DÜRKOPP ADLER

911-211

Operating Instructions

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

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. 119*).

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. 101*) is important for specialists. (Delete this sentence in Service Instructions)

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

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

All the warnings and safety signs on the machine must always be in legible condition. Do not remove!
Missing or damaged warnings and safety signs must be replaced immediately.

Requirements to be met by the personnel

Only qualified specialists may:

- set up the machine
- perform maintenance work and repairs
- perform work on electrical equipment

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

Operation

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

Safety equipment

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

2.2 Signal words and symbols used in warnings

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

Signal words

Signal words and the hazard they describe:

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

Symbols

The following symbols indicate the type of danger to personnel:

Symbol	Type of danger
	General
	Electric shock

Symbol	Type of danger
	Puncture
	Crushing
	Environmental damage

Examples Examples of the layout of warnings in the text:

DANGER

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

WARNING

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

CAUTION

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

CAUTION

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

NOTICE

Type and source of danger!

Consequences of non-compliance.

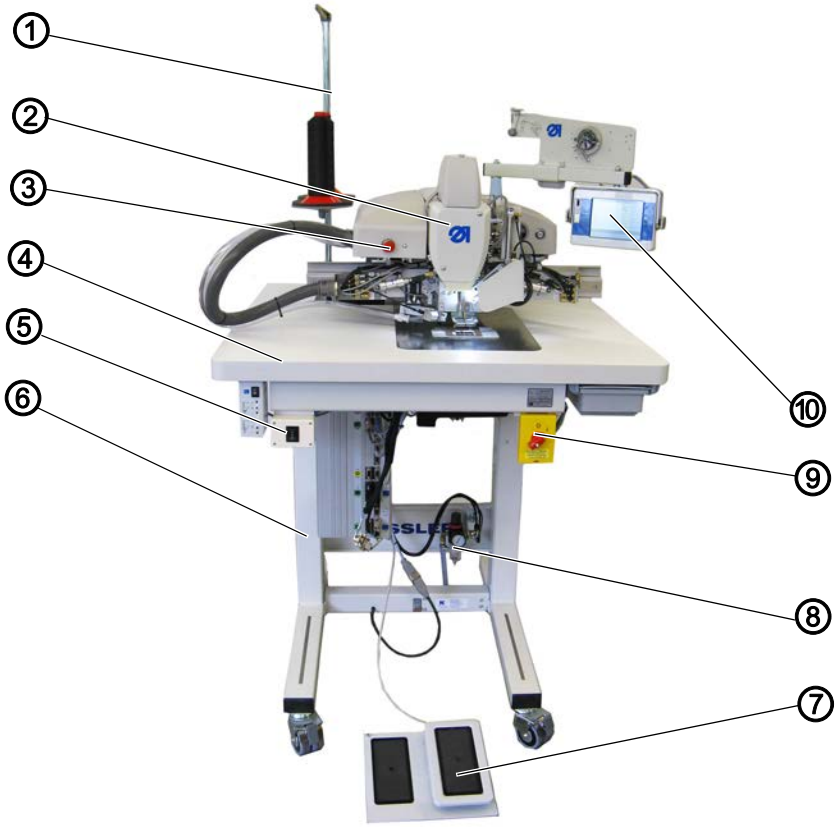
Measures for avoiding the danger.

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

3 Machine description

3.1 Components of the machine

Fig. 1: Complete overview



(1) - Reel stand
(2) - Machine head
(3) - Quick-stop
(4) - Tabletop
(5) - Tabletop height adjustment
(6) - Stand
(7) - Pedal
(8) - Compressed air maintenance unit
(9) - Main switch
(10) - Operating terminal

3.2 Proper use

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

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

The needle thicknesses permissible for the machine are listed in the **Technical Data** (🕮 *p. 127*) chapter.

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

The machine is intended for industrial use.

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

Only authorized persons may work on the machine.

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

WARNING

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

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

Follow all instructions provided.

NOTICE

Non-observance will lead to property damage!

Improper use can result in material damage at the machine.

Follow all instructions provided.

3.3 Declaration of Conformity

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

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4 Operation

4.1 Switching on and off the machine

Fig. 2: 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 following message appears on the display:
`Pedal zum Referenzieren zurücktreten (Press pedal for referencing)`

2. Press the pedal to perform referencing of the machine.

↳ The main menu appears on the display.

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 immediately disconnected from the mains grid.

4.2 Switching on threading mode

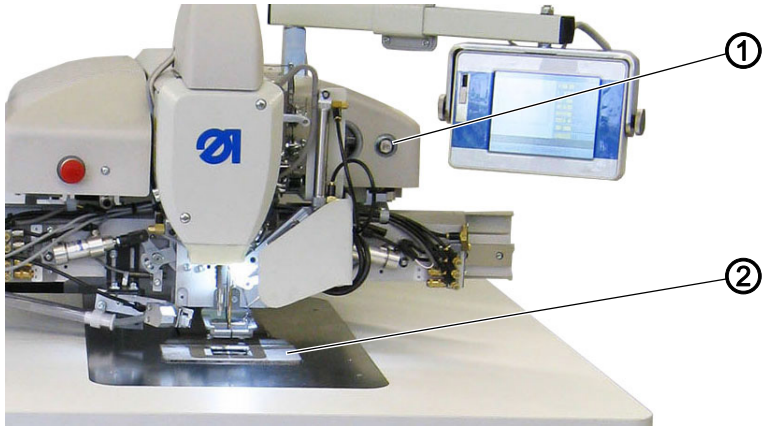
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Prior to any maintenance or cleaning work, switch off the machine or set the machine to threading mode.
When threading mode is active, do not reach into the hook area until the cloth pressure bar has moved down.

Fig. 3: witching on threading mode



(1) - Button for threading mode *(2) - Hook cover*

Switching on threading mode

To switch on threading mode:

1. Press the button (1).

Important

The button must engage.

↳ The machine is in threading mode.
The sewing foot is moved to the lower position.
The lamp next to the button lights up.
The area around the hook cover (2) is lit up.

Switching off threading mode

To switch off threading mode:

1. Press the button (1) again.

Important

The button must disengage.

4.3 Switching on Quick-stop

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

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

After a Quick-stop, power is still present in the machine, and the clamps can move.
Switch off the machine prior to maintenance or cleaning work

Fig. 4: Switching on Quick-stop

(1) - Button Quick-stop *(2) - Main switch*

To switch on Quick-stop:

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

↳ All working steps on the machine are stopped.

Switching off the machine

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

↳ All drives and the control are disconnected from the mains grid.

4.4 Swiveling the machine head up and down

The machine head can be swiveled up for maintenance work.

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

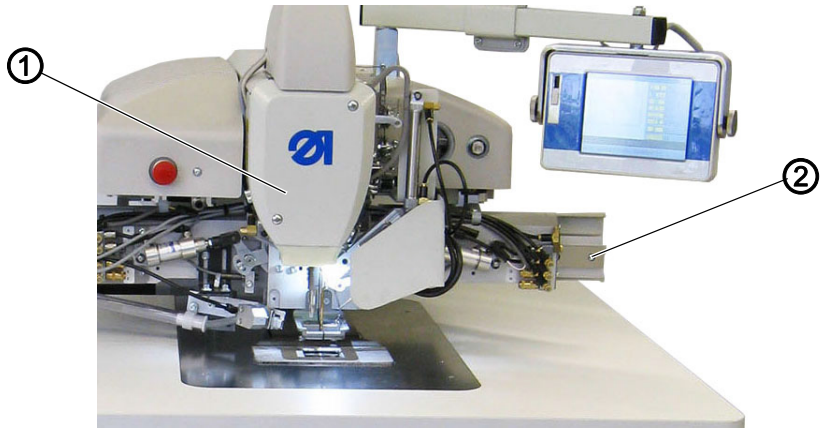
Switch off the machine before swiveling up the machine head and performing maintenance.

4.4.1 Swiveling up the machine head

Important

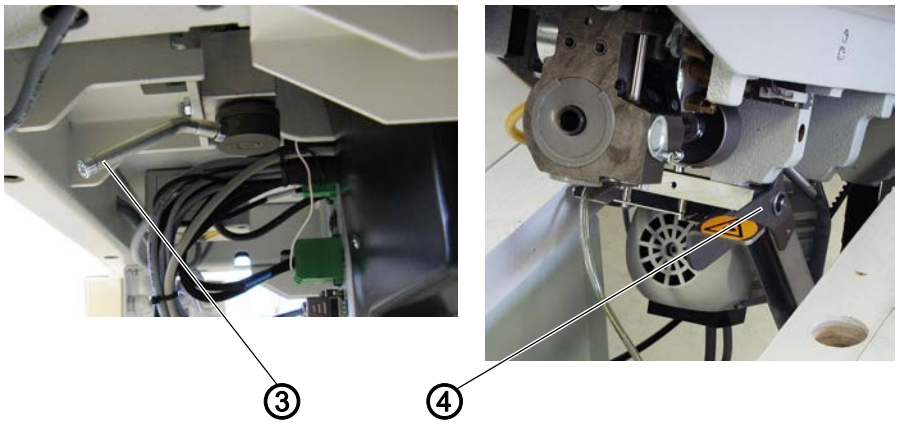
The drive carriage (2) must be at the rear.

Fig. 5: Swiveling up the machine head (1)



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

Fig. 6: Swiveling up the machine head (2)



(3) - Locking lever *(4) - Latch*

To swivel up the machine head:

1. Release the locking lever (3) under the table top.
2. Lift the machine head in the head cover area (1) and swivel up carefully.

↳ The latch (4) latches into place.
The space under the machine table is now accessible.

4.4.2 Swiveling down the machine head

WARNING

Risk of injury from moving parts!

Crushing possible.

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

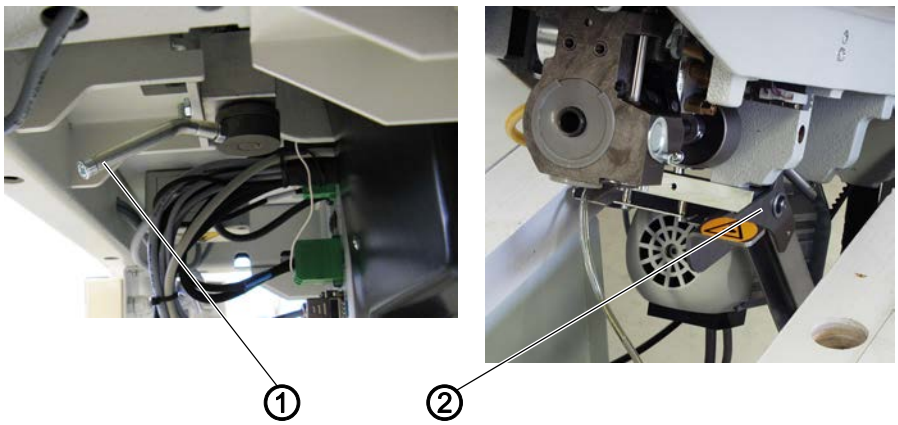
NOTICE

Property damage may occur!

Risk of machine damage from falling machine head.

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

Fig. 7: Swiveling down the machine head



(1) - Locking lever

(2) - Latch

To swivel down the machine head:

1. Hold the machine head in the head cover area.
2. Release the latch (2).
3. Swivel down the machine head carefully.
4. Latch the locking lever (1) under the table top.

4.5 Changing the needle

WARNING

Risk of injury from sharp parts!

Punctures possible.

Switch off the machine before you change the needle.

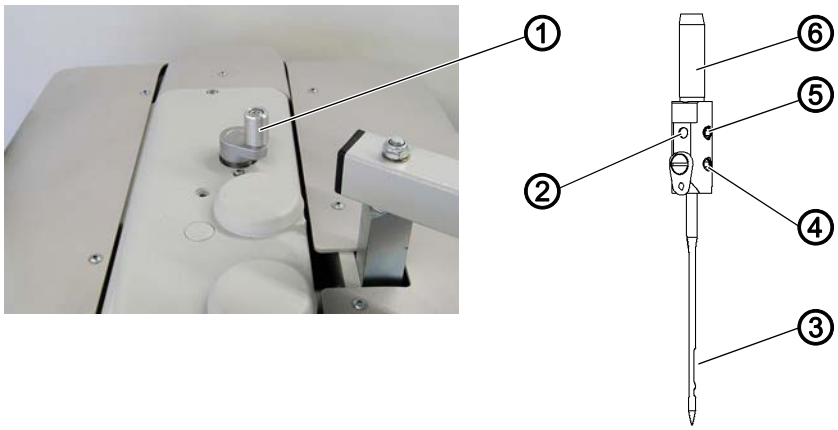
NOTICE

Property damage may occur!

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

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

Fig. 8: Changing the needle



(1) - Hand crank
(2) - Cylinder pin
(3) - Groove
(4) - Threaded pin
(5) - Threaded pin
(6) - Needle bar

To change the needle:

1. Push the hand crank (1) down and rotate it to the left until the needle bar (6) reaches the highest position.
2. Loosen the threaded pin (4).
3. Pull the needle downwards out of the needle bar (6).
4. To change from needle system 328 to 794 or 7x23: Undo the setscrew (5) and take off the cylinder pin (2).
   To change from 794 or 7x23 to 328, insert cylinder pin (2) into the hole and tighten setscrew (5).

5. Insert the new needle into the needle bar (6) until it reaches the end stop.

Important

The groove (3) must face toward the hook.

6. Tighten setscrew (4) or (4) and (5)

Order

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

4.6 Threading the needle thread

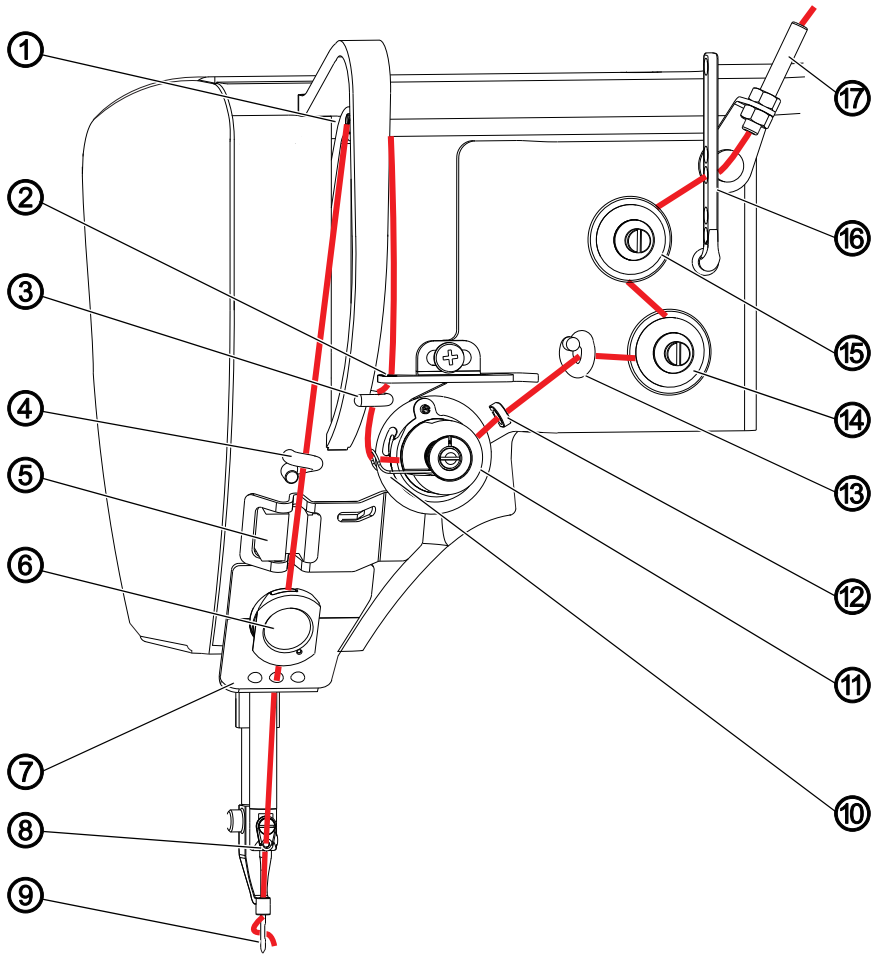
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before threading the needle thread.

Fig. 9: Threading the needle thread (1)



(1) - Thread lever
(2) - Needle thread regulator
(3) - Guide
(4) - Guide
(5) - Needle thread regulator
(6) - Needle thread clamp (optional)
(7) - Guide
(8) - Guide
(9) - Needle eye
(10) - Thread tensioning spring
(11) - Diverter
(12) - Guide
(13) - Guide
(14) - Voltage
(15) - Voltage
(16) - Guide
(17) - Hose guide

To thread the needle thread:

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

Important

The unwinding bracket must be parallel to the thread stand.

2. Use compressed air to blow the thread through the hose guide (17).
3. Insert the thread through the guide (16).
4. Feed the thread counterclockwise around the tensioner (15).
5. Feed the thread clockwise around the tensioner (14).
6. Insert the thread through the guides (13) and (12).

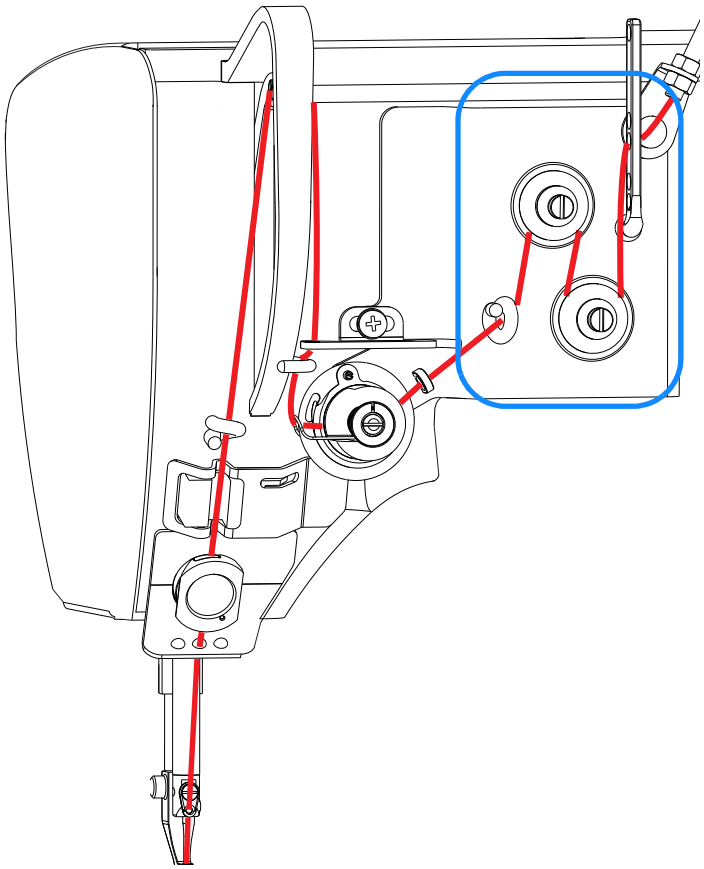
7. Feed the thread clockwise around the diverter (11).
8. Feed the thread under the thread tensioning spring (10), through the guide (3) and through the needle thread regulator (2) to the thread lever (1).
9. Feed the thread through the thread lever (1) and the guide (4).
10. Insert the thread through the needle thread monitor (5) and, on a machine with a thread cutter, through the thread clamp (6).
11. Insert the thread through the guides (7) and (8).
12. Insert the thread through the needle eye (9) in such a way that the loose thread end faces the hook.

Information

When using thicker threads (e.g. while sewing belts or airbags), you may experience that the thread wobbles. In this case, we recommend that you increase the wrap angle relative to the thread tension.

Thread the thread as shown below:

Fig. 10: Threading the needle thread (2)



Needle thread threading on machines with a thread burner

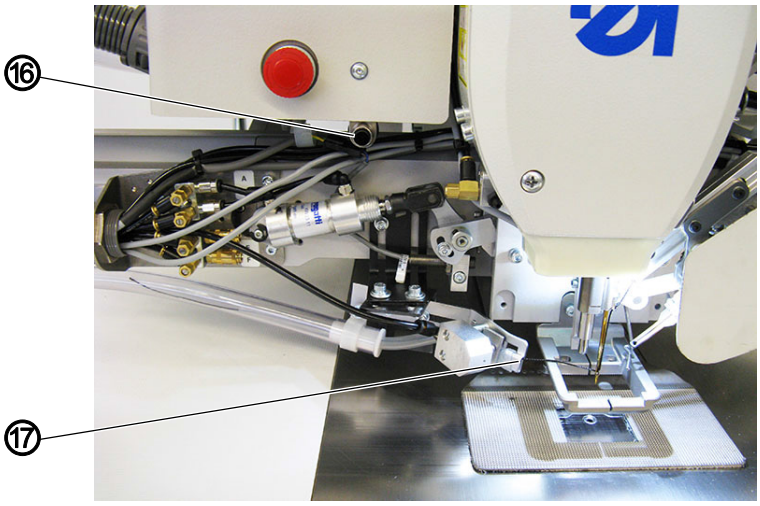
NOTICE

Property damage may occur!

If the thread was not positioned in the suction opening, disturbances and damage may occur in the area of the hook.
It is even possible that the clutch may disengage, which may necessitate more extensive repairs.

ALWAYS position the needle thread in the suction opening.

Fig. 11: Needle thread threading on machines with a thread burner



(18) - Button for suction device *(19) - Suction opening*

13. For machines with a thread burner: Position the thread in the suction opening (17).
14. Press the button for the suction device (16).

4.7 Setting the needle thread regulator

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

Larger thread quantity for

- thick sewing material
- high thread strengths
- large stitch lengths

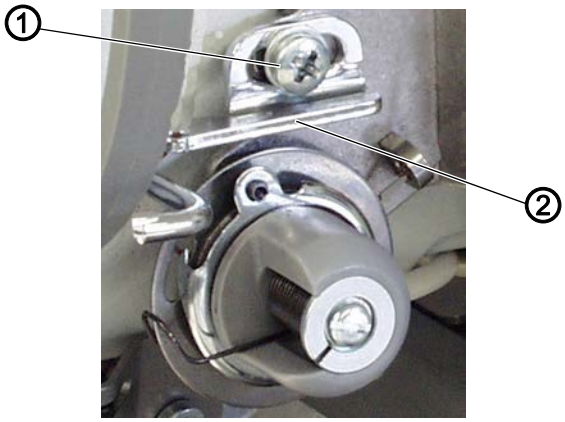
Lower thread quantity for

- thin sewing material
- low 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 tensioning spring (1) should be pulled approx. 0.5 mm out of the lower end position.

