DÜRKOPP ADLER

911-210 Service 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. 143*).

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:

- Specialists:
  This group has the appropriate technical training for performing maintenance or repairing malfunctions.

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 is based on the severity of the danger. Signal words indicate the severity of the danger.

Signal words

Signal words and the hazard they describe:

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

Symbols

The following symbols indicate the type of danger to personnel:

Symbol	Type of danger
	General
	Electric shock

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 Working basis

3.1 Order of the settings

Order

The setting positions for the sewing machine are interdependent.

Always comply with the order of individual setting steps as specified.

It is absolutely essential that you follow all notices regarding prerequisites and subsequent settings that are marked with  in the margin.

NOTICE

Property damage may occur!

Risk of machine damage from incorrect order.

It is essential to follow the working order specified in these instructions.

3.2 Cable routing

NOTICE

Property damage may occur!

Excess cabling may prevent moving machine parts from functioning correctly. This impairs the sewing function and can result in damage.

Lay excess cabling as described above.

To lay the cables:

1. Lay any excess cabling neatly in proper cable snakes.
2. Bind together the cable loops with cable ties.

Important

Tie loops wherever possible to fixed parts.
The cables must be secured firmly.

3. Cut off the extending ends of cable ties.

3.3 Removing and opening covers

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch the machine off before removing or re-placing covers.

For many types of setting work, you will have to remove the machine covers first in order to access the components.

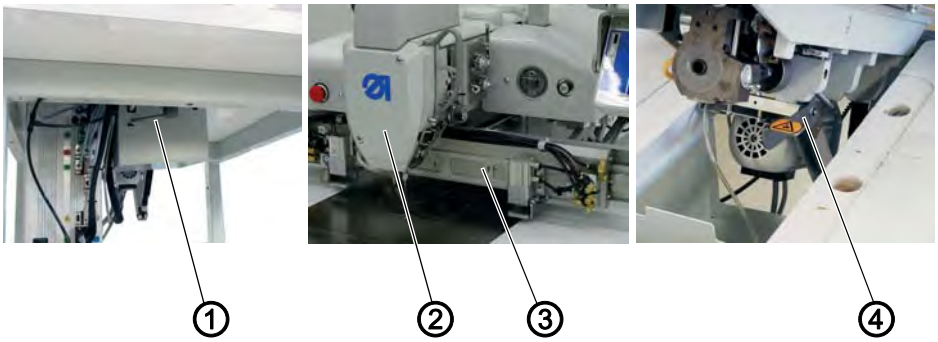
This chapter describes how to remove and then refit the individual covers. The text for each type of setting work then specifies only the cover that needs to be removed at that particular time.

3.3.1 Access to the underside of the machine

Cover

To access the components on the underside of the machine, swivel up the machine head.

Fig. 1: Access to the underside of the machine



(1) - Locking lever
(2) - Head cover
(3) - Drive carriage
(4) - Latch

Swiveling up the machine head

To swivel up the machine head:

1. Push the drive carriage (3) to the back.
2. Release the locking lever (1) under the tabletop.
3. Lift the machine head in the head cover area (2) and swivel up carefully.
4. The latch (4) latches into place.

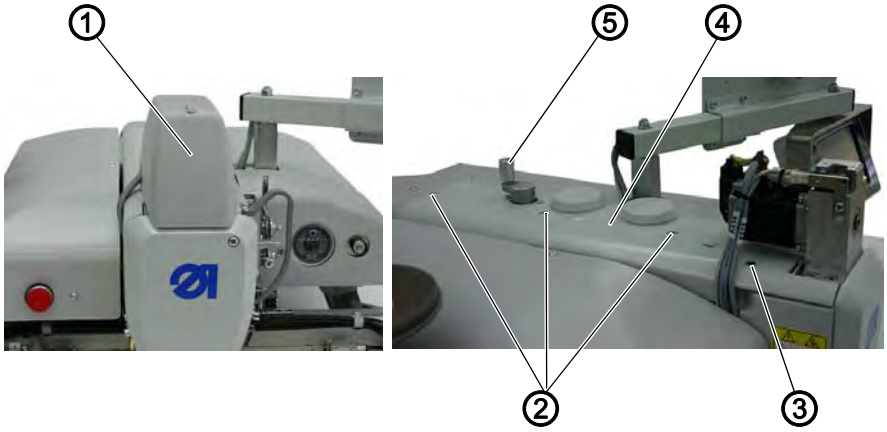
Swiveling down the machine head

To swivel down the machine head:

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

3.3.2 Removing and placing the arm cover

Fig. 2: Removing and placing the arm cover



(1) - Motor cover
(2) - Screws
(3) - Countersunk screw
(4) - Arm cover
(5) - Hand crank

Removing the arm cover

To remove the arm cover:

1. Unscrew the motor cover (1).
2. Loosen screws (2) and countersunk screw (3).
3. Remove the arm cover (4).

Placing the arm cover

To place the arm cover:

1. Place the arm cover (4).
2. Tighten the countersunk screw (3).
3. Tighten the screws (2).
4. Press down the hand crank (5) and check for ease of movement; adjust the arm cover position if necessary.

   ↳ The hand crank (5) must disengage.
5. Tighten the screws for the motor cover (1).

3.3.3 Removing and placing the head cover

Fig. 3: Removing and placing the head cover

(1) - Screws *(2) - Head cover*

Removing the head cover

To remove the head cover:

1. Loosen the screws (1).
2. Remove the head cover (2).

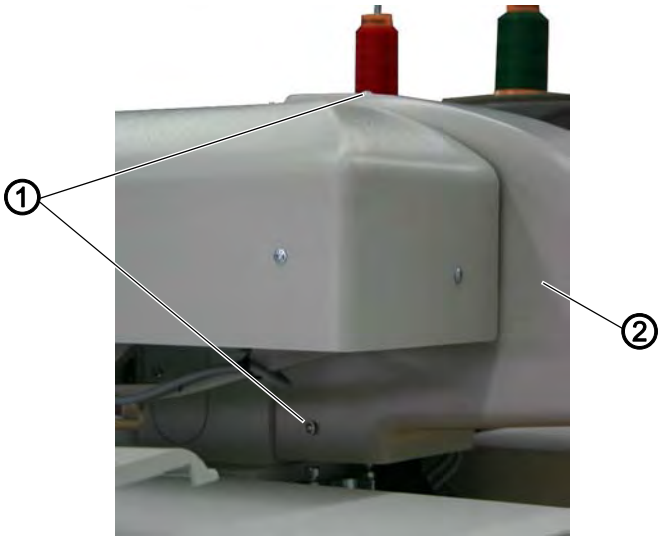
Placing the head cover

To place the head cover:

1. Place the head cover (2).
2. Tighten the screws (1).

3.3.4 Removing and placing the rear cover

Fig. 4: Removing and placing the rear cover



(1) - Screws *(2) - Rear cover*

Removing the rear cover

To remove the rear cover:

1. Loosen all 3 screws (1).
1. Disassemble the rear cover (2) by moving it back.

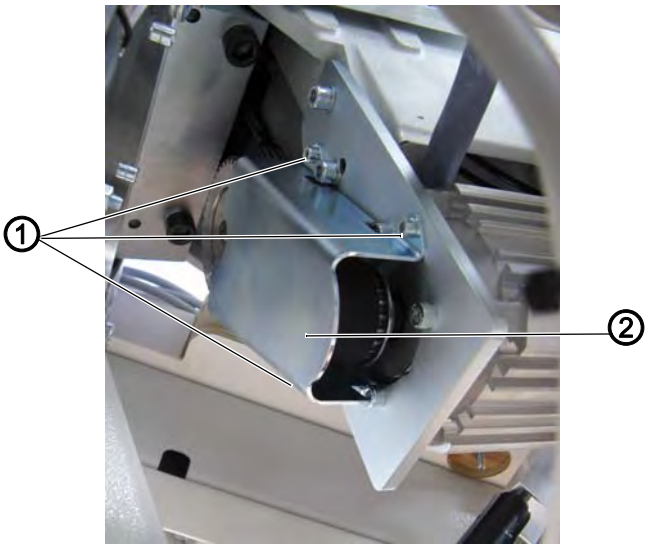
Placing the rear cover

To place the rear cover:

1. Place the rear cover (2).
2. Tighten all 3 screws (1).

3.3.5 Removing and placing the toothed belt cover

Fig. 5: Removing and placing the toothed belt cover



(1) - Screws *(2) - Toothed belt cover*

Removing the toothed belt cover

To remove the toothed belt cover:

1. Loosen all 4 screws (1).
2. Remove toothed belt cover (2).

Placing the toothed belt cover

To place the toothed belt cover:

1. Place the toothed belt cover (2).
2. Tighten all 4 screws (1).

3.3.6 Opening and closing the bobbin flap

Opening the bobbin flap

To open the bobbin flap:

1. Switch on the machine and reference it.
2. Remove the material holder.
3. Press the **Einfädelmodus (Threading mode)** button.

↳ The bobbin flap swings aside.

Closing the bobbin flap

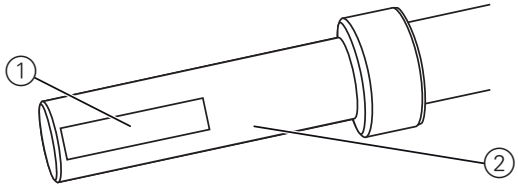
To close the bobbin flap:

1. Release the **Einfädelmodus (Threading mode)** button.
2. Place the material holder.

3.4 Flats on shafts

Some shafts have flats at those points where the components are clamped on to the shaft. This stabilizes the connection and makes setting easier.

Fig. 6: Flats on shafts



(1) - Flat *(2) - Shaft*

Important

Always ensure that the screws are completely flush with the surface.
If several screws are needed, make sure the first screw is placed in the direction of rotation on the flat of the shaft.

3.5 Aligning the machine head

Proper setting

The upper side of the base plate (1) is in level with the cutout in the tabletop (2). Height **X** of the transport system is identical on the left and the right both at the rear and the front position of the carriage.

Check the height using the flat material (3).

Fig. 7: Aligning machine head (1)

(1) - Base plate
(2) - Tabletop
(3) - Flat material

Fig. 8: Aligning machine head (2)

Order

1. Remove the sliding plate.
2. Check the position of the machine head using the flat material (3).
3. Swivel up the machine head (📖 *p. 14*).
4. Set the height.

5. Check the position of the machine head again.
   - Front
   - Carriage at rear position
   - Carriage at front position

Fig. 9: Aligning machine head (3), carriage at rear position

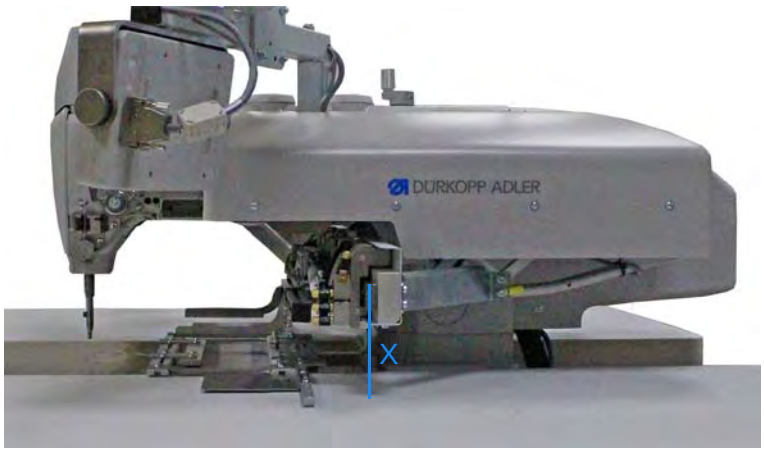


Fig. 10: Aligning machine head (4), carriage at front position

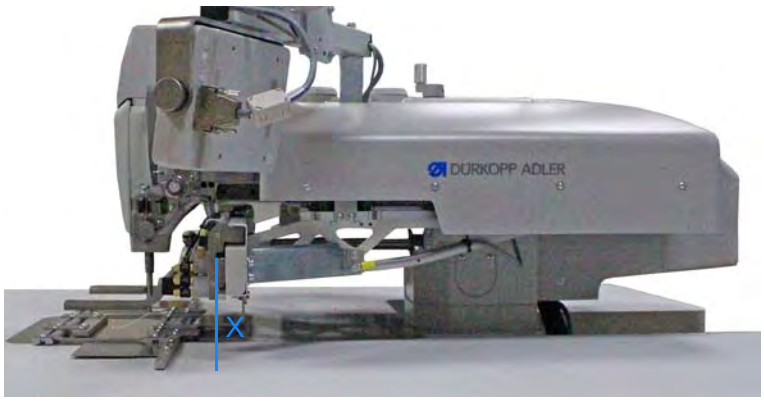
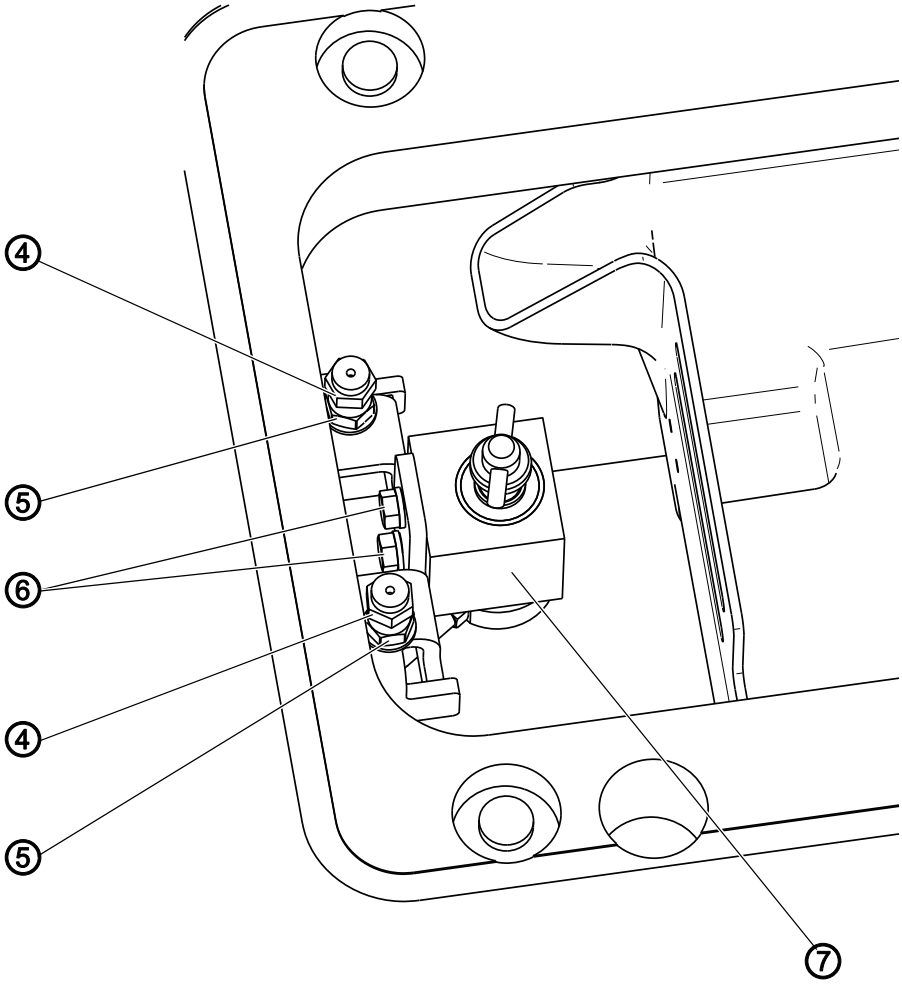


Fig. 11: Aligning machine head (5)



(4) - Screws
(5) - Nuts
(6) - Screws
(7) - Block

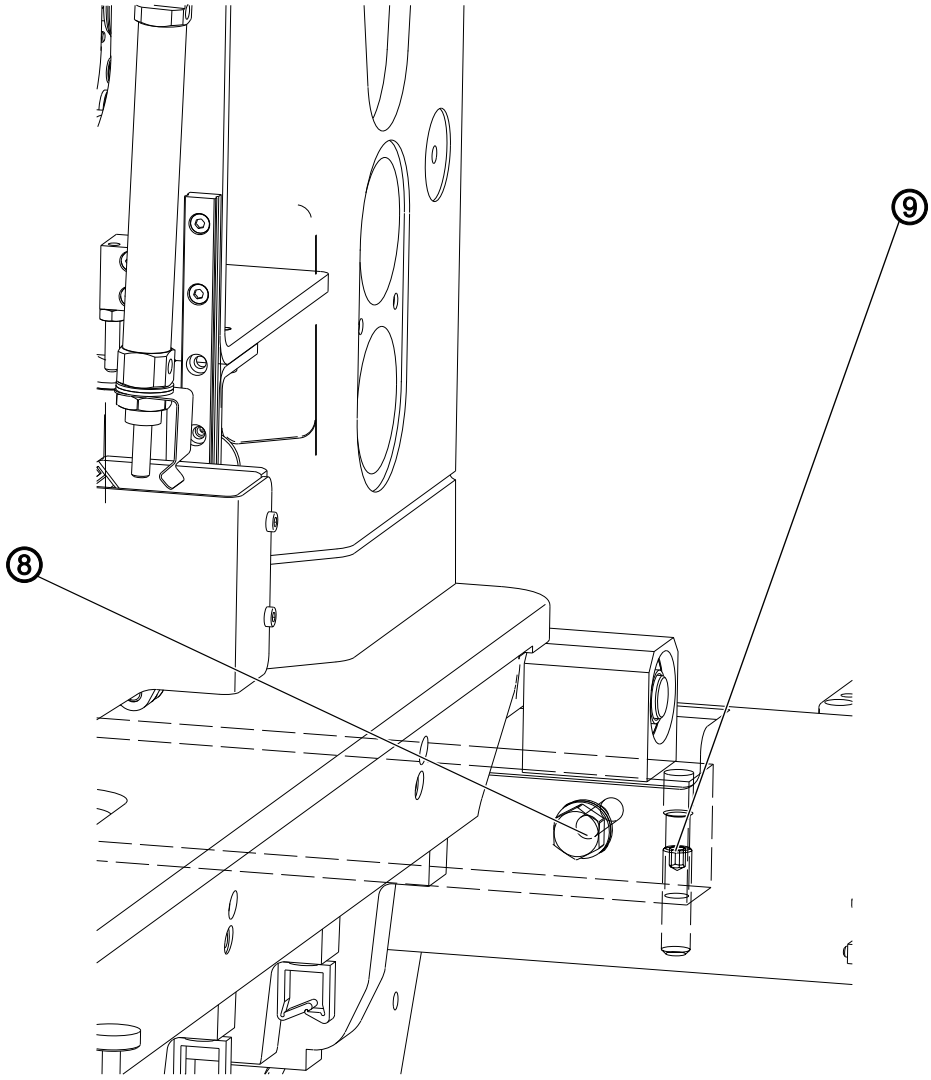
Setting steps

1. Loosen the nuts (5).
2. Swivel down the machine head and lock it in place.
3. Use screws (4) to correct the height of the machine head at the front:
   - higher = turn counterclockwise
   - lower = turn clockwise
4. To adjust the locking mechanism, loosen the screws (6).
5. Move the clamp (7) up or down.
   - To slacken the locking mechanism: Slide the clamp up
   - To tighten the locking mechanism: Slide the clamp down
6. To test the setting, lock the machine head and check the play.

Proper setting

The locking mechanism is set correctly if the machine head can be locked in place with ease while not showing any play at the front bearing when moved up and down.

Fig. 12: Aligning machine head (6)



DA160007_V41_XX

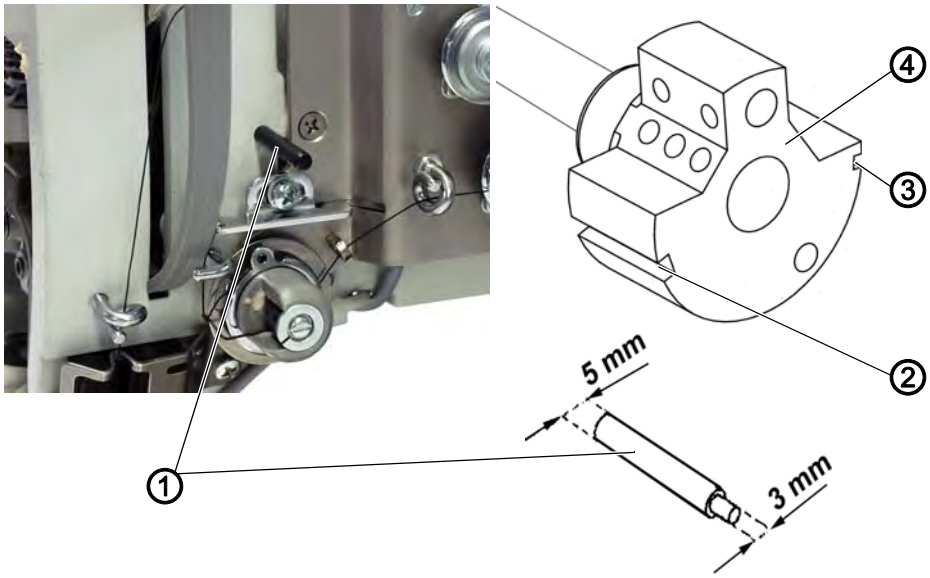
(8) - Screw on the right
(9) - Threaded pin on the right

7. Loosen the screws on the left (not shown) and on the right (8).
8. Use the threaded pins on the left (not shown) and on the right (9) to adjust the height of the machine head at the rear:
   - higher = turn clockwise
   - lower = turn counterclockwise
9. Test the height of the base plate using flat material (3) and adjust as necessary.
10. Check heights **X** and adjust as necessary.
11. Check locking mechanism and adjust as necessary.

3.6 Locking the machine in place

For some settings, the machine must be locked in place. To do this, the locking peg from the accessory pack is inserted into a slot on the arm shaft crank, blocking the arm shaft.

Fig. 13: Locking the machine in place (1)

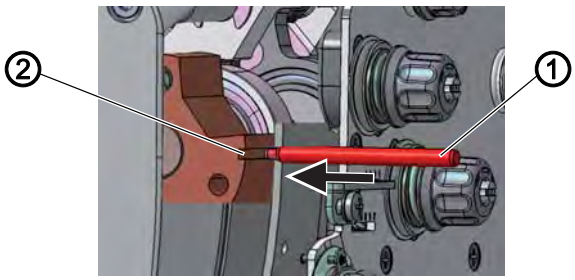


(1) - Locking peg
(2) - Large arresting groove
(3) - Small arresting groove
(4) - Arm shaft crank

There are 2 securing positions:

- **Position 1:** Loop stroke position
  - 5 mm end in the large slot
  - Setting the loop stroke and needle bar height
- **Position 2:** Needle at top dead center
  - 3 mm end in the small slot
  - Checking the top dead center of the needle bar

Fig. 14: Locking the machine in place (2)



(1) - Locking peg
(2) - Large arresting groove

Locking the machine in place

1. Insert the locking peg (2) with the appropriate end into the slot (1).

Removing the lock

1. Pull the locking peg (2) out of the slot (1).

3.7 Putting the machine into position

For some settings, the machine must be put into a certain position, using the hand crank on the arm cover. The machine has no handwheel.

Fig. 15: Putting the machine into position

(1) - Hand crank

To set the machine into position:

1. Press down and turn the hand crank (1) until the machine is in the setting position.

4 Machine head

4.1 Positioning the arm shaft crank

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch the machine off before you check and set the position of the arm shaft crank.

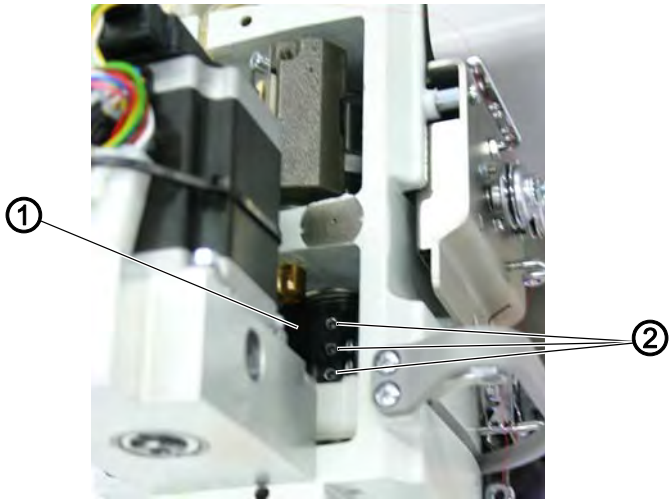
Proper setting

The 3 threaded pins (2) on the arm shaft crank (1) are seated completely on the flat.

Cover

- Arm cover (*p. 15*)

Fig. 16: Positioning the arm shaft crank



(1) - Arm shaft crank *(2) - Threaded pins*

To set the arm shaft crank:

1. Loosen all threaded pins (2) on the arm shaft crank (1).
2. Turn the arm shaft crank (1) such that the threaded pins (2) are seated completely on the flat of the arm shaft.
3. Push the arm shaft crank (1) to the right as far as it will go.
4. Tighten all the threaded pins (2) on the arm shaft crank (1).

4.2 Positioning the toothed belt wheels

The two toothed belt wheels must be positioned relative to each other such that the toothed belt can run correctly.

Order

- Always check the position of the other toothed belt wheel after making a change on either of the toothed belt wheels.

4.2.1 Setting the upper toothed belt wheel

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch the machine off before you check and set the upper toothed belt wheel.

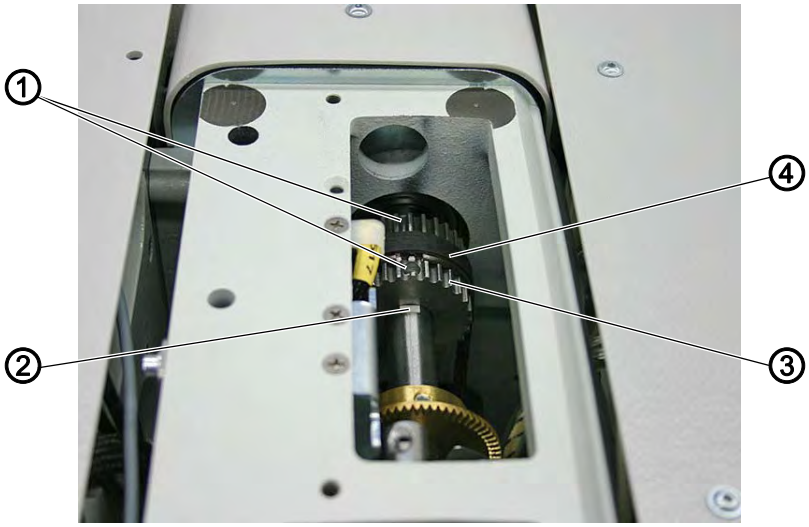
Proper setting

The 2 threaded pins for the upper toothed belt wheel are seated flush on the flat.

