

1767

Operating Instructions



IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

All rights reserved.

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

Copyright © Dürkopp Adler GmbH 2020


| | | |
|----------|---|-----------|
| 1 | About these instructions | 5 |
| 1.1 | For whom are these instructions intended? | 5 |
| 1.2 | Representation conventions – symbols and characters | 5 |
| 1.3 | Other documents | 7 |
| 1.4 | Liability | 7 |
| 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..... | 15 |
| 3.3 | Declaration of Conformity | 16 |
| 4 | Operation | 17 |
| 4.1 | Preparing the machine for operation | 17 |
| 4.2 | Switching on and off the machine | 18 |
| 4.3 | Inserting/changing the needle | 19 |
| 4.3.1 | Inserting or changing needles on 1-needle machines | 20 |
| 4.3.2 | Inserting or changing needles on 2-needle machines | 21 |
| 4.4 | Threading the needle thread | 22 |
| 4.4.1 | Needle thread threading on 1-needle machines | 23 |
| 4.4.2 | Needle thread threading on 2-needle machines | 26 |
| 4.5 | Winding the hook thread | 28 |
| 4.5.1 | Threading the hook thread | 28 |
| 4.5.2 | Winding the hook thread | 30 |
| 4.6 | Replacing the hook thread bobbin..... | 31 |
| 4.7 | Thread tension | 32 |
| 4.7.1 | Setting the needle thread tension..... | 33 |
| 4.7.2 | Setting the hook thread tension..... | 35 |
| 4.8 | Setting the needle thread regulator | 36 |
| 4.9 | Sewing feet..... | 37 |
| 4.9.1 | Lifting the sewing feet..... | 37 |
| 4.9.2 | Locking the sewing feet at top dead center..... | 38 |
| 4.9.3 | Setting the sewing foot pressure | 39 |
| 4.9.4 | Setting the sewing foot stroke | 41 |
| 4.10 | Setting the stitch length | 42 |
| 4.11 | Sewing backwards | 43 |
| 4.12 | Quick functions on the push buttons | 44 |
| 4.13 | Sewing..... | 46 |
| 5 | Programming | 49 |
| 5.1 | Control panel OP1000 | 49 |

| | | |
|----------|---|-----------|
| 5.1.1 | Display | 49 |
| 5.1.2 | Buttons | 51 |
| 5.1.3 | Using button groups | 55 |
| 5.2 | Thread button group functions | 56 |
| 5.2.1 | Setting the start bartack | 56 |
| 5.2.2 | Setting the multiple start bartack | 57 |
| 5.2.3 | Using the multiple start bartack as the darning program | 58 |
| 5.2.4 | Setting the end bartack | 59 |
| 5.2.5 | Setting the multiple end bartack | 60 |
| 5.2.6 | Activating the thread cutter | 60 |
| 5.2.7 | Activating the thread clamp | 61 |
| 5.2.8 | Setting the needle position after sewing stop | 61 |
| 5.2.9 | Activating sewing foot lift after thread cutter | 61 |
| 5.2.10 | Activating sewing foot lift after sewing stop | 62 |
| 5.2.11 | Activating soft start | 62 |
| 5.2.12 | Reducing speed | 62 |
| 5.3 | Programming button group functions | 63 |
| 5.3.1 | Setting the bobbin piece counter | 64 |
| 5.3.2 | Activating the bobbin stitch counter | 66 |
| 6 | Maintenance..... | 67 |
| 6.1 | Cleaning | 68 |
| 6.1.1 | Areas requiring special cleaning | 69 |
| 6.1.2 | Cleaning the motor fan mesh | 70 |
| 6.2 | Lubricating..... | 71 |
| 6.2.1 | Check the oil level | 72 |
| 6.2.2 | Lubricating the hook | 73 |
| 6.3 | Servicing the pneumatic system..... | 74 |
| 6.3.1 | Setting the operating pressure | 74 |
| 6.3.2 | Draining the water condensation | 76 |
| 6.3.3 | Cleaning the filter element..... | 77 |
| 6.4 | Parts list..... | 78 |
| 7 | Setup | 79 |
| 7.1 | Checking the scope of delivery | 79 |
| 7.2 | Removing the transport locks | 79 |
| 7.3 | Assembling the stand | 80 |
| 7.4 | Tabletop | 81 |
| 7.4.1 | Completing the tabletop | 81 |
| 7.4.2 | Assembling the tabletop to the stand | 82 |
| 7.5 | Setting the working height | 83 |
| 7.6 | Assembling the pedal and setpoint device | 84 |
| 7.7 | Inserting the machine head | 86 |
| 7.8 | Assembling the control panel | 88 |
| 7.9 | Assembling the oil extraction line | 90 |

| | | |
|-----------|---|------------|
| 7.10 | Electrical connection | 91 |
| 7.10.1 | Assembling the control | 91 |
| 7.10.2 | Connecting the control | 92 |
| 7.10.3 | Connecting the machine head..... | 93 |
| 7.10.4 | Establishing equipotential bonding..... | 93 |
| 7.10.5 | Connecting the sewing lamp (optional) | 94 |
| 7.11 | Pneumatic connection | 96 |
| 7.11.1 | Assembling the compressed air maintenance unit..... | 97 |
| 7.11.2 | Setting the operating pressure | 98 |
| 7.12 | Checking the lubrication | 99 |
| 7.13 | Carrying out 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 |
| 12 | Appendix | 111 |
| 12.1 | Wiring diagram | 111 |
| 12.2 | Table top layout..... | 115 |

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. 17) is important for the operators.
- **Specialists:**
This group has the appropriate technical training for performing maintenance or repairing malfunctions. Specifically, the chapter **Setup** ( p. 79) 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**

Die einzelnen Handlungsschritte sind nummeriert:

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
- 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 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.

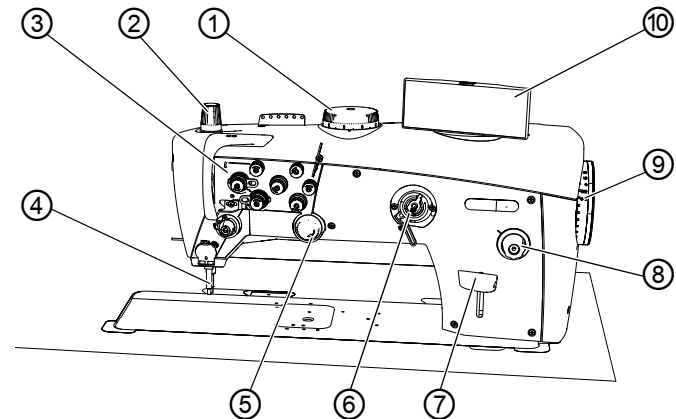
Measures for avoiding the danger.

- ↪ 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) - Adjusting wheel for sewing foot stroke | (6) - Winder |
| (2) - Adjusting wheel for sewing foot pressure | (7) - Stitch adjustment lever |
| (3) - Thread tensions | (8) - Stitch length adjusting wheel |
| (4) - Needle bar | (9) - Handwheel |
| (5) - Electronic handwheel | (10) - Control panel |

3.2 Proper use

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.

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.

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.



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.

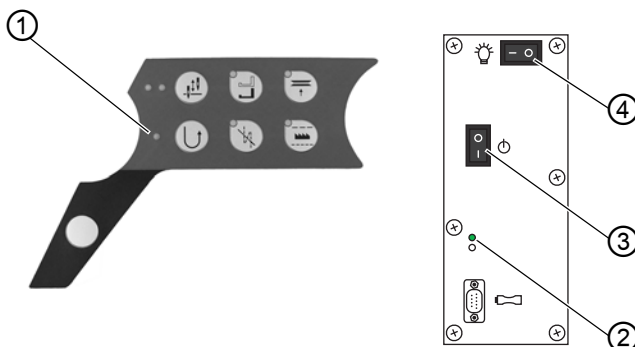
If possible, make preparations only when the machine is switched off.

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) - Indicator lamp on
Push buttons

(2) - Indicator lamp on the
Control

(3) - Main switch

(4) - Switch for the sewing lamp



To switch on the machine:

1. Press the main switch (3) down to position **I**.
- ↳ The indicator lamps (1) and (2) light up.



To switch off the machine:

1. Press the main switch (3) up to position **0**.
- ↳ The indicator lamps (1) and (2) go out.

4.3 Inserting/changing the needle

WARNING



Risk of injury from sharp parts!

Punctures possible.

Switch off the machine before changing the needle.
DO NOT reach into the needle tip.

NOTICE

Property damage may occur!

There is a risk of machine damage, needle breakage or damage to the thread.

Check the distance to the hook tip after inserting a needle with a different thickness.

If necessary, readjust the distance between needle tip and hook tip.



Order

After switching to a different needle thickness, adjust the distance between hook and needle ( *Service Instructions*).



Disturbance if hook distance is incorrect

After inserting a thinner needle:

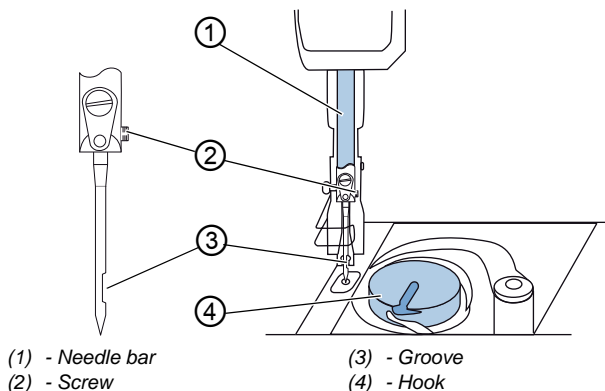
- Missing stitches
- Damage to the thread

After inserting a thicker needle:

- Damage to the hook tip
- Damage to the needle

4.3.1 Inserting or changing needles on 1-needle machines

Fig. 3: Inserting or changing needles on 1-needle machines



To change or insert the needle on 1-needle machines:

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



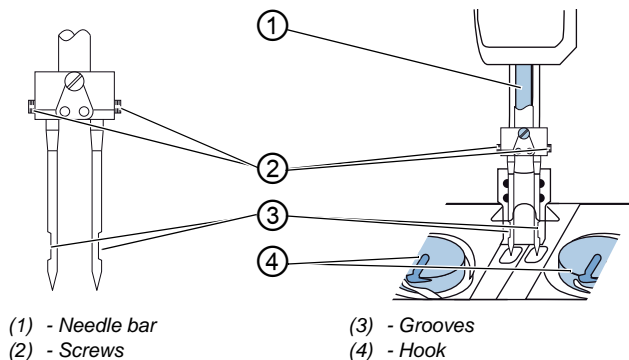
Important

Align the needle in such a way that the groove (3) faces the hook (4).

5. Tighten the screw (2).

4.3.2 Inserting or changing needles on 2-needle machines

Fig. 4: Inserting or changing needles on 2-needle machines



To change or insert the needle on 2-needle machines:

1. Turn the handwheel until the needle bar (1) is at the top dead center.
2. Loosen the screws (2) on both sides.
3. Pull each of the needles out towards the bottom.
4. Insert new needles on both sides.



Important

When inserting the needles, align them such that the grooves (3) face away from each other. Each groove must point to the hook that belongs to this needle.

5. Tighten the screws (2) on both sides.

4.4 Threading the needle thread

WARNING



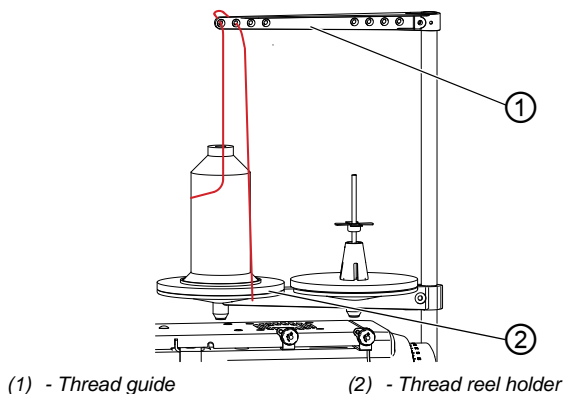
Risk of injury from sharp parts!

Punctures possible.

Switch off the machine before threading the needle thread.

In all machines the thread from the thread reel is fed to the machine via the thread guide.

Fig. 5: Threading the needle thread

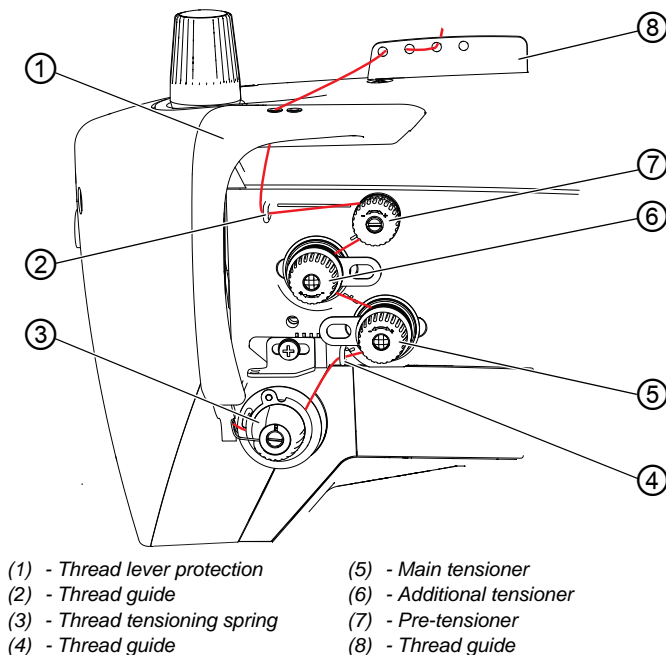


To thread the needle thread:

1. Fit the thread reel on the reel stand (2).
2. Insert the needle thread through the slots of the thread guide (1) as shown above.

