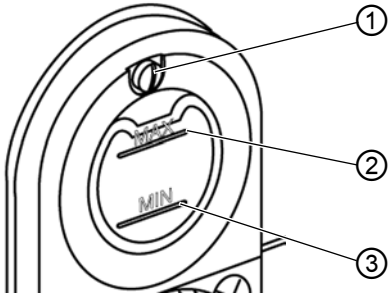
- Viscosity at 40 °C:10 mm^2/s
- Flash point: 150 °C

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

6.2.1 Lubricating the machine head

Fig. 30: Lubricating the machine head



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

Proper setting

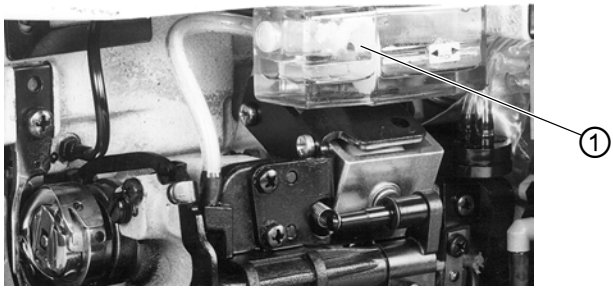
The oil level is between the MIN-marking (3) and the MAX-marking (2).

To lubricate the machine head:

1. Switch off the machine head.
2. Pour oil through the refill opening (1) to the MAX-marking (2).
3. Switch on the machine.

6.2.2 Lubricating the hook

Fig. 31: Lubricating the hook



(1) - Oil reservoir

Proper setting

The oil level must always be between the MIN mark and the MAX mark.

To lubricate the hook:

1. Switch off the machine.
2. Tilt the machine head.
3. Check oil quantity in oil reservoir (1).
4. If necessary, pour in oil through the refill hole.

6.3 Servicing the pneumatic system

6.3.1 Setting the operating pressure

NOTICE

Property damage from incorrect setting!

Incorrect operating pressure can result in damage to the machine.

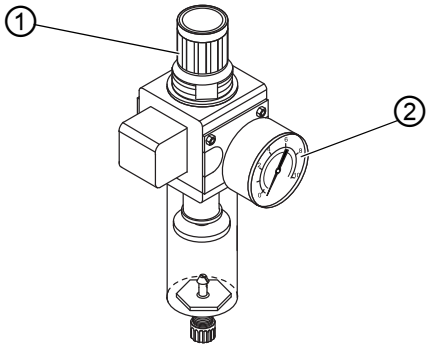
Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical data** (📖 *p. 109*) 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. 32: Setting the operating pressure



(1) - Pressure controller *(2) - Pressure gage*

To set the operating pressure:

1. Pull the pressure controller (1) up.

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

6.3.2 Draining the water condensation

NOTICE

Property damage from excess water!

Excess water can cause damage to the machine.

Drain water as required.

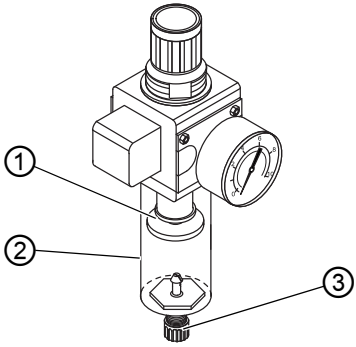
Water condensation accumulates in the water separator (2) of the pressure controller.

Proper setting

Water condensation must not rise up to the level of the filter element (1).

Check the water level in the water separator (2) on a daily basis.

Fig. 33: Draining the water condensation



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

To drain water condensation:

1. Disconnect the machine from the compressed air supply.

2. Place the collection tray under the drain screw (3).
3. Loosen the drain screw (3) completely.
4. Allow water to drain into the collection tray.
5. Tighten the drain screw (3).
6. Connect the machine to the compressed air supply.

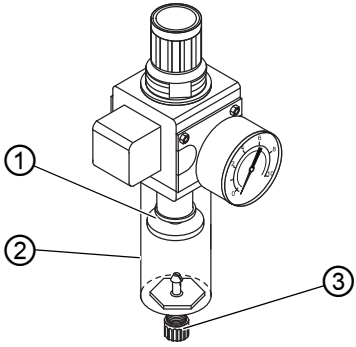
6.3.3 Cleaning the filter element

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. 34: Cleaning the filter element



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

To clean the filter element:

1. Disconnect the machine from the compressed air supply.
2. Drain the water condensation (📖 *p. 71*).
3. Loosen the water separator (2).
4. Loosen 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 water separator (2).
9. Tighten the drain screw (3).
10. Connect the machine to the compressed air supply.

6.4 Parts list

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

www.duerkopp-adler.com

7 Setup

WARNING

Risk of injury from cutting parts!

Cutting injuries may be sustained while unpacking and setting up the machine.

Only qualified specialists may set up the machine. Wear safety gloves

WARNING

Risk of injury from moving parts!

Crushing injuries may be sustained while unpacking and setting up the machine.

Only qualified specialists may set up the machine. Wear safety shoes.

7.1 Checking the scope of delivery

The scope of delivery depends on your specific order.
Check that the scope of delivery is correct after taking delivery.

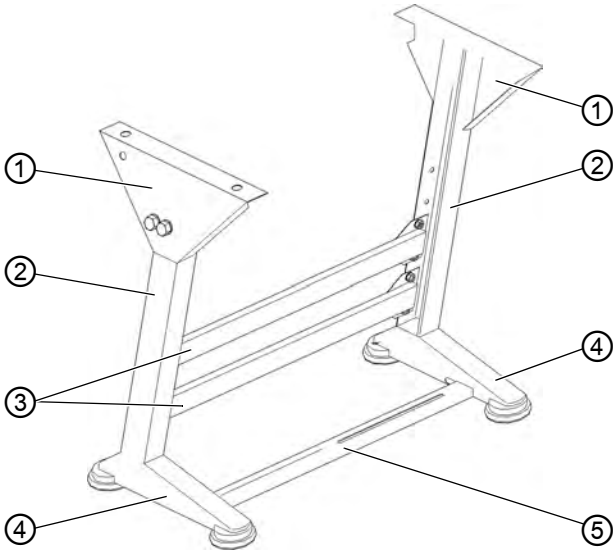
7.2 Removing the transport locks

Remove all transport locks before setting up the machine:

- Lashing straps and wooden blocks from the machine head
- Lashing straps and wooden blocks from the table
- Lashing straps and wooden blocks from the stand
- Supporting wedges between the machine arm and throat plate

7.3 Assembling the stand

Fig. 35: Assembling the stand



(1) - Head sections
(2) - Stand bars
(3) - Cross bars
(4) - Foot struts
(5) - Cross strut

To assemble the stand:

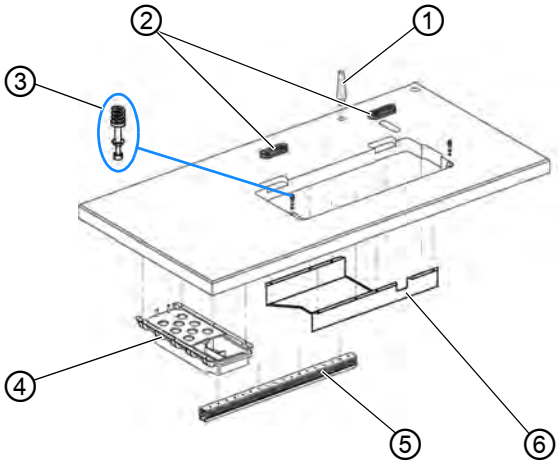
1. Screw the cross bars (3) onto the stand bars (2).
2. Screw the cross strut (5) onto the foot struts (4).
3. Screw the head sections (1) onto the stand bars (2).

7.4 Tabletop

Ensure that the tabletop has sufficient load-bearing capacity and strength.

7.4.1 Completing the tabletop

Fig. 36: Completing the tabletop (1)



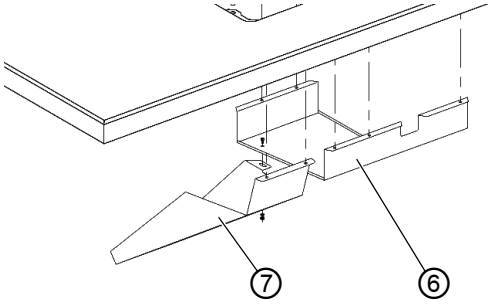
(1) - Machine head support
(2) - Pubber inlays
(3) - Rest plugs
(4) - Drawer
(5) - Cable duct
(6) - Oil pan

To complete the tabletop:

1. Insert the machine head support (1) into the holes in the table plate.
2. Fit the rubber inlays (2) into the recesses.
3. Insert the rest plugs (3) and slide on with compression springs.
4. Screw the drawer (4) under the table plate at the left.
5. Screw the cable duct (5) under the table plate at the rear.
6. Center punch the screw positions of the oil pan (6) and screw the oil pan into position under the table plate cutout using wood screws.

Information
Machines with edge cutter

Fig. 37: Completing the tabletop (2)



(6) - Oil pan *(7) - Waste chute*

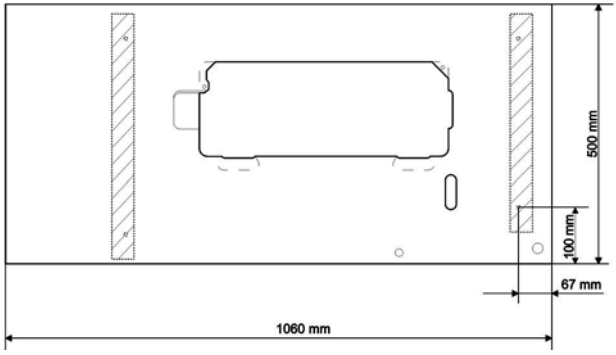
To assemble the waste chute for machines with edge cutter:

7. Center punch the screw positions of the waste chute (7) and screw the waste chute into position under the table plate cutout.
8. Connect the oil pan (6) and waste chute (7) with screws.

7.4.2 Assembling the tabletop to the stand

Machines without DAC mini

Fig. 38: Machines without DAC mini



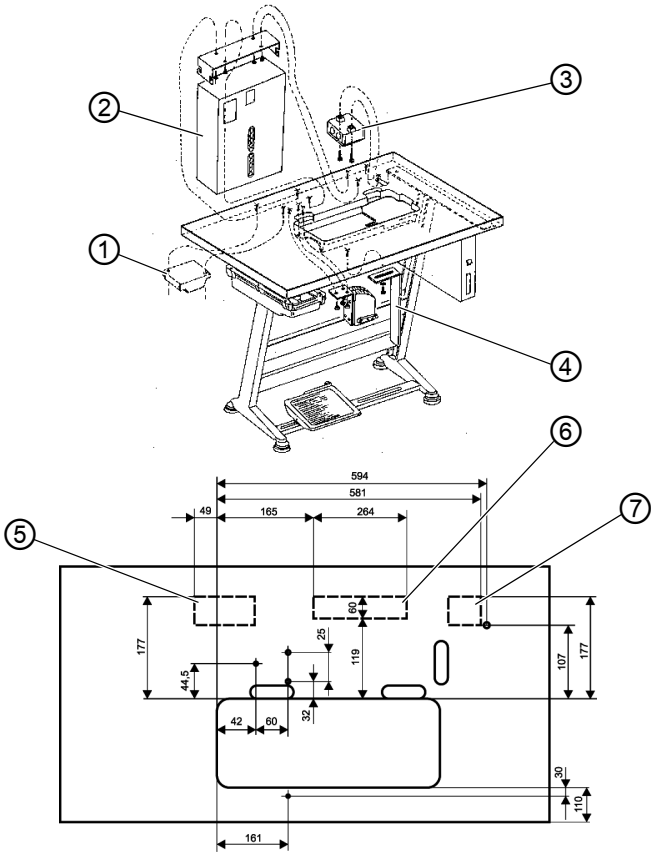
To assemble the tabletop to the stand

1. Fasten the table plate to the stand with wood screws according to the dimensions shown above.

Machines with DAC mini

For machines with a DAC mini multiple width controller and edge cutter, in addition to the normal steps for completing the tabletop (📖 *p. 77*) the DAC mini, distribution box, sewing lamp transformer and knee switch must also be installed.

Fig. 39: Machines with DAC mini



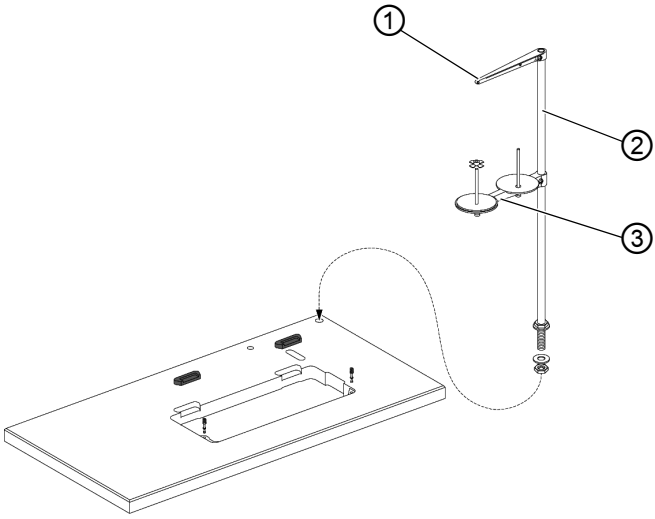
(1) - Sewing lamp transformer
(2) - DAC mini
(3) - Distribution box
(4) - Knee switch
(5) - Positioin for sewing lamp transformer
(6) - Position for DAC mini
(7) - Position for Distribution box

To assemble the DAC mini components:

1. Fasten the table plate to the stand with wood screws.
2. Mount the sewing lamp transformer (1) at position (5)
3. Mount the DAC mini (2) at position (6)
4. Mount the distribution box (3) at position (7)
5. Screw the knee switch (4) under the table plate in a position allowing it to be easily operated using the right knee.

