

906

Operating Instructions



IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

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1 About these instructions



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

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback through **Customer Service** ( p. 123).


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. 15) is important for the operators.
- **Specialists:**
This group has the appropriate technical training for performing maintenance or repairing malfunctions. Specifically, the chapter **Setup** ( p. 103) 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.

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

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

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

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

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

Transport	Use a lifting carriage or 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	<p>Follow the country-specific safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.</p> <p>All the warnings and safety signs on the machine must always be in legible condition. Do not remove!</p> <p>Missing or damaged warnings and safety signs must be replaced immediately.</p>
Requirements to be met by the personnel	<p>Only qualified specialists may:</p> <ul style="list-style-type: none">• set up the machine• perform maintenance work and repairs• perform work on electrical equipment <p>Only authorized persons may work on the machine and must first have understood these instructions.</p>

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

Safety equipment Safety equipment should not be 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

Symbol	Type of danger
	Crushing
	Environmental damage

Examples Examples of the layout of warnings in the text:

DANGER



Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

WARNING



Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

CAUTION



Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

CAUTION**Type and source of danger!**

Consequences of non-compliance.

Measures for avoiding the danger.

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

NOTICE**Type and source of danger!**

Consequences of non-compliance.

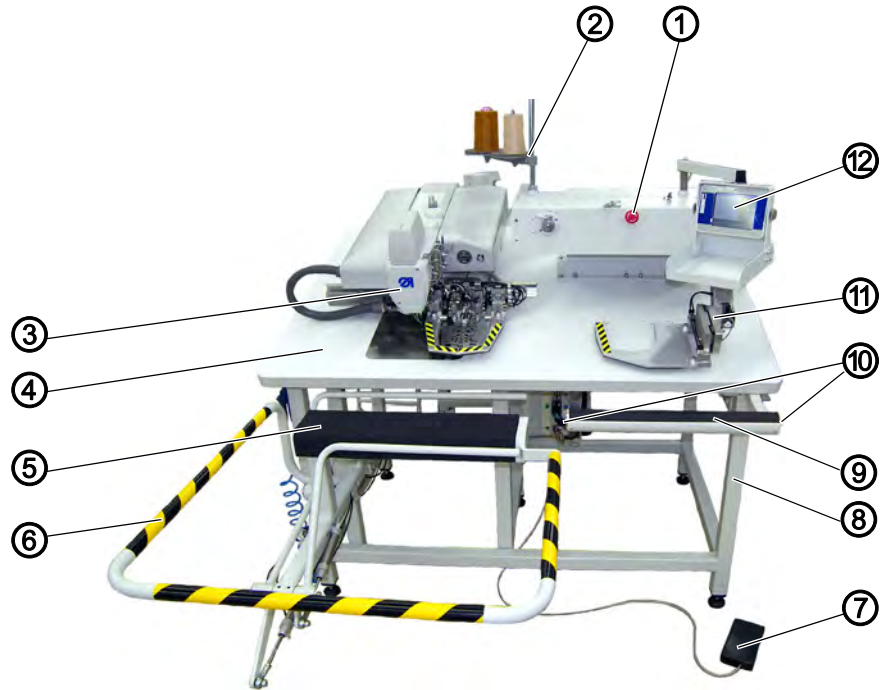
Measures for avoiding the danger.

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

3 Machine description

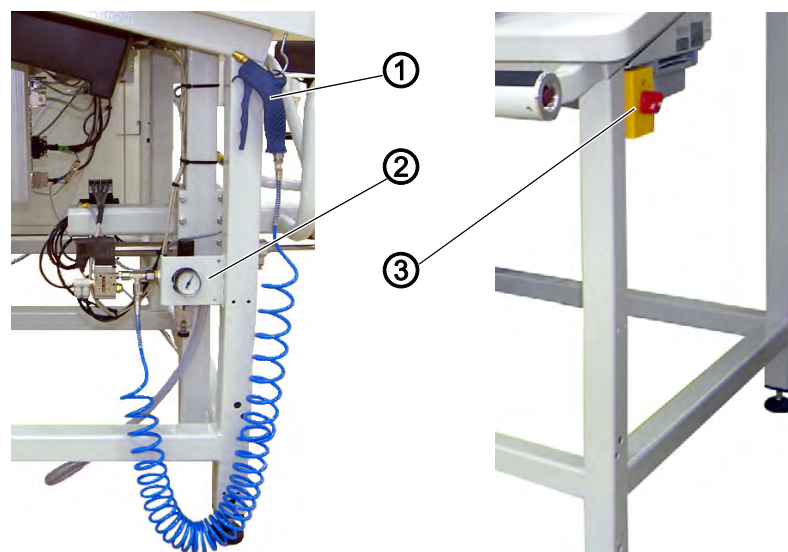
3.1 Components of the machine

Fig. 1: Components of the machine (1)



- | | |
|----------------------|-----------------------------------|
| (1) - Quick-stop | (7) - Pedal |
| (2) - Reel stand | (8) - Stand |
| (3) - Machine head | (9) - Sewing material surface |
| (4) - Tabletop | (10) - Start buttons |
| (5) - Tray | (11) - Automatic material feeder |
| (6) - Protective bar | (12) - Control operating terminal |

Fig. 2: Components of the machine (2)



- | | |
|---------------------------------------|-------------------|
| (1) - Compressed air gun | (3) - Main switch |
| (2) - Compressed air maintenance unit | |

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. 131) 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.



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 Switching on and off the machine

Abb. 3: Switching on and off the machine



(1) - Main switch

Switching on the machine


To switch on the machine:



1. Turn the main switch (1) to the right into the I position.
➤ The machine performs a reference run.
After referencing, the startup screen is displayed on the operating terminal for a few seconds.



Information

On the start screen, you can set the language for the user interface in the *Language* menu or open the *Service* menu ( p. 41).

Switching off the machine

To switch off the machine:



1. Turn the main switch (1) to the left into the **0** position.
- ↪ All drives and the control are disconnected from the mains grid.

4.2 Switching on and off threading mode

WARNING



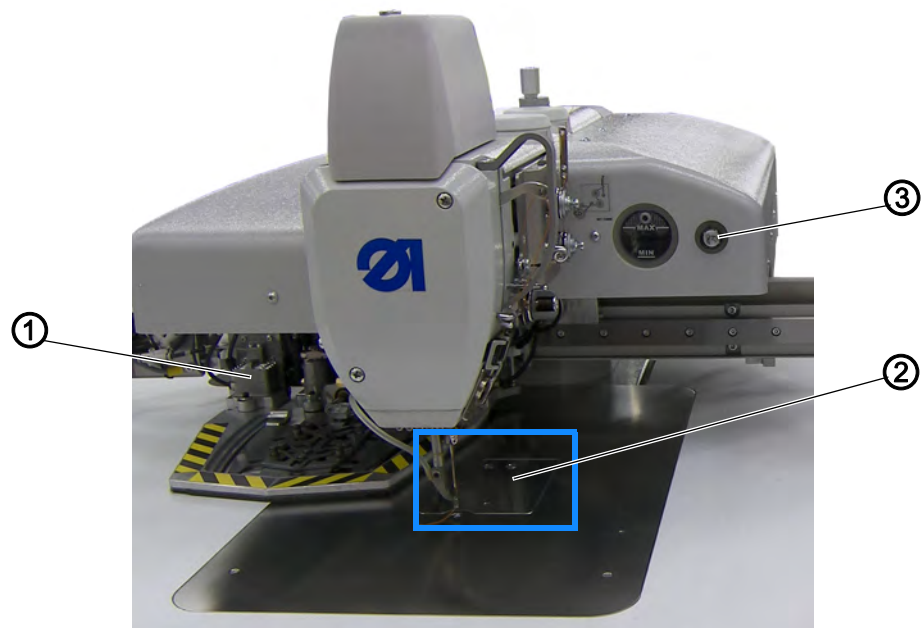
Risk of injury from sharp and moving parts!

Puncture or crushing possible.

The machine must be switched off in advance before all preparation, maintenance and cleaning work on the machine.

When threading mode is active, do not reach into the hook area until this is lit up.

Abb. 4: Switching on and off threading mode



- (1) - Drive carriage
(2) - Hook cover

- (3) - Threading mode push button

Switching on threading mode



1. Press in push button (3).



Important

The button must latch into place.



The machine is in threading mode.

The drive carriage (1) is moved to the left position.

The lamp in the button lights up.

The area around the hook cover (2) is lit up.

Switching off threading mode



1. Press in the push button (3).



Important

The push button must latch out of place.

4.3 Switching on Quick-stop

WARNING



Risk of injury from moving parts!

Crushing possible.

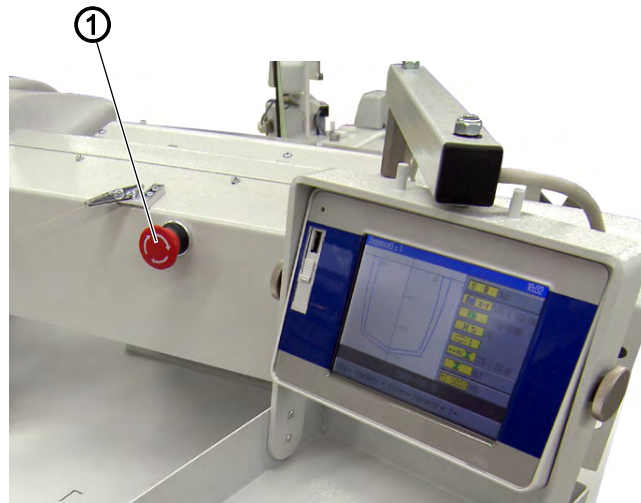
After a Quick-stop, power is still present in the machine, and the clamps can move.

You must always switch the machine off at the main switch before performing any maintenance or cleaning work.

The Quick-stop switch (1) can be used to immediately stop all working steps on the machine, e.g. after an operating error.

Stopping working steps via Quick-stop

Abb. 5: Switching on Quick-stop (1)



(1) - Quick Stop switch

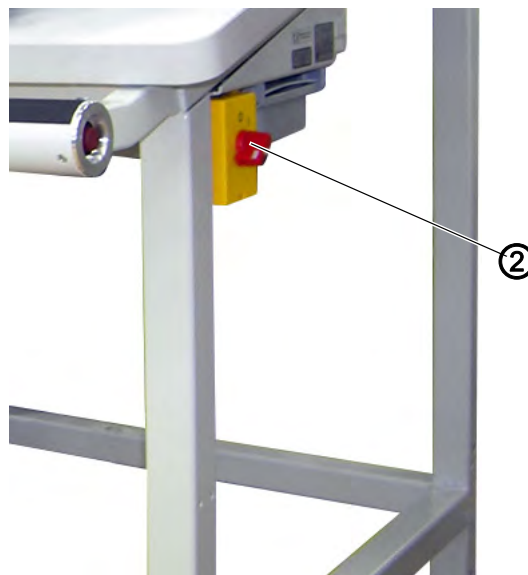


1. Press the Quick-stop switch (1).

➔ All working steps on the machine are immediately stopped.

Switching off the power to the machine

Abb. 6: Switching on Quick-stop (2)



(2) - Main switch



1. Turn the main switch (2) to the left into the **0** position.

➔ All drives and the control are immediately disconnected from the mains grid.

4.4 Sewing on pre-bound pockets

WARNING



Risk of injury from moving parts!

Crushing possible.

During the sewing process, machine parts move quickly.

After pressing both start buttons, do not reach into the transfer plate, the drive carriage or the automatic stacker.

Only feed in the next sewing material once the transfer plate has transferred the sewing material and has returned to the starting position.

NOTICE

Property damage may occur!

Sewing without material may damage the machine.

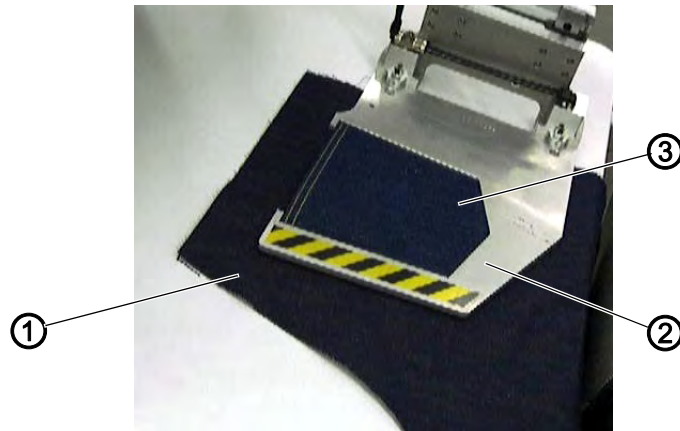
Always place material under the transfer plate before starting the sewing process.

After pressing both start buttons, the sewing process is carried out step-by-step:

- The transfer plate transfers the sewing material to the clamp and moves back into its starting position.
- The sews the pre-bound pocket onto the sewing material.
- The automatic stacker places the sewn product onto the bundle mount.

Preparation

Abb. 7: Sewing on pre-bound pockets (1)



(1) - Sewing material
(2) - Transfer plate

(3) - Pre-bound pocket

To sew on pre-bound pockets:



1. Place a bundle of sewing material onto the sewing material support surface of the start buttons.
2. Place the sewing material under the transfer plate and align it with the marks.
3. Press the pedal.
- ↳ The transfer plate is closed.
4. Place the pre-bound pocket to fit into the shape cut-out of the transfer plate.

Start sewing



1. Press both start buttons.
- ↳ The sewing process starts.



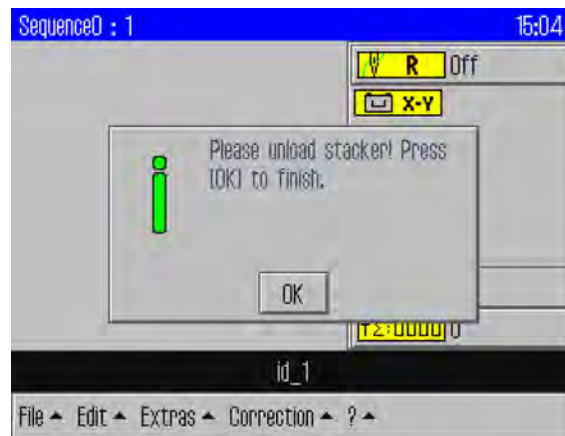
Information

When the transfer plate has transferred the sewing material and has returned to the starting position, you can prepare the next sewing process (feed-in sewing material and insert pre-bound pocket).

Removing the bundle from the tray on the automatic stacker

The machine will stop when the tray on the automatic stacker is full. A message on the screen indicates that you should remove the bundle.

Abb. 8: Sewing on pre-bound pockets (2)



To remove a bundle from the tray on the automatic stacker:



1. Remove bundle from automatic stacker
 2. Confirm with **OK**.
- ➡ The machine is ready for the next sewing process.

4.5 Swiveling the machine head

WARNING



Risk of injury from moving parts!

Crushing possible.

Switch off the machine at the main switch before swiveling up the machine head and performing maintenance.

The machine head can be swiveled up for maintenance work.

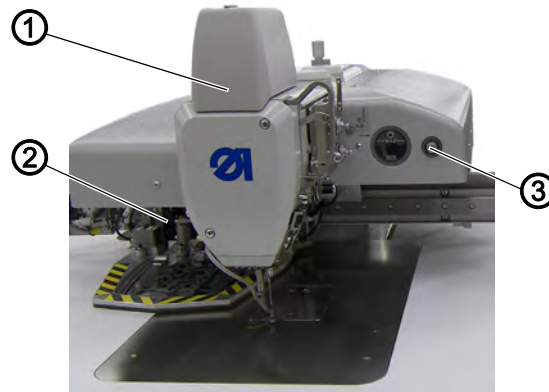
4.5.1 Swiveling up the machine head



Important

The drive carriage (2) must be moved to the left stop position.

Abb. 9: Swiveling up the machine head (1)



(1) - Head cover
(2) - Drive carriage

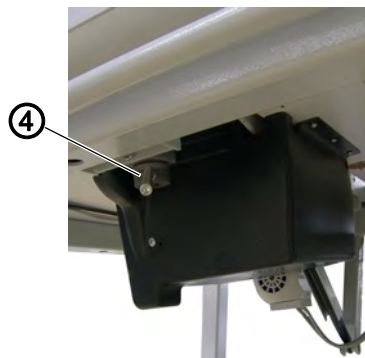
(3) - Threading mode push button

To swivel up the machine head:

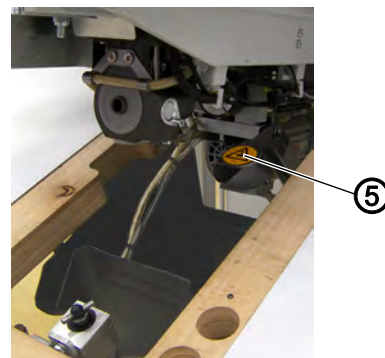


1. Press in threading mode push button (3) (📖 p. 16).
↳ The drive carriage moves to the left stop position.
2. Turn the main switch (1) to the left into the **0** position.
↳ All drives and the control are disconnected from the mains grid.

Abb. 10: Swiveling up the machine head (2)



(4) - Locking lever



(5) - Latch



3. Release the locking lever (4) under the tabletop.
4. Lift the machine head in the head cover region (1) and swivel up carefully.
↳ The latch (5) latches into place.
The space under the stand is now accessible.

4.5.2 Swiveling down the machine head

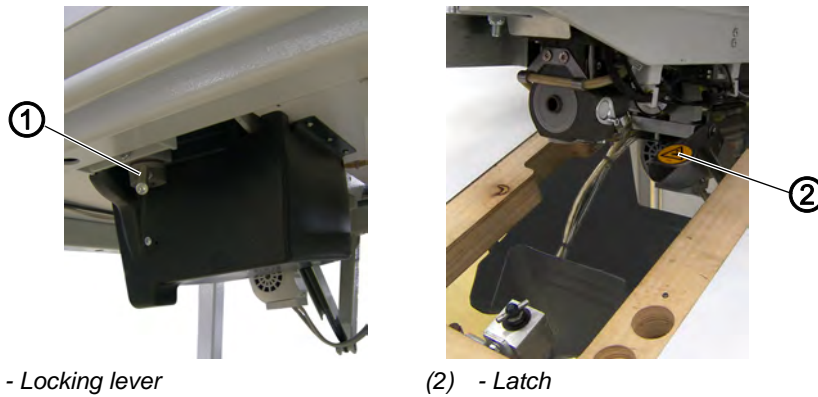
NOTICE

Property damage may occur!

The machine may be damaged by the machine head falling.

When swiveling down the machine head, hold the machine head in place until it has returned to its position.

Fig. 11: Swiveling down the machine head



To swivel down the machine head:



1. Hold the machine head in the head cover region.
2. Release the latch (2).
3. Carefully swivel down the machine head.
4. Latch the locking lever (1) under the tabletop.

4.6 Inserting/changing the needle

WARNING



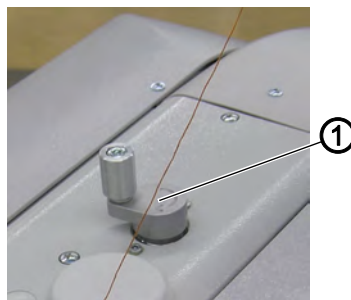
Risk of injury from sharp parts!

Punctures possible.

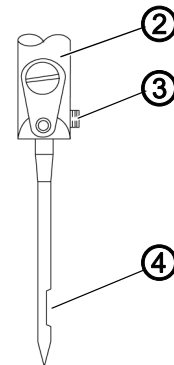
Switch off the machine at the main switch before you change the needle.

Do not reach into the needle tip.

Abb. 12: Changing the needle



- (1) - Hand crank
(2) - Needle bar



- (3) - Hexagon screw
(4) - Groove

To change the needle:



1. Push the hand crank (1) down and rotate it to the left until the needle bar (2) reaches the highest position.
2. Loosen hexagon screw (3) (screwdriver width 2 mm)
3. Pull the needle downwards out of the needle bar (2).
4. Insert the new needle into the needle bar (2) until it reaches the end stop.



Important

The groove (4) must face toward the hook.

5. Tighten the hexagon screw (3).




Order

NOTICE

Property damage may occur!

Risk of damage to machine and thread if hook distance is incorrect.

After switching to a different needle thickness, adjust the distance between needle and hook.

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



Disturbances if hook distance is incorrect

- After inserting a thinner needle:
 - Missing stitches
 - Thread damage
- After inserting a thicker needle:
 - Damage to the hook tip
 - Damage to the needle

4.7 Threading the needle thread

WARNING



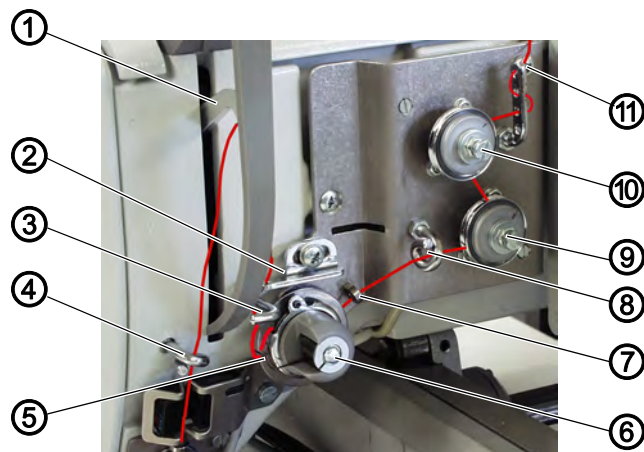
Risk of injury from sharp parts!

Punctures possible.

Switch off the machine at the main switch before threading the needle thread.

Do not reach into the needle tip.

Abb. 13: Threading the needle thread (1)



- (1) - Thread lever
- (2) - Thread regulator
- (3) - Guide
- (4) - Guide
- (5) - Thread tension spring
- (6) - Diverter

- (7) - Guide
- (8) - Guide
- (9) - Tension disks
- (10) - Tension disks
- (11) - Guide

To thread the needle thread:



1. Fit the thread reel on the reel stand.
2. Guide the needle thread through a hole in the guide on the thread guide.



Important

The thread guide must be parallel to the thread stand.

3. Use a compressed air gun to blow the thread through the hose guide.

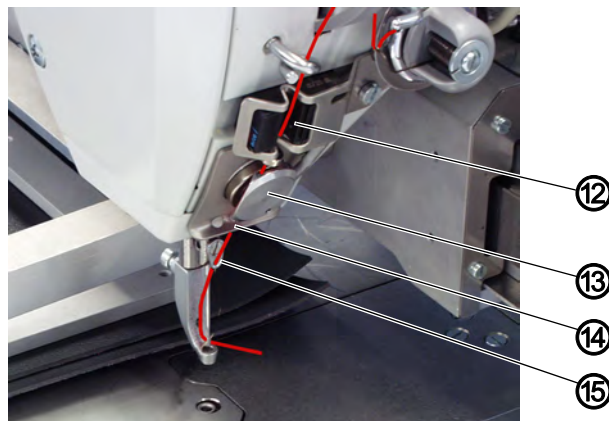


Information

To blow the thread through the hose guide, position the compressed air gun together with the end of the thread at the upper end of the hose guide. Briefly squeeze the trigger once.

4. Insert the thread through the guide (11): From the rear to the front through the uppermost hole, from the front to the rear through one of the middle holes, from the rear to the front through one of the lower holes.
5. Feed the thread counterclockwise around the tensioner (10).
6. Feed the thread clockwise around the tensioner (9).
7. Insert the thread through the guides (8) and (7).
8. Feed the thread clockwise around the diverter (6).
9. Feed the thread under the thread tensioning spring (5), through the guide(3) and through the thread regulator (2) to the thread lever (1).
10. Feed the thread through the thread lever (1) and thread guide (4).

Abb. 14: Threading the needle thread (2)



(12) - Needle thread monitor
(13) - Thread clamp

(14) - Guide
(15) - Guide



11. Insert the thread through the needle thread monitor(12) and the thread clamp (13).
12. Insert the thread through the guides (14) and (15).
13. Insert the thread through the needle eye in such a way that the loose thread end faces the hook.

4.8 Setting the thread regulator

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

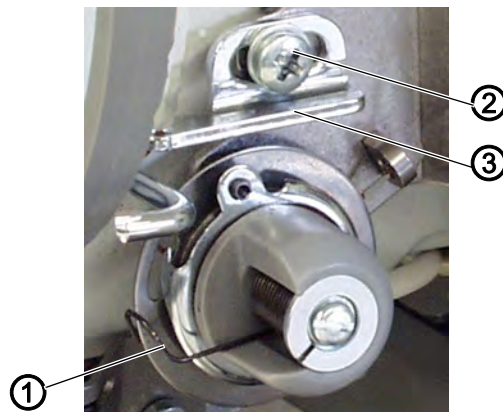
- Larger thread quantity for
 - thick sewing material
 - thick thread strengths
 - large stitch lengths
- Lower thread quantity for
 - thin sewing material
 - thin thread strengths
 - small stitch lengths



Proper setting

The loop of the needle thread slides at low tension over the thickest point of the hook. The largest amount of thread is required, and the thread tension spring (1) should be pulled approx. 0.5 mm out of the lower end position.

Abb. 15: Setting the thread regulator



(1) - Thread tension spring
(2) - Fastening screw

(3) - Thread regulator

To set the thread regulator:

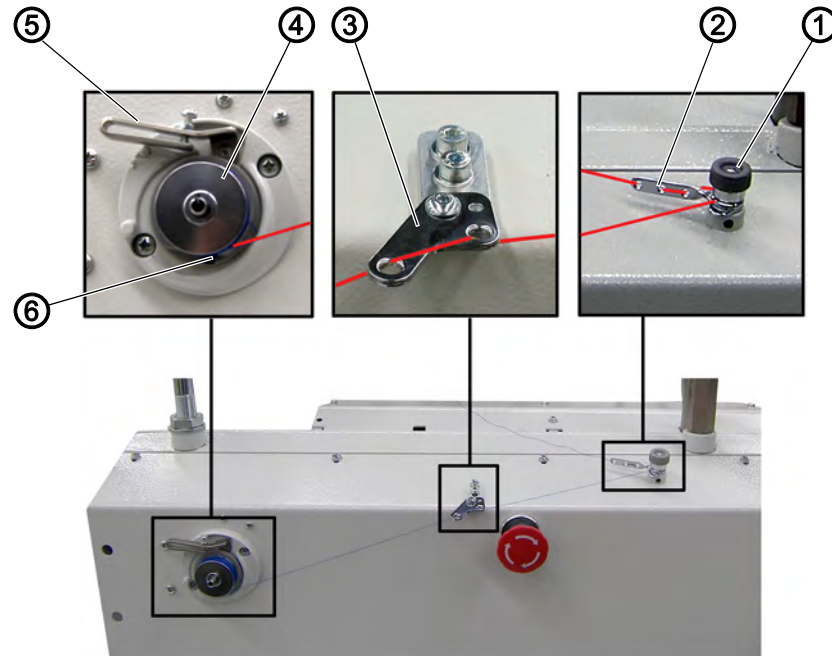


1. Undo the fastening screw (2) with a cross-head screwdriver.
2. Move the thread regulator (3):
 - Lower thread quantity: Slide the thread regulator (3) to the right.
 - Larger thread quantity: Slide the thread regulator (3) to the left.
3. Tighten the fastening screw (2).