4.4.1 Needle thread threading on 1-needle machines

Fig. 6: Needle thread threading on 1-needle machines (1)

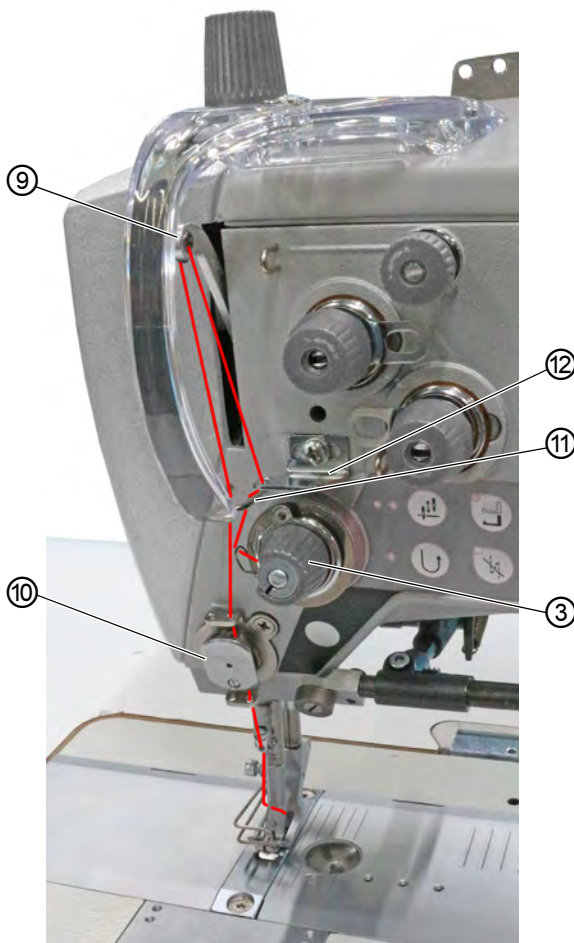


To thread the needle thread in 1-needle machines:

1. Feed the needle thread through the thread guide (8) as shown above.
2. Feed the needle thread from top to bottom through the left hole of the thread lever protection (1).
3. Feed the needle thread from the left to the right through the thread guide (2).
4. Guide the needle thread clockwise around the pre-tensioner (7).
5. Guide the needle thread counterclockwise around the additional tensioner (6).
6. Guide the needle thread clockwise around the main tensioner (5).
7. Feed the needle thread from the right to the left through the thread guide (4).

8. Guide the needle thread clockwise around the thread tensioning spring (3).

Fig. 7: Needle thread threading on 1-needle machines (2)



- | | |
|--|--------------------------------|
| (3) - Thread tensioning spring | (11) - Thread guide |
| (9) - Thread lever | (12) - Needle thread regulator |
| (10) - Thread guide, optional: Thread clamp | |



9. Guide the needle thread under the spring of the thread tensioning spring (3).

10. Guide the needle thread from the bottom through the thread guide (11) and through the needle thread regulator (12).
11. Insert the needle thread from the right to the left through the thread lever (4).
12. Insert the needle thread through thread guide (11).
13. Insert the needle thread through thread guide (10).
14. Insert the thread through the needle eye.

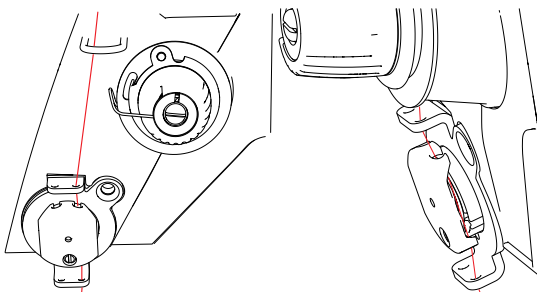
**Important**


Check the thread length.

The thread cutter does not function correctly when the loose thread end is too long.

For machines with a short thread cutter

Fig. 8: Needle thread threading on 1-needle machines (3)



15. Insert the thread through the right hole of the guide above the thread clamp.
16. Insert the thread through the right hole of the guide below the thread clamp.
17. Insert the thread into the thread clamp from the right so that the thread is held in place inside the hook of the clamp.
-  The thread is supposed to run through the clamp almost without touching it and in such a way that it only makes contact with the guides above and below the thread clamp.
18. Insert the thread through the thread guide on the needle bar (13).
19. Insert the thread through the needle eye (14) in such a way that the loose thread end faces the hook.

20. Pull the thread through the needle eye (14) until the loose thread end has a length of approx. 4 cm with the thread lever (16) at the highest position.



Important

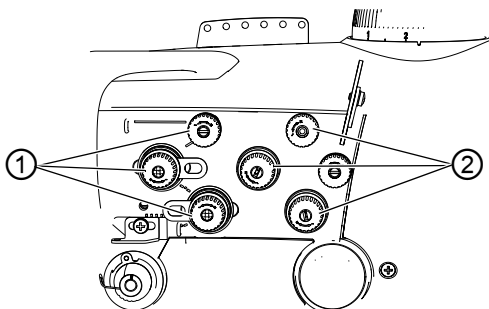
Check the thread length.

The short thread cutter does not function correctly when the loose thread end is too long.

4.4.2 Needle thread threading on 2-needle machines

2-needle machines are equipped with a 2nd tensioning screw triangle for the 2nd needle thread. The threading procedure corresponds to that for the 1st needle thread (📖 p. 23).

Fig. 9: Needle thread threading on 2-needle machines



(1) - Tensioning screw triangle for the 1st needle thread

(2) - Tensioning screw triangle for the 2nd needle thread



To thread the needle thread in 2-needle machines:

1. First, guide the left-hand needle thread through the left-hand guide holes and around the left-hand tensioning screw triangle (1).
2. Guide the right-hand needle thread through the right-hand guide holes and around the right-hand tensioning screw triangle (2).



Important

Guide the threads through the guides and around the tensioning screws in such a way that the threads do not intersect.

**Important**

Check the thread length.

The thread cutter does not function correctly when the loose thread end is too long.

For machines with a short thread cutter

3. Insert the left-hand needle thread through the left-hand guide holes above and below the thread clamp.
4. Insert the right-hand needle thread through the right-hand guide holes above and below the thread clamp.
5. Insert the threads into the thread clamp from the left / right so that the threads are held in place inside the respective hook of the clamp (see figure Page 25).

**Important**

Check the thread length.

The short thread cutter does not function correctly when the loose thread end is too long.

4.5 Winding the hook thread

4.5.1 Threading the hook thread

WARNING

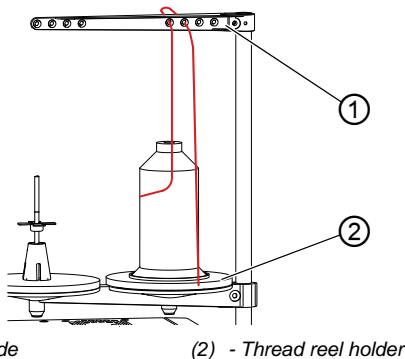


Risk of injury from sharp parts!

Punctures possible.

Switch off the machine before threading the thread.

Fig. 10: Threading the hook thread (1)



(1) - Thread guide

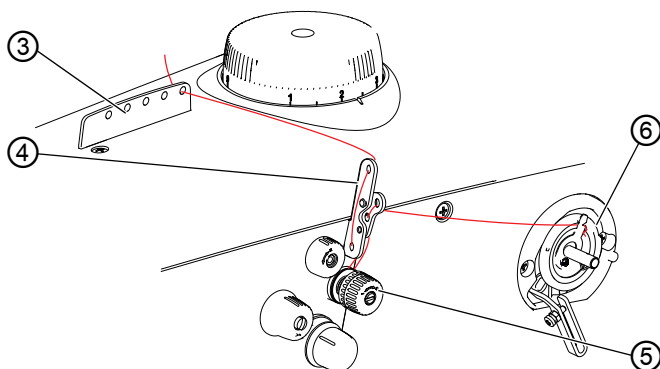
(2) - Thread reel holder



To wind the hook thread:

1. Fit the thread reel on the reel stand (2).
2. Thread the hook thread through the slots of the thread guide (1) as shown above.

Fig. 11: Threading the hook thread (2)



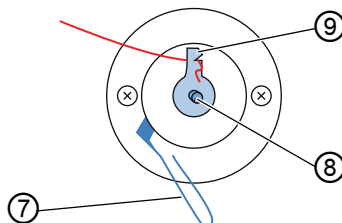
(3) - Thread guide
(4) - Thread guide

(5) - Pre-tensioner
(6) - Winder



3. Insert the thread through the guide (1).
4. Feed the thread from top to bottom through the larger guide rail of the thread guide (2).
5. Guide the thread counterclockwise around the pre-tensioner (3).
6. Feed the thread from bottom to top through the smaller guide rail of the thread guide (2).
7. Guide the thread to the bobbin (4).

Fig. 12: Threading the hook thread (3)



(7) - Bobbin lever
(8) - Bobbin shaft

(9) - Cutter



8. Clamp the thread behind the cutter (9) and tear off the loose end behind it.
9. Fit the bobbin on the bobbin shaft (8).
10. Turn the bobbin clockwise until it clicks.
11. Pull the bobbin lever (7) up.

4.5.2 Winding the hook thread

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.

NOTICE


Property damage may occur!

Damage to the sewing feet or throat plate possible if the thread is wound on without sewing material.

Lock the sewing feet in place at the highest position and set the sewing foot stroke to the smallest value if you wind on hook thread without sewing material.



To wind the hook thread:

1. Switch on the machine.
2. Press the pedal forwards.
- ↳ The machine sews and winds the hook thread from the thread reel onto the bobbin.
When the bobbin is full, the machine automatically stops winding. The bobbin lever moves down.
The cutter is automatically moved into its basic vertical position.
3. Pull off the full bobbin.
4. Tear off the thread behind the cutter.
5. Insert the full bobbin into the hook ( p. 31).
6. Repeat the winding procedure with an empty bobbin, as described above.

4.6 Replacing the hook thread bobbin

WARNING

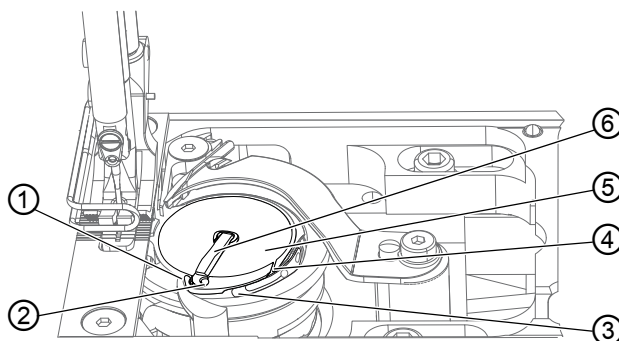


Risk of injury from sharp parts!

Punctures possible.

Switch off the machine before replacing the hook thread bobbin.

Fig. 13: Replacing the hook thread bobbin (1)



(1) - Slot

(2) - Guide

(3) - Tensioning spring

(4) - Slot

(5) - Bobbin

(6) - Bobbin case retainer



To change the hook thread bobbin:

1. Push up the bobbin case retainer (6).
2. Remove the empty bobbin.
3. Insert a full bobbin.



Important

Insert the bobbin so that it moves in the opposite direction of the hook when the thread is pulled out.

4. Feed the hook thread through the slot (4) in the bobbin case.
5. Pull the hook thread under the tensioning spring (3).
6. Feed the hook thread through the slot (1) and pull it approx. 3 cm further.
7. Close the bobbin case retainer (6).

4.7 Thread tension

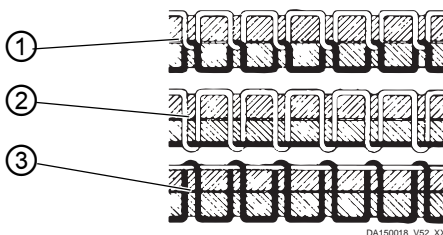
Together with the hook thread tension, the needle thread tension influences the final seam pattern. With thin sewing material, excessive thread tension can lead to undesired gathering and thread breakage.



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. 14: Thread tension



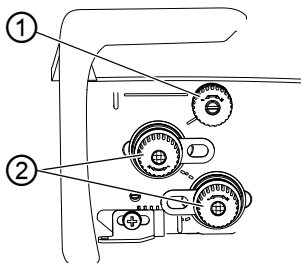
- (1) - Identical needle thread and hook thread tension
- (2) - Hook thread tension higher than needle thread tension
- (3) - Needle thread tension higher than hook thread tension

4.7.1 Setting the needle thread tension

The 3 adjusting wheels on the tensioning screw triangle determine the needle tension.

In the basic position, the top of the adjusting wheel is flush with the screw in the center.

Fig. 15: Setting the needle thread tension



(1) - Pre-tensioner

(2) - Main tensioner

Main tensioner



Proper setting

The main tensioner (2) determines the normal tension during sewing.

Set the main tension as low as possible.



Fault due to excessively high needle tension

- Ruffling on the seam
- Thread breaking



To set the main tensioner:

1. Turn the adjusting wheels (2).
 - Increase the needle thread tension: Turn the adjusting wheels (2) clockwise
 - Reduce the needle thread tension: Turn the adjusting wheels (2) counterclockwise

Pre-tensioner

The pre-tensioner (1) holds the thread in position if main tensioner (3) and additional tensioner (2) are open completely.