Cover

- Arm cover (📖 p. 15)

Fig. 17: Setting the upper toothed belt wheel



(1) - Threaded pins
(2) - Flat of arm shaft
(3) - Upper toothed belt wheel
(4) - Toothed belt

To set the upper toothed belt wheel:

1. Using the screwdriver, push the toothed belt (4) sufficiently far to the side so that the 2 threaded pins (1) can be reached.

2. Loosen the threaded pins (1).
3. Turn the upper toothed belt wheel (3) such that the threaded pins (1) are seated flush on the flat (2) of the arm shaft.
4. Tighten the threaded pins (1).
5. Use the screwdriver to push the toothed belt (4) back again.

4.2.2 Setting the lower toothed belt wheel

WARNING

Risk of injury from moving parts!

Crushing possible.

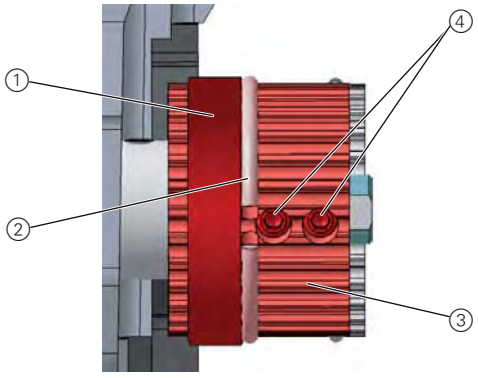
Switch the machine off before you check and set the lower toothed belt wheel.

Proper setting

The 2 threaded pins for the lower toothed belt wheel are seated flush on the flat of the lower shaft.

The toothed belt runs correctly without running against the retaining ring or slipping off.

Fig. 18: Setting the lower toothed belt wheel



(1) - Toothed belt
(2) - Retaining ring
(3) - Lower toothed belt wheel
(4) - Threaded pins

To set the lower toothed belt wheel:

1. Loosen the threaded pins (4).
2. Turn the lower toothed belt wheel (3) such that the threaded pins (4) are seated on the flat of the arm shaft.
3. Move the lower toothed belt wheel (3) sufficiently far to the side so that the toothed belt (1) makes contact with the retaining ring (2) without being pushed away.
4. Tighten the threaded pins (4).

4.3 Aligning the needle bar linkage

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch off the machine before aligning the needle bar linkage sideways.

Order

First, check the following setting:

- A straight and undamaged needle has to be inserted (📖 *Operating Instructions*)

Proper setting

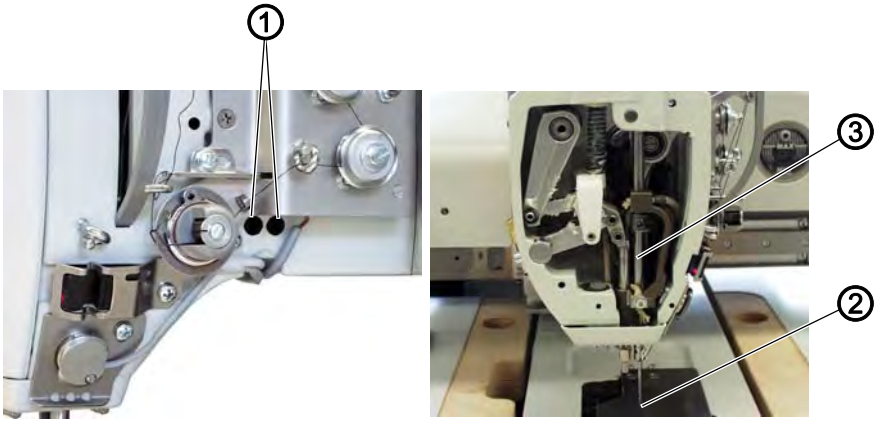
1. Turn the needle bar to the bottom.

↳ The needle must enter the needle hole precisely in the center.

Cover

- Head cover (📖 *p. 16*)

Fig. 19: Aligning the needle bar linkage



(1) - Threaded pin
(2) - Throat plate
(3) - Needle bar linkage

To align the needle bar linkage:

1. Loosen both threaded pins (1).
2. Set the needle bar linkage (3) so that the needle enters the needle hole (2) precisely in the center.
3. Tighten the threaded pins (1).

4.4 Position of the hook and needle

4.4.1 Setting the loop stroke position

WARNING

Risk of injury from sharp and moving parts!

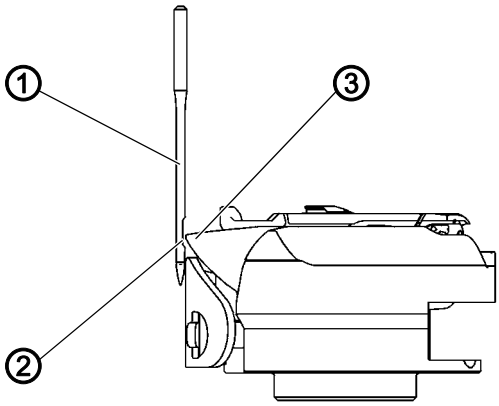
Puncture or crushing possible.

Switch off the machine before you check and set the loop stroke position.

Information

The **loop stroke** is the path length from the bottom dead center of the needle bar up to the height where the hook tip picks up the loop of thread.

Fig. 20: Setting the loop stroke position (1)



(1) - Needle
(2) - Groove
(3) - Hook tip

The loop stroke is precisely 2 mm.

Order

First, check the following settings:

- Needle bar linkage (📖 *p. 28*)
- A straight and undamaged needle has to be inserted (📖 *Operating Instructions*)

Proper setting

Machine is locked in place at position 1 (📖 *p. 23*).

↳ The hook tip (3) is precisely at the center of the needle (1).

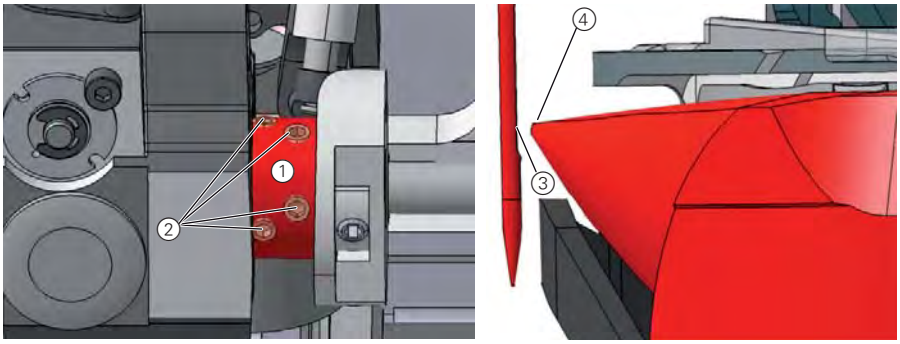
Disturbance caused by an incorrect setting

- Missing stitches

Cover

- Swiveling up the machine head (📖 *p. 14*)

Fig. 21: Setting the loop stroke position (2)



(1) - Clamping ring
(2) - Threaded pins
(3) - Groove
(4) - Hook tip

To set the loop stroke position:

1. Lock the machine in place at position 1 (📖 *p. 23*).
2. Loosen all 4 threaded pins (2) for the clamping ring (1) on the hook shaft.
3. Rotate the hook such that the hook tip (4) is precisely at the center of the groove (3).
4. Tighten the threaded pins (2) for the clamping ring (1).
5. Remove the lock (📖 *p. 24*).

Order

Then check the following settings:

- Position of the needle guard (📖 *p. 34*)
- Timing of cutting by the thread cutter (📖 *p. 61*)

4.4.2 Setting the needle bar height

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the needle bar height.

Order

First, check the following settings:

- Loop stroke position (📖 *p. 29*)
- A straight and undamaged needle has to be inserted (📖 *Operating Instructions*)

Proper setting

Machine is locked in place at position 1 (📖 *p. 23*).

↳ The hook tip is level with the lower third of the groove on the needle.

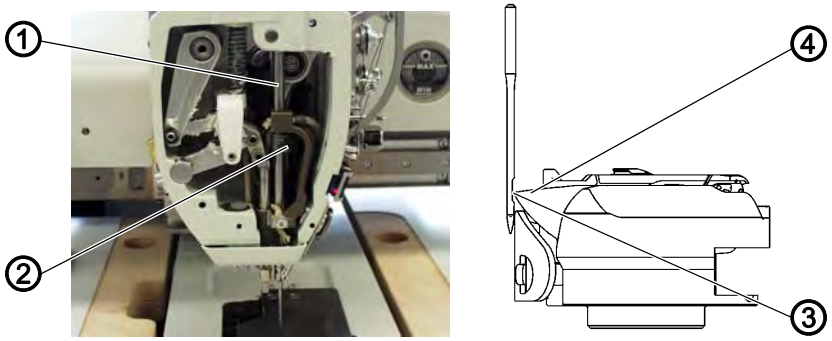
Disturbances caused by an incorrect needle bar height

- Damage to the hook tip
- Jamming of the needle thread
- Missing stitches
- Thread breaking
- Needle breakage

Cover

- Head cover (📖 *p. 16*)

Fig. 22: Setting the needle bar height



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

To set the needle bar height:

1. Lock the machine in place at position 1 (📖 *p. 23*).
2. Loosen the screw (2) of the needle bar (1).
3. Move the height of the needle bar (1) such that the hook tip (4) is in the middle of the lower third of the groove for the needle.

Important

When doing this, take care not to twist the needle. The groove (3) must face toward the hook.

4. Tighten the screw (2) for the needle bar (1).
5. Remove the lock (📖 *p. 24*).

Order

Then check the following setting:

- Position of the needle guard (📖 *p. 34*)

4.4.3 Setting the hook side clearance

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch off the machine before you check and set the hook side clearance.

Order

First, check the following settings:

- A straight and undamaged needle has been inserted (📖 *Operating Instructions*)
- Needle bar linkage (📖 *p. 28*)
- Loop stroke position (📖 *p. 29*)

NOTICE

Property damage may occur!

There is a risk of machine damage, needle breakage or damage to the thread if the distance between needle groove and hook tip is incorrect.

Check and, if necessary, readjust the distance to the hook tip after inserting a new needle with a different size.

Proper setting

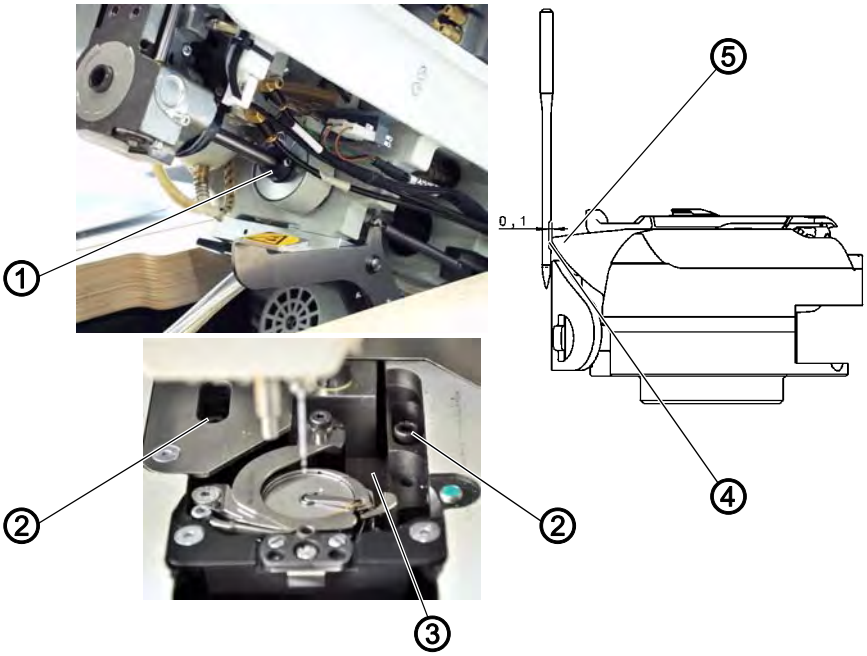
Machine locked in place at position 1 (📖 *p. 23*).

↳ Maximum 0.1 mm distance between the hook tip and the groove for the needle.

Cover

- Swiveling up the machine head (📖 *p. 14*)

Fig. 23: Setting the hook side clearance



(1) - Clamping ring
(2) - Screws
(3) - Hook support
(4) - Groove
(5) - Hook tip

To set the hook side clearance:

1. Lock the machine in place at position 1 (📖 *p. 23*).
2. Loosen the screws (2) for the hook support (3).
3. Loosen the threaded pins for the clamping ring (1).
4. Move the hook support (3) sideways such that the distance between the hook tip (5) and the groove for the needle (4) is 0.1 mm at most, without the hook tip (5) touching the needle.
5. Tighten the screws (2) for the hook support (3).
6. Tighten the threaded pins for the clamping ring (1).

Important

7. Check the loop stroke position (📖 *p. 29*).
8. Remove the lock (📖 *p. 24*).

Order

Then check the following setting:

- Position of the needle guard (📖 *p. 34*)

4.4.4 Setting the needle guard

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the needle guard.

The needle guard prevents contact between needle and hook tip.

Order

First, check the following settings:

- Loop stroke position (📖 *p. 29*)
- Hook side clearance (📖 *p. 32*)
- Needle bar height (📖 *p. 31*)
- A straight and undamaged needle has to be inserted (📖 *Operating Instructions*)

NOTICE

Property damage may occur!

There is a risk of machine damage, needle breakage or damage to the thread if the distance between needle groove and hook tip is incorrect.

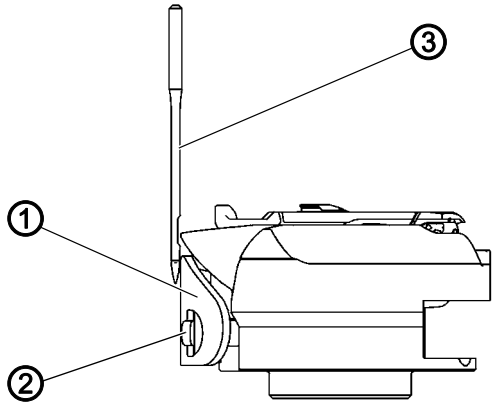
Check and, if necessary, readjust the distance to the hook tip after inserting a new needle with a different size.

Proper setting

Machine is locked in place at position 1 (📖 *p. 23*).

↳ The needle guard pushes the needle away just enough so that it is not touched by the hook tip.

Fig. 24: Setting the needle guard



(1) - Needle guard
(2) - Screw
(3) - Needle

Setting steps

1. Press down and turn the hand crank and check how far the needle guard (1) pushes the needle (3) away.
2. Turn the screw (2) such that the needle guard (1) just pushes the needle (3) far away enough so that it is not touched by the hook tip:
   - **For pushing away more:** Turn counterclockwise
   - **For pushing away less:** Turn clockwise

4.4.5 Setting the needle guide

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the needle guide.

Order

First, check the following setting:

- A straight and undamaged needle has to be inserted (📖 *Operating Instructions)*.

Proper setting

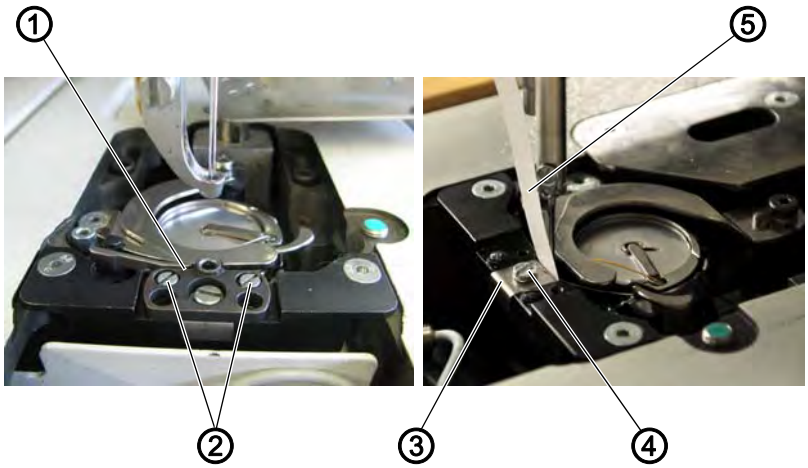
Machine locked in place at position 1 (📖 *p. 23*).

↳ The needle guard pushes the needle just enough away so that it cannot be touched by the hook tip.

Disturbances caused by an incorrect setting of the needle guide

- Damage to the needle
- Missing stitches

Fig. 25: Setting the needle guide



(1) - Throat plate
(2) - Screws
(3) - Needle guide
(4) - Screw
(5) - Paper

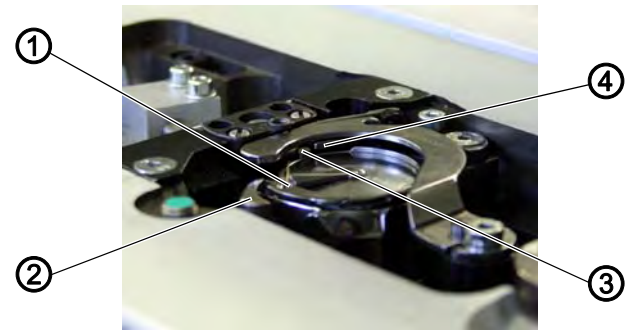
Setting steps

1. Loosen the screws (2).

2. Remove the throat plate (1).
3. Rotate the machine to position 1 (📖 *p. 23*).
4. Loosen the screw (4).
5. Move the needle guide (3) as close as possible against the needle.
6. Tighten the screw (4).
7. Check this distance using a piece of paper (5).

4.5 Setting the bobbin case lifter

Fig. 26: Setting the bobbin case lifter



(1) - Bobbin case
(2) - Bobbin case lifter
(3) - Bobbin case nose
(4) - Bobbin case support

The hook pulls the needle thread through between the nose of the bobbin case (3) and the bobbin case support (4).

The bobbin case lifter (2) now pushes the bobbin case (1) away so that a gap appears for the thread.

If the hook tip is located below the bobbin case lifter, then the bobbin case lifter must open so that the thread can also slide past in that position.

So that the thread can slip through without a problem, the width of the lifting gap and the timing of opening have to be set.

Disturbances caused by an incorrect setting:

- Thread breaking
- Formation of loops on the bottom side of the seam
- Loud machine noise

4.5.1 Setting the lifting gap

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch off the machine before setting the width of the lifting gap.

Order

Always check the width of the lifting gap after making changes to the needle thread size. The correct width of the lifting gap depends on the thickness of the needle thread.

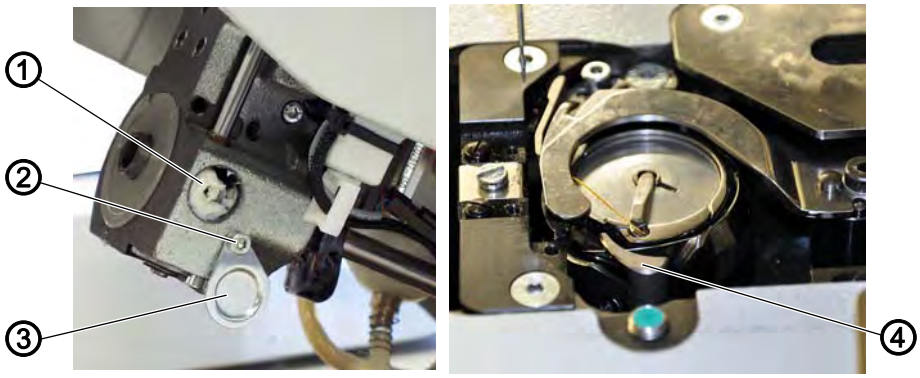
Proper setting

The needle thread slides through unobstructed between the nose of the bobbin case and the bobbin case support.

Cover

- Swiveling up the machine head (📖 *p. 14*)

Fig. 27: Setting the lifting gap



(1) - Threaded pin
(2) - Screw
(3) - Cover
(4) - Bobbin case lifter

To set the lifting gap:

1. Loosen the screw (2).
2. Push the cover (3) downwards.
3. Loosen the threaded pin (1).
4. Set the bobbin case lifter (4) such that the gap between the nose of the bobbin case and the bobbin case support is just big enough to allow the needle thread to slip through without a problem.

Important

While doing so, ensure that the gap is not so big that the middle part of the hook swings back and forth, hitting the bobbin case support.

5. Tighten the threaded pin (1).
6. Push the cover (3) upwards.
7. Tighten the screw (2).

4.5.2 Setting the timing for opening

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch off the machine before you check and set the timing for opening.

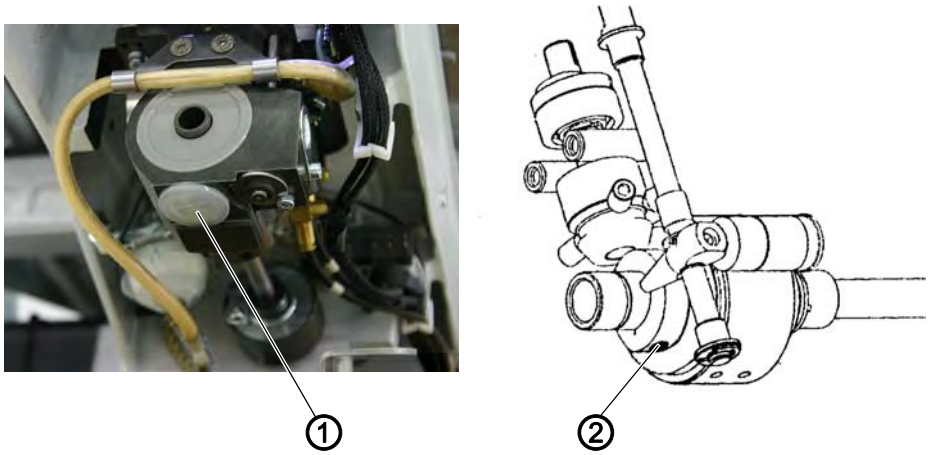
Proper setting

The bobbin case lifter starts to open exactly at that point when the hook tip is located below the bobbin case lifter after the loop is taken up.

Cover

- Swiveling up the machine head (📖 *p. 14*)

Fig. 28: Setting the timing for opening



(1) - Plug

(2) - Threaded pin

To set the timing for opening:

1. Remove the plug (1).

2. Press down and turn the hand crank until the tip of the needle is level with the throat plate. The threaded pin (2) must be accessible from the underside of the hook support.
3. Slacken the threaded pin (2) and use a hex key to turn the socket-head screw so that the hex key stands exactly vertical.
4. Tighten the threaded pin (2).
5. Insert the plug (1) into the opening.

4.6 Sewing foot lifter

4.6.1 Setting the stroke position drive

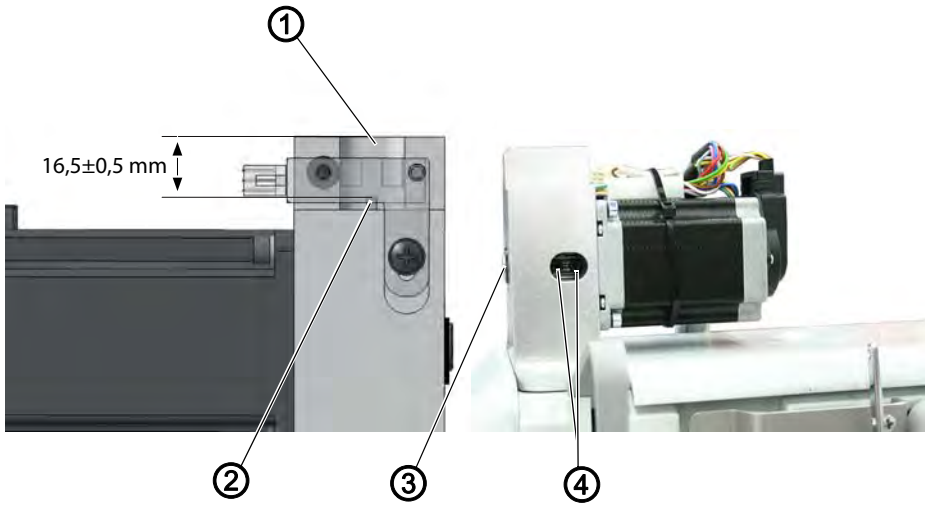
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the stroke position drive.

Fig. 29: Setting the stroke position drive



(1) - Top edge of the stroke position housing
(2) - Toothed rack
(3) - Gear wheel
(4) - Threaded pins

Proper setting

The toothed rack must be 16.5 ± 0.5 mm distant from the top edge (1) of the stroke position housing. The threaded pins must be visible in the long hole and must be horizontal.

Cover

- Motor cover

To set the stroke position drive:

1. Loosen the threaded pins (4).
2. Remove the gear wheel (3).
3. Move the toothed rack (2) to 16.5 mm below the upper stop.
4. Insert the gear wheel (3) so that the threaded pins (4) are horizontal.
5. Tighten the threaded pins (4).

4.6.2 Setting the light barrier

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Check and set the light barrier with very great care.

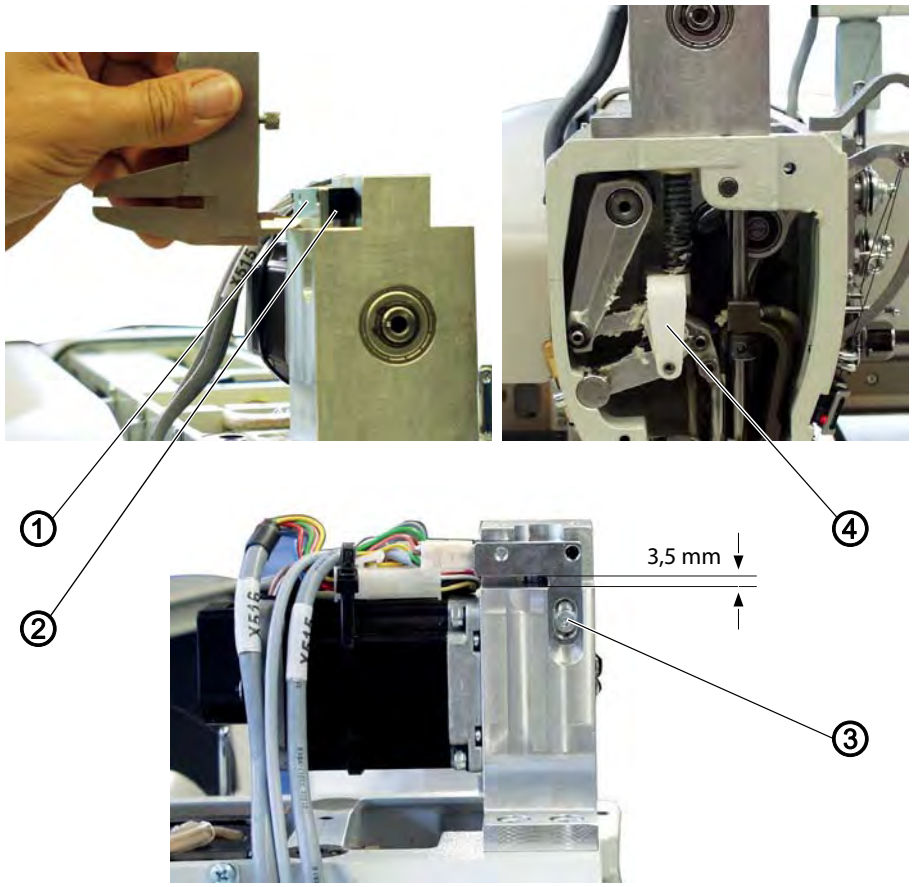
Proper setting

The light barrier with its mounting plate must be installed so that the toothed rack triggers it before reaching the upper stop.