4.9 Winding the hook thread

The separate winder allows the hook thread to be wound while sewing or independently of sewing.

Abb. 16: Winding the hook thread



- | | |
|--------------------------|--------------------------|
| (1) - Winding tensioner | (4) - Bobbin shaft |
| (2) - Thread guide plate | (5) - Bobbin winder flap |
| (3) - Thread guide plate | (6) - Cutter |

To wind the hook thread:




1. Place the thread reel on the thread reel holder and guide the needle thread through the hole in the guide on the thread guide.



Important

The thread guide must be parallel to the thread stand.

2. Insert the thread in a wavelike manner through the three holes of the thread guide plate (2), so that the thread can be laid clockwise around the tensioner (1).
3. Feed the thread clockwise around the tensioner (3).
4. Insert the thread in a wavelike manner through the two rear holes of the thread guide plate (3): From bottom to top through the rear hole and from top to bottom through the front hole.
5. Plug an empty bobbin on the winding shaft (4) and turn clockwise until it clicks into place.
6. Feed the thread to the winder, clamp the thread behind the cutter and tear the thread off.

7. Press the bobbin winder flap (4) against the bobbin.
- ✎ The winder starts and stops automatically when the configured bobbin filling volume is reached.
The setting of the bobbin filling quantity is described in the  *Service Instructions*.

4.10 Changing the bobbin

WARNING

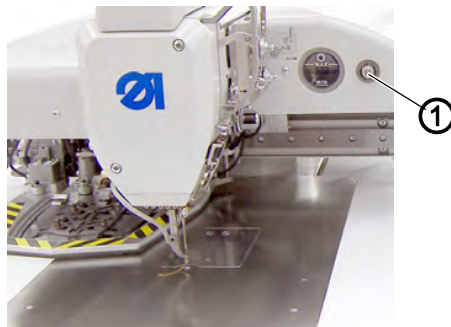


Risk of injury from sharp and moving parts!

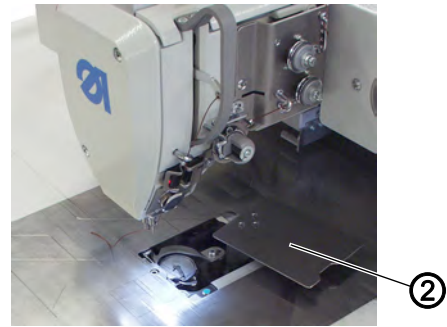
Puncture or crushing possible.

Switch the machine to threading mode before changing the bobbin.

Abb. 17: Changing the bobbin (1)



(1) - Threading mode push button



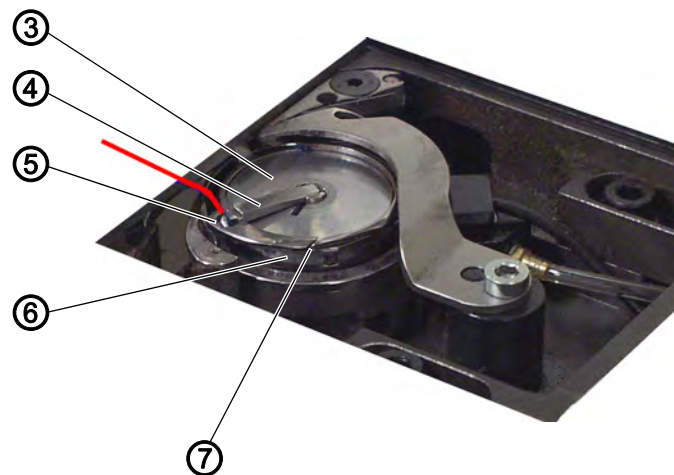
(2) - Cover plate

To change the bobbin:



1. Press the threading mode (1) push button.
- ✎ The drive carriage moves to the bobbin change position.
The cover plate (2) swivels to the side.
The sewing feet are moved to the lower position.
The lighting is switched on.

Abb. 18: Changing the bobbin (2)



(3) - Bobbin
(4) - Bobbin case retainer
(5) - Guide

(6) - Tension spring
(7) - Slot




2. Swivel up the bobbin case retainer (4).
3. Remove the empty bobbin.
4. Insert a full bobbin (3).



Important

Insert the bobbin (3) so that it moves in the opposite direction of the hook when the thread is pulled out.

5. Feed the hook thread through the slot (7) in the bobbin case retainer.
6. Pull the hook thread under the tension spring (6).
7. Feed the hook thread through the guide (5) and pull it approx. 3 cm further.
8. Close the bobbin case retainer (4).
9. Release the threading mode (1) push button.
- 👉 The cover plate (2) swivels back to the original position.

10. If the bobbin has been changed by the program without being requested to do so (e.g. in the event of a color change), tap the  *Bobbin change* button on the main screen.

This confirms that a new bobbin has been inserted and that the thread consumption must resume counting from the value corresponding to the full bobbin capacity.



Information

If the bobbin has been changed because it was empty, the thread consumption will be counted from full bobbin capacity after a bobbin change.

4.11 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.

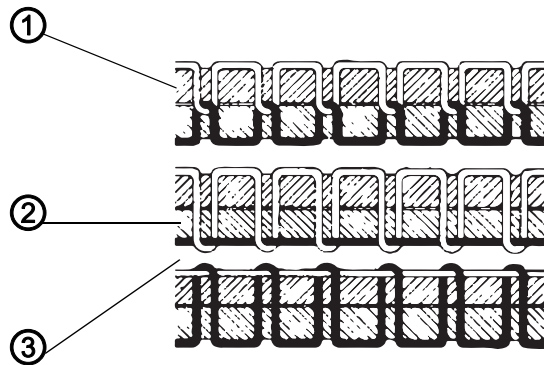


Proper setting

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.

Abb. 19: 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

4.11.1 Setting the needle thread tension

The needle thread tension can only be set using the software of the control panel; for detailed information, refer to the chapter Programming ( p. 55).

4.11.2 Setting the hook thread tension

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch the machine to threading mode and then set the hook thread tension.

Abb. 20: Setting the hook thread tension (1)



(1) - Threading mode push button



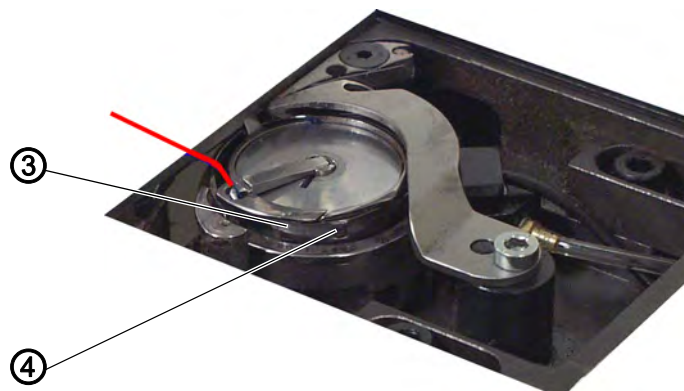
(2) - Cover plate

To set the hook thread tension:



1. Press the threading mode (1) push button.
- The drive carriage moves to the bobbin change position.
The cover plate (2) swivels to the side.
The sewing feet are moved to the lower position.
The lighting is switched on.

Abb. 21: Setting the hook thread tension (2)



(3) - Tension spring

(4) - Adjusting screw

The hook thread tension is generated by the tension spring (3) and adjusted via the adjustment screw (4).

Increasing tension

1. Turn the adjusting screw (4) clockwise.

Reducing tension

1. Turn the adjusting screw (4) counterclockwise.

Order

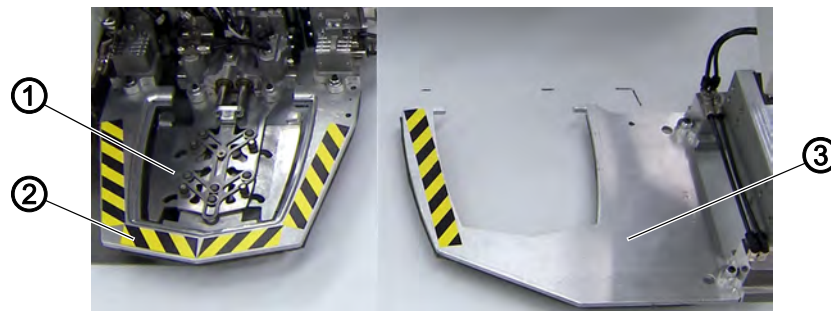
1. Release the threading mode (1) push button.
↪ The cover plate (2) swivels back to the original position.

4.12 Changing the configuration set

For pockets with a different shape, you must change the configuration set. A configuration set is comprised of an inner slider, the outer frame and the transfer plate.

To change the configuration set, you must activate the clamp change mode.

Abb. 22: Changing the configuration set

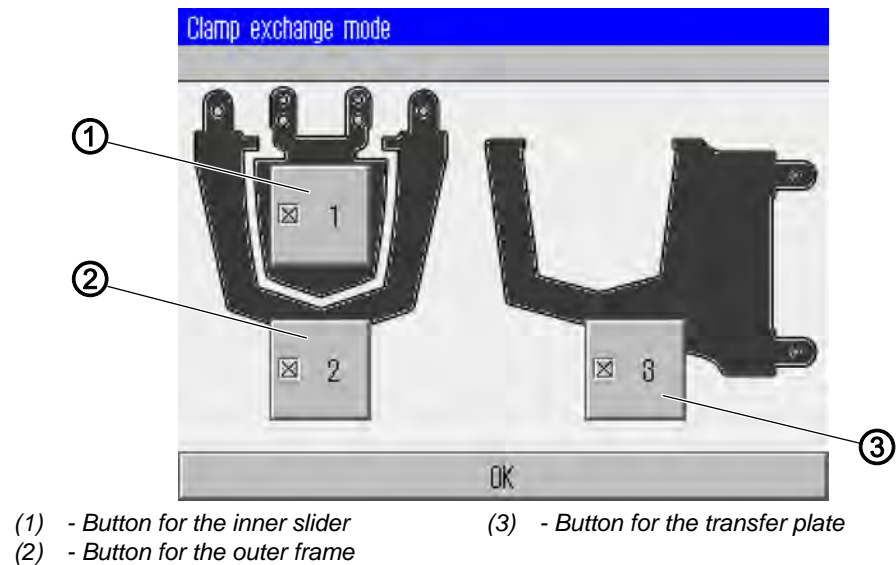


- (1) - Inner slider
(2) - Outer frame

- (3) - Transfer plate

4.12.1 Activating the clamp change mode

Abb. 23: Activating the clamp change mode



To activate clamp exchange mode:



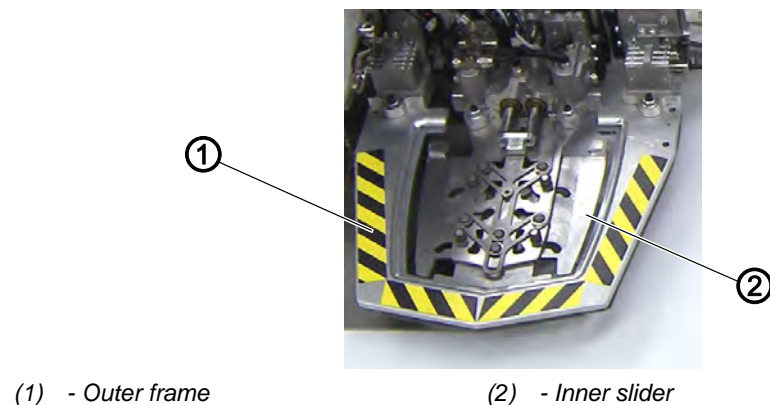
1. Switch on the machine and move it to initial position.
 2. Tap the menu items *Extras* > *Clamp exchange mode*.
- The clamp change window is displayed: The clamp change mode is active.

4.12.2 Changing the outer frame and inner slider

You must first disassemble the outer frame and then the inner slider. The installation takes place in reverse order.

Disassembling the outer frame and inner slider

Abb. 24: Disassembling the outer frame and inner slider



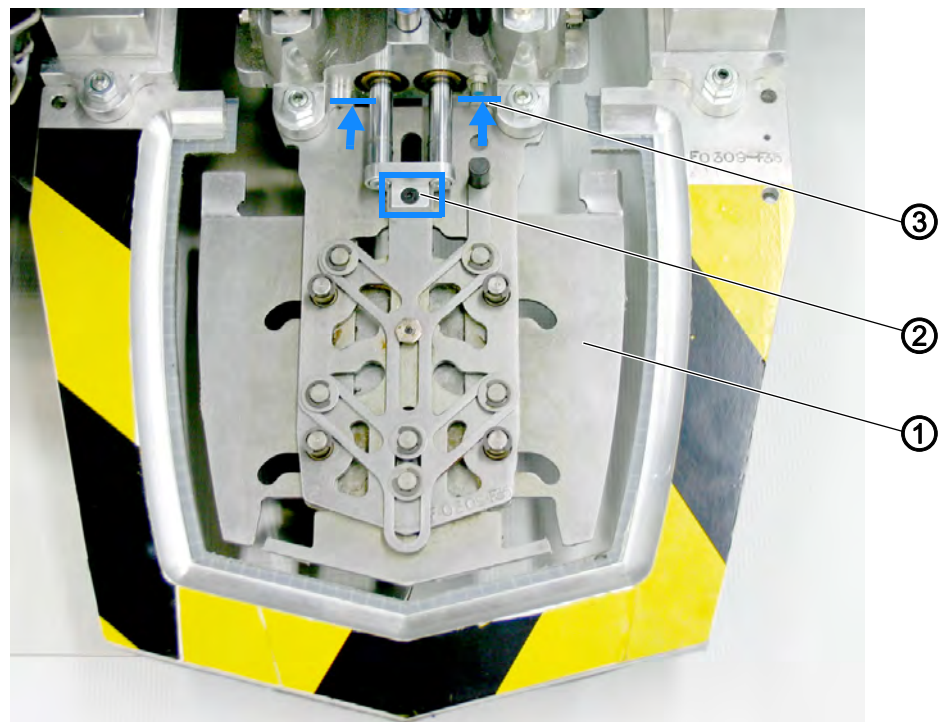
To remove the outer frame and the inner slider:



1. Hold the outer frame (1) with your left hand.
2. Tap the 2 button on the screen.
- ↳ The locking device opens.
3. Tilt the outer frame (1) slightly and carefully pull it out towards the front of the bracket.
4. Hold the inner slider (2) with your left hand.
5. Tap the 1 button on the screen.
- ↳ The locking device opens.
6. Tilt the inner slider (2) slightly and carefully pull it out of the bracket to the front.

Assembling the inner slider

Abb. 25: Assembling the inner slider



(1) - Inner slider
(2) - Driver pin

(3) - Stopper bracket

To assemble the inner slider:



1. Spread the inner slider (1), slide as far as the stopper (3) into the bracket and hold it in this position.



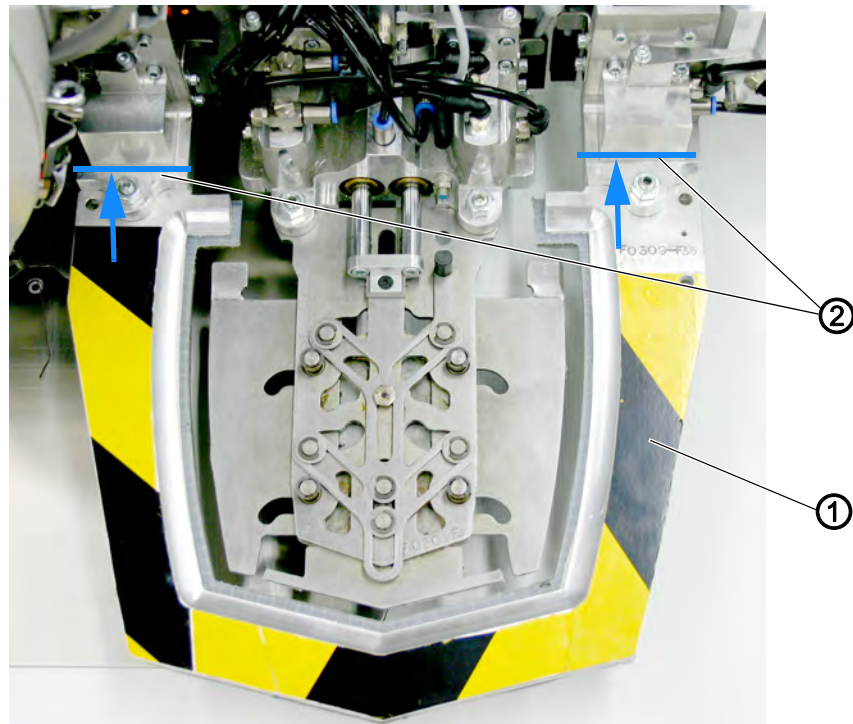
Important

The guide drill hole of the slider must be positioned in the pin of the driver (2). The inner slider must remain fully apart.

2. Tap the **1** button on the screen.
- ✎ The transfer plate is closed.
3. Check whether the inner slider lies fully at the limit stop (3).
4. Correct if necessary.

Assembling the outer frame

Abb. 26: Assembling the outer frame



(1) - Outer frame

(2) - Stopper bracket

To assemble the outer frame:



1. Slide the outer frame (1) as far as the stopper (2) into the bracket and hold it in this position.
2. Tap the **2** button on the screen.
- ✎ The transfer plate is closed.

4.12.3 Changing the transfer plate

Disassembling the transfer plate

Abb. 27: Disassembling the transfer plate



(1) - Transfer plate

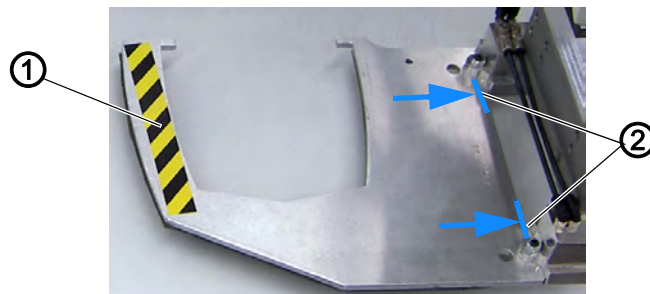
To disassemble the transfer plate:



1. Hold the transfer plate (1) with your left hand.
2. Tap the **3** button on the screen.
- ↳ The locking device is released.
3. Tilt the transfer plate slightly and carefully pull it out of the bracket to the left.

Assembling the transfer plate

Abb. 28: Assembling the transfer plate



(1) - Transfer plate

(2) - Stopper bracket

To assemble the transfer plate:



1. Slide the transfer plate (1) as far as the stopper (2) into the bracket and hold it in this position.
2. Tap the **3** button on the screen.
- ↳ The transfer plate is closed.

4.12.4 Ending clamp change mode

NOTICE

Property damage may occur!

Damage to the machine by exceeding the sewing field size.


If the sequence or seam programs do not match the configuration set, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Ensure that only sequences and seam programs which are suitable for the configuration set are used.

The clamp change mode can only be ended once all locking devices are closed on the configuration set.


To end clamp exchange mode:



1. Confirm with **OK**.
2. Perform a contour test to ensure the configuration set is set correctly and the selected seam program suits the configuration set ( p. 50).



Important

The contour must be within the boundaries of the sewing field. Open an appropriate sequence for the configuration set ( p. 50).

5 Programming

The control is operated via the operating terminal (1) at the automatic material feeder.

Abb. 29: Settings via software



(1) - Operating terminal

The operating terminal contains a touch-sensitive screen (touchscreen). Buttons and elements are displayed on the touchscreen. A command is executed by touching a button or an element.

Activating a button/selecting an element

NOTICE

Property damage may occur!

Damage can be caused to the touchscreen from sharp parts.

Only operate the touchscreen with a finger or a special stylus.



1. Touch the corresponding button or element.

5.1 Structure of the software

You can create and manage seam programs and sequences via software. During sewing, these programs are called up and processed stitch by stitch.

The software is also used to define general settings that apply to all programs.

The software also includes technical menu items for testing and maintaining the machine.

Seam program

A seam program consists of a seam contour with parameters defining the individual contour sections.

Up to 99 seam programs can be stored in the system. Seam programs have a file suffix of *.fnp906* after the filename.

Sequence

- A sequence is comprised of at least 2 seam programs.
- Up to 30 seam programs can be combined in any order to form a sequence.
- Up to 20 sequences can be stored in the system. Sequences have a file suffix of *.seq906* after the filename.

5.2 Overview of the menu structure












The following table provides an overview of the menu structure and the function buttons on the main screen.












Different colors indicate which functions are mainly used for normal sewing operations, which items are used for creating and maintaining seam programs and the menu items that are used for making technical settings.





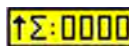

Green: Menu items for sewing

Blue: Menu items for creating and managing programs

Magenta: Menu items for settings and information used by technicians

Menu items in popup menus				
Menu item	Function	Subitems	Subitems	Described on
File	Open existing sewing programs, create new programs, copy or delete existing programs.	Delete		 p. 65
		Copy		 p. 63
		Open		 p. 50
		New	Seam program	 p. 55
			Sequence	 p. 61
Edit	Define general settings for all programs or modify an existing program.	Save As		 p. 63
		Machine parameters		 p. 74
		Sequence		 p. 74
		Seam program	Parameter	 p. 69
			Contour adjustment	 p. 66
			Testing Contour	 p. 60

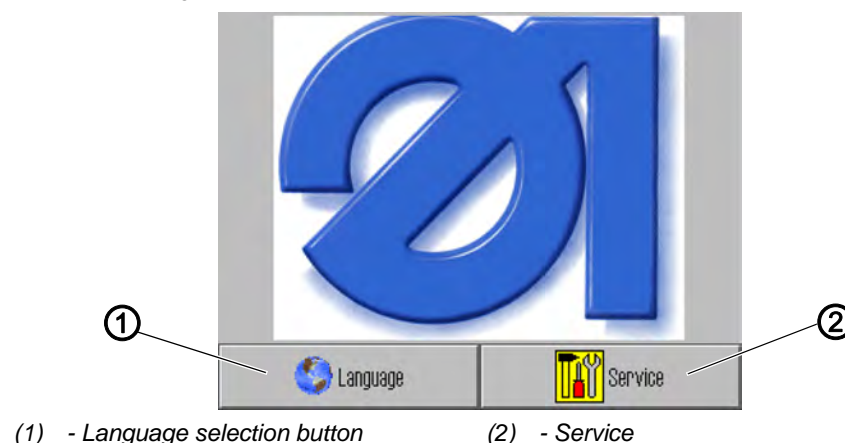
Menu items in popup menus				
Menu item	Function	Subitems	Subitems	Described on
Extras	Change the configuration set Notice: Remove bundle from automatic stacker Display options: full-screen and zoom Technician menu: Adjustments, system information and tests	Clamp exchange mode		 p. 34
		Bundle removal		 p. 19
		Full screen on / off		 p. 50
		Zoom on / off		 p. 50
		Service	Adjustments	 p. 78
			System information	 p. 81
			Multi-test	 p. 78
			Initialization and update	 p. 87
			Manufacturer (for DA personnel only)	
Correction	Short-term sewing with other values	Thread tension		 p. 51
		Sewing speed		 p. 52
?	Software version of the control unit panel	Info		 p. 89

Buttons on the main screen			
Button	Function	Subitems	Described on
	Continue sewing the contour from a particular point	Repair mode	 p. 54
	Define announcement of the bobbin change. The thread consumption is set in meters for this.	Bobbin change	 p. 53
	Reset counter to a particular value	Reset counter	 p. 54

5.3 Starting the software

After switching on the machine at the main switch and pressing both start buttons, the machine performs a reference run. After this, the start screen is shown on the operating terminal for a few seconds.

Abb. 30: Starting the software (1)



Using the start screen, you can select the user interface language or use **Service (2)** to quickly switch to the *Multi-test* menu.



Information/Information/Informace

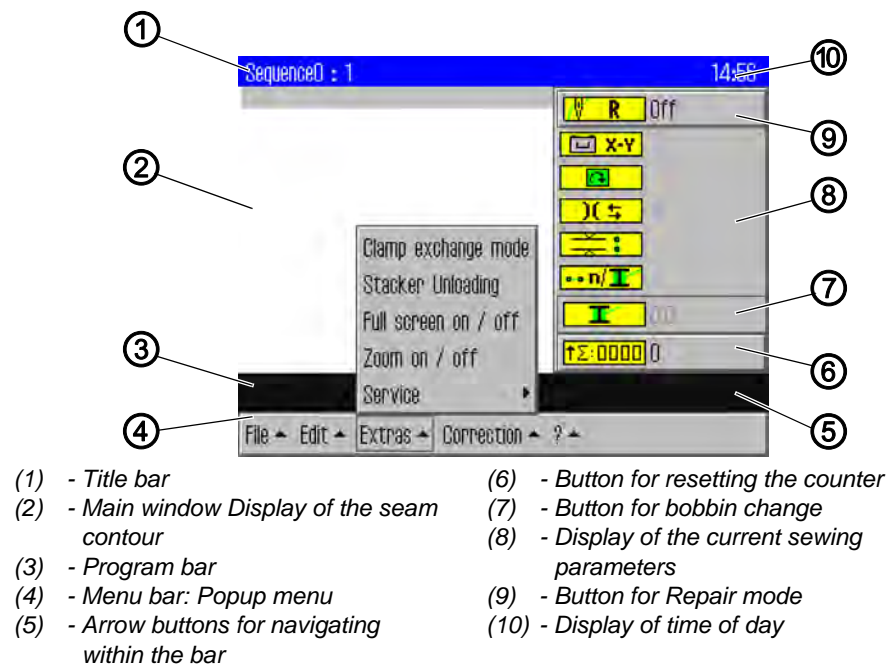
Both functions can also be accessed later from within the program via the menu items *Extras* > *Service* (📖 p. 82 and 📖 p. 80).

If you do not tap any buttons, the display automatically switches to the main screen after a few seconds.

The main screen

The main screen is displayed during sewing. When the machine is started, the start screen is opened with the settings of the last sewing program used.

Abb. 31: Starting the software (2)



Title bar (1)

On the main screen, the currently open sequence is displayed and the time of day (10) is displayed at the right. In the various menus, this bar contains information on the currently selected menu item.

Main window (2)

The contour to be sewn is displayed here.

Program bar (3)

The seam programs of the sequence currently open are displayed here. The program currently being executed is highlighted in black. With the arrow keys (5) on the right, you can move additional seam programs into the visible bar area.

When a single seam program is opened, this fills the entire bar width.

Menu bar (4)

The menu bar contains the popup menu. The popup menu allows you to access the various different menu items for creating and editing seam programs and for performing settings and tests on the machine. An arrow (▲) next to the entry shows that additional sub-menu items are available.

Arrow buttons (5) for navigating within the bar

With the arrow keys (5) on the right, you can move additional seam programs into the visible bar area.