Fig. 12: Setting the needle thread regulator



(1) - Screw *(2) - Needle thread regulator*

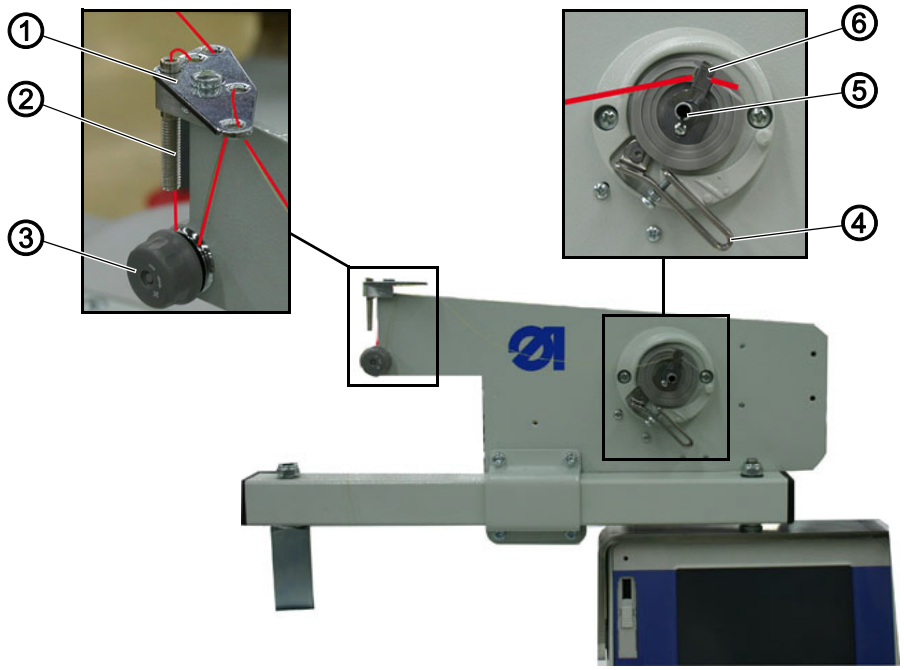
To set the needle thread regulator:

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

4.8 Winding the hook thread

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

Fig. 13: Winding the hook thread



(1) - Thread guide plate
(2) - Thread guide channel
(3) - Winding tensioner
(4) - Bobbin winder flap
(5) - Bobbin shaft
(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 unwinding bracket.

Important

The unwinding bracket must be parallel to the thread stand.

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

8. Press the bobbin winder flap (4) against the bobbin.

↳ The winder starts and stops automatically when the configured bobbin filling volume is reached.
(Setting of the bobbin filling volume is described in the 🕮 *Service Instructions*.)

4.9 Changing the bobbin

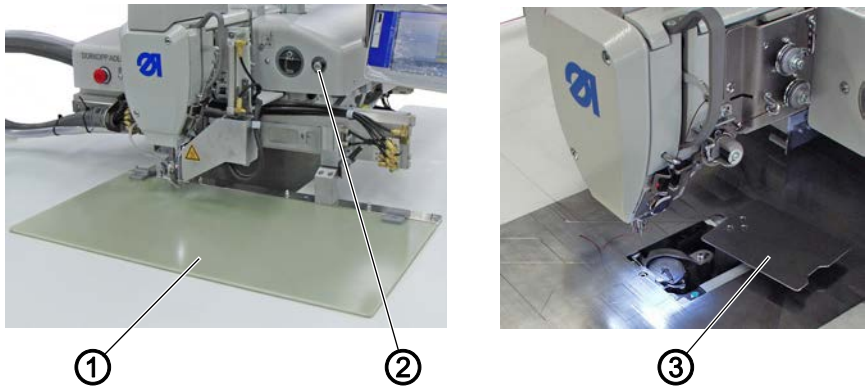
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch the machine to threading mode before changing the bobbin.
When threading mode is active, do not reach into the hook area until the cloth pressure bar has moved down.

Fig. 14: Changing the bobbin (1)



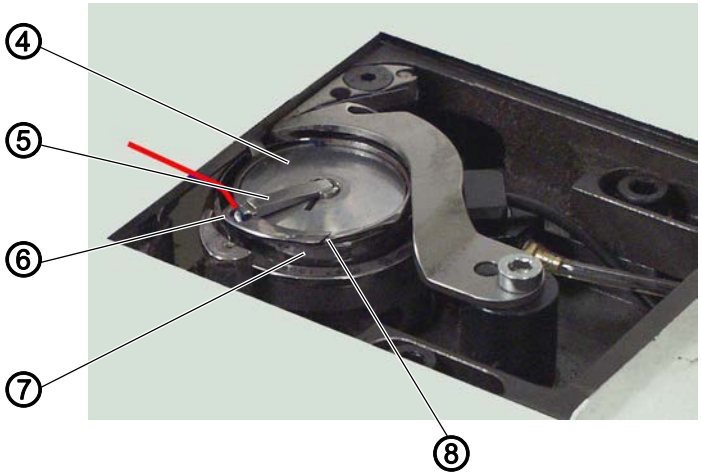
(1) - Sewing material holder
(2) - Button for threading mode
(3) - Cover plate

To change the bobbin:

1. Remove the sewing material holder (1) (for alternating frames only).
2. Press the threading mode (2) button.

↳ The drive carriage moves to the bobbin change position.
The cover plate (3) pivots to the side.
The sewing foot is moved to the lower position.
The lighting is switched on.

Fig. 15: Changing the bobbin (2)



(4) - Bobbin
(5) - Bobbin case retainer
(6) - Guide
(7) - Tensioning spring
(8) - Slot

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

Important

Insert the bobbin (5) so that it moves in the opposite direction of the hook when the thread is pulled out. The slits of the bobbin should be visible at the top.

6. Feed the hook thread through the slot (9) in the bobbin case.
7. Pull the hook thread under the tensioning spring (8).
8. Pull the hook thread through the guide (7) and place it to the left.
9. Close the bobbin case retainer (6).
10. Cut off the thread at the left edge of the closed bobbin flap.
11. Release the threading mode (2) button.

↳ The cover plate (4) pivots back to the original position.

Accounting for a bobbin change in the seam program

The method of accounting for a bobbin change in the seam program is described in the chapter **Changing the bobbin** (📖 *p. 47*).

4.10 Setting the hook thread tension

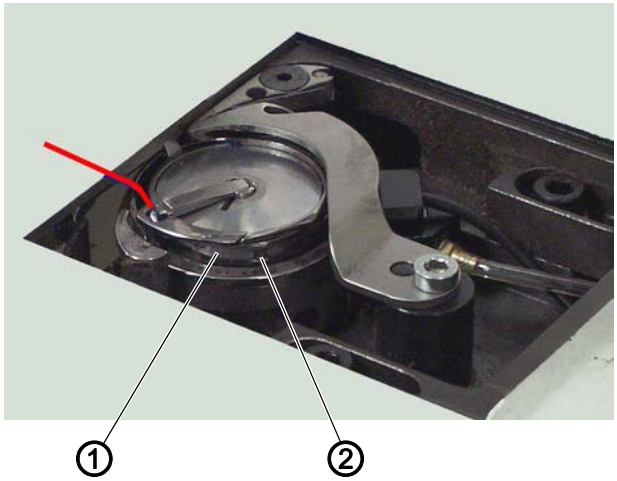
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Depressurize the machine and manually open the bobbin flap before setting the hook thread tension.

Fig. 16: Setting the hook thread tension



(1) - Tensioning spring *(2) - Adjusting screw*

The hook thread tension is generated by the tension spring (1) and adjusted via the adjustment screw (2).

Increasing hook thread tension

1. Turn the adjusting screw (2) clockwise.

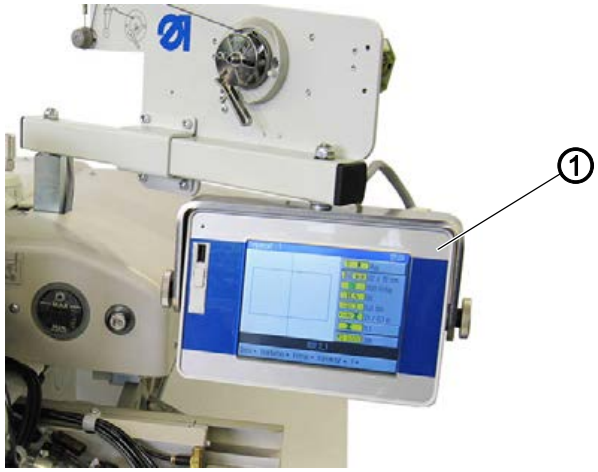
Reducing hook thread tension

1. Turn the adjusting screw (2) counterclockwise.

5 Programming

The control is operated via the operating terminal (1) that is found next to the machine head.

Fig. 17: Operating the control



(1) - Operating terminal

The screen is a touchscreen, i.e. the buttons are displayed on the screen rather than using physical buttons. Buttons or functions are activated by tapping the corresponding position on the monitor.

Activating a button/selecting an element:

1. Tap the corresponding button or element with your finger or a touch-screen pen.

5.1 Structure of the software

The software allows the creation and management of seam programs and sequences. During sewing, these programs are called up and processed stitch for stitch.

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 *.fnp911* after the filename.

Sequence:

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 *.seq911* after the file name.

The software is also used to define general settings that apply to all programs. There are also technical menu items for testing and maintaining the machine.

5.2 Overview of the menu structure

The following table provides an overview of the menu structure and the function buttons on the start 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 technician settings and information (can only be opened with password)

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.	**Löschen (Delete)**		🕮 p. 72
		Kopieren (Copy)		🕮 p. 56
		Öffnen (Open)		🕮 p. 43
		Neu (New)	**Nahtprogramm (Seam program)**	🕮 p. 48
			Sequenz (Sequence)	🕮 p. 52
		Speichern unter (Save As)		🕮 p. 55

Menu items in popup menus				
Menu item	**Function**	**Subitems**	**Subitems**	**Described on**
Bearbeiten (Edit)	Define general settings for all programs or modify an existing program.	**Maschinenparameter (Machine Parameters)**		📖 p. 66
		Sequenz (Sequence)		📖 p. 66
		Nahtprogramm (Seam program)	**Parameter**	📖 p. 60
			Konturanpassung (Contour Adjustment)	📖 p. 60
			Konturtest (Contour Test)	📖 p. 51
Extras	Display options: full-screen and zoom Technician menu: Settings, system information and tests	**Vollbild ein/aus (Full-screen on/off)**		📖 p. 42
		Zoom ein/aus (Zoom on/off)		📖 p. 42
		Service (nur mit Passwort - only with password)	**Einstellungen (Settings)**	📖 p. 72
			System-Information (System Information)	📖 p. 79
			Multitest	📖 p. 72
			Initialisierung (Initialization) und Update (and update)	📖 p. 80
			Manufacturer (for DA personnel only)	
Korrektur (Correction)	Short-term sewing with other values	**Fadenspannung (Thread tension)**		📖 p. 44
		Nähdrehzahl (Speed)		📖 p. 45
Buttons on the main screen				
	Continue sewing the contour from a particular point		**Reparatur-Modus (Repair mode)**	📖 p. 47
	Allow for a manual bobbin change		**Spulenwechsel (Bobbin change)**	📖 p. 45
	Reset counter to a particular value		**Zählerreset (Reset counter)**	📖 p. 47

5.3 Starting the software

After being switched on at the main switch, the machine needs to be referenced. After this, the start screen is shown on the operating terminal for a few seconds.

Fig. 18: Starting the software

(1) - Button language selection *(2) - Multitest quick-access button*

Here you can select the user interface language or use `Service` to quickly access the `Multitest` menu.

Information

Both functions can also be accessed later from within the program via `Extras` > `Service`.
(See chapters **Testing the functions of the machine** (📖 *p. 77*) and **Changing the language** (📖 *p. 76*))

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

The start screen

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

Fig. 19: Start screen

(1) - Title bar
(2) - Status bar
(3) - Main window Display of the seam contour
(4) - Program bar
(5) - Menu bar: Popup menu
(6) - Button for resetting the counter
(7) - Button for bobbin change
(8) - Button of the current seam parameters
(9) - Button for repair mode
(10) - Display of time

Structure of the start screen

Title bar (1)

This shows the version of the machine on the start screen. It also contains information on the menu item currently selected in the various menus.

Status bar (2)

On the start screen, the sequence currently open is displayed here, and the time of day (11) is displayed at the right. It also bar contains information on the currently selected step in the various menus.

Main window (3)

The contour to be sewn is displayed here.

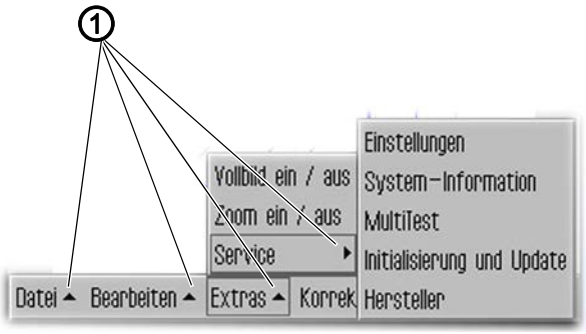
Program bar (4)

The seam programs of the sequence currently open are displayed here. The program currently being executed is highlighted in black. The arrow buttons (6) at the right side of the bar can be used to navigate along the bar and display any additional programs that do not fit on the bar.
If a sequence is not currently open but rather only a single seam program then this program fills the entire bar.

Menu bar (5)

The bar at the bottom contains the popup menus. This 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 (1) next to a menu entry indicates that tapping the entry will display further subitems.

Fig. 20: Popup menu



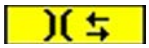
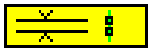
(1) - Popup arrows

Button for repair mode (9)

The topmost button at the right side is used for switching the repair mode on and off. The current status (*Ein (On)/Aus (Off)*) is displayed next to the button.

Display of the current seam parameters (8)

The current seam parameters are displayed below the repair mode button

-  - Dimensions of the seam
-  - Sewing speed
-  - Thread tension
-  - Stitch length
-  - Number of stitches / hook thread consumed

Information

You can use the buttons Speed, Thread tension and Stitch length to access the seam parameters directly (📖 *p. 63*).

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 next to this button.

Button for resetting the counter (6)

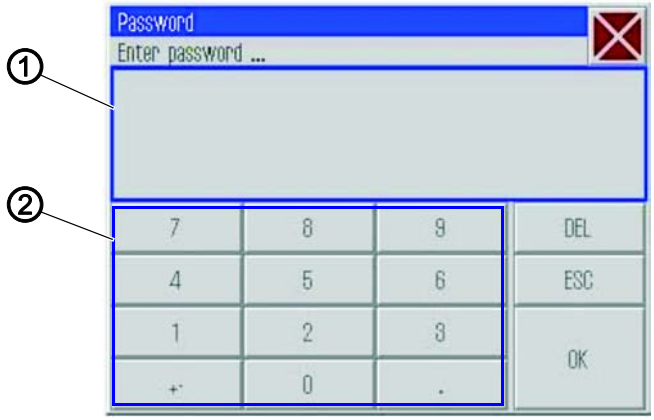
This button can be used for resetting the counter for the sewn programs or sequences. The current counter value is displayed next to this button.

5.4 General operation of the software

5.4.1 Entering a password

Depending on the setting (see chapter **Changing the password options** (📖 *p. 75*)) a password is only required for accessing the technical menus or must be entered every time the machine is started.
The password entry screen is displayed when a password is required.

Fig. 21: Entering a password



(1) - Input field *(2) - Numeric buttons*

Entering a password

To enter a password:

1. Use the numeric buttons (2) to enter the password.

Information

The default password on delivery is: 25483.
The password can be changed via the `Extras` menu (📖 *p. 75*).
You can delete incorrect entries via the **DEL** button.

2. Tap the **OK** button.

↳ The previously selected menu item 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: ↳ The program jumps back by one navigation level.
OK **CR**	In windows with data entry or selection fields: ↳ The window is closed and the entered or selected data is adopted.
DEL **Cancel** **Cancel**	In windows with data entry or selection fields: ↳ The window is closed and the entered or selected data is discarded.

5.4.3 Display principles

Fig. 22: Display principles

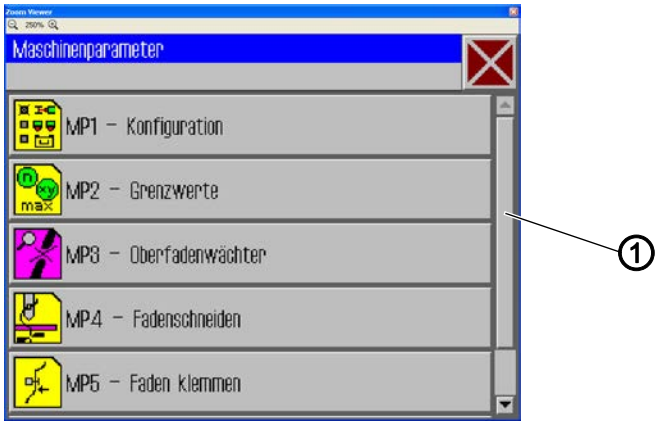
(1) - Grayed-out: Deactivated element (2) - Dark background: Activated element

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

Fig. 23: Scrolling the display



(1) - Scrollbar

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

Moving image up/down

To move the image up or down:

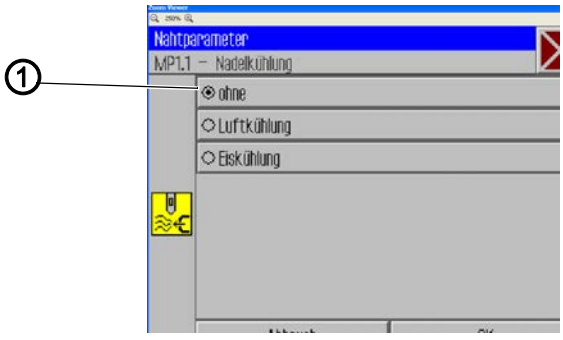
1. Drag the scrollbar (1) up or down.

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

Fig. 24: Selection with option buttons



(1) - Option buttons: Selected element

With round option buttons only one of the displayed options can be selected.

To select options using checkboxes:

1. Tap the desired option.

↳ The selected option (1) is marked with a dot.

Selection with checkboxes

Fig. 25: Selection with checkboxes

(1) - Checkbox: Selected elements

Checkboxes allow the selection of multiple entries

To select options using checkboxes:

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 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 **Dateifilter (File Filter)** button under the list.

↳ The file filter screen opens.

Fig. 26: File filter

2. Tap the desired filter criterion:
   - `.fnp911`: Seam programs only
   - `.seq911`: Sequences only
   - `All Files`: Seam programs and sequences
3. Tap the **Öffnen (Open)** button.

↳ The list is updated according to the selected filter.

5.4.7 Entering text

A text entry window is displayed when text needs to be entered, e.g. for the name of a program.

Fig. 27: Entering text

(1) - Input line
(2) - Keyboard
(3) - OK (CR): Adopt the entered text
(4) - DEL: Delete a character
(5) - Aa: Switch between uppercase/lowercase

Entering text

1. Use the keyboard (2) displayed 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

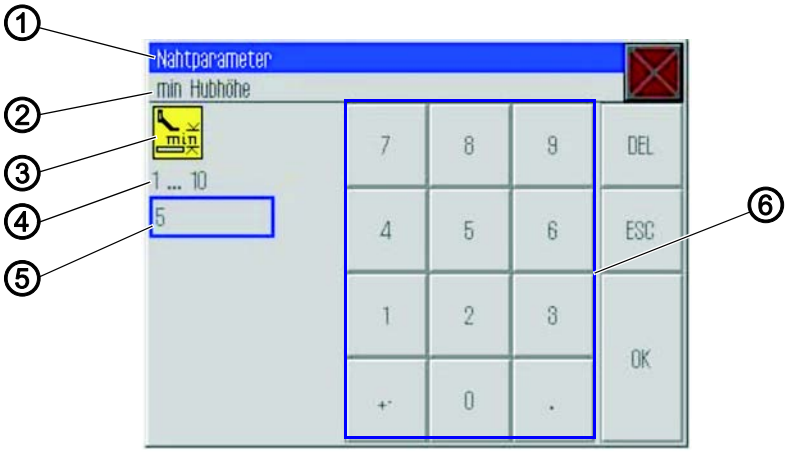
1. Tap the **CR** (3) button.

↳ The entered text is adopted and the text entry window is closed.

5.4.8 Entering parameter values

A numeric entry window opens when numeric values for program or machine parameters need to be entered.

Fig. 28: 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) for the corresponding parameter is display below the parameter name.

The prescribed value range (4) for the parameter is displayed below the symbol (3).

The current valid value is displayed in the data entry field (5) below the value range (4).

Entering a value

1. Tap the desired numeric buttons (6).

Deleting a value

1. Tap the **DEL** button.

Adopting a value

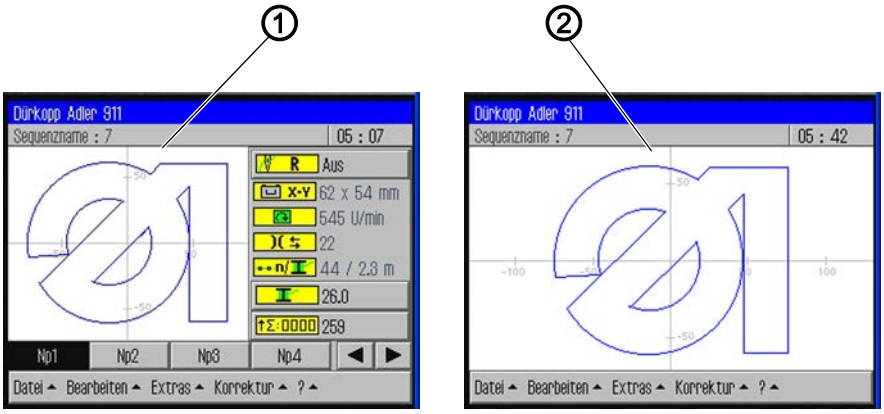
1. Tap the **OK** button.

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

5.4.9 Switching the full-screen display on and off

In order to see the seam contour in more detail you can switch the main window (1) to occupy the full screen and hide the buttons (2) on the right side of the start screen.

Fig. 29: Switching the full-screen display on and off



(1) - Full-screen switched off

(2) - Full-screen switched on

To switch full-screen on and off:

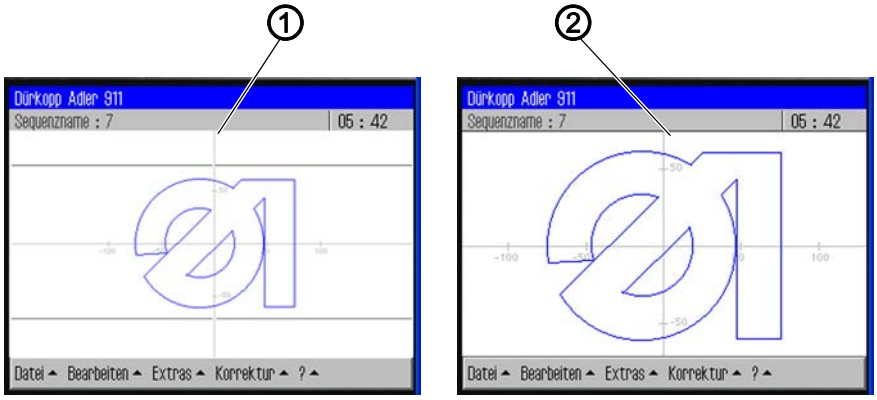
1. Tap the menu items *Extras* > *Vollbild ein/aus (Full-screen on/off)*.

↳ The display switches to the respective other mode.

5.4.10 Switching zoom on and off

You can magnify the display in order to see the seam contour in more detail. There is only one zoom level that can be switched on or off.

Fig. 30: Switching zoom on and off



(1) - Zoom switched off

(2) - Zoom switched on

To switch zoom on and off:

1. Tap the menu items `Extras` > `Zoom ein/aus (Zoom on/off)`.

↳ The display switches to the respective other mode.

5.5 Opening a seam program or sequence for sewing

You will usually open an existing seam program or and existing sewing sequence.

To open a seam program or sewing sequence:

1. Tap the menu items `Datei (File)` > `Öffnen (Open)`.

↳ The file selection screen is displayed.
All existing seam programs and sequences are displayed.

Information

You can use the `Dateifilter (File Filter)` to make the list more manageable (📖 *p. 40*).