7.4.3 Assembling the reel stand

Fig. 40: Assembling the reel stand



(1) - Thread guide
(2) - Reel stand
(3) - Thread reel holders

To assemble the reel stand:

1. Insert the thread stand (1) into the hole.
2. Fasten the thread stand (1) with nut and washer.
3. Screw the thread reel holder (3) and the thread guide (1) onto the reel stand (1) in such a way that they are exactly parallel above each other.

7.5 Setting the working height

WARNING

Risk of injury from moving parts!

The tabletop can sink under its own weight when the screws on the stand bars are loosened. Crushing possible.

Ensure that your hands are not jammed when loosening the screws.

CAUTION

Risk of musculoskeletal damage from incorrect setting!

The operator can sustain musculoskeletal damage if failing to comply with the ergonomic requirements.

Adjust the working height to the body height of the person who will operate the machine.

The working height is continuously adjustable between 750 and 900 mm.

Fig. 41: Setting the working height

(1) - Screws

To set the working height:

1. Loosen the screws (1).
2. Set the tabletop to the desired height.

Important

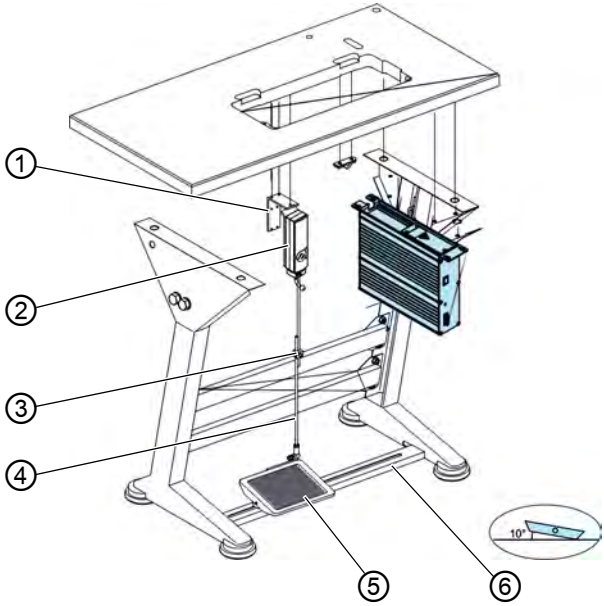
Pull out or push in the tabletop evenly at both sides to prevent it from jamming.
Ensure that the tabletop is level.

3. Tighten the screws (1).

7.6 Assembling the pedal and the setpoint device

7.6.1 Machines without DAC mini

Fig. 42: Machines without DAC mini



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

To assemble the pedal and the setpoint device:

1. Fit the pedal (5) onto the cross strut (6) and align it.

   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 angle (1).
4. Screw the angle (1) under the tabletop so that the pedal rod (4) runs vertically to the pedal (5) from the setpoint device (2).

5. Hang the pedal rod (4) with the ball socket on the setpoint device (2) and attach to the pedal (5).
6. Pull the pedal rod (4) to the correct length.

Proper setting

The pedal is correctly adjusted if it has an inclination of 10° when released.

7. Tighten the screw (3).

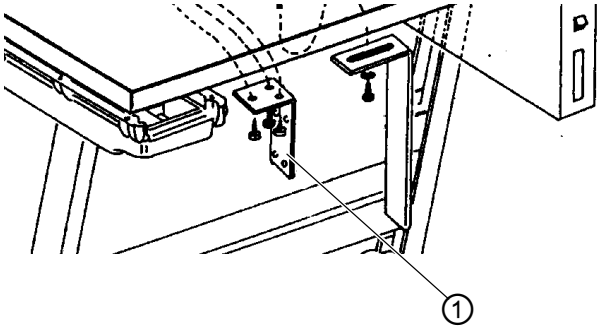
7.6.2 Machines with DAC mini

On machines with DAC mini the setpoint device is installed at a different position.

Important

With this subclass a large number of assemblies are fitted under the tabletop.
For this reason it is essential to observe the dimensional diagram of the tabletop (📖 *p. 77*).

Fig. 43: Machines with DAC mini



(1) - Angle

To assemble the pedal and the setpoint device:

1. Screw the angle bracket under the tabletop at the position shown in the diagram.
2. Screw the setpoint device onto the angle (1).
3. Install the pedal in the same manner as with a machine without a DAC mini (📖 *p. 84*).

7.7 Inserting the machine head

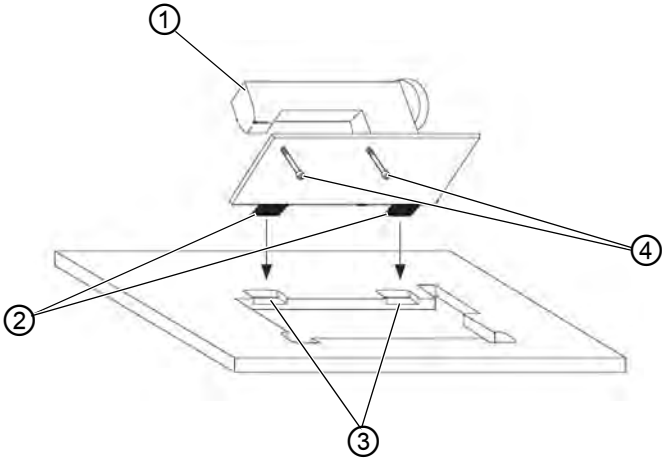
WARNING

Risk of injury!

The machine head is heavy and can cause crushing injuries if handled in a careless manner.

NEVER stick your hands between machine head and tabletop.