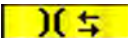

Button for resetting the counter (6)

This button can be used for resetting the counter for the sewn programs or sequences. The current counter value is displayed in this button.

Button for bobbin change (7)

This button is used to inform the system that a new bobbin has been inserted (e.g. after a color change). The hook thread capacity is displayed in this button.

Display of the current seam parameters (8)

-  X-Y - Dimensions of the seam pattern
-  - Sewing speed
-  - Thread tension
-  - Number of stitches/hook thread consumed

Button for Repair mode (9)

This button is used to switch the Repair mode on and off. The current status (*On* / *Off*) is displayed in the button.

5.4 Basic functions for using the software

5.4.1 Enter master password

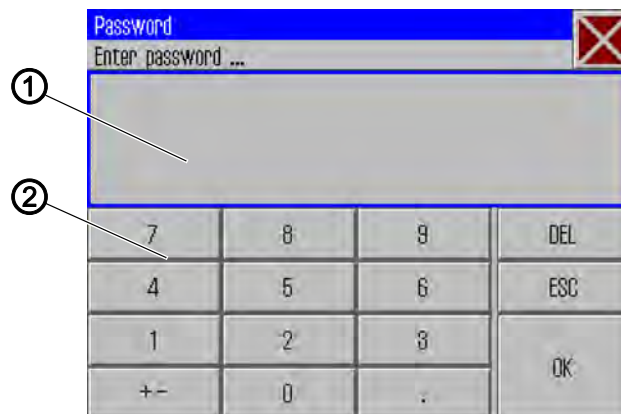
The master password is requested for technical areas. It is not intended for the operator and cannot be changed (📖 p. 79).

To enter the master password:



1. When the *Password* display appears, enter the master password using the number keys (2).

Abb. 32: Entering the operator password



(1) - Input field

(2) - Numeric buttons

➡ The input appears in the data entry field (1).



Information

You can delete incorrect entries via the **DEL** button.



2. Confirm with **OK**.

➡ The selected technical area opens.

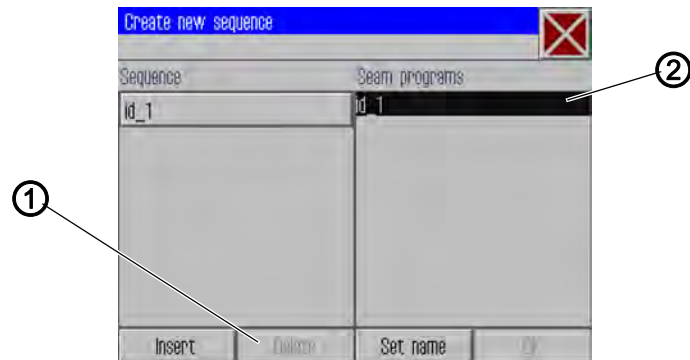
5.4.2 Closing windows

A number of different buttons can be used for closing the currently open window.

Button	Meaning
	At the upper right in the title bar of all windows: <ul style="list-style-type: none"> The program jumps back by one navigation level.
OK	In windows with data entry or selection fields: <ul style="list-style-type: none"> The window is closed and the entered or selected data is adopted.
ESC Abort	In windows with data entry or selection fields: <ul style="list-style-type: none"> The window is closed and the entered or selected data is discarded.

5.4.3 Display principles

Abb. 33: Display principles



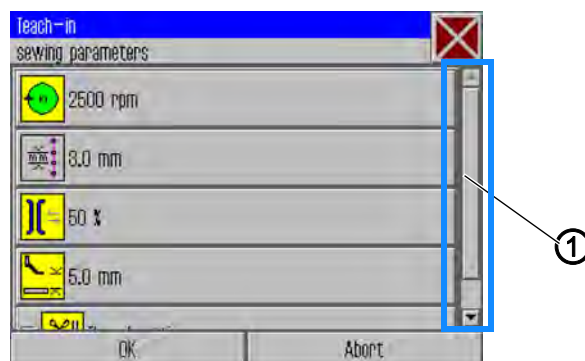
(1) - Grayed-out: Deactivated element (2) - Dark background: Activated element

The currently activated or selected element is highlighted with a dark background (2).

Buttons that are not used in the current context are grayed-out (1).

5.4.4 Scrolling the display

Abb. 34: Scrolling the display



(1) - Scrollbar

A scrollbar (1) appears at the right side when a displayed image is larger than the screen height.

Moving image up/down



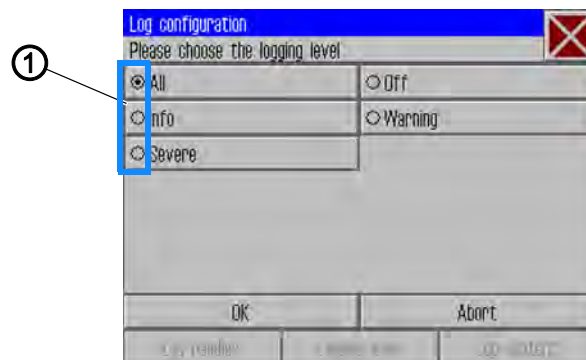
1. Drag the scrollbar (1) up or down.

5.4.5 Selecting options from a list

When selecting options, a distinction is made between round option buttons and square checkboxes.

Selection with option buttons

Abb. 35: Selection with option buttons



(1) - Option buttons: Selected element

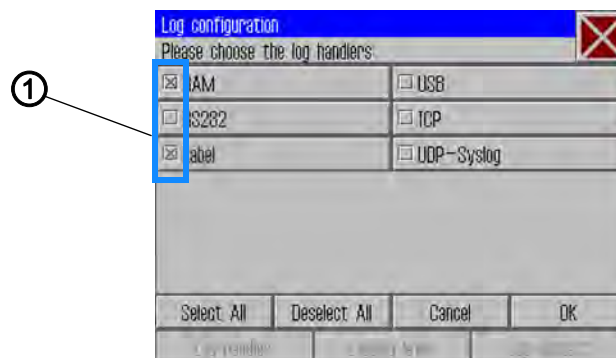
With round option buttons you can only select one of the displayed options.



1. Tap the desired option.
- ↳ The selected option (1) is marked with a dot.

Selection with checkboxes

Abb. 36: Selection with checkboxes



(1) - Checkbox: Selected elements

Checkboxes allow you to select multiple entries.



1. Tap the desired checkboxes.
- ↳ The selected entries (1) are marked with a cross.

5.4.6 Using file filters

When opening, copying or deleting seam programs or sequences, a list of all available files is displayed.

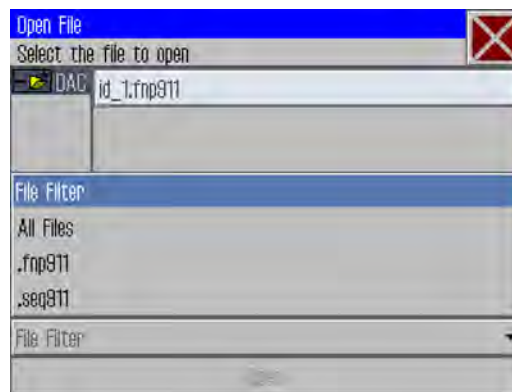
You can use the filter functions to make the list more manageable.

To use file filters:



1. Tap the **File Filter** button under the list.
↳ The file filter screen opens.

Abb. 37: Using file filters

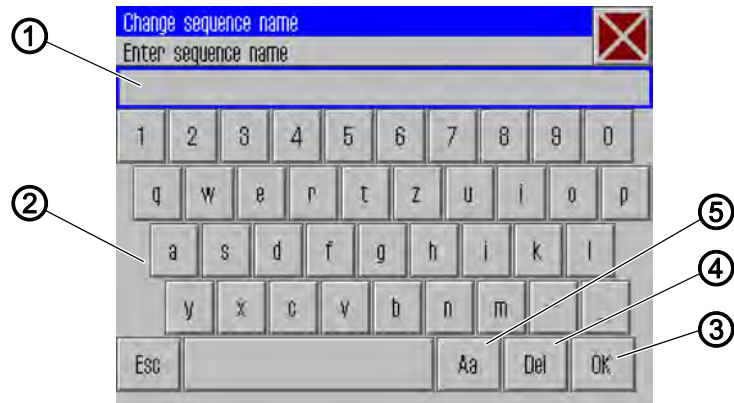


2. Tap the desired filter criterion:
 - *.fnp911*: Seam programs only
 - *.seq911*: Sequences only
 - *All Files*: Seam programs and sequences
3. Tap the **Open** button.
↳ The list is updated according to the selected filter:

5.4.7 Entering text

A text entry window is displayed when you need to enter text, e.g. for the name of a program.

Abb. 38: Entering text



- (1) - Input field
(2) - Keyboard
(3) - OK: Adopt the entered text

- (4) - Del: Delete a character
(5) - Aa: Switching between uppercase/ lowercase

Writing text



1. Use the keyboard (2) to enter the text.

Switching between uppercase/lowercase



1. Tap the **Aa** (5) button.

Deleting the last character



1. Tap the **DEL** (4) button.

Adopting the entered text

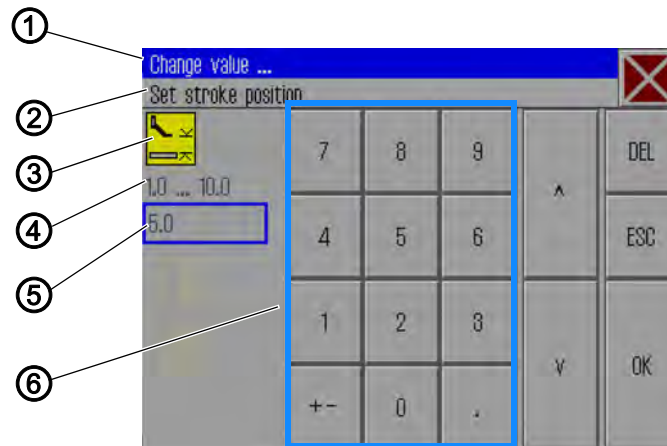


1. Confirm with **OK** (3).
- The entered text is adopted, and the text entry window is closed.

5.4.8 Entering parameter values

A numeric entry window opens when you need to enter numeric values for program or machine parameters.

Abb. 39: Entering parameter values



(1) - Title bar

(2) - Status bar

(3) - Symbol

(4) - Value range

(5) - Input field

(6) - Numeric buttons

The title bar (1) shows the parameter group.

The status bar (2) shows the name of the parameter currently being edited. The symbol (3) of the parameter is displayed below.

The value range (4) shows the entry limits for the parameter.

The current valid value is displayed in the input field (5). You can change this value.

Entering a value

Positive value:



1. Enter required values using the displayed keyboard (6).

Negative value:



1. First enter the first number, then the sign and any additional numbers using the numeric buttons (6).

- Example **-12**: Enter the value in the order **1**, **-**, **2**.

Deleting a value



1. Tap the **DEL** button.

Adopting a value



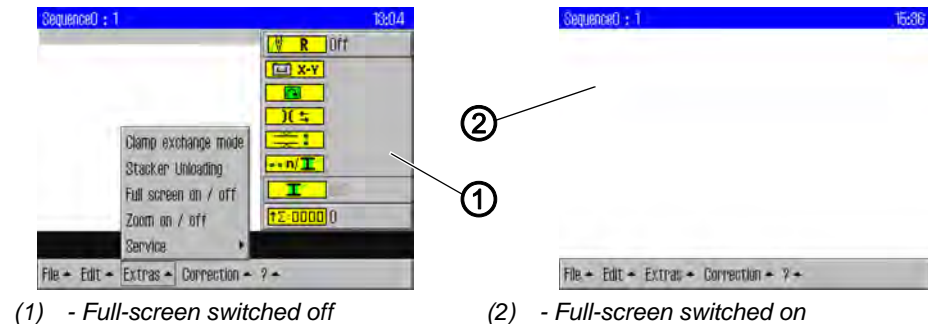
1. Confirm with **OK**.

↩ The entered value is adopted, and the numeric entry window is closed.

5.4.9 Switching on and off the full-screen display

In order to see the seam contour in more detail you can switch the main screen to occupy the full screen and hide the buttons at the right side of the main screen.

Abb. 40: Switching the full-screen display on and off



1. Tap the menu items *Extras > Full-screen on / off*.
 ↳ The display switches to the respective other mode.

5.4.10 Switching on and off zoom

You can magnify the display in a zoom level in order to see the seam contour in more detail.

Switching between the displays



1. Tap the menu items *Extras > Zoom on / off*.
 ↳ The display switches to the respective other mode.

5.5 Opening a seam program or sequence for sewing

The stored seam programs or sequences frequently need to be opened for sewing.

To open a seam program or sewing sequence for sewing:



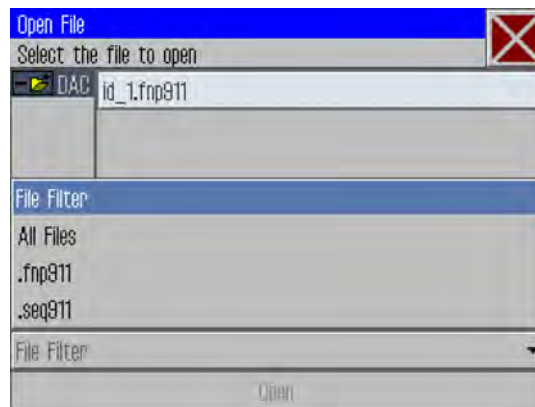
1. Tap the menu items *File > Open* in the main window.
 ↳ The selection window appears. All seam programs and sequences are displayed.



Information

Using *File filter*, you can limit the selection and make the list more manageable (📖 p. 47).

Abb. 41: Opening a seam program or sequence for sewing



2. Tap the desired file.
3. Tap the **Open** button.
- ↳ The seam program/sequence is opened.
4. Press both start buttons to start sewing.

5.6 Briefly sewing with modified values

If you briefly need to sew a special material or use a particular thread strength with different values, without changing the seam program, you can use the *Correction* menu item to temporarily change the values for thread tension and speed. The values then apply to all subsequently executed seams. The values are deleted when the machine is switched off.



Important

If you wish to adopt the changes permanently, you must modify and save the program. Otherwise, the last save values after switching off the machine are restored.

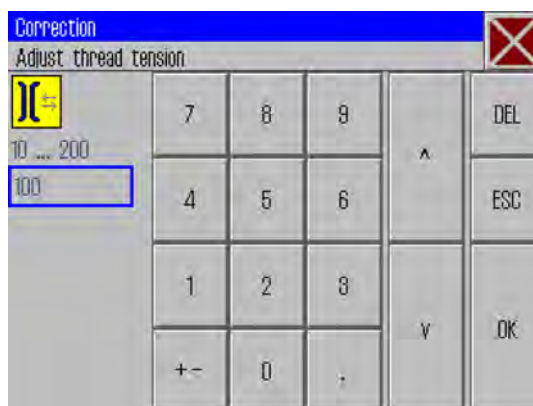
5.6.1 Sewing with a modified thread tension

To sew with a modified thread tension:



1. Tap the menu items *Correction* > *Thread tension*.
- ↳ The window for changing the thread tension appears:

Abb. 42: Sewing with a modified thread tension



2. Enter the desired value for the thread tension.
 3. Confirm with **OK**.
- The value is adopted and used for all seams until the machine is switched off.

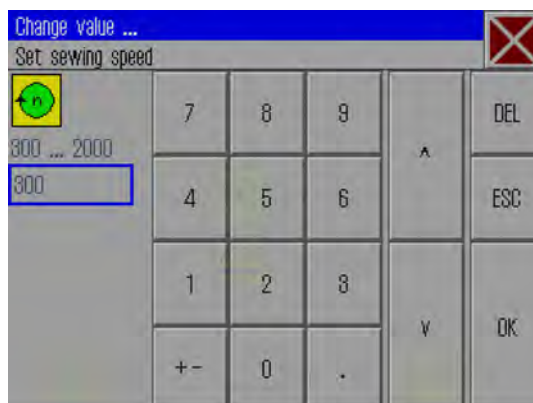
5.6.2 Sewing with a modified speed

To sew with a modified speed:



1. Tap the menu items *Correction* > *Sewing speed*.
- The window for changing the thread tension appears:

Abb. 43: Sewing with a modified speed



2. Enter the desired speed.
 3. Confirm with **OK**.
- The value is adopted and used for all seams until the machine is switched off.

5.7 Fixing a thread breakage

WARNING



Risk of injury from sharp and moving parts!

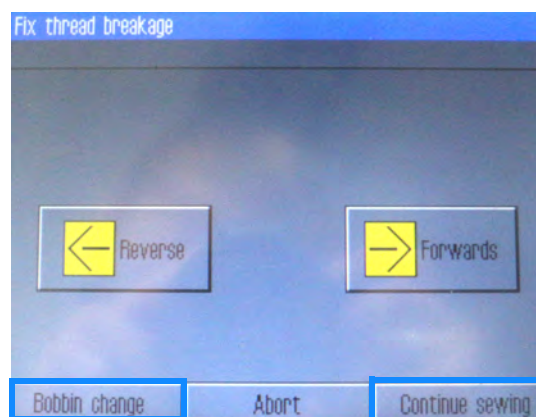
Puncture or crushing possible.

Switch the machine to threading mode before changing the bobbin.

The machine automatically detects when the needle thread has been used up or broken and a new bobbin needs to be inserted.


The *Fix thread breakage* window then opens automatically.

Abb. 44: Fixing a thread breakage



To fix a thread breakage:



1. To check whether the needle thread is broken, tap the **Bobbin change** button.
2. Changing the bobbin ( p. 29).
 - ↳ A window counting the thread consumption from full bobbin capacity is displayed.
3. Press **Yes** to confirm that the thread consumption of the new bobbin should be counted from full bobbin capacity.
4. Tap the **Continue sewing** button.
5. Use the **Forwards** and **Back** buttons to move to the point where sewing is to continue.
 - ↳ The program jumps back to the main screen and sewing of the seam continues from the selected point.

5.8 Continuing a seam in Repair mode after an error

If an error occurs, e.g. a thread breakage, the seam must be continued in Repair mode.

In Repair mode, you can move to any desired point on the contour. E.g. in order to continue the seam program from this position after an error has occurred or repeat a few stitches.

To continue a seam in Repair mode after an error:





1. Tap the  *Repair mode* button on the main screen.
- ↳ The *Repair mode* window is displayed.

Abb. 45: Continuing a seam in Repair mode after an error

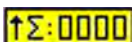


2. Use the **Forwards** and **Back** buttons to move to the point where sewing is to continue.
3. Tap the **Continue sewing** button.
- ↳ The program switches to the main screen. The seam continues to be sewn from this point.

5.9 Resetting the counter

Depending on the machine parameter settings, the counter counts the sewn programs or sequences up or down. You can use the **Reset Counter** button to reset the counter to the start value ( p. 78).



1. Tap the  *Reset Counter* button on the main screen.
- ↳ The counter is reset to the value defined in the machine parameters.

5.10 Creating a new seam program

NOTICE

Property damage may occur!

Sewing without material may damage the machine.

Always place material under the transfer plate before starting the sewing process.

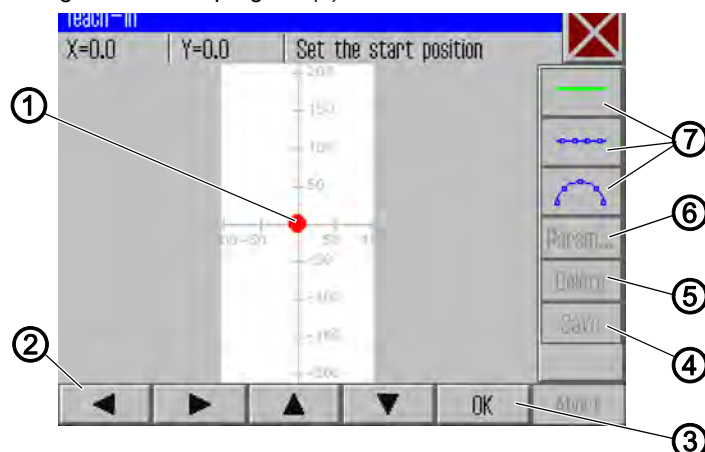
A new seam program is created using a teach-in procedure. Individual seam paths with specific seam parameters are defined via the operating terminal in order to do this.

To create a new seam program:



1. Tap the menu items *File > New > Seam Program*.
- ↳ The teach-in window is displayed.

Abb. 46: Creating a new seam program (1)



- | | |
|------------------------|-----------------------------|
| (1) - Cursor | (5) - Delete button |
| (2) - Arrow buttons | (6) - Parameter button |
| (3) - OK button: Adopt | (7) - Line selection button |
| (4) - Save button | |

Defining the starting point






2. Use the arrow buttons (2) to move the cursor (3) to the desired starting position.
3. Confirm with **OK**.
- ↳ The desired starting point is adopted and marked with a green dot.

Selecting the line type



4. Use the line selection buttons (7) to select the type of line to be defined.

-  **Seamless path**
The clamp moves over this path to the next position without sewing.
-  **Straight seam**
A straight seam is sewn.
-  **Curved seam**
A curved seam is sewn.

➤ After tapping the button for a straight or curved seam the corresponding window for entering the seam parameters for this path opens.


Defining the seam parameters for the path

Abb. 47: Creating a new seam program (2)








Selecting the seam parameters for the path



5. Tap the respective parameter.
- The window for entry opens.
6. Enter the desired value for the parameter ( p. 49).

Seam parameters for teach-in

Button	Meaning
	Speed
	Stitch length
	Thread tension
	Stroke height
	Thread cutting

Drawing a path

- Use the arrow buttons to move the cursor to the end point of the desired path.



Information

Alternatively, you can tap an arrow button once in order to define the direction and then continue moving in this direction by pressing the pedal.



Important


Take care to ensure that the contour remains within the permissible sewing field of your particular machine. Especially with curved paths, you should remember that the start and end points are not directly connected and that a curve is generated between these two points.

- Confirm with **OK**.

➡ The seam path is adopted with the specified parameters.

Adding further seam paths

Further seam paths are defined using the same procedure.

- Add each new seam path by starting at step 4 ( p. 56).



Deleting a seam path



10. Tap the **Delete** button.

↩ The last section of the seam path is deleted.

Saving the program

NOTICE

Property damage may occur!

Damage to the machine by exceeding the sewing field size.

If the sequence or seam programs do not match the configuration set, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Ensure that only sequences and seam programs which are suitable for the configuration set are used.

After you have defined all the seam paths, you can save the new seam program and specify a name.



11. Tap the **Save...** button.

↩ The window for entering the program name opens.


12. Enter the desired name.

13. Confirm with **OK** ( p. 48).


↩ The program is now available under this name for sewing, editing or copying.



Important

After creating or changing a program, perform a contour test ( p. 60). Ensure that the contour lies within the limits of your particular unit.

5.11 Setting Mode X in Load and Deposit mode

In Load and Deposit mode, the machine has the **Modes 1–5** ( p. 71).


The starting position is always **Mode 1**. When a new seam program is created, **Mode 5** is automatically set in Load and Deposit mode. After a successful contour test, **Mode 1** must therefore be set in Load and Deposit mode.



Information

If you perform a contour test, for example, it makes sense to set **Mode 5** in Load and Deposit mode. **Mode 5** means:

- Load mode: Transfer plate is deactivated
- Deposit mode: Stacker is deactivated

The fact that the transfer plate and the stacker are deactivated facilitates and speeds up the contour test ( p. 60).

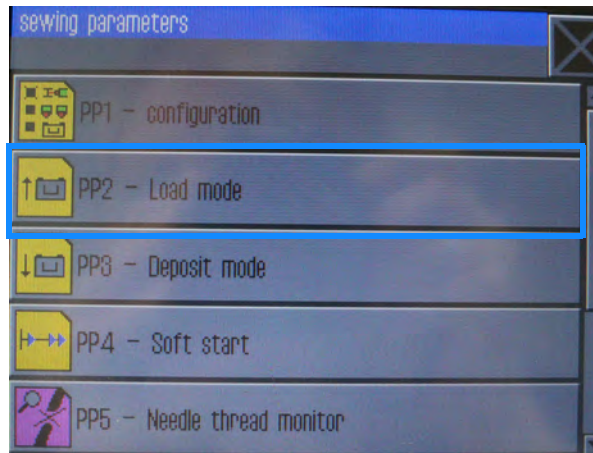
To set the desired mode in Load/Deposit mode:



1. Tap the menu items *Edit* > *Seam program* > *Sewing parameters*.

↳ The *Sewing parameters* window appears.

Abb. 48: Setting Mode X in Load and Deposit mode



2. Tap the *PP2 Load mode/PP3 Deposit mode* button.
3. Tap the *Mode X* button.
The *Mode X* button shows which mode is currently set.
- ↳ The mode selection window appears.
4. Tap the desired *Mode X*.
5. Confirm with **OK**.

5.12 Performing a contour test

NOTICE

Property damage may occur!

Damage to the machine by exceeding the sewing field size.

If the sequence or seam programs do not match the configuration set, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Ensure that only sequences and seam programs which are suitable for the configuration set are used.



Information

It makes sense to set **Mode 5** in Load and Deposit mode for the contour test. **Mode 5** means the transfer plate is deactivated in Load mode and the stacker is deactivated in Deposit mode. This facilitates and speeds up the contour test.

A contour test checks whether the entered contour lies within the limits of the sewing field, whether the shapes are correctly mounted and whether the selected seam program suits the configuration set used.

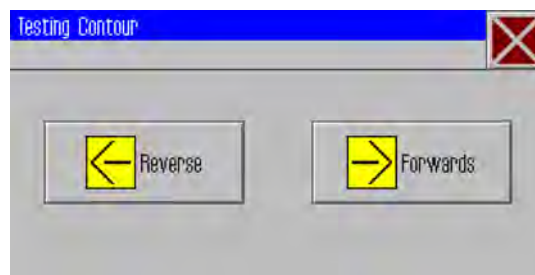
After creating or changing a program, changing a seam contour or changing the shape, perform a contour test.

To perform a contour test:




1. Check whether **Mode 5** is set in Load and Deposit mode.
When a contour test is performed for a new seam program, **Mode 5** is automatically set in Load and Deposit mode.
2. Set **Mode 5** in Load and Deposit mode if necessary (p. 58).
3. Place material below the transfer plate.
4. To lower the transfer plate, press the pedal.
5. Tap the menu items *Edit > Seam program > Testing Contour*.
 The *Testing Contour* window opens.

Abb. 49: Performing a contour test





6. Press both start buttons.
7. Move along the contour stitch by stitch using the **Forwards** and **Back** buttons.
8. Check that all points lie within the sewing field.
9. After a successful contour test, set **Mode 1** in Load and Deposit mode ( p. 58).

5.13 Creating a sequence

You can combine up to 30 seam programs to form a sequence. You can create up to 20 sequences.