Fig. 31: Opening a seam program or sequence for sewing

2. Tap the desired file.
3. Tap the **Öffnen (Open)** button.

↳ The seam program/sequence is opened on the start screen.

4. Press the pedal forwards to start sewing.

5.6 Briefly sewing with modified values

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

Important

If you wish to adopt the changes then you must modify and save the program. Otherwise the values are automatically reset to the previous settings when the machine is switched off.

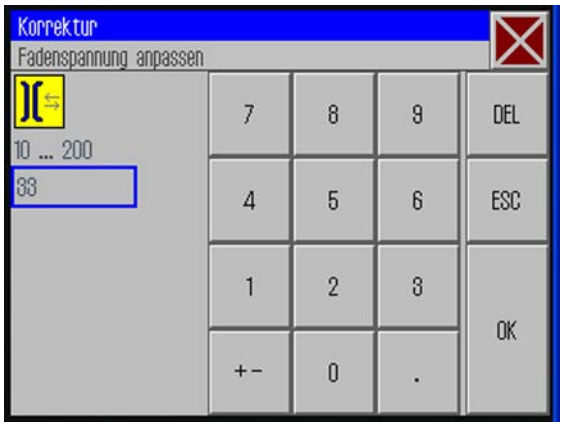
5.6.1 Sewing with a modified thread tension

To sew with a modified thread tension:

1. Tap the menu items *Korrektur (Correction)* > *Fadenspannung (Thread Tension)*.

↳ The window for changing the thread tension appears:

Fig. 32: Sewing with a modified thread tension



2. Enter the desired thread tension value.
3. Tap the **OK** button.

↳ The value is adopted and used for all seams until the machine is switched off.

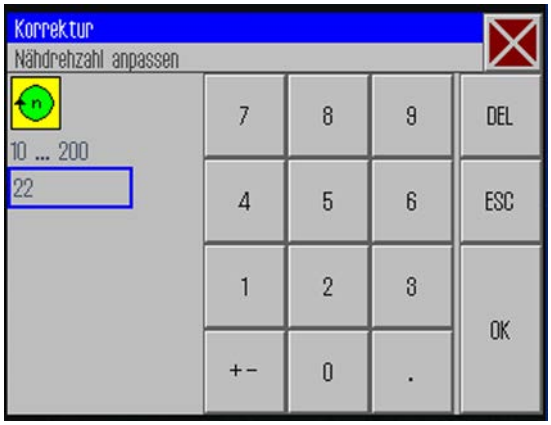
5.6.2 Sewing with a modified sewing speed

To sew with a modified speed:

1. Tap the menu items *Korrektur (Correction)* > *Nähdrehzahl (Speed)*.

↳ The window for changing the thread tension appears:

Fig. 33: Sewing with a modified sewing speed



2. Enter the desired speed.

3. Tap the **OK** button.

↳ The value is adopted and used for all seams until the machine is switched off.

5.7 Changing the bobbin

WARNING

Risk of injury from sharp and moving parts!

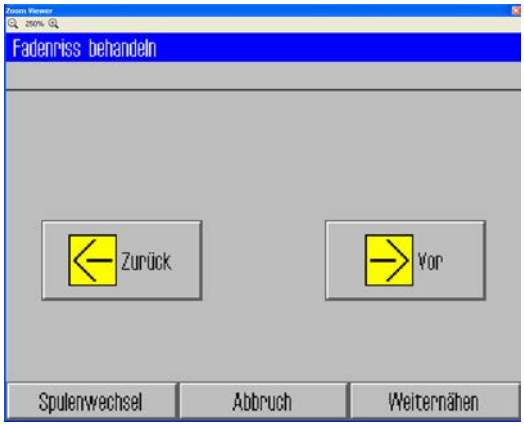
Puncture or crushing possible.

Switch the machine to threading mode before changing the bobbin.

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

In this case, or if thread breakage occurs, the *Fadenriss behandeln (Manage Thread Breakage)* window is automatically displayed.

Fig. 34: Change bobbin



To change the bobbin:

1. Tap the **Change Bobbin** button.
2. Change the bobbin (📖 *p. 28*).
3. Use the *Vor (Forwards)* and *Zurück (Back)* buttons to move to the point where sewing is to continue.
4. Tap the **Continue Sewing** button.

↳ The program jumps back to the start screen and sewing of the seam continues from the selected point.

Bobbin change without a request from the program

If you wish to independently insert a new bobbin without being requested to do so by the program, e.g. when changing color, then you have to tap the **Spulenwechsel (Bobbin Change)** button on the start screen after changing the bobbin to inform the program that a new bobbin has been inserted and that thread consumption should resume from the value corresponding to the full bobbin capacity.

Updating the bobbin capacity

To update the bobbin capacity:

1. Tap the button **Spulenwechsel (Bobbin Change)** on the start screen.

↳ The counter for the bobbin capacity begins anew with a full bobbin.

5.8 Continuing a seam in Repair mode after an error

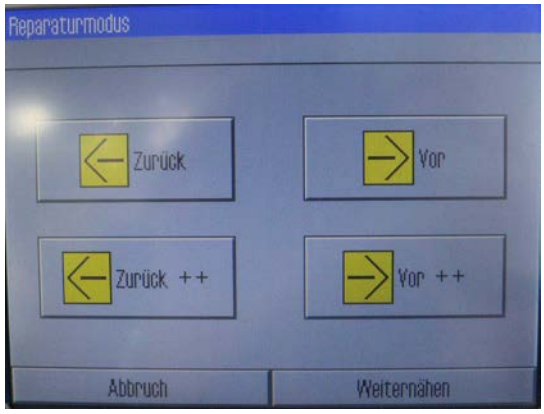
In Repair mode you can move to any desired point on the contour, e.g. in order to continue the seam program from this position after an error has occurred.

To continue a seam in Repair mode after an error:

1. Tap the button **Reparaturmodus (Repair mode)** on the start screen.

↳ The *Reparaturmodus (Repair mode)* window is displayed.

Fig. 35: Continuing a seam in Repair mode after an error



2. Use the **Vor (Forwards)** and **Zurück (Back)** buttons to move to the point where sewing is to continue.

OR

3. Use the buttons **Vor ++ (Forwards)** and **Zurück ++ (Back)** to skip to the beginning of the next or the beginning of the previous seam section.

4. Tap the **Weiternähen (Continue Sewing)** button.

↳ The program jumps back to the start screen and sewing of the seam continues from the selected point.

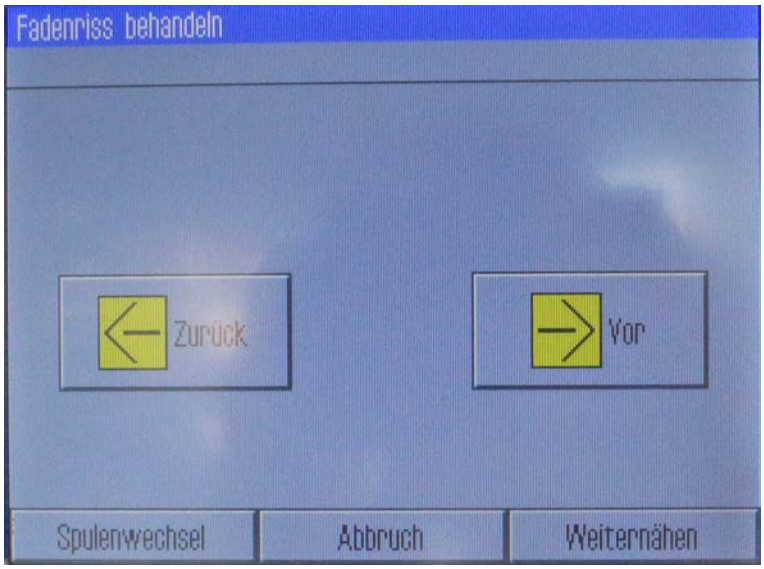
5.9 Continuing a seam after thread breakage

When the machine was set up, the needle thread monitor mode that is supposed to be active was selected in the machine parameters (MP 3 (📖 *p. 72*)).

In the event of an error, e.g. thread breakage, the machine will undo a certain number of preset stitches and stop.

The control panel will show the display `Fadenriss behandeln (Manage Thread Breakage)`:

Fig. 36: Continuing a seam after thread breakage



To continue a seam after thread breakage:

1. Re-thread the needle thread.
2. Use the **Vor (Forwards)** and **Zurück (Back)** buttons to move to the point where sewing is to continue.
3. Continue sewing.

To cancel sewing after thread breakage and start a new seam:

1. Tap the **Abbruch (Cancel)** button.
2. Remove the transfer plate.
3. Press the pedal backwards.

↳ The machine performs a reference run.

4. Press the pedal forwards.

↳ The machine moves to the loading position, and you can start a new seam.

If necessary, you can also check or change the bobbin.

To change or check the bobbin:

1. Tap the **Spulenwechsel (Change Bobbin)** button.

↳ The display shows a prompt asking whether you wish to reset the bobbin counter.

2. Tap the **JA (YES)** button if you wish to change the bobbin.

↳ The bobbin counter will be reset.

OR

3. Tap the **NEIN (NO)** button if you merely wish to check the bobbin.

↳ The bobbin counter will not be reset.

4. Remove the transfer plate.
5. Tap the **Einfädelmodus (Threading mode)** button on the machine head.

↳ The hook cover opens.

6. Change or check the bobbin.
7. Tap the **Einfädelmodus (Threading mode)** button on the machine head.

↳ The hook cover closes.

8. Press the pedal forwards.

↳ The machine moves into the insertion position.

9. Insert the transfer plate.
10. Press the pedal or tap the **Weiternähen (Continue Sewing)** button.

↳ The machine moves to the sewing position.

11. Press the pedal or tap the **Weiternähen (Continue Sewing)** button.

↳ The sewing procedure is resumed.

5.10 Resetting the counter

Depending on the machine parameter settings, the counter counts the sewn programs or sequences up or down. You can use the **Zähler-Reset (Reset Counter)** button to reset the counter to the start value (📖 *p. 73*).

To reset the counter:

1. Tap the button **Zähler-Reset (Reset Counter)** ↑Σ:0000 on the start screen.

↳ The counter is reset to the value defined in the machine parameters.

5.11 Creating a new seam program

New seam programs are created using a Teach-In procedure.

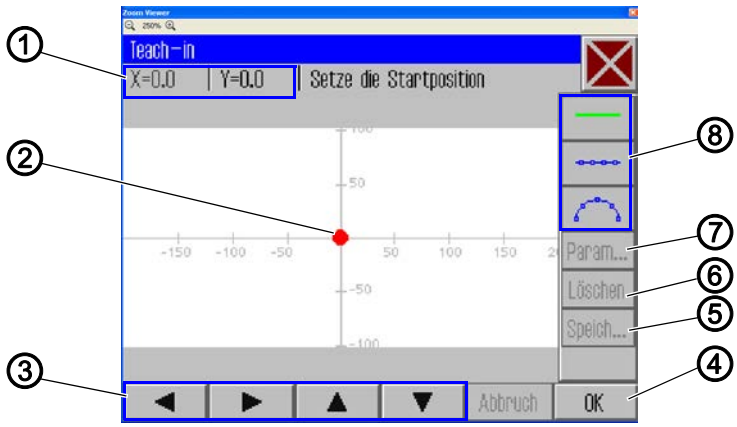
Individual seam paths with specific seam parameters are defined via the operating terminal in order to do this.

To create a new seam program:

1. Tap the menu items `Datei (File)` > `Neu (New)` > `Nahtprogramm (Seam Program)`.

↳ The Teach-In window appears.

Fig. 37: Creating a new seam program



(1) - Cursor position
(2) - Cursor
(3) - Arrow buttons
(4) - OK button: Übernahme (Accept)
(5) - Speichern (Save) button
(6) - Löschen (Delete) button
(7) - Parameter button
(8) - Linienauswahl (Line selection) button

Defining the starting point

2. Define the starting point:

Method	Coordinate-Range
With the **arrow buttons** (3) **Attention** For safety reasons you cannot choose positions over 90,1 oder -92,6 on the Y-axis with the arrow buttons (3). For adjustments in excess of these coordinates you must use the pedal.	X -150 to X 230 Y 90,1 to Y -92,6
With the **pedal** Each pedal step moves the cursor by 0,1 in the direction of the chosen axis (X or Y)	X -150 to X 230 Y 100 to Y -100
Insert the coordinates **directly** by the **cursor postion** (1)	X -150 to X 230 Y 100 to Y -100

3. Tap the **OK** button.

↳ The desired starting point is adopted and marked with a green dot.

Selecting the line type

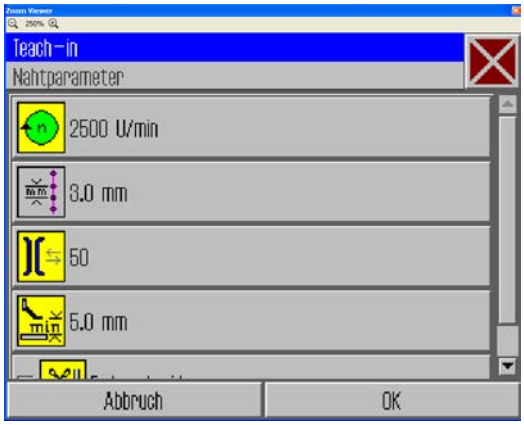
4. Use the line selection buttons (8) to select the type of line to be defined.

   -  **Seamless path**:
     The clamps move over this path to the next position without sewing.
   -  **Straight seam**:
     A straight path is sewn.
   -  **Curved seam**:
     A curve 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

Fig. 38: Defining the seam parameters for the path



5. Tap the respective parameter.

↳ The window for entering the parameter value opens.

6. Enter the desired value for the parameter (📖 *p. 42*).

Seam parameters for teach-in

Button	Meaning
	Speed
	Stitch length
	Thread tension
	Stroke height
	Cut thread

Drawing a path

7. 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.

8. Tap the **OK** button.

↳ The seam path is adopted with the specified parameters.

Adding further seam paths

You can now define all further seam paths in the same manner.

1. Add each new seam path by starting at step 4.

Deleting a seam path

1. Tap the **Löschen (Delete)** button.

↳ The last section of the seam path is deleted.

Saving the program

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

1. Tap the **Speich... (Save)** button.

↳ The window for entering the program name opens.

2. Enter the desired name (📖 *p. 41*) and adopt the name by pressing **CR**.

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

Important

Always perform a contour test after creating a new program (📖 *p. 55*). Ensure that the contour lies within the sewing field limits of your particular unit.

NOTICE

Property damage may occur!

If you have entered contour points that lie outside the sewing field, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Always perform a contour test after creating or editing a contour to ensure that the entire contour lies within the permissible sewing field.

5.12 Performing a contour test

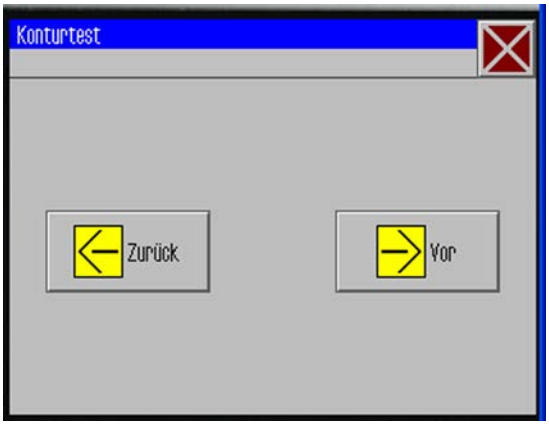
Always perform a contour test every time after creating or editing a program to ensure that the entire contour lies within the permissible sewing field

To perform a contour test:

1. Tap the menu items *Bearbeiten (Edit)* > *Nahtprogramm (Seam program)* > *Konturtest (Contour test)*.

↳ The *Contour test* window appears.

Fig. 39: Performing a contour test



2. Move along the contour stitch by stitch using the **Vor (Forwards)** and **Zurück (Back)** buttons.
3. Check that all points lie within the sewing area.

5.13 Creating a new sequence

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

1. Tap the menu items *Datei (File)* > *Neu (New)* > *Sequenz (Sequence)*.

↳ The window for selecting the seam program appears.

Fig. 40: Creating a new sequence

The existing seam programs are displayed at the right side of the screen. The *Sequenz (Sequence)* field on the left shows the seam programs that have been transferred to the sequence.

2. Tap the desired program

↳ The selected program is highlighted with a dark background.

3. Tap the **Einfügen (Insert)** button.

↳ The seam program is transferred to the sequence and is displayed in the *Sequenz (Sequence)* field on the left side of the screen.

4. Add further seam programs in the same manner.

Removing a program from a sequence

1. Tap the seam program in the *Sequenz (Sequence)* field and then tap the **Löschen (Delete)** button.

↳ The program is removed from the sequence.

Assigning a name to the sequence

1. Tap the **Namen eingeben (Enter Name)** button.

↳ The window for entering the sequence name opens.

2. Enter the desired name and adopt the change by pressing **CR** (🕮 *p. 41*).

↳ 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.

To edit an existing sequence:

1. Open the program you wish to modify via the menu items *Datei (File)* > *Öffnen (Open)*.

↳ The sequence opens on the start screen.

2. Tap the menu items *Bearbeiten (Edit)* > *Sequenz (Sequence)*.

↳ The window for editing the sequence appears.

Fig. 41: Editing an existing sequence

3. Use the buttons **Einfügen (Insert)** and **Löschen (Delete)** to add programs to the sequence or remove programs from the sequence. The steps correspond to the procedure used for creating a new sequence (🕮 *p. 56*).

5.15 Saving a seam program/sequence under a different name

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

Information

For example, if you wish to create a new program that is similar to an existing program you do not need to create the entire program anew. You can save the existing program under a new name and simply change the respective details.

To save a seam program or sewing sequence under a different name:

1. Tap the menu items *Datei (File)* > *Speichern unter (Save As)*.

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

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 40*).

2. Tap the desired element.
3. Tap the **Speichern unter (Save As)** button.

↳ The window for entering the new name is opened.

4. Enter the desired name and adopt the change by pressing **CR** (📖 *p. 41*).

↳ 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.

Important

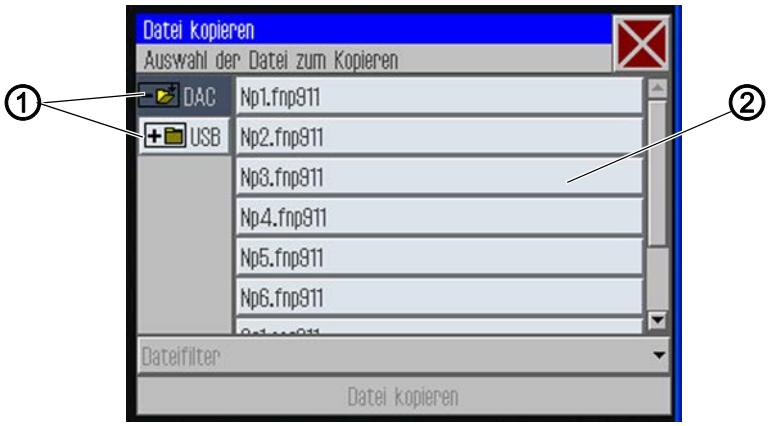
Not all commonly available USB keys are suitable for the copying process. You can obtain a suitable USB key from Dürkopp Adler using the part number 9805 791113.

To copy a seam program or sequence:

1. Tap the menu items *Datei (File)* > *Kopieren (Copy)*.

↳ The window for selecting the file to be copied appears:

Fig. 42: Copying a seam program or sequence



(1) - Select the source to be copied *(2) - File selection window*

2. Use the buttons (1) 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.
A selection window (2) lists all files present at this location.

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 40*).

3. Tap the desired file.

↳ The selected file is highlighted with a dark background.

4. Tap the **Datei kopieren (Copy File)** button.

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

5.17 Deleting a seam program or sequence

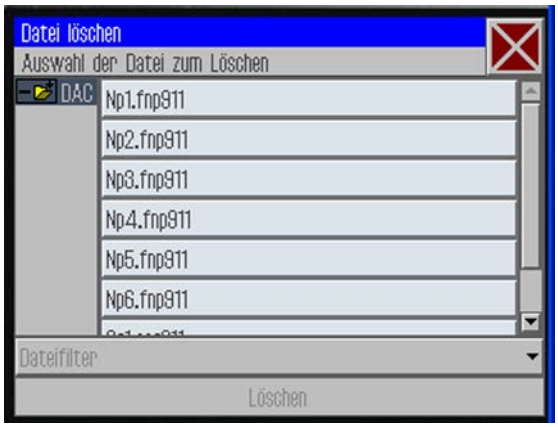
Seam programs or sequences that are no longer required can be deleted from the control.

To delete a seam program or sequence:

1. Tap the menu items *Datei (File)* > *Löschen (Delete)*.

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

Fig. 43: Deleting a seam program or sequence



Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 40*).

2. Tap the desired file.

↳ The selected file is highlighted with a dark background.

3. Tap the **Löschen (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 start screen.

To edit an existing seam program:

1. Open the program you wish to modify via the menu items *Datei (File)* > *Öffnen (Open)*.

↳ The program opens on the start screen.

5.18.1 Changing the contour of a seam program

NOTICE

Property damage may occur!

If you have entered contour points that lie outside the sewing field then the movement of the clamps during sewing can cause damage to the machine or the sewing material.

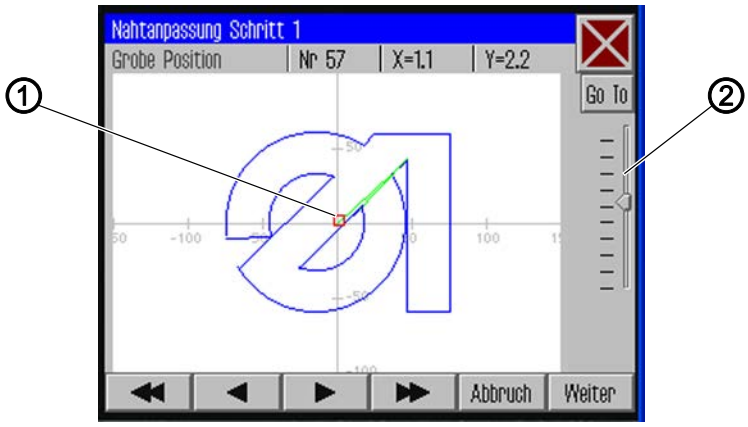
Always perform a contour test after creating or editing a contour to ensure that the entire contour lies within the permissible sewing field.

To edit an existing seam program:

1. Tap the menu items *Bearbeiten (Edit)* > *Nahtprogramm (Seam program)* > *Konturanpassing (Adjust Contour)*.

↳ The contour adjustment window appears:

Fig. 44: Changing the contour of a seam program (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.

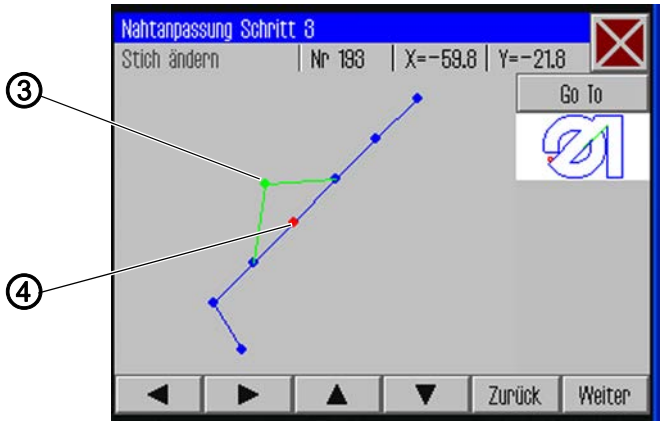
Information

You can also use the slider control on the scale (2) to select the stitching area you wish to change:
The first stitch of the seam is at the top and the last stitch is at the bottom.