The pre-tensioner (1) also determines the length of the initial thread for the new seam.



To set the pre-tensioner:

1. Turn the adjusting wheel (1).
 - Short initial thread: Turn the adjusting wheel (1) clockwise
 - Longer initial thread: Turn the adjusting wheel (1) counter-clockwise

4.7.2 Setting the hook thread tension

WARNING

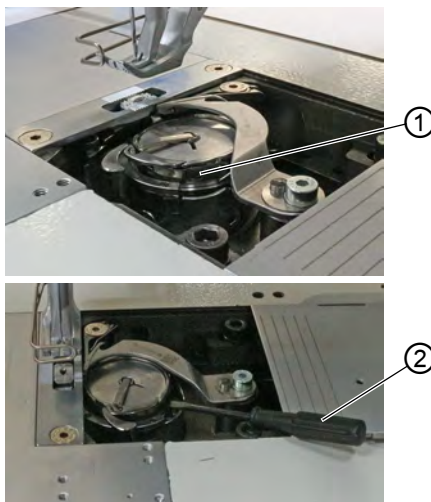


Risk of injury from sharp parts!

Punctures possible.

Switch off the machine before you set the hook thread tension.

Fig. 16: Setting the hook thread tension



(1) - Adjusting screw

(2) - Screwdriver



To set the hook thread tension:

1. Turn the adjusting screw (1) using a screwdriver (part number 9081 500000).
 - Increase the hook thread tension: Turn the adjusting screw (1) clockwise
 - Reduce the hook thread tension: Turn the adjusting screw (1) counterclockwise

4.8 Setting the needle thread regulator

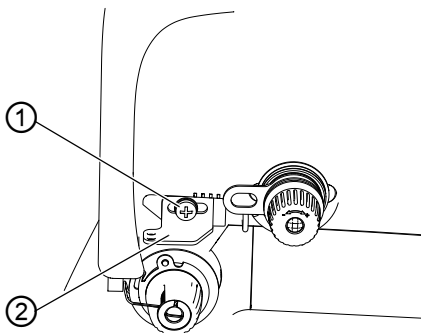
The needle thread regulator determines the tension applied to guide the needle thread around the hook.



Proper setting

The loop of the needle thread slides at low tension over the thickest point of the hook.

Fig. 17: Setting the needle thread regulator



(1) - Screw

(2) - Needle thread regulator



To set the needle thread regulator:

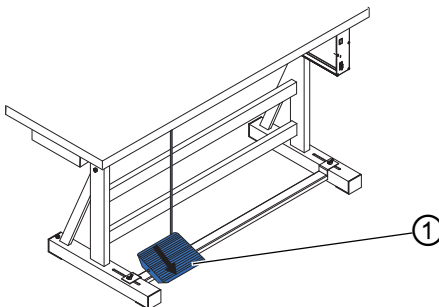
1. Loosen the screw (1).
2. Move the needle thread regulator (2).
 - Increase the needle thread tension: Slide the needle thread regulator (2) to the right
 - Reduce the needle thread tension: Slide the needle thread regulator (2) to the left
3. Tighten the screw (1).

4.9 Sewing feet

4.9.1 Lifting the sewing feet

The sewing feet are lifted electro-pneumatically using the pedal.

Fig. 18: Lifting the sewing feet



(1) - Pedal



To lift the sewing feet:

1. Press the pedal (1) halfway back.
✎ The machine stops and lifts the sewing feet.
The sewing feet remain up as long as the pedal (1) is pressed halfway back.

OR

1. Press the pedal (1) fully back.
✎ The thread cutter is activated, and the sewing feet are raised.

4.9.2 Locking the sewing feet at top dead center

CAUTION



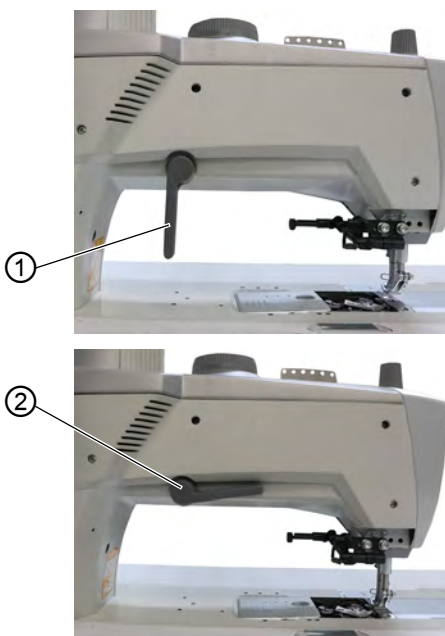
Risk of injury from moving parts!

Crushing possible.

Do NOT put your hands underneath the sewing feet when the lock is being canceled.

There is a lever at the back of the machine for holding the sewing feet at top dead center.

Fig. 19: Locking the sewing feet at top dead center



(1) - Sewing feet at top dead center

(2) - Top dead center removed



To lock the sewing feet at top dead center:

1. Push the lever on the rear of the machine up or down.
 - Locking the sewing feet at top dead center: Push the lever down (1)
 - Canceling the lock of the sewing feet: Push the lever up (2)



You can also use the pedal to cancel the upper position:

1. Press the pedal halfway back.
 - ✎ The lever swivels back up, and the lock is canceled.

4.9.3 Setting the sewing foot pressure

The adjusting wheel at the top left of the machine arm determines the contact pressure the sewing foot exerts on the sewing material. The pressure can be adjusted continuously by turning the adjusting wheel.

The correct pressure depends on the sewing material:

- Lower pressure for soft materials, e.g. cloth
- Higher pressure for hard materials, e.g. leather



Proper setting

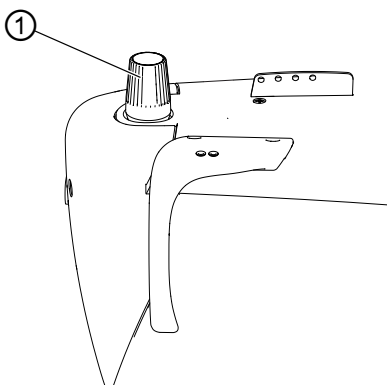
The sewing material does not slip and is correctly transported.



Disturbance from incorrectly set sewing foot pressure

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

Fig. 20: Setting the sewing foot pressure



(1) - *Adjusting wheel for the sewing foot pressure*



To set the sewing foot pressure:

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

4.9.4 Setting the sewing foot stroke

Limiting number of stitches with an increased sewing foot stroke



Information

The machine has a potentiometer on the arm shaft. The potentiometer automatically adapts the number of stitches to the sewing foot stroke: If you increase the sewing foot stroke, the number of stitches is automatically reduced.

NOTICE

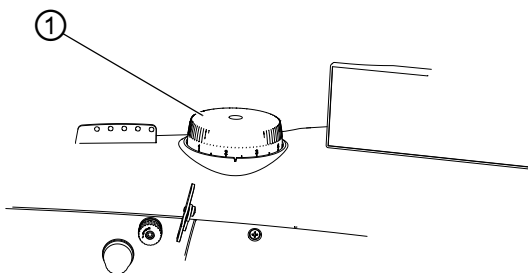
Property damage may occur!

Damage to the machine through an excessively high number of stitches with an increased sewing foot stroke.

Ensure that the number of stitches specified in the appendix tables for the respective combination of stitch length and sewing foot stroke is not exceeded.

Do not change the setting of the potentiometer.

Fig. 21: Setting the height of the sewing foot stroke



(1) - Sewing foot stroke adjusting wheel



To set the height of the sewing foot stroke::

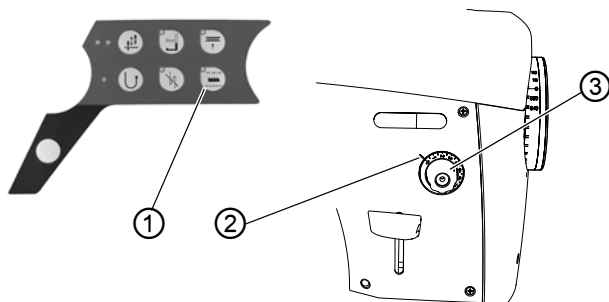
1. Turn the adjusting wheel (1).
 - To increase the sewing foot stroke: Turn the adjusting wheel (1) clockwise
 - To reduce the sewing foot stroke: Turn the adjusting wheel (1) counterclockwise

4.10 Setting the stitch length

Depending on the equipment, the machine has 1 or 2 adjusting wheels for stitch length.

The stitch length can be adjusted continuously between 0 and 9 mm.

Fig. 22: Setting the stitch length



(1) - Button for the stitch length on the Push buttons

(2) - Adjusting mark for indicating the stitch length selected

(3) - Adjusting wheel for the stitch length



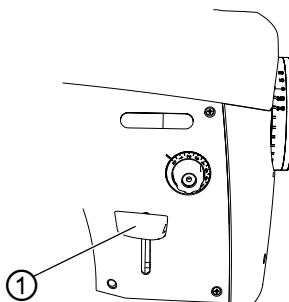
To set the stitch length:

1. Turn the adjusting wheel (3).
 - To increase stitch length: Turn the adjusting wheel counterclockwise
 - To reduce stitch length: Turn the adjusting wheel clockwise

4.11 Sewing backwards

The stitch adjustment lever on the machine arm reduces the stitch length down to sewing backwards in the lower end position.

Fig. 23: Sewing backwards



(1) - Stitch adjustment lever



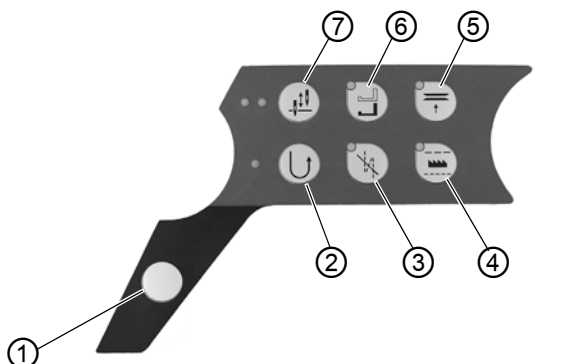
To sew backwards:

1. Slowly push the stitch adjustment lever (1) down.
↳ The stitch length becomes smaller.
When at bottom dead center, the machine sews in reverse with the stitch length currently set at the adjusting wheels.

4.12 Quick functions on the push buttons

Depending on the subclass, the machine has push buttons on the machine arm for activating specific functions while sewing.

Fig. 24: Quick functions on the push buttons



(1) - Favorite button

Buttons for:

(2) - Sewing backwards

(3) - Start bartack and end bartack

(4) - 2nd stitch length (optional)

(5) - 2nd needle thread tension
(optional)

(6) - Increased sewing foot stroke
(optional)

(7) - Needle position



To activate the function buttons:

1. Press the desired button.

✚ The function is activated.
The LED next to the button lights up.

2. Press the button again.

✚ The function is deactivated.
The LED next to the button is no longer lit.

Button for reverse sewing (2):


When this button (2) is activated, the machine sews in reverse.

Button for start and end bartacks (3):


This button (3) cancels the general setting for sewing start and end bartacks.

If bartacks are on, pressing the button (3) skips the next bartack.


If bartacks are off, pressing the button (3) sews the next bartack.

For the general setting for sewing start and end bartacks, see chapter **Programming** ( p. 49).


Button for the 2nd stitch length (4, optional):

If the button is activated, the machine sews with the greater stitch length. To set the stitch length, see chapter **Setting the stitch length** ( p. 42).


Button for the 2nd needle thread tension (5, optional):

If the button is activated, the machine sews with the 2nd needle thread tension. To set the needle thread tension, see chapter **Setting the needle thread tension** ( p. 33).

Button for an increased sewing foot stroke (6, optional):

If the button is activated, the machine sews with an increased sewing foot stroke. To set the sewing foot stroke, see chapter **Setting the sewing foot stroke** ( p. 41).

Button for the needle position (7):

When this button (4) is activated, the needle moves to a specific position. This position is determined individually via the parameter settings. For more information, refer to the  *Service Instructions*. The machine comes configured so that selecting the button (4) will bring the needle up.

4.13 Sewing

WARNING



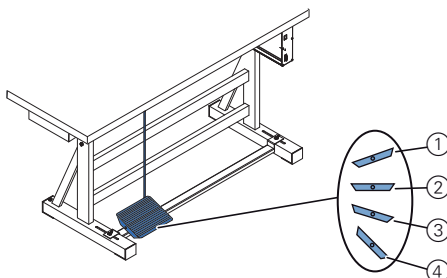
Risk of injury from sharp parts!

Punctures possible.

Take care not to accidentally press the pedal.
Do NOT reach into the needle tip area.

The pedal starts and controls the sewing process.

Fig. 25: Sewing



- (1) - Pedal position +1: Sewing active
(2) - Pedal position 0: Rest position

- (3) - Pedal position -1:
Lifting the sewing feet
(4) - Pedal position -2: Sew end
bartack and cut off thread

Initial position:


- Pedal position 0:
- ✎ Machine stationary, needles up, sewing feet down.




To position the sewing material:

1. Press the pedal halfway back in pedal position -1.
- ✎ The sewing feet are lifted.
2. Push the sewing material into the initial position.


**Sewing:**

1. Press the pedal forwards in pedal position +1.
 The machine sews.
The sewing speed increases the further forward the pedal is pressed.