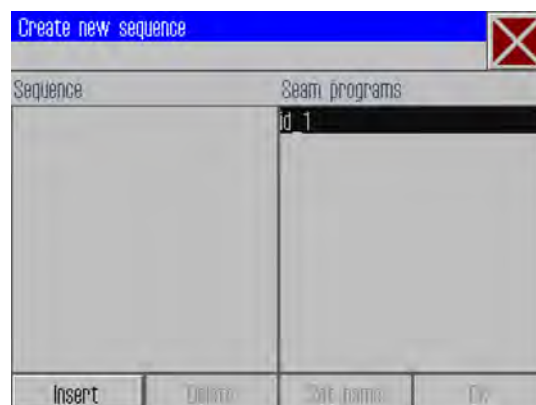
Selecting the seam program

To select a seam program:



1. Tap the menu items *File > New > Sequence*.
- ↳ The window for selecting the seam programs appears.

Abb. 50: Creating a sequence



All existing seam programs are listed in the *Seam programs* field. The *Sequence* field shows the seam programs that are allocated to the sequence.



2. Tap the desired seam program.
- ↳ The selected program is highlighted with a dark background.
3. Tap the **Insert** button.
- ↳ The seam program is adopted the sequence and is displayed in the *Sequence* field at the left side of the screen.
4. Add further seam programs in the same manner.

Removing a seam program from a sequence



1. Tap the seam program in the *Sequence* field and tap the **Delete** button.
- The program is removed from the sequence.

Assigning a name to the sequence

To assign a name to a sequence:

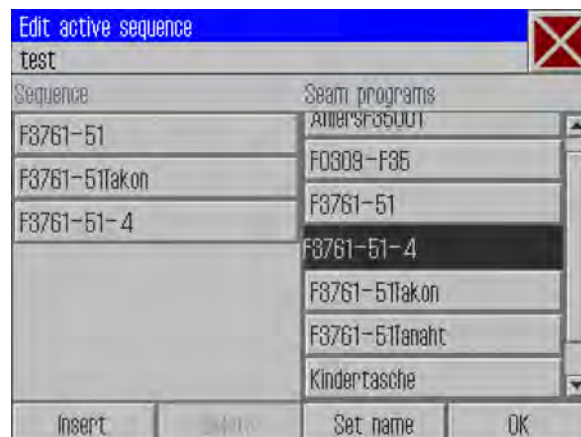


1. Tap the **Set name** button.
- The window for entering the name opens.
2. Enter the desired name.
 3. Confirm with **OK** (📖 p. 48).
- The sequence is now available under this name for sewing, editing or copying.

5.14 Editing an existing sequence

You can edit an existing sequence by adding or removing seam programs.

Abb. 51: Editing an existing sequence



To edit an existing sequence:



1. Tap the menu items *File > Open* in the main window (📖 p. 50).
- The sequence is opened in the main screen.
2. Tap the menu items *Edit > Sequence*.
- The window for editing the sequence appears.
3. Add programs to the sequence using the **Insert** button or remove from the sequence using the **Delete** button. The steps correspond to the procedure used for creating a new sequence (📖 p. 61).

5.15 Saving a seam program/sequence under a different name

You can save a seam program or sequence under a different name.



Information

To create a new program, you can use a similar, already-existing program as a template. You can save the existing program under a new name and change the respective details.

To save seam programs/sequences under different names:




1. Tap the menu items *File > Save As*.

↳ A selection window allowing you to select a seam program or sequence is displayed.



Information

You can limit the selection with *File Filter*. This makes the list more manageable ( p. 47).

2. Tap the desired element.

3. Tap the **Save As** button.

↳ The window for entering the new name is opened.

4. Enter the desired name.

5. Confirm with **OK** ( p. 48).

↳ The program or sequence is now also available under this name for sewing, editing or copying.

5.16 Copying a seam program or sequence

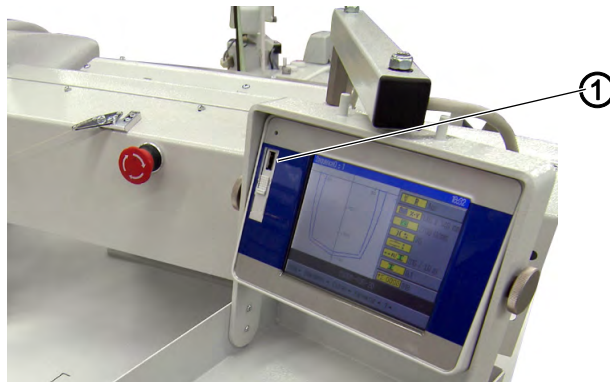
You can also copy seam programs or sequences from a USB key to the control or from the control to a USB key.



Information

Not all commonly available USB keys are suitable for the copying process. You can obtain a suitable USB key from Dürkopp Adler using the part number 9805 791113.

Abb. 52: Copying a seam program or sequence (1)



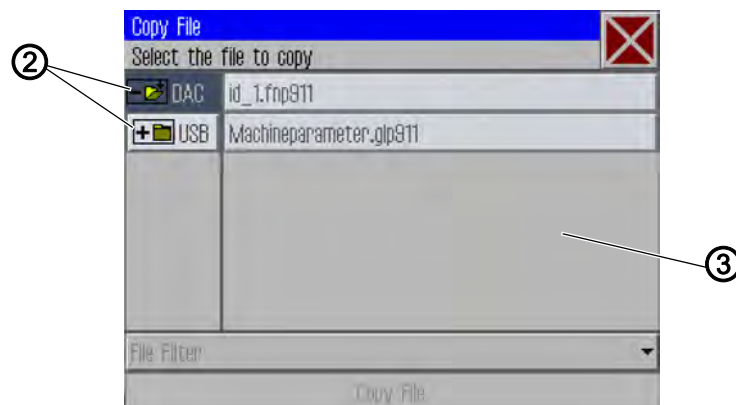
(1) - USB port

To copy seam programs or sequences:



1. Connect a USB key or other storage medium to the USB port (1).
 2. Tap the menu items *File* > *Copy*.
- ↳ The window for selecting the file to be copied appears.

Abb. 53: Copying a seam program or sequence (2)



(2) - Select the source to be copied

(3) - File selection window



3. Use the buttons (2) to select whether the data is to be copied from the DAC control or the USB key.
- ↳ The selected button is highlighted with a dark background. The files present at this location are listed in a selection window (3).



Information

You can limit the selection with *File filter*. This makes the list more manageable (📖 p. 47).

4. Tap the desired file.
- ↳ The selected file is highlighted with a dark background.

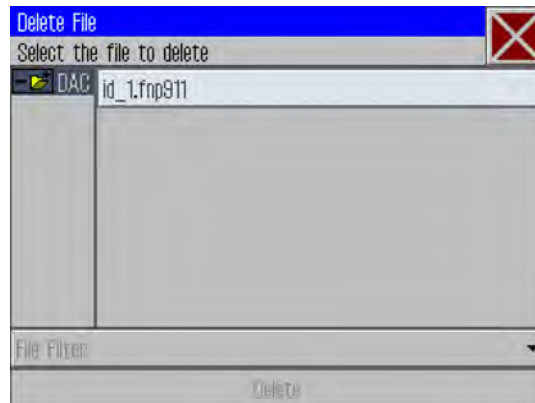
5. Tap the **Copy File** button.

↳ The selected file is copied to the USB key or the control.

5.17 Deleting a seam program or sequence

Seam programs or sequences that are no longer required can be deleted from the control.

Abb. 54: Deleting a seam program or sequence



To delete a seam program or sequence:



1. Tap the menu items *File > Delete*.

↳ The window for selecting the file to be deleted appears.



Information

You can limit the selection with *File Filter*. This makes the list more manageable (📖 p. 47).

2. Tap the desired file.

↳ The selected file is highlighted with a dark background.

3. Tap the **Delete** button.

↳ The selected file is deleted.

5.18 Editing an existing seam program

You can change the contour and parameters of existing seam programs. The changes are applied to the seam program that is currently open on the main screen.

To select the seam program to edit:



1. Open the seam program you wish to modify via the menu items *File > Open* (📖 p. 50).

↳ The seam program is opened in the main screen.

5.19 Adjusting a contour

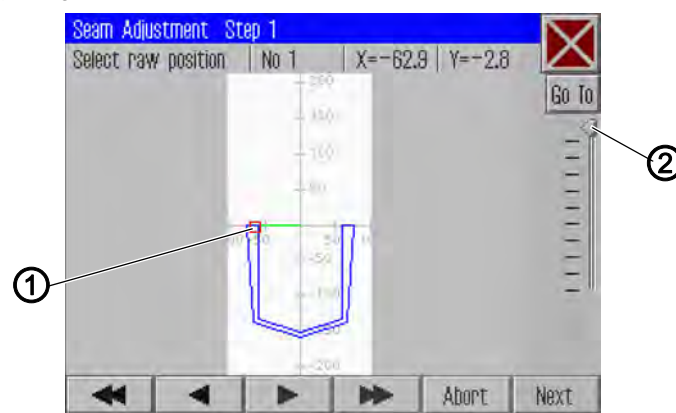
To adjust the contour:



1. Tap the menu items *Edit > Seam program > Contour adjustment*.

↳ The contour adjustment window is displayed.

Abb. 55: Adjusting a contour (1)



(1) - Cursor

(2) - Scale: First to last stitch



2. Use the arrow buttons to move the cursor (1) to the position on the contour that is to be changed.



Information

You can also move to the position on the contour that is to be changed with the slider control (2).

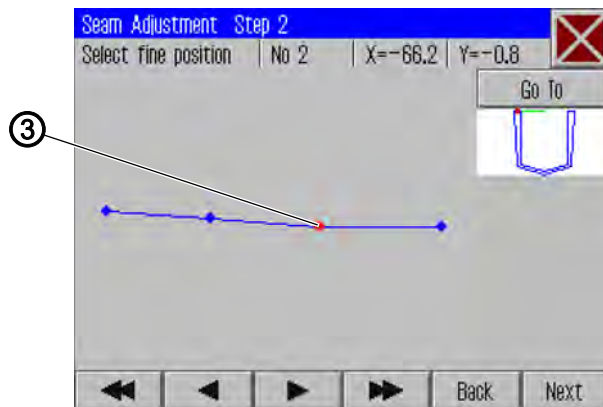
Top scale: First stitch of the seam pattern.

Bottom scale: Last stitch of the seam pattern.

3. Tap the **Go To** button.

↳ The selected contour region is displayed in detail.

Abb. 56: Adjusting a contour (2)



(3) - Stitching point to be changed

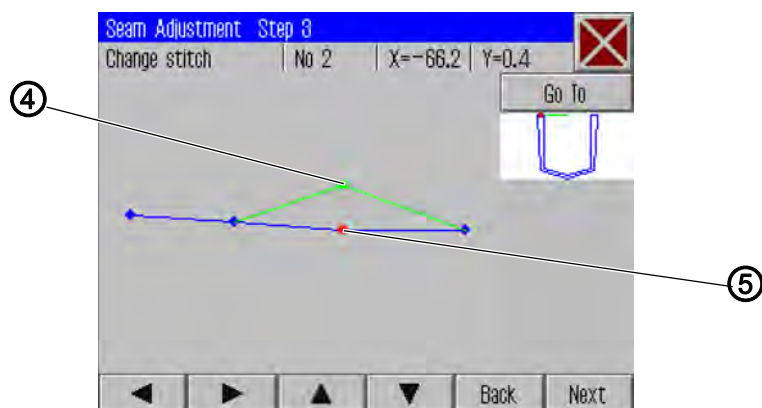


4. Use the arrow buttons to select the stitching point (3) to be changed.

5. Tap the **Go To** button.

↪ The window for changing the seam path is displayed.

Abb. 57: Adjusting a contour (3)



(4) - Green: New stitching point

(5) - Red: Old stitching point



6. Use the arrow buttons to move the stitching point to the new position (4).

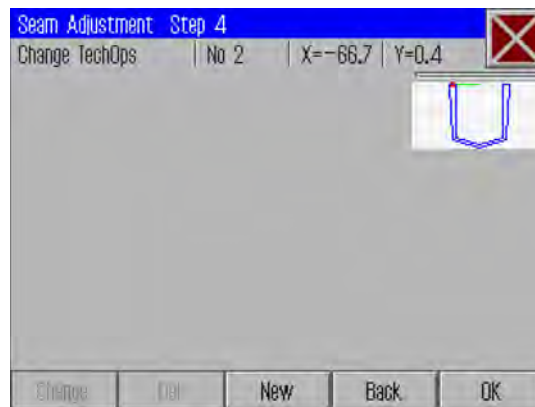
↪ The modified seam path is displayed in green.

7. Tap the **Next** button.

↪ The window for selecting the technology operations opens.

↪

Abb. 58: Adjusting a contour (4)



Information

Define technology operations for the new seam path (optional):

- Tap the **New** button: Open the *Technology operations* window.
- **OK** button: Save and exit contour adjustment (continue with step 10).

Selecting technology operations

NOTICE

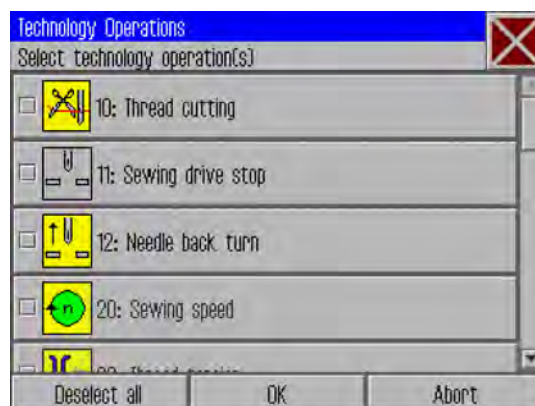
Property damage may occur!

Damage to the machine by exceeding the sewing field size.


If the sequence or seam programs do not match the configuration set, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Ensure that only sequences and seam programs which are suitable for the configuration set are used.

Abb. 59: Adjusting a contour (5)






8. Select the desired technology operations for the new seam path ( p. 46).
9. Confirm with **OK**.
 - ↳ The previous window for seam adjustment is displayed.
10. Confirm with **OK**.
 - ↳ A query appears to accept the changes. When you confirm, the modified contour will be saved.



Important

After creating or changing a program, perform a contour test ( p. 60). Ensure that the contour lies within the limits of your particular unit.

5.20 Changing parameters

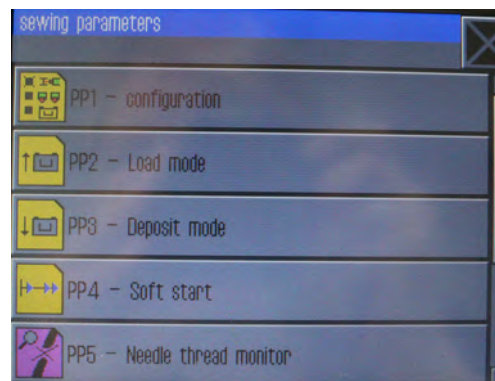
You can also change the general settings that apply to the entire seam program.


Change parameters as follows:




1. Tap the menu items *Edit > Seam program > Parameters*.
 - ↳ The window for selecting the program parameter group is opened.








Abb. 60: Changing parameters










2. Tap the desired parameter group.
 - ↳ The individual parameters of this group are displayed.
3. Tap the desired parameter.
 - ↳ The window for modifying the parameter opens.
4. Set the parameter to the desired value ( p. 49).




There are 8 program parameter groups:






Symbol	Parameter group
	PP1 - Configuration General settings


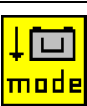


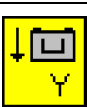
Symbol	Parameter group
	PP2 - Load mode Load mode and position
	PP3 - Deposit mode Deposit mode and position
	PP4 - Soft start Number of stitches and speed
	PP5 - Needle thread monitor Sensitivity value for the needle thread monitor
	PP6 - Thread consumption Values for determining thread consumption
	PP7 - Move Contour is offset in a particular direction
	PP8 - Scaling: The size of the contour is changed.

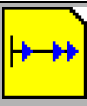
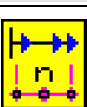



Overview of the individual program parameters




	PP1 - Configuration
Symbol	Meaning
	Seam name max. 20 characters
	Minimum sewing foot stroke height (min. = 1.0 .. max. = 10.0; Def. = 5.0 mm) Sets this as the minimum value of the programmable sewing foot stroke height so that only this value needs to be adjusted when sewing thicker materials.
	Adjusting the thread tension (min. = 10 .. max. = 200; Def. = 100 %) The thread tension profile for the entire contour is adjusted accordingly. A value of 100 % means that no adjustments are made.
	Adjust empty-run speed (min. = 10 .. max. = 200; Def. = 100 %) The forwarding speeds are adjusted accordingly.
	Clamp ID code Barcode (ID code) of max. 10 characters for performing a safety check before the start of sewing (the barcode reader additional equipment must be activated)
	Laser marking lamps Up to four laser marking lamps for easier alignment of the sewing material can be controlled (the additional equipment must be activated)




Symbol	Meaning
	Needle back turn mode The following options can be set: Not activated: The needle remains at the Stop position. After the entire contour: After completing all seams in the contour the needle is reversed to the value specified in the machine parameters. After each seam (Def.): The needle is reversed after every seam.
	Needle cooling (On / Off) Activates/deactivates the needle cooling.
	Adjust sewing speed (min. = 10 .. max. = 200; Def. = 100 %) The sewing speed is adjusted by the specified percent value.






	PP2 – Load mode
Symbol	Meaning
	Load mode The following options can be set: Mode 1 (Def.) Standard sewing mode with transfer of the material. In the insertion position, the outer frame, inner slider and transfer plate are open. The sewing procedure runs in the following order: <ul style="list-style-type: none"> • Press the pedal: The transfer plate is closed. • Press both start buttons: The material is transferred to the outer frame/inner slider and the sewing starts. Mode 2 Reserved (function as with Mode 1) Mode 3 Reserved (function as with Mode 1) Mode 4 Reserved (function as with Mode 1) Mode 5 Mode for service purposes (e.g. for contour test). The outer frame and inner slider can be put in three positions. The next position is set by using the pedal. The positions change in the following order: <ul style="list-style-type: none"> • Outer frame closed and inner slider open • Outer frame and inner slider closed • Outer frame and inner slider open
	Loading position (On / Off) With the loading position activated the clamps move to the desired position for convenient insertion of the sewing material.
	Loading position X The default value can be changed for corrections. Loading position X and deposit position X must correspond.
	Loading position Y The default value can be changed for corrections. Loading position X and deposit position Y must correspond.

	PP3 - Deposit mode
Symbol	Meaning
	Deposit mode The following options can be set: Mode 1 (Def.) Stacker active. Mode 2 Reserved (function as with Mode 1) Mode 3 Reserved (function as with Mode 1) Mode 4 Reserved (function as with Mode 1) Mode 5 Stacker inactive.
	Deposit position (On / Off) With the removal position activated the clamps move to the desired position for convenient removal of the sewing material after the sewing procedure.
	Deposit position X The default value can be changed for corrections. Deposit position X and loading position X must correspond.
	Deposit position Y The default value can be changed for corrections. Deposit position Y and loading position Y must correspond.

	PP4 - Soft start
Symbol	Meaning
	Soft-start stitch count (min. = 0 .. max. = 10; Def. = 5)
	Soft-start speed (min. = 100 .. max. = 2000; Def. = 300 rpm)
	PP5 - Needle thread monitor
	(min. = 0 .. max. = 99; Def. = 5) Is only active if activated in the machine parameters. (A higher value makes the needle monitor less sensitive. 99 = Needle thread monitor switched off in this program only.)

	PP6 - Thread consumption
Symbol	Meaning
	Thickness of material (min. = 0 .. max. = 20.0; Def. = 0) The thickness of the sewing material when pressed together.
	Adjust thread usage (min. = -10.0 .. max. 10.0; Def. 0) Correction of the calculated values.

	PP7 - Move
Symbol	Meaning
	X move (min. = -5.0... max. = 5.0; Def. = 0.0 mm)
	Y move (min. = -5.0... max. = 5.0; Def. = 0.0 mm)

	PP8 – Scaling.
Symbol	Meaning
	X scaling (min. = 80 .. max. = 120; Def. = 100 %) 100% corresponds to the original size.
	Y scaling (min. = 80 .. max. = 120; Def. = 100 %)
	X center point of scaling (min. = -150.0 .. max. = 150.0; Def. = 0.0 mm)
	Y center point of scaling (min. = -150.0 .. max. = 150.0; Def. = 0.0 mm)

5.21 Editing machine parameters

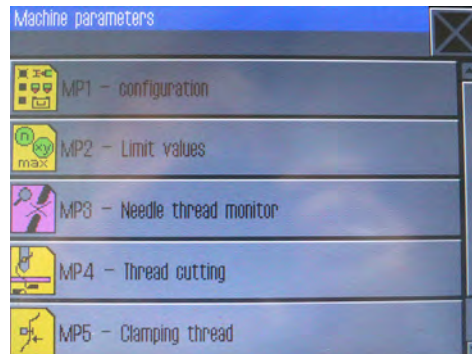
You use the machine parameters to define the basic machine settings that apply to all programs.


To edit the machine parameters:









1. Tap the menu items *Edit > Machine parameters*.
- ↳ The window for selecting the machine parameter group is displayed.

Abb. 61: Editing machine parameters


















2. Tap the desired parameter group.
- ↳ The individual parameters of this group are displayed.
3. Tap the desired parameter.
- ↳ The window for modifying the parameter value opens.
4. Set the parameter to the desired value ( p. 49).






There are 6 machine parameter groups:







Symbol	Parameter group
	MP1 - Configuration General settings
	MP2 - Limit values Limit values for speeds and positions
	MP3 - Needle thread monitor Behavior after thread breakage
	MP4 - Thread cutting Speed, position and tension
	MP5 - Clamping thread Starting angle
	MP6 - Counters Settings for program and bobbin counters




Overview of the individual machine parameters




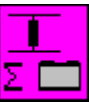
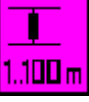
	MP1 - Configuration
Symbol	Meaning
	Needle cooling The following options can be set: Without: No needle cooler activated. Air cooling (Def.): The needle is cooled with air while sewing the seam. Ice cooling: Optional equipment.
	Foot mode The foot can be operated in the following modes: Jumping foot (standard mode): The foot only presses on the sewing material while the needle is in the sewing material. Presser foot: The foot presses continuously on the sewing material.
	Sewing area size No function.
	Optional equipment Reduced clamp pressure: Optional equipment limiting the amount of clamp pressure to allow for better alignment on insertion. Stitch position optimization: Optional equipment, activates stitch position optimization (Additional Instructions) Laser marking lamps: Optional equipment providing orientation lines on insertion for easier alignment. Up to 4 marking lamps can be switched on for each program. This setting only activates the option, the actual switching is defined in the program parameters (p. 70). Barcode reader: Optional equipment for performing a safety check before sewing. A barcode can be stored with each program. Agreement with the barcode on the clamp is checked. Sewing only proceeds when the barcodes agree. You enter the barcode ID in the program parameters (p. 70).
	Clamp type No function.
	Clamp limitation Preset limitation (Def.) No additional structures are taken into account. Special limitation Individual limits are taken into account.
	Pedal Raising and lowering the transfer plate. Start buttons By simultaneously pressing both start buttons, the sewing process is started.

	MP2 - Limit values
Symbol	Meaning
	Max. speed (min. = 500 .. max. = 3000; Def. = 2700 rpm) All sewing programs are limited to this maximum speed.
	Max. run-empty speed (min. = 10 .. max. = 100; Def. = 100 %) Limits all clamp movements of the outer frame/inner slider between the seams to this value.
	Feed starting angle (min. = 30 .. max. = 350; Def. = 210 °) The movement of the outer frame/inner slider during the stitch starts at this angle of needle motion.
	Feed phase (min. = 30 .. max. = 100; Def. = 100 %) This parameter defines how the outer frame/inner slider is to be moved during the stitch. (A value of 100 % means that the desired outer frame/inner slider motion is distributed over the entire stitch.)
	Needle back turn position (min. = 0 .. max. = 359; Def. = 0 °) The needle is reversed at this angle in order to increase the clearance to the outer frame/inner slider.
	Edit times and routes This function is only for Dürkopp Adler Service personnel.

	MP3 - Needle thread monitor
Symbol	Meaning
	Upper thread monitor mode The following options are available: Threading position: After detection of a thread breakage the thread is cut and the outer frame/inner slider then moves to the threading position. Cut thread (Def.): After detection of a thread breakage, the thread is cut and the outer frame/inner slider then moves to the contour position according to the defined reversing path. Pausing: After detection of a thread breakage, seam motion is stopped. Not activated: The needle thread monitor is ignored.
	Reversing path after thread breakage (min. = 0 .. max. = 20; Def. = 5 stitches) Number of stitches to be taken into account when reversing after a thread breakage.
	Position of bobbin change X The value range varies depending on the subclass and sewing field size.
	Position of bobbin change Y The value range varies depending on the subclass and sewing field size.

	MP4 - Thread cutting
Symbol	Meaning
	Cutting speed (min. = 70 .. max. = 500; Def. = 180 rpm) Speed of the cutting stitch.
	Cutting position on (min. = 0 .. max. = 359; Def. = 180 °) Angular position of the needle at which the thread cutting knife is switched on.
	Cutting position off (min. = 0 .. max. = 359; Def. = 359 °) Angular position of the needle at which the thread cutting knife is switched off.
	Thread tension during thread cutting (min. = 0 .. max. = 100; Def. = 10 %) Thread tension of the cutting stitch.
	Position for thread tension during thread cutting (min. = 0 .. max. = 400; Def. = 370 °) Starting angle for the thread tension during the cutting stitch. (At an angle greater than 359 ° the thread tension is activated in the next stitch.)

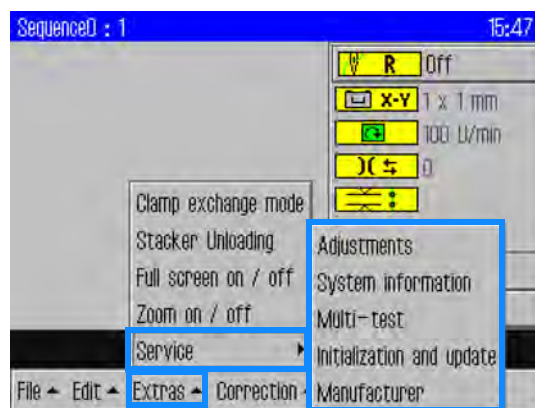
	MP5 - Clamping thread
Symbol	Meaning
	Close thread clamp at 1st stitch (min. = 0 .. max. = 250; Def. = 180 °) Start angle for closing the thread clamp during the first stitch.
	Open thread clamp at 1st stitch (min. = 0 .. max. = 359; Def. = 340 °) Starting angle for opening the thread clamp during the first stitch. If the closing and opening angles are the same then the thread clamp is not activated.