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

↳ The selected contour region is displayed in detail.
The stitching point (2) to be modified is marked in red.

Fig. 45: Changing the contour of a seam program (2)



(3) - Old stitching point *(4) - New stitching point*

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

↳ The modified seam path is displayed in green.

5. Tap the **Weiter (Next)** button.

↳ The window for entering the technology operations opens.

Fig. 46: Changing the contour of a seam program (3)

6. Select the desired technology operation(s) for the new seam path (📖 *p. 39*).

7. Confirm the selection with **OK**.

↳ You are returned to the detail window with the modified contour.

8. Tap the **Weiter (Next)** button again.

↳ A query dialog is displayed, asking if you wish to adopt the changes. Agreeing to this dialog will save the modified contour.

Important: Always perform a contour test after modifying a contour to ensure that the new seam path lies within the permissible sewing field (📖 *p. 55*).

5.18.2 Changing the parameters of a seam program

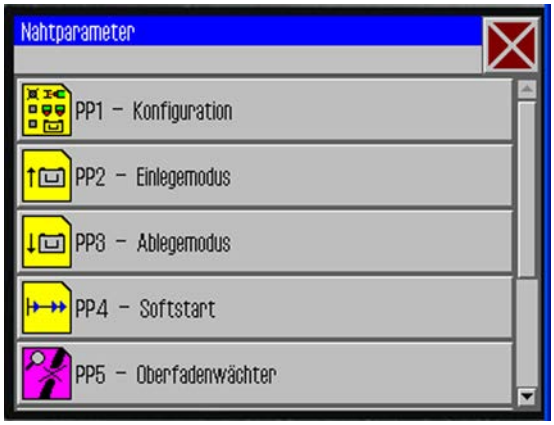
You can also change the general settings that apply to the entire seam program.

To change the parameters of a seam program:

1. Tap the menu items *Bearbeiten (Edit)* > *Nahtprogramm (Seam program)* > *Parameters*.

↳ The window for selecting the program parameter group appears:

Fig. 47: Changing the parameters of a seam program



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.

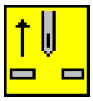
4. Set the parameter to the desired value (📖 *p. 42*).

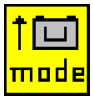
There are 8 program parameter groups:

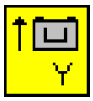
Symbol	Parameter group
	**PP1 - Configuration** General settings
	**PP2 - Insertion mode** Insertion mode and position
	**PP3 - Removal mode** Removal mode and position
	**PP4 - Softstart** Number of stitches and speed
	**PP5 - Needle thread monitor** Sensitivity value for the needle thread monitor
	**PP6 - Thread consumption** Values for determining thread consumption
	**PP7 - Offset:** Contour is offset in a particular direction
	**PP8 - Scaling:** The size of the contour is changed.

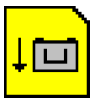
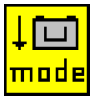
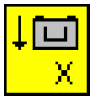
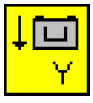
Overview of the individual program parameters

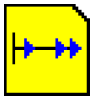
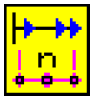
	**PP1 - Configuration**
Symbol	**Meaning**
	**Seam name** max. 20 characters
	**Minimum sewing foot stroke height** (min. = 1.0 .. max. = 10.0; Def. = 5.0 mm) Sets this as the minimum value of the programmable sewing foot stroke height so that only this value needs to be adjusted when sewing thicker 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.
	**Adjusting the run-empty 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 lights** Up to four laser marking lights for easier alignment of the sewing material can be controlled (the additional equipment must be activated)

Symbol	Meaning
	**Needle reversing mode** The following options can be set: **Not active:** 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 every seam** (Def.): The needle is reversed after every seam.
	**Needle cooling** (On/Off) Activates/deactivates the needle cooling.
	**Adjusting sewing speed** (min. = 10… max. = 200; Def. = 100%) The sewing speed is adjusted by the specified percent value.

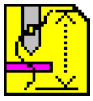
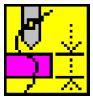
	**PP2 - Insertion mode**
Symbol	**Meaning**
	**Insertion mode** The following options can be set: **Mode 1** (Def.) Clamp is opened in the insertion position. The clamp is closed when the pedal is pressed. Pressing the pedal again starts sewing of the seam. **Mode 2** Clamp is opened in the insertion position. Pressing the pedal closes the left part of the two-piece clamp for angle mounting. Pressing the pedal again closes the right part. Pressing the pedal again starts sewing of the seam. **Mode 3** Clamp is opened in the insertion position. Pressing the pedal closes the right part of the two-piece clamp for angle mounting. Pressing the pedal again closes the left part. Pressing the pedal again starts sewing of the seam. **Mode 4** Quick-start mode: Clamp is opened in the insertion position. The clamp is closed and sewing of the seam is started when the pedal is pressed. With the alternating clamp the seam is automatically started after insertion. This mode is only active when quick-start is enabled in the machine parameters. The machine must be switched off and on in order to enable the quick-start mode. **Mode 5** Clamp is remains closed in the insertion position. Pressing the pedal again starts sewing of the seam.
	**Insertion position** (On/Off) With the insertion position activated the clamps move to the desired position for convenient insertion of the sewing material.

Symbol	Meaning
	**Insertion position X** The value range varies depending on the subclass and sewing field size.
	**Insertion position Y** The value range varies depending on the subclass and sewing field size.

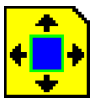
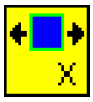
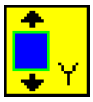
	**PP3 - Removal mode**
Symbol	**Meaning**
	**Removal mode** The following options can be set: **Mode 1** (Def.) Clamp is opened in the removal position. **Mode 2** Clamp remains closed in the removal position. The clamp is opened when the pedal is pressed. **Mode 3** Clamp remains closed in the removal position. Pressing the pedal opens the left part of the two-piece clamp for angle mounting. Pressing the pedal again opens the right part. **Mode 4** Clamp remains closed in the removal position. Pressing the pedal opens the right part of the two-piece clamp for angle mounting. Pressing the pedal again opens the left part. **Mode 5** Clamp remains closed in the removal position.
	**Removal 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.
	**Removal position X** The value range varies depending on the subclass and sewing field size.
	**Removal position Y** The value range varies depending on the subclass and sewing field size.

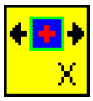
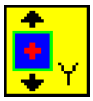
	**PP4 - Softstart**
Symbol	**Meaning**
	**Number of softstart stitches** (min. = 0 .. max. = 10; Def. 5.
	**Softstart speed** (min. = 100 .. max. 2000; Def. 300 rpm)

	**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 thread monitor less sensitive. 99 = Needle thread monitor switched off in this program only.)

	**PP6 - Thread consumption**
Symbol	**Meaning**
	**Sewing material thickness** (min. = 0.. max. 20.0; Def. 0. The thickness of the sewing material when pressed together.
	**Material consumption adjustment** (min. = -10.0 .. max. 10.0; Def. 0. Correction of the calculated values.

	**PP7 - Offset**
Symbol	**Meaning**
	**X offset** (min. = -5.0… max. = 5.0; Def. = 0.0 mm)
	**Y offset** (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 %)

Symbol	Meaning
	**X scaling origin** (min. = -150.0… max. = 150.0; Def. = 0.0 mm)
	**Y scaling origin** (min. = -150.0… max. = 150.0; Def. = 0.0 mm)

5.19 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 *Bearbeiten (Edit)* > *Machinenparameter (Machine parameters)*.

↳ The window for selecting the machine parameter group appears.

Fig. 48: Editing machine parameters

2. Tap the desired parameter group.

↳ The individual parameters of this group are displayed.

3. Tap the desired parameter.

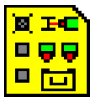
↳ The window for modifying the parameter value opens.

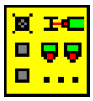
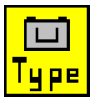
4. Set the parameter to the desired value (📖 *p. 42*).

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 - Thread clamping** Starting angle
	**MP6 - Counters** Settings for program and bobbin counters

Overview of the individual machine parameters

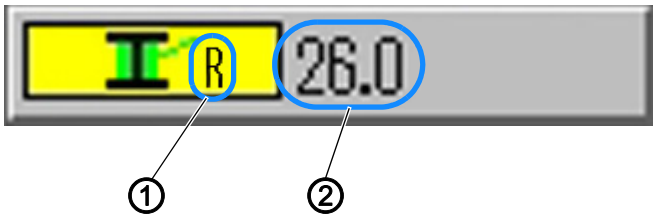
	**MP1 - Configuration**
Symbol	**Meaning**
	**Needle cooling** The following options can be set: **None**: No type of needle cooling is active. **Air cooling** (Def.): The needle is cooled with air while sewing the seam. **Ice cooling**: Optional equipment.
	**Foot mode** The foot can be operated in the following modes: **Hopper**: The foot only presses on the sewing material while the needle is in the sewing material. **Presser**: The foot presses continuously on the sewing material.
	**Sewing field size** Take care to ensure a valid sewing field size for your subclass when making the selection. (See chapter **Technical data** (📖 *p. 127*)). **Normal sewing field** (Def.): A sewing field of up to 200 x 300mm is available. **Extra-large sewing field**: A larger sewing field can be used in conjunction with the alternating clamps.

Symbol	Meaning
	**Optional equipment** **Reduced clamp pressure:** Optional equipment allowing only a small amount of clamp pressure to allow better alignment on insertion. **Laser marking lights:** Optional equipment providing orientation lines on insertion for easier alignment. Up to 4 laser marking lights can be switched on for each program. This setting only activates the option; the actual switching is defined in the program parameters (see **Marking lamps** (📖 *p. 64*)). **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 (see **Clamp ID code** (📖 *p. 64*)). **Neat seam beginning:** Not available **Residual thread monitor:** Optional device that monitors the thread remaining on the bobbin. Will issue an alert before shortly before the thread is used up. **Thread burner:** Device for burning off the thread. Instead of cutting using a thread cutter.
	**Clamp type** The following clamp types are available: **Single clamp:** One-piece parallel clamp with angle mount **Single clamp with hanger** (Def.): One-piece parallel clamp with hanger mount **Double clamp:** Two-piece parallel clamp with angle mount **Alternating clamp:** Removable clamp **Special clamp:** Special clamp
	**Clamp limits** **Standard limits** (Def.) No additional structures are taken into account. **Special limits** Individual limits are taken into account.
	**Pedal mode** The following options are available: **Mode 1:** The current position of the pedal is evaluated. **Mode 2** (Def.): The pedal must be returned to the home position after every actuation before a new actuation is recognized. **Mode 3:** The current position of the pedal is evaluated. The quick-start mode is also enabled (see **Insertion mode** (📖 *p. 65*)). The machine must be switched off and on in order to enable the quick-start mode. **Hand sensor:** In hand sensor mode one sensor is used only for controlling the clamp motion (up and down). The other sensor is used for starting the sewing process.
	**Barcode mode** The following options are available: **Manual:** Machine checks whether the inserted clamp matches the entered seam program. If the clamp is correct, the machine is ready for sewing. If the clamp is incorrect, an error message will be displayed, and the clamp will have to be replaced. **Automatic:** The machine looks for the seam program that matches the inserted clamp. The machine is ready for sewing once the seam program has been selected.

Information

The remaining thread monitor (MP 1, *Optionale Einrichtungen (Optional equipment)*) and the bobbin counter (MP 6) can be activated simultaneously. The display shows the two options as follows:

Fig. 49: Remaining thread monitor and bobbin counter



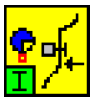
(1) - Display - remaining thread monitor:
Remaining thread monitor active:
***R** shown*
Remaining thread monitor inactive:
***R** hidden*

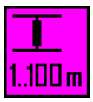
(2) - Display - bobbin counter:
Bobbin counter active: Number black
Bobbin counter inactive:
Number grayed-out

	MP2 - Limit values
Symbol	**Meaning**
	Max. speed (min. = 500 .. max. 1400; Def. 900 rpm) All sewing programs are limited to this maximum speed.
	Max. run-empty speed (min. = 10 .. max. 100; Def. 100%) Limits all clamp movements between the seams to this value.
	Feed start angle (min. = 30 .. max. 350; Def. 300 degrees) The clamp motion during the stitch starts at this angle of needle motion.
	Feed phase (min. = 30 .. max. 100; Def. 30%) This parameter defines how the clamp is to be moved during the stitch. (A value of 100% means that the desired clamp motion is distributed over the entire stitch.)
	Needle reversing position (min. = 0 .. max. 359; Def. 0 degrees, with thread burner 20 degrees) The needle is reversed at this angle in order to increase the clearance to the clamp.
	Edit time paths This function is only for Dürkopp Adler Service personnel.

	**MP3 - Needle thread monitor**
Symbol	**Meaning**
	**Needle thread monitor mode** The following options are available: **Threading position**: After detection of a thread breakage the thread is cut and the clamp then moves to the threading position. **Cut thread** (Def.): After detection of a thread breakage the thread is cut and the clamp then moves to the contour position according to the defined reversing path. **Remain in position:** After detection of a thread breakage, seam motion is stopped. **Not active:** 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.
	**Bobbin change X position** The value range varies depending on the subclass and sewing field size.
	**Bobbin change Y position** The value range varies depending on the subclass and sewing field size.

	**MP4 - Thread cutting**
Symbol	**Meaning**
	**Cutting speed** (min. = 70 .. max. 500; Def. 150 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. = 00 .. max. 100; Def. 10%, 50% with thread burner) 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.)

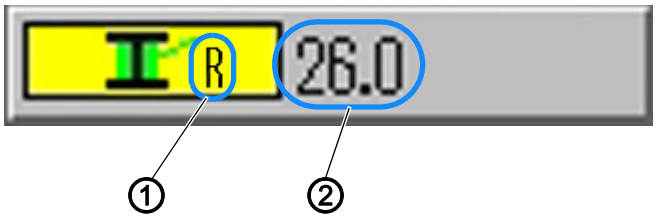
	**MP5 - Thread clamping (for TC machines only)**
Symbol	**Meaning**
	**Close thread clamp at 1st stitch** (min. = 0° .. max. 250°; Def. 180°) Start angle for closing the thread clamp during the first stitch.
	**Open thread clamp at 1st stitch** (min. = 0° .. max. 359°; Def. 340°) Start angle for opening 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: **Piece counter increments** (Def.) The counter is incremented after each sewn program. **Piece counter decrements** The counter is decremented after each sewn program. **Sequence counter increments** The counter is incremented after each sewn sequence. **Sequence counter decrements** 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.
	**Seam counting for bobbin supply** (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. 0.0m) A message is displayed to the user after the bobbin supply capacity has been consumed. A value of 0 deactivates the function.

Information

The remaining thread monitor (MP 1, *Optionale Einrichtungen (Optional equipment)*) and the bobbin counter (MP 6) can be activated simultaneously. The display shows the two options as follows:

Fig. 50: Remaining thread monitor and bobbin counter



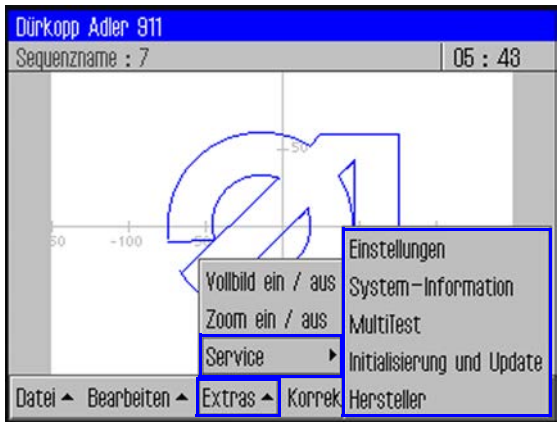
(1) - Display - remaining thread monitor:
Remaining thread monitor active:
***R** shown*
Remaining thread monitor inactive:
***R** hidden*

(2) - Display - bobbin counter:
Bobbin counter active: Number black
Bobbin counter inactive:
Number grayed-out

5.20 Checking and changing the technical settings

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

Fig. 51: Checking and changing the technical settings



Important

A password must always be entered in order to access the additional menu items in *Extras* > *Service* (🕮 *p. 37*).

Changing the password options

The default password on delivery is: 25483.

You can change this 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.

Changing the password

To change the password:

1. Tap the menu items *Extras* > *Service* > *Einstellungen (Settings)*.

↳ The *Einstellungen (Settings)* window appears.

2. Tap the *Operator Passwort (Password)* option.
3. In the following window tap the option *Password ändern (Change password)*.

↳ The window for entering the new password appears.

4. Enter the new password(🕮 *p. 37*).

Important

The password must not have more than 5 digits.

5. Confirm the new password with **OK**.

Defining the password protected areas

To define the password protected areas:

1. Tap the menu items *Extras* > *Service* > *Einstellungen (Settings)*.

↳ The *Einstellungen (Settings)* window appears.

2. Tap the *Operator Passwort (Password)* there.

↳ In the next window the *Aktivieren/De-aktivieren (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 *Aktivieren/De-aktivieren (Activate/Deactivate)* option to switch between each respective setting.
4. Confirm with **OK**.

Important

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

Changing the language

To change the language:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* tap the *Sprache (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 the date and time

To set date and time:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* tap the option *Datum (Date) and Uhrzeit (Time)*.

↳ 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:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* tap the *Bedienfeld-Einstellungen (Control panel settings)* option.
2. In the following window tap the *Kontrast (Contrast)* *Helligkeit (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 visible on the display.

Testing the touchscreen

You can use the *Extras* > *Service* > *Einstellungen (Settings)* 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* > *Einstellungen (Settings)* tap the *Bedienfeld-Einstellungen (Control panel settings)* option.
2. In the following window tap the *Touch Test* option.

↳ An empty window is opened.

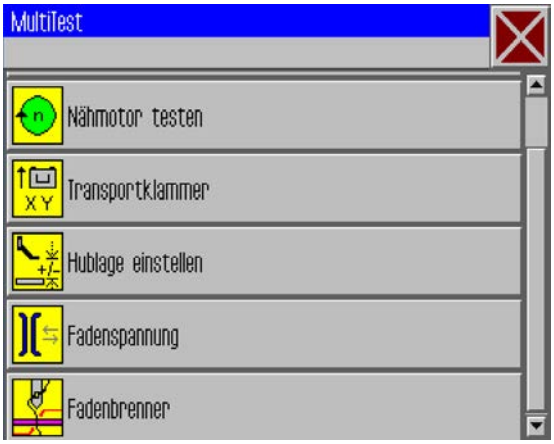
3. Use your finger to tap various different points or draw lines.

↳ When the touchscreen is functioning correctly all touched points of the screen are marked.

Testing the functions of the machine

You can use the *Extras* > *Service* > *Multitest* menu item to check the inputs and outputs, test the sewing motor and set the stroke position.

Fig. 52: Testing the functions of the machine



Information

The functions *Transportklammer (Feed clamp)* and *Fadenbrenner (Thread burner)* are only intended for use by Dürkopp Adler Service personnel.

Testing inputs and outputs

Important

This manual only provides an overview of the test possibilities.

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

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

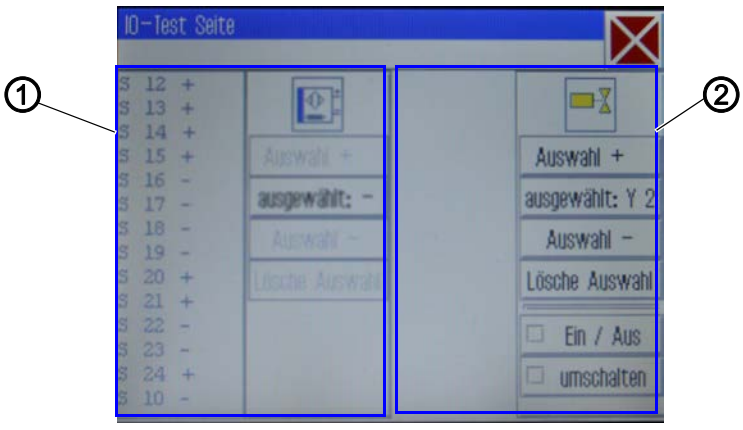
Do not reach into the machine during function testing of inputs and outputs.

To test inputs and outputs:

1. In the menu item *Extras* > *Service* > *Multitest* tap the *Eingänge / Ausgänge testen (Test inputs / outputs)* option.

↳ The *IO-Test (IO Test) Seite (Page)* window is displayed.

Fig. 53: 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 *Auswahl (Select)* + or *Auswahl (Select)* - to select the desired element in the respective area.

↳ The number of the element is displayed on the *ausgewählt: (selected:)* button.

3. Tap the *ausgewählt: (selected:)* button.
4. Test the element using the *Ein/Aus (On/Off)* or *umschalten (switchover)* buttons, depending on the type of the input or output element.

	**Input elements**
No.	**Meaning**
S1	Lower right clamp
S2	Lower left clamp
S9	Needle thread monitor active
S10	Bobbin cover closed
S11	Upper housing latch closed
S13	Pedal forwards
S14	Pedal backwards
S16	Pressure monitor
S17	Quick stop
S100	Sewing motor reference
S101	X-axis reference
S102	Y-axis reference
S103	Z-axis reference

	**Output elements**
No.	**Meaning**
Y1	Foot mode
Y2	Bobbin cover
Y3	Needle cooling on
Y4	Right clamp
Y5	Left clamp
Y9	Threading switch lamp on
Y10	Oil level indicator warning light on
Y11	Burner transformer on
Y12	Upper burner
Y13	Lower burner
Y14	Thread suction device
Y25	Laser marking lamp 1 (Z)
Y26	Laser marking lamp 2 (Z)
Y27	Laser marking lamp 3 (Z)
Y28	Laser marking lamp 4 (Z)

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* > *Multitest* tap the *Hublage einstellen (Set strokeposition)* option.

↳ The following options are displayed:

	**Setting the stroke position**
Symbol	**Meaning**
	**Perform a reference run** Check the movement
	**Switch between a hopper and presser foot** Switch over the mode of operation
	**Move 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.

Test sewing motor

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Do not reach into the machine during the function test of the sewing motor.

To test the sewing motor:

1. In the menu item *Extras* > *Service* > *Multitest* tap the *Nähmotor testen (Test sewing motor)* option.

↳ The sewing motor test screen is displayed:

Fig. 54: Test sewing motor

Important

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

2. Tap the  button.

↳ The window for entering the sewing 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 sewing speed.

7. Tap the  button.

↳ The sewing motor stops.

8. Tap the  button.

↳ The sewing motor runs at the entered sewing speed.

9. Tap the  button.

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

Calling up log displays and error lists

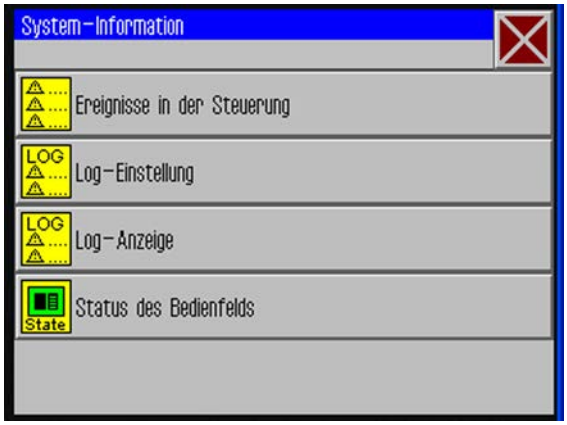
You can access the log settings and error lists via *Extras* > *Service* > *System-Information (System Information)*.