Fig. 44: Inserting the machine head



(1) - Machine head
(2) - Upper hinge parts
(3) - Rubber inlays
(4) - Supporting screws

Important

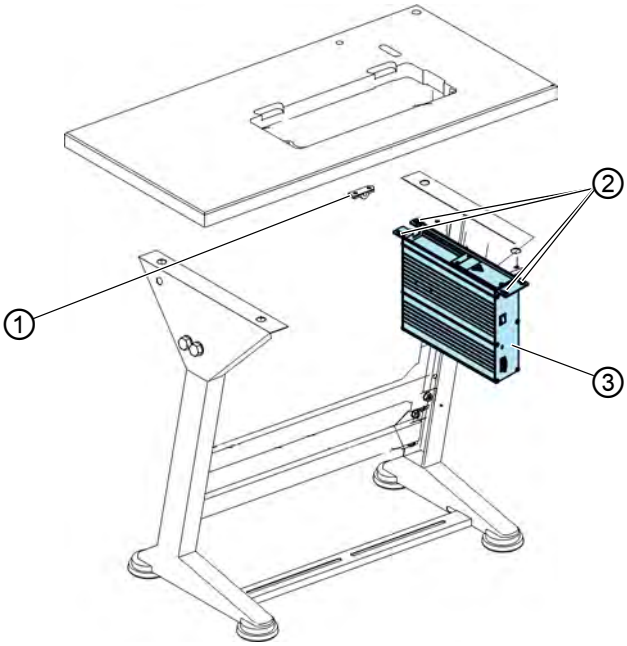
Remove the supporting screws (4) before inserting hte machine head.

To insert the machine head:

1. Fit the machine head (1) from above at an angle of 45°.
2. Insert the upper hinge parts (2) into the rubber inlays (3).
3. Tilt the machine head (1) and insert it in the recess.

7.8 Assembling the control

Fig. 45: Assembling the control



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

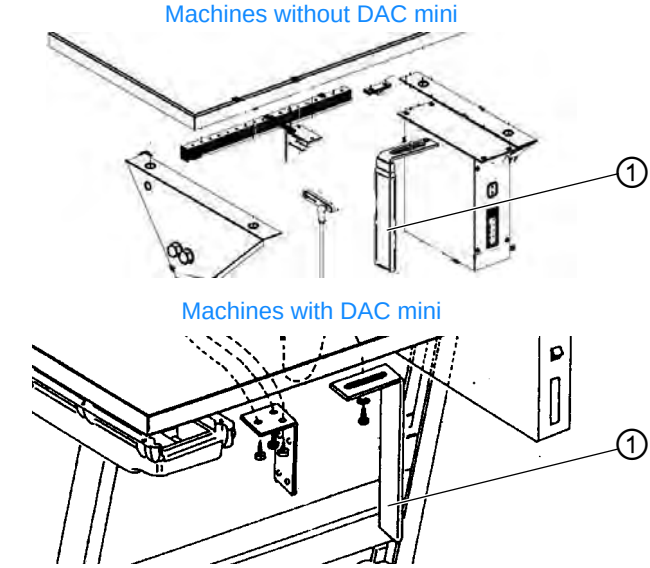
To assemble the control:

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

7.9 Assembling the knee switch

The knee switch is screwed under the table plate. Different positions are used for machines without a DAC mini and machines with a DAC mini.

Fig. 46: Assembling the knee switch



(1) - Knee switch

To assemble the knee switch:

1. Screw the knee switch (1) under the tabletop.

7.10 Electrical connection

DANGER

Risk of death from live components!

Unprotected contact with electricity can result in serious injuries or death.

Only qualified specialists may perform work on electrical equipment.

Important

The voltage on the type plate of the sewing motor must correspond to the mains voltage.

7.10.1 Connecting the control

To connect the control:

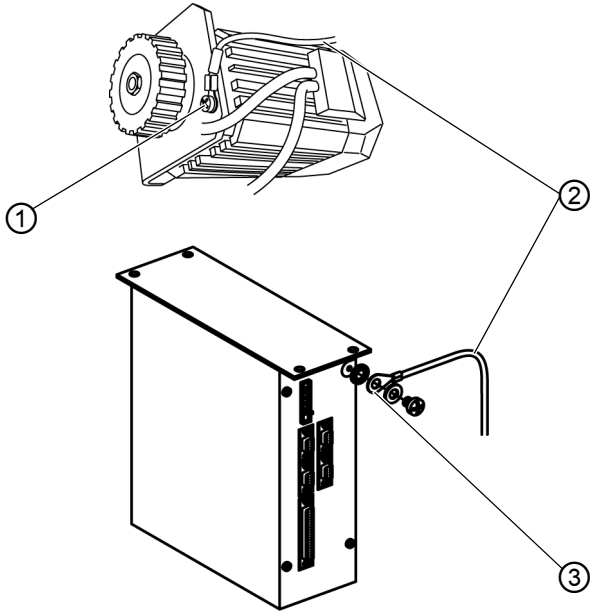
1. Guide the cable from the machine head through the tabletop cutout.
2. Connect the cables with the control.

↳ Both the cables and the appropriate plugs are color-coded and marked with a symbol.

7.10.2 Creating the equipotential bonding

The earthing cable conducts away any static charging to ground.

Fig. 47: Creating the equipotential bonding



(1) - Screw
(2) - earthing cable
(3) - Cable lug

To create the equipotential bonding:

1. Attach the earthing cable (2) to the motor using the screw (1).
2. Lay the earthing cable (2) to the rear side of the control.
3. Attach the cable lug (3) of the earthing cable (2) to the rear side of the control.

7.11 Checking the needle positions

The needle positions were correctly set before delivery. Despite this, the needle positions should be checked before starting the machine.

Order

The following requirements must be satisfied for performing the test:

- Sewing foot locked in place in the upper position
- During an intermediate stop the machine stops in position 1 (needle down)

Checking needle position 1

To check the needle position 1:

1. Switch on the machine.
2. Briefly press the pedal forwards and then back to the home position.
3. Check the needle position.

Proper setting

The needle is in position 1 (handwheel position **F**).

Checking needle position 2

To check the needle position 2:

1. Switch on the machine.
2. Press the pedal forwards and then all the way backwards.
3. Check the needle position.

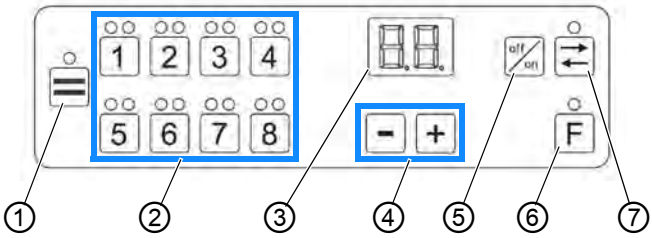
Proper setting

The needle is in position 2 (handwheel position **C**).

If any of the needle positions are not correct then the needle positions must be corrected (📖 *Operating instructions DAC basic/classic*).

7.12 Setting the DAC mini multiple width control

Fig. 48: Setting the DAC mini multiple width control



(1) - Button smooth sewing
(2) - Sequence buttons
(3) - Display
(4) - Plus-/Minus-buttons
(5) - Activation/Deactivation button
(6) - Button F (Enable/Function)
(7) - Direction change button

Checking the basic settings of the control

After setting up the machine the basic settings of the control must be checked and adjusted if necessary.