1. Use the *Multitest* program to test the setting.

↳ The distance between the bottom edge of the mounting plate and the stroke position housing should be approx. 3.5 mm.

Fig. 30: Setting the light barrier



(1) - Mounting plate
(2) - Light barrier
(3) - Screw
(4) - Lever

Cover

- Head cover (*p. 16*)

To set the light barrier:

1. Loosen the screw (3).
2. Adjust the mounting plate (2) accordingly.
3. Tighten the screw (3).
4. Switch the sewing unit off and on again.
5. Tap on *Service*.
6. Input the password (25483).
7. Tap on *Multitest* > *Eingänge/Ausgänge testen (Test inputs/outputs)*.
8. Push the lever (4) up and monitor the display.
   ↳ It will show either +103 or -103.
9. Check that the toothed rack still has about 0.5 mm clearance from the stop.
10. If necessary, set the light barrier again using the mounting plate.

4.6.3 Setting the left stop screw

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the stop screw.

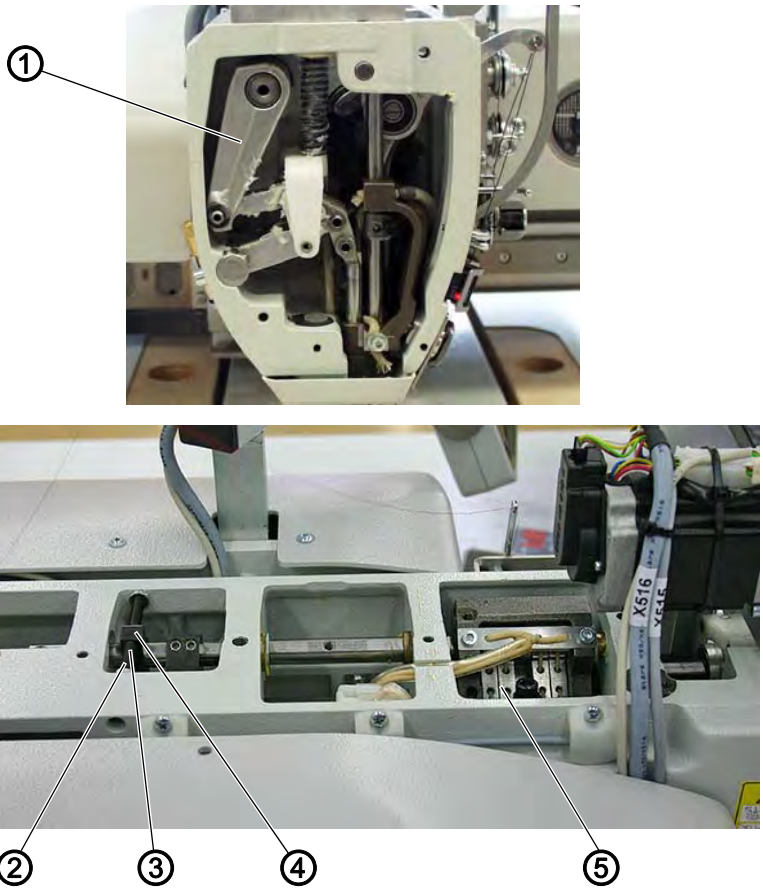
Proper setting

The left stop screw (3) of the lifting gear must be set so that the lever (1) performs no stroke when it is lying against the stop block (4). The levers of the lifting gear (5) overlap.

To set the left stop screw:

1. Switch the sewing unit off and on again.
2. Reference the machine.
3. Tap on *Extras* > *Service* > *Multitest* > *Hublage einstellen (Set stroke position)*.
4. Tap on *Hüpfer/Drücker (Walking foot/presser foot)* until the presser foot is selected.
5. Press down and turn the hand crank and check that no stroke is performed.

Fig. 31: Setting the left stop screw



(1) - Lever
(2) - Nut
(3) - Stop screw
(4) - Stop block
(5) - Lifting gear lever

To set the left stop screw:

1. Loosen the nut (2).
2. Turn the stop screw (3) accordingly.
3. Tighten the nut (4).

4.6.4 Setting the sewing foot stroke relative to the needle bar stroke

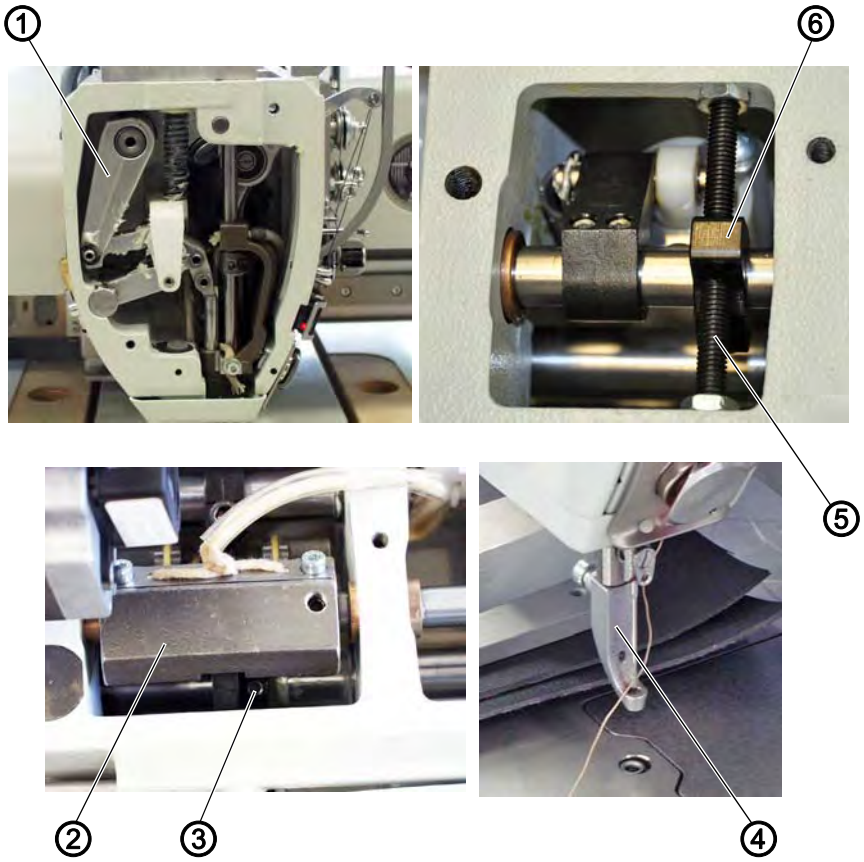
WARNING

Risk of injury from moving parts!

Crushing possible.

Always use the greatest care when testing and setting the sewing foot stroke relative to the needle bar stroke.

Fig. 32: Setting the sewing foot stroke relative to the needle bar stroke



(1) - Lever
(2) - Lifting gear
(3) - Eccentric
(4) - Sewing foot stroke
(5) - Stop screw
(6) - Stop block

Proper setting

The lifting gear (2) must be switched on so that it performs a stroke. The stop block (6) must then lie against the right hand step screw (5).

The eccentric (3) for the sewing foot stroke must be set so that when

- the needle bar is at bottom dead center - the presser foot is lowered
- after the loop stroke - the presser foot stroke starts.

To set the sewing foot stroke relative to the needle bar stroke:

1. Switch the sewing unit off and on again.
2. Reference the machine.
3. Tap on *Extras* > *Service* > *Multitest* > *Hublage einstellen (Set stroke position)*.
4. Tap on *Hüpfer/Drücker (Walking foot/presser foot)* until the walking foot is selected.
5. In the control, switch on the sewing foot stroke.
6. Turn the machine head to the loop stroke position.

↳ The lever (1) must make a movement.

7. Loosen both threaded pins on the eccentric (3).
8. Rotate the eccentric (3) on the arm shaft.
9. Tighten both threaded pins on the eccentric (3).
10. Turn the arm shaft and check that the lever (1) makes a movement.

4.6.5 Setting the sewing foot height

The sewing foot height can be set electronically from 1 mm to a maximum of 10 mm.

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Check and set the sewing foot height only with very great care.

Proper setting

If a height of 1 mm is set in the control, the presser foot must be 1 mm above the throat plate.

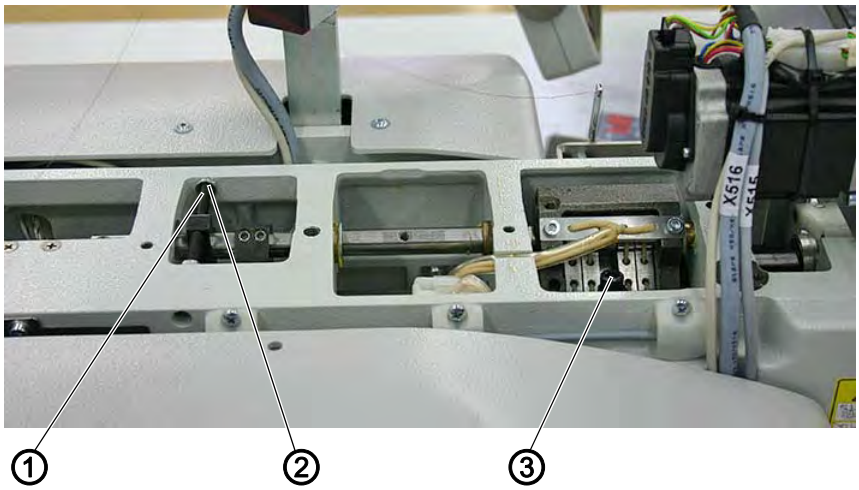
To set the height of the sewing foot:

1. Assemble the walking foot.
2. Tap on *Extras* > *Service* > *Multitest* > *Hublage einstellen (Set stroke position)*.
3. Tap on *Hüpfer/Drücker (Walking foot/presser foot)* until the walking foot is selected.
4. Tap on *Nähfußhub (Sewing foot stroke)*.
5. Input a sewing foot height of 1.0 mm.

6. Move to position.
7. Turn the sewing foot to bottom dead center.

↳ The distance between the throat plate and sewing foot must be 1 mm.

Fig. 33: Setting the sewing foot height



(1) - Screw
(2) - Nut
(3) - Screw

8. Loosen the screw (3).
9. Turn the pivot shaft so that the distance between throat plate and sewing foot is 1 mm.
10. Tighten the screw (3).
11. Turn the sewing foot to top dead center.

↳ The distance between the throat plate and sewing foot must be 5 mm.

12. Loosen the nut (2).
13. Adjust the screw (1) so that the distance between the throat plate and sewing foot is 5 mm (corresponding to a 4 mm sewing foot stroke).

Information

The distance between min. and max. positions may have to be determined. If one of these settings is changed the other setting must be checked again.

4.6.6 Setting the reference light barrier sewing axis

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

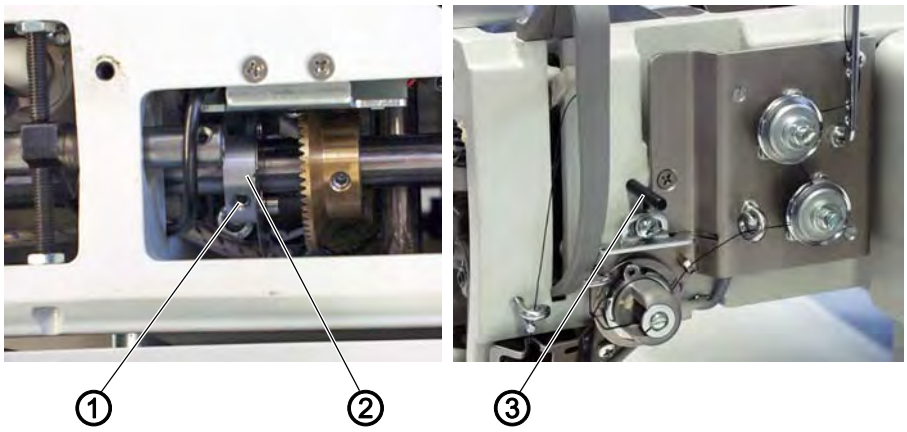
Check and set the reference light barrier only with very great care.

Proper setting

The machine is supposed to move to the reference position with the needle bar at top dead center.

1. Switch off and on the machine again.
2. Reference the machine and check that the needle bar is at top dead center.

Fig. 34: Setting the reference light barrier



(1) - Threaded pin
(2) - Take-up lever disk
(3) - Locking peg

Cover

- Arm cover (*p. 15*)

To set the reference light barrier:

1. Switch the sewing unit off and on again.
2. Tap on `Multitest`.
3. Input the password (25483).
4. Tap on `Multitest` > `Eingänge/Ausgänge testen (Test inputs/outputs)`.
5. Turn the needle bar to top dead center and insert the 3 mm end of the locking peg to lock the arm shaft crank at position II.
6. Loosen the threaded pin (1).

7. Rotate the take-up lever disk (2) on the arm shaft accordingly.

↳ The switch S100 then switches.

8. Tighten the threaded pin (1).
9. Remove the locking peg (3).
10. Switch off and on the machine again.
11. Check that the needle bar is at top dead center.

4.7 Setting the needle thread tension

4.7.1 Setting the needle thread regulator

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

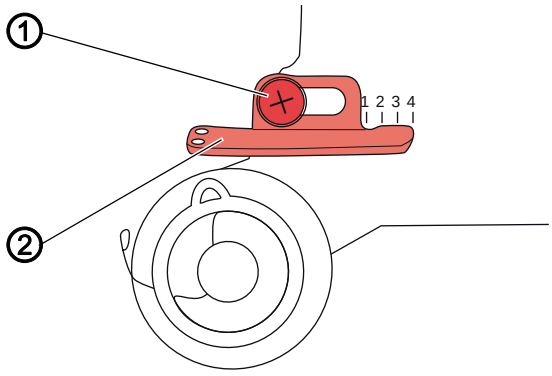
Switch off the machine before you check and set the needle thread regulator.

The needle thread regulator determines the tension applied to guide the needle thread around the hook. The required tension depends on the thickness of the sewing material, thread strength, and stitch length.

Proper setting

The loop of the needle thread slides at low tension over the thickest point of the hook, without forming loops or snagging.

Fig. 35: Setting the needle thread regulator



(1) - Screw

(2) - Needle thread regulator

To set the needle thread regulator:

1. Press down and turn the hand crank and monitor the progress of the needle thread around the hook.
2. Loosen the screw (1).
3. Move the needle thread regulator (2)
   - **more thread:** slide to the left
   - **less thread:** slide to the right
4. Tighten the screw (1).

4.7.2 Setting the thread tensioning spring

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the thread tensioning spring.

The thread tensioning spring holds the needle thread under tension from the top dead center of the thread lever up to the point when the needle eye plunges into the sewing material.

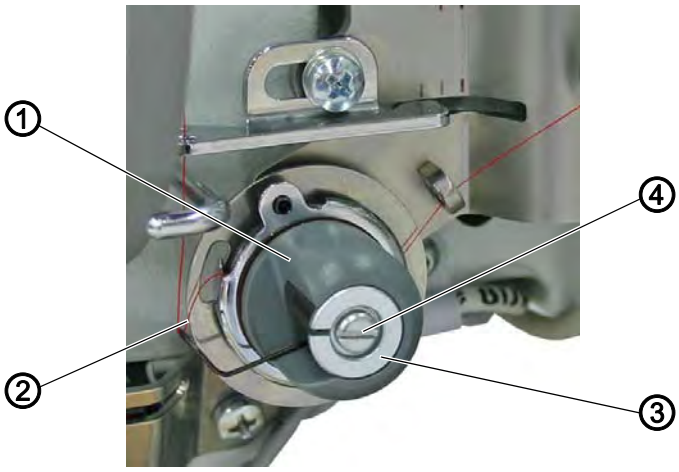
Proper setting

Initial position: The thread tensioning spring does not contact the stop until the needle eye has plunged into the sewing material.

Important

The setting for the thread tensioning spring must be varied according to the sewing material and the required sewing result.

Fig. 36: Setting the thread tensioning spring



(1) - Stop collar
(2) - Spring
(3) - Tension disk
(4) - Screw

To set the thread tensioning spring:

1. Loosen the screw (4).
2. **Setting the spring travel:** Turn the stop collar (1):
   - **Longer spring travel:** turn counterclockwise
   - **Shorter spring travel:** turn clockwise
3. **Setting the spring tension:** Turn the tension disk (3):
   - **Greater spring tension:** turn counterclockwise
   - **Lower spring tension:** turn clockwise

Important

Do not twist the stop collar in doing so.

4. Tighten the screw (4).

4.7.3 Setting the thread tension plate

Fig. 37: Setting the thread tension plate

(1) - Screw
(2) - Nut
(3) - Disk
(4) - Tension disk

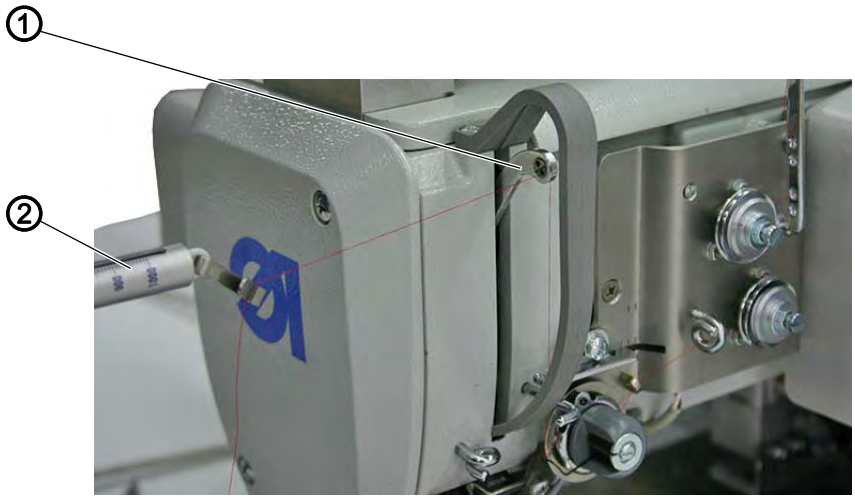
To set the thread tension plate:

1. Remove the thread from the thread tensioner.
2. Tap on *Extras* > *Service* > *Multitest*.
3. Input the password (25483).
4. Tap on *Fadenspannung (thread tensioner)* > *Kalibrierung 3 (Calibration 3)*.
5. Loosen screw (1) and nut (2).
6. Loosen the disk (3).
7. Turn the disk (3) clockwise, feeling for the stop (until the tension disks lie flush on each other).
8. Use a (lead) pencil to mark 12 o'clock on the disk (3) and turn it approx. 15-30° clockwise.
9. Tap on *ESC* or *OK*.
10. Tap on *Kalibrierung 1 (Calibration 1)*.
11. Turn back the nut (2) until reaching the screw head of the screw (1).
12. Screw in the screw (1) until the nut (2) is positioned approx. 2 mm in front of the disk (3).
13. Loosen the screw (1) until the tension disks tighten.
14. Using an open-jaw spanner, lightly tighten the nut (2) and slowly loosen the screw (1) until the tension disks (4) are closed.
15. Tap on *ESC*.
16. Tap on *Kalibrierung 3 (Calibration 3)*.
17. Hold the screw (1) still with a screwdriver, and tighten the nut (2). Once again, take care the disk (3) does not turn with the nut.
18. Tap on *ESC* and check that the tension disks (4) open easily.

19. Tap on *Kalibrierung 1 (Calibration 1)* and check the closure of the tension disks.
20. Repeat the procedure for the 2nd thread tensioner.

4.7.4 Calibrating the thread tension plate

Fig. 38: Calibrating the thread tension plate



(1) - Thread lever *(2) - Thread scale*

To calibrate the thread tension plate:

1. Thread the thread 40/3 times and on to the thread lever (1).
2. With *Kalibrierung 1 (Calibration 1)* selected, measure the thread tension with a thread scale (2).
3. Input the measured value into the control and confirm it with *OK*.
4. Perform the measurement and input also for *Kalibrierung 2 (Calibration 2)* and *Kalibrierung 3 (Calibration 3)*.

Checking the calibration

1. Input the percentage value = 50 in the *Fadenspannung (Thread tension)* menu.
2. Press the *Ein (On)* button to switch on the tension.
3. Test the tension using a thread scale: Setpoint: 500 cN.
   If necessary, other percentage values can be input.
4. If variations greater than ±10 % are found: Set the thread tensioners once again and repeat the calibration.
5. If the variations persist: Clean any dirt from the thread tensioners including the magnets.

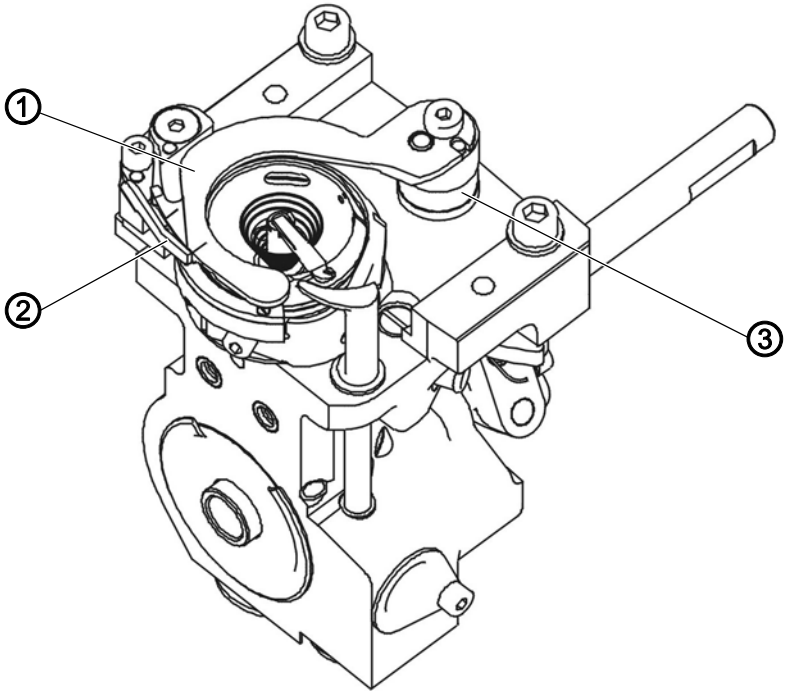
4.8 Short thread cutter (KFA)

4.8.1 Setting thread-pulling knife and control cam

Information

For *videos* of KFA settings, visit our YouTube channel.

Fig. 39: Setting thread-pulling knife and control cam (1)



(1) - Thread-pulling knife
(2) - Counter blade
(3) - Knife carrier

Thread-pulling knife height

The height of the thread-pulling knife is set at the factory using washers underneath the knife carrier (3).

Important

When changing the knives, make sure that you do not lose the washers.

Thread-pulling knife position

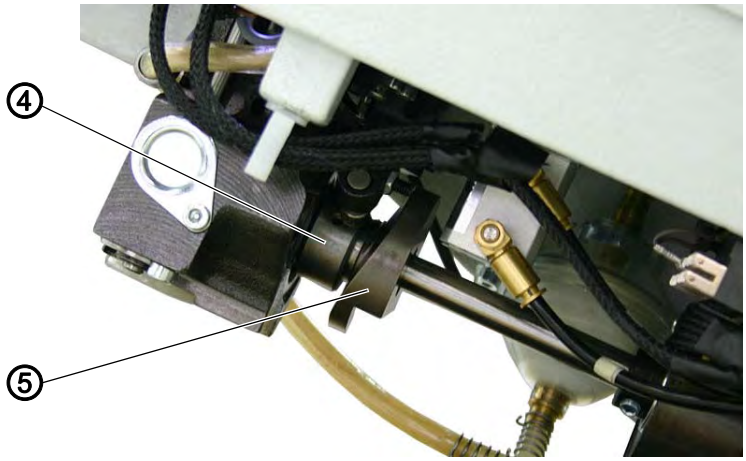
The thread-pulling knife (1) cannot be moved on the knife carrier (3). Therefore, the cutting pressure does not have to be set after replacing the thread-cutting knife (1).

In rest position, the thread-pulling knife (1) completely covers the cutting edge of the counter blade (2). This prevents the needle thread from being damaged.

The pivot range of the thread-pulling knife is 23°.

Control cam

Fig. 40: Setting thread-pulling knife and control cam (2)



(4) - Control cam

(5) - Clamping ring

Important

The control cam (5) must make contact with the stop on the clamping ring (4).

4.8.2 Setting the locking latch

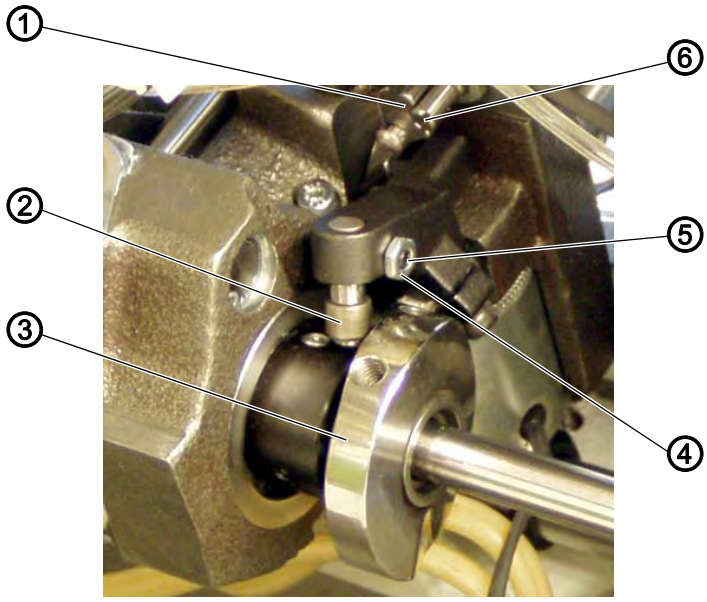
NOTICE

Property damage may occur!

Risk of breakage.

Never operate the machine without the thread-pulling knife.
The reverse-motion lock for the bobbin case is on the thread-pulling knife.

Fig. 41: Setting the locking latch



(1) - Locking latch
(2) - Roller
(3) - Control cam
(4) - Nut
(5) - Threaded pin
(6) - Locking pin

Proper setting

1. Press down and turn the hand crank until the roller (2) is at the highest point of the control cam (3).
2. Press the roller (2) against the control cam (3).

↳ The locking latch (1) can be swung out without clamping, and the distance between the locking latch (1) and locking pin (6) is not greater than 0.1 mm.

To set the locking latch:

1. Loosen the nut (4).
2. Turn the threaded pin (5) and set the distance.
3. Tighten the nut (4).

4.8.3 Setting the thread-pulling knife

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch the machine off before you check and set the thread-pulling knife.