To call up log displays and error lists:

1. Tap the menu items *Extras* > *Service* > *System-Information (System Information)*.

↳ The selection screen for system information appears.

Fig. 55: Calling up log displays and error lists



2. Tap the desired symbol.

Symbol	Meaning
	**Control events** List of the latest errors
	**Log settings** Only for Dürkopp Adler Service personnel
	**Log display** List of the last log settings
	**Control panel status** Status appears in the log display

Initializing the control and performing updates

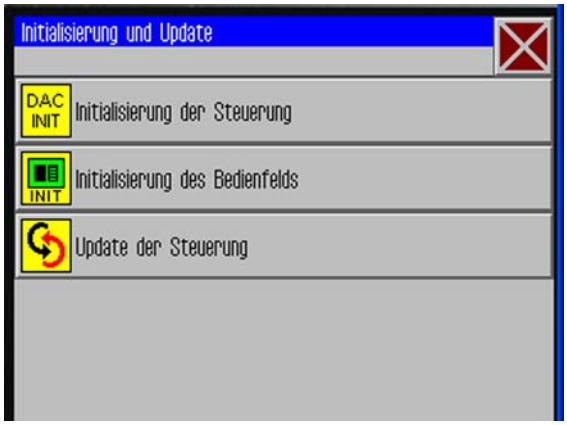
You can use *Extras* > *Service* > *Initialisierung (Initialization) and Update* to reset the control and control panel to the factory defaults and to update the control with a new software version.

To initialize the control and perform updates:

1. Tap the menu items *Extras* > *Service* > *Initialisierung (Initialization) and Update*.

↳ The screen for initialization and update appears.

Fig. 56: Initializing the control and performing updates



Initializing the control

Important

Initializing the control resets all values to the factory default settings.
All changes are lost.
Only execute this option if you really want to return to the factory settings.

Order

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

1. Tap the *Initialisierung (Initialize) Steuerung (Control)* option.

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

Initializing the control panel

Important

Initializing the control panel resets all values to the factory default settings. All changes are lost.
Only execute this option if you really want to return to the factory settings.

1. Tap the *Initialisierung des Bedienfelds (Initialize control panel)* option.

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

Updating the control

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.

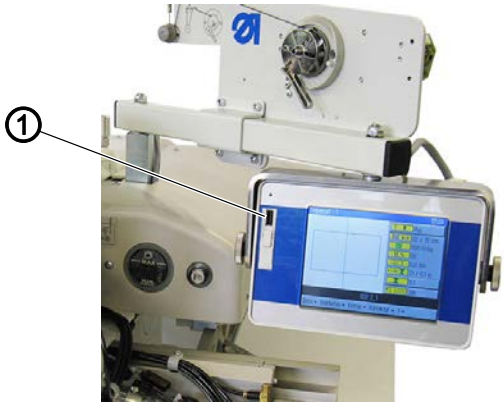
Important

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

Fig. 57: Updating the control



(1) - USB port *(2) -*

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* > *Initialisierung (Initialize) and Update* > Option *Update der (the) Steuerung (control)* to load a specific software version.

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.

To display information on the software version currently used:

1. Menu items *?* > Tap on *Info*.

↳ The following information is displayed:

- Class
- Subclass
- Software version
- Date of creation of this software version

6 Creating programs with DA-CAD 5000

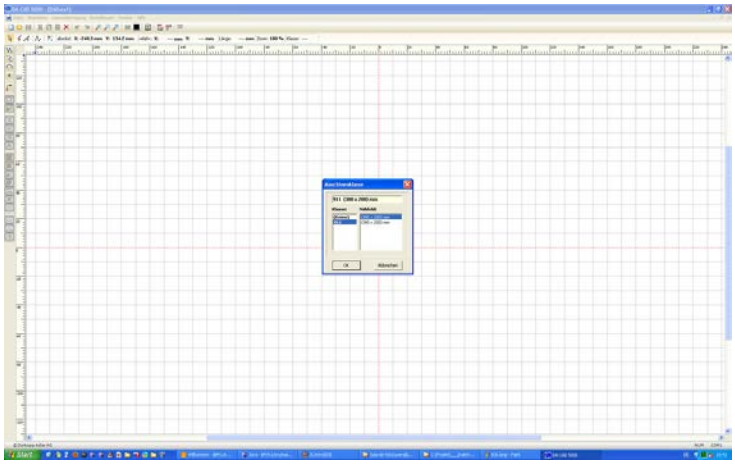
You can use the DA-CAD 5000 program to create seam programs on a PC. The DA-CAD 5000 program is available as additional equipment.

This section only 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 machine class.

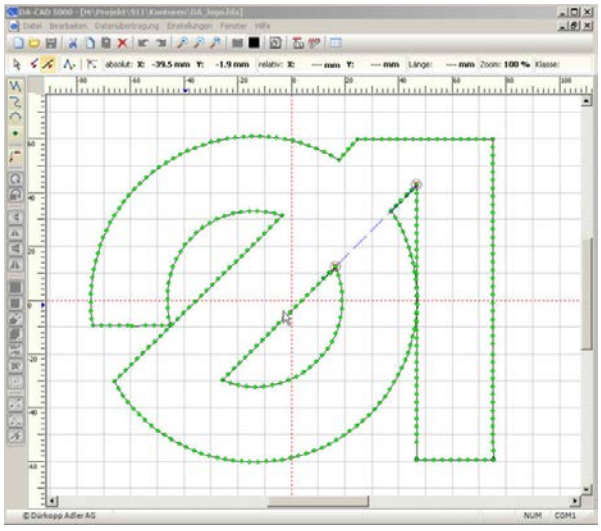
Fig. 58: Selecting the class



Creating the seam contour

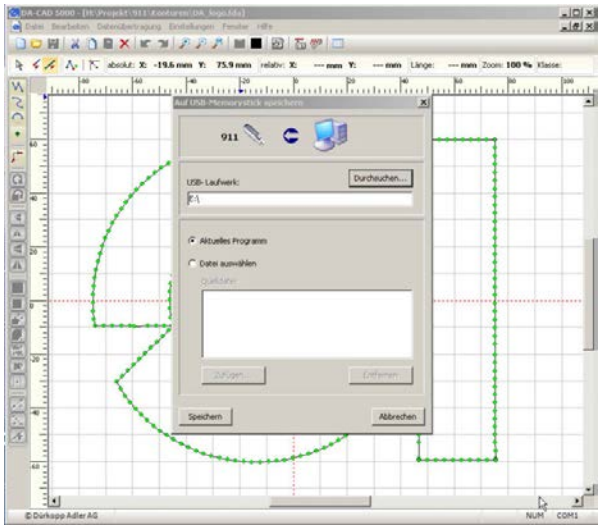
The next step is to draw the seam contour.

Fig. 59: Creating the seam contour



Saving the seam contour

Fig. 60: 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 *Datenübertragung (Data transfer)* > *USB-Memorystick (USB memory stick)* > *Speichern (Save)* (*PC->>USB*).

Order

After successfully saving to the USB key the following steps must be performed at the machine:

Transferring the program to the machine

NOTICE

Property damage may occur!

If you have entered contour points that lie outside the sewing field then the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Always perform a contour test after creating or editing a contour to ensure that the entire contour lies within the permissible sewing field.

To transfer a program to the machine:

1. Insert the USB key and copy the desired file to the DAC(📖 *p. 59*).
2. Open the copied program (📖 *p. 44*).
3. Adjust the program parameters (especially the sewing foot height) (📖 *p. 63*).
4. Perform a contour test to check the clamp motion (📖 *p. 55*).

↳ Sewing with the program can begin after successful testing/adjustment.

7 Maintenance

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

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

WARNING

Risk of injury from sharp parts!

Punctures and cutting possible.

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

WARNING

Risk of injury from moving parts!

Crushing possible.

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

Maintenance interval

Work to be carried out	Operating hours			
	8	40	160	500
Cleaning				
Removing lint and thread remnants	●			
Cleaning the motor fan mesh		●		
Lubricating				
Lubricating the machine head	●			
Lubricating the hook		●		
Servicing the pneumatic system				
Setting the operating pressure	●			
Draining the water condensation	●			
Cleaning the filter element		●		

Work to be carried out	Operating hours			
	8	40	160	500
Servicing specific components				
Checking the toothed belt		●		

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!

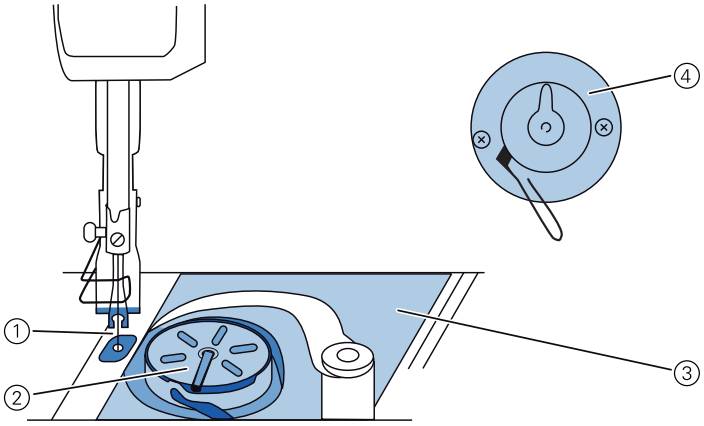
Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

7.1.1 Cleaning the machine

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

Fig. 61: Cleaning the machine



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

Areas particularly susceptible to soiling:

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

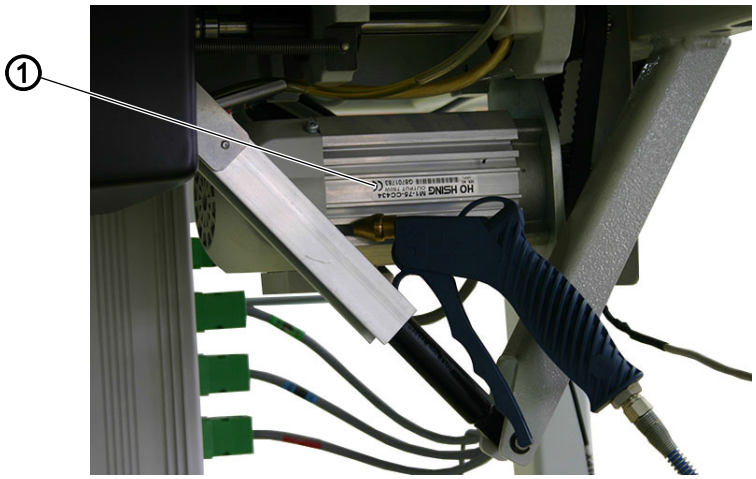
To clean the machine:

1. Remove any lint and thread remnants using a compressed air gun or a brush.

7.1.2 Cleaning the motor fan mesh

The motor fan mesh must be cleaned once a month using a compressed air gun. If very fluffy sewing material is being sewn, the motor fan mesh must be cleaned more frequently.

Fig. 62: Cleaning the motor fan mesh



(1) - Motor fan mesh

To clean the motor fan mesh:

1. Remove any lint and thread remnants using a compressed air gun.

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.

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:

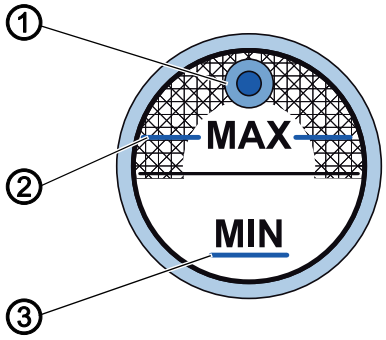
Container	Part no.
250 ml	9047 000011
1 l	9047 000012
2 l	9047 000013
5 l	9047 000014

7.2.1 Lubricating the machine head

Proper setting

The oil level is between the minimum level marking and the maximum level marking.

Fig. 63: Lubricating the machine head



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

To lubricate the machine head:

1. Check the oil level indicator every day.
2. If the oil level is below the minimum level marking (3):
   Pour oil through the refill opening (1) but no higher than the maximum level marking (2).

7.2.2 Lubricating the hook

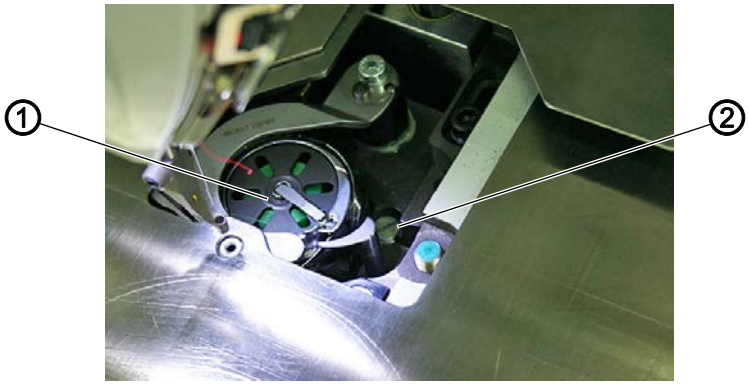
The approved oil quantity for hook lubrication is a factory specification.

Proper setting

1. Hold a piece of blotting paper next to the hook (1) while sewing.

↳ After sewing a stretch of approx. 1 m, the blotting paper will have been sprayed with a thin and even film of oil.

Fig. 64: Lubricating the hook



(1) - Hook
(2) - Screw

To lubricate the hook:

1. Turn the screw (2):
   - **counterclockwise:** more oil is released
   - **clockwise:** less oil is released

Important

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

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.

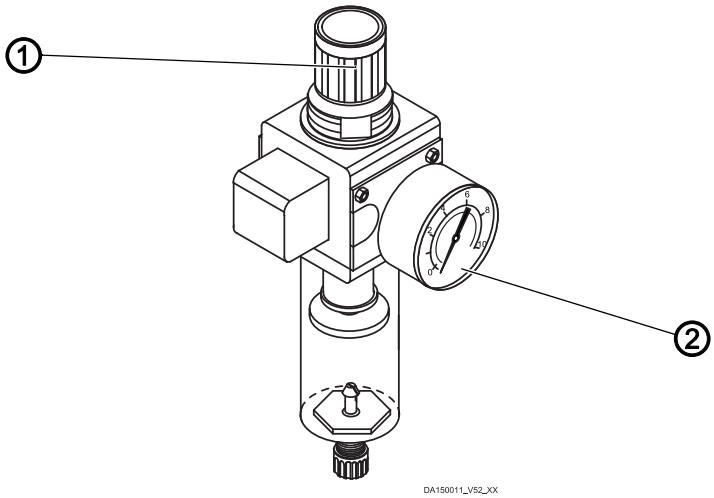
Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical data** (📖 *p. 127*) 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. 65: 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.

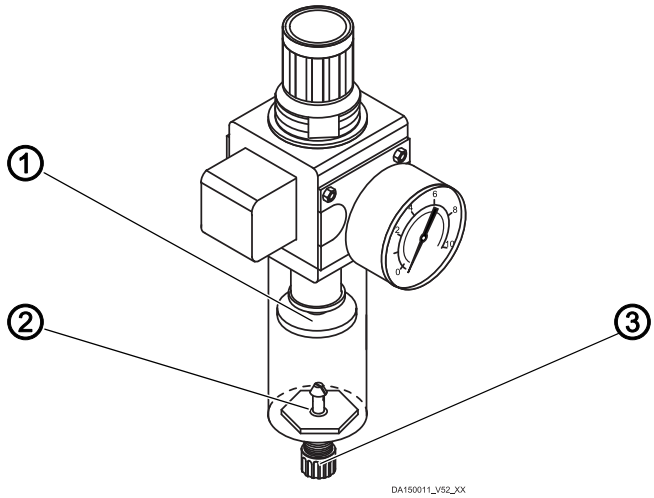
Water condensation accumulates in the water separator (2) of the pressure controller.

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. 66: 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

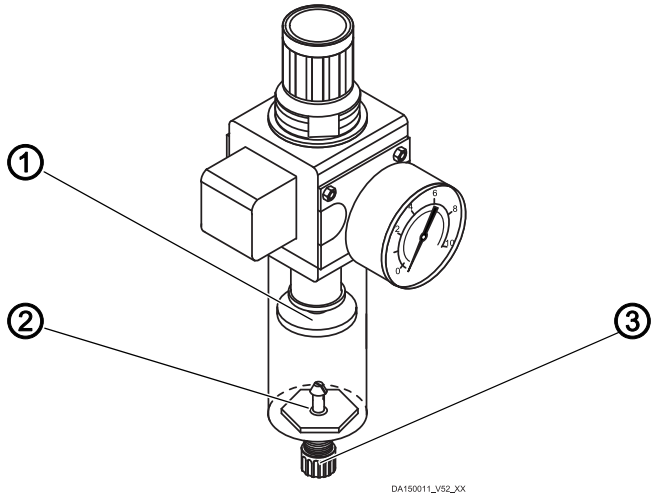
NOTICE

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. 67: 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. 98*).
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 Servicing specific components

Checking the toothed belt

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch off the machine before checking the condition of the toothed belt.

The condition of the toothed belt must be checked once a month.

Important

A damaged toothed belt must be replaced immediately.

Proper setting

- The toothed belt exhibits no cracks or fragile areas.
- When pressed with a finger, the toothed belt must yield no more than 10 mm.

7.5 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

Risk of injury from cutting parts!

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

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

WARNING

Risk of injury from moving parts!

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

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

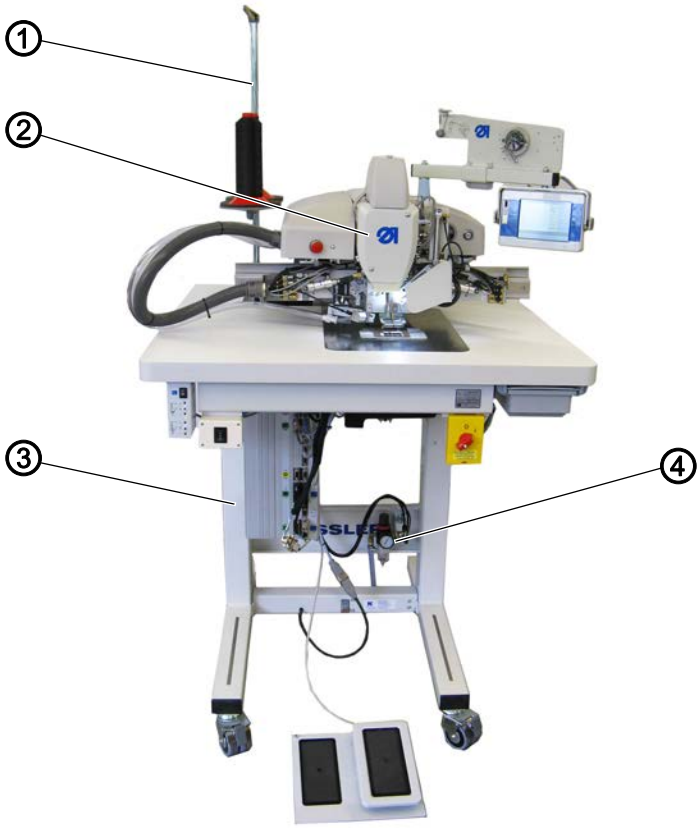
8.1 Checking the scope of delivery

Important

The scope of delivery depends on your specific order.

1. Check that all parts are present before setup.

Fig. 68: Checking the scope of delivery



(1) - Reel stand
(2) - Machine head
(3) - Stand
(4) - Compressed air maintenance unit

Scope of delivery:

- 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
- Compressed air maintenance unit (4)
- Height-adjustable stand (3)
- Reel stand (1)
- Tools and small parts in accessory pack
- Additional equipment (optional)

8.2 Transporting the machine

WARNING

Risk of injury from moving parts!

Crushing possible.

The machine is heavy.
Always use a lifting carriage or forklift for lifting the machine to avoid back injuries or crushing injuries if the machine falls down.

WARNING

Risk of injury from unsafe positioning of the machine.

Crushing possible.

Before commissioning all stand variants ensure that the stand feet are turned out sufficiently and that the machine stands securely.

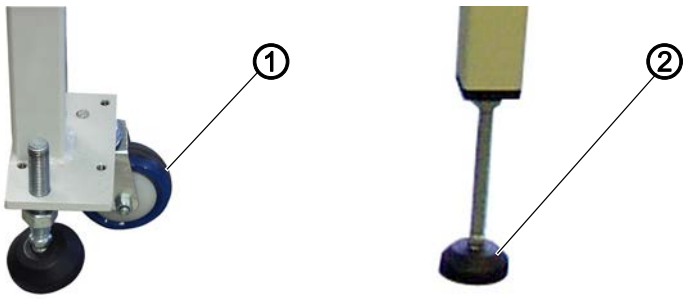
Important

While being transported, the machine must always be in transport position (high adjustment right at the bottom).

Different stands are provided, depending on the order:

- Stand with own rollers (1)
- Stand without rollers (2)

Fig. 69: Transporting the machine



(1) - Stand foot with rollers

(2) - Stand foot without rollers

Stands with own rollers (1) can be used for transporting the machine.
Stands without rollers must be transported with a lifting carriage or forklift.

Lifting the machine

Use a lifting carriage or forklift when lifting the machine for transport.

Transport on own stand rollers

The stand feet must be rotated upwards for transportation using the integrated stand rollers.

Fig. 70: Transport on own stand rollers

(1) - Nut
(2) - Stand foot
(3) - Roller

Before transport

1. Loosen the nuts (1) on the stand feet (2).
2. Rotate the stand feet (2) fully upwards.
3. Tighten the nuts (1) so that the stand feet (2) remain upwards.

After transport

1. Loosen the nuts (1) on the stand feet (2).

Important

Rotate the stand feet (2) downwards so that the stand is supported evenly and firmly on all four feet.

2. Tighten the nuts (1) on all four stand feet.

8.3 Transport locks

NOTICE

Property damage may occur!

Risk of machine damage from unsecured transport.

NEVER transport the machine without the transport locks.

The transport locks protect the machine during movement and must be removed before setting up.

1. Remove all transport locks fitted.

Important

The transport locks must be assembled again if the machine is transported in the future!

8.4 Setting the working height

WARNING

Risk of injury from moving parts!

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

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

CAUTION

Risk of musculoskeletal damage from incorrect setting!

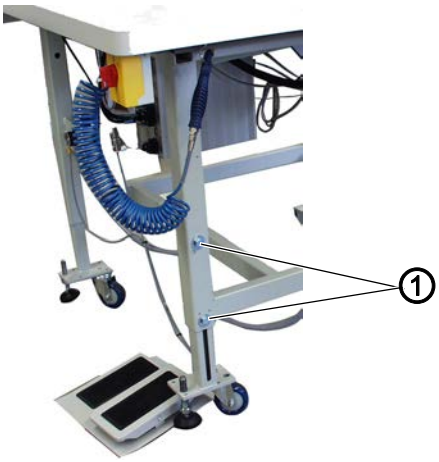
The operator can sustain musculoskeletal damage if failing to comply with the ergonomic requirements.

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

8.4.1 Setting the working height for stands with rollers

The working height is continuously adjustable between 800 and 1050 mm (clearance between the floor and upper edge of the tabletop).

Fig. 71: Setting the working height for stands with rollers



(1) - Clamping screws

To set the working height for stands with rollers:

1. Support the unit with a lifting carriage or forklift.
2. Loosen all 8 clamping screws (1) on the table legs.
3. Set the tabletop to the desired working height.