Calling up the special functions

To call up the special functions:

1. Hold the button F pressed and switch on the machine.

↳ The green LED above the button lights up.

2. Release the button F.

↳ The green LED above the **F** (6) button flashes.
After the internal system test has completed, the display (3) shows the **Special functions** selection: 5.F.

The various special functions are called up by pressing the sequence buttons (2) with the numbers 1 to 7. The green LEDs above the buttons indicate the respective function that has been called up.

The following sections describes the special functions of buttons **2**, **4** and **5**. The other special functions are described in the 🕮 *Service Instructions*.

Setting the brightness of the LEDs and the display

To set the brightness of the LEDs and the display:

1. After calling up the special functions, press sequence button **2**.

↳ All LEDs are switched on.
The display (3) shows the **Brightness** selection: 

2. Set the brightness using the buttons [−] [+].

Information
The brightness can be changed in 8 levels.
Level 3 is set when the machine is delivered.

---

3. Save the desired brightness by pressing the button [F] twice.

↳ The LED above the button goes out.
The system switches out of the special function mode back into normal operation.

Moving to the reference position after every thread-cutting operation

After switching on the machine the stepper motor for setting the length of the upper transport moves to the reference position once. To allow the position of the stepper motor to be checked more frequently, the stepper motor can also be moved to the reference position after every thread-cutting operation.

To move to the reference position after every thread-cutting operation:

1. After calling up the special functions, press sequence button **4**.

↳ The display (3) shows the **Reference** selection: 

2. Change the setting using the buttons [−] [+].
   - Move the machine to the reference position **only at switch-on**: Set the display to **00**.
   - Move the machine to the reference position **after every thread cutting operation**: Set the display to **01**.

Information
The machine is set to **00** when delivered.

---

3. Save the desired Setting by pressing the button [F] twice.

↳ The LED above the button goes out.
The system switches out of the special function mode back into normal operation.

Continue switching the sewing sequence via thread cutting

When sewing multiple widths in a program the next sequence is usually activated by cutting the thread. 3 methods of switching the next sequence via thread cutting are available:

To continue switching the sewing sequence via thread cutting:

1. After calling up the special functions, press sequence button **5**.

↳ The display (3) shows the **A5** selection: 

2. Select the desired setting using the buttons [−] [+]:
   - **Thread cutting does not switch to the next sequence**: Set the display to **00**.
   - **Thread cutting does switches to the next sequence**: Set the display to **01**.
   - **Switch to the next sequences after every thread cutting operation and after 2 thread cutting operations when automatic direction changing is set**in the 1st and the last sequence (the 1st thread cutting operation triggers the direction change, the 2nd thread cutting operation activates the next sequence): Set the display to **02**.

Information
The machine is set to **02** when delivered.

3. Save the desired Setting by pressing the button [F] twice.

↳ The LED above the button goes out.
The system switches out of the special function mode back into normal operation.

7.13 Checking the rotation to the reference position

WARNING

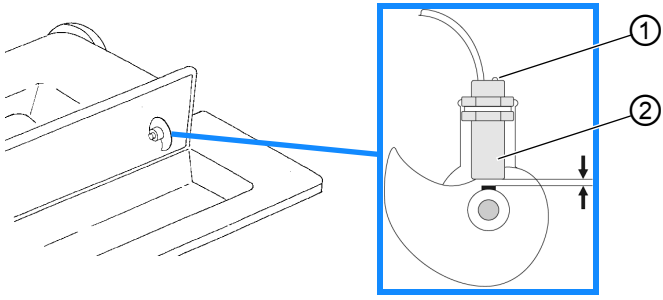
Risk of injury from moving parts!

Crushing possible.

Do NOT reach into the area of moving machine parts while testing the reference position.

Each time the machine is switched on the stepper motor rotates to the reference position and then returns to the current upper transport length in order to set the upper transport length. This is necessary to ensure that the value shown in the display agrees with the actual upper transport length.

Fig. 49: Checking the rotation to the reference position



(1) - LED *(2) - Inductive sensor*

To check the rotation to the reference position:

1. Tilt the machine head.
2. Switch on the machine.

   After the internal system test has completed, the stepper motor rotates to the reference position.
   When the reference position has been reached, the LED (1) on the inductive sensor (2) lights up briefly.
   The motor then rotates to the current upper transport length position.
3. Erect the machine head.

7.14 Pneumatic connection

NOTICE

Property damage from oily compressed air!

Oil particles in the compressed air can cause malfunctions of the machine and soil the sewing material.

Ensure that no oil particles enter the compressed air supply.

NOTICE

Property damage from incorrect setting!

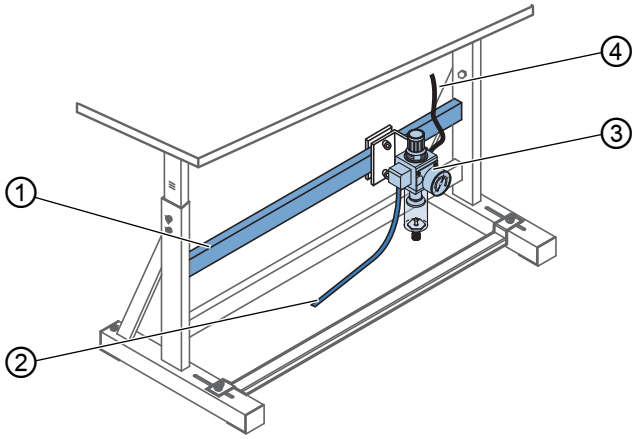
Incorrect system pressure can result in damage to the machine.

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

The pneumatic system of the machine and of the additional equipment must be supplied with dry and oil-free compressed air. The supply pressure must lie between 8 and 10 bar.

7.14.1 Assembling the compressed air maintenance unit

Fig. 50: Assembling the compressed air maintenance unit



(1) - Cross bar
(2) - Connection hose
(3) - Compressed air maintenance unit
(4) - Machine hose

So montieren Sie die Druckluft-Wartungseinheit:

1. Attach the compressed air maintenance unit (3) to the cross bar (1) of the stand using the bracket, screws and clip.
2. Connect the machine hose (4) to the compressed air maintenance unit (3).
3. Connect the connection hose (2) to the compressed air supply using a hose coupling R 1/4”.

7.14.2 Setting the operating pressure

NOTICE

Property damage from incorrect setting!

Incorrect operating pressure can result in damage to the machine.