	MP6 - Counters
Symbol	Meaning
	Counter type The following options are available: Increment counter (Def.) The counter is incremented after each sewn program. Decrement counter The counter is decremented after each sewn program. Increment sequence counter The counter is incremented after each sewn sequence. Decrement sequence counter The counter is decremented after each sewn sequence.
	Reset value for the counters (min. = 0 .. max. 9999; Def. = 0) Value to which the counter is set when a counter reset is performed.
	Set seam count for bobbin reserve (min. = 0 .. max. = 100; Def. = 0) A message is displayed to the user after the number of seams specified here have been sewn. A value of 0 deactivates the function.
	Bobbin supply capacity (min. = 0.0 .. max. = 400.0; Def. = 0.0 m) A message is displayed to the user after the bobbin supply capacity has been consumed. A value of 0 deactivates the function.

5.22 Checking and changing the technical settings

The technical settings are made via the menu item *Extras > Service*.


Abb. 62: Checking and changing the technical settings




A password must always be entered in order to access the menu items in *Extras > Service* (📖 p. 44).

5.22.1 Adjusting the basic functions

Password options

Technical areas are protected from direct access and can only be reached through the master password. The master password is not intended for the operator, only for the supervisor, product manager or technician, for example ( p. 44).

With the master password and operator password, two access levels are available.

- The master password provide unrestricted access.
The password is **25483** and cannot be changed.
- You can change the operator password and also define whether the password only applies to the technical menu items or must always be entered after the machine is switched on ( p. 79).

Changing the operator password

To change the operator password:



1. Tap the menu items *Extras > Service > Adjustments > Operator Password*.
2. Tap the *Change password* button.
- ↳ The window for entering the new password appears.



Important

The password must not have more than 5 digits and must be different from the master password.

3. Enter the new password.
4. Confirm with **OK**.

Defining the operating password protected areas

To define the operator password protected areas:



1. Tap the menu items *Extras > Service > Adjustments*.
↳ The *Adjustments* window opens.
2. Tap the *Operator password* option in this window.
↳ In the next window the *Activate / Deactivate* option indicates the type of password protection:
 - ☒ - Comprehensive password protection activated:
Password protection of the first action after switching on
 - ☐ - Comprehensive password protection deactivated:
Password protection for the technical menu items only
3. Tap the *Activate / Deactivate* option to switch between the settings.
4. Confirm with **OK**.



Important

Switch off and on again the machine to adopt the setting.

Changing the language

To change the language:



1. In the menu item *Extras > Service > Adjustments* tap the *Language* option.
 ↳ The list of available languages is displayed.
2. Tap the desired language.
3. Confirm with **OK**.
 ↳ The screen is reloaded in the selected language.

Setting date and time

To set date and time:



1. In the menu item *Extras > Service > Adjustments* tap the *Date and time* option.
 ↳ The data entry window for date and time is displayed.
2. Enter the date and/or time.
3. Confirm with **OK**.
 ↳ The entered values are adopted.

Setting the brightness

To set the brightness of the control panel:



1. In the menu item *Extras > Service > Adjustments* tap the *Touch-Adjustments* option.
2. In the following window tap the *Contrast Brightness* option.
 ↳ A window with slider controls is displayed.
3. Pull the corresponding slider control up or down to change the value.
 ↳ The changes are immediately displayed.

Testing the touchscreen

You can use the *Extras > Service > Adjustments* menu item to check that the touchscreen is functioning correctly over all areas of the screen.

To test the touchscreen:



1. In the menu item *Extras > Service > Adjustments* tap the *Touch-Adjustments* option.
2. In the following window tap the *Touch Test* option.
 ↳ An empty window is opened.

3. Use your finger to tap various different points or draw lines.
- ✎ When the touchscreen is functioning correctly all touched points of the screen are marked.

5.22.2 Displaying system information

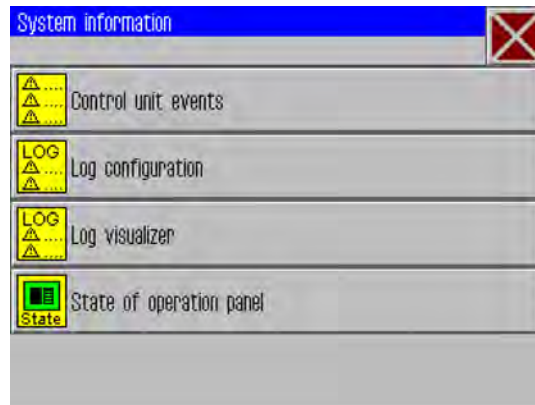
You can access the log settings and error lists via *Extras > Service > System information*.

To display the system information:







1. Tap the menu items *Extras > Service > System Information*.
- ✎ The selection screen for system information is display.

Abb. 63: Displaying system information



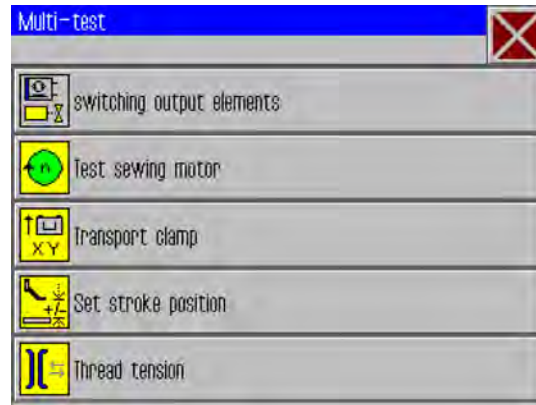
2. Tap the desired symbol.

Symbol	Meaning
	Control unit events List of the latest errors
	Log configuration Only for Dürkopp Adler Service personnel
	Log visualizer List of the last log settings Only for Dürkopp Adler Service personnel
	State of operation panel Status appears in the log display Only for Dürkopp Adler Service personnel



5.22.3 Testing MultiTest machine functions

You can use the *Extras > Service > Multi-test* menu item to check the inputs and outputs, test the sewing motor, align the transport clamp, set the stroke position and calibrate the thread tension.

Abb. 64: Testing Multi-Test machine functions



Information

The  *Transport clamp* function is only intended for Dürkopp Adler service personnel, as it requires a special tool. Detailed information can be found in the  *Service Instructions*.

Testing inputs and outputs

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Do NOT reach into the machine during function testing of input and output elements.



Important

The instructions only provide an overview of the test possibilities.

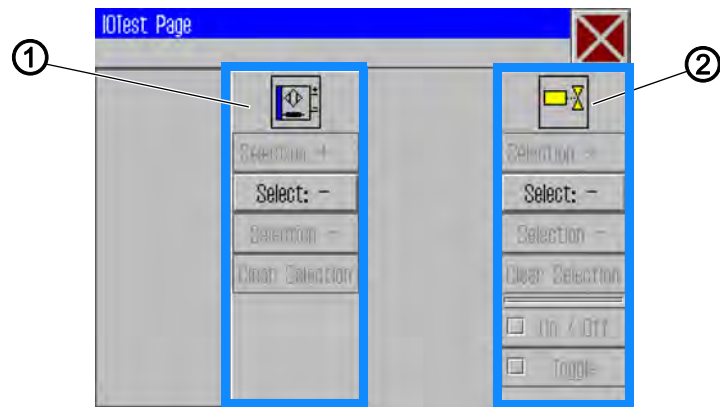
The tests may only be performed by qualified specialists that have received training from Dürkopp Adler.

To test inputs and outputs:



1. In the *Extras > Service > Multi-test* menu item, tap the *switching outputs elements* option.
- The *IO Test Page* window is displayed.

Abb. 65: Testing inputs and outputs




(1) - Area for input elements

(2) - Area for output elements


The input elements are listed and selected at the left side (1) and the output elements at the right side (2).



2. Use **Select +** or **Select -** to select the desired element in the respective area.
- ↳ The number of the element is displayed on the **selected:** button.
3. Tap the **selected:** button.
4. Test the element using the **On/Off** or **Toggle** buttons, depending on the type of the input or output element.

 Input elements	
No.	Meaning
S1	Outer frame down
S2	Bottom inner slider
S3	Transfer plate up
S4	Left transfer plate
S5	Start (start buttons)
S6	Middle transfer plate
S7	Inner slider back (reverse)
S8	Outer frame up
S9	Needle thread monitor
S10	Bobbin cover
S11	Upper housing lock
S12	Residual thread monitor (hook thread)
S13	Transfer plate up/down (pedal)
S14	Reserve
S15	Oil level control sensor
S16	Pressure monitor
S17	Quick stop

No.	Meaning
S100	Sewing motor reference
S101	X-axis reference
S102	Y-axis reference
S103	Z-axis reference

	Output elements
No.	Meaning
Y1	Foot mode
Y2	Opening the bobbin flap
Y3	Needle cooling on
Y4	Inner slider up
Y5	Inner slider down
Y6	Blow RTM
Y7	Stitch position optimization
Y8	Release inner slider
Y9	<i>Threading mode</i> display
Y10	<i>Oil check</i> display
Y11	Outer frame up
Y12	Outer frame down
Y13	Inner slider open/closed
Y14	Outer frame change of shape
Y15	Inner slider change of shape
Y16	Left/right transfer plate
Y17	Transfer plate change of shape
Y18	Change of shape up/down
Y19	Reset RTM
Y20	Throw over pants
Y21	Barcode reader
Y22	Eject pants
Y23	Bracket
Y24	Bundle removal
Y28	Reserved for laser

Testing the sewing motor

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Do NOT reach into the machine during function testing of input and output elements.

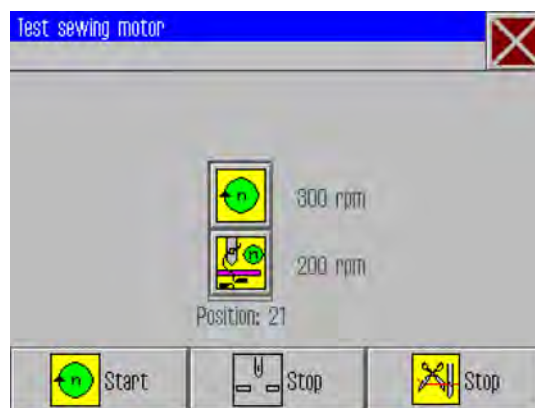
To test the sewing motor:



1. In the menu item *Extras > Service > Multi-test* tap the *Test sewing motor* option.

↳ The sewing motor test screen is displayed:









Abb. 66: Testing the sewing motor



Important

Remove the thread from the needle and the thread lever before starting the test.



2. Tap the  button.
- ↳ The window for entering the speed opens.
3. Enter the desired value (300 - 2000 rpm).
4. Tap the  button.
- ↳ The window for entering the cutting speed opens.
5. Enter the desired value (70 - 500 rpm).
6. Tap the   button.
- ↳ The sewing motor runs at the entered speed.
7. Tap the   button.
- ↳ The sewing motor stops.
8. Tap the   button.
- ↳ The sewing motor runs at the entered speed.

9. Tap the  button.

↳ The sewing motor stops, and the thread cutter is actuated.

Setting the stroke position

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Do not reach into the machine when setting the stroke position.






Switch off the power to the drives when you wish to test the freedom of motion of the sewing foot rod.

To set the stroke position:



1. In the menu item *Extras > Service > Multi-test* tap the *Set stroke position* option.

↳ The following options are displayed:

	Set stroke position
Symbol	Meaning
	Perform a reference run Check the movement
	Switch between jumping foot and presser foot Switch over the mode of operation
	Go to position Set the sewing foot height
	Switch off the power to the drives Manually check the freedom of motion of the sewing foot rod

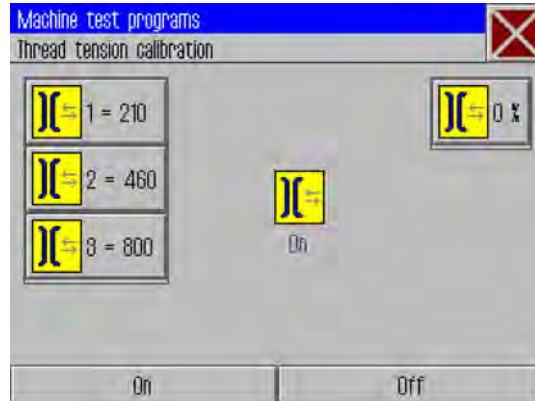
2. Tap the desired symbol and execute the function.

Calibrate the thread tension




1. In the menu item *Extras > Service > Multi-test* tap the *Thread tension* option.

Abb. 67: Calibrate the thread tension



Information

The *Thread tension calibration* function is only intended for use by Dürkopp Adler Service personnel. Detailed information can be found in the  *Service Instructions*.

5.22.4 Initializing the control, performing updates

You can use *Extras > Service > Initialization and update* to reset the control and control panel to the factory defaults and to update the control with a new software version.

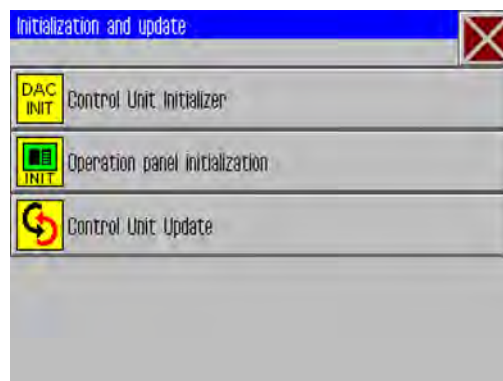
To initialize the control and perform an update:



1. Tap the menu items *Extras > Service > Initialization and update*.

➤ The screen for initialization and update appears.

Abb. 68: Initializing the control and performing an update



Initializing the control



Caution: Initializing the control resets all values to the factory default settings. All changes are lost.



Save your seam programs and sequences to a USB key before performing initialization.



1. Tap the *Control Unit Initializer* option.

↳ The control is reset to the factory default settings.

Initializing the control panel



Caution: Initializing the control panel resets all values to the factory default settings. All changes are lost.



1. Tap the *Operation panel initialization* option.

↳ The control panel is reset to the factory default settings.

Perform control unit update



Information

The latest software version is available in the download area at www.duerkopp-adler.com.

You can easily transfer a new software version from a USB key to the control.



Important

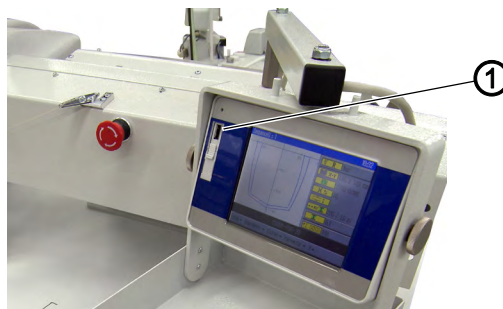
Not all commonly available USB keys are suitable for the copying process. You can obtain a suitable USB key from Dürkopp Adler using the order number 9805 791113.

To perform an update of the control:



1. Switch off the machine.
2. Insert the USB key into the USB port (1) on the operating terminal.

Abb. 69: Perform control unit update



(1) - USB port



3. Switch on the machine.

↳ The software update is performed automatically.



Information

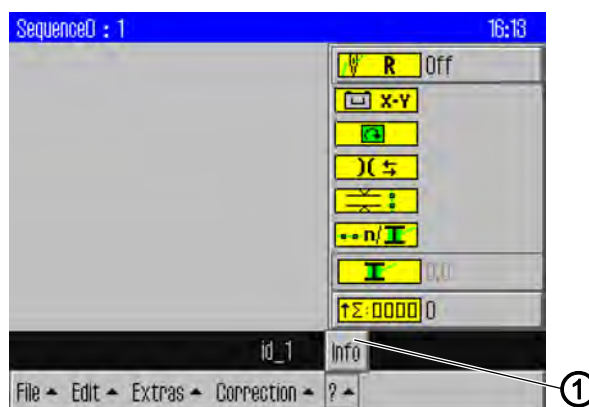
If the automatic update does not function then you can use the menu items *Extras > Service > Initialization and Update* with the *Control Unit Update* option to import a specific software version manually.

Contact the Dürkopp Adler Service Hotline for this.

Displaying software version information

The menu item ? displays information on the software currently installed on the machine.

Abb. 70: Displaying software version information



(1) - Menu Info




1. Tap menu items ? > Tap on *Info* (1).


↳ The following information is displayed:

- Class
- Subclass
- Version number, date of creation of this software version

6 Creating programs with DA-CAD 5000

You can use the DA CAD-5000 program to create seam programs on a PC. The DA-CAD 5000 program is available as  *additional equipment*.

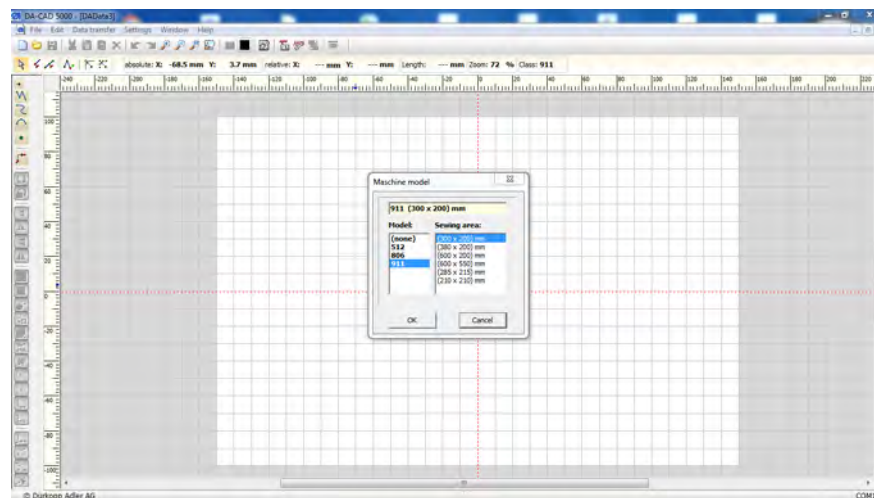
This chapter provides an overview of the program steps.

A detailed description is provided in the  *Operating Instructions* for the DA-CAD 5000 program.

Selecting the class

The first step is to select the class.

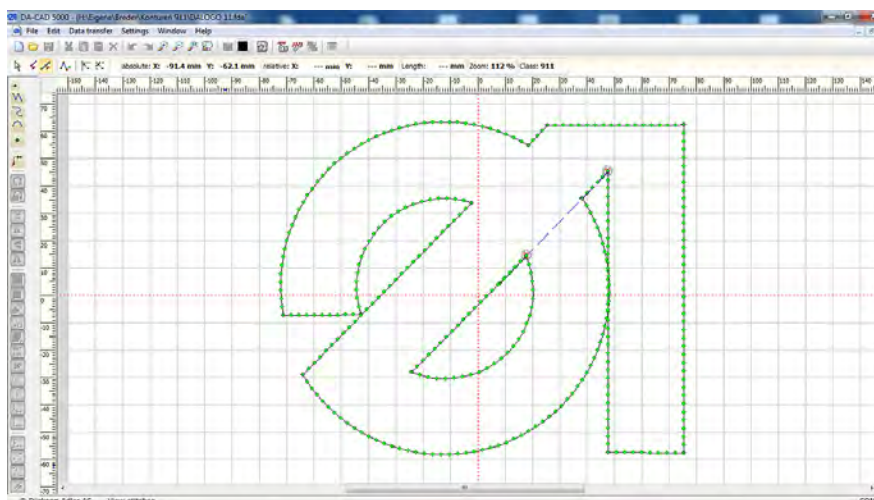
Abb. 71: Selecting the class



Creating the seam contour

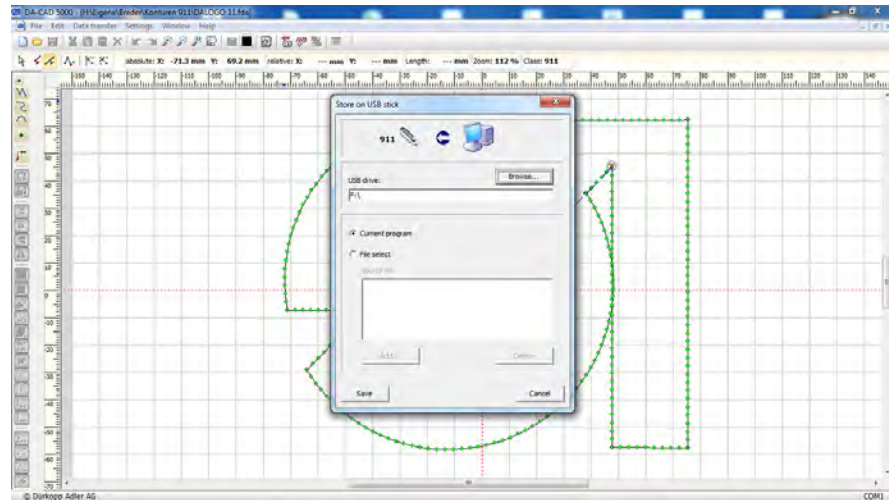
The next step is to draw the seam contour.

Abb. 72: Creating the seam contour



Saving the seam contour

Abb. 73: Saving the seam contour



The final step is to save the finished seam program and copy it to a USB key.



Important

Not all commonly available USB keys are suitable for the copying process. You can obtain a suitable USB key from Dürkopp Adler using the part number 9805 791113.

To save a seam contour:



1. Select the menu items *Data transfer > USB memory stick > Save (PC->USB)*.
- After successfully saving to the USB key, the program can be transferred to the machine (📖 p. 93).

Transferring the sewing program to the machine

NOTICE

Property damage may occur!





Damage to the machine by exceeding the sewing field size.

If the sequence or seam programs do not match the configuration set, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Ensure that only sequences and seam programs which are suitable for the configuration set are used.

To transfer a sewing program to the machine:



1. Insert the USB key and copy the desired file to the DAC ( p. 63).
 2. Open the copied sewing program ( p. 50).
 3. Adjust the program parameters (especially the sewing foot height,  p. 69).
 4. Perform a contour test to check the clamp motion ( p. 60).
- Sewing with the program can begin after successful testing/adjustment.

7 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
Machine head				
Remove lint accumulations	•			
Checking the oil level	•			
Clean and lubricate inner slider		•		
Check the hook lubrication			•	
Check the toothed rack and gear pinion			•	
Check and clean toothed belt			•	
Clean rotation spline shaft			•	
Clean linear guides			•	
Lubricate linear guides				•
Infeed device				
Clean and lubricate linear guide				•

Work to be carried out	Operating hours			
	8	40	160	500
Stacker				
Clean and lubricate linear guide				•
Pneumatic system				
Check the water level in the pressure controller	•			
Check the filter element in the maintenance unit				•
Check the tightness of the pneumatic system				•
Electrical system				
Clean control ventilation grill			•	
Clean sewing motor ventilation grill			•	

7.1 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

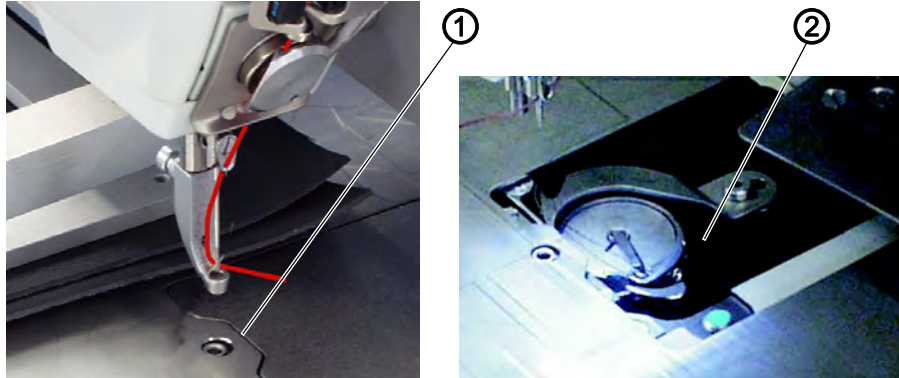
Property damage from solvent-based cleaners!

Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

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

Abb. 74: Cleaning



(1) - Area around the needle

(2) - Area around the hook

Areas requiring special cleaning

- Area around the needle (1)
- Area around the hook (2)
- Ventilation sieve on the control box (not illustrated)

7.2 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

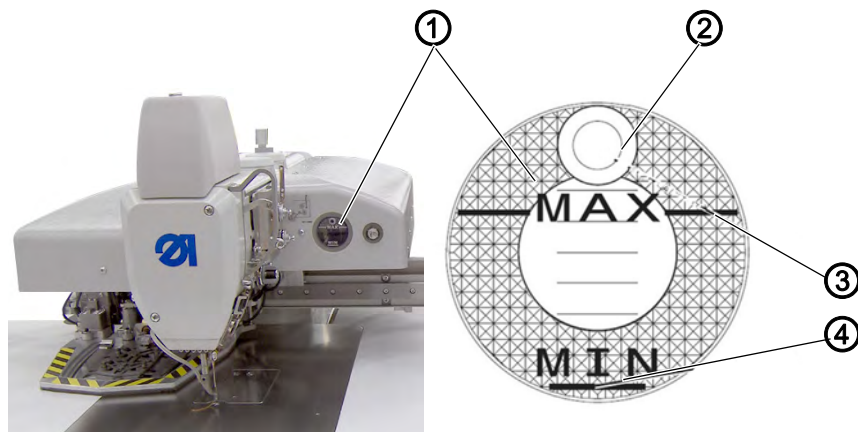


Risk of environmental damage from oil!

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.

Abb. 75: Lubricating



- (1) - Oil reservoir
(2) - Filler opening

- (3) - Maximum level marking
(4) - Minimum level marking

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

Warning messages for oil level that is too low

- The lamp in the oil reservoir (1) lights up red.
- A warning message is displayed on the screen.

**Proper setting**

The oil level must always be between the minimum level marking (3) and the maximum level marking (4).

Checking the oil level

To check the oil level:



1. Switch off the machine at the main switch.
2. Check the quantity of oil in the reservoir (1).
3. Pour in oil through the filler opening (2) as required.
4. Switch on the machine at the main switch.

**Information**

Always check the oil level after the machine has been stopped for an extended period of time. Refill with oil, if necessary. Allow the machine to run for approx. 10 cycles. Check the oil level again afterwards.

7.3 Servicing the pneumatic system


7.3.1 Setting the operating pressure

NOTICE**Property damage from incorrect setting!**

Incorrect operating pressure can result in damage to the machine.

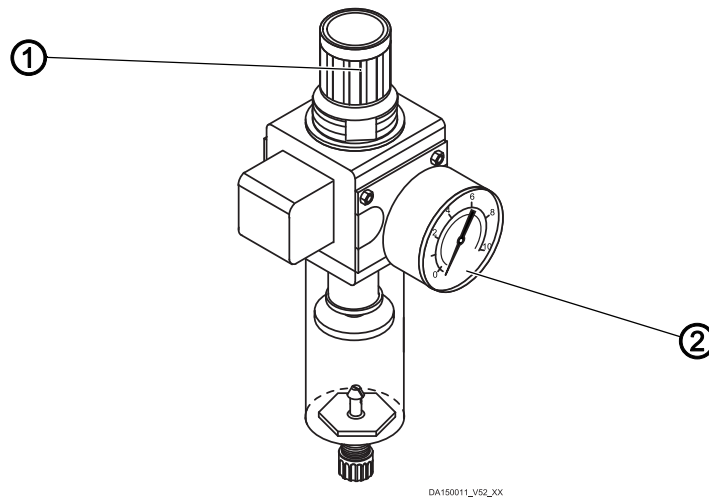
Ensure that the machine is only used when the operating pressure is set correctly.