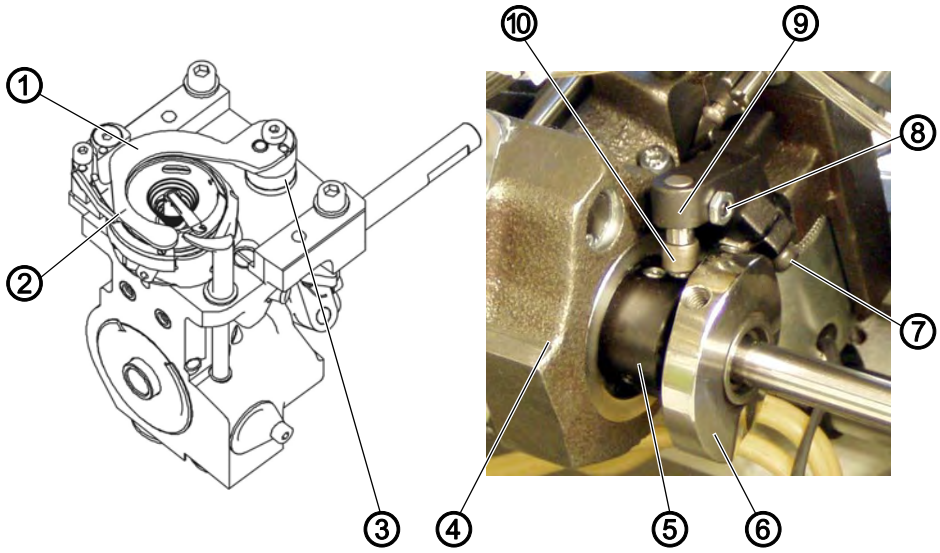
NOTICE

Property damage may occur!

Risk of breakage.

Never operate the machine without the thread-pulling knife.
The reverse-motion lock for the bobbin case is on the thread-pulling knife.

Fig. 42: Setting the thread-pulling knife



(1) - Thread-pulling knife
(2) - Marking
(3) - Knife carrier
(4) - Casting
(5) - Clamping ring
(6) - Control cam
(7) - Clamping screw
(8) - Threaded pin
(9) - Lever
(10) - Roller

Proper setting

- When the thread-pulling knife (1) is at rest, the distance between the highest point of the control cam (6) and the roller (10) is 0.1 mm
- The control cam (6) makes contact with the clamping ring (5)
- The marking (2) on the thread-pulling knife (1) is adjacent to the cutting edge of the counter blade.
- The knife carrier (3) must have no axial play, but still run smoothly

To set the thread-pulling knife:

1. Slacken all 4 screws on the clamping ring (5).
2. Slide the clamping ring (5) up to the bobbin bearing.
3. Tighten all 4 screws on the clamping ring (5).
4. Release both screws on the control cam (6).
5. Turn the lever (9) so that the threaded pin (8) on the body casting (4) strikes the hook support.
6. Set the distance between the roller (10) and the highest point of the control cam (6) to 0.1 mm.
7. Tighten both screws on the control cam (6).
8. Loosen the clamping screw (7) on the lever (9).
9. Turn the thread-pulling knife (1) until the marking on the cutting edge of the counter blade (2) is adjacent to it.
10. Tighten the clamping screw (7). Take care to ensure that there is no axial play.
11. Release all 4 screws (5) on the clamping ring and push as far as they will go and against the control cam (6).
12. Tighten all 4 screws on the clamping ring (5).
13. Check the loop stroke.

4.8.4 Setting the counter blade

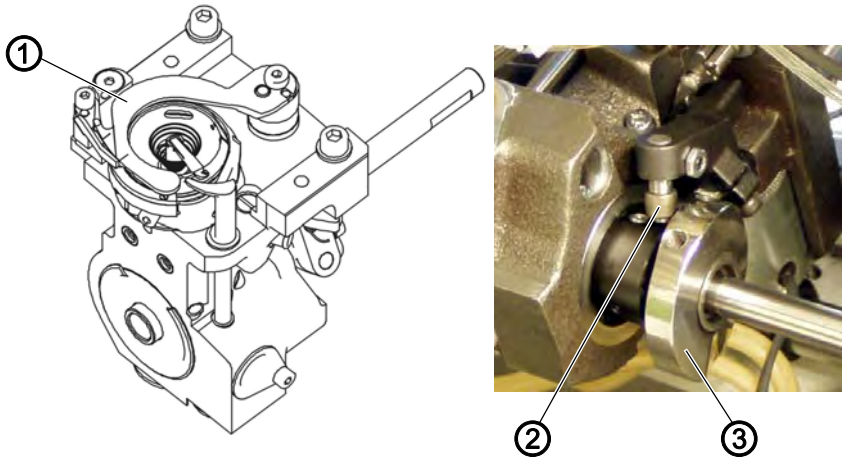
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch the machine off before you check and set the counter blade.

Fig. 43: Setting the counter blade



(1) - Thread-pulling knife
(2) - Roller
(3) - Control cam

Proper setting

The thread must be reliably cut using little pressure.

Any 2 threads with the greatest strength used for sewing can be neatly cut simultaneously.

1. Press down and turn the hand crank until the thread-pulling knife (1) can be swung out after the latch is triggered.
2. Swing out the thread-pulling knife (1) manually. To do this, press the clamp with the roller (2) to the right against the control cam (3).
3. Insert 2 threads into the thread-pulling knife (1).
4. Turn the handwheel until the cutter swivels down.
5. Check whether the threads have been cleanly cut.

Disturbances caused by an incorrect setting

- Increased knife wear when the pressure is too great
- Problems in cutting the thread

Setting the cutting pressure

The shape of the thread-pulling knife automatically creates the required cutting pressure as soon as both cutting edges are on top of one another.

Fig. 44: Setting the cutting pressure

(1) - Counter blade
(2) - Marking
(3) - Thread-pulling knife
(4) - Screw

To set the counter blade:

1. Swing out the thread-pulling knife (3) until the marking (2) is next to the cutting edge of the counter blade (1).
2. Loosen the screw (4).
3. Turn the counter blade (1) against the thread-pulling knife (3).
4. Tighten the screw (4).

4.8.5 Setting the cutoff position

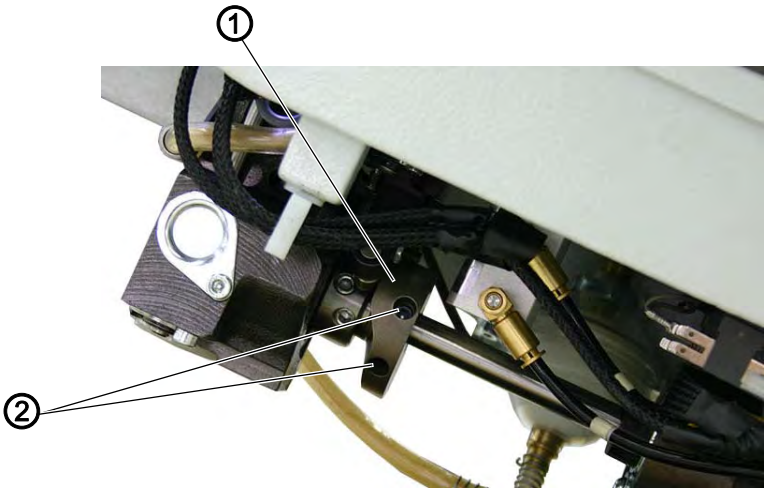
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you check and set the cutoff position.

Fig. 45: Setting the cutoff position



(1) - Control cam *(2) - Threaded pins*

Proper setting

The default is that the cutoff position is “Thread lever at top dead center”. When the machine is at the position “thread lever at top dead center”, the control cam (1) is at its highest point.

To set the cutoff position:

1. Press down the hand crank and turn it to the position "thread lever at top dead center".
2. Loosen the threaded pins (2).
3. Turn the control cam (1) correspondingly.
4. Tighten the threaded pins (2).

4.9 Changing the cloth pressure bar

WARNING

Risk of injury from sharp and moving parts!

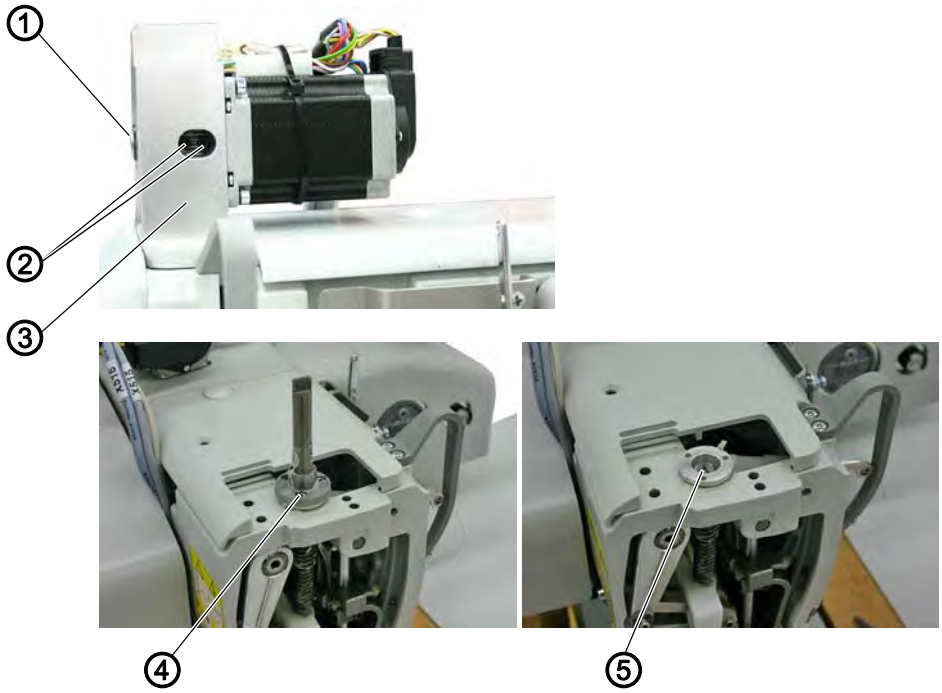
Puncture or crushing possible.

Switch the machine off before you disassemble or assemble the cloth pressure bar.

Cover

- Motor cover

Fig. 46: Changing the cloth pressure bar (1)



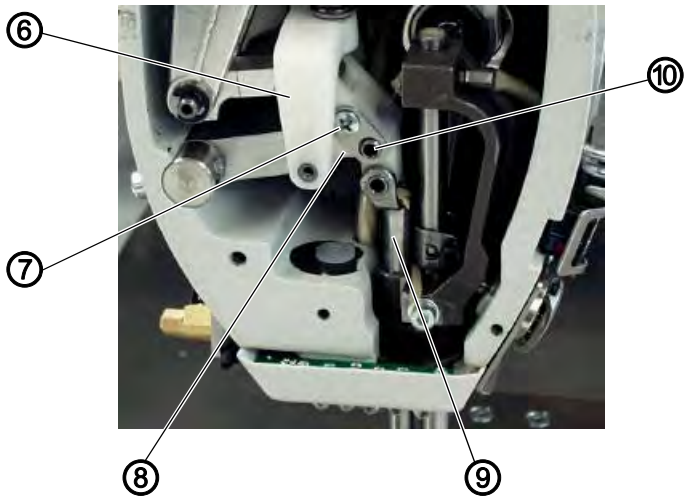
(1) - Bearing with gear wheel
(2) - Threaded pins
(3) - Drive
(4) - Screws
(5) - Screw

Disassembling the cloth pressure bar

To disassemble the cloth pressure bar:

1. Loosen the threaded pins (2) and pull the bearing with the gear wheel (1) out towards the front.
2. Disassemble the drive (3).
3. Loosen all 3 screws (4) and remove the drive shaft.
4. Loosen the screw (5).

Fig. 47: Changing the cloth pressure bar (2)



(6) - Block
(7) - Screw
(8) - Clip
(9) - Cloth pressure bar
(10) - Sleeve

5. Position the clip (8) so that the screw (7) is accessible.
6. Loosen the screw (7) and disassemble the clip (8).
7. Pull the sleeve (10) out.
8. Pull the clamp (6) right up to the top and pull the cloth pressure bar (9) out upwards.

Assembling the cloth pressure bar

To assemble the cloth pressure bar:

1. Assemble in reverse of removal.

Order

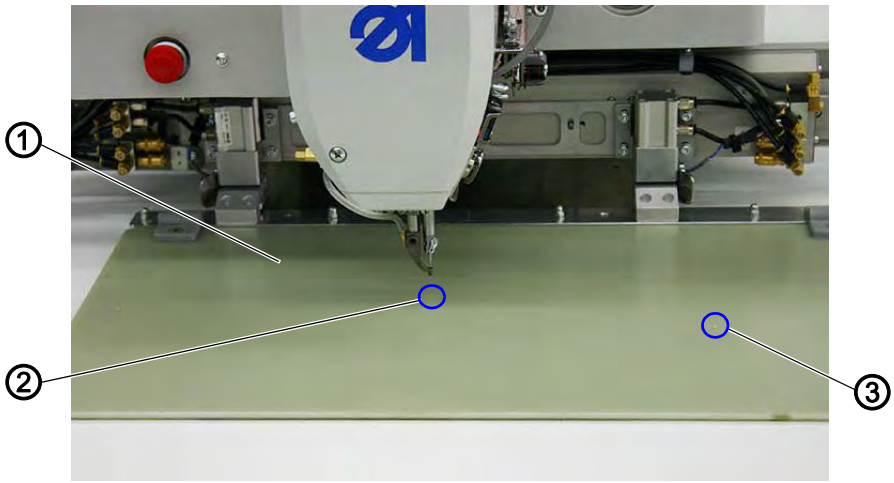
After the drive (1) has been tightened, set the sewing foot height (📖 *p. 46*).

5 Sewing unit

5.1 Checking the machine zero point

The machine zero point is factory-set to the correct value.

Fig. 48: Checking the machine zero point



(1) - Clamp with test bores
(2) - Center point bore
(3) - Test bore

Gage required: Clamp with test bores.

To check the machine zero point:

1. Tap on *Extras* > *Service* > *Multitest*.
2. Tap on *Transportklammer (Feed clamp)*.
3. Assemble the clamp (1).
4. Tap on *Referenzieren (Move to reference position)*.

↳ The machine moves to the reference position.

5. Tap on *Mittelpunkt (Center point)*.

↳ The machine moves to the center position. The center of the needle is positioned within the center point bore (2) and the tip of the needle can be lowered into the bore by turning the arm shaft crank.

6. Tap on *Test*.

↳ The machine moves to the test position. The center of the needle is positioned within the test bore (3), and the tip of the needle can be lowered into the bore by turning the arm shaft crank.

5.2 Changing the drives

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before changing the drives.

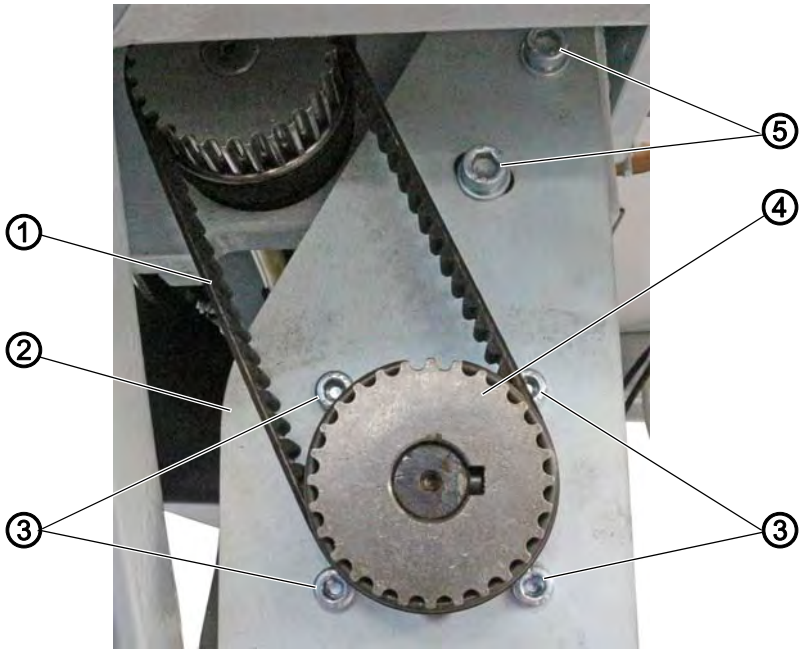
5.2.1 Changing the sewing motor

Disassembling the sewing motor

To disassemble the sewing motor:

1. Cut off the cable ties.
2. Disconnect the motor cable from the control.
3. Removing the toothed belt cover (📖 *p. 18*).

Fig. 49: Disassembling the sewing motor



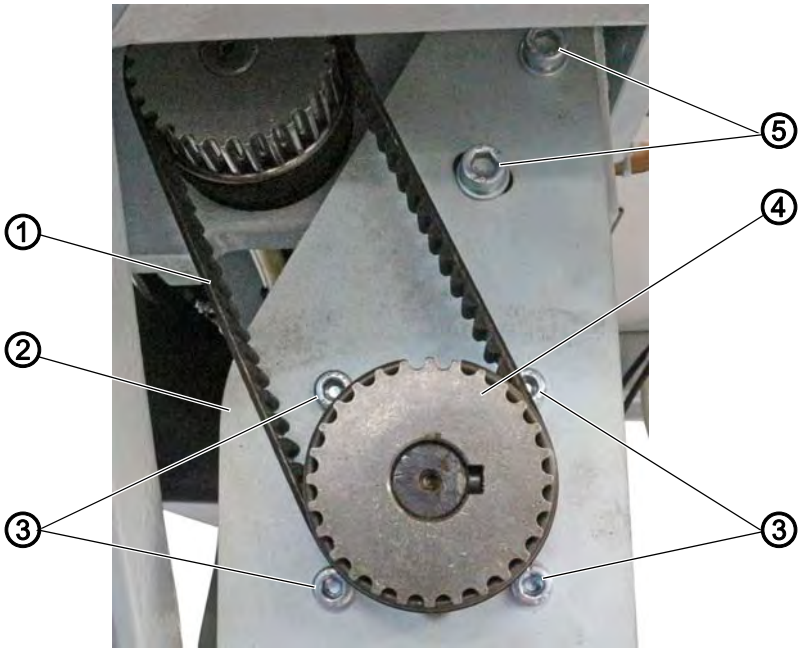
(1) - Toothed belt
(2) - Plate with motor
(3) - Screws
(4) - Toothed belt wheel
(5) - Screws

4. Loosen the screws (5).
5. Remove the toothed belt (1).
6. Pull off the plate with the motor (2).

7. Remove the toothed belt wheel (4).
   To do so, loosen the screw on the toothed belt wheel.
8. Loosen the screws (3).
9. Remove the motor from the plate (2).

Assembling the sewing motor

Fig. 50: Assembling the sewing motor



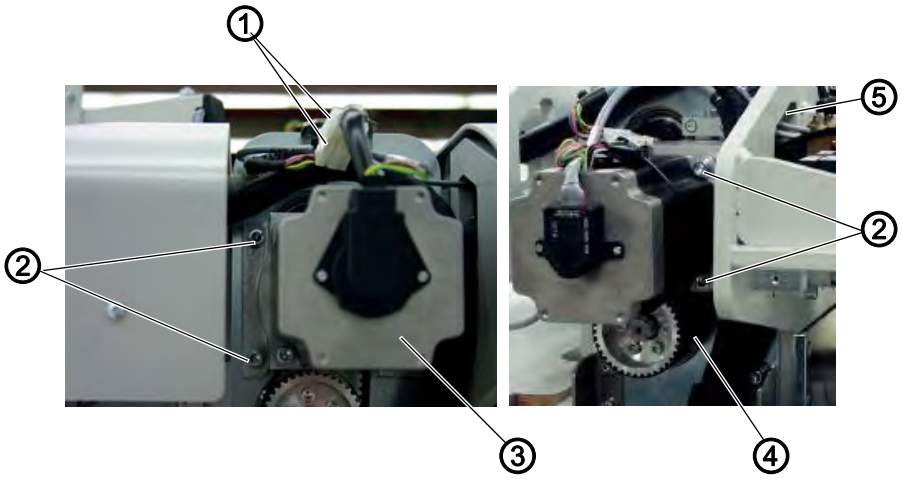
(1) - Toothed belt
(2) - Plate with motor
(3) - Screws
(4) - Toothed belt wheel
(5) - Screws

To assemble the sewing motor:

1. Screw the new motor onto the plate (2) using the screws (3).
2. Assemble the toothed belt wheel (4).
   To do so, tighten the screw on the toothed belt wheel.
3. Insert the plate with the motor (2).
4. Slightly tighten the screws (5).
5. Place and tighten the toothed belt (1).
6. Tighten the screws (5).
7. Check if the toothed belt operates in parallel.
   If necessary, set parallel operation at the toothed belt wheel.
8. Place the toothed belt cover (📖 *p. 18*).
9. Connect the motor plug with the control.

5.2.2 Changing the X drive

Fig. 51: Changing the X drive



(1) - Plug
(2) - Screws
(3) - Motor with flange
(4) - Toothed belt
(5) - Screw

Disassembling the drive

To disassemble the drive:

1. Disconnect both plugs (1).
2. Loosen all four screws (2).
3. Pull off the motor and flange (3).

Assembling the drive

To assemble the drive:

1. Insert a new motor and flange (3) on to the toothed belt (4).
2. Insert all four screws (2) and tighten them loosely.
3. Tension the toothed belt (4) using the screw (5).

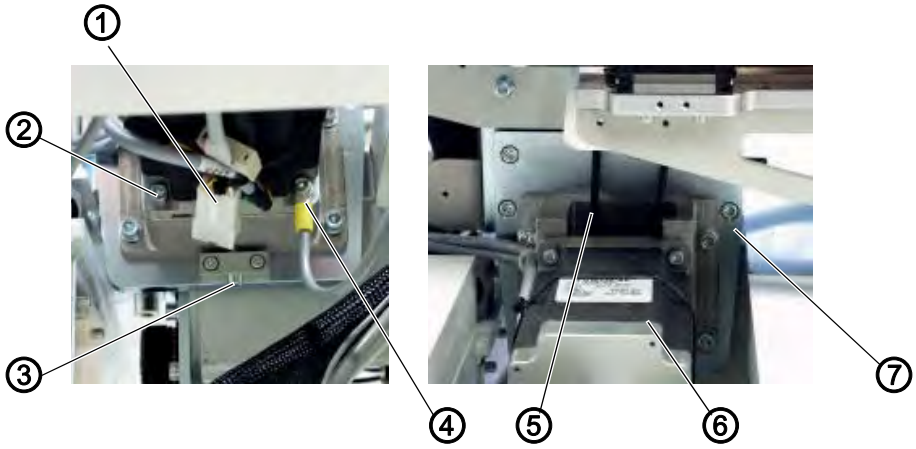
Information

The toothed belt tension is set to the optimum value when the belt oscillates at 384 Hz. Check the oscillation, for instance, using a device made by Contitech.

4. Tighten all four screws (2).
5. Connect the plug (1).

5.2.3 Changing the Y drive

Fig. 52: Changing the Y drive



(1) - Plug
(2) - Screws
(3) - Screw
(4) - Equipotential bonding
(5) - Toothed belt
(6) - Motor
(7) - Flange

Disassembling the drive

To disassemble the drive:

1. Disconnect the plug (1).
2. Loosen the equipotential bonding conductor (4).
3. Loosen the screw (3) to release the toothed belt (5) tension.
4. Loosen all four screws (2).
5. Pull the motor (6) off the flange (7).
6. Pull off the toothed belt wheel.

Assembling the drive

To assemble the drive:

1. Place the toothed belt wheel onto the new motor.
2. Insert the motor (6) into the toothed belt (5) and onto the flange (7).
3. Insert all four screws (2) and tighten them loosely.
4. Tension the toothed belt (5) using the screw (3).

Information

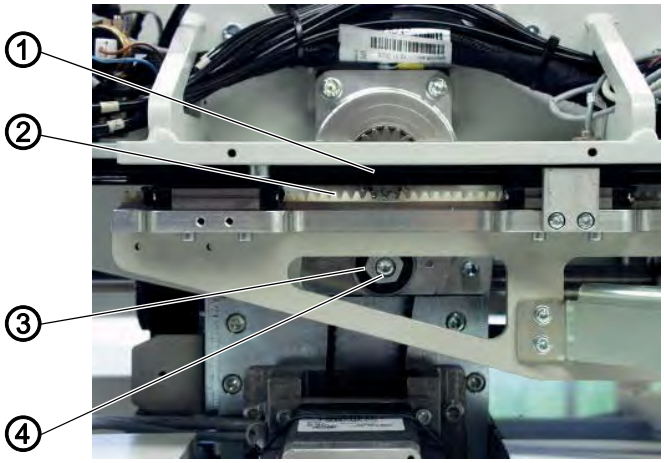
The toothed belt tension is set to the optimum value when the belt oscillates at 185 Hz. Check the oscillation, for instance, using a device made by Contitech.

5. Tighten all four screws (2).
6. Connect the plug (1).
7. Tighten the equipotential bonding conductor (4).

5.3 Checking the play between toothed rack and gear wheel

The play between the toothed rack and the gear wheel must be checked on both sides of the machine. Because the structure is similar on both sides, testing is described here for one side only as an example.

Fig. 53: Checking the play between toothed rack and gear wheel



(1) - Gear wheel
(2) - Toothed rack
(3) - Nut
(4) - Screw

Proper setting

There should be no play between the gear wheel (1) and toothed rack (2).

To check the play between toothed rack and gear wheel:

1. Loosen the screw (4).
2. Turn the nut (3) so that there is no play.
3. Tighten the screw (4).
4. Check the play along the entire length.

↳ The carriage can be moved without excessive play or stiffness.

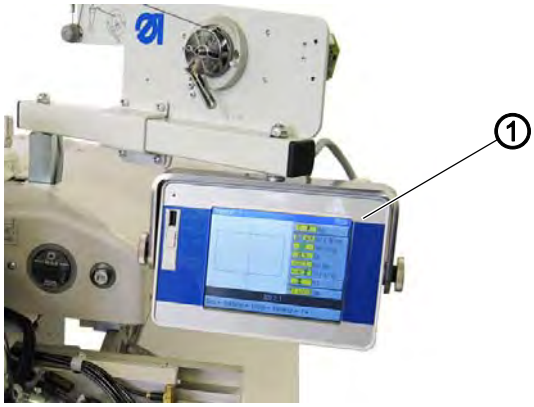
6 Programming

The control is operated via the operating terminal (1) located on the right next to the machine head.

Information

↳ The user interface of the OP7000 may deviate from the screen shots shown as the software is constantly updated.

Fig. 54: Operating terminal



(1) - Operating terminal

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

Activating a button/selecting an element:

To select a button or activate an element:

1. Tap the corresponding button or element with your finger or a touchscreen pen.

6.1 Structure of the software

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

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.