**To interrupt sewing:**

1. Release the pedal in pedal position 0:
 The machine stops, needles and sewing feet are down.


**To continue sewing:**

1. Press the pedal forwards in pedal position +1:
 The machine continues to sew.

**To sew intermediate bartacks:**

1. Sew backwards with the stitch adjustment lever ( p. 42)
or with the quick function button ( p. 44).

**To finish a seam:**

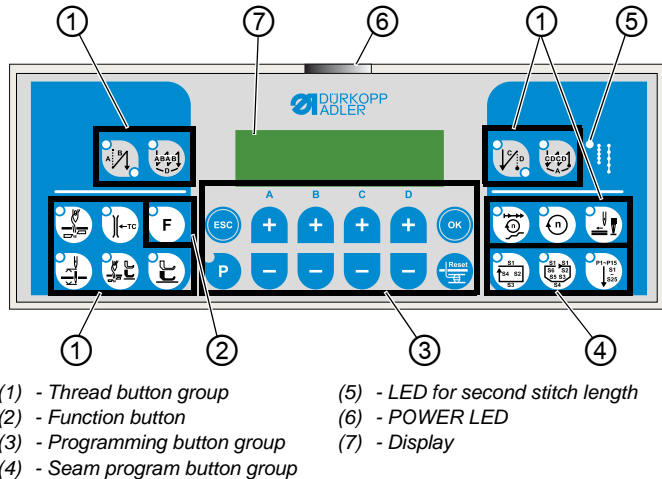
1. Press the pedal back completely in pedal position -2.
 The machine sews the end bartack, and the thread cutter cuts the thread.
The machine stops, needles and sewing feet are up.
2. Remove the sewing material.

5 Programming

All settings in the software are performed using the OP1000 control panel.

5.1 Control panel OP1000

Fig. 26: Control panel OP1000 (1)



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

5.1.1 Display

The display of the control panel is divided into:


- User levels
- Categories
- Parameters ( *Parameter list*)

Fig. 27: Display



- | | |
|------------------|-----------------|
| (A) - User level | (D) - Parameter |
| (B) - Category | |

The user level (A) includes

- o (user)
- t (technician)

The categories include the following enhanced machine functions:

- Production control (such as the stitch counter)
- Needle cooling
- Light barrier















Parameters are represented by a number from 00-99.













5.1.2 Buttons








The buttons of the control panel are divided into the following groups:









- Thread
- Programming
- Seam program

Buttons and functions of the OP1000

| No. | Button | Function | Reference |
|-----|---|--|---|
| ① | Thread button group | | |
| |  Start bartack | <ul style="list-style-type: none"> • Sets the start bartack |  p. 56 |
| |  Multiple start bartack | <ul style="list-style-type: none"> • Sets the multiple start bartack |  p. 57 |
| |  End bartack | <ul style="list-style-type: none"> • Sets the end bartack |  p. 59 |
| |  Multiple end bartack | <ul style="list-style-type: none"> • Sets the multiple end bartack |  p. 60 |
| |  Thread cutter | <ul style="list-style-type: none"> • Activates or deactivates the thread cutter |  p. 60 |
| |  Thread clamp | <ul style="list-style-type: none"> • Activates or deactivates the thread clamp |  p. 61 |
| |  Needle position after sewing stop | <ul style="list-style-type: none"> • Sets the needle position after sewing stop |  p. 61 |

| No. | Button | Function | Reference |
|-----|--|--|---|
| |  Sewing foot lift after thread cutter | <ul style="list-style-type: none"> Activates or deactivates the sewing foot lift after thread cutter |  p. 61 |
| |  Sewing foot lift after sewing stop | <ul style="list-style-type: none"> Activates or deactivates the sewing foot lift after sewing stop |  p. 62 |
| |  Soft start | <ul style="list-style-type: none"> Activates or deactivates the soft start |  p. 62 |
| |  Speed | <ul style="list-style-type: none"> Reduces the motor speed |  p. 62 |
| ② |  Function button | <ul style="list-style-type: none"> Activates or deactivates any stored function | |
| ③ | Programming button group | | |
| |  ESC | <ul style="list-style-type: none"> Ends parameter mode | |
| |  A+ | <ul style="list-style-type: none"> Increases parameter Changes user level Selects subprogram | |
| |  B+ | <ul style="list-style-type: none"> Increases parameter Changes to next higher category Selects subprogram | |

| No. | Button | Function | Reference |
|-----|--|---|-----------|
| |  C+ | <ul style="list-style-type: none"> Increases parameter Selects subprogram | |
| |  D+ | <ul style="list-style-type: none"> Increases parameter Selects subprogram | |
| |  OK | <ul style="list-style-type: none"> Calls parameter or saves it | |
| |  P | <ul style="list-style-type: none"> Starts or ends the parameter mode | |
| |  A- | <ul style="list-style-type: none"> Decreases parameter Changes user level Selects subprogram | |
| |  B- | <ul style="list-style-type: none"> Decreases parameter Changes to next lower category Selects subprogram | |
| |  C- | <ul style="list-style-type: none"> Decreases parameter Selects subprogram | |

| No. | Button | Function | Reference |
|-----|--|---|---|
| |  D- | <ul style="list-style-type: none"> Decreases parameter Selects subprogram | |
| |  Reset | <ul style="list-style-type: none"> Resets the (piece) counter | |
| ④ | Seam program button group | | |
| |  Seam program I | <ul style="list-style-type: none"> Activates seam program I |  <i>Instructions for use DAC basic/classic</i> |
| |  Seam program II | <ul style="list-style-type: none"> Activates seam program II |  <i>Instructions for use DAC basic/classic</i> |
| |  Seam program III | <ul style="list-style-type: none"> Sets seam program III |  <i>Instructions for use DAC basic/classic</i> |

5.1.3 Using button groups

Use the button groups to select machine functions, such as start bartack. The following options are available:

Button groups and use

| Button group | Use |
|--------------|--|
| Thread | For sewing only: <ul style="list-style-type: none">• Activate machine functions• Set simple machine functions |
| Programming | For the entire sewing process: <ul style="list-style-type: none">• Set advanced machine functions |
| Seam program | <ul style="list-style-type: none">• Process complex seams |



To select a machine function:

1. press the corresponding button on the control panel.

☞ You will recognize which machine function has been activated by the LED in the respective button.

When the LED illuminates you can sew. Changes are only possible outside of a seam.

5.2 Thread button group functions

Using the *Thread* button group you can set or activate:

- Start bartack
- Multiple start bartack
- End bartack
- Multiple end bartack
- Thread cutter
- Thread clamp
- Needle position after sewing stop
- Sewing foot lift after thread cutter
- Sewing foot lift after sewing stop
- Soft start
- Speed

5.2.1 Setting the start bartack

The start bartack secures the seam at the seam beginning. If a seam consists of backward stitches only, one speaks of single bartacks. A seam of forward and backward stitches is called a double bartack.

Single bartack

To set the single bartack:



1.  Press.

↳ The LED at the lower right illuminates.

2. Press the *B+* button from the *Programming* button group repeatedly until the required number of backward stitches is reached.



You can begin sewing; press the pedal forward to pedal position +1.

Double bartack

To set the double bartack:



1.  Press twice.

 Both LEDs illuminate.

2. Press the **A+** button from the *Programming* button group repeatedly until the required number of forward stitches is reached.
3. Press the **B+** button repeatedly until the required number of backward stitches is reached.



You can begin sewing; press the pedal forward to pedal position +1.

To deactivate the start bartack press .



5.2.2 Setting the multiple start bartack

Use the multiple start bartack to set the number of stitches as well as the number of repetitions (sections with forward and backward stitches).


To set the multiple start bartack:



1.  Press.

 The LED flashes. If it illuminates, the multiple start bartack has been activated as the darning program and has to be deactivated ( p. 58).

2. Press the **A+** button from the *Programming* button group repeatedly until the required number of forward stitches is reached.
3. Press the **B+** button repeatedly until the required number of backward stitches is reached.
4. Press the **D+** button repeatedly until the required number of repetitions is reached.

5. Confirm your selection with .

5.2.3 Using the multiple start bartack as the darning program




Information

The darning program is only supported by certain classes.



Order



If you want to use the multiple start bartack as the darning program, it has to be released in advance by qualified specialists ( *Service Instructions*).

The darning program offers the following functions:

- The thread is cut at the end of the program.

To set the darning program:



1. Check whether the thread cutter  has been activated ( *p. 60*).

2.  Press.


 The LED illuminates.

3. Press the *A+* button from the *Programming* button group repeatedly until the required number of forward stitches is reached.
4. Press the *B+* button repeatedly until the required number of backward stitches is reached.
5. Press the *C+* button to set the start of path 1.
6. Press the *D+* button repeatedly until the required number of repetitions is reached.



Important

If the number of repetitions = 0, the program will continue working until stopped by the pedal.

7. Confirm your selection with  .

5.2.4 Setting the end bartack

The end bartack secures the seam at the seam end. If a seam consists of backward stitches only, one speaks of single bartacks. A seam of forward and backward stitches is called a double bartack.

Single bartack

To set the single bartack:



1.  Press.

↳ The upper left LED illuminates.

2. Press the **C+** button from the *Programming* button group repeatedly until the required number of forward stitches is reached.



You can begin sewing; press the pedal forward to pedal position +1. At the end of the seam, press the pedal back to pedal position -2.

Double bartack

To set the double bartack:



1.  Press twice.

↳ Both LEDs illuminate.

2. Press the **C+** button from the *Programming* button group repeatedly until the required number of forward stitches is reached.
3. Press the **D+** button repeatedly until the required number of backward stitches is reached.



You can begin sewing; press the pedal forward to pedal position +1. At the end of the seam, press the pedal back to pedal position -2.

To deactivate the end bartack press



5.2.5 Setting the multiple end bartack

Use the multiple end bartack to set the number of stitches as well as the number of repetitions.


To set the multiple end bartack:



1.  Press.

 The LED flashes.

2. Press the *C+* button from the *Programming* button group repeatedly until the required number of forward stitches is reached.
3. Press the *D+* button repeatedly until the required number of backward stitches is reached.
4. Press the *A+* button repeatedly until the required number of repetitions is reached.

5. Confirm your selection with  .



You can begin sewing; press the pedal forward to pedal position +1. At the end of the seam, press the pedal back to pedal position -2.

5.2.6 Activating the thread cutter

The thread cutter automatically cuts the thread at the seam end.

To activate the thread cutter:



1.  Press.

 The LED illuminates.

5.2.7 Activating the thread clamp

The thread clamp holds the thread firmly to pull it down and loop it while sewing on.

To activate the thread clamp:



1.  Press.

☞ The LED illuminates.

5.2.8 Setting the needle position after sewing stop

You can determine where the needle is positioned after a sewing stop.

There are two options:

- Top dead center (needle position 2)
- Bottom dead center (needle position 1)

To activate the top dead center after a sewing stop:



1.  Press.

☞ The LED illuminates; i.e., the needle is raised after a sewing stop.

If the needle is to be in the bottom dead center after a sewing stop,

press  again.

5.2.9 Activating sewing foot lift after thread cutter

The sewing foot lift after thread cutter lifts the sewing foot after the thread is cut.

To activate the sewing foot lift after thread cutter:



1.  Press.

☞ The LED illuminates.

5.2.10 Activating sewing foot lift after sewing stop

The sewing foot lift after sewing stop lifts the sewing foot after a sewing stop.

To activate the sewing foot lift:



1.  Press.

☞ The LED illuminates.

5.2.11 Activating soft start

Soft start refers to starting the machine at a slower speed. The function prevents the motor from overheating during long work processes. After a certain stitch count, the machine runs at the set speed.

To activate the soft start:



1.  Press.

☞ The LED illuminates.

5.2.12 Reducing speed

The reduced speed protects the motor with an ongoing lower speed. Reduced speed is set at the factory as the default.

To activate the reduced speed:




1.  Press.


☞ The LED illuminates.

To adjust the speed:



1.  Press.
2. Press the **C+** button from the *Programming* button group.

☞ The reduced speed increases by one-hundredth.

3. Press the $D+$ button.
-  The reduced speed increased by one-tenth.

You can also reduce the speed:






1. Press the $C-$ button for one-on-hundredth and $D-$ for one-tenth.

5.3 Programming button group functions

Using the *Programming* button group you can set:


- Bobbin stitch counter
- Remaining thread monitor (if present)
- Piece counter
- Needle cooling (if present)
- Light barrier (if present)

Buttons and use

| Button | Use |
|---|--|
|  | <ul style="list-style-type: none"> • Start parameter mode |
|  | <ul style="list-style-type: none"> • Select or save parameters |
|  | <ul style="list-style-type: none"> • Exit parameter mode and do not save parameters |
| Plus button | <ul style="list-style-type: none"> • Increase parameter |
| Minus button | <ul style="list-style-type: none"> • Decrease parameter |



Important

If you press  you can no longer sew.

5.3.1 Setting the bobbin piece counter

The bobbin piece counter outputs a message when the entered number of stitches is reached. The number of stitches should approximately determine when the hook thread is depleted. Thus you avoid having to repeat work processes.

The bobbin stitch counter must be set for every thread type. The value to be set (i.e. 8000) is the product of the default value (reset value) and the number of stitches (factor):

$$400 \times 20 = 8000$$

Example for setting the bobbin stitch counter



1.  Press.

↪ Parameter mode is started. The following appears on the display:



2. Press the *D+* button from the *Programming* button group.

↪ The following appears on the display:




Use parameter *01* to set the reset value for bobbin stitch counter A.

3.  Press.

↵ The LED of the  button flashes.

4. Use the *D-* or *D+* button to set the reset value to 400.

5. Confirm your selection with .

6. Press the *D+* button repeatedly until 04 appears on the display:





Use parameter 04 to set the factor.