**Proper setting**

Refer to the **Technical data** ( p. 131) 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. 76: 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.

7.3.2 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.

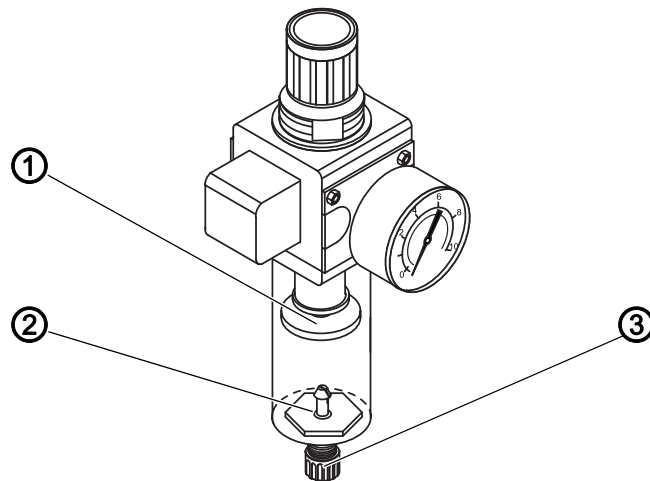


Proper setting

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. 77: 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.

7.3.3 Cleaning the filter element

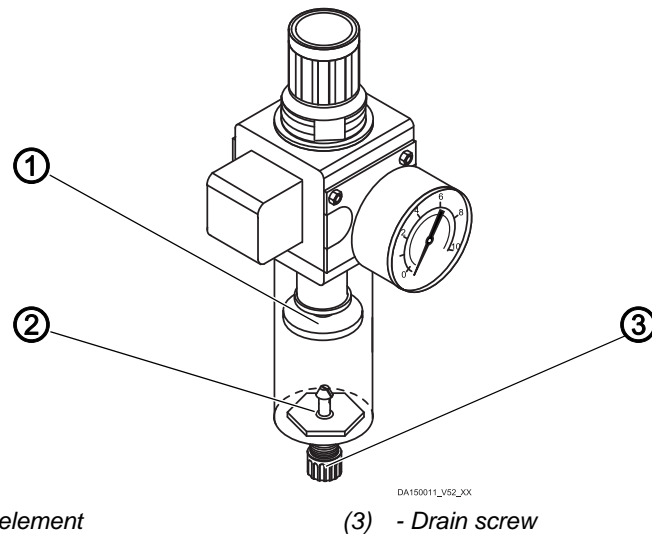
NOTICE

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. 78: 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. 100).
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).
8. Tighten the water separator (2).
9. Tighten the drain screw (3).
10. Connect the machine to the compressed air supply.

7.4 Parts list

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

www.duerkopp-adler.com



8 Setup

WARNING



The machine may be installed only by trained specialists.
Wear protective gloves and safety shoes when unpacking and setting up.

8.1 Checking the scope of delivery



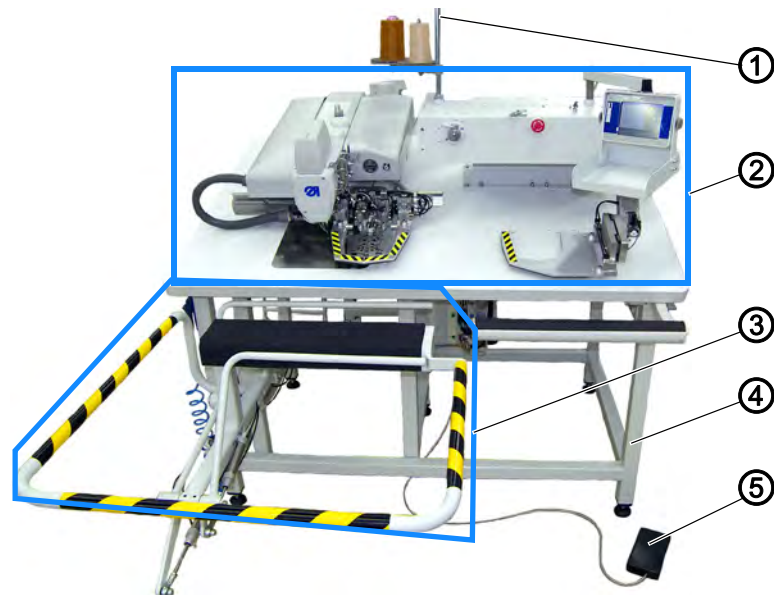
Important

The scope of delivery depends on your specific order.



1. Check that all parts are present before setup.

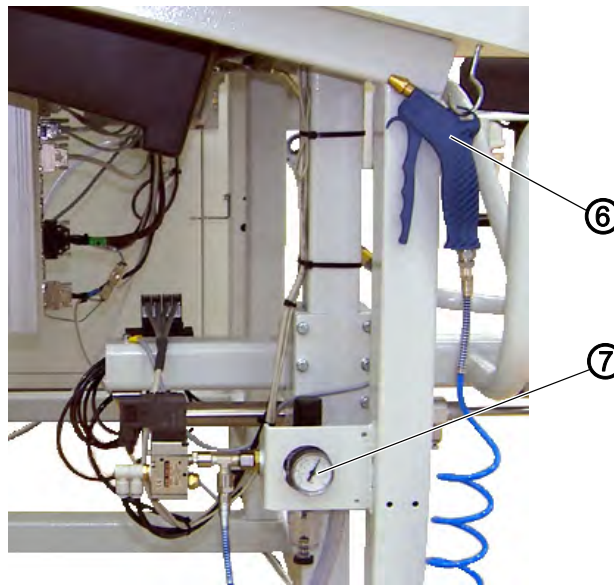
Abb. 79: Checking the scope of delivery (1)



- (1) - Reel stand
(2) - CNC
(3) - Automatic stacker

- (4) - Stand
(5) - Pedal

Abb. 80: Checking the scope of delivery (2)



(6) - Compressed air gun

(7) - Compressed air maintenance unit

Scope of delivery:

- CNC-controlled double lockstitch machine (2), equipped with:
 - Automatic sewing foot and clamp lifting
 - Stroke position adjustment
 - Thread cutter
 - Needle thread monitoring
 - Threading device
 - Multiple thread tensioning
- Automatic stacker (3)
- Compressed air maintenance unit (7) with compressed air pistol (6)
- Height-adjustable stand (4)
- Reel stand (1)
- Tools and small parts in accessory pack
- Additional equipment (optional)

8.2 Removing the transport locks



1. Remove all transport locks before setting up the machine:
 - Polystyrene
 - Cardboard
 - Tapes
 - Braces



Important

Keep transport locks for future transport.

8.3 Setting up the machine

When choosing where to set up the machine, make sure there is enough space to operate and service it.

8.3.1 Aligning the machine

WARNING



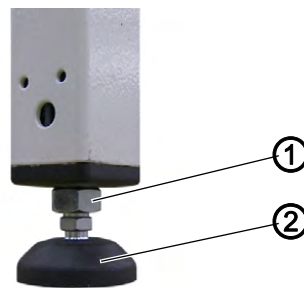
Risk of injury from moving parts!

Crushing possible.

Before start-up, make sure the machine has a secure footing.

Adjust the stand feet if necessary.

Abb. 81: Aligning the machine



(1) - Counternut

(2) - Stand foot

To align the machine:



1. Insert the lifting carriage or forklift under the frame and relieve the stand feet (2).
2. Loosen the counternuts (1) on the stand feet (2).
3. Loosen the stand feet (2) so that the frame stands horizontally, evenly and stable on all 4 stand feet (2).
4. Tighten the counternuts (1) on all 4 stand feet (2).
5. Remove the lifting carriage or forklift.

8.3.2 Assembling the automatic stacker

WARNING

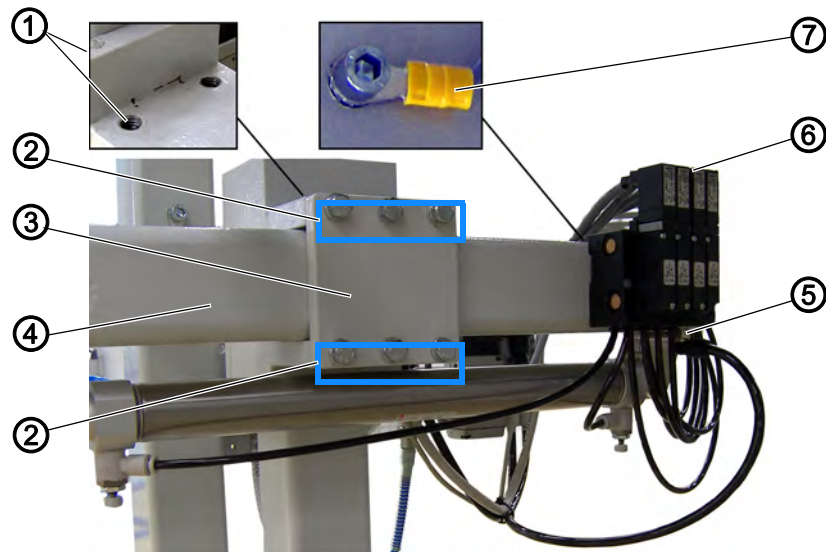


Risk of injury from moving parts!

Crushing possible.

Carry out the installation with two people in order to avoid back injuries or crushing injuries if the machine falls down.

Abb. 82: Assembling the automatic stacker



- (1) - Threaded pins
- (2) - Threaded screws
- (3) - Cover plate
- (4) - Support pipe

- (5) - Pneumatic connection
- (6) - Plug for valve control lines
- (7) - Equipotential bonding

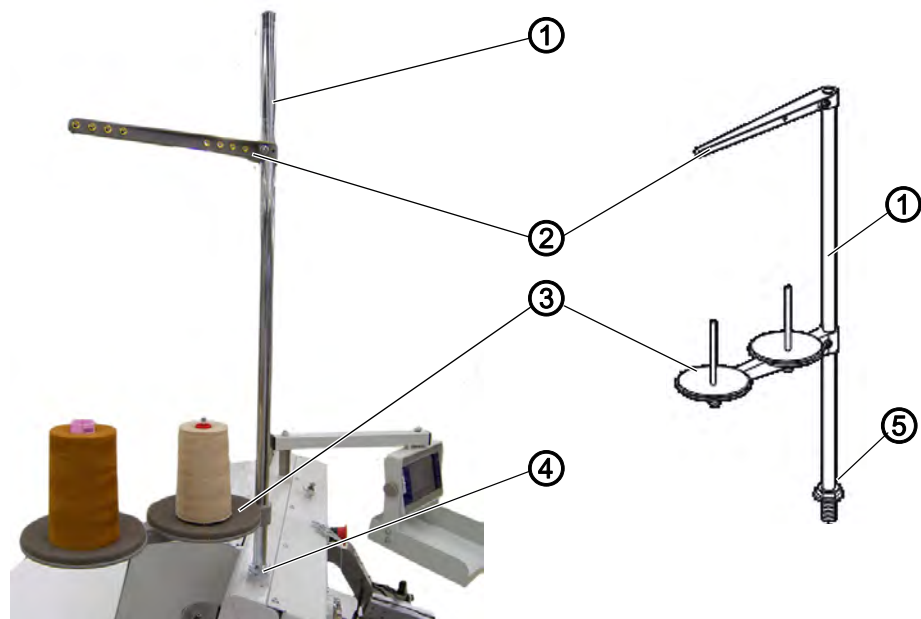
To fit the automatic stacker:



1. Remove threaded screws (2) and cover plate (3).
2. Place support pipe (4) into the fork bracket and align the stacker so that the bars are a sufficient distance away from the tabletop.
3. Place cover plate (3) on top and screw tightly with six threaded screws (2) (screwdriver width 10 mm).
4. Tighten both threaded pins (1) so that the stacker is positioned in the fork bracket free of play (screwdriver width 5 mm).
5. Assemble the equipotential bonding (7):
6. Loosen hexagonal socket screw (screwdriver width 4 mm)
7. First place the washer, then the ring cable lug of the equipotential bonding and finally the toothed lock washer onto the hexagonal socket screw and screw it tightly to the support pipe (4).
8. Attach the plugs of the valve control lines (6).
9. The allocation is clear from the labeling.
10. Connect the compressed air hose on the valve block to the pneumatic connection (5).

8.3.3 Assembling the reel stand

Abb. 83: Assembling the reel stand



- (1) - Reel stand
(2) - Thread guide
(3) - Reel plate

- (4) - Hole
(5) - Nut

To assemble the reel stand:



1. Insert the thread reel holder (1) into the drill hole (4) screw together with the nut (5)
2. Assemble the thread plate (3) and the thread guide (2) onto the reel stand in such a way that they are located precisely above one another.

8.3.4 Pedal setup

The pedal can be freely positioned in front of the machine as far as the cable allows.

Abb. 84: Pedal setup



- (1) - Pedal



To set the pedal:

1. Position the pedal (1) so that the pedal and machine can be operated comfortably.

8.4 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.

Checking the mains voltage

DANGER



Risk of death from electric shock!

The mains voltage must correspond to the voltage of the sewing drive that is specified on the rating plate.



1. Check the mains voltage before connecting the machine.

Establishing the electrical connection



1. Connect the mains plug: 230 V – 50/60 Hz.

Sewing motor direction of rotation

It is not necessary to check the direction of rotation. The direction of rotation is set automatically by the control.

8.5 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.



Proper setting

A minimum operating pressure of at least 6 bar must be maintained, even under maximum air consumption.

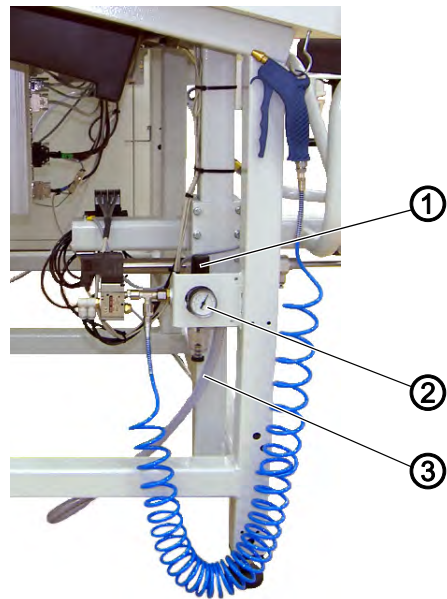
In the case of excessive pressure drop

What to do in the event of an excessive pressure drop:



1. Increase the compressor power.
2. Increase the diameter of the compressed air supply line.

Abb. 85: Pneumatic connection



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

(3) - Connection hose

Connecting the compressed air maintenance unit



1. Attach the connecting hose (3) (order number 0797 003031) to the compressed air supply using a 1/4" hose coupling.

Setting the operating pressure



The operating pressure is 6 bar and is shown on the pressure indicator (2).

To set the operating pressure:



1. Pull the adjustment knob (1) up.
2. Set the operating pressure in such a way that the pressure indicator (2) displays 6 bar:
 - **To increase the pressure:**
Turn the adjustment knob (1) clockwise.
 - **To reduce the pressure:**
Turn the adjustment knob (1) counterclockwise.
3. Push the adjustment knob (1) down.

8.6 Oil 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.

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.

NOTICE

Machine damage possible from incorrect oil level!

Too little or too much oil can cause damage to the machine.

Ensure the oil level conforms to the information in the Operating Instructions ( p. 111).

NOTICE

Machine damage possible due to incorrect oil!

Incorrect oil types can result in damage to the machine.

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

For lubricating the machine, use only lubricating oil DA 10 or oil of equivalent quality with the following specifications:

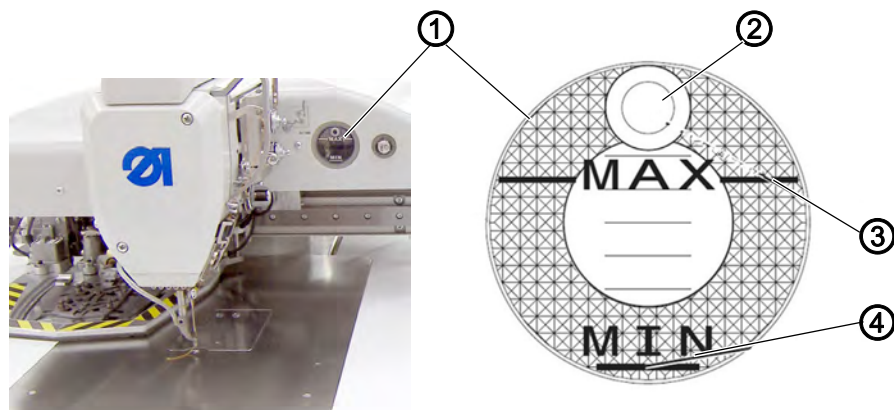
- Viscosity at 40 °C: 10 mm²/s
- Flash point: 150 °C

DA 10 can be obtained from DÜRKOPP ADLER AG sales offices using the following part number:

- 250 ml container: 9047 000011
- 1 liter container: 9047 000012
- 2 liter container: 9047 000013
- 5 liter container: 9047 000014

The sewing unit is equipped with a central oil-wick lubrication system. The bearings are supplied from the oil reservoir (1).

Abb. 86: Oil lubrication



- (1) - Oil reservoir
(2) - Refill opening

- (3) - Maximum level marking
(4) - Minimum level marking



Warning messages for oil level that is too low

- The lamp in the oil reservoir (1) lights up red.
- A warning message is displayed on the screen.



Proper setting

The oil level must always be between the minimum level mark (4) and the maximum level mark (3).

Checking the oil level

To check the oil level:



1. Switch off the machine at the main switch.
2. Check the quantity of oil in the reservoir (1).
3. Pour in oil through the filling point (2) as required:
4. Switch on the machine at the main switch.



Information

Always check the oil level after the machine has been stopped for an extended period of time. Allow the machine to run for approx. 10 cycles. Check the oil level again afterwards. Refill with oil, if necessary.

8.7 Performing a test run

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Turn off the machine before changing the needle, threading the needle thread, inserting the hook thread bobbin, setting the hook thread tension or setting the needle thread regulator.



NOTICE

Property damage may occur!

Sewing without material may damage the machine.

Always place material under the transfer plate before starting the sewing process.



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

To do this, read the corresponding sections in the  *Instructions for use*. Read the corresponding chapters in the  *Service Instructions* in order to make adjustments to the machine if the sewing results do not conform to the requirements.

Performing a sewing test

To perform a sewing test:



1. Switch off the machine at the main switch.
2. Thread needle thread ( p. 25).
3. Thread hook thread ( p. 28).
4. Switch on the machine at the main switch.
- ↳ The control is initialized.
5. Press both start buttons.
- ↳ The reference run starts.
The transport carriage moves to the reference position.



Information

The reference run is necessary in order to obtain a defined starting position of the transport carriage.

Pressing the pedal forwards triggers the different steps of the insertion procedure one after another and then starts the sewing process.

For selecting the seam program and other control settings see the section on **Programming** (📖 p. 39).

8.8 Transporting the machine

WARNING



Risk of injury from moving parts!

Crushing possible.

Incorrect transport can result in severe crushing injuries.

ALWAYS use a sturdy lifting carriage.

ALWAYS wear suitable protective clothing, in particular safety shoes and gloves.

Lift the machine a MAXIMUM of 20 mm.

ALWAYS securely fasten the machine.

NOTICE

Property damage may occur!

Risk of machine damage from unsecured transport.

NEVER transport the machine without the transport locks.



How to transport the machine to the set-up location:

1. Transport the machine to the set-up location in its original packaging using a stable lifting carriage.

9 Decommissioning

9.1 Decommissioning the machine

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.

**Information**

Observe the necessary safety precautions for transport, ( p. 117).

9.2 Dismantling the automatic stacker

WARNING



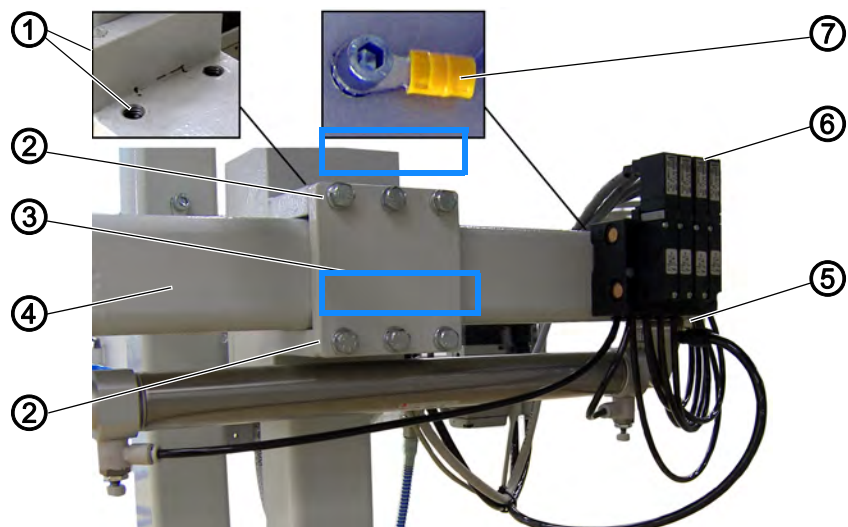
Risk of injury!

The automatic stacker is heavy and has bulky dimensions.

Carry out the dismantling with two people in order to avoid back injuries or crushing injuries if the machine falls down.

The dismantling of the automatic stacker is optional. It could be necessary to dismantle it for transport or space-saving storage.

Abb. 87: Dismantling the automatic stacker



- | | |
|-----------------------|------------------------------------|
| (1) - Threaded pins | (5) - Pneumatic supply |
| (2) - Threaded screws | (6) - Plug for valve control lines |
| (3) - Cover plate | (7) - Equipotential bonding |
| (4) - Support pipe | |



1. Switch off the machine at the main switch.
2. Release quick coupling of the main compressed air supply.
3. Disconnect the compressed air hose on the valve block from the pneumatic connection (5).
4. Disconnect plugs of the valve control lines (6).
5. When disconnecting, simultaneously release the lock.
6. Remove the equipotential bonding (7):
 - Loosen hexagonal socket screw (screwdriver width 4 mm)
 - Remove the equipotential bonding line.
7. Loosen both setscrews (1) but do not remove them (screwdriver width 5 mm).
8. Remove six threaded screws (2) (screwdriver width 10 mm) and cover plate (3).
9. Remove the automatic stacker from the bracket, rotate 180 ° (the protective bar is at the bottom) and carefully put aside.

10 Packaging, transportation

The aspects relating to packing and transportation are described below. Keep to the procedure described here to ensure fault-free operation of the machine.

10.1 Assembling the transport locks

NOTICE


Property damage may occur!

Risk of machine damage from unsecured transport.

NEVER transport the machine without the transport locks.

Transport locks must be fitted in order to protect the machine from damage during transport. The original transport locks are most suitable for this.

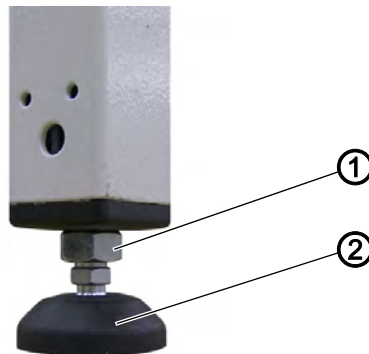


1. To do this, go in reverse order from removing the transport locks ( p. 104).

10.2 Rotating the stand feet upwards

To increase the distance to the floor using a sturdy lifting carriage or forklift for transporting the machine, you can rotate the stand feet into the frame.

Abb. 88: Rotating the stand feet upwards



(1) - Counternut

(2) - Stand foot



1. Insert the lifting carriage or forklift under the frame and relieve the stand feet (2).
2. Release the counternuts (1) on all 4 stand feet (2).
3. Rotate the stand feet (2) fully into the frame.
4. Tighten the nuts (1) so that the stand feet (2) remain fixed.

10.3 Packing the machine

WARNING



Risk of injury from moving parts, weight of the machine and packaging materials!

Crushing possible.

Contact with packaging materials without wearing appropriate protective clothing can result in serious injuries.

ALWAYS wear gloves and safety shoes when packing the machine.

ALWAYS watch out for sharp edges on clamps, paper and packing straps.

Pack the machine so that it cannot slip or fall over. Select a stable base and fasten the machine to this. Also provide protection from external damage to the machine.

10.4 Transporting the machine

WARNING



Risk of injury from moving parts!

Crushing possible.

Incorrect transport can result in severe crushing injuries.

ALWAYS use a sturdy lifting carriage.

ALWAYS wear suitable protective clothing, in particular safety shoes and gloves.

Lift the machine a MAXIMUM of 20 mm.

ALWAYS securely fasten the machine.

NOTICE

Property damage may occur!

Risk of machine damage from unsecured transport.

NEVER transport the machine without the transport locks.

To transport the machine as safely as possible:



1. Assembling the transport locks (📖 p. 117)
2. Rotate the stand feet fully upwards (📖 p. 117).
3. Fasten the carriage with belts.
4. Pack the machine (📖 p. 118).
5. Transport the machine.

11 Disposal

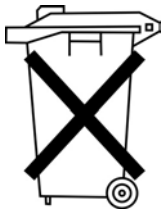
CAUTION



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.

12 Troubleshooting

12.1 Customer Service

Contact for repairs and issues with the machine:

Dürkopp Adler AG

Potsdamer Str. 190
33719 Bielefeld, Germany

Tel. +49 (0) 180 5 383 756

Fax +49 (0) 521 925 2594

Email: service@duerkopp-adler.com

Internet: www.duerkopp-adler.com



12.2 Messages of the software

Please contact customer service if an error occurs that is not described here. Do not attempt to correct the error yourself.

12.2.1 Information messages







Information code	Description	Troubleshooting
8400	Control panel has no valid program for the DAC.	Load the current program into the control panel from a USB key.
8401 8402	Control panel has no valid program for the DAC.	Load the current program into the control panel from a USB key.
8403	Program in DAC is no longer current.	Load the current program into the DAC.
8404 8407	DAC update was faulty.	<ul style="list-style-type: none"> • Attempt the update again • Check cable connections • Replace the DAC
8408	Waiting for a DAC reset.	Wait until the restart has been performed (Duration: several seconds).
8411	DAC program check is active.	Wait until the test has been performed (Duration: several seconds).
8414	DAC update succeeded.	


Information code	Description	Troubleshooting
8801 8805 8806 8890 8891	Error in test pins/signal processing/ event processing/ Memory wrapper/ list functions Internal error	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
System		
9000	Reference run active	
9002	Machine head not locked down	Lock down machine head
9006	Quick stop switch is activated.	Releasing the quick stop switch
9016	Wrong bar code ID	Change the program
9100	The counter has not reached the default value.	Tap the OK button. The counter is reset.