6.2 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 settings and information used by technicians

Menu items in popup menus				
Menu item	**Function**	**Subitems**	**Subitems**	**Described on**
File	Open existing sewing programs, create new programs, copy or delete existing programs.	**Löschen (Delete)**		🕮 *p. 99*
		Kopieren (Copy)		🕮 *p. 98*
		Öffnen (Open)		🕮 *p. 85*
		Neu (New)	**Nahtprogramm (Seam program)**	🕮 *p. 90*
			Sequenz (Sequence)	🕮 *p. 95*
		Speichern unter (Save As)		🕮 *p. 97*

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. 107*
		Sequenz (Sequence)		🕮 *p. 96*
		Nahtprogramm (Seam program)	**Parameter**	🕮 *p. 102*
			Konturanpassung (Contour Adjustment)	🕮 *p. 100*
			Konturtest (Contour Test)	🕮 *p. 94*
Extras	Display options: full-screen and zoom Technician menu: Settings, system information and tests	**Vollbild ein/aus (Full-screen on/off)**		🕮 *p. 84*
		Zoom ein/aus (Zoom on/off)		🕮 *p. 85*
		Service	**Einstellungen (Settings)**	🕮 *p. 113*
			System-Information (System Information)	🕮 *p. 120*
			Multitest	🕮 *p. 115*
			Initialisierung und Update (Initialization and update)	🕮 *p. 121*
			Manufacturer (for DA personnel only)	
Korrektur (Correction)	Short-term sewing with other values	**Thread tension**		🕮 *p. 87*
		Nähdrehzahl (Speed)		🕮 *p. 87*
Buttons on the start screen				
	Continue sewing the contour from a particular point		**Reparatur-Modus (Repair mode)**	🕮 *p. 89*
	Allow for a manual bobbin change		**Spulenwechsel (Bobbin change)**	🕮 *p. 88*
	Reset counter to a particular value		**Zählerreset (Reset counter)**	🕮 *p. 90*

6.3 Starting the software

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

Fig. 55: Start screen

(1) - Language selection button *(2) - Multitest quick-access button*

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

Information

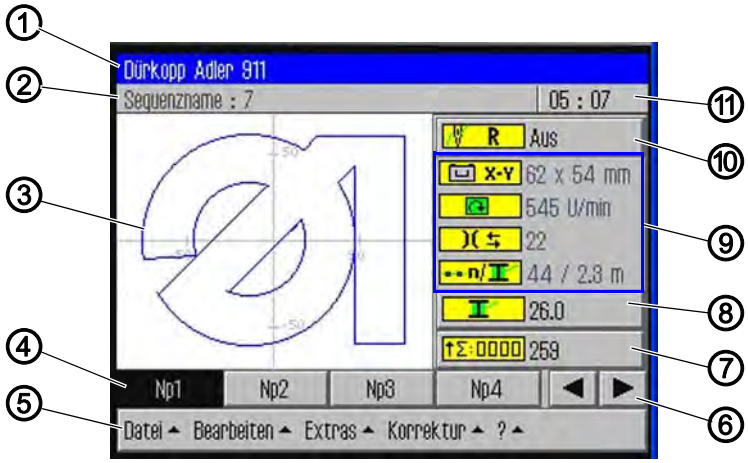
Both functions can also be accessed later from within the program via `Extras` > `Service`.
(See chapters **Testing the functions of the machine** ☎🕮 *p. 115*) and **Changing the language** (🕮 *p. 114*))

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 start screen is opened with the settings of the last sewing program used.

Fig. 56: 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) - Arrow buttons for navigating within the bar
(7) - Button for resetting the counter
(8) - Button for bobbin change
(9) - Display of the current seam parameters
(10) - Button for repair mode
(11) - 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.

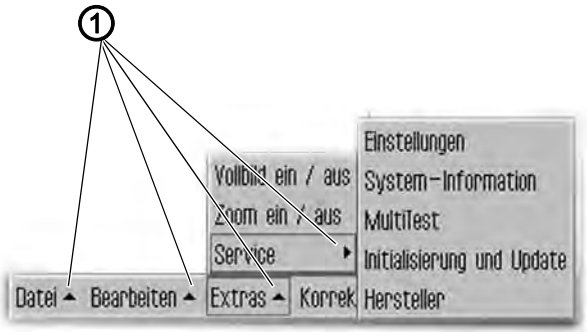
Program bar (4)

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. 57: Popup menu



(1) - Popup arrows

Button for repair mode (10)

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 (9)

The current seam parameters are displayed below the repair mode button:

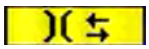
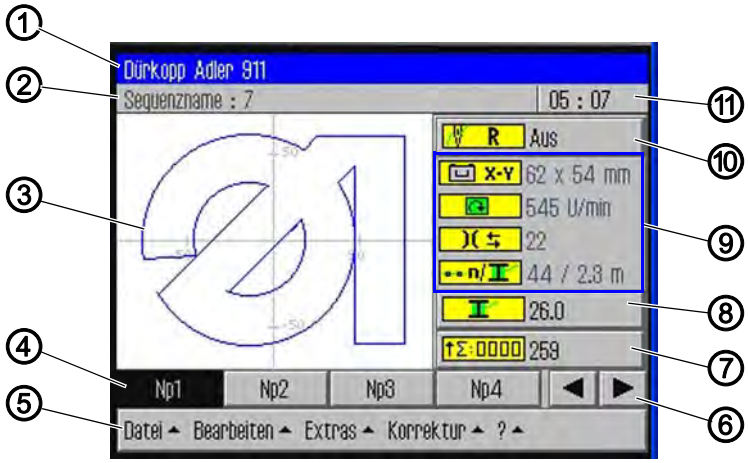
-  - Dimensions of the seam pattern
-  - Speed
-  - Thread tension
-  - Number of stitches / hook thread consumed

Fig. 58: 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) - Arrow buttons for navigating within the bar
(7) - Button for resetting the counter
(8) - Button for bobbin change
(9) - Display of the current seam parameters
(10) - Button for repair mode
(11) - Display of time

Button for bobbin change (8)

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 (7)

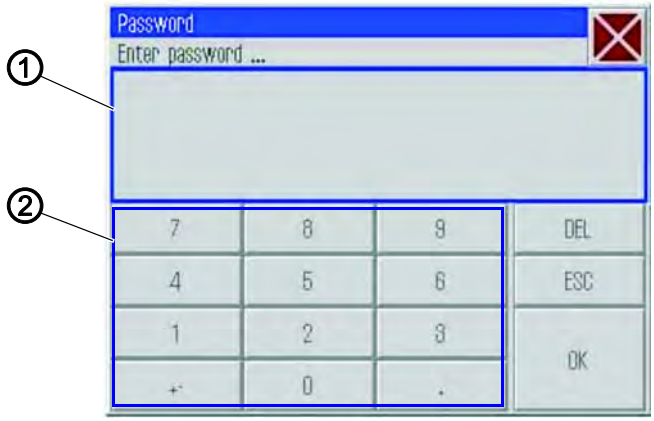
This button can be used for resetting the counter for the sewn programs or sequences. The current counter value is displayed next to this button.

6.4 General operation of the software

6.4.1 Entering a password

Depending on the setting (see chapter **Changing the password options** (📖 *p. 113*)) 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. 59: 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. 113*).
You can delete incorrect entries via the **DEL** button.

2. Tap the **OK** button.

↳ The previously selected menu item opens.

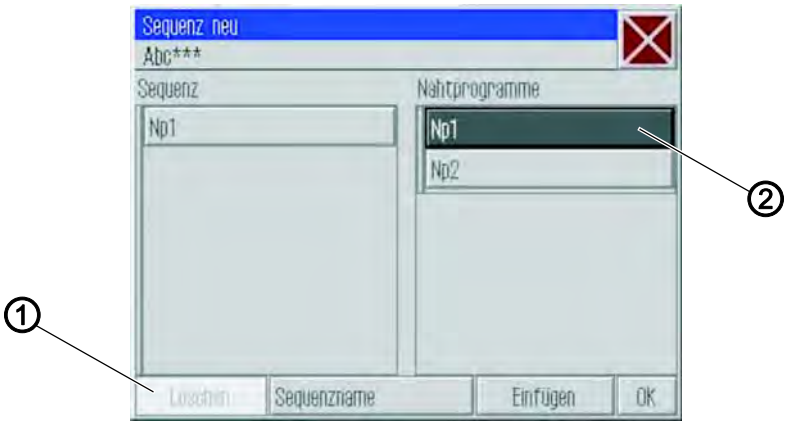
6.4.2 Closing windows

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 **Abbruch (Abort)**	In windows with data entry or selection fields: ↳ The window is closed and the entered or selected data is discarded.

6.4.3 Display principles

Fig. 60: Display principles



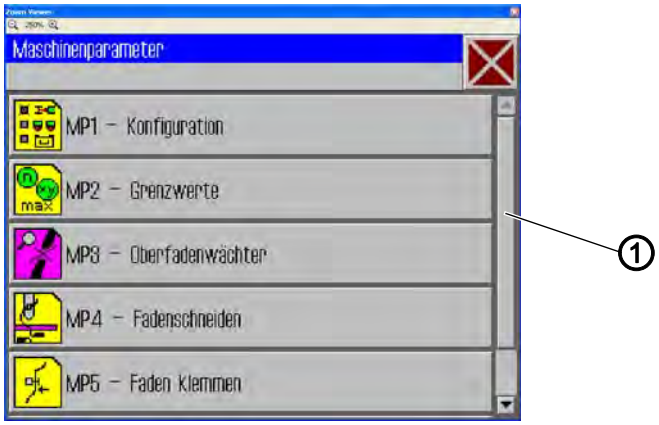
(1) - Grayed-out: Deactivated element (2) - Dark background: Activated element

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).

6.4.4 Scrolling the display

Fig. 61: 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:

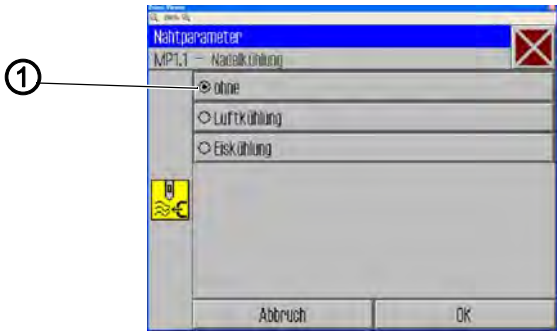
1. Drag the scrollbar (1) up or down.

6.4.5 Selecting options from a list

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

Selection with option buttons

Fig. 62: Selection with option buttons



(1) - Option buttons: Selected element

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

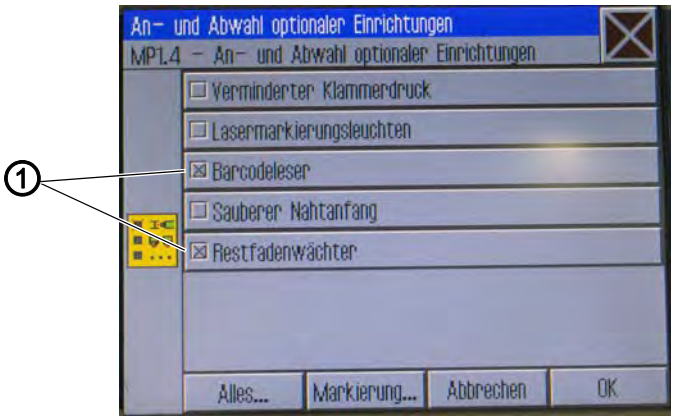
To select options using option buttons:

1. Tap the desired option.

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

Selection with checkboxes

Fig. 63: Selection with checkboxes



(1) - Checkbox: Selected elements

Checkboxes allow for the selection of multiple entries.

To select options using checkboxes:

1. Tap the desired checkboxes.

↳ The selected entries (1) are marked with a cross.

6.4.6 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. 64: 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.

6.4.7 Entering text

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

Fig. 65: Entering text

(1) - Input line
(2) - Keyboard
(3) - OK (CR): Adopt the entered text
(4) - DEL: Delete a character
(5) - Aa: Switching 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

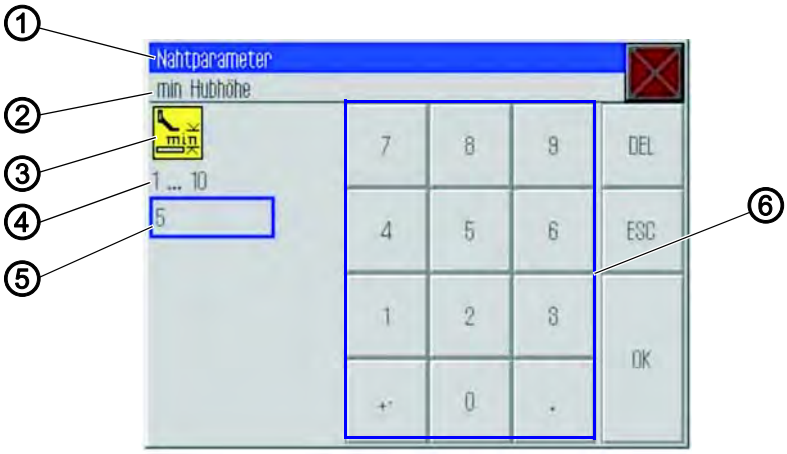
1. Tap the **OK** (*CR*) (3) button.

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

6.4.8 Entering parameter values

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

Fig. 66: 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 displayed 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

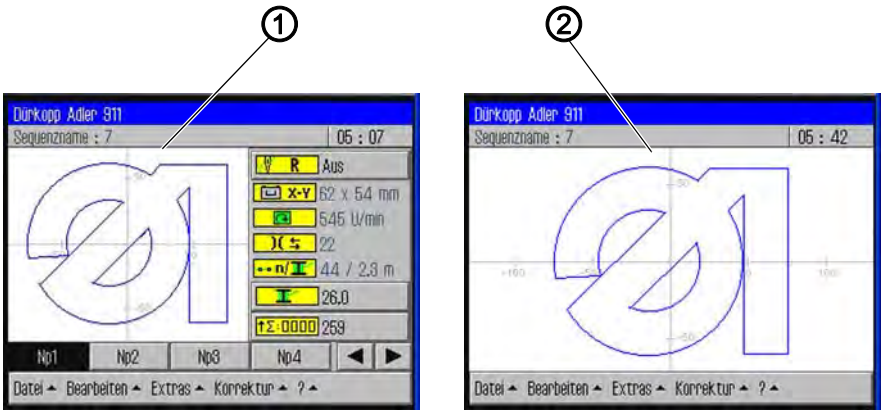
1. Tap the **OK** button.

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

6.4.9 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. 67: 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:

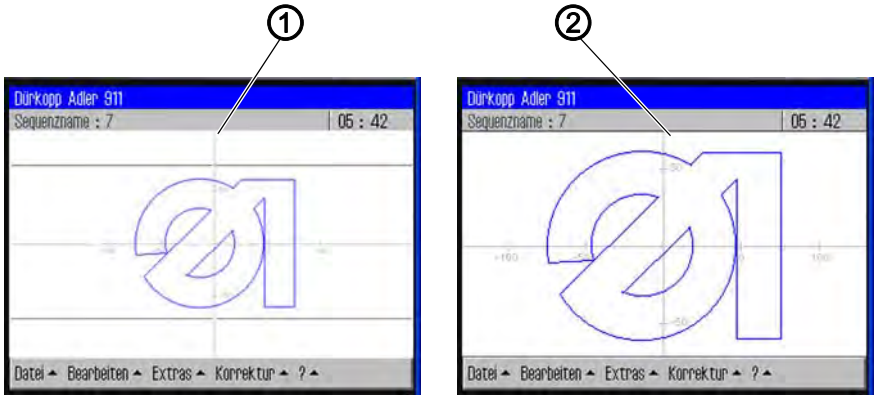
1. Tap the menu items *Extras* > *Vollbild ein/aus (Full-screen on/off)*.

↳ The display switches to the respective other mode.

6.4.10 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. 68: 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.

6.5 Opening a seam program or sequence for sewing

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

To open a seam program or sewing sequence for sewing:

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. 81*).

Fig. 69: 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.

6.6 Briefly sewing with modified values

If you briefly need to with 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.

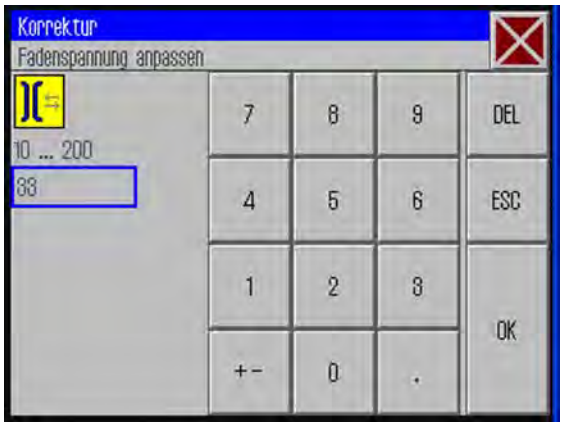
6.6.1 Sewing with a modified thread tension

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. 70: 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.

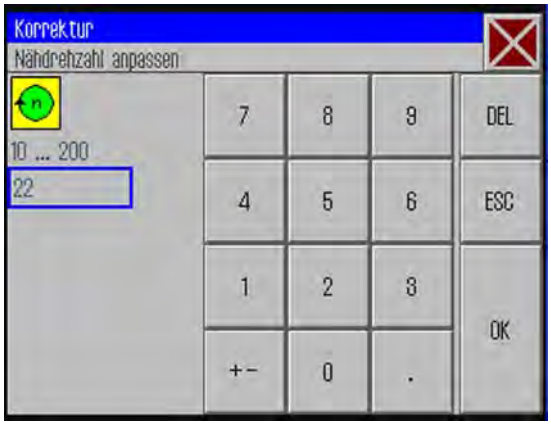
6.6.2 Sewing with a modified speed

To sew with a modified speed:

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

↳ The window for changing the thread tension appears:

Fig. 71: Sewing with a modified 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.

6.7 Replacing the hook thread bobbin

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch the machine to threading mode before changing the hook thread 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. 72: Replacing the hook thread bobbin

To change the hook thread bobbin:

1. Tap the **Spulenwechsel (Change Bobbin)** button.
2. Replace the hook thread bobbin (📖 *p. 88*).
3. Use the **Vor (Forwards)** and **Zurück (Back)** buttons to move to the point where sewing is to continue.
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.

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.

6.8 Continuing a seam in Repair mode after an error

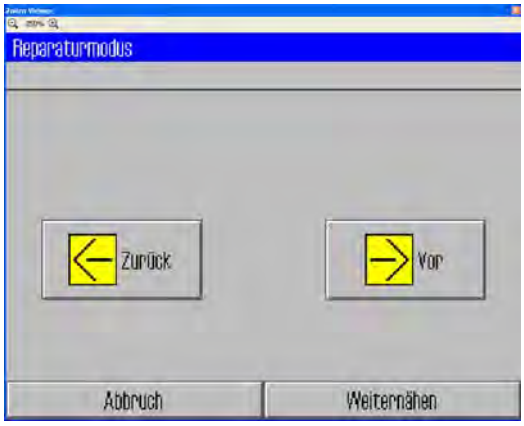
In Repair mode you can move to any desired point on the contour, e.g. in order to continue the seam program from this position after an error has occurred.

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. 73: 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.
3. Tap the **Weiternähen (Continue Sewing)** button.

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

6.9 Resetting the counter

Depending on the machine parameter settings, the counter counts the sewn programs or sequences up or down. You can use the **Zähler-Reset (Reset Counter)** button to reset the counter to the start value (📖 *p. 112*).

To reset the counter:

1. Tap the button  **Zähler-Reset (Reset Counter)** on the start screen.

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

6.10 Creating a new seam program

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

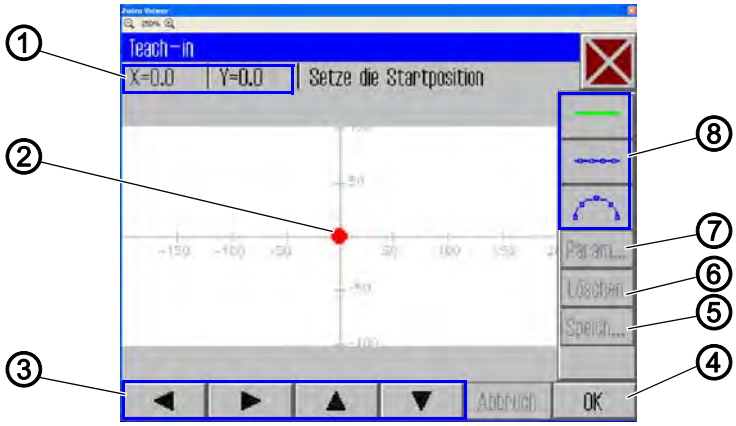
Individual seam paths with specific seam parameters are defined via the operating terminal in order to do this.

To create a new seam program:

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

↳ The Teach-In window appears.

Fig. 74: 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 / blue dot.

Selecting the line type

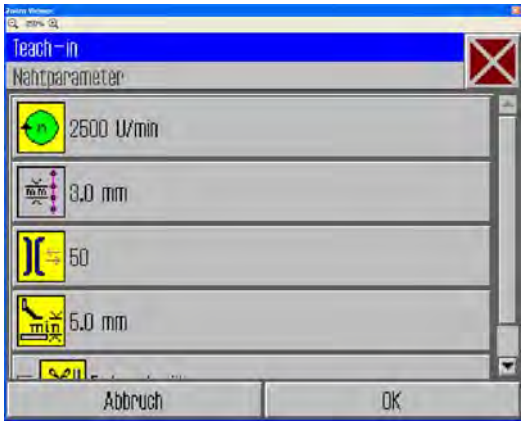
4. Use the line selection buttons (8) to select the type of line to be defined:

   -  **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. 75: 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. 83*).

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 sewing unit. 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. 82*) and adopt the change by pressing **OK** *(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. 94*).

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.

6.11 Performing a contour test

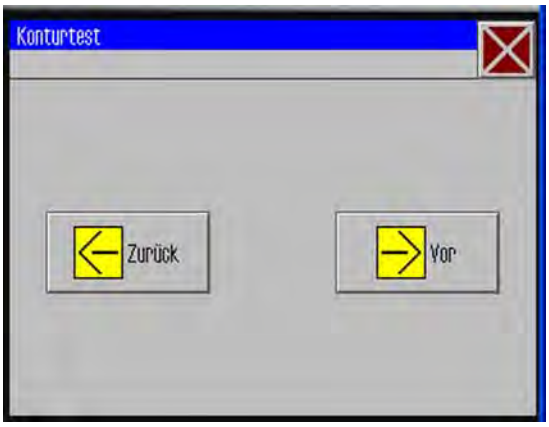
Always perform a contour test every time after creating or editing a program to ensure that the entire contour lies within the permissible sewing field.

To perform a contour test:

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

↳ The *Konturtest (Contour test)* window appears.

Fig. 76: Performing a contour test



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

6.12 Creating a new sequence

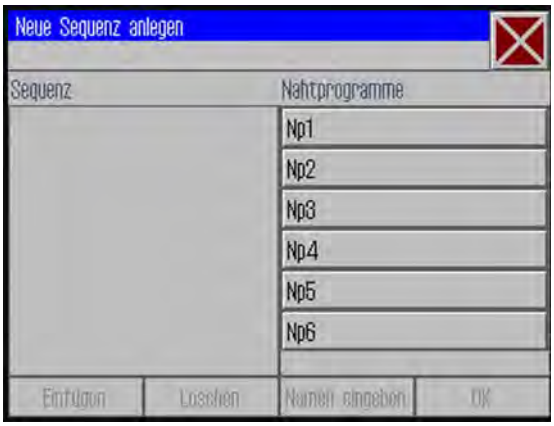
You can combine up to 30 seam programs to form a sequence. You can create up to 20 sequences.

Selecting the seam program

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

↳ The window for selecting the seam program appears.

Fig. 77: 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 seam 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 **OK** *(CR)* (🕮 *p. 82*).

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

6.13 Editing an existing sequence

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

To edit an existing sequence:

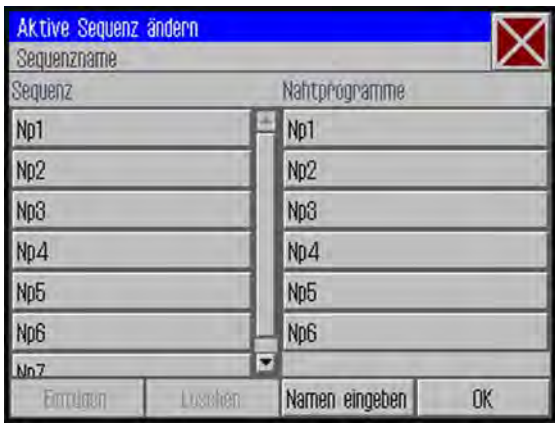
1. Open the program you wish to modify via the menu items *Datei (File)* > *Öffnen (Open)*.

↳ The sequence opens on the start screen.

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

↳ The window for editing the sequence appears.

Fig. 78: 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. 95*).

6.14 Saving a seam program or 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. 81*).

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 **OK** *(CR)* (📖 *p. 82*).

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

6.15 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.

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. 79: 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.
The files present at this location are listed in a selection window (2).

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 81*).

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.

6.16 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. 80: Deleting a seam program or sequence

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 81*).

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.

6.17 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.

6.17.1 Changing the contour of a seam program

NOTICE

Property damage may occur!

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

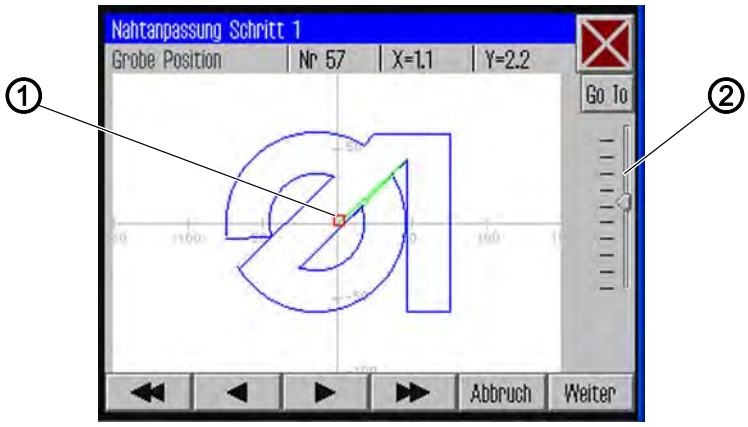
Always perform a contour test after creating or editing a contour to ensure that the entire contour lies within the permissible sewing field.

To change the contour of a seam program:

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

↳ The contour adjustment window appears:

Fig. 81: 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.

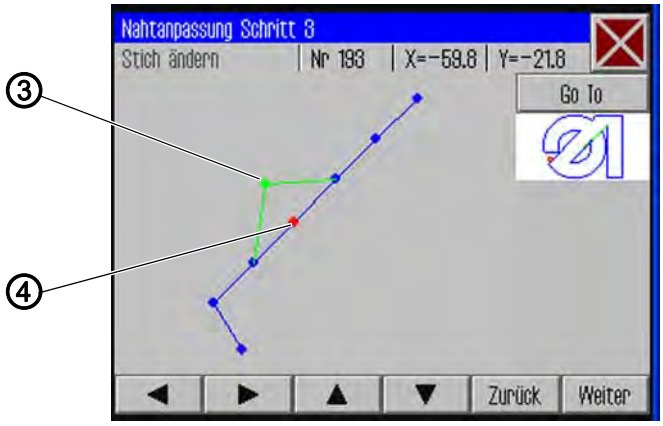
Information

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. 82: 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 selecting the technology operations opens.