Important

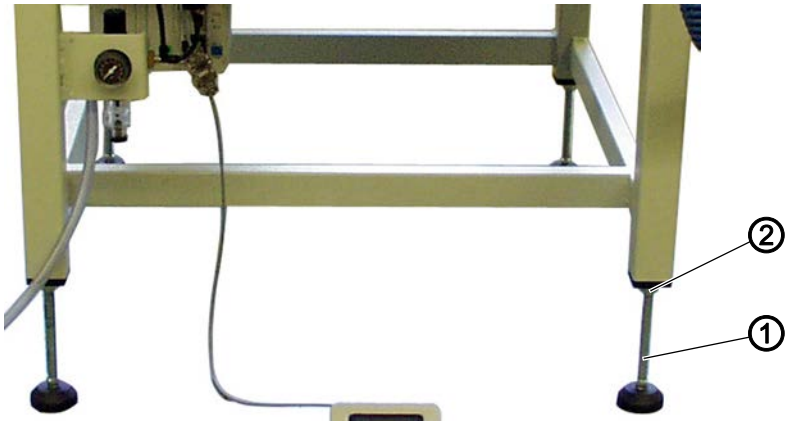
Pull out or push in the stand bars evenly at both sides to prevent them from jamming.

4. Tighten all 8 clamping screws (1).
5. Remove the lifting carriage or forklift.

8.4.2 Stands without rollers

The working height is continuously adjustable between 760 and 910 mm (clearance between the floor and upper edge of the tabletop).

Fig. 72: Setting the working height for stands without rollers



(1) - Threaded rod *(2) - Nut*

To set the working height for stands without rollers:

1. Support the unit with a lifting carriage or forklift.
2. Loosen all 4 nuts (1) on the table legs.
3. Adjust the tabletop level to the desired working height by turning the threaded rods (2).

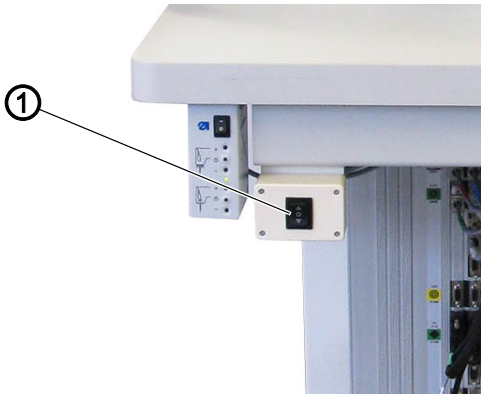
Important

Turn the threaded rods (2) evenly at both sides to prevent jamming.

4. Tighten all 4 nuts (1).
5. Remove the lifting carriage or forklift.

8.4.3 Setting the working height for stands with electric height adjustment (300 x 200)

Fig. 73: Setting the working height for stands with electric height adjustment



(1) - Height adjustment switch

To set the working height for stands with electric height adjustment:

1. Push the height adjustment switch (1) up.

↳ Tabletop is raised.

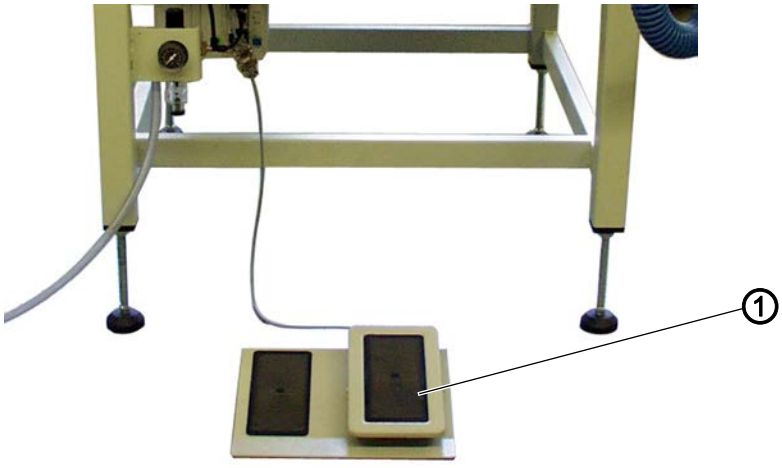
2. Push the height adjustment switch (1) down.

↳ Tabletop is lowered.

8.5 Pedal setup

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

Fig. 74: Pedal setup



(1) - Pedal

To set up the pedal:

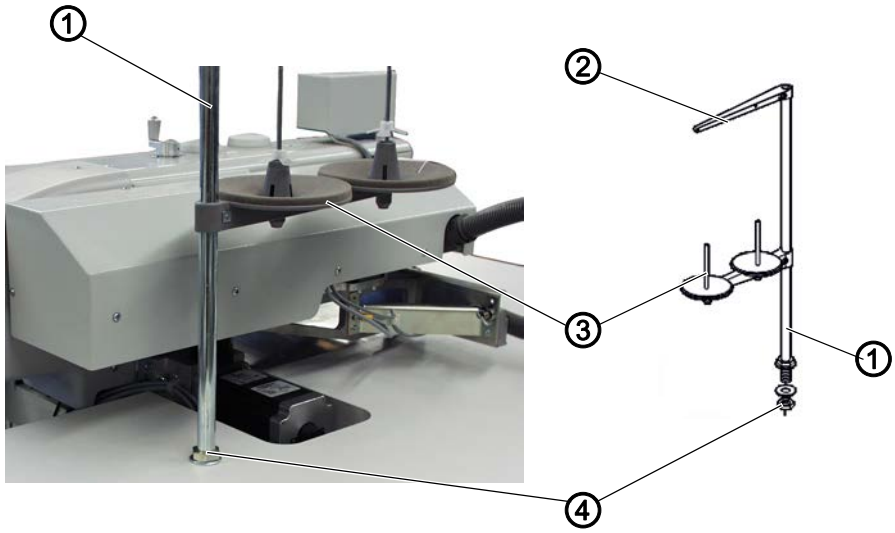
1. Position the pedal (1) under the machine so that pedal and machine can be comfortably operated.

Different positioning of the pedal

If the pedal is positioned in front of the unit, a tunnel-type cover has to be attached over the pedal. The cover protects against spontaneous start-up of the machine due to falling objects.

8.6 Assembling the reel stand

Fig. 75: Assembling the reel stand



(1) - Reel stand
(2) - Thread guide
(3) - Thread reel holder
(4) - Nuts

To assemble the reel stand:

1. Insert the reel stand (1) into the hole in the tabletop.
2. Assemble the reel stand (1) to the tabletop using the nuts (4).
3. Screw 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.

8.7 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.

8.7.1 Checking the rated voltage

To check the rated voltage:

1. Check the mains voltage before connecting the machine.

8.7.2 Connecting the mains power

To connect the mains power:

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

8.8 Pneumatic connection

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

NOTICE

Property damage from oily compressed air!

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

Ensure that no oil particles enter the compressed air supply.

NOTICE

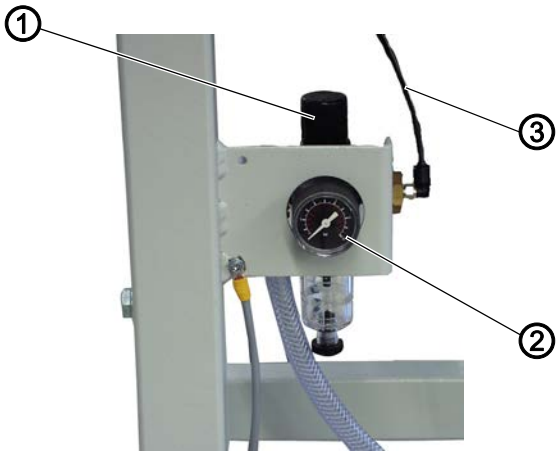
Property damage from incorrect setting!

Incorrect system pressure can result in damage to the machine.

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

8.8.1 Assembling the compressed air maintenance unit

Fig. 76: Assembling the compressed air maintenance unit



(1) - Pressure controller
(2) - Pressure gage
(3) - Connection hose

To assemble the compressed air maintenance unit:

1. Connect the connection hose (3) to the compressed air supply using a hose coupling R 1/4”.

8.8.2 Setting the operating pressure

NOTICE

Property damage due to incorrect operating pressure!

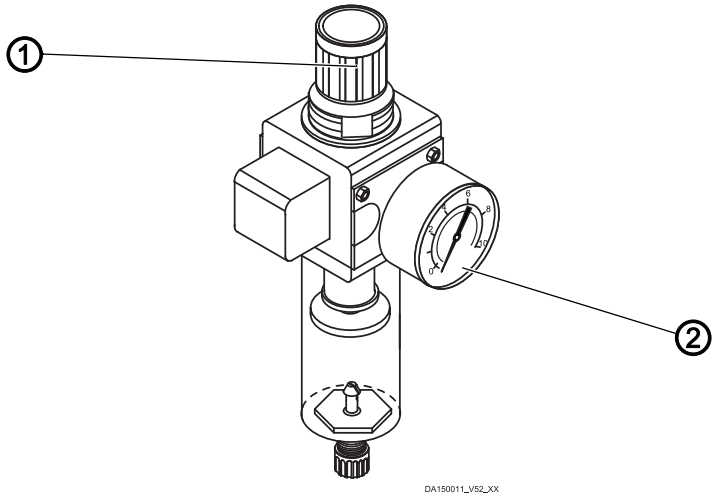
Incorrect operating pressure can result in damage to the machine.

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

Proper setting

Refer to the **Technical data** (📖 *p. 127*) chapter for the permissible operating pressure. The operating pressure cannot deviate by more than ± 0.5 bar.

Fig. 77: 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.

8.9 Commissioning

Carry out a sewing test before starting up the machine.
Adjust the machine to the sewing material requirements.
To do so, read the corresponding chapters in the 🕮 *Operating Instructions*. 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.

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

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

NOTICE

Property damage may occur!

Risk of machine damage from transport without sewing material.

Ensure that sewing material is present under the transport clamps before starting to sew.

Performing a sewing test

1. Switch off the machine at the main switch.
2. Thread the needle thread (🕮 *p. 22*).
3. Thread the hook thread (🕮 *p. 27*).
4. Switch on the machine at the main switch.

↳ The control is initialized.

5. Press the pedal forwards.

↳ 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.

9 Decommissioning

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

WARNING

Risk of injury from a lack of care!

Serious injuries may occur.

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

CAUTION

Risk of injury from contact with oil!

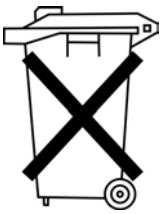
Oil can cause a rash if it comes into contact with skin.

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

To decommission the machine:

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

10 Disposal



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

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

CAUTION

Risk of environmental damage from improper disposal!

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

ALWAYS comply with the legal regulations regarding disposal.

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

11 Troubleshooting

11.1 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.comError and information messages

11.2 Messages of the software

Error code	Description	Troubleshooting
Sewing motor		
1051	Sewing motor timeout • Cable to sewing motor reference switch defective • Reference switch defective • Machine head does not move freely or has excessive belt tension	• Replace the cable • Replace the reference switch • Check the ease of movement and belt tension of the machine head
1052	Sewing motor excess current • Sewing motor cable defective • Sewing motor defective • Control defective	• Replace the sewing motor cable • Replace the sewing motor • Replace the control
1053	Sewing motor line voltage too high	Check the line voltage
1055	Sewing motor overload • Sewing motor blocked/not moving freely • Sewing motor defective • Control defective	• Remove the blockage/cause of lack of freedom of movement • Check the sewing motor • Check the control
1056	Sewing motor overtemperature • Sewing motor not moving freely • Sewing motor defective • Control defective	• 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	• Replace the sewing motor • Check the cable from the impulse transmitter in the motor to the control • Switch off and on the machine again • Software update
Stepper motors		
2101	X-axis stepper motor referencing timeout • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective	• Adjust reference switch • Replace the cable • Check the reference switch
2102	X-axis stepper motor current error • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective	• Fix blockage • Check/replace the encoder cable • Replace the stepper motor
2152	X-axis stepper motor overcurrent	• Replace the stepper motor • Replace the control
2153	X-axis stepper motor overvoltage • Too high line voltage	• Check the line voltage
2155	X-axis stepper motor overload • Feed system not moving freely • Obstacle to feed motion	• Eliminate sluggishness • Remove obstacles/adjust the motion

Error code	Description	Troubleshooting
2156	X-axis stepper motor excess temperature • Stepper motor sluggish • Stepper motor faulty • Control defective	 • Eliminate seizing • Replace the stepper motor • Replace the control
2201	Y-axis stepper motor referencing timeout • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective	 • Adjust reference switch • Replace the cable • Replace the reference switch
2202	Y-axis stepper motor current error • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective	 • Fix blockage • Check/replace the encoder cable • Replace the encoder
2252	Y-axis stepper motor overcurrent	• Replace the stepper motor • Replace the control
2253	Y-axis stepper motor overvoltage • Too high line voltage	 • Check the line voltage
2255	Y-axis stepper motor overload • Feed system not moving freely • Obstacles to the feed motion	 • Eliminate sluggishness • Remove obstacles/adjust the motion
2256	Y-axis stepper motor overtemperature • Feed system not moving freely • Stepper motor faulty • Control defective	 • Eliminate seizing • Replace the stepper motor • Replace the control
2301	Stroke position stepper motor referencing timeout • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective	 • Adjust reference switch • Replace the cable • Replace the reference switch
2302	Stroke position stepper motor current error • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective	 • Fix blockage • Check/replace the encoder cable • Replace the encoder
2352	Stroke position stepper motor overcurrent	• Replace the stepper motor • Replace the control
2353	Stroke position stepper motor overvoltage • Too high line voltage	 • Check the line voltage
2355	Stroke position step motor overload • Feed system not moving freely • Obstacles to the feed motion	 • Eliminate sluggishness • Remove obstacles/adjust the motion

Error code	Description	Troubleshooting
2356	Stroke position stepper motor overtemperature • Feed system not moving freely • Stepper motor faulty • Control defective	• Eliminate sluggishness • Replace the stepper motor • Replace the control
Machine control		
3100	Machine control voltage • Temporary line voltage interruption	• Check the line voltage
3102	Machine voltage in sewing motor intermediate circuit • Temporary line voltage interruption	• Check the line voltage
3103	Machine voltage in stepper motor intermediate circuit • Temporary line voltage interruption	• Check the line voltage
3107	Machine temperature • Ventilation openings closed • Ventilation grille dirty	• Clean ventilation grille • Check ventilation openings
3109	Threading mode is switched on	Switch off threading mode
3121	Compressed air is missing or insufficient	Turn on the compressed air, stabilize
3123	Oil sensor active	Top off oil
3210	Thread broken	Re-thread the thread
3215	Bobbin empty (remaining thread counter)	Insert full bobbin
3220	Bobbin empty (remaining thread counter)	Insert full bobbin
3500	Error in calculating the contour data	• Reload the contour data • Check the contour data
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	• Switch off and on the machine • Software update • Notify DA Service
4201	Internal CF card defective	• Switch off and on the machine • Retrofit/replace control
5301	Program cannot be sewn	Copy program to DAC

Error code	Description	Troubleshooting
6551 6554 6651 6653 6751 6761	Error in machine head position/AD converter/process error Internal error	• Switch off and on the machine • Software update • Notify DA Service
6952	Stepper motor driver error Internal error	• Switch off and on the machine • Software update • Notify DA Service
Communication		
7801	Control panel interface communication • Cable disturbance • Cable	• Switch off and on the machine • Software update • Notify DA Service
8151 8156 8159	IDMA error • Disturbance • Control defective	• Switch off and on the machine • Replace the control
8152 8154	IDMA error • Internal error	• Switch off and on the machine • Software update • Notify DA Service
8252 8257 8258 8256 8254	ADSP Boot/Xilinx Boot/ Boot error Disturbance	• Switch off and on the machine
8351	Test pins error	• Switch off and on the machine • Software update • Notify DA Service
9601	Stop while sewing on the contour Continue sewing?	• OK button = Continue the sewing process • ESC button = Interrupt the sewing process
9700	Bobbin change flap not closed	Close the bobbin change flap
9701	Parallel clamps not lowered	• Remove obstacles • Adjust sensors
9900	Incorrect machine parameter	Initialize the data
9901	Incorrect sequences	Initialize the data
9902	Incorrect program parameters	Initialize the data

11.3 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 failed.	• 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.	
8801 8805 8806 8890 8891	Error in test pins/signal processing/event processing/ Memory wrapper/ list functions Internal error	• Switch off and on the machine • Software update • Notify DA Service
System		
9000	Reference run active	
9002	Machine head not locked	Lock the machine head
9006	Quick-stop button is active.	Release the Quick-stop button
9016	Incorrect barcode ID	Change the program
9100	The counter has not reached the specified value.	Tap the OK button. The counter is reset.

11.4 Errors in sewing process

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

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

12 Technical data

Data and characteristic values

Technical data	Unit	911-211-2010	911-211-3020
Machine type		CNC-controlled sewing unit	
Stitch type		301	
Hook type		Vertical hook	
Number of needles		1	
Needle system		794, on request 7x23	
Needle strength	[Nm]	140-230	
Thread strength	[Nm]	Min: 20/3 Max: 8/3	
Stitch length	[mm]	Programmable 1-12.7	
Speed maximum	[min^{-1}]	1400 rpm, intermittent	
Mains voltage	[V]	230	
Mains frequency	[Hz]	50/60	
Operating pressure	[bar]	6	
Length	[mm]	940	940
Width	[mm]	1100	1200
Weight	[kg]	Approx. 230	

Characteristics

The machine is driven by a positioning drive.

In addition to the sewing drive, the DACIII control controls two stepper motors for the X and Y motion for creating the seam geometry and a Z axis for sewing foot adjustment.

The arm shaft of the sewing machine is directly driven by a brushless DC motor

Intermittent up to 1400 rpm (depending on stitch length and sewing material thickness)

Maximum speed also varies with the application as well as clamp size and clamp weight

Available are 99 program memory slots with up to 16000 stitches each

The programs can be sewn individually or as sequences. It is possible to store up to 20 sequences capable of calling up a maximum of 30 programs each.

The sewing foot is lifted by motor power.

Clamps open and close pneumatically.

The size of the sewing field on the UKL 911 - 211 - 2010 is 200mm and 100mm in X and Y direction, respectively.

Lubrication to machine head and hook is provided by a central oil wick lubrication system.

Fitted with a vertical 3XL hook. Diameter 40 mm; CTB bobbin.

The machine is operated via the graphic control panel OP 7000.

Including electronic needle thread monitor.

To create a neat seam pattern, the machine is equipped with a programmable needle thread tensioner that can be used to assign different thread extraction directions a matching tension value that is stored in the seam program.

The thread drawing device makes it possible to draw the needle thread under the sewing material prior to the first stitch

The unit also comes with a programmable stitch counter designed to monitor the hook thread and with a piece counter.

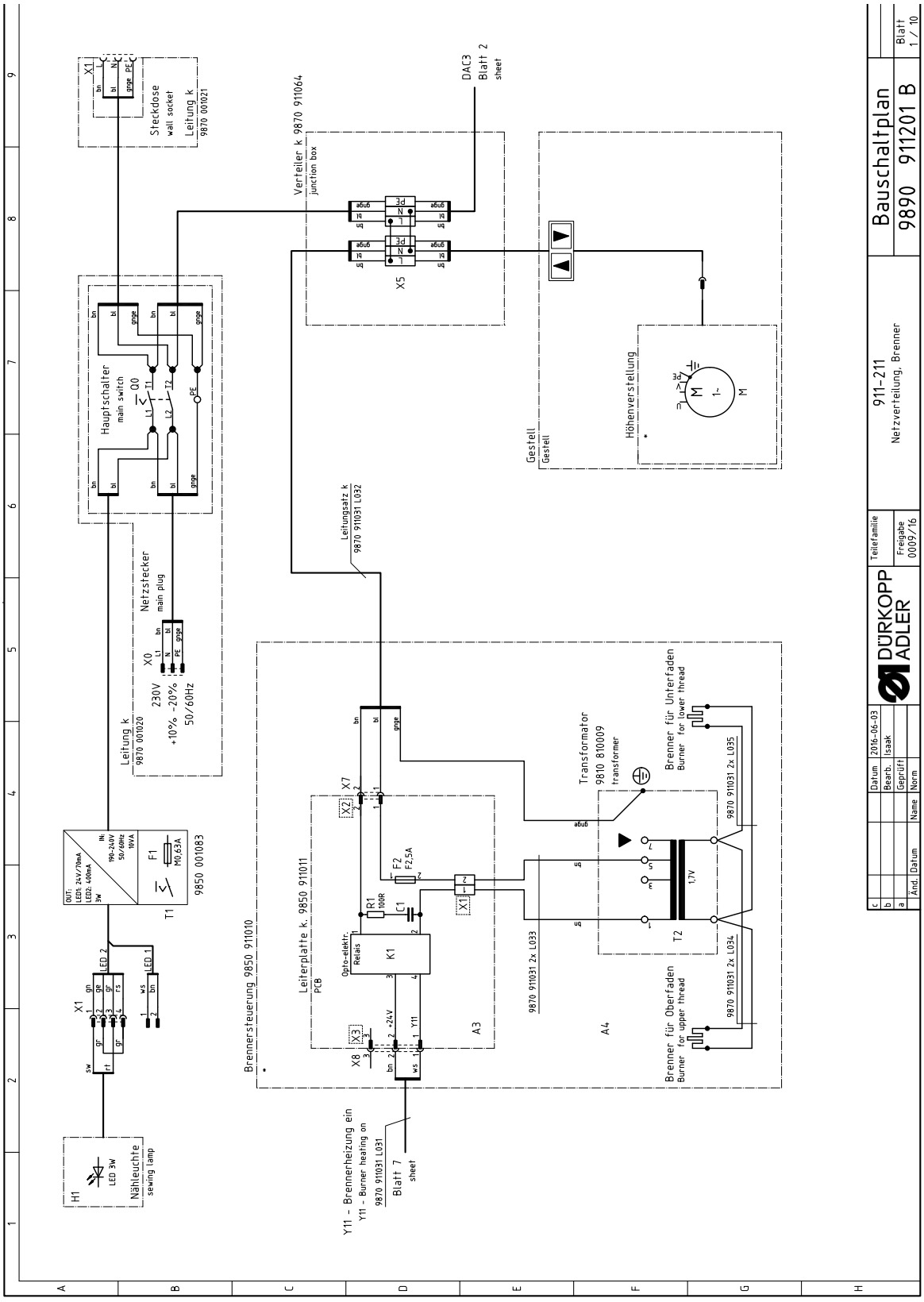
An electronic remaining thread monitor is available as optional equipment.