12.2.2 Error messages











Error code	Description	Troubleshooting
Sewing motor		
1051	Sewing motor timeout <ul style="list-style-type: none"> • Cable to sewing motor reference switch defective • Reference switch defective • Machine head does not move freely or has excessive belt tension 	<ul style="list-style-type: none"> • Replace the cable • Replace the reference switch • Check the freedom of movement and belt tension of the machine head
1052	Sewing motor excess current <ul style="list-style-type: none"> • Sewing motor cable defective • Sewing motor defective • Control defective 	<ul style="list-style-type: none"> • Replace the sewing motor cable • Replace the sewing motor • Replace the control
1053	Sewing motor mains voltage too high	Check the mains voltage
1055	Sewing motor overload <ul style="list-style-type: none"> • Sewing motor blocked/not moving freely • Sewing motor defective • Control defective 	<ul style="list-style-type: none"> • Fix blockage/sluggishness • Check the sewing motor • Check the control
1056	Sewing motor overtemperature <ul style="list-style-type: none"> • Sewing motor not moving freely • Sewing motor defective • Control defective 	<ul style="list-style-type: none"> • Eliminate seizing • Replace the sewing motor • Replace the control
1058 1302 1342 1344	Sewing motor speed Sewing motor defective Sewing motor error Control not receiving pulses from pulse encoder in motor Sewing motor error Internal error	<ul style="list-style-type: none"> • Replace the sewing motor • Check the cable from the pulse encoder in the motor to the control • Switch off and on the machine again • Software update
Stepper motors		
2101	X-axis stepper motor referencing timeout <ul style="list-style-type: none"> • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective 	<ul style="list-style-type: none"> • Align reference switch • Replace the cable • Check reference switch
2102	X-axis stepper motor current error <ul style="list-style-type: none"> • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective 	<ul style="list-style-type: none"> • Fix blockage • Check/replace the encoder cable • Replace the stepper motor
2152	X-axis stepper motor excess current	<ul style="list-style-type: none"> • Replace the stepper motor • Replace the control
2153	X-axis stepper motor overvoltage <ul style="list-style-type: none"> • Mains voltage too high 	<ul style="list-style-type: none"> • Check the mains voltage
2155	X-axis stepper motor overload <ul style="list-style-type: none"> • Feed system not moving freely • Obstacle to feed motion 	<ul style="list-style-type: none"> • Eliminate sluggishness • Remove obstacles/adjust the motion


Error code	Description	Troubleshooting
2156	X-axis stepper motor overtemperature <ul style="list-style-type: none"> • Stepper motor sluggish • Stepper motor faulty • Control defective 	<ul style="list-style-type: none"> • Eliminate seizing • Replace the stepper motor • Replace the control
2201	Y-axis stepper motor referencing timeout <ul style="list-style-type: none"> • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective 	<ul style="list-style-type: none"> • Align reference switch • Replace the cable • Replace the reference switch
2202	Y-axis stepper motor current error <ul style="list-style-type: none"> • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective 	<ul style="list-style-type: none"> • Fix blockage • Check/replace the encoder cable • Replace the encoder
2252	Y-axis stepper motor excess current	<ul style="list-style-type: none"> • Replace the stepper motor • Replace the control
2253	Y-axis stepper motor overvoltage <ul style="list-style-type: none"> • Mains voltage too high 	<ul style="list-style-type: none"> • Check the mains voltage
2255	Y-axis stepper motor overload <ul style="list-style-type: none"> • Feed system not moving freely • Obstacles to the feed motion 	<ul style="list-style-type: none"> • Eliminate sluggishness • Remove obstacles/adjust the motion
2256	Y-axis stepper motor overtemperature <ul style="list-style-type: none"> • Feed system not moving freely • Stepper motor faulty • Control defective 	<ul style="list-style-type: none"> • Eliminate seizing • Replace the stepper motor • Replace the control
2301	Stroke position stepper motor referencing timeout <ul style="list-style-type: none"> • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective 	<ul style="list-style-type: none"> • Align reference switch • Replace the cable • Replace the reference switch
2302	Stroke position stepper motor current error <ul style="list-style-type: none"> • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective 	<ul style="list-style-type: none"> • Fix blockage • Check/replace the encoder cable • Replace the encoder
2352	Stroke position stepper motor excess current	<ul style="list-style-type: none"> • Replace the stepper motor • Replace the control
2353	Stroke position stepper motor overvoltage <ul style="list-style-type: none"> • Mains voltage too high 	<ul style="list-style-type: none"> • Check the mains voltage
2355	Stroke position step motor overload <ul style="list-style-type: none"> • Feed system not moving freely • Obstacles to the feed motion 	<ul style="list-style-type: none"> • Eliminate sluggishness • Remove obstacles/adjust the motion

Error code	Description	Troubleshooting
2356	Stroke position stepper motor overtemperature <ul style="list-style-type: none"> • Feed system not moving freely • Stepper motor faulty • Control defective 	<ul style="list-style-type: none"> • Eliminate sluggishness • Replace the stepper motor • Replace the control
Machine control		
3100	Machine control voltage <ul style="list-style-type: none"> • Temporary mains voltage interruption 	<ul style="list-style-type: none"> • Check the mains voltage
3102	Machine voltage in sewing motor intermediate circuit <ul style="list-style-type: none"> • Temporary mains voltage interruption 	<ul style="list-style-type: none"> • Check the mains voltage
3103	Machine voltage in stepper motor intermediate circuit <ul style="list-style-type: none"> • Temporary mains voltage interruption 	<ul style="list-style-type: none"> • Check the mains voltage
3107	Machine temperature <ul style="list-style-type: none"> • Ventilation openings closed • Ventilation grille dirty 	<ul style="list-style-type: none"> • Clean ventilation grille • Check ventilation openings
3109	Threading mode is switched on	Switch off threading mode  p. 17
3121	Inadequate air pressure	Turn up air pressure and stabilize
3123	Oil sensor active	Top off the oil  p. 97
3210	Thread broken	Re-thread the thread
3215	Bobbin empty (remaining thread counter)	Insert full bobbin  p. 29
3220	Bobbin empty (remaining thread counter)	Insert full bobbin  p. 29
3500	Error in calculating the contour data	<ul style="list-style-type: none"> • Reload the contour data • Check the contour data  p. 60
3501	Target position of the XY clamps outside the motion limits	Adjust the contour data
3502	Target position of the XY clamps within the "forbidden areas"	Adjust the contour data
3721 3722	Internal error	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
4201	Internal CF card defective	<ul style="list-style-type: none"> • Switch off and on the machine • Retrofit/replace control
5301	Program cannot be sewn	Copy program to DAC  p. 63

Error code	Description	Troubleshooting
6551 6554 6651 6653 6751 6761	Error in machine head position/AD converter/process error Internal error	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
6952	Stepper motor driver error Internal error	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
Communication		
7801	Control panel interface communication <ul style="list-style-type: none"> • Cable disturbance • Cable 	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
8151 8156 8159	IDMA error <ul style="list-style-type: none"> • Disturbance • Control defective 	<ul style="list-style-type: none"> • Switch off and on the machine • Replace the control
8152 8154	IDMA error <ul style="list-style-type: none"> • Internal error 	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
8252 8257 8258 8256 8254	ADSP Boot/Xilinx Boot/ Boot error Disturbance	<ul style="list-style-type: none"> • Switch off and on the machine
8351	Test pins error	<ul style="list-style-type: none"> • Switch off and on the machine • Software update • Notify DA Service
9601	Stop while sewing on the contour Continue sewing?	<ul style="list-style-type: none"> • OK button = Continue the sewing process • ESC button = Interrupt the sewing process
9700	Bobbin case retainer not closed	Close the bobbin case retainer  p. 17
9701	Parallel clamps not lowered	<ul style="list-style-type: none"> • Remove obstacles • Align sensors
9900	Incorrect machine parameters	Initialize the data
9901	Incorrect sequences	Initialize the data
9902	Incorrect program parameters	Initialize the data

12.2.3 Errors in sewing process

Error	Possible causes	Remedial action
Unthreading at seam beginning	Needle thread tension is too firm	Check needle thread tension  p. 27
Thread breaking	Needle thread and hook thread have not been threaded correctly	Check threading path  p. 25
	Needle is bent or sharp-edged	Replace the needle  p. 24
	Needle is not inserted correctly into the needle bar	Insert the needle correctly into the needle bar  p. 24
	The thread used is unsuitable	Use recommended thread  p. 131
	Thread tensions are too tight for the thread used	Check thread tensions  p. 32
	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
Missing stitches	Needle thread and hook thread have not been threaded correctly	Check threading path
	Needle is blunt or bent	Replace the needle  p. 24
	Needle is not inserted correctly into the needle bar	Insert the needle correctly into the needle bar  p. 24
	The needle thickness used is unsuitable	Use recommended needle thickness  p. 131
	The reel stand is installed incorrectly	Check the assembly of the reel stand  p. 107
	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

Error	Possible causes	Remedial action
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  p. 131

13 Technical data

Noise emission

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

$L_{pA} = 78 \text{ dB (A)}$, $K_{pA} = 1.31 \text{ dB (A)}$ at

- Stitch length: 3.0 mm
- Speed: 3000 rpm
- Sewing material: Double jeans

Data and characteristic values

Technical data	Unit	Class
Machine type		Sewing unit
Type of stitches		301
Hook type		Vertical hook
Number of needles		1
Needle system		134/35
Needle strength	[Nm]	120 - 140
Thread strength for synthetics/core spun thread	[Nm]	max. 90/3-15/3
Stitch length (programmable)	[mm]	Maximum 12.7 mm (Depends on seam pattern)
Speed maximum	[min ⁻¹]	3000
Speed on delivery	[min ⁻¹]	2700
Foot lifter [mm]		20
Sewing field size [mm]		210 x 210
Number of free seam contours		99
Mains voltage	[V]	230
Mains frequency	[Hz]	50/60
Power	[W]	450
Operating pressure	[bar]	6
Air consumption with needle cooling		Dependent on the setting
Length	[mm]	1900
Width	[mm]	1520
Height <ul style="list-style-type: none"> • Without height adjustment • With height adjustment 	[mm]	880-910 920-1270
Weight (fitted)	[kg]	370

Characteristics

Basic type

CNC-controlled, double lockstitch sewing unit based on class 867, with a DAC III control and specific software.

Application

Sewing pre-bound pockets, mainly back pockets up to a size of 210 x 210 mm, onto jeans.

Sewing material

Lightweight to medium-weight cotton and synthetic fiber materials.

Equipment:

- Automatic sewing foot lift
- Stroke position adjustment
- Short thread cutter
- Threading device
- Programmable needle thread tension
- Automatic material feeder
- Automatic stacker for stacking the material
- Overlapping mode of operation (while sewing or stacking, the next material can be inserted and the next cycle can be started)

Hook

Vertical hook (32 mm bobbin diameter)

Drive

- Drive via positioning drive:
In addition to the sewing drive, the DACIII control controls 2 stepper motors for the X and Y motion for creating the seam geometry and a Z axis for sewing foot adjustment.
- Pneumatic drive for the material feeder and the stacker.
- The arm shaft is driven by a brushless DC motor
- Maximum speed: 3000 min⁻¹ intermittent (depending on the stitch length and material thickness)

Programming

- Operated via the graphic control panel OP 7000
- 99 program storage locations, each with a maximum of 16000 stitches
- Programs can be sewn individually or in sequences
- Storage of up to 20 sequences, with up to 30 programs in each sequence
- Setting of individual stitch parameters per stitch for controlling stroke position of pressure foot, thread cutter, thread clamp, speed, thread tension etc.
- Integrated test program for servicing/maintenance work:
 - Monitoring of the sewing process
 - Setting of machine functions
 - Creating of seam programs via a teach-In procedure.
The precision of the entry of coordinates for teaching is 0.1/1 mm
 - Testing of motor functions, inputs and outputs for reference switches, valves and transport motors, RAM memory and EPROM functions

Sewing foot lift

Motorized sewing foot lift

Clamp slot

Pneumatic opening and closing of the clamps

Sewing field size

Maximum sewing field size: 210 × 210 mm

Lubricating

Central oil-wick lubrication system for machine head and hook

Number of stitches

Recommended number of stitches: 2700/min

Stitch length

Maximum stitch length: 12.7 mm

Thread handling

- Electronic needle thread monitor
- Programmable needle thread tension:
Tension values for different thread extraction directions stored in seam program. This creates a neat seam pattern.
- Threading device:
Pulls the needle thread under the sewing material on the 1st stitch.
- Programmable stitch counter for hook thread monitoring and item counter
- Optional:
 - Electronic remaining thread monitor
 - Stitch position optimization kit: For seam optimization in the removal direction of 0 - 90°
 - Barcode detection

Ergonomics

- Adjustable feet to even out the level of the floor and secure stance of the machine
- Working height of the front edge of the table top for operation of the machine while standing: 880 × 910 mm
- Table top tilted by 15° towards the operator
- Pedal freely movable within the available cable length

14 Appendix

Fig. 89: Wiring diagram (1)

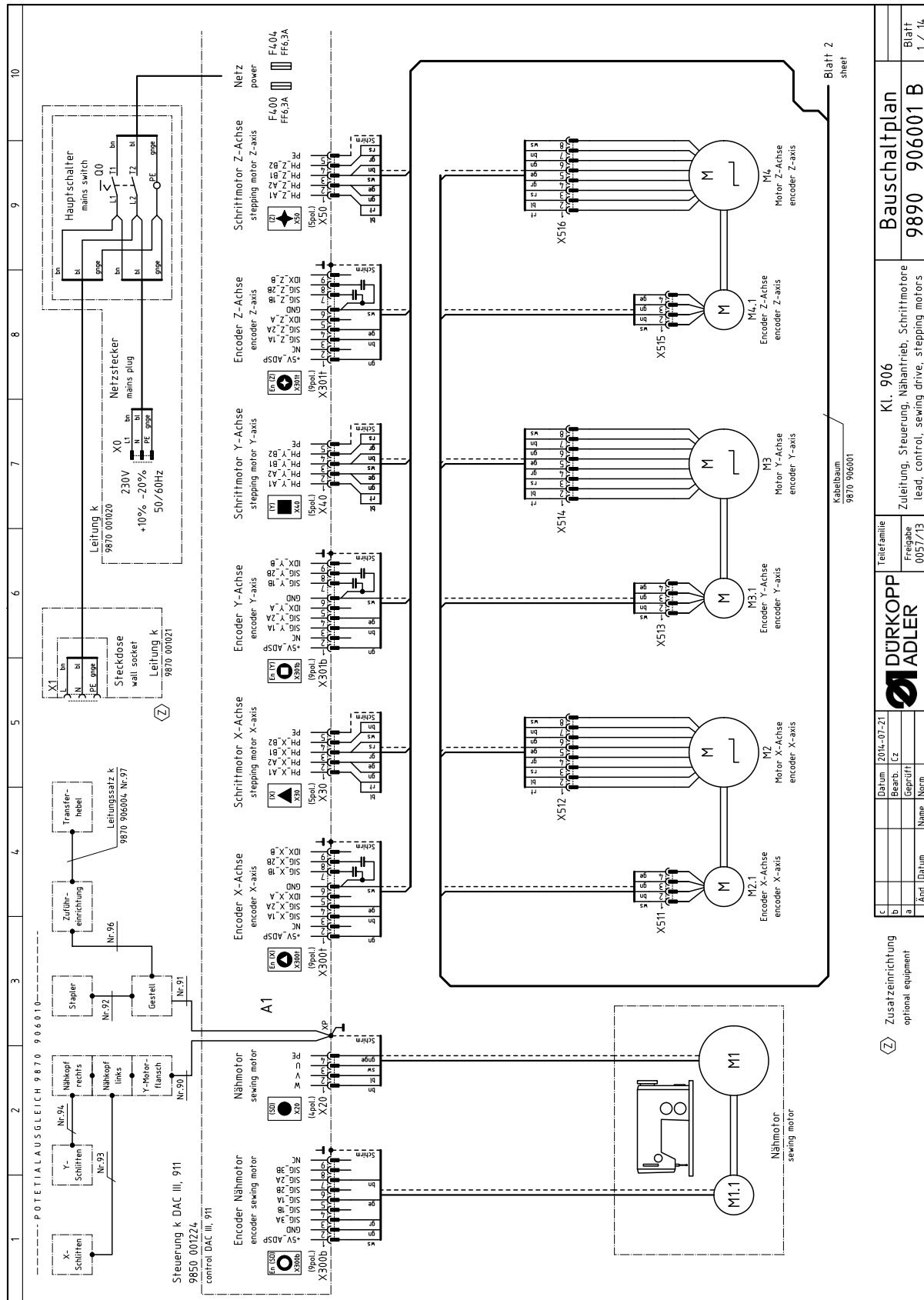
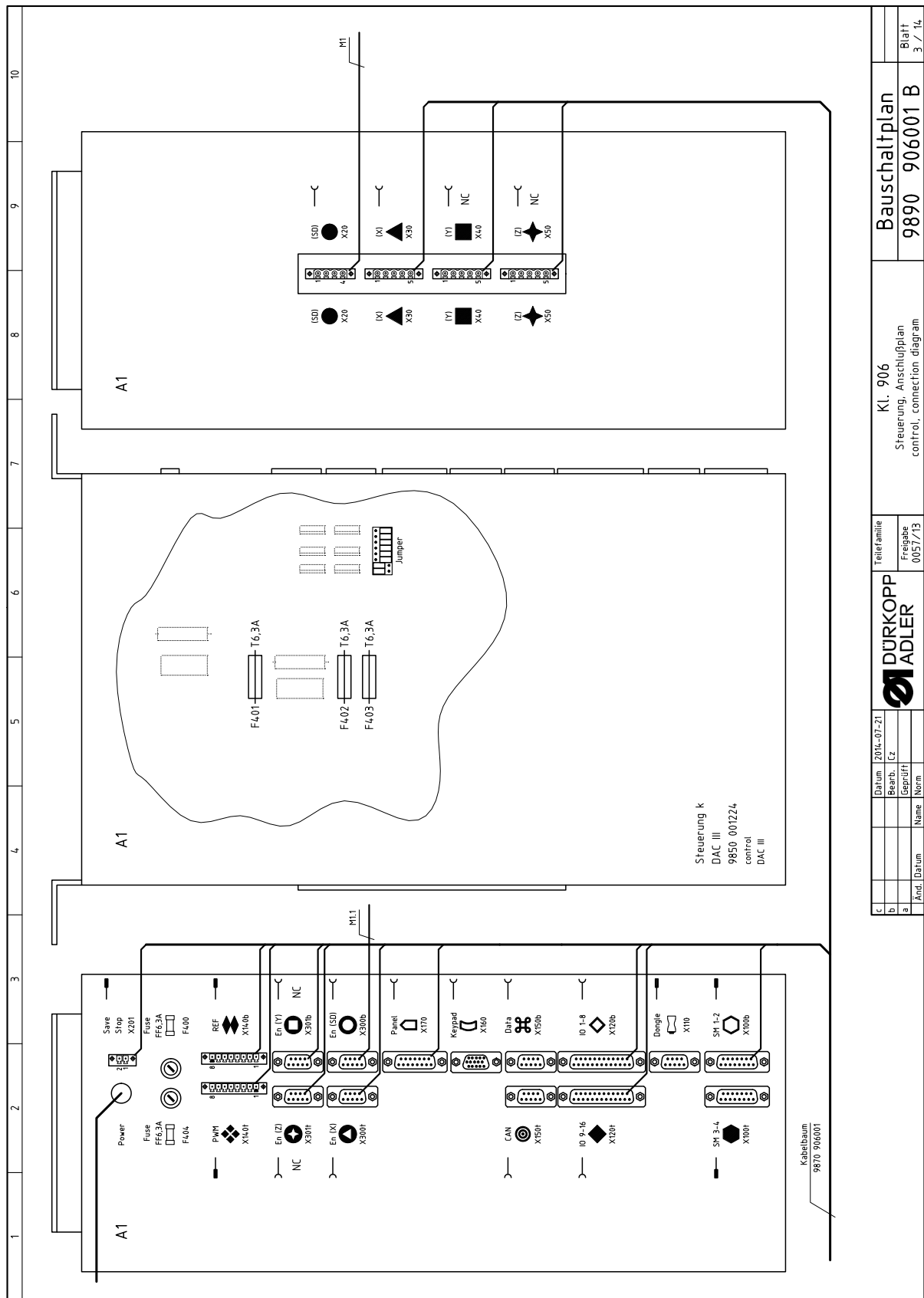
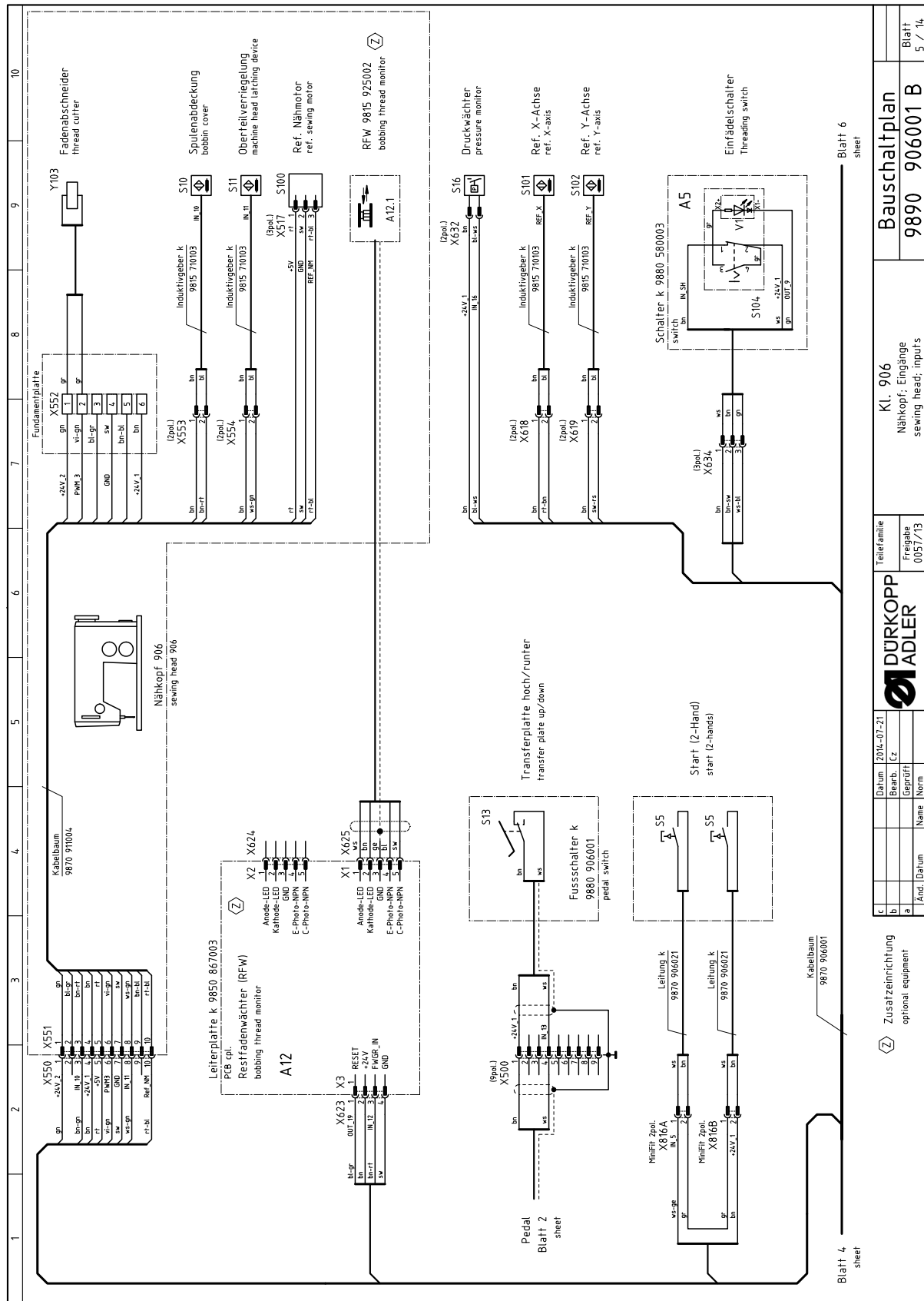


Fig. 91: Wiring diagram (3)



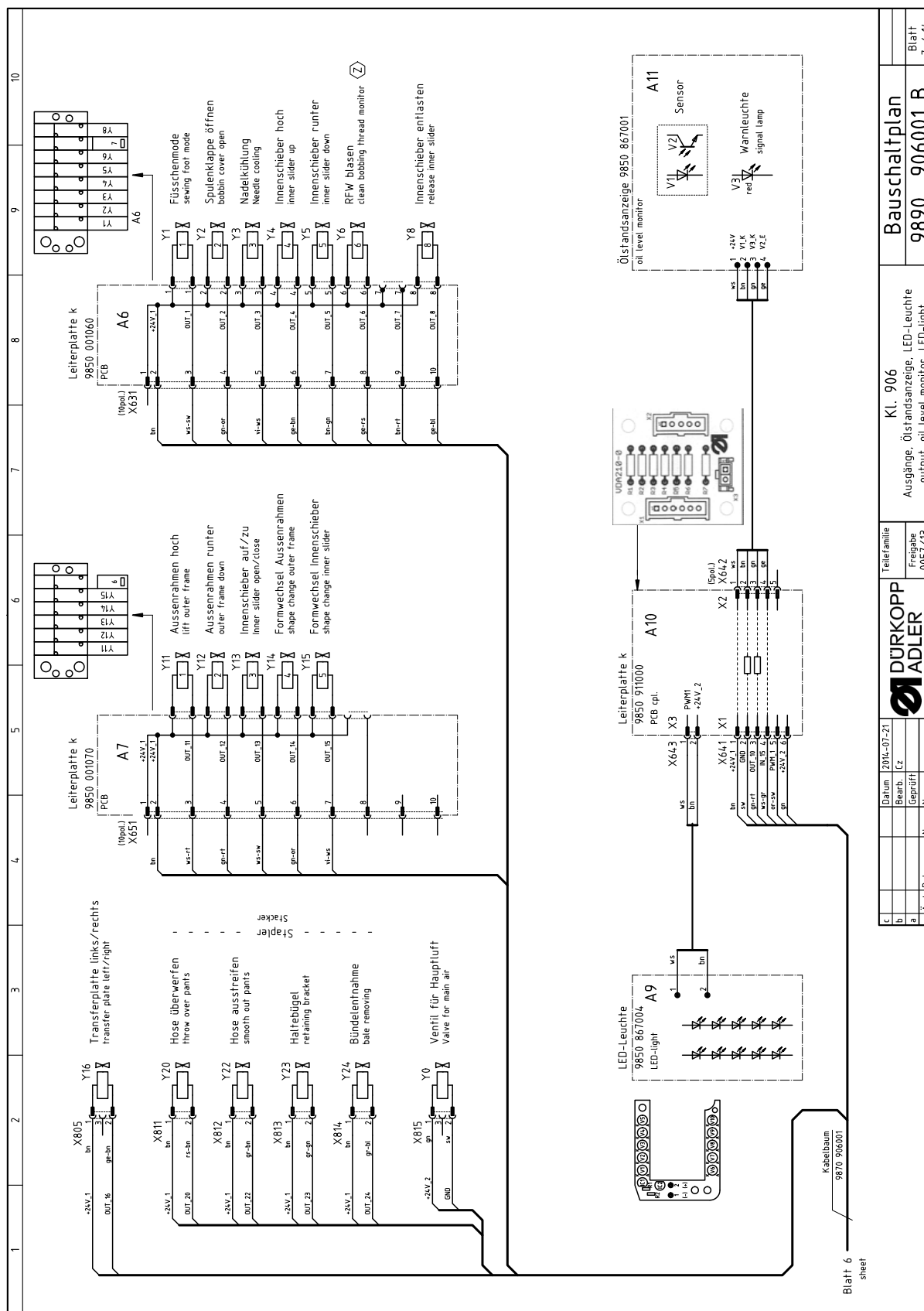
[illegible]


Fig. 93: Wiring diagram (5)



[illegible]

Fig. 95: Wiring diagram (7)



c		Datum		2014-07-21		 DÜRKOPP ADLER	Teilfamilie	Kl. 906 Ausgänge: Ölstandsanzeige, LED-Leuchte output: oil level monitor, LED-light	Bauschaltplan	Blatt
b		Bearb.		Cz						
a		Geprüft		..						