7.  Press.

↵ The LED of the  button flashes.

8. Use the *D-* or *D+* button to set the factor to 20.


9. Confirm your selection with .

10. Exit parameter mode with .

↵ The bobbin stitch counter is at 8000.

In addition to A, there are 2 other bobbin stitch counters.

Use parameter 02 and 03, respectively, to set the reset value for bobbin stitch counter B and C.

Reset the bobbin stitch counter with the  button.

5.3.2 Activating the bobbin stitch counter

To activate the bobbin stitch counter:



1.  Press.

↳ Parameter mode is started.


2. Press the *B+* button of the *Programming* button group repeatedly until *06* appears on the display:



If parameter *00* does not appear:


Press the *D+* button repeatedly until the parameter appears on the display.

3.  Press.


↳ The LED of the  button flashes. *0* appears on the display.

4. Press the *D+* button.

↳ *1* appears on the display.

5. Confirm your selection with  .


↳ The bobbin stitch counter is activated.

6. Exit parameter mode with  .

To deactivate the bobbin stitch counter again, in category *06* change parameter *00* to *0*.

6 Maintenance

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*).

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.

Maintenance interval

| Work to be carried out | Operating hours | | | |
|--|-----------------|----|-----|-----|
| | 8 | 40 | 160 | 500 |
| | | | | |
| Machine head | | | | |
| Remove fluff, lint and thread remnants | ● | | | |
| Cleaning the motor fan mesh | | | ● | |
| Check the oil level | | ● | | |
| | | | | |

| Work to be carried out | Operating hours | | | |
|--|-----------------|----|-----|-----|
| | 8 | 40 | 160 | 500 |
| Pneumatic system | | | | |
| Check the water level in the pressure controller | ● | | | |
| Check the filter element in the maintenance unit | | | | ● |
| Check the tightness of the 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!

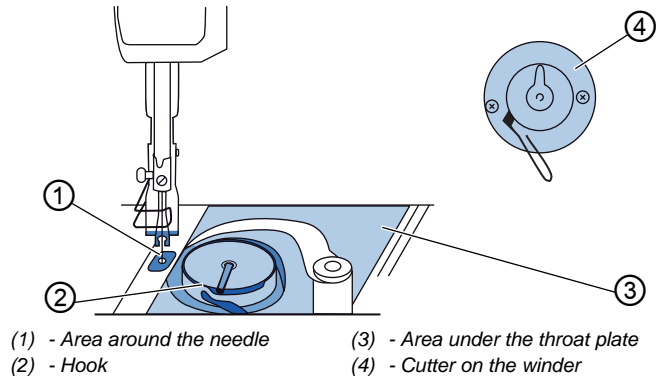
Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

6.1.1 Areas requiring special cleaning

Lint and thread remnants should be removed after every 8 operating hours using a compressed air gun or a brush. When sewing very fluffy material, the machine should be cleaned more frequently.

Fig. 28: Areas requiring special cleaning



Check and clean daily:

- Cutter on the winder (4)
- Area under the throat plate (3)
- Hook (2)
- Area around the needle (1)



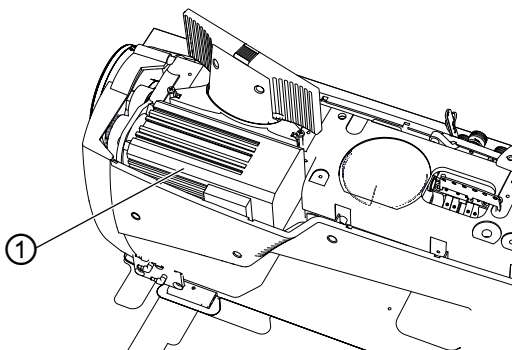
To clean areas that are susceptible to soiling:

1. Switch off the machine.
2. Remove any sewing dust and thread remnants using a compressed air gun or a brush.

6.1.2 Cleaning the motor fan mesh

The motor fan mesh must be cleaned every 100 - 200 operating hours using a compressed air gun. If very fluffy sewing material is being sewn, the motor fan mesh must be cleaned more frequently.

Fig. 29: Cleaning the motor fan mesh



(1) - Motor



To clean the motor fan mesh:

1. Switch off the machine.
2. Remove the arm cover.
3. Remove any sewing dust and thread remnants using a brush.

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:

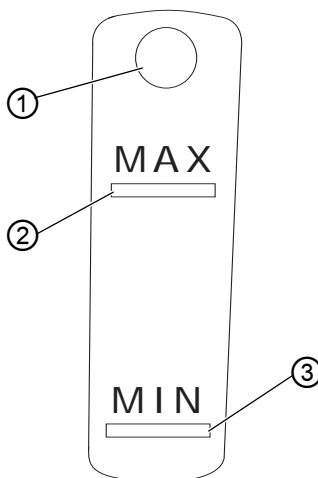
- Viscosity at 40 °C: 10 mm²/s
- Flash point: 150 °C

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

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

6.2.1 Check the oil level

Fig. 30: Check the oil level



(1) - Refill opening

(2) - Maximum level mark

(3) - Minimum level mark



To check the oil level:

1. Check the oil level indicator every day.
 - The oil level must be between the minimum level mark (3) and the maximum level mark (3).

Topping off the oil



To top up with oil:

1. Pour in oil through the refill opening (1).
- Add oil up to but not past the maximum level mark (2).

6.2.2 Lubricating the hook

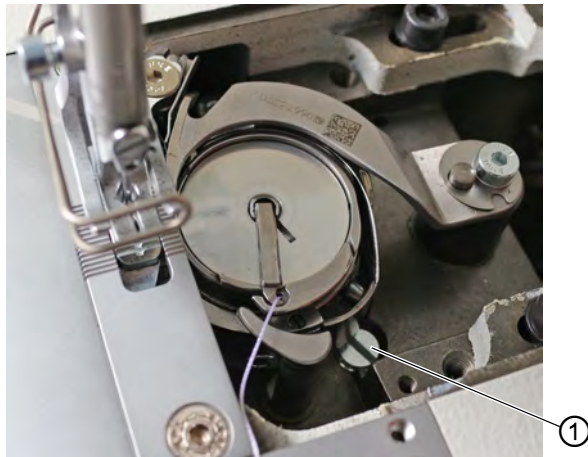
The approved oil quantity for hook lubrication is a factory specification.



Proper setting

1. Hold a piece of blotting paper next to the hook.
 2. Allow the machine to run without thread and sewing material for 10 seconds with the sewing feet lifted and at a high speed.
- The blotting paper will show a thin strip of oil when sewing is complete.

Fig. 31: Lubricating the hook



(1) - Screw



To lubricate the hook:

1. Turn the screw (1):
 - counterclockwise: more oil is released
 - clockwise: less oil is released

**Important**

The released amount of oil does not change until the operating time has run a few minutes. Sew for several minutes before you check the setting again.

6.3 Servicing the pneumatic system


6.3.1 Setting the operating pressure

NOTICE**Property damage from incorrect setting!**

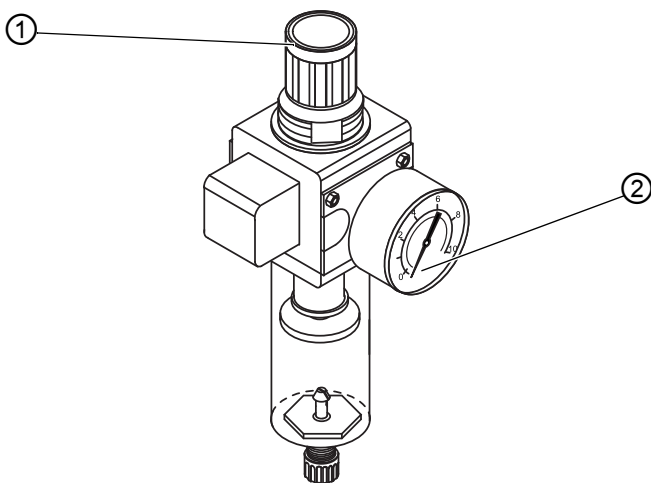
Incorrect operating pressure can result in damage to the machine.

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.

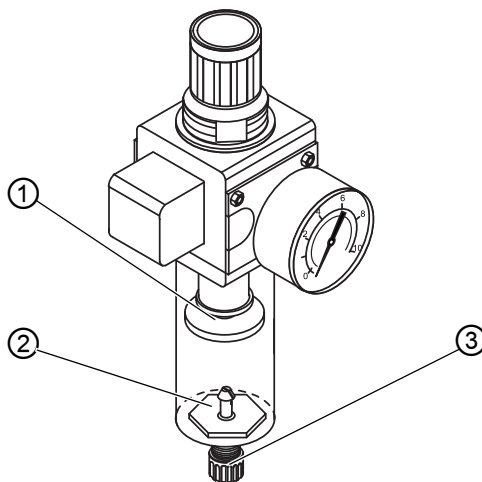


Proper setting

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

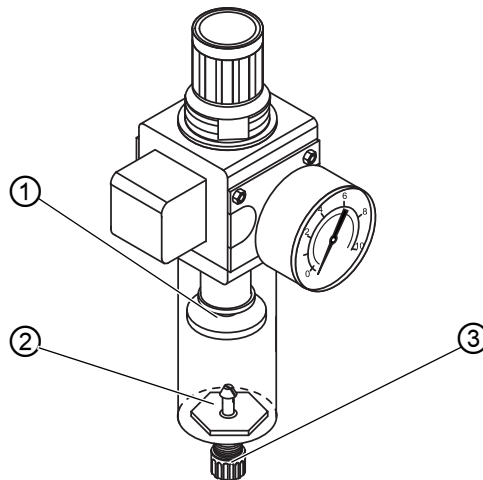
NOTICE

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. 76).
3. Loosen the water separator (2).
4. Loosen the filter element (1).

5. Blow out the filter element (1) using a compressed air gun.
6. Wash out the filter tray using benzine.
7. Tighten the filter element (1). Tighten the water separator (2).
8. Tighten the drain screw (3).
9. 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.

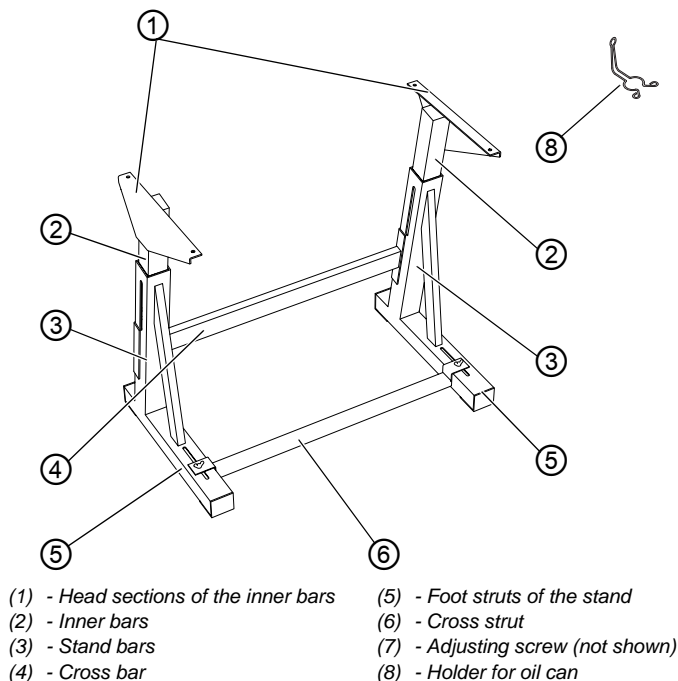
7.2 Removing the transport locks

Remove all transport locks before setting up the machine.

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

7.3 Assembling the stand

Fig. 35: Assembling the stand



To assemble the stand:

1. Screw the cross bar (4) to the stand bars (3).
2. Screw the oil can holder (8) at the rear to the cross bar (4).
3. Screw the cross strut (6) to the foot struts (5).
4. Insert the inner bars (2) in such a way that the longer end of the head section (1) is above the longer end of the foot struts (5).
5. Tighten the inner bars (2) down so that both head sections (1) are at the same height.



Important

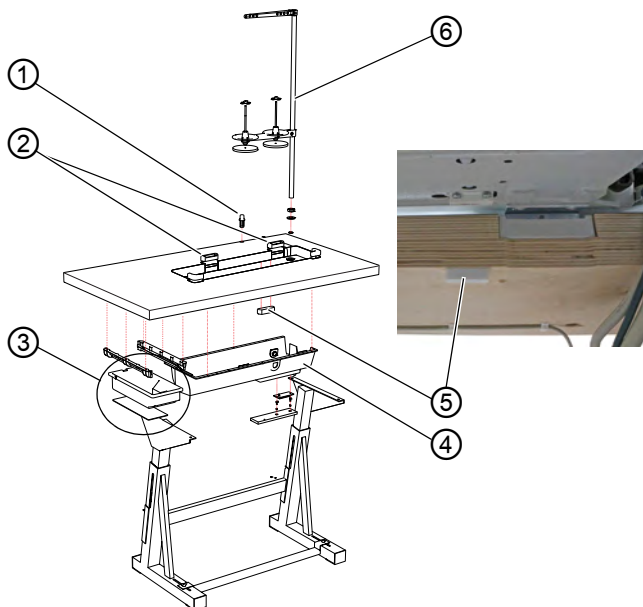
Turn the adjusting screw (7) so that the stand has even contact with the ground.