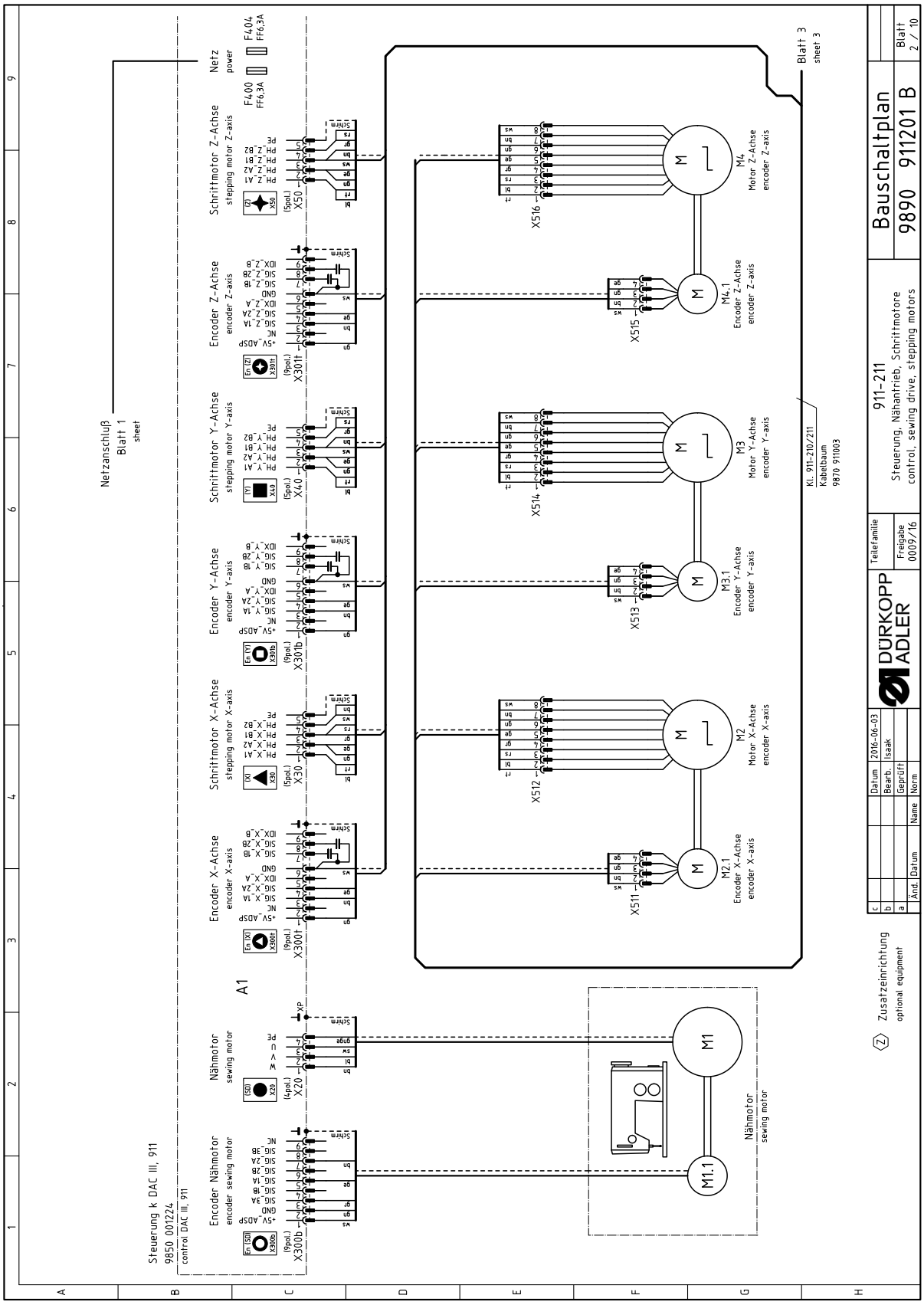
Integrated test program for servicing and maintenance work. Aside from monitoring the sewing process, the program allows for testing the motor functions, the inputs and outputs for reference switches, the valves and transport motors, and the RAM memory and (Flash) program memory functions. The program is also used to set machine functions and create seam programs via a teach-in procedure.

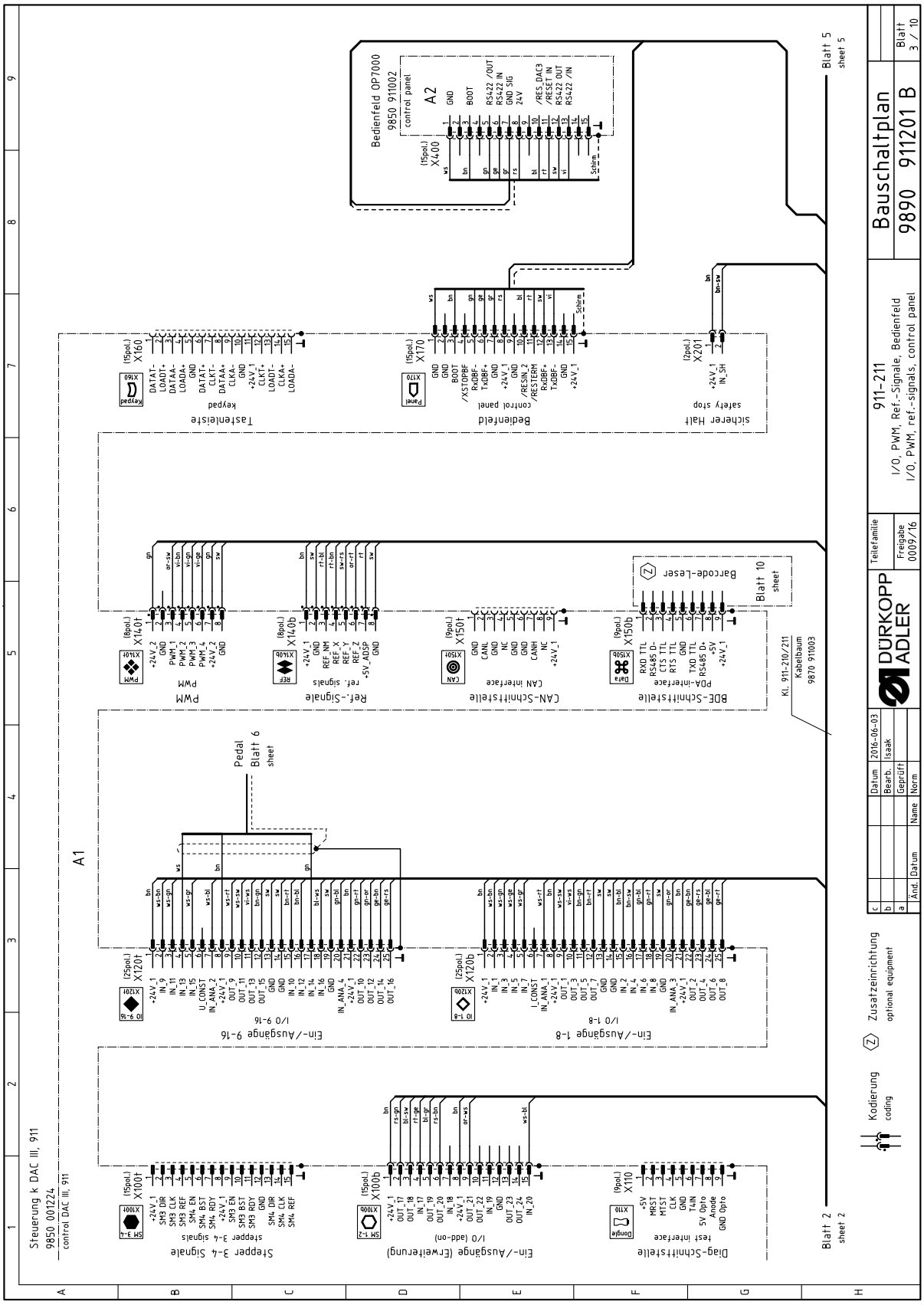
Individual stitch parameters per stitch for controlling such external units as the stroke position of the foot, thread clamp, and thread cutter: Remaining thread length 15 mm (H867); a thread burner is available as optional equipment.

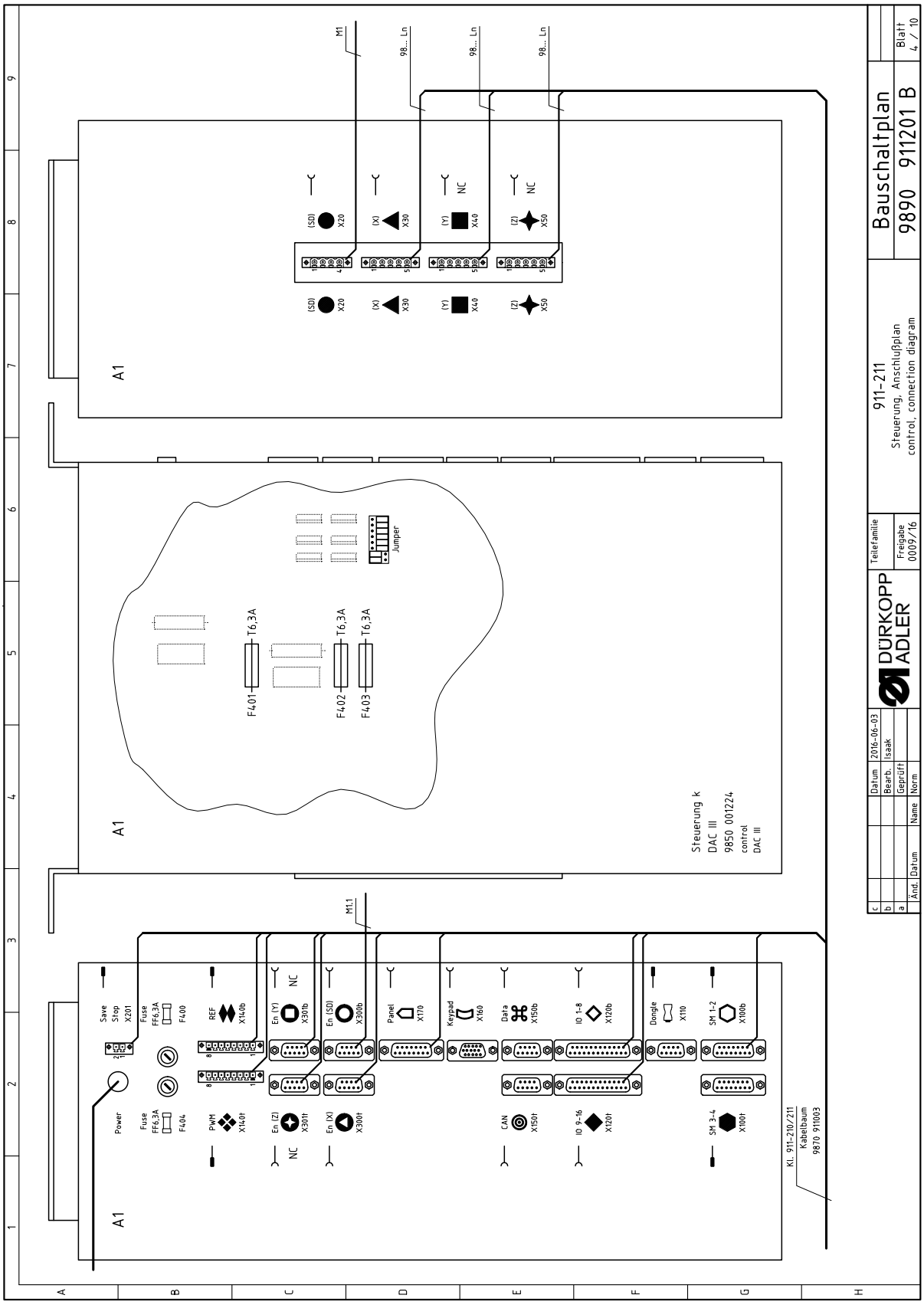
13 Appendix

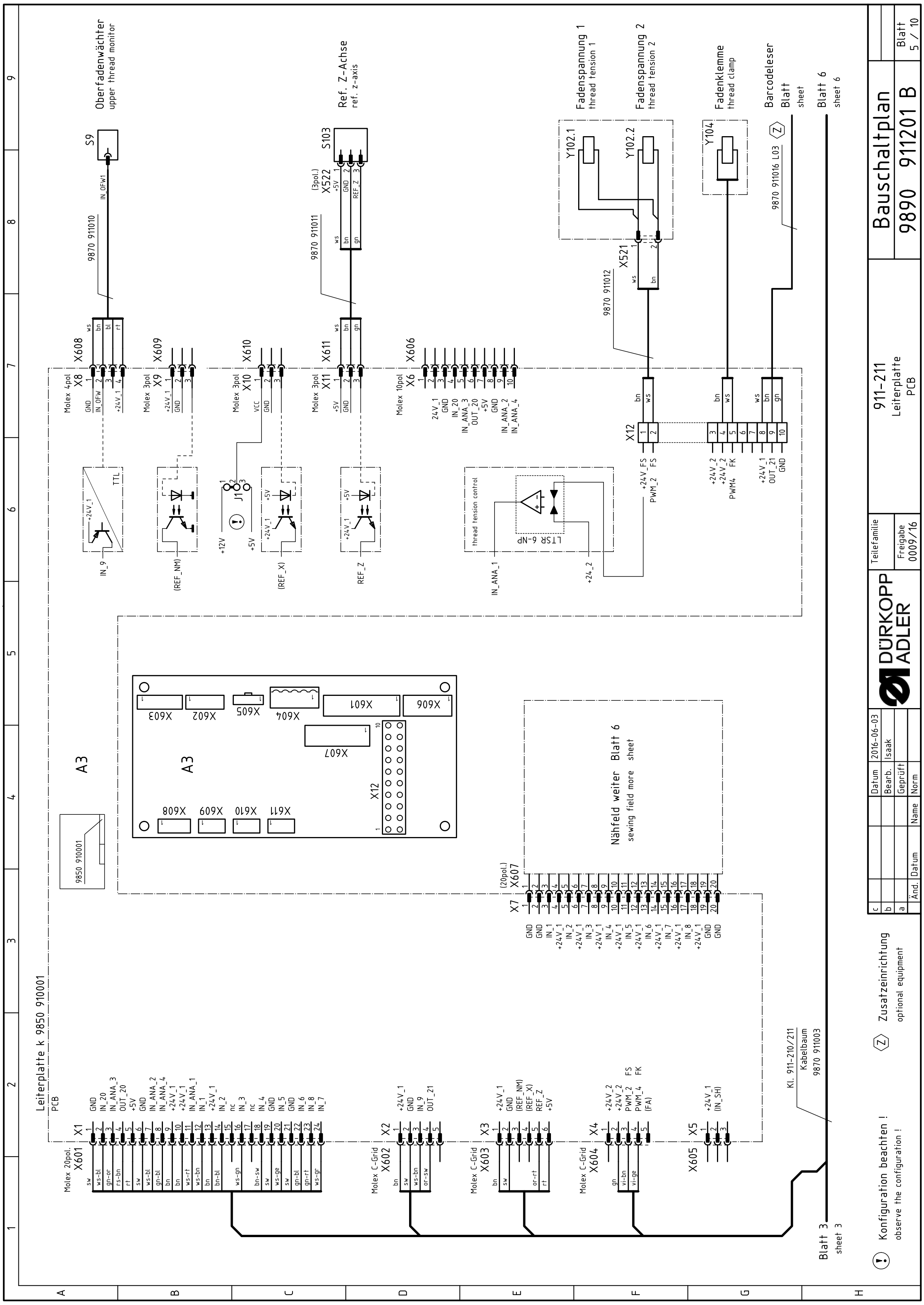
13.1 Wiring diagram - thread burner

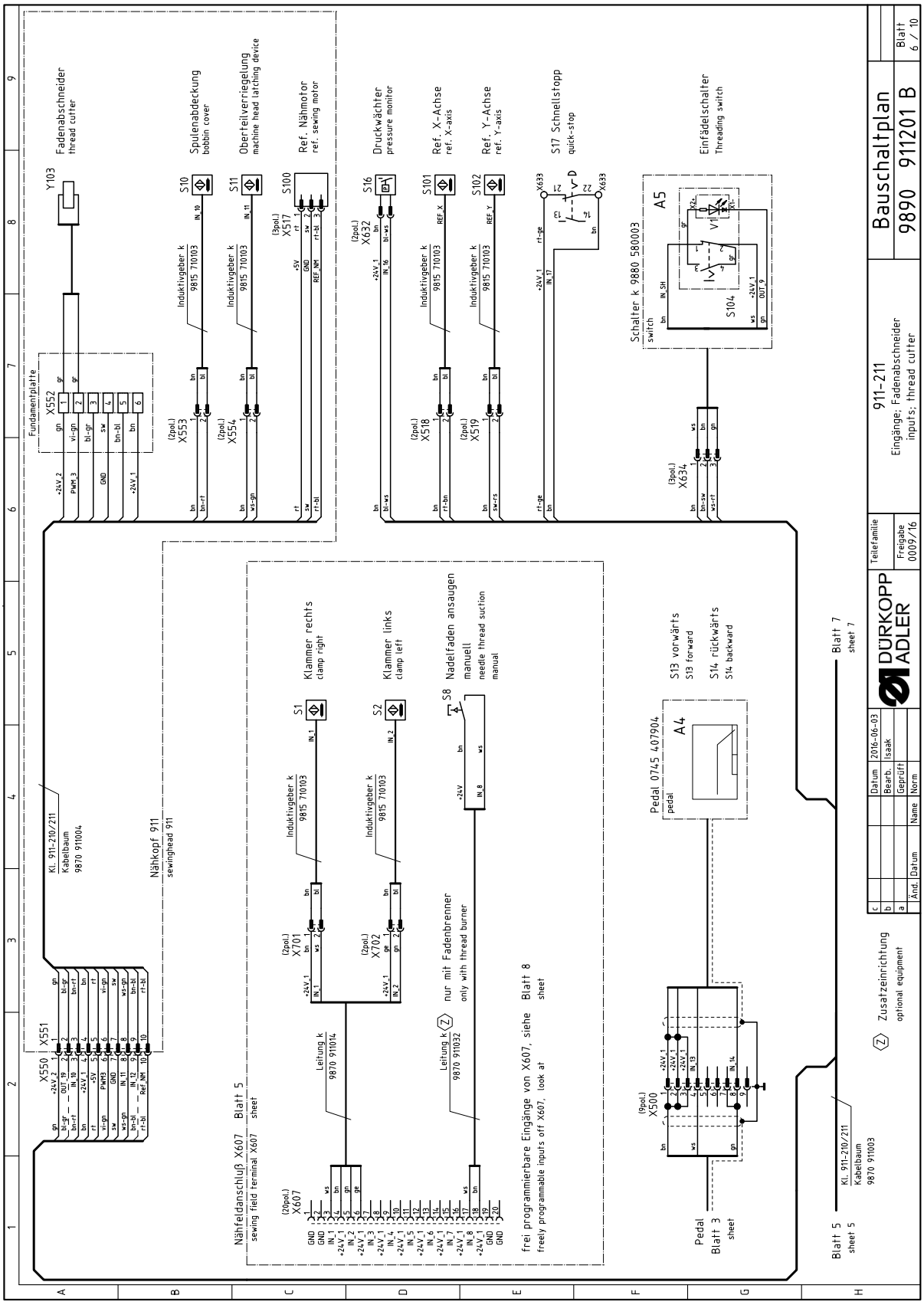


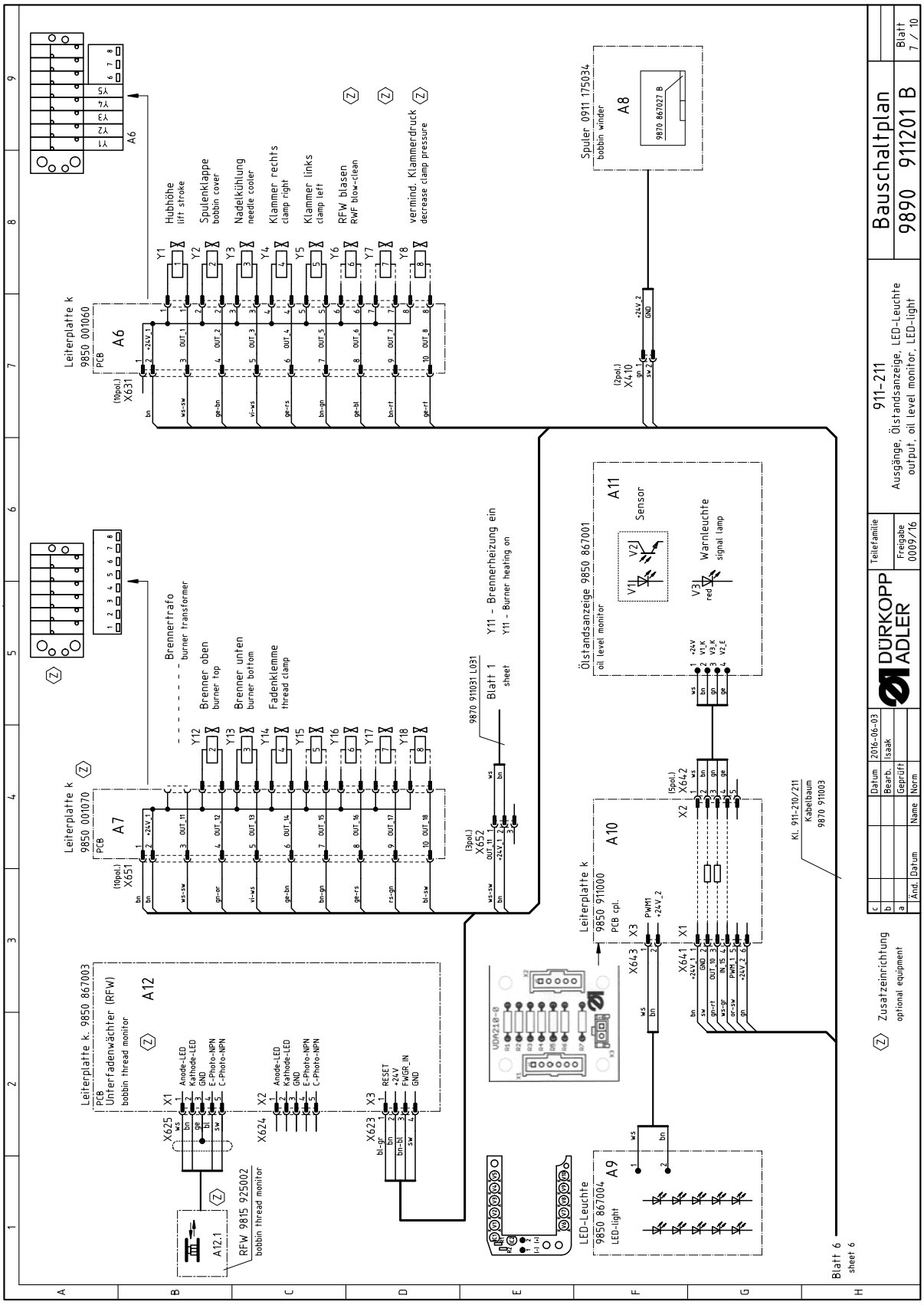

Bauschaltplan
9890 911201 B
911-211
Steuerung, Nähantrieb, Schrittmotore
control, sewing drive, stepping motors
DÜRKOPP ADLER
Netzanschluß
Blatt 1
sheet
Steuerung k DAC III, 911
9850 001224
control DAC III, 911
Encoder Nähmotor
encoder sewing motor
Nähmotor
sewing motor
Encoder X-Achse
encoder X-axis
Schrittmotor X-Achse
stepping motor X-axis
Encoder Y-Achse
encoder Y-axis
Schrittmotor Y-Achse
stepping motor Y-axis
Encoder Z-Achse
encoder Z-axis
Schrittmotor Z-Achse
stepping motor Z-axis
Netz
power
A1
M1
M1.1
M2
M2.1
M3
M3.1
M4
M4.1
Motor X-Achse
Encoder X-Achse
Motor Y-Achse
Encoder Y-Achse
Motor Z-Achse
Encoder Z-Achse
Zusatzeinrichtung
optional equipment
Blatt 3
sheet 3
Kl. 911-210/211
Kabelbaum
9870 911003
Datum
Bearb.
Geprüft
Name
Norm
2016-06-03
Isaak
Teilefamilie
Freigabe
0009/16
Blatt
2 / 10