Legend:

- A1:** Main assembly housing
- A7:** BDE-Schnittstelle (BDE interface)
- A13:** X661 transformer
- A17:** Pegelwandler k 9850 91004 (level converter)
- A18:** Leiterplatte k 9850 91005 (PCB)
- A19:** Barcodeleser 9850 91006 (bar code reader)

Component Details:

- A18 (PCB):** Includes X661 transformer, X1 connector, and power supply lines (+5.7V, 0V, GND).
- A17 (Level Converter):** Includes RS232 interface, X662 connector, and power supply lines (+5V, +24V, 1).
- A19 (Barcode Reader):** Includes X663 connector, Schirm (shield), and power supply lines (bn, w5, w4, w3, w2, w1, w0, w6, w7, w8, w9, w10, w11, w12, w13, w14, w15, w16, w17, w18, w19, w20, w21, w22, w23, w24, w25, w26, w27, w28, w29, w30, w31, w32, w33, w34, w35, w36, w37, w38, w39, w40, w41, w42, w43, w44, w45, w46, w47, w48, w49, w50, w51, w52, w53, w54, w55, w56, w57, w58, w59, w60, w61, w62, w63, w64, w65, w66, w67, w68, w69, w70, w71, w72, w73, w74, w75, w76, w77, w78, w79, w80, w81, w82, w83, w84, w85, w86, w87, w88, w89, w90, w91, w92, w93, w94, w95, w96, w97, w98, w99, w100, w101, w102, w103, w104, w105, w106, w107, w108, w109, w110, w111, w112, w113, w114, w115, w116, w117, w118, w119, w120, w121, w122, w123, w124, w125, w126, w127, w128, w129, w130, w131, w132, w133, w134, w135, w136, w137, w138, w139, w140, w141, w142, w143, w144, w145, w146, w147, w148, w149, w150, w151, w152, w153, w154, w155, w156, w157, w158, w159, w160, w161, w162, w163, w164, w165, w166, w167, w168, w169, w170, w171, w172, w173, w174, w175, w176, w177, w178, w179, w180, w181, w182, w183, w184, w185, w186, w187, w188, w189, w190, w191, w192, w193, w194, w195, w196, w197, w198, w199, w200, w201, w202, w203, w204, w205, w206, w207, w208, w209, w210, w211, w212, w213, w214, w215, w216, w217, w218, w219, w220, w221, w222, w223, w224, w225, w226, w227, w228, w229, w230, w231, w232, w233, w234, w235, w236, w237, w238, w239, w240, w241, w242, w243, w244, w245, w246, w247, w248, w249, w250, w251, w252, w253, w254, w255, w256, w257, w258, w259, w260, w261, w262, w263, w264, w265, w266, w267, w268, w269, w270, w271, w272, w273, w274, w275, w276, w277, w278, w279, w280, w281, w282, w283, w284, w285, w286, w287, w288, w289, w290, w291, w292, w293, w294, w295, w296, w297, w298, w299, w300, w301, w302, w303, w304, w305, w306, w307, w308, w309, w310, w311, w312, w313, w314, w315, w316, w317, w318, w319, w320, w321, w322, w323, w324, w325, w326, w327, w328, w329, w330, w331, w332, w333, w334, w335, w336, w337, w338, w339, w340, w341, w342, w343, w344, w345, w346, w347, w348, w349, w350, w351, w352, w353, w354, w355, w356, w357, w358, w359, w360, w361, w362, w363, w364, w365, w366, w367, w368, w369, w370, w371, w372, w373, w374, w375, w376, w377, w378, w379, w380, w381, w382, w383, w384, w385, w386, w387, w388, w389, w390, w391, w392, w393, w394, w395, w396, w397, w398, w399, w400, w401, w402, w403, w404, w405, w406, w407, w408, w409, w410, w411, w412, w413, w414, w415, w416, w417, w418, w419, w420, w421, w422, w423, w424, w425, w426, w427, w428, w429, w430, w431, w432, w433, w434, w435, w436, w437, w438, w439, w440, w441, w442, w443, w444, w445, w446, w447, w448, w449, w450, w451, w452, w453, w454, w455, w456, w457, w458, w459, w460, w461, w462, w463, w464, w465, w466, w467, w468, w469, w470, w471, w472, w473, w474, w475, w476, w477, w478, w479, w480, w481, w482, w483, w484, w485, w486, w487, w488, w489, w490, w491, w492, w493, w494, w495, w496, w497, w498, w499, w500, w501, w502, w503, w504, w505, w506, w507, w508, w509, w510, w511, w512, w513, w514, w515, w516, w517, w518, w519, w520, w521, w522, w523, w524, w525, w526, w527, w528, w529, w530, w531, w532, w533, w534, w535, w536, w537, w538, w539, w540, w541, w542, w543, w544, w545, w546, w547, w548, w549, w550, w551, w552, w553, w554, w555, w556, w557, w558, w559, w560, w561, w562, w563, w564, w565, w566, w567, w568, w569, w570, w571, w572, w573, w574, w575, w576, w577, w578, w579, w580, w581, w582, w583, w584, w585, w586, w587, w588, w589, w590, w591, w592, w593, w594, w595, w596, w597, w598, w599, w600, w601, w602, w603, w604, w605, w606, w607, w608, w609, w610, w611, w612, w613, w614, w615, w616, w617, w618, w619, w620, w621, w622, w623, w624, w625, w626, w627, w628, w629, w630, w631, w632, w633, w634, w635, w636, w637, w638, w639, w640, w641, w642, w643, w644, w645, w646, w647, w648, w649, w650, w651, w652, w653, w654, w655, w656, w657, w658, w659, w660, w661, w662, w663, w664, w665, w666, w667, w668, w669, w670, w671, w672, w673, w674, w675, w676, w677, w678, w679, w680, w681, w682, w683, w684, w685, w686, w687, w688, w689, w690, w691, w692, w693, w694, w695, w696, w697, w698, w699, w700, w701, w702, w703, w704, w705, w706, w707, w708, w709, w710, w711, w712, w713, w714, w715, w716, w717, w718, w719, w720, w721, w722, w723, w724, w725, w726, w727, w728, w729, w730, w731, w732, w733, w734, w735, w736, w737, w738, w739, w740, w741, w742, w743, w744, w745, w746, w747, w748, w749, w750, w751, w752, w753, w754, w755,

Fig. 97: Wiring diagram (9)

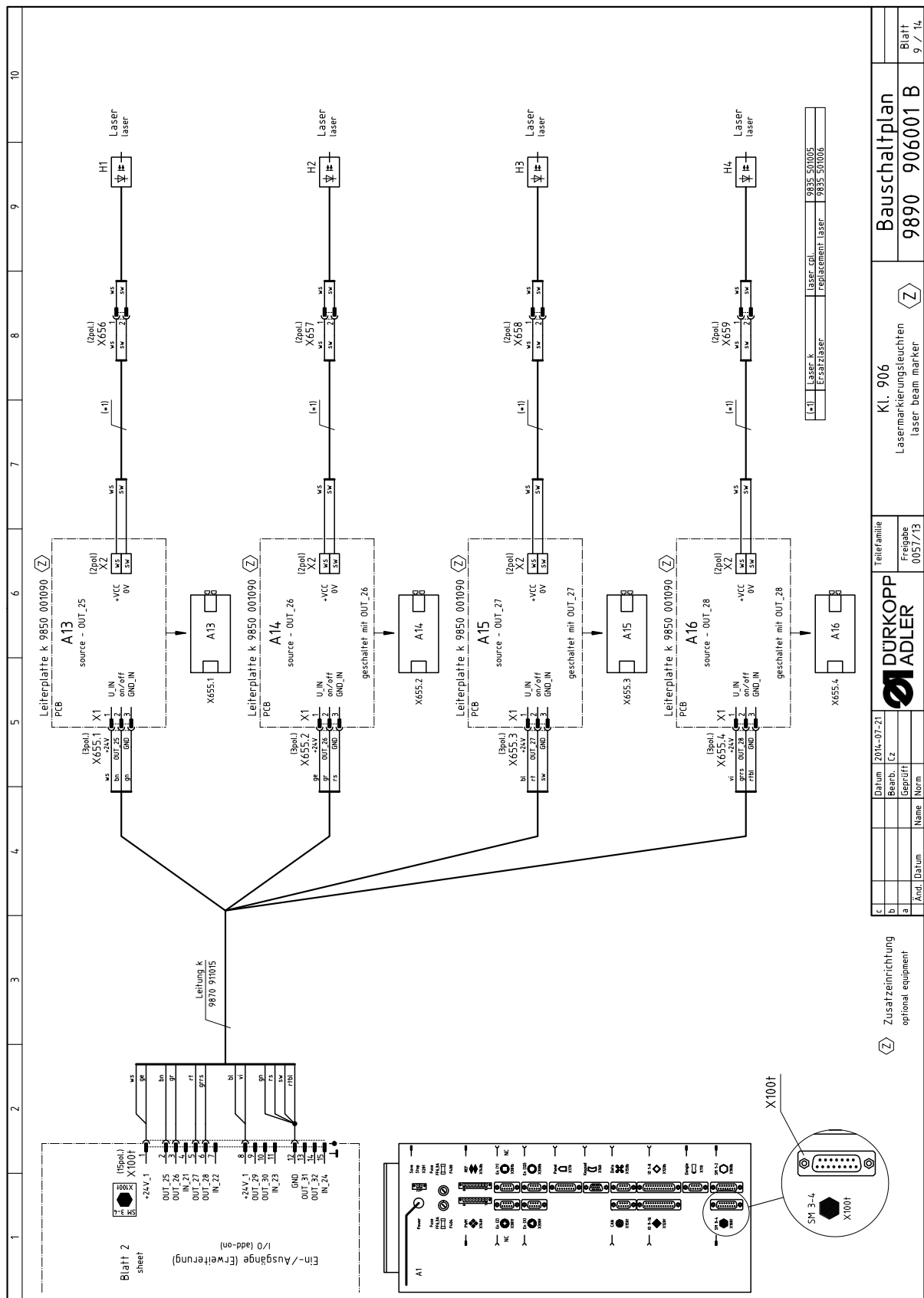
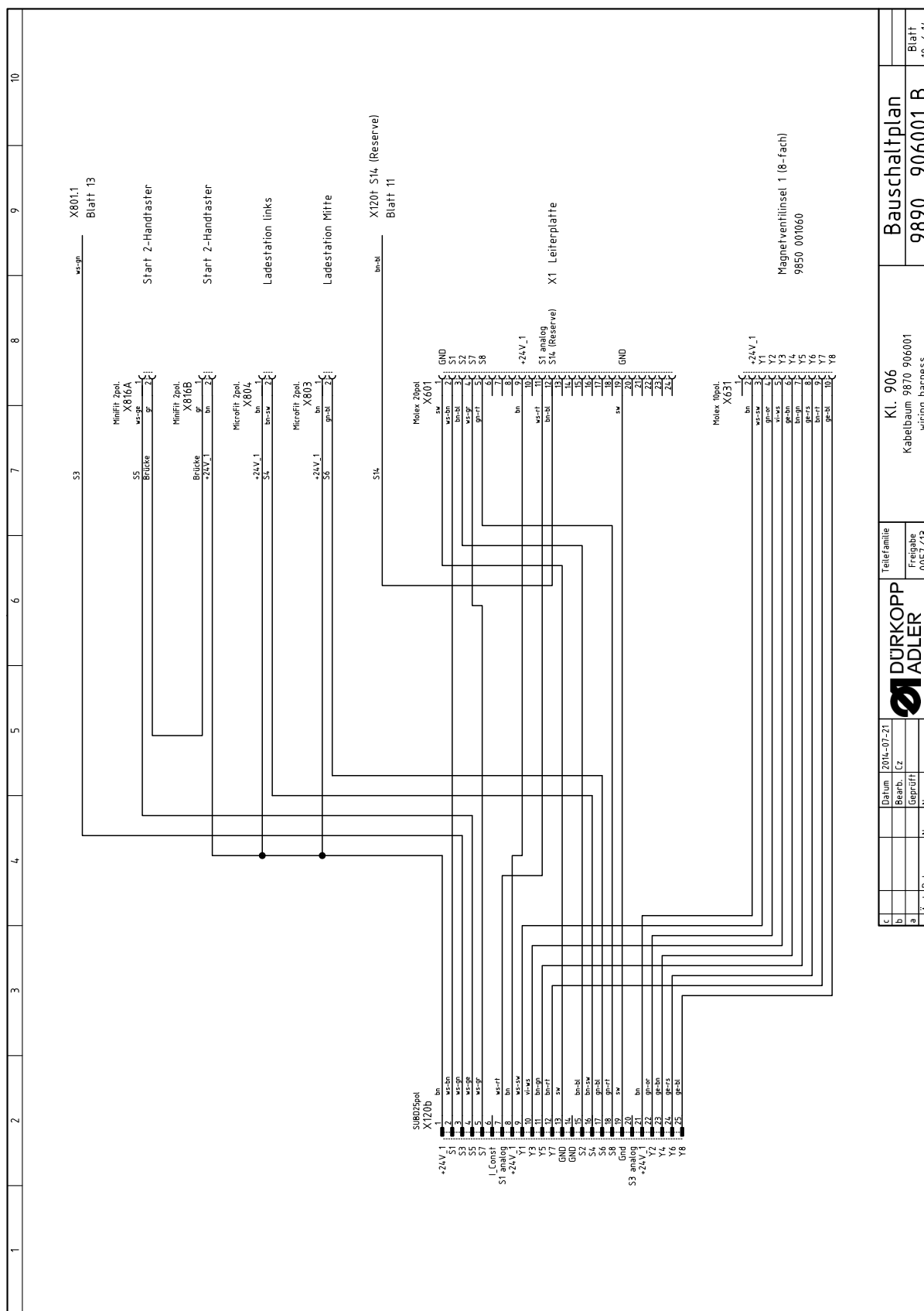
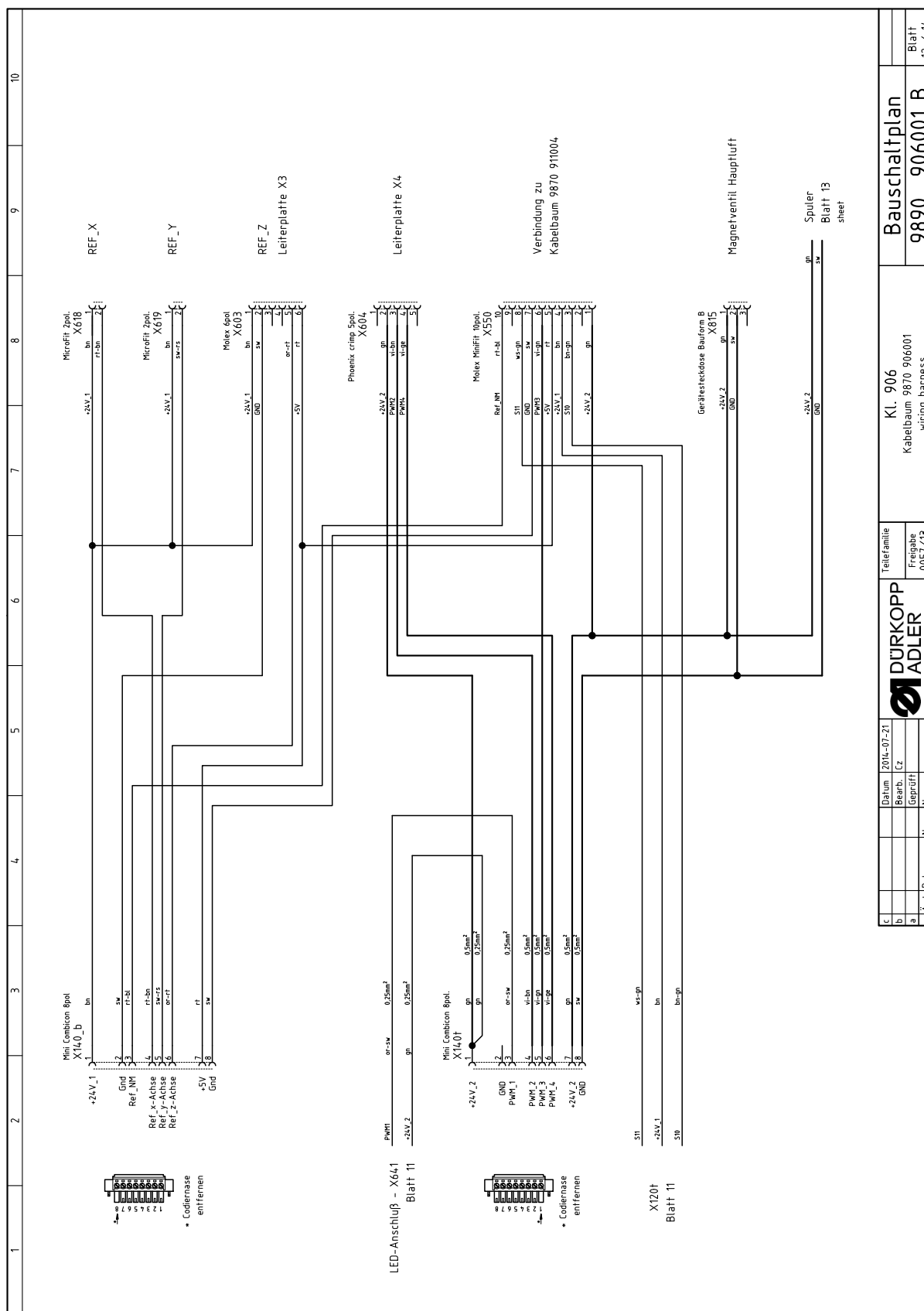


Fig. 98: Wiring diagram (10)



c	Datum	2014-07-21	Teilfamilie	Kl. 906	Bauschaltplan	Blatt
b	Bearb.	cz	Freigabe	Kabelbaum 9870 906001	9890 906001 B	10 / 14
a	Geprüft		wiring harness			
	Andl.	Datum	Name	Norm		

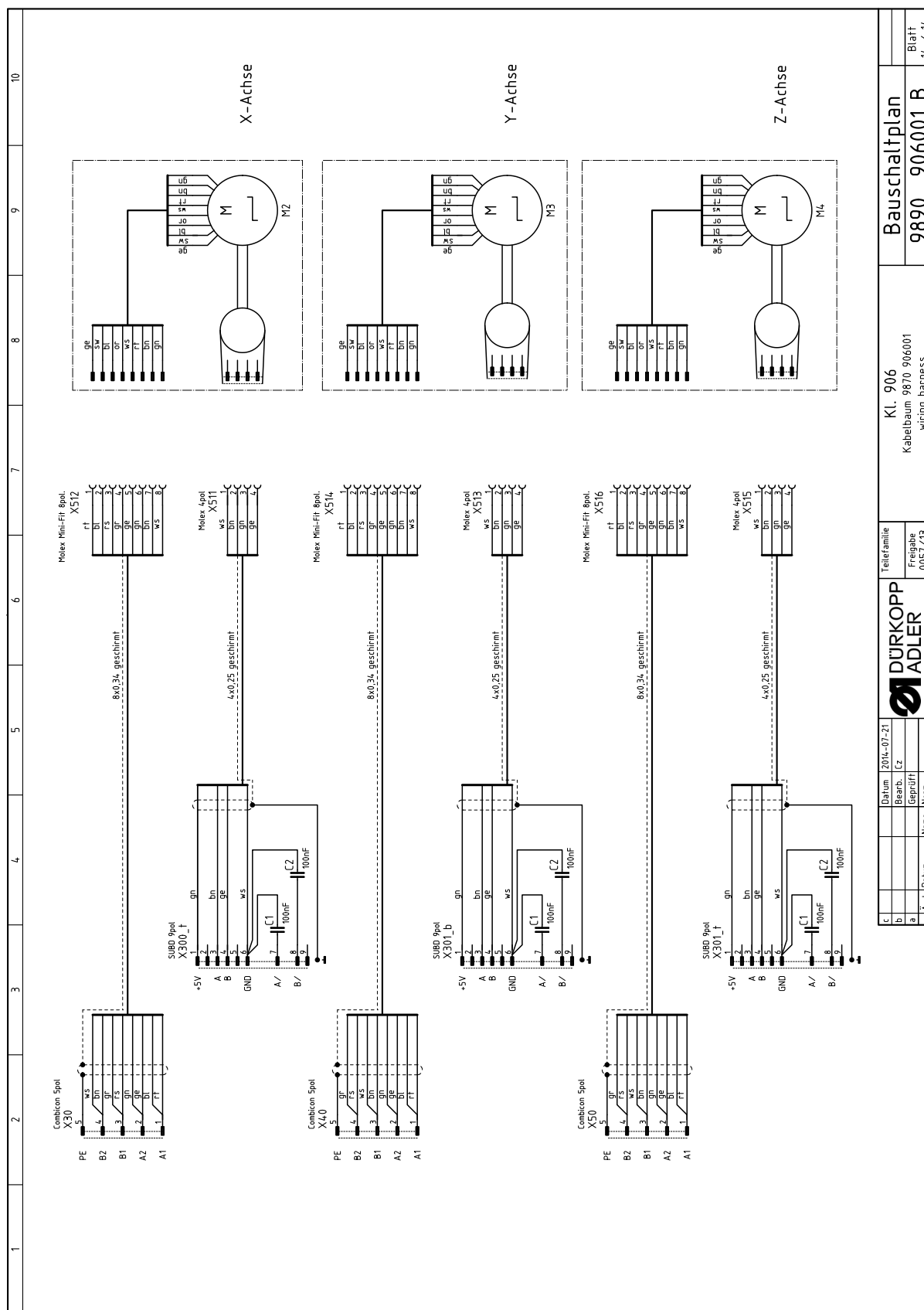
Fig. 100: Wiring diagram (12)



c	Datum	2014-07-21	Teilfamilie	DÜRKOPP ADLER	Kl. 906	Bauschaltplan	Blatt
b	Bearb.	Cz	Freigabe		Kabelbaum 9870 906001	9890 906001 B	12 / 14
a	Geprüft		0057/13		wiring harness		
	And.	Datum	Name	Norm			

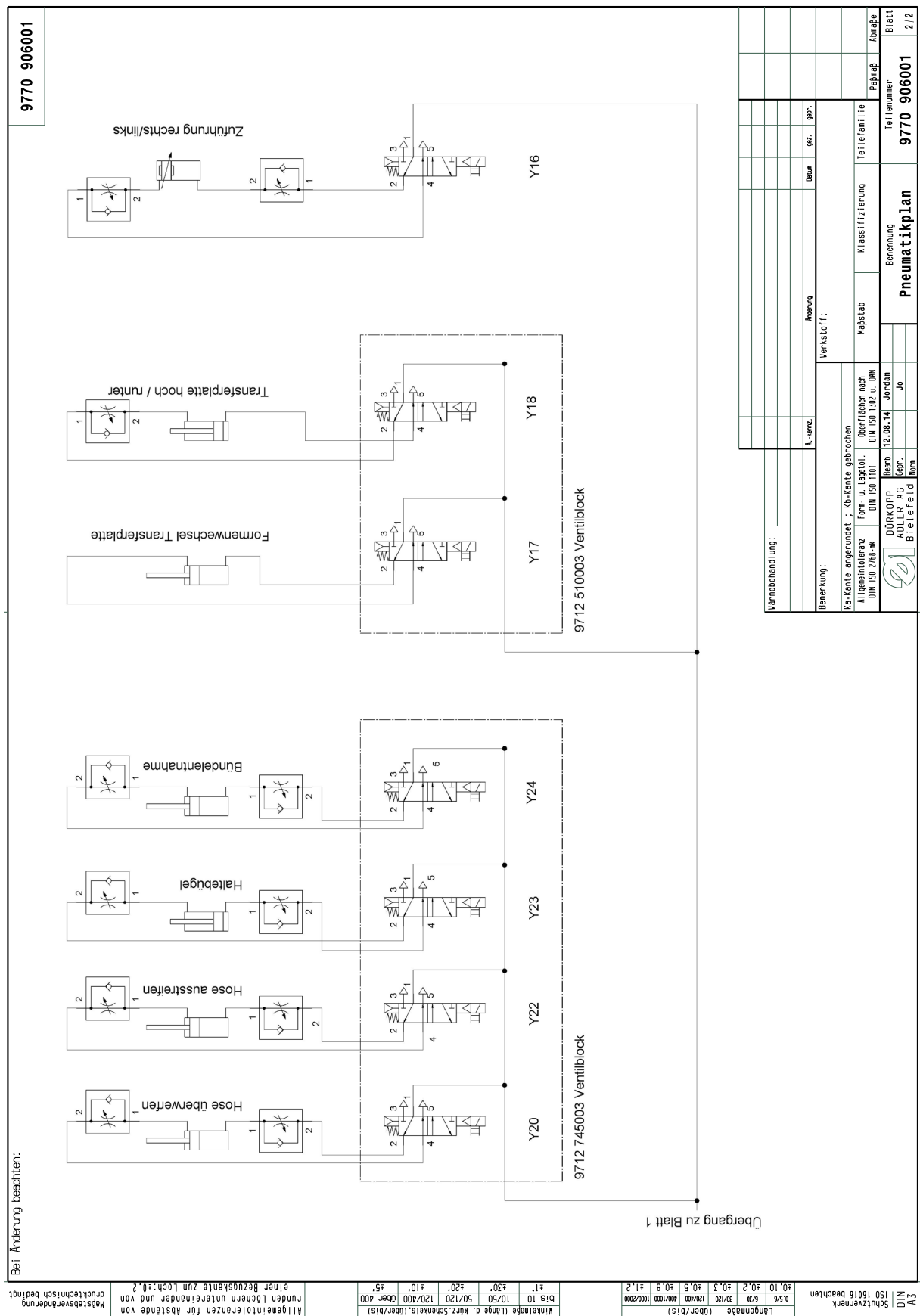
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Fig. 102: Wiring diagram (14)



[illegible]

Fig. 104: Pneumatic diagram (2)



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