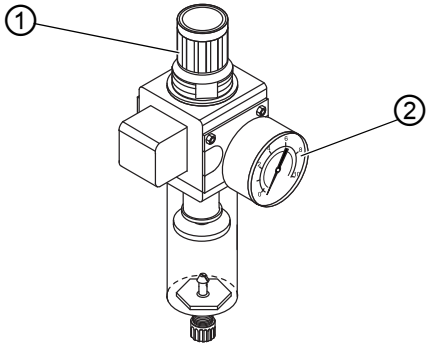
Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical data** (📖 *p. 109*) 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. 51: Setting the operating pressure



(1) - Pressure controller *(2) - Pressure gage*

To set the operating pressure:

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

7.15 Performing a test run

When setup is complete, perform a test run to check the functionality of the machine.

8 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.

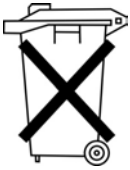
9 Disposal

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.

10 Troubleshooting

10.1 Customer Service

Contact for repairs and issues with the machine:

Dürkopp Adler GmbH

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

10.2 Errors in sewing process

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 the 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
Missing stitches	Needle thread and hook thread have not been threaded correctly	Check threading path
	Needle is blunt or bent	Replace the 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 installed 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

11 Technical Data

Noise emission

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

L_{pA} = 79,5 dB (A); K_{pA} = 0,38 dB (A)

- Stitch length: 3,2 mm
- Speed: 4100 rpm
- Sewing material: 2-layer material G1 DIN 23328

11.1 Data and characteristic values

Technical Data	Unit	275-140342-01	275-143243-01	275-740642-01	275-743642-01	275-942342-01
Type of stitches		Double lockstitch 301				
Hook		Horizontal				
Number of needles		1				
Needle system		134, 797, SY195501				
Needle strength	[Nm]	70 - 120				
Thread strength	[Nm]	30				
Stitch length	[mm]	4/4				
Speed maximum	[min^{-1}]	5000				3200
Speed on delivery	[min^{-1}]	4800				2500
Mains voltage	[V]	230				
Mains frequency	[Hz]	50/60				
Operating pressure	[bar]	6				
Length	[mm]	780				
Width	[mm]	370				

Technical Data	Unit	275-140342-01	275-143243-01	275-740642-01	275-743642-01	275-942342-01
Height	[mm]	790				
Weight	[kg]	77				78
Power input	[kVA]	0,5				

11.2 Requirements for trouble-free operation

Compressed air quality must be ensured in accordance with ISO 8573-1: 2010 [7:4:4].