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) - Machine head support | (4) - Oil pan |
| (2) - Slots for lower hinge parts | (5) - Tilt sensor magnet |
| (3) - Drawer | (6) - Reel stand |



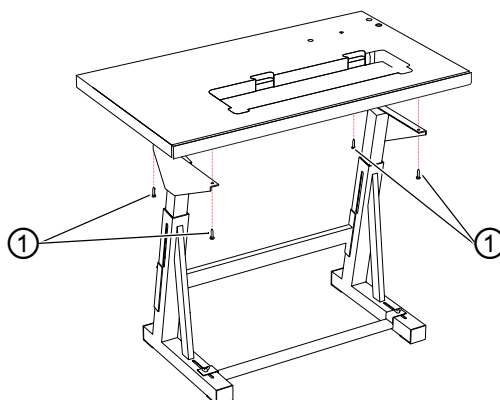
To complete the tabletop:

1. Screw the drawer (3) with the left-hand bracket to the underside of the tabletop.
2. Mount the tilt sensor magnet (5) under the tabletop.
Measurement: 265 mm, see table top layout ( p. 115).
3. Screw the oil pan (4) in place under the slot for the machine.
4. Insert the reel stand (6) into the hole.
5. Assemble the reel stand (6) with nut and washer.

6. Screw the thread reel holder and the thread guide onto the reel stand (6) in such a way that they are exactly on top of each other.
7. Insert the machine head support (1) into the hole.
8. Insert the lower hinge parts into the slots (2) and tighten.
9. Insert the rubber corners into the corner protrusions.

7.4.2 Assembling the tabletop to the stand

Fig. 37: Assembling the tabletop to the stand



(1) - Screw holes and screws



To assemble the tabletop to the stand:

1. Place the tabletop on the head sections of the inner bars.
2. Tighten the tabletop at the screw holes (1).

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 releasing the screws.

CAUTION



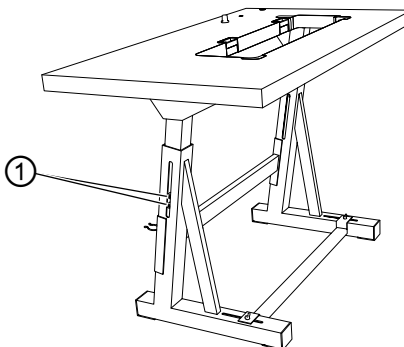
Risk of musculoskeletal damage from incorrect setting!

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 (clearance between the floor and upper edge of the tabletop).

Fig. 38: Setting the working height



(1) - Screws



To set the working height:

1. Loosen the screws (1) on both sides of the stand bars.
2. Set the tabletop to the desired height.



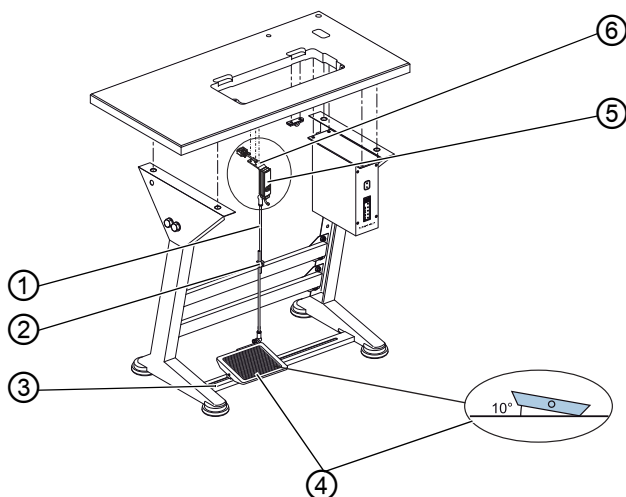
Important

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

3. Tighten the screws (1) on the stand bars.

7.6 Assembling the pedal and setpoint device

Fig. 39: Assembling the pedal and setpoint device



- (1) - Pedal rod
(2) - Screw
(3) - Cross strut

- (4) - Pedal
(5) - Setpoint device
(6) - Bracket



To assemble pedal and setpoint device:

1. Fit the pedal (4) on the cross strut (3) 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 (4) firmly onto the cross strut (3).

3. Screw the bracket (6) under the tabletop so that the pedal rod (1) runs to the pedal (4) at right-angles to the setpoint device (5).
4. Screw the setpoint device (6) onto the bracket (5).
5. Attach the pedal rod (1) with the ball sockets to the setpoint device (5) and to the pedal (4).
6. Pull the pedal rod (1) to the correct length.



Proper setting

10° inclination with pedal released.

7. Tighten the screw (2).

7.7 Inserting the machine head

CAUTION



Risk of injury from heavy parts!

Crushing possible.

Take care not to jam your hands when inserting the machine head.

Fig. 40: Inserting the machine head (1)



(1) - Belt

(2) - Ring bolt

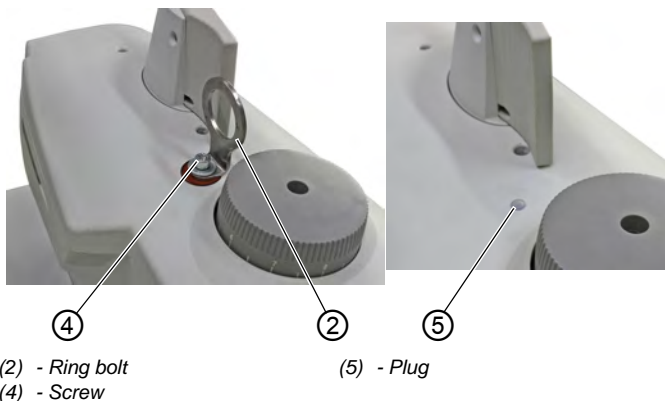
(3) - Machine head



To insert the machine head:

1. Guide the belt (1) through the ring bolt (2) and insert the machine head (3) into the tabletop cutout using a crane.

Fig. 41: Inserting the machine head (2)



2. Loosen the screw (4).

3. Disassemble the ring bolt (2) and close the hole with the plug (5).

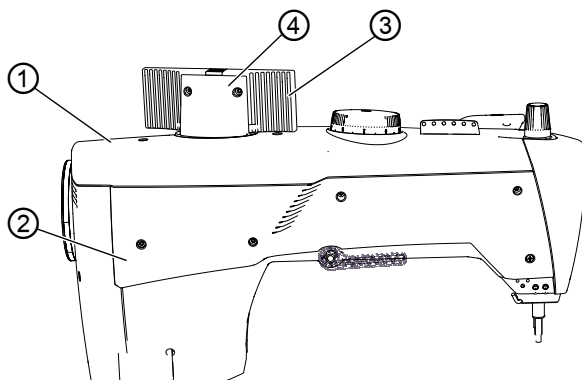


Important

Keep the ring bolt including screw and washers in case the machine head is to be lifted out of the tabletop cutout again.

7.8 Assembling the control panel

Fig. 42: Assembling the control panel (1)



(1) - Arm cover
(2) - Belt cover

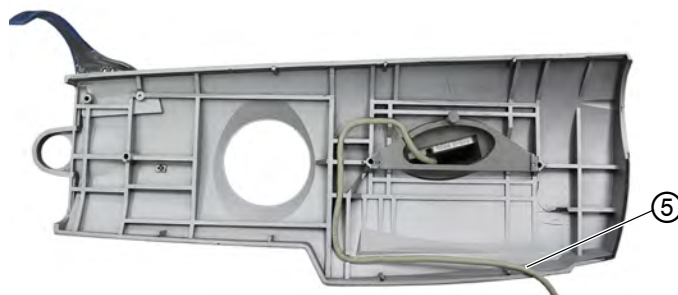
(3) - Control panel
(4) - Control panel holder



To assemble the control panel:

1. Unscrew the belt cover (2) and the arm cover (1).
2. Guide the plug and cable of the control panel through the slot in the arm cover.
3. Tighten the control panel (4) on the control panel holder (3).

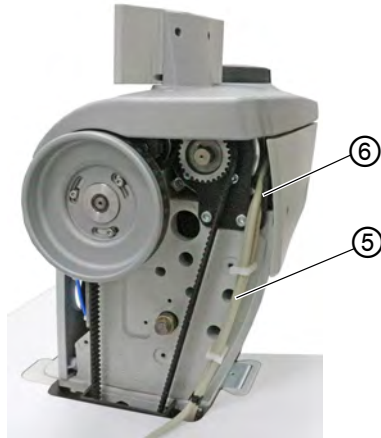
Fig. 43: Assembling the control panel (2)



(5) - Cable



4. Lay the cable (5) on the bottom side of the arm cover.
5. Place the arm cover.

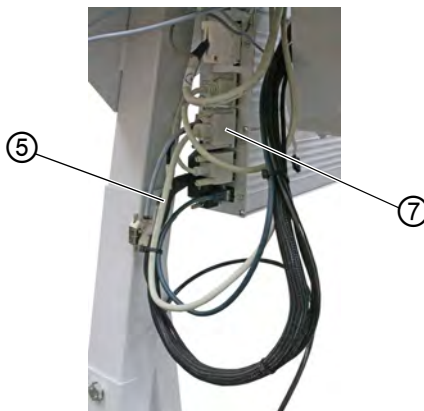
Fig. 44: Assembling the control panel (3)

(5) - Cable

(6) - Cable guide



6. Guide the cable (5) through the cable guide (6) and fix it in place at the other cables using cable ties.
7. Tilt the machine head.
8. Lay the plug (7) and cable (5) of the control panel past the machine and under the tabletop.

Fig. 45: Assembling the control panel (2)

(5) - Cable

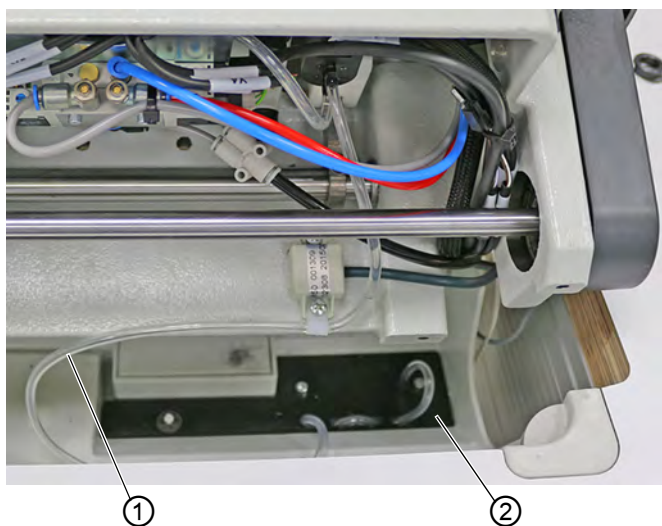
(7) - Plug



9. Insert the plug (7) into the socket of the control.
10. Tighten the belt cover (2) and the arm cover (1).

7.9 Assembling the oil extraction line

Fig. 46: Assembling the oil extraction line



(1) - Hose

(2) - Filter



To assemble the oil extraction line:

1. Tilt the machine head.
2. Screw the filter (2) into the oil pan with the plastic adapter to the right.
3. Insert the tube (1) of the oil extraction line through the guides and into the plastic adapter.

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.

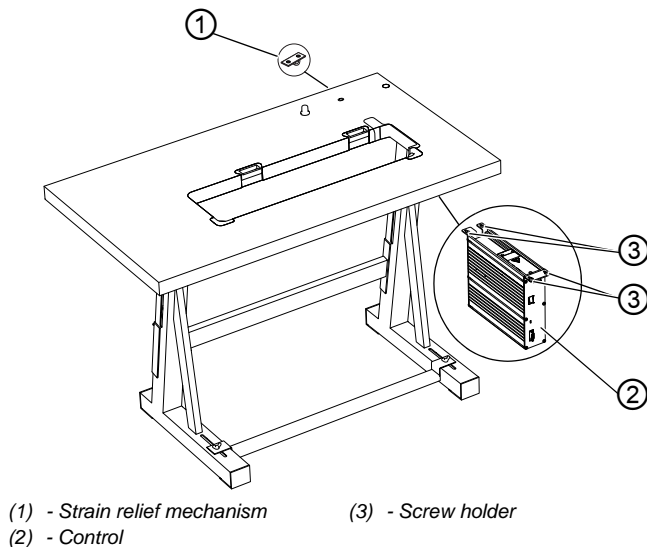


Important

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

7.10.1 Assembling the control

Fig. 47: Assembling the control



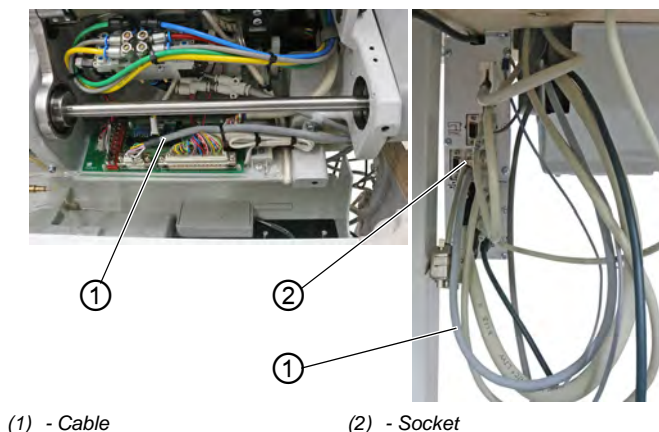


To assemble the control:

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

7.10.2 Connecting the control

Fig. 48: Connecting the control



Connect the control as follows:

- Insert the plug of each connecting cable into the sockets on the back of the control.
Insert all marked cables into the appropriate sockets.
Insert cable (1) from the circuit board into the socket (2).
- Connect the control to the power supply using the power cable.

Operation of the control is described in the control-specific instructions.