Fig. 83: Changing the contour of a seam program (3)

6. Select the desired technology operation(s) for the new seam path (📖 *p. 80*).

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. 94*).

6.17.2 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. 84: 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.

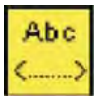
↳ The window for modifying the parameter value opens.

4. Set the parameter to the desired value (🕮 *p. 83*).

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 - Soft start** Number of stitches and speed
	**PP5 - Needle thread monitor** Sensitivity value for the needle thread monitor
	**PP6 - Thread consumption** Values for determining thread consumption
	**PP7 - Offset:** Contour is offset in a particular direction
	**PP8 - Scaling:** The size of the contour is changed.

Overview of the individual program parameters

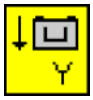
	**PP1 - Configuration**
Symbol	**Meaning**
	**Seam name** max. 20 characters
	**Minimum sewing foot stroke height** (min. = 1.0 .. max. = 10.0; Def. = 5.0 mm) Sets this as the minimum value of the programmable sewing foot stroke height so that only this value needs to be adjusted when sewing thicker 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)

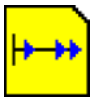
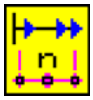
Symbol	Meaning
	**Marking lamps** Up to 4 marking lamps for easier alignment of the sewing material can be controlled (the additional equipment must be activated)
	**Needle reversing mode** The following options can be set: **Not active:** The needle remains at the Stop position. **After the entire contour:** 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 the 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 loading 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 loading 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 loading 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 loading 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 activate the quick-start mode. **Mode 5** Clamp is remains closed in the loading position. Pressing the pedal again starts sewing of the seam.
	**Loading position** (On/Off) With the loading position activated the clamps move to the desired position for convenient insertion of the sewing material.

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

	**PP3 - Removal mode**

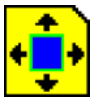
Symbol	Meaning
	**Removal mode** The following options can be set: **Mode 1** (Def.) Clamp is opened in the removal position. **Mode 2** Clamp remains closed in the removal position. The clamp is opened when the pedal is pressed. **Mode 3** Clamp remains closed in the removal position. Pressing the pedal 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.

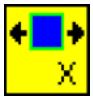
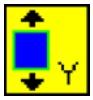
	**PP4 - Soft start**
Symbol	**Meaning**
	**Number of soft start stitches** (min. = 0 .. max. = 10; Def. 5)
	**Soft start speed** (min. = 100 .. max. = 2000; Def. 300 rpm)

	**PP5 - Needle thread monitor**
	(min. = 0 .. max. = 99; Def. 5) Is only active if activated in the machine parameters. (A higher value makes the needle monitor less sensitive. 99 = Needle thread monitor switched off in this program only.)

	**PP6 - Thread consumption**
Symbol	**Meaning**
	**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 %)
	**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)

6.18 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. 85: 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. 83*).

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: **Walking foot**: 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. 149*)) **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 limiting the amount of clamp pressure to allow for better alignment on insertion. **Neat seam beginning:** Optional equipment, activates stitch position optimization (🕮 *Additional Instructions Stitch Position Optimization*) **Marking lamps:** Optional equipment providing orientation lines on insertion for easier alignment. Up to 4 marking lamps can be switched on for each program. This setting only activates the option; the actual switching is defined in the program parameters (see **Marking lamps** (🕮 *p. 104*)) **Barcode scanner:** 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. 103*)).
	**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 initial 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. 104*)). The machine must be switched off and on in order to activate the quick-start mode. **Push button:** In push button 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.

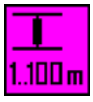
	**MP2 - Limit values**
Symbol	**Meaning**
	**Max. speed** (min. = 500 .. max. = 2700; Def. 2700 rpm) All sewing programs are limited to this maximum speed.
	**Max. run-empty speed** (min. = 10 .. max. = 100; Def. 100 %) Limits all clamp movements between the seams to this value.
	**Feed starting angle** (min. = 30 .. max. = 350; Def. 210 degrees) The clamp motion during the stitch starts at this angle of needle motion.
	**Feed phase** (min. = 30 .. max. 100; Def. 80 %) 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) 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. **Thread cutting** (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.

Symbol	Meaning
	**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. 180 rpm) Speed of the cutting stitch.
	**Cutting position on** (min. = 0° .. max. 359°; Def. 180°) Angular position of the needle at which the thread cutting knife is switched on.
	**Cutting position off** (min. = 0° .. max. 359°; Def. 359°) Angular position of the needle at which the thread cutting knife is switched off.
	**Thread tension during thread cutting** (min. = 00 .. max. 100; Def. 10 %) Thread tension of the cutting stitch.
	**Position for thread tension during thread cutting** (min. = 0° .. max. 400°; Def. 370°) Starting angle for the thread tension during the cutting stitch. (At an angle greater than 359° the thread tension is activated in the next stitch.)

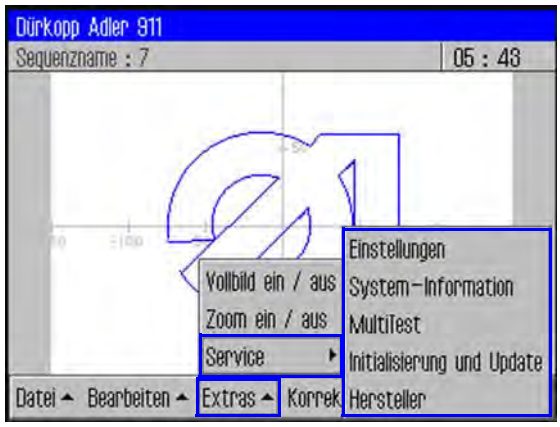
	**MP5 - Thread clamping**
Symbol	**Meaning**
	**Close thread clamp at 1st stitch** (min. = 0° .. max. 250°; Def. 180°) Start angle for closing the thread clamp during the first stitch.
	**Open thread clamp at 1st stitch** (min. = 0° .. max. 359°; Def. 340°) Starting angle for opening the thread clamp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

	**MP6 - Counters**
Symbol	**Meaning**
	**Counter type** The following options are available: **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 counter** (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. 0.0 m) A message is displayed to the user after the bobbin supply capacity has been consumed. A value of 0 deactivates the function.

6.19 Checking and changing the technical settings

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

Fig. 86: 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. 78*).

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)* there.
3. In the following window tap the option *Passwort ändern (Change password)*.

↳ The window for entering the new password appears.

4. Enter the new password (🕮 *p. 78*).

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 date and time

To set date and time:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* tap the option *Datum (Date) und (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. 87: Testing the functions of the machine

Information

The *Feed clamps* function is only intended for use by Dürkopp Adler Service personnel.

Testing inputs and outputs

Important

The instructions only provide an overview of the test possibilities.

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

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

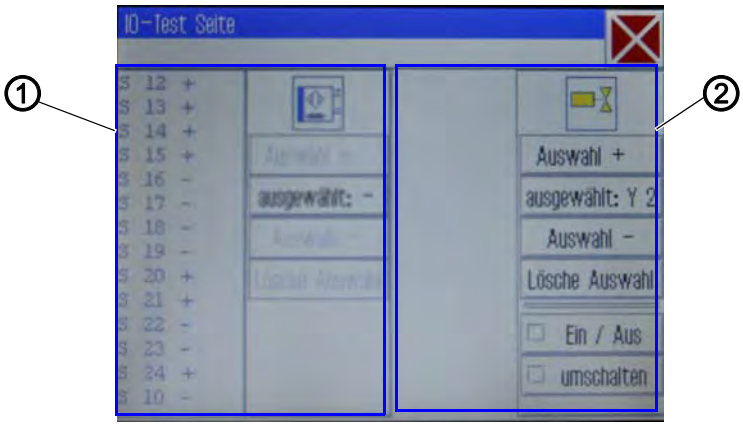
Do not reach into the machine during function testing of inputs and outputs.

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 Seite (Page)* window is displayed.

Fig. 88: 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. During the 1st time: Button **selected:** tap and select an output.
3. Next, 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.

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	Machine head 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
Y8	Stitch position optimization
Y9	Threading switch lamp on
Y10	Oil level indicator warning light on
Y25	Marking lamp 1 (Z)
Y26	Marking lamp 2 (Z)
Y27	Marking lamp 3 (Z)
Y28	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 stroke position)* option.

↳ The following options are displayed:

Symbol	Meaning
	**Perform a reference run** Check the movement
	**Switch between walking foot 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.

Testing the 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 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. 89: Testing the sewing motor

Important

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

2. Tap the  button.

↳ The window for entering the speed opens.

3. Enter the desired value (300 - 2000 rpm).

4. Tap the  button.

↳ The window for entering the cutting speed opens.

5. Enter the desired value (70 - 500 rpm).

6. Tap the  button.

↳ The sewing motor runs at the entered speed.

7. Tap the  button.

↳ The sewing motor stops.

8. Tap the  button.

↳ The sewing motor runs at the entered speed.

9. Tap the  button.

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

Calling up log displays and error lists

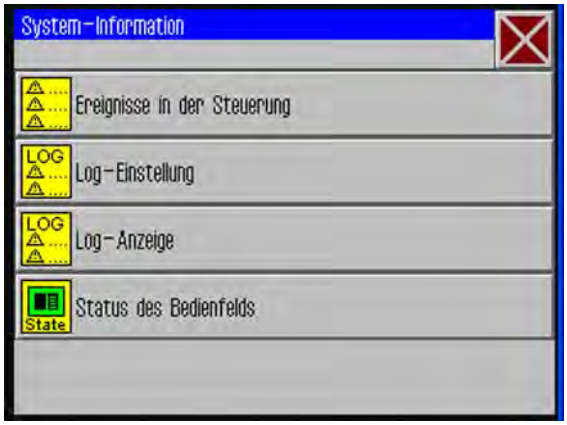
You can access the log settings and error lists via *Extras* > *Service* > *System-Information (System Information)*.

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. 90: 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

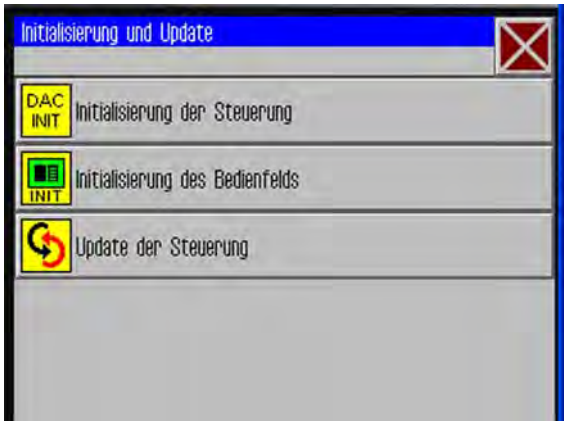
You can use *Extras* > *Service* > *Initialisierung (Initialization) and Update* to reset the control and control panel to the factory defaults and to update the control with a new software version.

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. 91: 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 der Steuerung (Initialize the 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*.

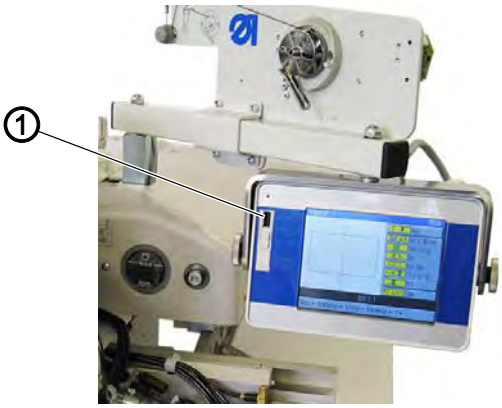
You can easily transfer a new software version from a USB key to the control.

Important

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

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

Fig. 92: 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 Steuerung (Update the 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. Tap menu items *?* > Tap on *Info*.

↳ The following information is displayed:

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

7 DA-CAD 5000

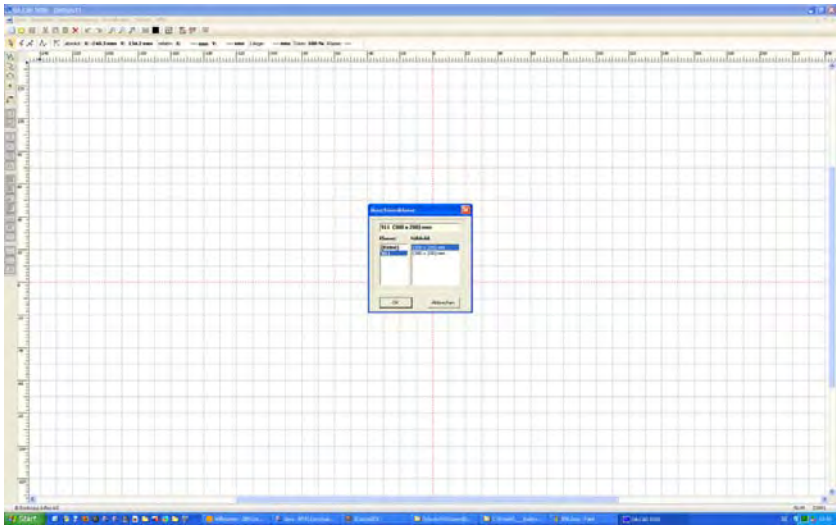
You can use the DA-CAD 5000 program to create seam programs on a PC. The DA-CAD 5000 program is available as additional equipment.

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 class.

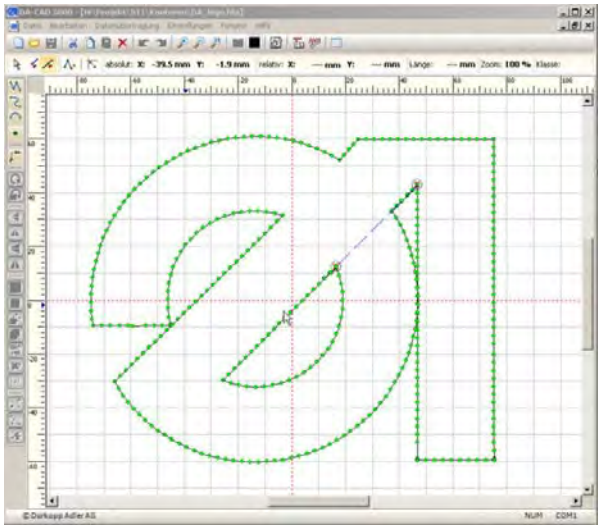
Fig. 93: Selecting the class



Creating the seam contour

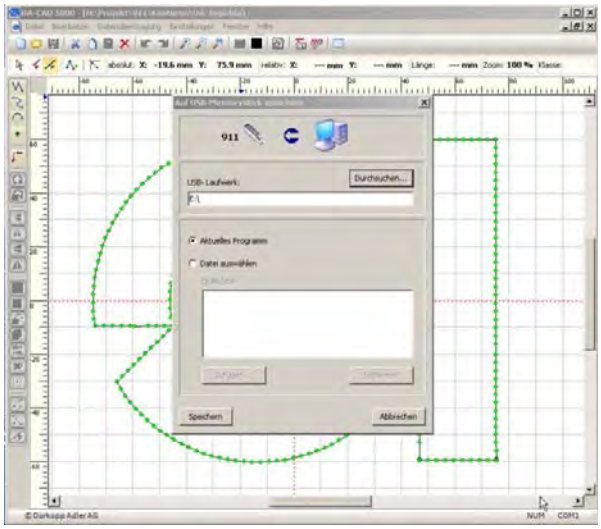
The next step is to draw the seam contour.

Fig. 94: Creating the seam contour



Saving the seam contour

Fig. 95: 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.

Save the program on a USB key

To save a program on a USB key:

1. Select the menu items *Datenübertragung (Data transfer)* > *USB-Memorystick (USB memory key)* > *Speichern (Save)* (*PC->>USB*).

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, 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. 98*).
2. Open the copied program (📖 *p. 85*).
3. Adjust the program parameters (especially the sewing foot height) (📖 *p. 102*).
4. Perform a contour test to check the clamp motion (📖 *p. 94*).

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

8 Maintenance

8.1 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!

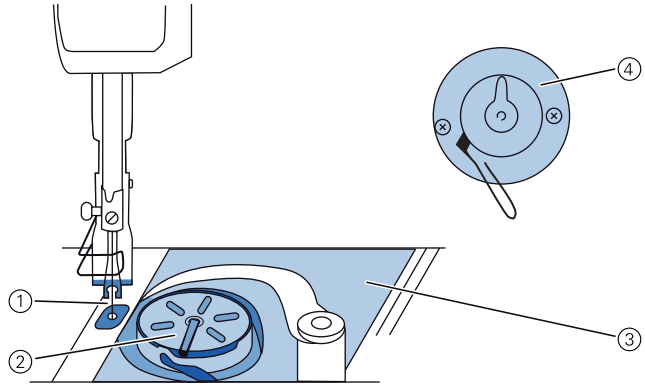
Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

8.1.1 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. 96: 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.

8.1.2 Cleaning the motor fan mesh

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

Fig. 97: 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.

8.2 Checking 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.

8.3 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:

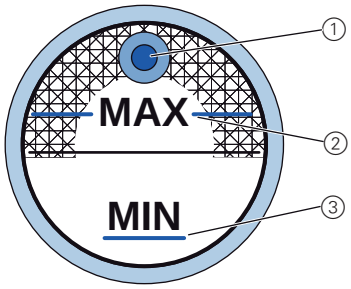
Container	Part no.
250 ml	9047 000011
1 l	9047 000012
2 l	9047 000013
5 l	9047 000014

8.3.1 Lubricating the machine head

Proper setting

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

Fig. 98: Lubricating the machine head



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

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).

8.3.2 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. 99: 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

Information

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.

8.4 Servicing the pneumatic system

8.4.1 Setting the operating pressure

NOTICE

Property damage from incorrect setting!

Incorrect operating pressure can result in damage to the machine.

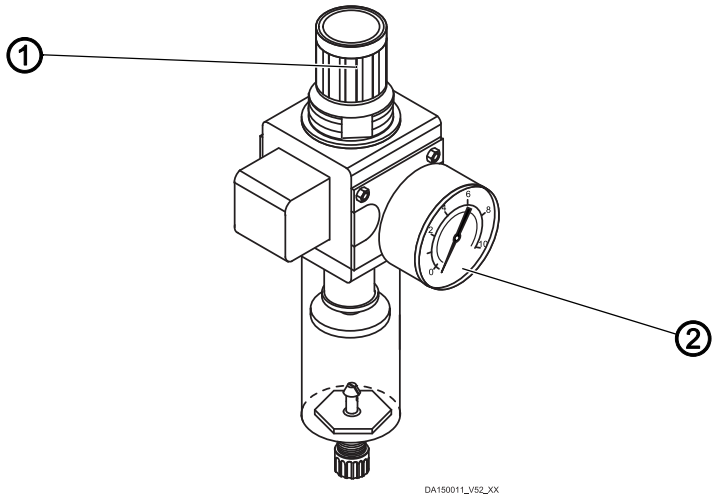
Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical data** (📖 *p. 149*) 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. 100: 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.

8.4.2 Draining the water condensation

NOTICE

Property damage from excess water!

Excess water can cause damage to the machine.

Drain water as required.

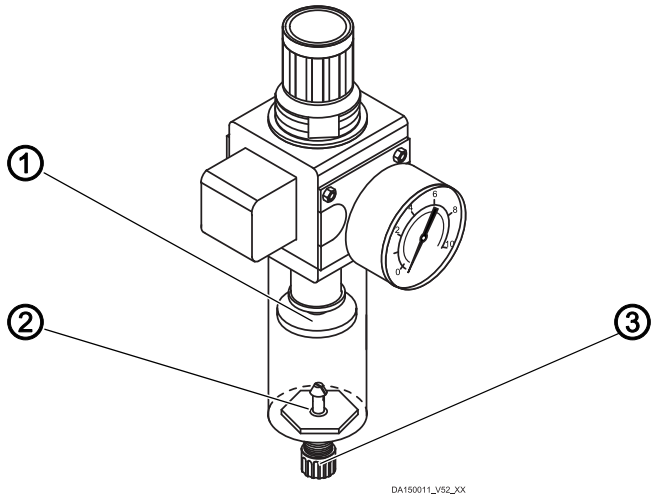
Water condensation accumulates in the water separator (2) of the pressure controller.

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. 101: 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.

8.4.3 Cleaning the filter element

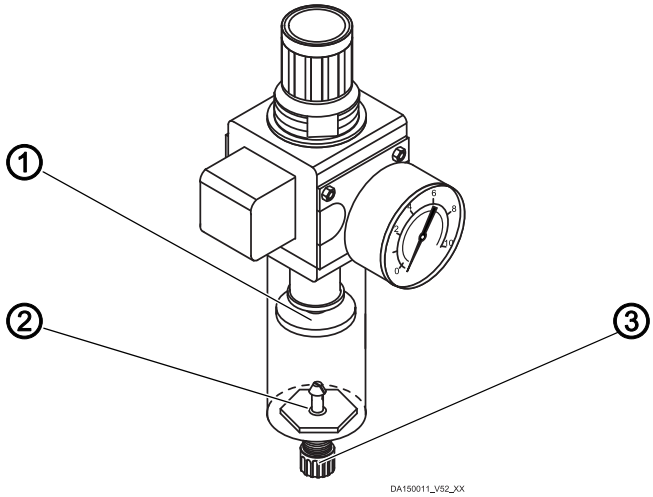
NOTICE

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. 102: 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. 136*).
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.

8.5 Parts list

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

www.duerkopp-adler.com

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!

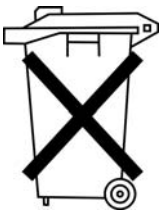
Oil can cause a rash if it comes into contact with skin.

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.com

11.2 Messages of the software

11.2.1 Information messages

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 preset value.	Tap the OK button. The counter is reset.

11.2.2 Error messages

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 freedom 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 mains voltage too high	Check the mains voltage
1055	Sewing motor overload • Sewing motor blocked/not moving freely • Sewing motor defective • Control defective	• Fix blockage/sluggishness • 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 pulse encoder in the motor to the control • Switch off and on the machine again • Software update
Stepper motors		
2101	X-axis stepper motor referencing timeout • Faulty reference switch setting • Faulty cable to the reference switch • Reference switch defective	• Align reference switch • Replace the cable • Check 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 excess current	• Replace the stepper motor • Replace the control
2153	X-axis stepper motor overvoltage • Mains voltage too high	• Check the mains voltage
2155	X-axis stepper motor overload • Feed system not moving freely • Obstacle to feed motion	• Eliminate sluggishness • Remove obstacles/adjust the motion

Code	Description	Troubleshooting
2156	X-axis stepper motor overtemperature • 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	• Align 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 excess current	• Replace the stepper motor • Replace the control
2253	Y-axis stepper motor overvoltage • Mains voltage too high	• Check the mains 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	• Align 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 excess current	• Replace the stepper motor • Replace the control
2353	Stroke position stepper motor overvoltage • Mains voltage too high	• Check the mains voltage
2355	Stroke position step motor overload • Feed system not moving freely • Obstacles to the feed motion	• Eliminate sluggishness • Remove obstacles/adjust the motion
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

Code	Description	Troubleshooting
Machine control		
3100	Machine control voltage • Temporary mains voltage interruption	• Check the mains voltage
3102	Machine voltage in sewing motor intermediate circuit • Temporary mains voltage interruption	• Check the mains voltage
3103	Machine voltage in stepper motor intermediate circuit • Temporary mains voltage interruption	• Check the mains 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
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

Code	Description	Troubleshooting
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 case retainer not closed	Close the bobbin case retainer
9701	Parallel clamps not lowered	• Remove obstacles • Align sensors
9900	Incorrect machine parameters	Initialize the data
9901	Incorrect sequences	Initialize the data
9902	Incorrect program parameters	Initialize the data

12 Technical data

Noise emission

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

Lc = 74 dB (A) ± 0.83 dB (A), given:

- Stitch length: 3.0 mm
- Sewing foot stroke: 3.0 mm
- Speed: 2,000 min^{-1}
- Sewing material: 2-layer Skai; 1.6 mm 900g/mm^2; DIN 53352
- Sewing cycle: 18.0 seconds on and 0.0 seconds off

Overview of technical data

Characteristic	911-210-3020	911-210-6020	911-210-6055
Type of stitches	301		
Hook type	Vertical hook		
Needle system	134/35		
Needle strength [Nm]	80 - 180		
Number of needles	1		
Maximum thread strength [Nm]	10/3 20/3		
Stitch length (programmable) [mm]	Maximum 12.7 (dependent on seam pattern)		
Maximum speed [min^{-1}] (intermittent and dependent on the stitch length and sewing material thickness)	2700		2000
Clamp stroke [mm]	20		
Foot lifter [mm]	20		
Sewing field size [mm]	300 x 200	600 x 200	600 x 500
Number of free seam contours	99		
Operating pressure [bar]	6		
Air consumption [NL]	2		
Length/width/height [mm] (+ spindle length [mm])	1200/1200/760-900 (+120)		1760/1200/760-910 (+310)
Weight (fitted) [kg]	225		275
Voltage [V]	230		
Frequency [Hz]	50/60		
Power [W]	450		

Characteristics

Basic type:

CNC-controlled, large-field sewing unit based on class 867, with a DACIII control and specific software.
For equipping with different clamping systems.