12 Appendix

Wiring diagram

Fig. 52: Wiring diagram

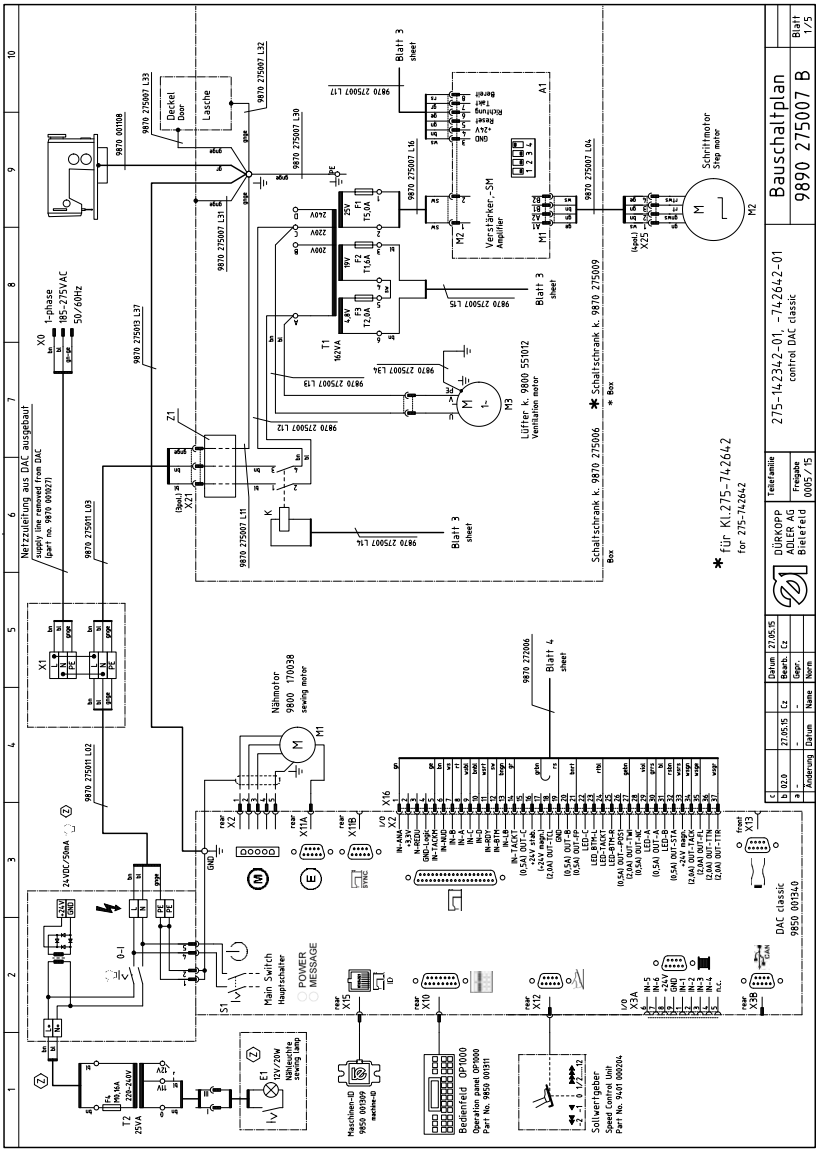


Fig. 53: Wiring diagram

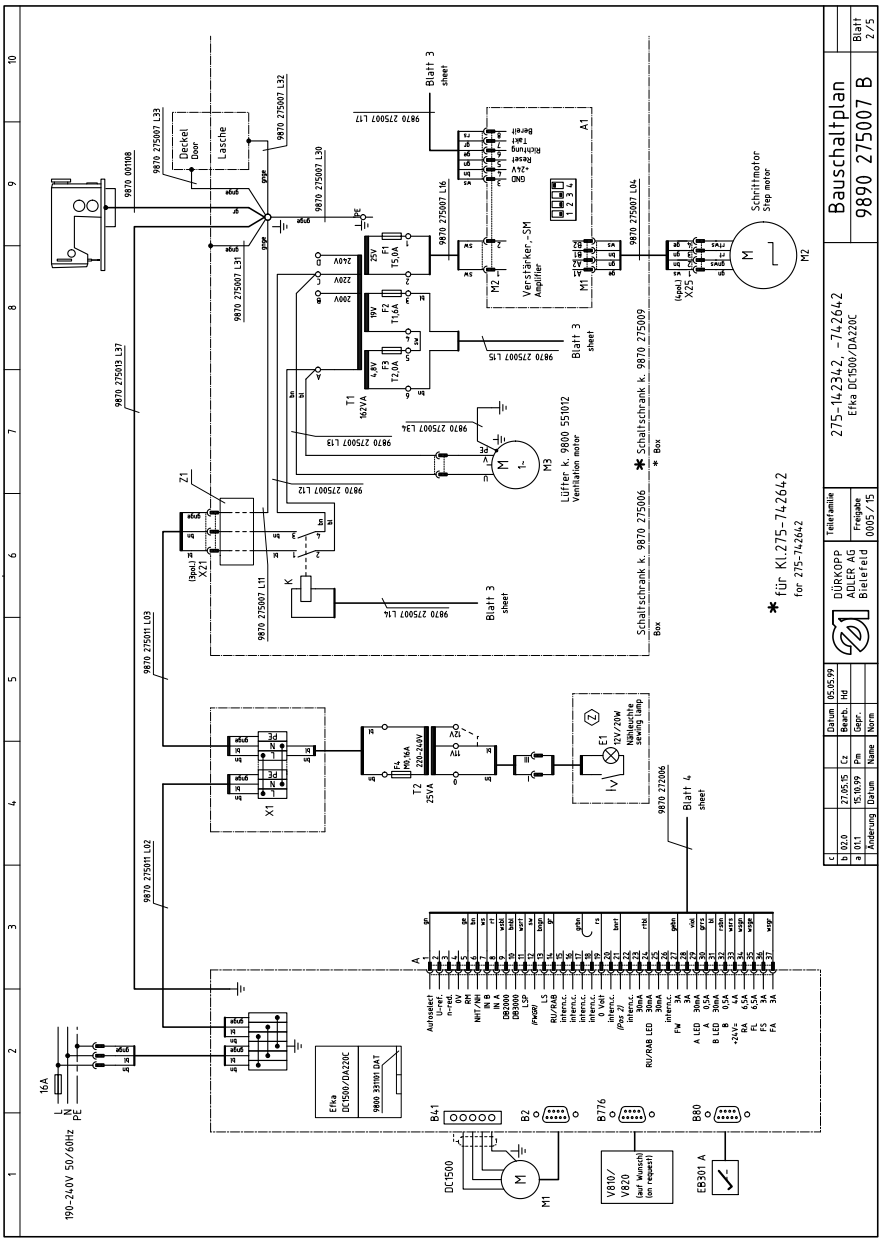


Fig. 54: Wiring diagram