7.10.3 Connecting the machine head



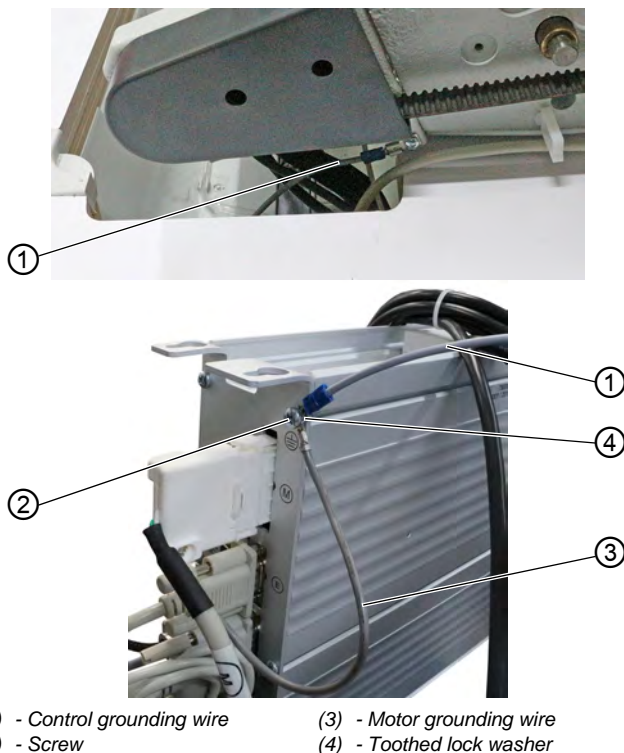
To connect the machine head:

1. Insert the plug on the connecting cable for the machine head into the socket of the respective control.

7.10.4 Establishing equipotential bonding

The grounding wire conducts away any static charging of the machine head.

Fig. 49: Establishing equipotential bonding



To establish equipotential bonding:

1. Tilt the machine head.
2. Loosen the screw (2).

3. Remove the toothed lock washer (4).
4. Guide the grounding wire of the control (1) to the rear of the control through the cutout in the tabletop.
5. Tighten the grounding wire of the control (1) along with the grounding wire of the motor (3) under the toothed washer (4) using the screw (2).

7.10.5 Connecting the sewing lamp (optional)

Fig. 50: Connecting the sewing lamp (1)



(1) - Slots

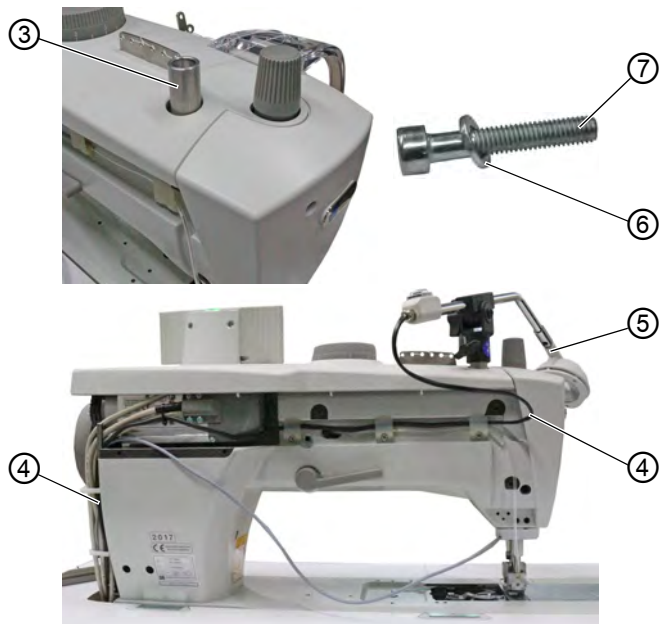
(2) - Slot



To connect the sewing lamp:

1. Remove the arm cover, the rear cover and the belt cover.
2. Break out a round slot (2) in the arm cover and remove any burrs.
3. Break out one of the slots (1) in the rear cover and remove any burrs.
4. Place the arm cover.

Fig. 51: Connecting the sewing lamp (2)



(3) - Mounting plate
(4) - Cable
(5) - Sewing lamp

(6) - Washer
(7) - Screw




5. Screw the mounting plate (3) into the slot (2) you made using the screw (7) and the washer (6).
6. Place the sewing lamp (5) onto the mounting plate.
7. Lay the cable (4) down through the machine arm and through the tabletop cutout.
8. Connect the sewing lamp to the control (see  *Operating Instructions DAC basic/classic*).

Fig. 52: Connecting the sewing lamp (3)



9. Place the rear cover and the belt cover.

7.11 Pneumatic connection

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.

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

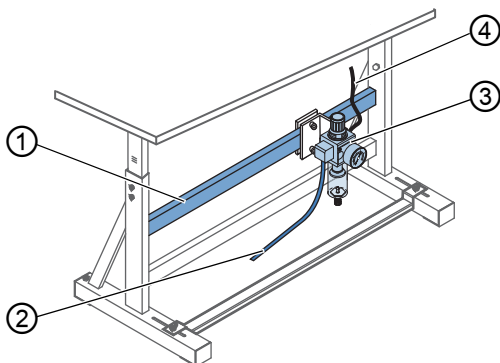
Property damage from incorrect setting!

Incorrect system pressure can result in damage to the machine.

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

7.11.1 Assembling the compressed air maintenance unit

Fig. 53: Assembling the compressed air maintenance unit



(1) - Cross bar
(2) - Connection hose

(3) - Compressed air maintenance unit
(4) - Machine hose



To assemble the compressed air maintenance unit:

1. Assemble the maintenance unit (3) to the upper cross bar (1) of the stand using the bracket, screws and clip.
2. Connect the machine hose (4) coming out of the machine head to the maintenance unit (3) at the top right.
3. Connect the connection hose (2) to the compressed air supply using a hose coupling R 1/4".

7.11.2 Setting the operating pressure

NOTICE

Property damage from incorrect setting!

Incorrect operating pressure can result in damage to the machine.

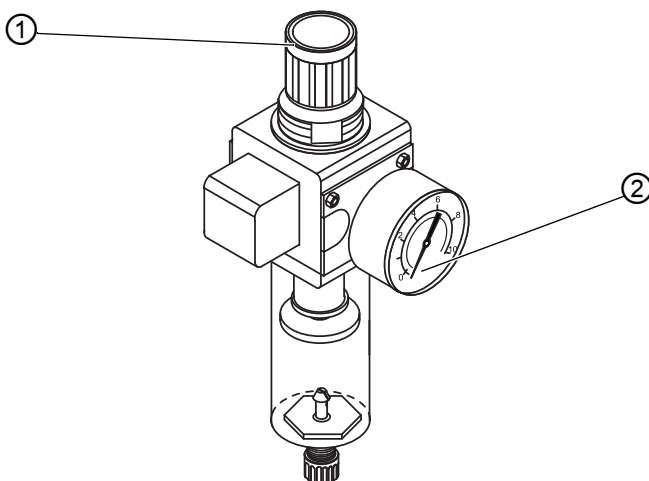
Ensure that the machine is only used when the operating pressure is set correctly.



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.

Fig. 54: 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.

7.12 Checking the lubrication

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!

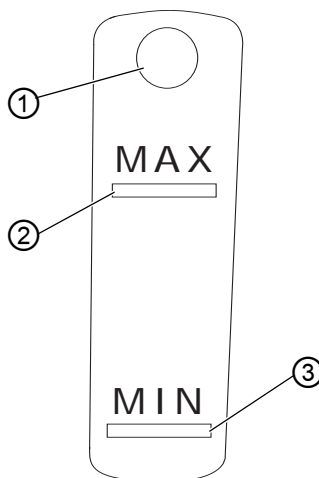
Incorrect oil types can result in damage to the machine.

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

All wicks and felt bits of the machine head are soaked in oil at the factory. This oil is conveyed to the reservoir during use. This is why you should avoid filling too much oil during initial filling.

Check the oil level

Fig. 55: Check the oil level



(1) - Refill opening

(2) - Maximum level mark

(3) - Minimum level mark



To check the oil level:

1. Check the oil level indicator every day.
 - The oil level must be between the minimum level mark (3) and the maximum level mark (3).

Topping off the oil



To top off the oil:

2. Pour in oil through the refill opening (1).
Add oil up to but not past the maximum level mark (2).

7.13 Carrying out a test run

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

8 Decommissioning

You need to perform a number of activities if the machine is to be shut down for a longer period of time or completely decommissioned.

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 thread reel holder is installed incorrectly | Check the assembly of the thread reel holder |
| | 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

Data and characteristic values

| Technical data | Unit | Class |
|--------------------|----------------------|------------------------------|
| Machine type | | 1767 |
| Stitch type | | Double lockstitch 301 |
| Hook type | | Vertical hook, XXL |
| Number of needles | | 1-2 |
| Needle system | | 134-35 |
| Needle strength | [Nm] | 90-180 |
| Thread strength | [Nm] | 120/3 - 10/3 120/3 - 15/3 |
| Stitch length | [mm] | 9 |
| Speed maximum | [min ⁻¹] | 3000 |
| Speed on delivery | [min ⁻¹] | 3000 |
| Mains voltage | [V] | 230 |
| Mains frequency | [Hz] | 50/60 |
| Operating pressure | [bar] | 6 |
| Length | [mm] | 690 |
| Width | [mm] | 220 |
| Height | [mm] | 460 |
| Weight | [kg] | 59 |
| Power input | [kVA] | 0.75 |

Characteristics

The machines are equipped with an extra large (XXL) vertical hook.

The remaining thread length following the thread cutting process is, respectively, approx. 15 mm and approx. 5 mm without and with the short thread cutter.

A safety snap-on coupling prevents any misadjustment or damage to the hook in the event of a thread jamming.

Automatic lubrication system for lubricating the machine and the hook.

All subclasses are equipped with a bar holding 6 push buttons. An additional button panel has been placed within easy reach of the sewer and allows the sewer to assign the same 6 functions of the buttons housed in the button bar.

12 Appendix

12.1 Wiring diagram

Fig. 56: Wiring diagram (1)

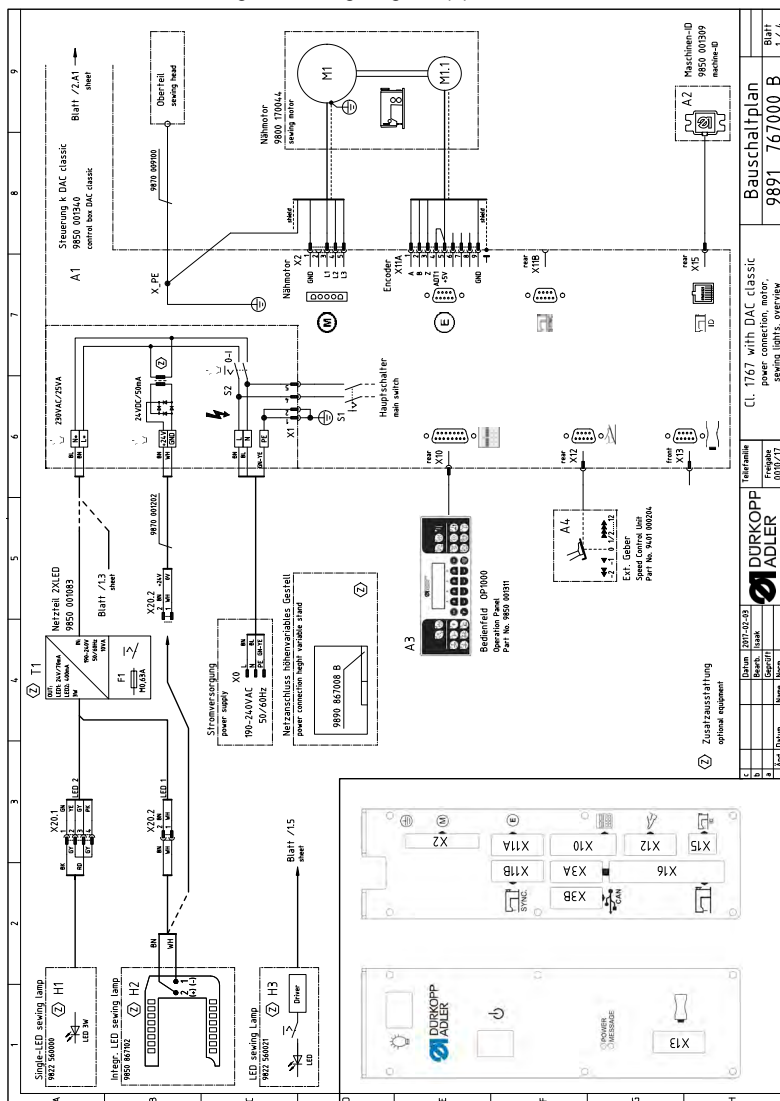


Fig. 57: Wiring diagram (2)