Typical applications:

- Tacking on lifting straps, safety harnesses, safety belts, tie-down straps
- Attachment of labels and decorations
- Decorative seams on shoes and boots
- Decorative seams for special applications

Sewing material:

Webbing, rope, leather, woven fabric, airbag materials, leather, foam laminates, leather laminates, textiles, plastic

Double lockstitch machine with the following equipment:

- Automatic sewing foot and clamp lifting
- Stroke position adjustment
- Short thread cutter
- Needle thread monitoring
- Threading device
- Programmable needle thread tension

Technical features

Drive:

- Drive via positioning drive:
  In addition to the sewing drive, the DACIII control controls 2 stepper motors for the X and Y motion for creating the seam geometry and a Z axis for sewing foot adjustment.
- The arm shaft is driven by a brushless DC motor
- Maximum speed depending on stitch length, thickness of sewing material, application, clamp size and clamp weight

Programming:

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

Lubrication:

- Central oil-wick lubrication system for machine head and hook

Sewing foot lift:

- Motorized sewing foot lift

Clamp opening:

- Pneumatic opening and closing of the clamps

Stitch length:

- Maximum stitch length: 12.7 mm

Thread handling:

- Electronic needle thread monitor
- Programmable needle thread tension:
  Appropriate tension values for different thread extraction directions stored in seam program. This creates a neat seam pattern.
- Threading device:
  Pulls the needle thread under the sewing material on the 1st stitch.
- Programmable stitch counter for hook thread monitoring and item counter
- Optional: Electronic remaining thread monitor

Sewing field size:

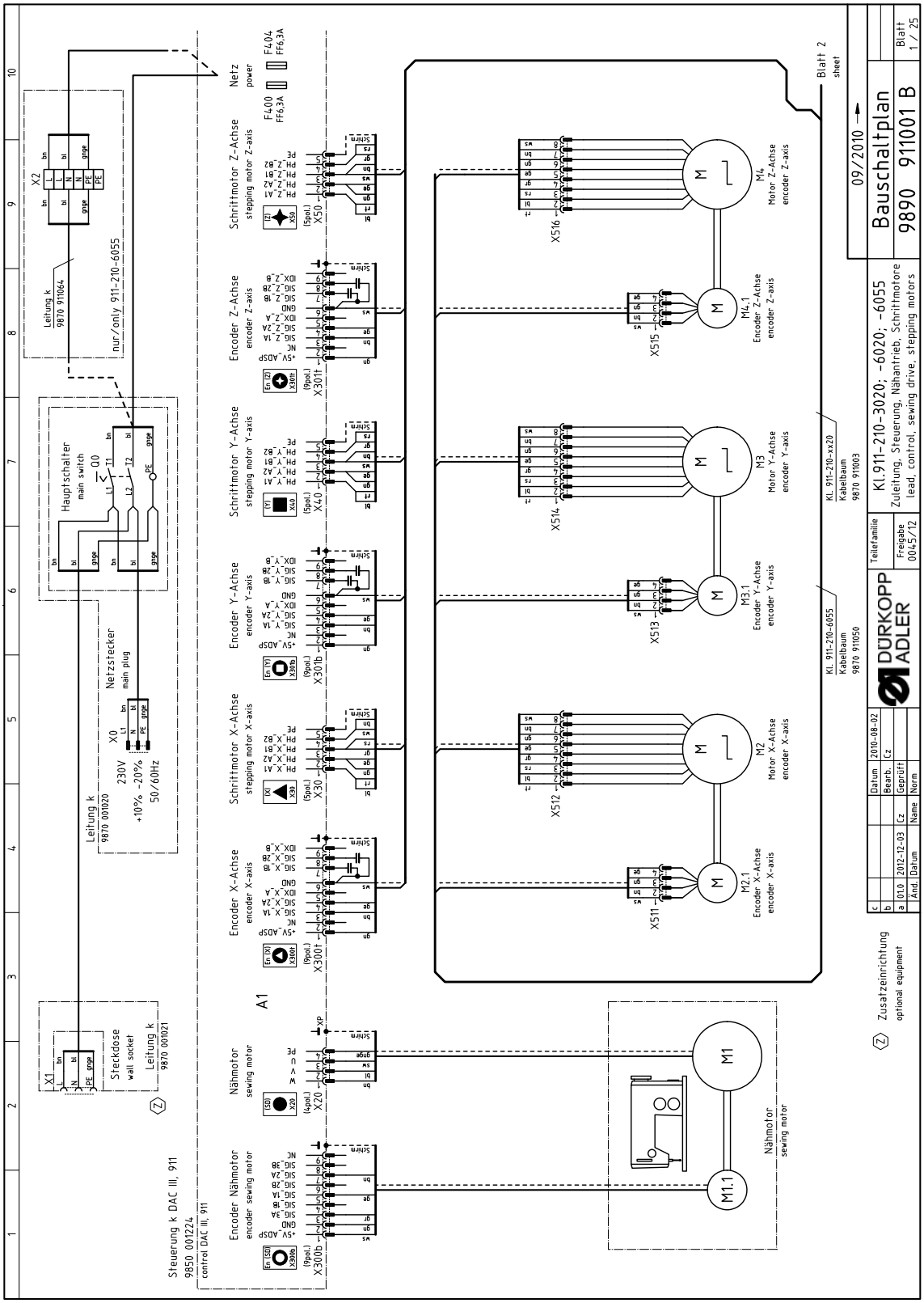
- Sewing field size between 300 x 200 mm and 600 x 550 (depending on subclass)
- Special alternating clamps can be used for a width of X to 380 mm.

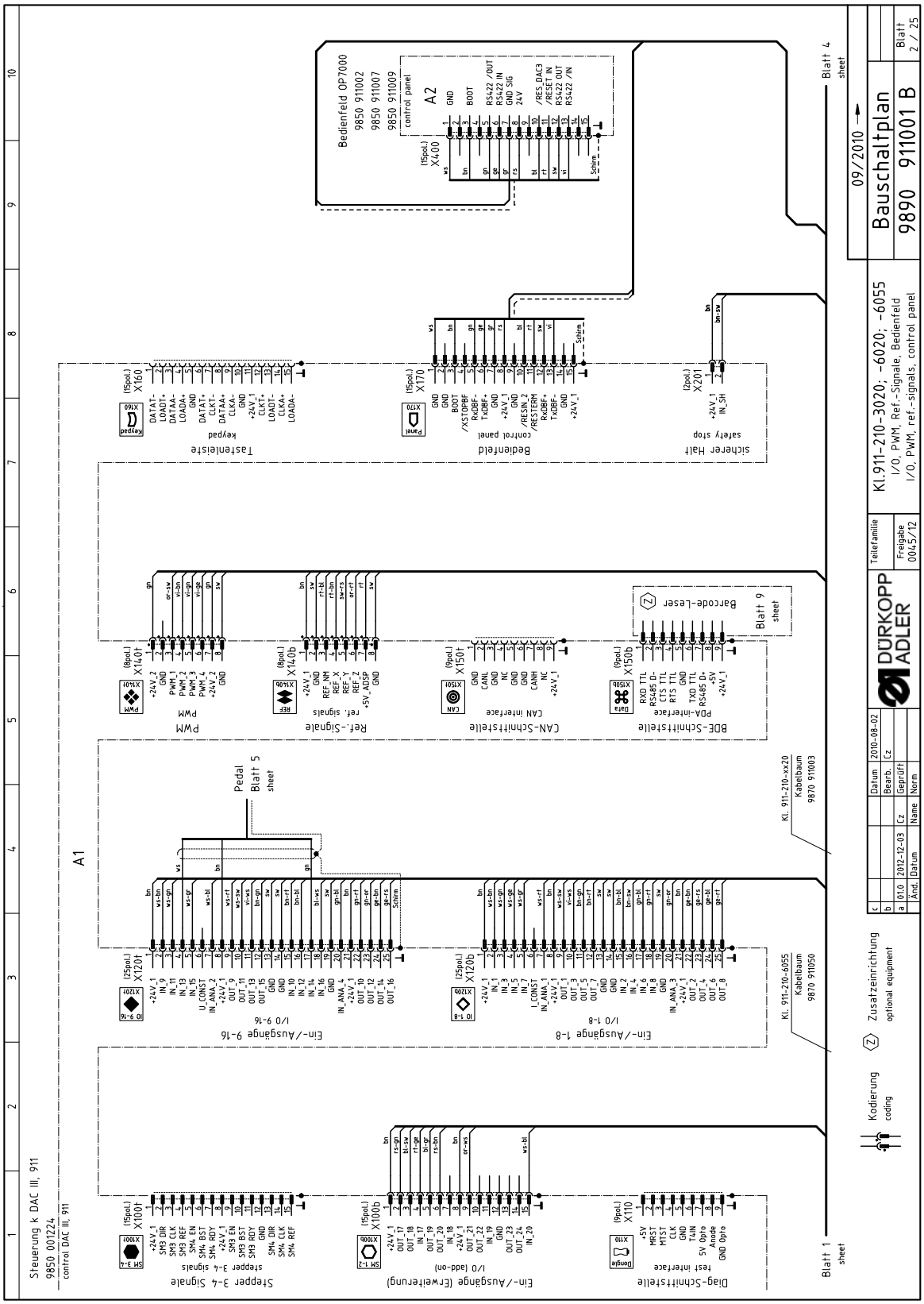
Ergonomics:

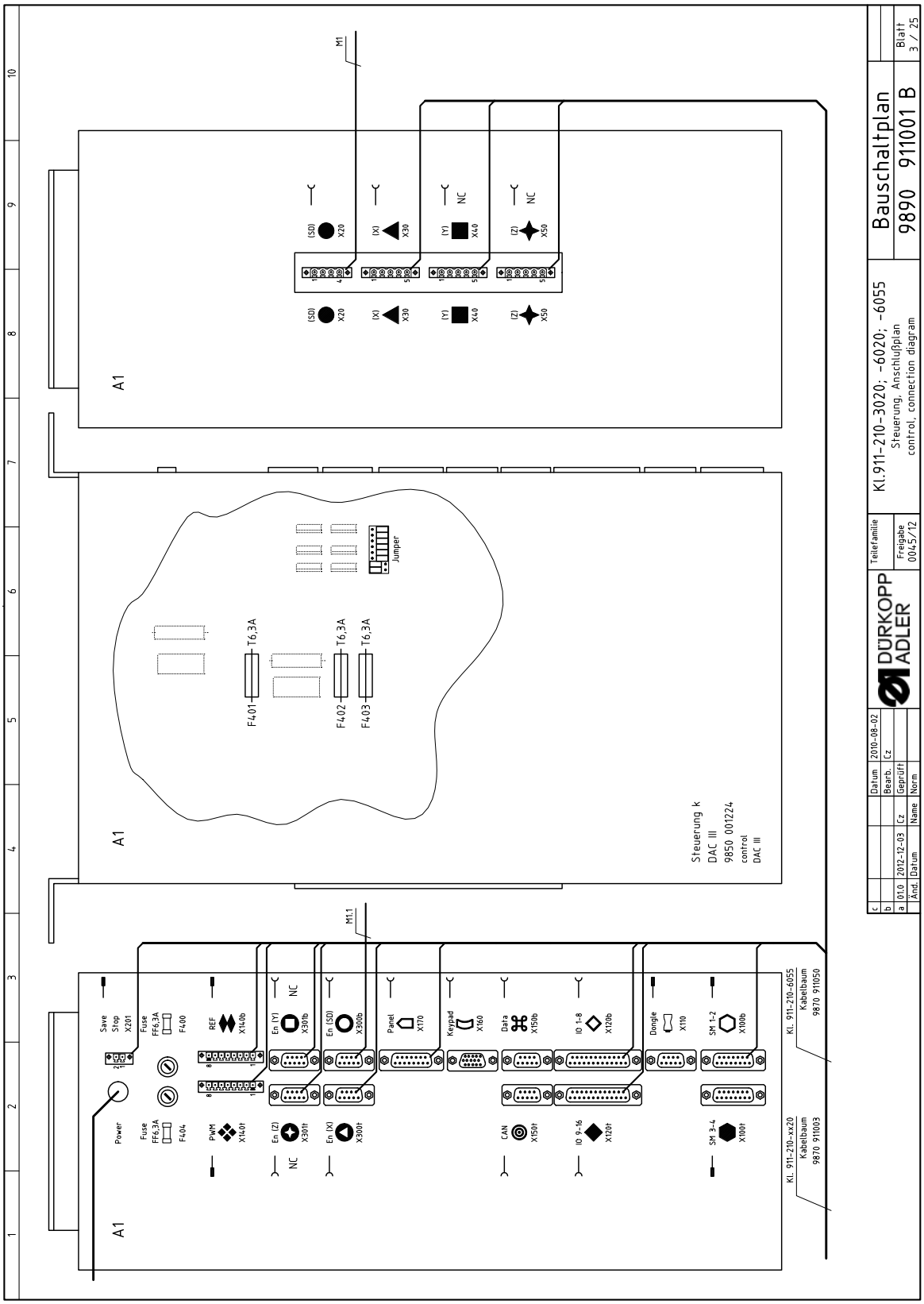
- Height-adjustable stand via screwable feet for working heights of 760 - 910 mm, for standing work
- Pedal freely movable within the available cable length

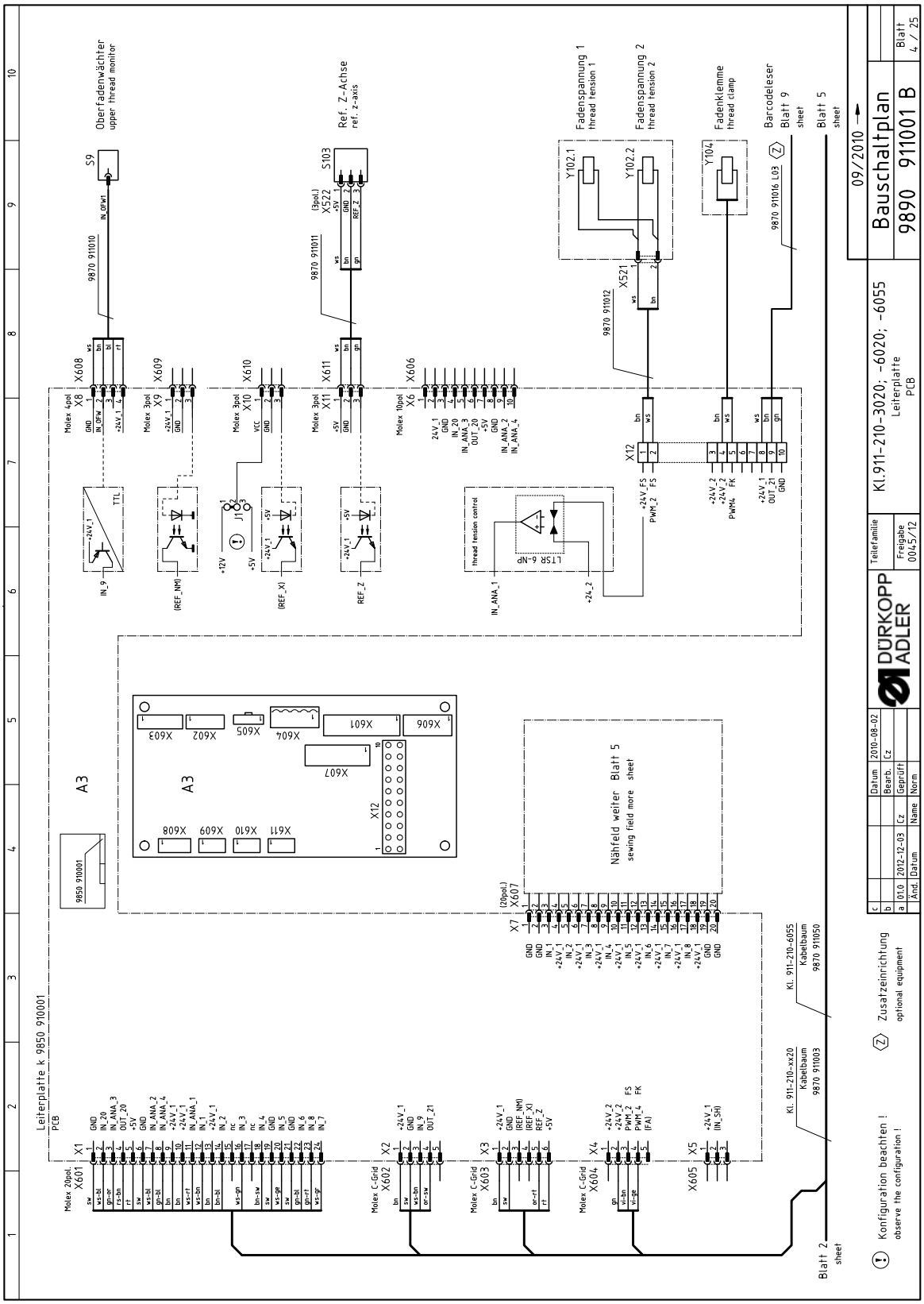
13 Appendix

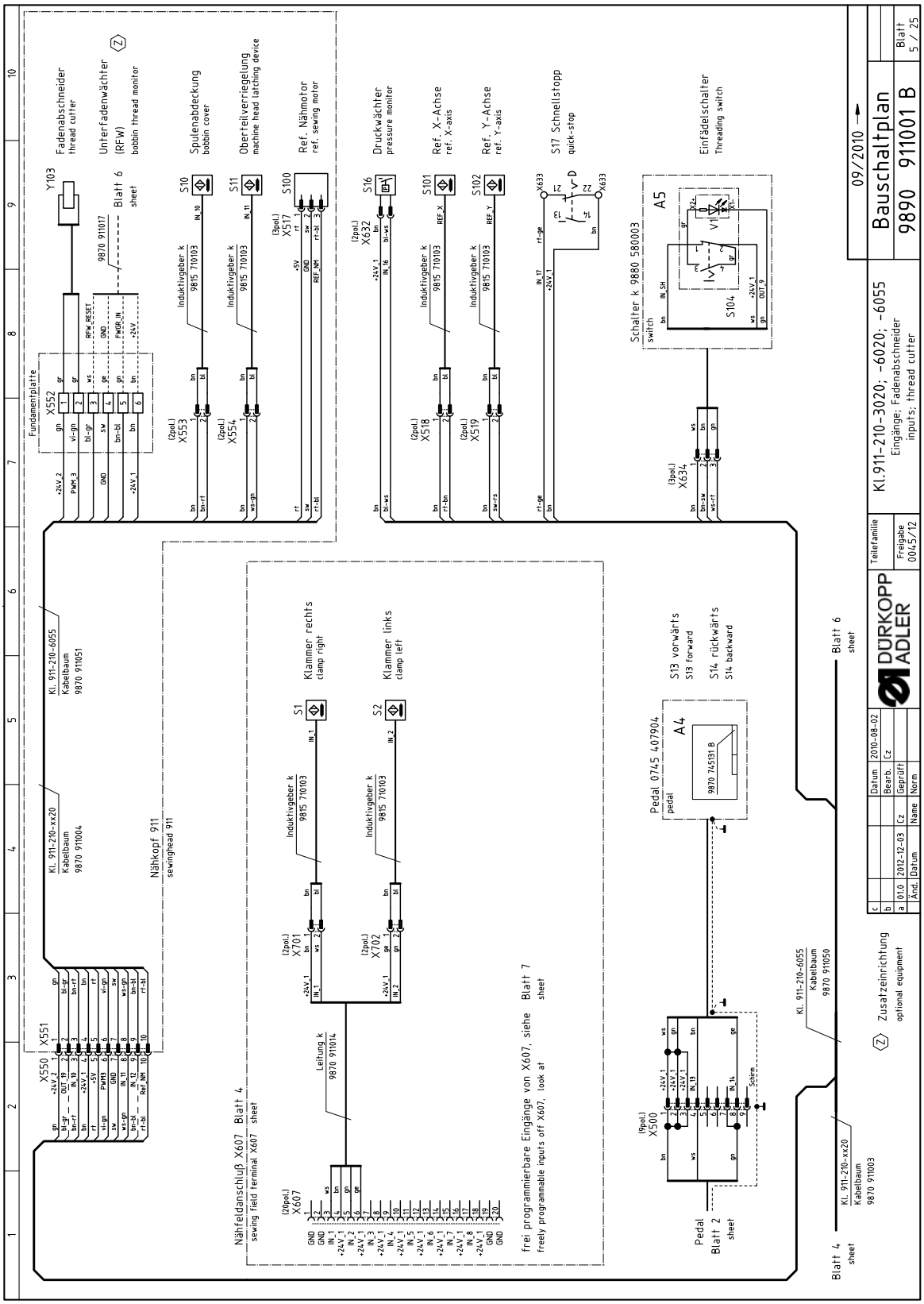
13.1 Wiring diagram

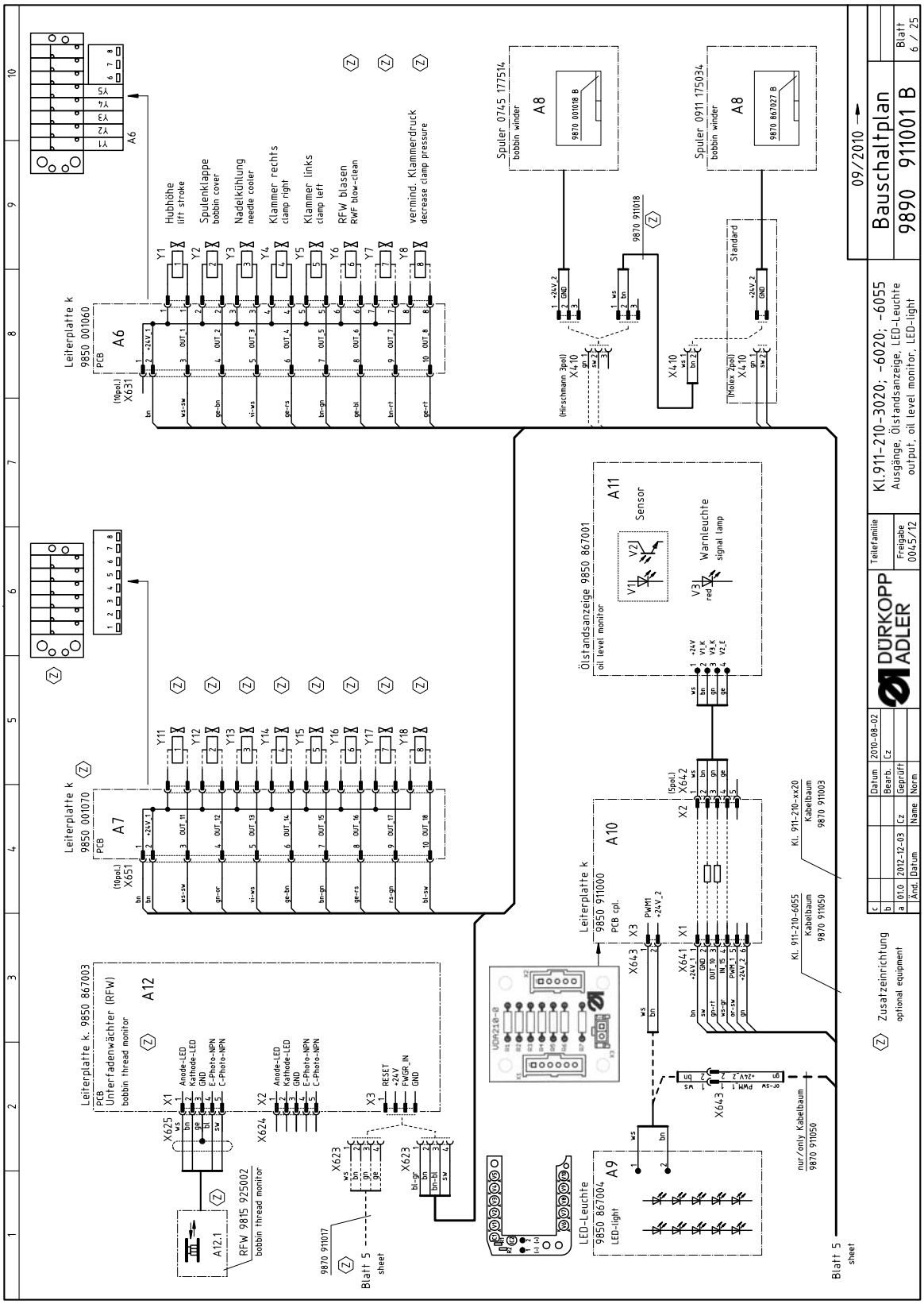


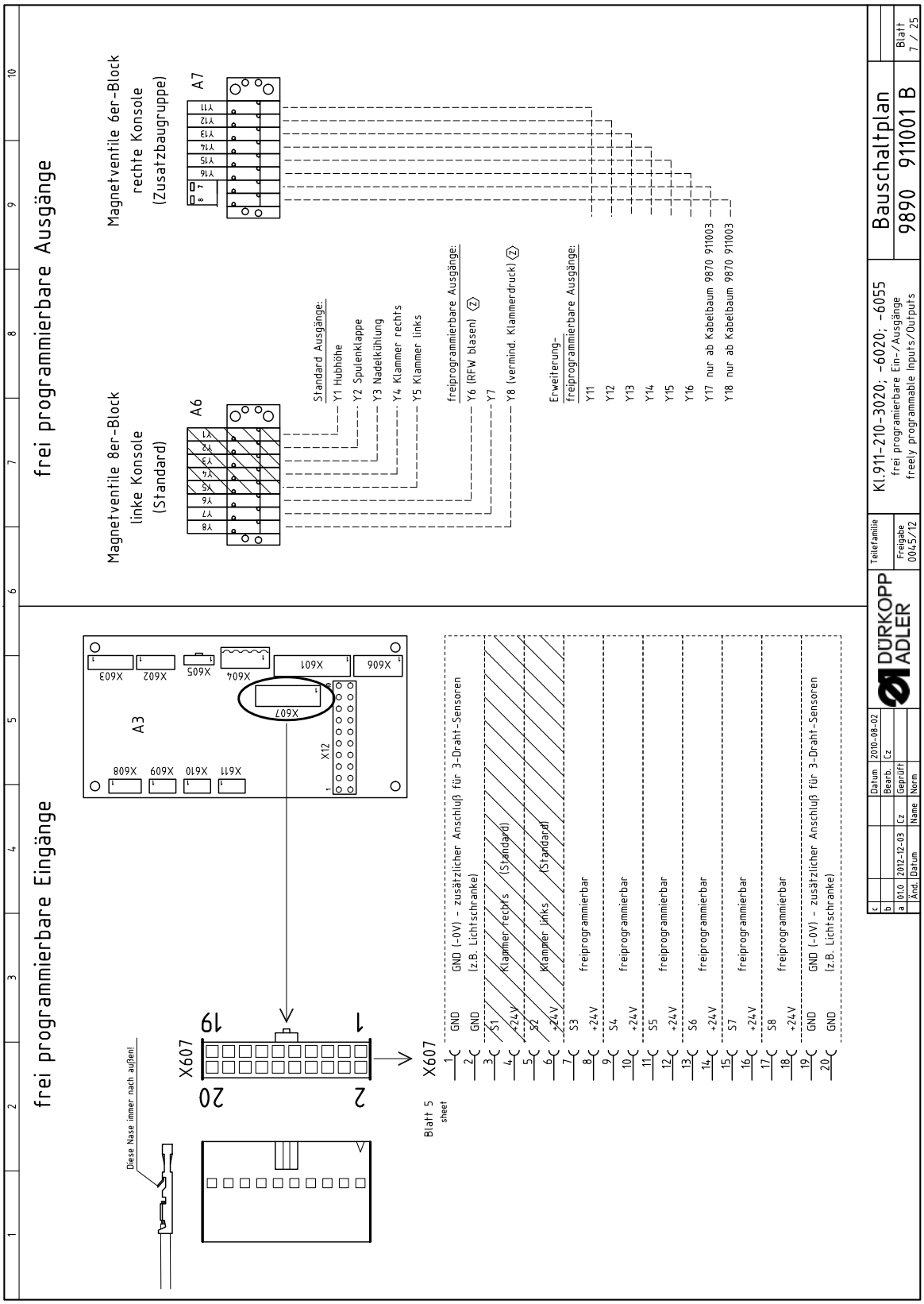

Steuerung k DAC III, 911
9850 001224
control DAC III, 911
A1
Bedienfeld OP7000
9850 911002
9850 911007
9850 911009
control panel
A2
GND
BOOT
RS422 /OUT
RS422 IN
GND SIG
24V
/RES DAC3
/RESET IN
RS422 OUT
RS422 /IN
Schirm
(15pol.) X400
Blatt 4 sheet
09/2010
Bauschaltplan
9890 911001 B
Blatt 2 / 25
Kl.911-210-3020; -6020; -6055
I/O, PWM, Ref.-Signale, Bedienfeld
I/O, PWM, ref.-signals, control panel
Teilefamilie
Freigabe 0045/12
DÜRKOPP ADLER
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm
Name
Cz
2012-12-03
01.0
Änd. Datum
Tastenfeld
keypad
(15pol.) X160
Bedienfeld
control panel
(15pol.) X170
sicherer Halt
safety stop
(2pol.) X201
PWM
(8pol.) X140t
Ref.-Signale
ref. signals
(8pol.) X140b
CAN-Schnittstelle
CAN interface
(9pol.) X150t
BDE-Schnittstelle
PDA-interface
(9pol.) X150b
Barcode-Leser
Blatt 9 sheet
Pedal
Blatt 5 sheet
Ein-/Ausgänge 9-16
I/O 9-16
(25pol.) X120t
Ein-/Ausgänge 1-8
I/O 1-8
(25pol.) X120b
Kl. 911-210-xx20
Kabelbaum
9870 911003
Kl. 911-210-6055
Kabelbaum
9870 911050
Stepper 3-4 Signale
stepper 3-4 signals
(15pol.) X100t
Ein-/Ausgänge (Erweiterung)
I/O (add-on)
(15pol.) X100b
Diag-Schnittstelle
test interface
(9pol.) X110
Blatt 1 sheet
Kodierung
coding
Zusatzeinrichtung
optional equipment