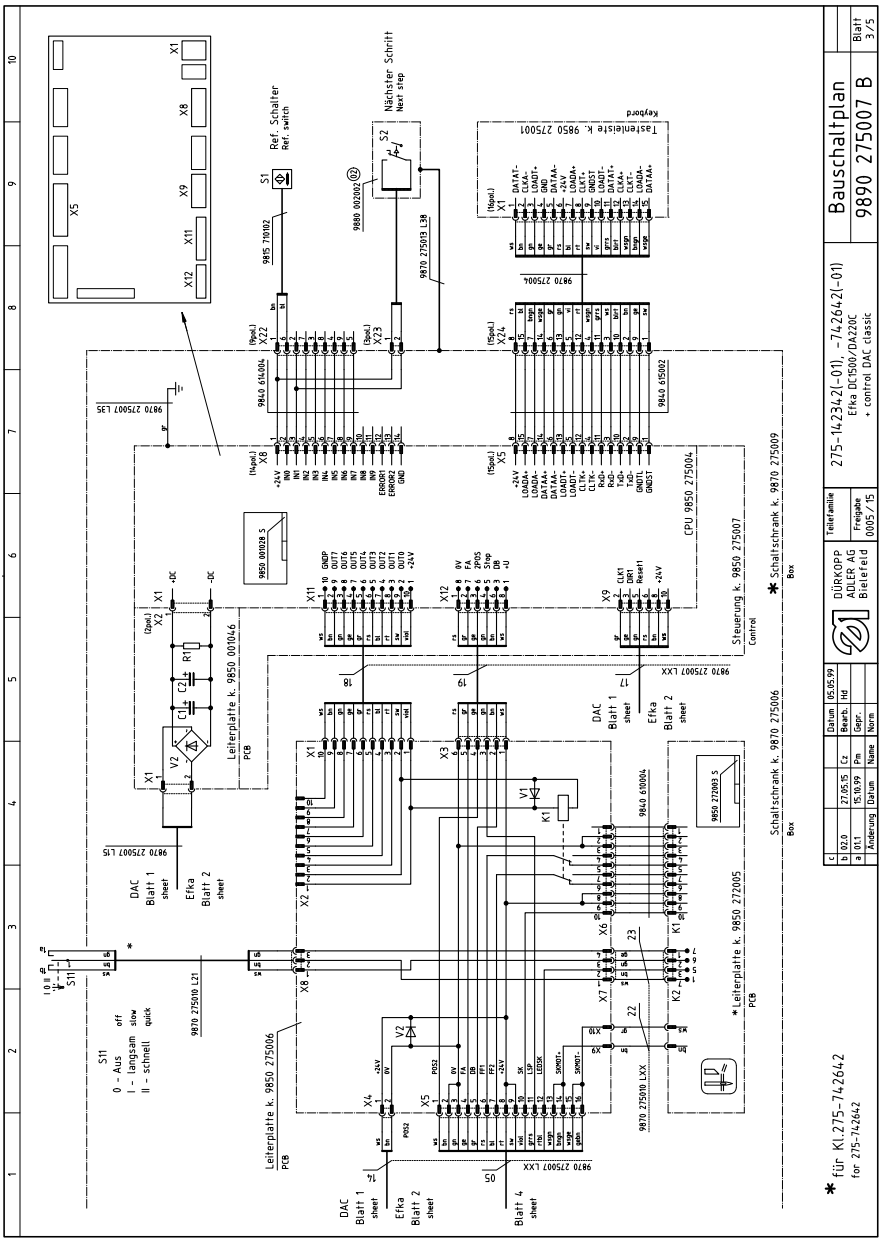


Fig. 55: Wiring diagram

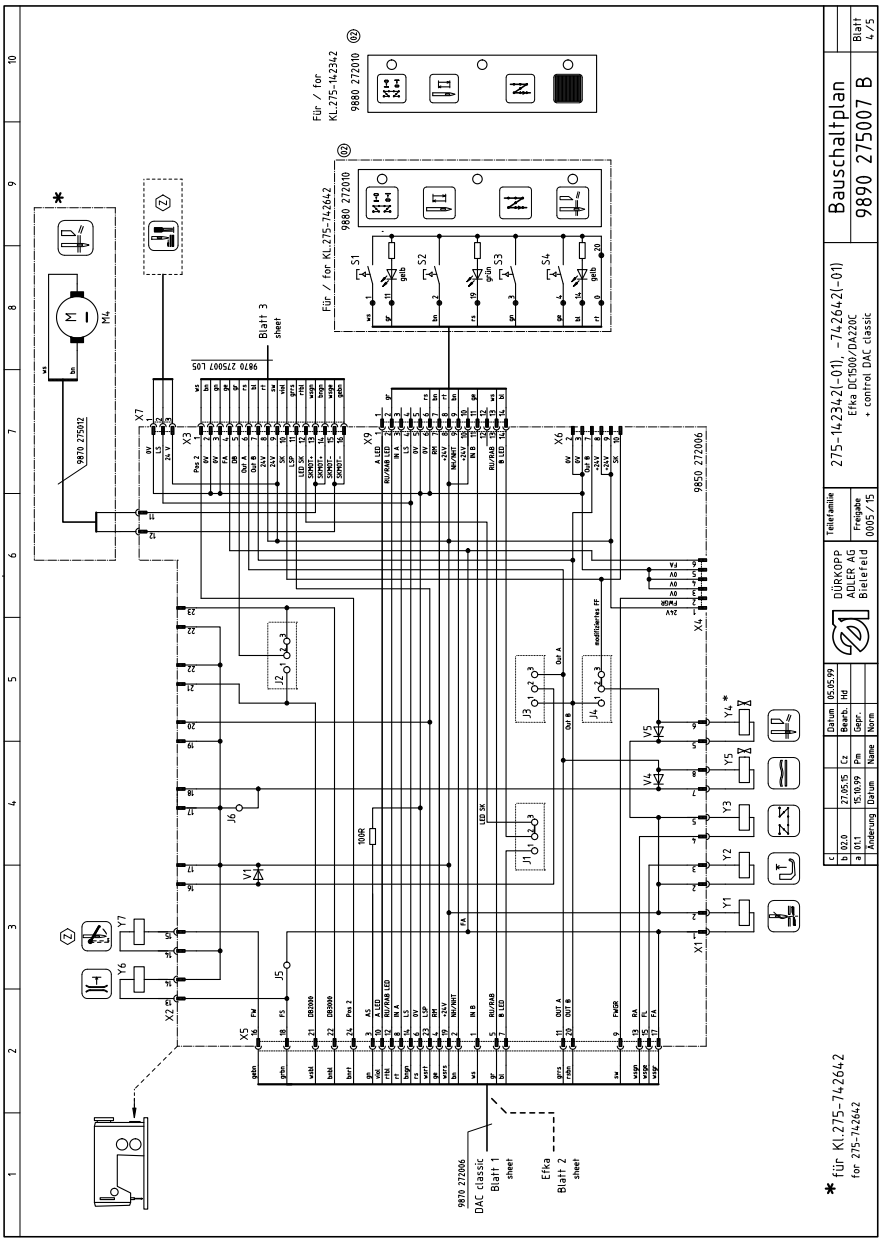
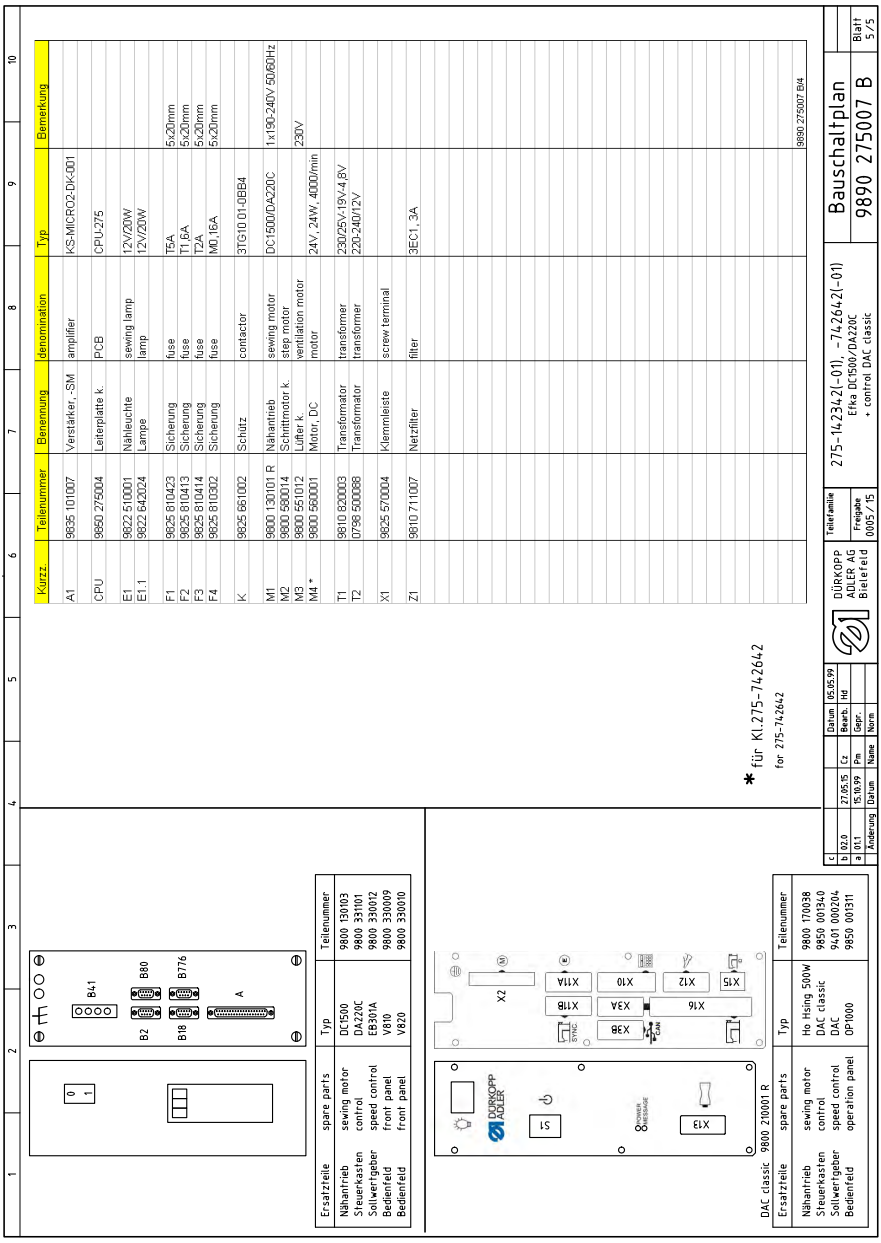


Fig. 56: Wiring diagram



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