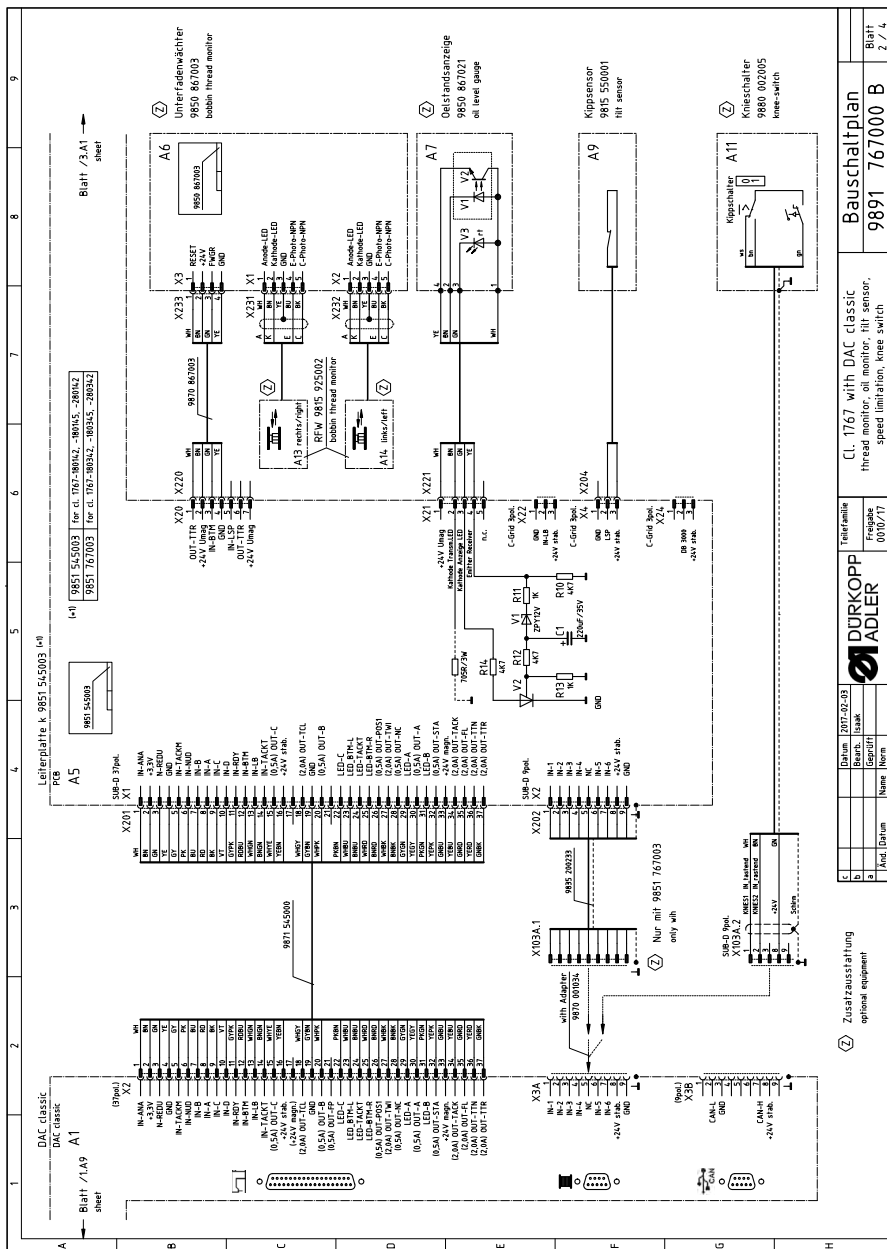


Fig. 58: Wiring diagram (3)

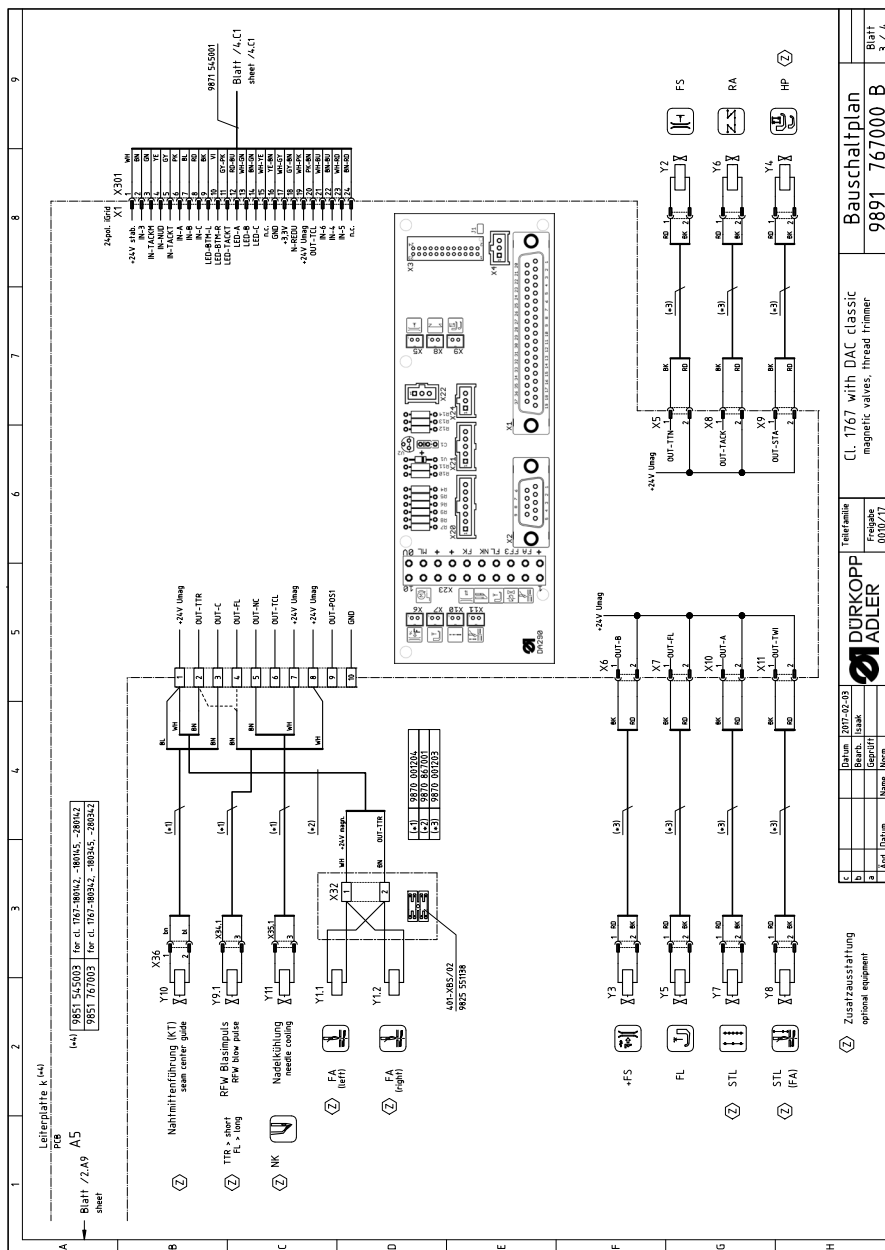
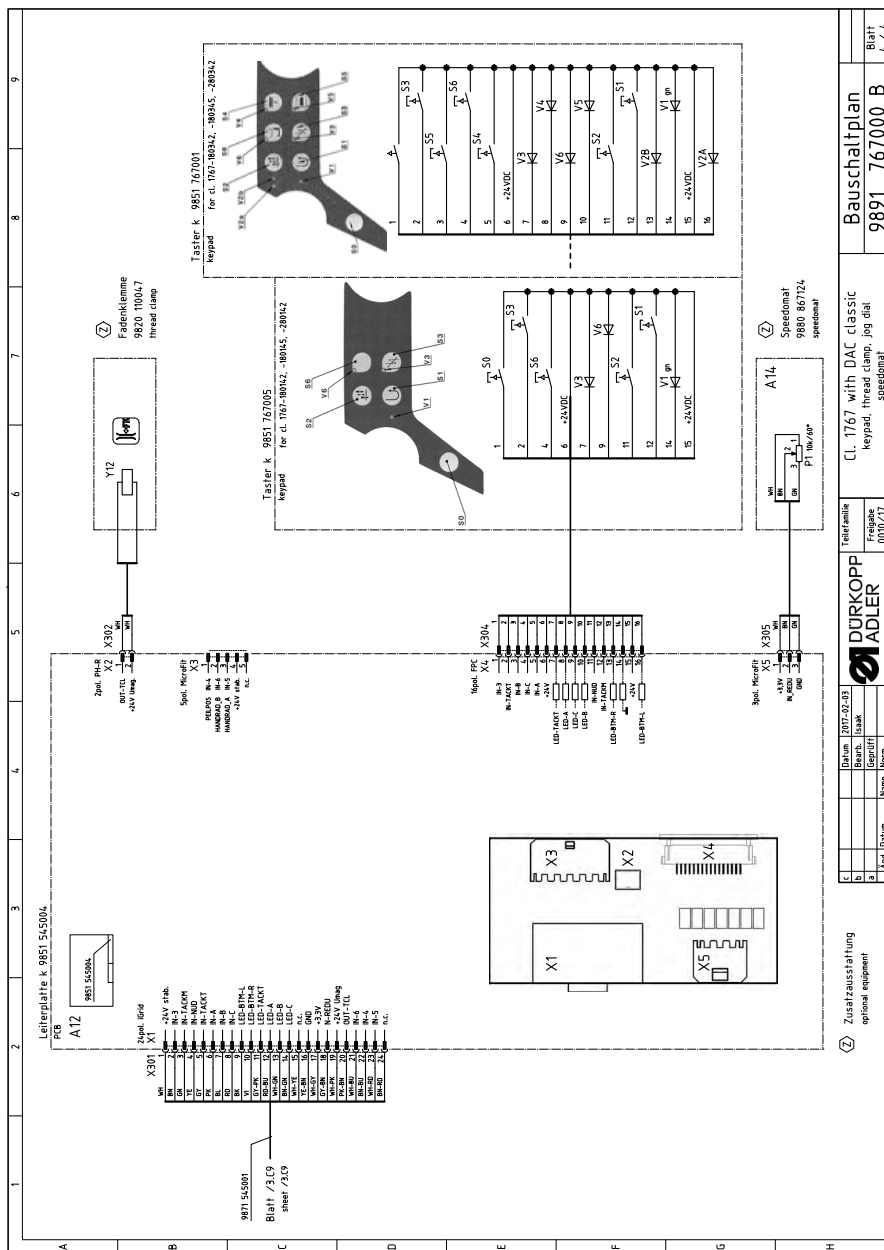
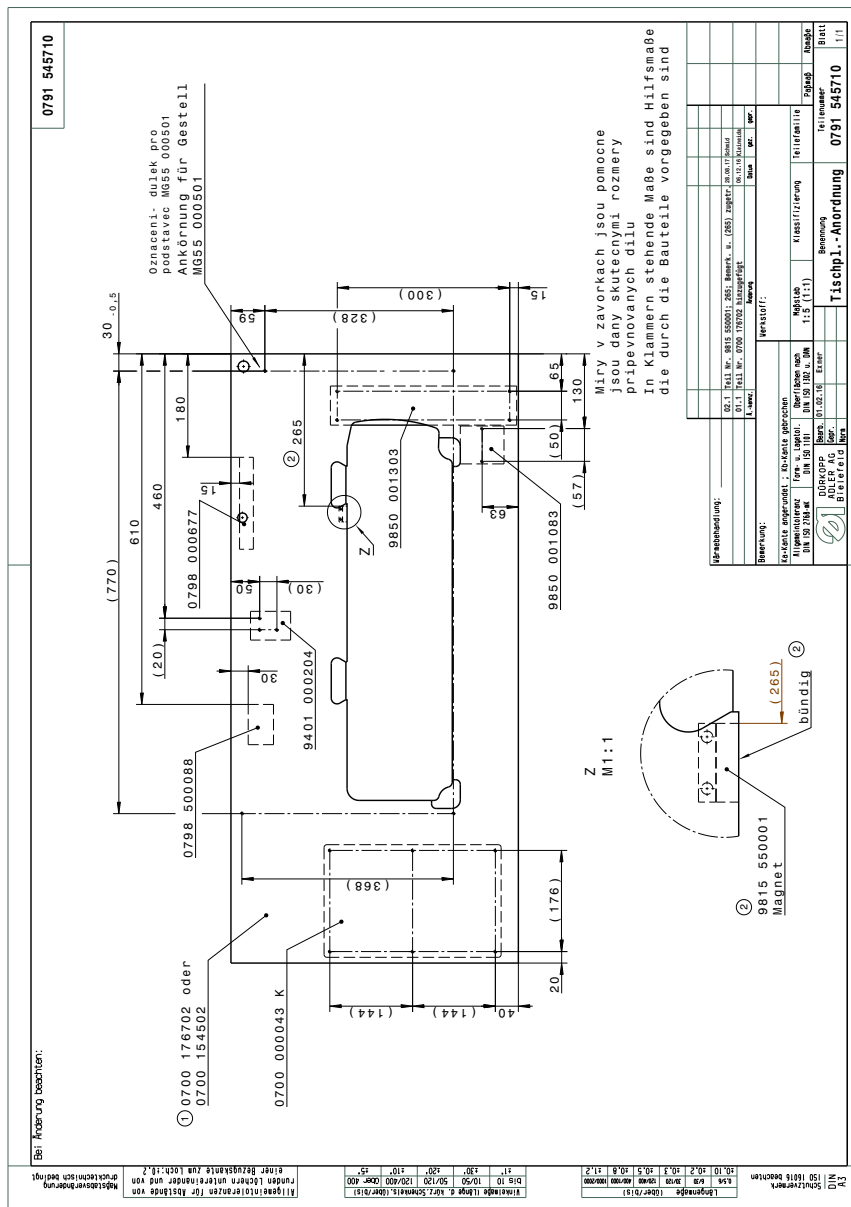


Fig. 59: Wiring diagram (4)



12.2 Table top layout

Fig. 60: Table top layout



DÜRKOPP ADLER GmbH

Potsdamer Straße 190

33719 Bielefeld

GERMANY

Phone +49 (0) 521 / 925-00

E-mail service@duerkopp-adler.com

www.duerkopp-adler.com