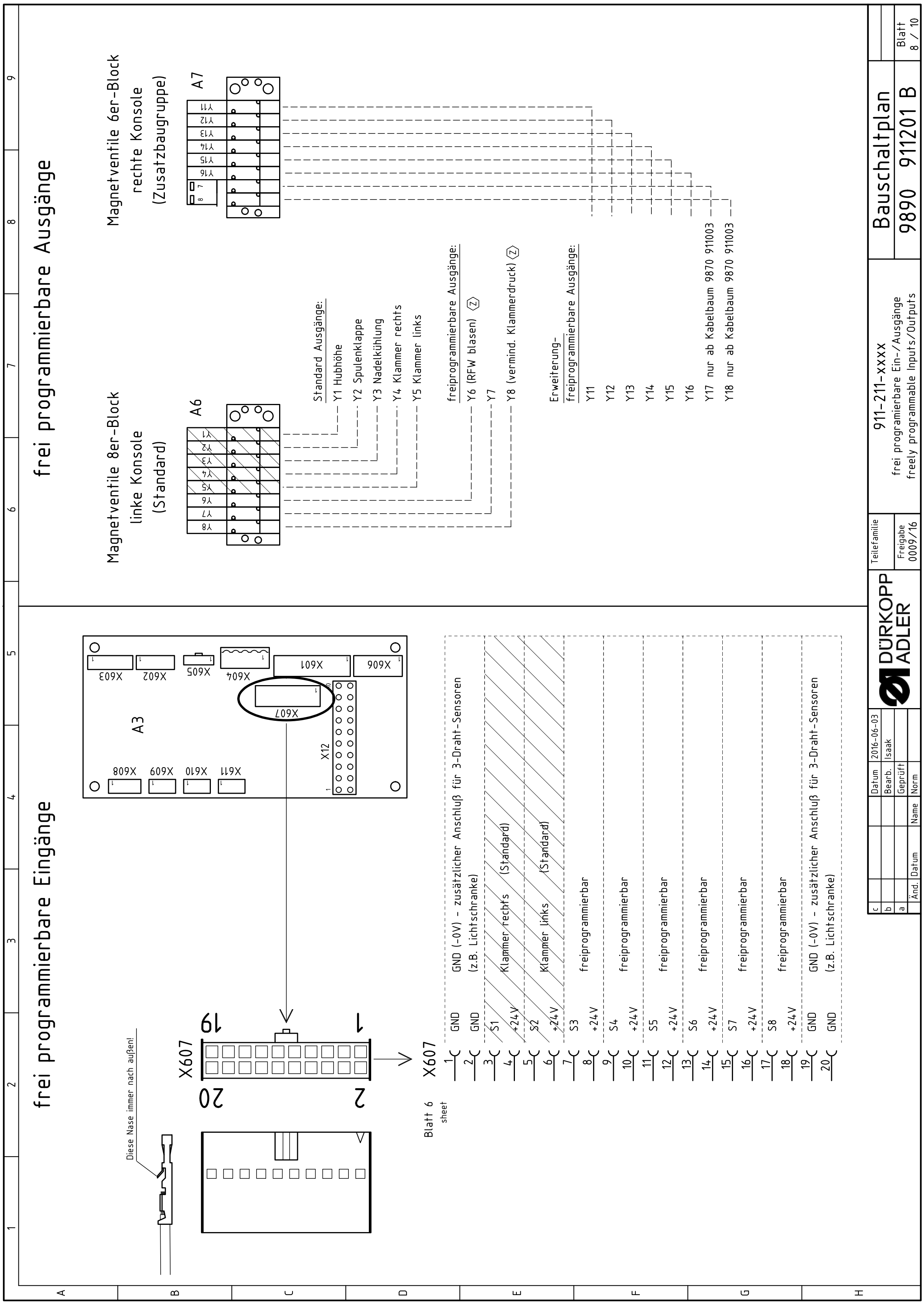

Steuerung k DAC III, 911
9850 001224
control DAC III, 911
A1
Bauschaltplan
9890 911201 B
911-211
I/O, PWM, Ref.-Signale, Bedienfeld
I/O, PWM, ref.-signals, control panel
Blatt 3 / 10
DÜRKOPP ADLER
Datum 2016-06-03
Bearb. Isaak
Geprüft
Norm
Name
Änd. Datum
Teilefamilie
Freigabe 0009/16
Bedienfeld OP7000
9850 911002
control panel
A2
(15pol.) X400
Bedienfeld
control panel
(15pol.) X170
Tastenfeld
keypad
(15pol.) X160
sicherer Halt
safety stop
(2pol.) X201
PWM
(8pol.) X140
Ref.-Signale
ref. signals
(8pol.) X140b
CAN-Schnittstelle
CAN interface
(9pol.) X150
BDE-Schnittstelle
PDA-interface
(9pol.) X150b
Barcode-Leser
Blatt 10
sheet
Pedal
Blatt 6
sheet
Ein-/Ausgänge 9-16
I/O 9-16
(25pol.) X120
Ein-/Ausgänge 1-8
I/O 1-8
(25pol.) X120b
Stepper 3-4 Signale
stepper 3-4 signals
(15pol.) X100
Ein-/Ausgänge (Erweiterung)
I/O (add-on)
(15pol.) X100b
Diag-Schnittstelle
test interface
(9pol.) X110
Blatt 5
sheet 5
Blatt 2
sheet 2
KL 911-210/211
Kabelbaum
9870 911003
Kodierung
coding
Zusatzeinrichtung
optional equipment

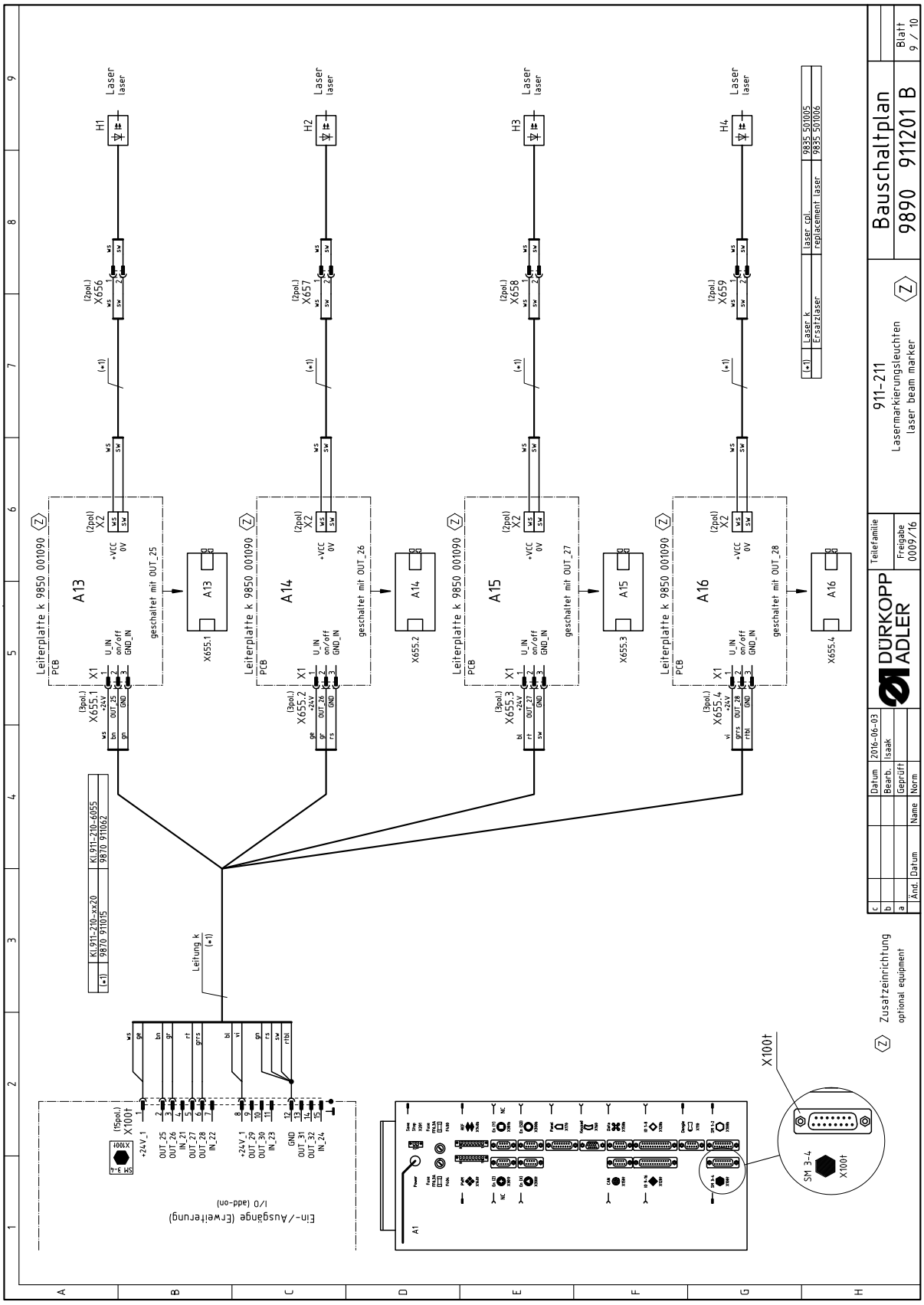

Bauschaltplan
9890 911201 B
Blatt 4 / 10
911-211
Steuerung, Anschlußplan
control, connection diagram
Teilefamilie
Freigabe 0009/16
DÜRKOPP ADLER
Datum 2016-06-03
Bearb. Isaak
Geprüft
Norm
Name
Änd. Datum
A1
M1
98... Ln
(SD) X20
(X) X30
(Y) X40
(Z) X50
NC
Jumper
F401 T6,3A
F402 T6,3A
F403 T6,3A
Steuerung k
DAC III
9850 001224
control
DAC III
M1.1
Save Stop X201
Fuse FF6,3A F400
REF X140b
En (Y) X301b
En (SD) X300b
Panel X170
Keypad X160
Data X150b
IO 1-8 X120b
Dongle X110
SM 1-2 X100b
Power
Fuse FF6,3A F404
PWM X140f
En (Z) X301f
En (X) X300f
CAN X150f
IO 9-16 X120f
SM 3-4 X100f
Kl. 911-210/211
Kabelbaum
9870 911003

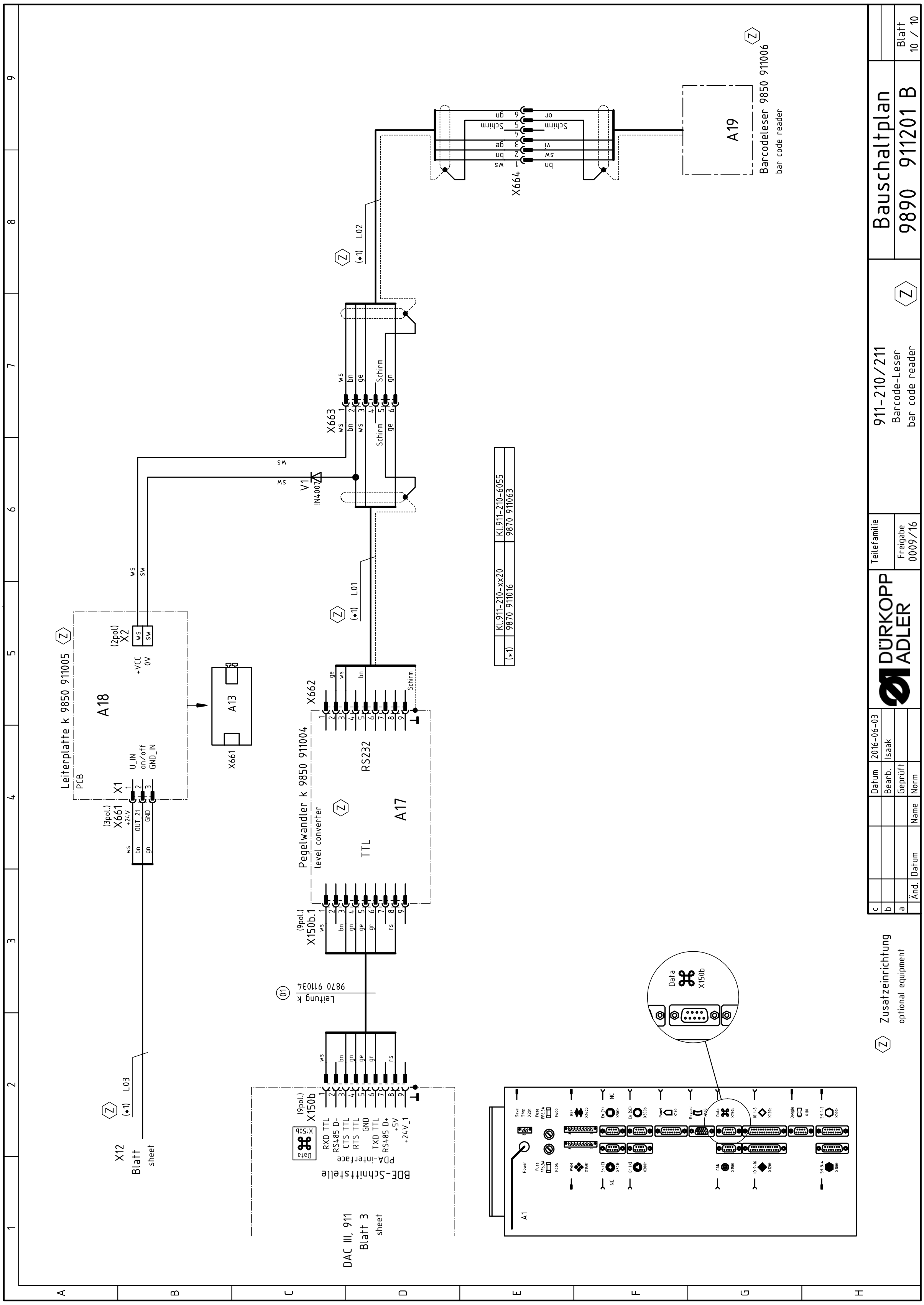

Bauschaltplan
9890 911201 B
911-211
Leiterplatte
PCB
Blatt
5 / 10
Oberfadenwächter
upper thread monitor
Ref. Z-Achse
ref. z-axis
Fadenspannung 1
thread tension 1
Fadenspannung 2
thread tension 2
Fadenklemme
thread clamp
Barcodeleser
Blatt 6
sheet 6
Leiterplatte k 9850 910001
Nähfeld weiter Blatt 6
sewing field more sheet
Konfiguration beachten !
observe the configuration !
Zusatzeinrichtung
optional equipment
Blatt 3
sheet 3


Bauschaltplan
9890 911201 B
911-211
Eingänge; Fadenabschneider
inputs; thread cutter
Fadenabschneider
thread cutter
Spulenabdeckung
bobbin cover
Oberteilverriegelung
machine head latching device
Ref. Nähmotor
ref. sewing motor
Druckwächter
pressure monitor
Ref. X-Achse
ref. X-axis
Ref. Y-Achse
ref. Y-axis
S17 Schnellstopp
quick-stop
Einfädelschalter
Threading switch
Schalter k 9880 580003
switch
Induktivgeber k
9815 710103
Fundamentplatte
Nähkopf 911
sewinghead 911
Kl. 911-210/211
Kabelbaum
9870 911004
Klammer rechts
clamp right
Klammer links
clamp left
Nadelfaden ansaugen
manuell
needle thread suction
manual
Leitung k
9870 911014
Leitung k
9870 911032
nur mit Fadenbrenner
only with thread burner
Nähfeldanschluß X607 Blatt 5
sewing field terminal X607 sheet
frei programmierbare Eingänge von X607, siehe Blatt 8
freely programmable inputs off X607, look at sheet
Pedal 0745 407904
pedal
S13 vorwärts
S13 forward
S14 rückwärts
S14 backward
Pedal
Blatt 3
sheet
Blatt 5
sheet 5
Blatt 7
sheet 7
Zusatzeinrichtung
optional equipment
Kl. 911-210/211
Kabelbaum
9870 911003
Teilefamilie
Freigabe
0009/16
Datum
Bearb.
Geprüft
Norm
Name
2016-06-03
Isaak
Änd.
Datum
Blatt
6 / 10

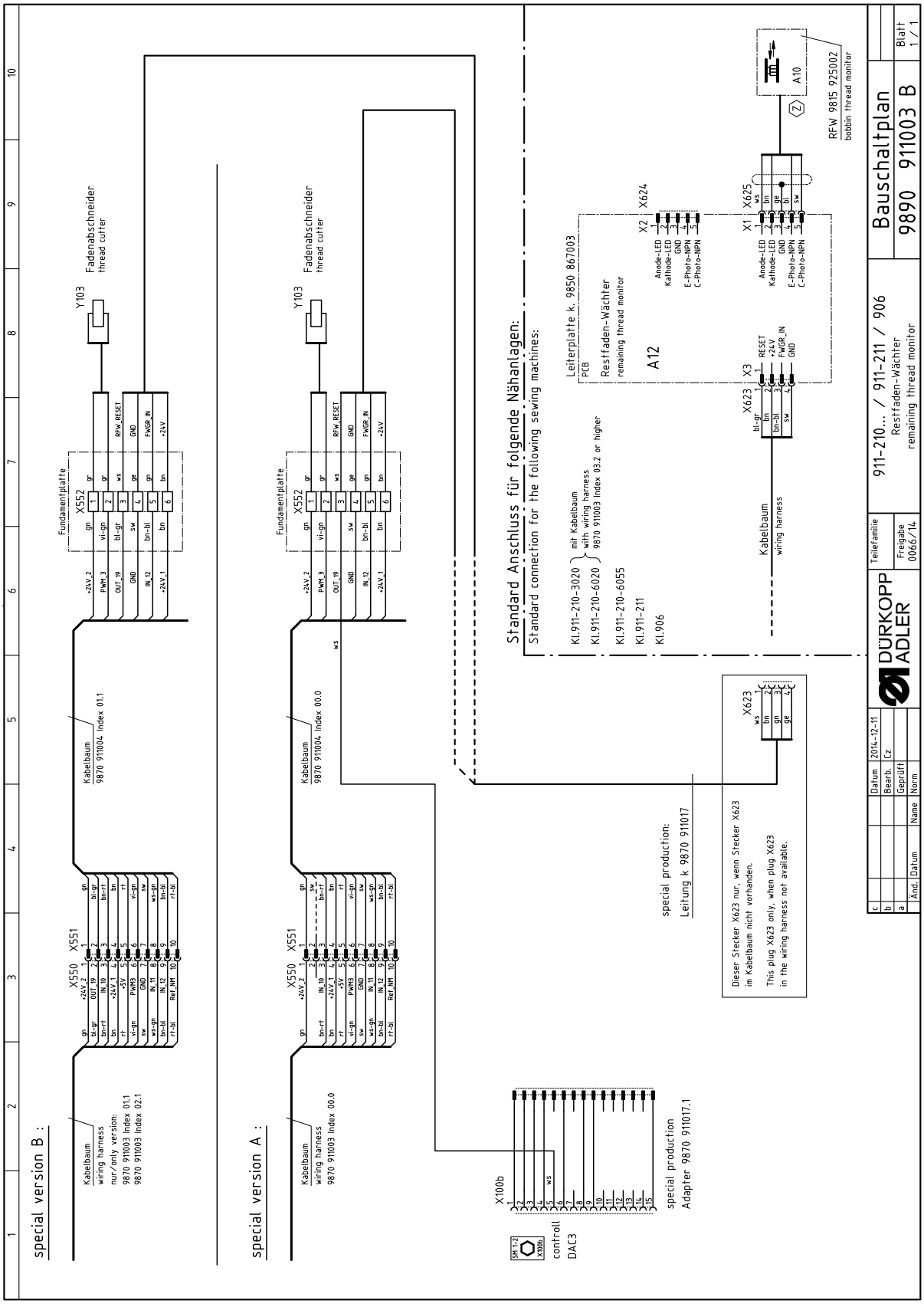

Bauschaltplan
9890 911201 B
911-211
Ausgänge, Ölstandsanzeige, LED-Leuchte
output, oil level monitor, LED-light
Blatt 7 / 10
DÜRKOPP ADLER
Leiterplatte k 9850 001060 A6
Leiterplatte k 9850 001070 A7
Leiterplatte k. 9850 867003 A12
Leiterplatte k 9850 911000 A10
Ölstandsanzeige 9850 867001 A11
LED-Leuchte 9850 867004 A9
Spuler 0911 175034 A8
Hubhöhe
Spulenklappe
Nadelkühlung
Klammer rechts
Klammer links
RFW blasen
vermind. Klammerdruck
Brennertrafo
Brenner oben
Brenner unten
Fadenklemme
Y11 – Brennerheizung ein
Sensor
Warnleuchte
RFW 9815 925002
Kl. 911-210/211 Kabelbaum 9870 911003
Zusatzeinrichtung optional equipment


frei programmierbare Eingänge
frei programmierbare Ausgänge
Diese Nase immer nach außen!
X607
19
1
20
2
Blatt 6
sheet
A3
X603
X602
X605
X604
X601
X606
X607
X608
X609
X610
X611
X12
1 GND
2 GND
3 S1
4 +24 V
5 S2
6 +24 V
7 S3
8 +24 V
9 S4
10 +24 V
11 S5
12 +24 V
13 S6
14 +24 V
15 S7
16 +24 V
17 S8
18 +24 V
19 GND
20 GND
GND (-0V) - zusätzlicher Anschluß für 3-Draht-Sensoren
(z.B. Lichtschranke)
Klammer rechts (Standard)
Klammer links (Standard)
freiprogrammierbar
Magnetventile 8er-Block
linke Konsole
(Standard)
A6
Magnetventile 6er-Block
rechte Konsole
(Zusatzbaugruppe)
A7
Standard Ausgänge:
Y1 Hubhöhe
Y2 Spulenklappe
Y3 Nadelkühlung
Y4 Klammer rechts
Y5 Klammer links
freiprogrammierbare Ausgänge:
Y6 (RFW blasen) Z
Y7
Y8 (vermind. Klammerdruck) Z
Erweiterung-
freiprogrammierbare Ausgänge:
Y11
Y12
Y13
Y14
Y15
Y16
Y17 nur ab Kabelbaum 9870 911003
Y18 nur ab Kabelbaum 9870 911003
Datum 2016-06-03
Bearb. Isaak
Geprüft
Norm
Änd. Datum Name
DÜRKOPP ADLER
Teilefamilie
Freigabe 0009/16
911-211-xxxx
frei programmierbare Ein-/Ausgänge
freely programmable Inputs/Outputs
Bauschaltplan
9890 911201 B
Blatt 8 / 10


Bauschaltplan
9890 911201 B
911-211
Lasermarkierungsleuchten
laser beam marker
Leiterplatte k 9850 001090
A13
A14
A15
A16
Laser
laser
Zusatzeinrichtung
optional equipment
Ein-/Ausgänge (Erweiterung)
I/O (add-on)


Bauschaltplan
9890 911201 B
911-210/211
Barcode-Leser
bar code reader
Blatt
10 / 10
Leiterplatte k 9850 911005
A18
Pegelwandler k 9850 911004
level converter
A17
Barcodeleser 9850 911006
bar code reader
A19
BDE-Schnittstelle
PDA-interface
DAC III, 911
Blatt 3
sheet
Zusatzeinrichtung
optional equipment

13.2 Wiring diagram - remaining thread monitor



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