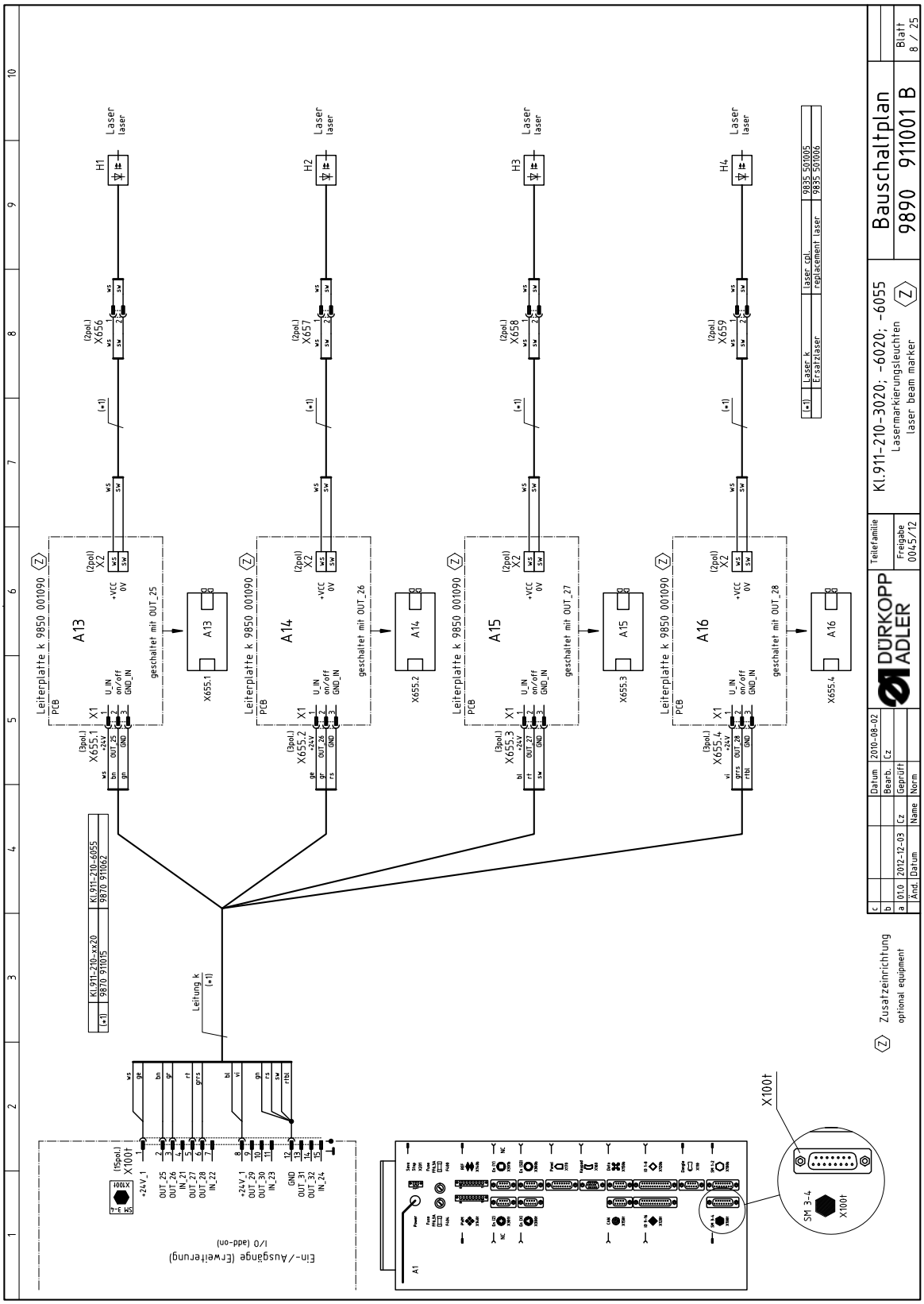

Bauschaltplan
9890 911001 B
Kl.911-210-3020; -6020; -6055
Steuerung, Anschlußplan
control, connection diagram
Blatt 3 / 25
Steuerung k
DAC III
9850 001224
control
DAC III
Kl. 911-210-6055
Kabelbaum
9870 911050
Kl. 911-210-xx20
Kabelbaum
9870 911003
A1
M1
M1.1
F401 T6,3A
F402 T6,3A
F403 T6,3A
Jumper

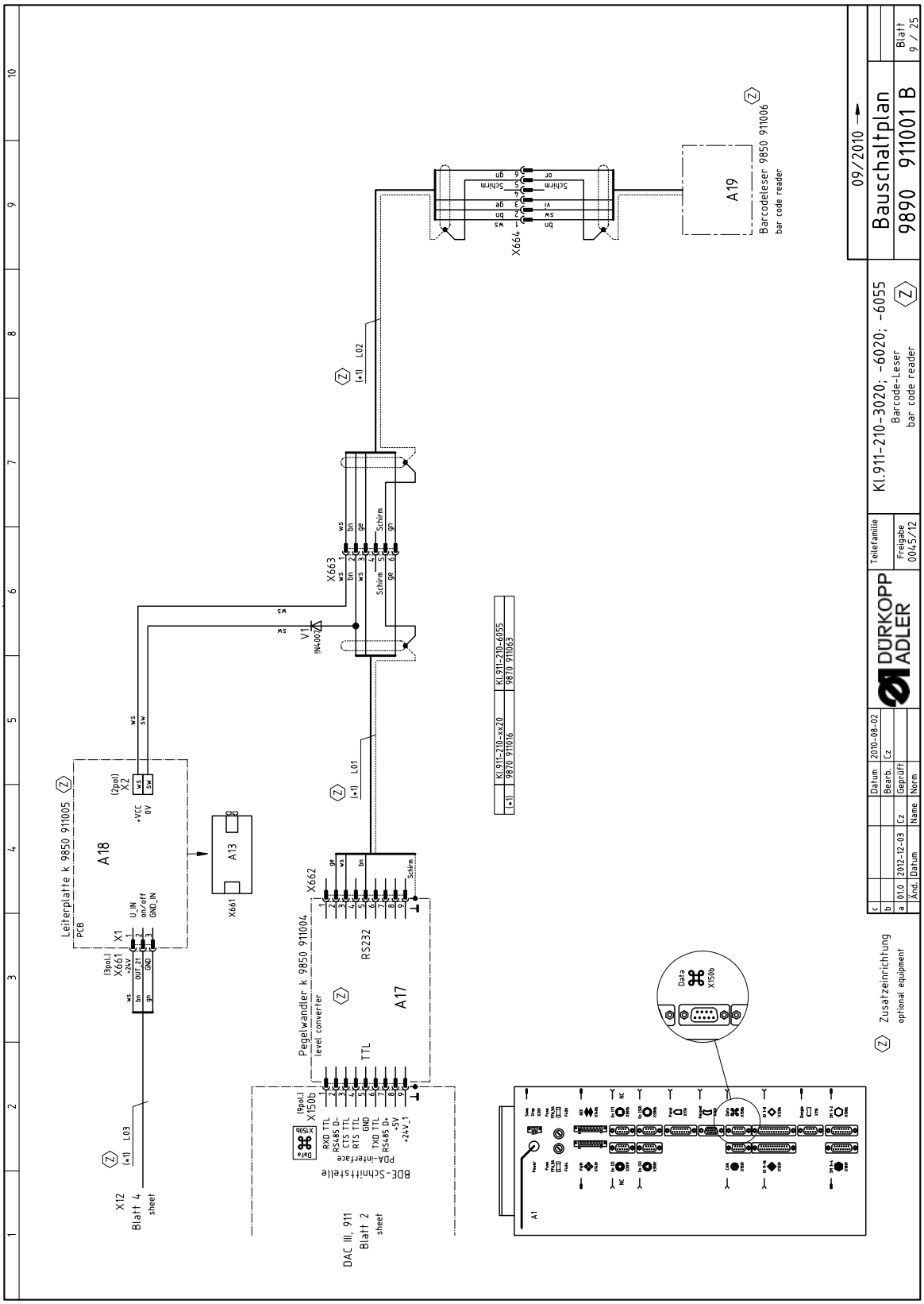

Leiterplatte k 9850 910001
PCB
Oberfadenwächter
upper thread monitor
Ref. Z-Achse
ref. z-axis
Fadenspannung 1
thread tension 1
Fadenspannung 2
thread tension 2
Fadenklemme
thread clamp
Barcodeleser
Blatt 9
sheet
Blatt 5
sheet
Blatt 2
sheet
Nähfeld weiter Blatt 5
sewing field more sheet
Konfiguration beachten !
observe the configuration !
Zusatzeinrichtung
optional equipment
09/2010
Bauschaltplan
9890 911001 B
Blatt 4 / 25
KL.911-210-3020; -6020; -6055
Leiterplatte
PCB
DÜRKOPP ADLER
Teilefamilie
Freigabe
0045/12
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm
Name
2012-12-03 Cz
Änd. Datum
A3
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
X12
X521
X522
X601
X602
X603
X604
X605
X606
X607
X608
X609
X610
X611
S9
S103
Y102.1
Y102.2
Y104
9870 911010
9870 911011
9870 911012
9870 911016 L03
9870 911003
9870 911050
9850 910001
LTSR 6-NP
thread tension control
Kl. 911-210-xx20
Kabelbaum
Kl. 911-210-6055
Kabelbaum

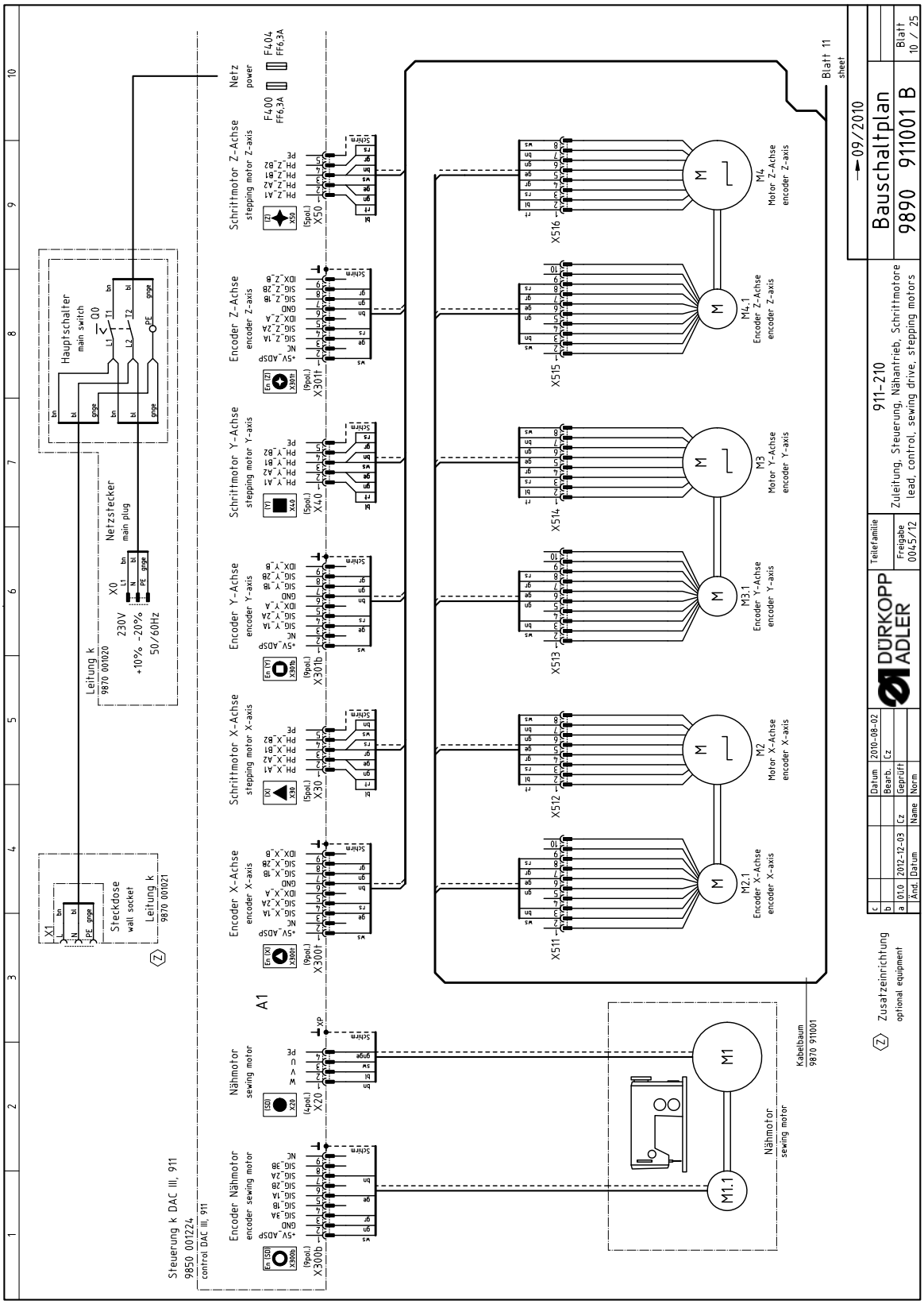

Bauschaltplan
9890 911001 B
Kl.911-210-3020; -6020; -6055
Eingänge; Fadenabschneider
inputs; thread cutter
09/2010
Blatt 5 / 25
DÜRKOPP ADLER
Nähfeldanschluß X607 Blatt 4
sewing field terminal X607 sheet
Nähkopf 911
sewinghead 911
frei programmierbare Eingänge von X607, siehe Blatt 7
freely programmable inputs off X607, look at sheet
Zusatzeinrichtung
optional equipment
Fadenabschneider
thread cutter
Unterfadenwächter (RFW)
bobbin thread monitor
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
Klammer rechts
clamp right
Klammer links
clamp left
S13 vorwärts
S13 forward
S14 rückwärts
S14 backward
Pedal 0745 407904
pedal
Induktivgeber k
9815 710103
Schalter k 9880 580003
switch
Leitung k
9870 911014
Kl. 911-210-6055
Kabelbaum
9870 911050
Kl. 911-210-xx20
Kabelbaum
9870 911003
Kl. 911-210-xx20
Kabelbaum
9870 911004
Kl. 911-210-6055
Kabelbaum
9870 911051
Fundamentplatte
Blatt 6
sheet
Blatt 4
sheet
Blatt 2
sheet
Störm
DÜRKOPP ADLER
Teilefamilie
Freigabe
0045/12
Datum
Bearb.
Geprüft
Norm
2010-08-02
Cz
2012-12-03
Name
Änd.
Datum

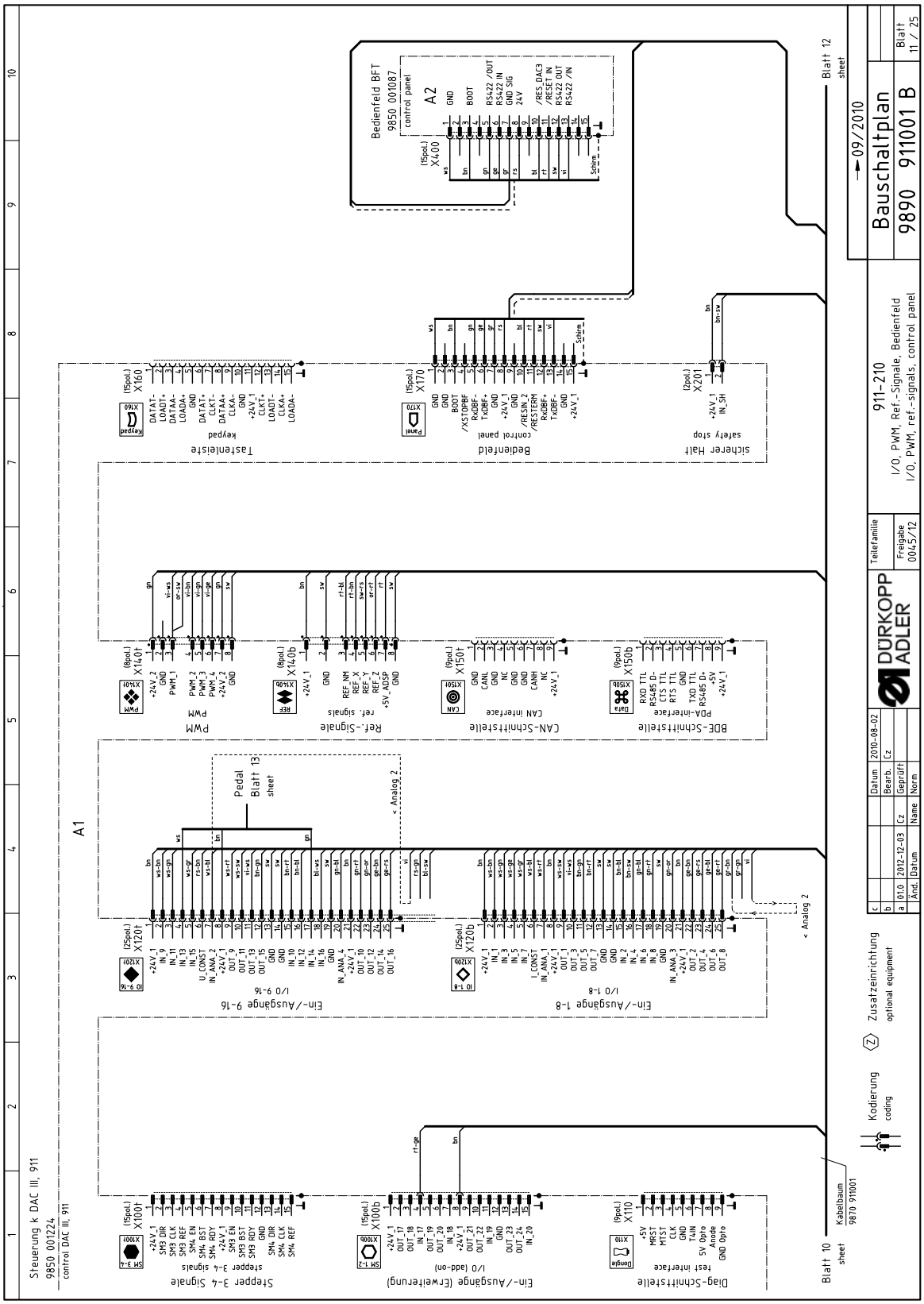

Bauschaltplan
9890 911001 B
09/2010
Kl.911-210-3020; -6020; -6055
Ausgänge, Ölstandsanzeige, LED-Leuchte
output, oil level monitor, LED-light
Blatt 6 / 25
Leiterplatte k 9850 001060 PCB A6
Leiterplatte k 9850 001070 PCB A7
Leiterplatte k 9850 911000 PCB cpl. A10
Leiterplatte k. 9850 867003 PCB Unterfadenwächter (RFW) bobbin thread monitor A12
Ölstandsanzeige 9850 867001 oil level monitor A11
LED-Leuchte 9850 867004 LED-light A9
Spuler 0745 177514 bobbin winder A8
Spuler 0911 175034 bobbin winder A8
Hubhöhe lift stroke
Spulenklappe bobbin cover
Nadelkühlung needle cooler
Klammer rechts clamp right
Klammer links clamp left
RFW blasen RWF blow-clean
vermind. Klammerdruck decrease clamp pressure
Sensor
Warnleuchte signal lamp
RFW 9815 925002 bobbin thread monitor A12.1
Zusatzeinrichtung optional equipment
Kl. 911-210-xx20 Kabelbaum 9870 911003
Kl. 911-210-6055 Kabelbaum 9870 911050
nur/only Kabelbaum 9870 911050
Blatt 5 sheet

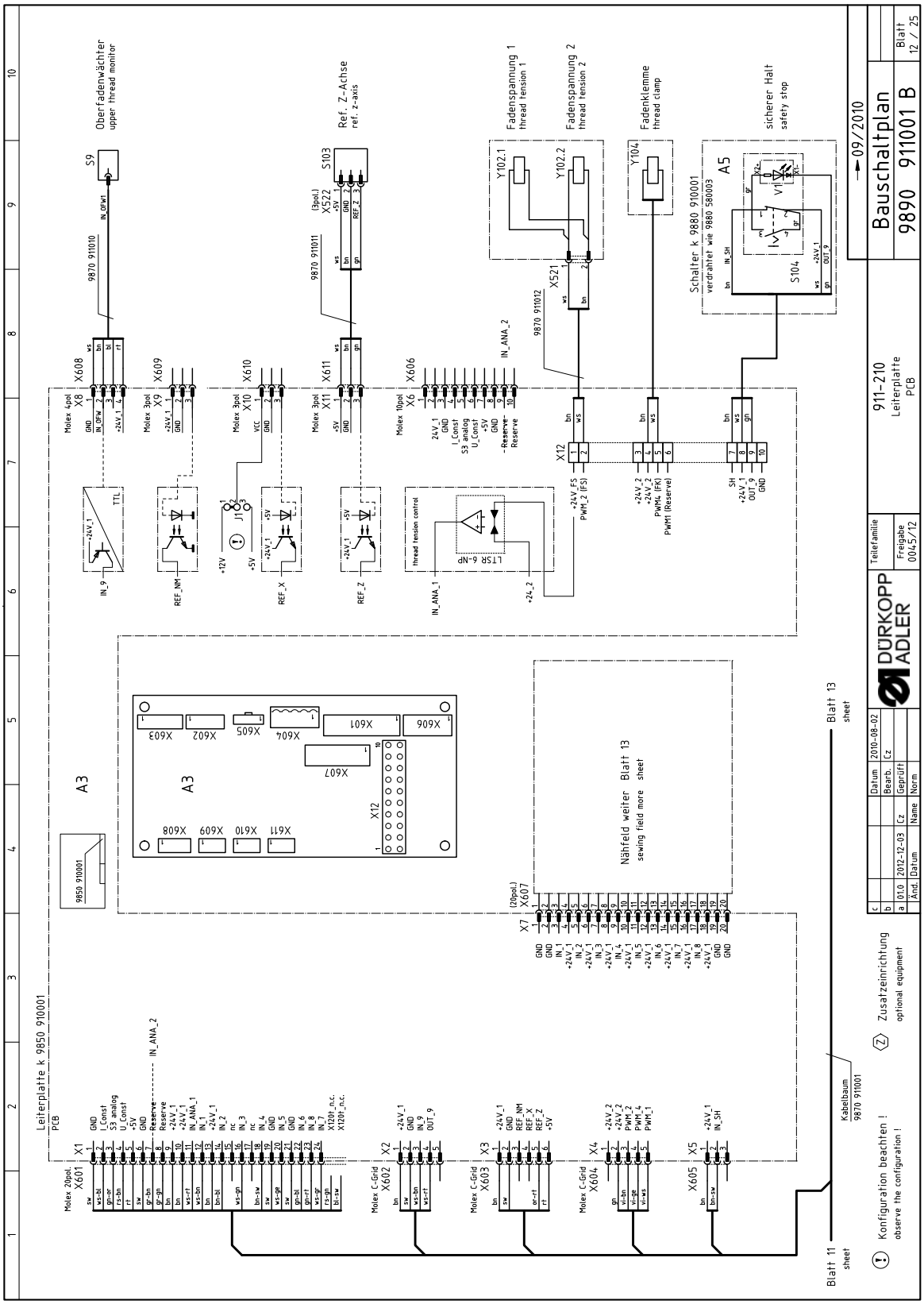

frei programmierbare Ausgänge
Magnetventile 8er-Block
linke Konsole
(Standard)
A6
Magnetventile 6er-Block
rechte Konsole
(Zusatzbaugruppe)
A7
Standard Ausgänge:
Y1 Hubhöhe
Y2 Spulenklappe
Y3 Nadelkühlung
Y4 Klammer rechts
Y5 Klammer links
freiprogrammierbare Ausgänge:
Y6 (RFw blasen) Z
Y7
Y8 (vermind. Klammerdruck) Z
Erweiterung-
freiprogrammierbare Ausgänge:
Y11
Y12
Y13
Y14
Y15
Y16
Y17 nur ab Kabelbaum 9870 911003
Y18 nur ab Kabelbaum 9870 911003
frei programmierbare Eingänge
A3
X601
X602
X603
X604
X605
X606
X607
X608
X609
X610
X611
X12
X607
19
1
20
2
Diese Nase immer nach außen!
Blatt 5
sheet
1 GND GND (-0V) - zusätzlicher Anschluß für 3-Draht-Sensoren
2 GND (z.B. Lichtschranke)
3 S1 Klammer rechts (Standard)
4 +24V
5 S2 Klammer links (Standard)
6 +24V
7 S3 freiprogrammierbar
8 +24V
9 S4 freiprogrammierbar
10 +24V
11 S5 freiprogrammierbar
12 +24V
13 S6 freiprogrammierbar
14 +24V
15 S7 freiprogrammierbar
16 +24V
17 S8 freiprogrammierbar
18 +24V
19 GND (-0V) - zusätzlicher Anschluß für 3-Draht-Sensoren
20 GND (z.B. Lichtschranke)
X607
DÜRKOPP ADLER
Teilefamilie
Freigabe 0045/12
Kl.911-210-3020; -6020; -6055
frei programierbare Ein-/Ausgänge
freely programmable Inputs/Outputs
Bauschaltplan
9890 911001 B
Blatt 7 / 25
c
b
a 01.0 2012-12-03 Cz
Änd. Datum Name
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm

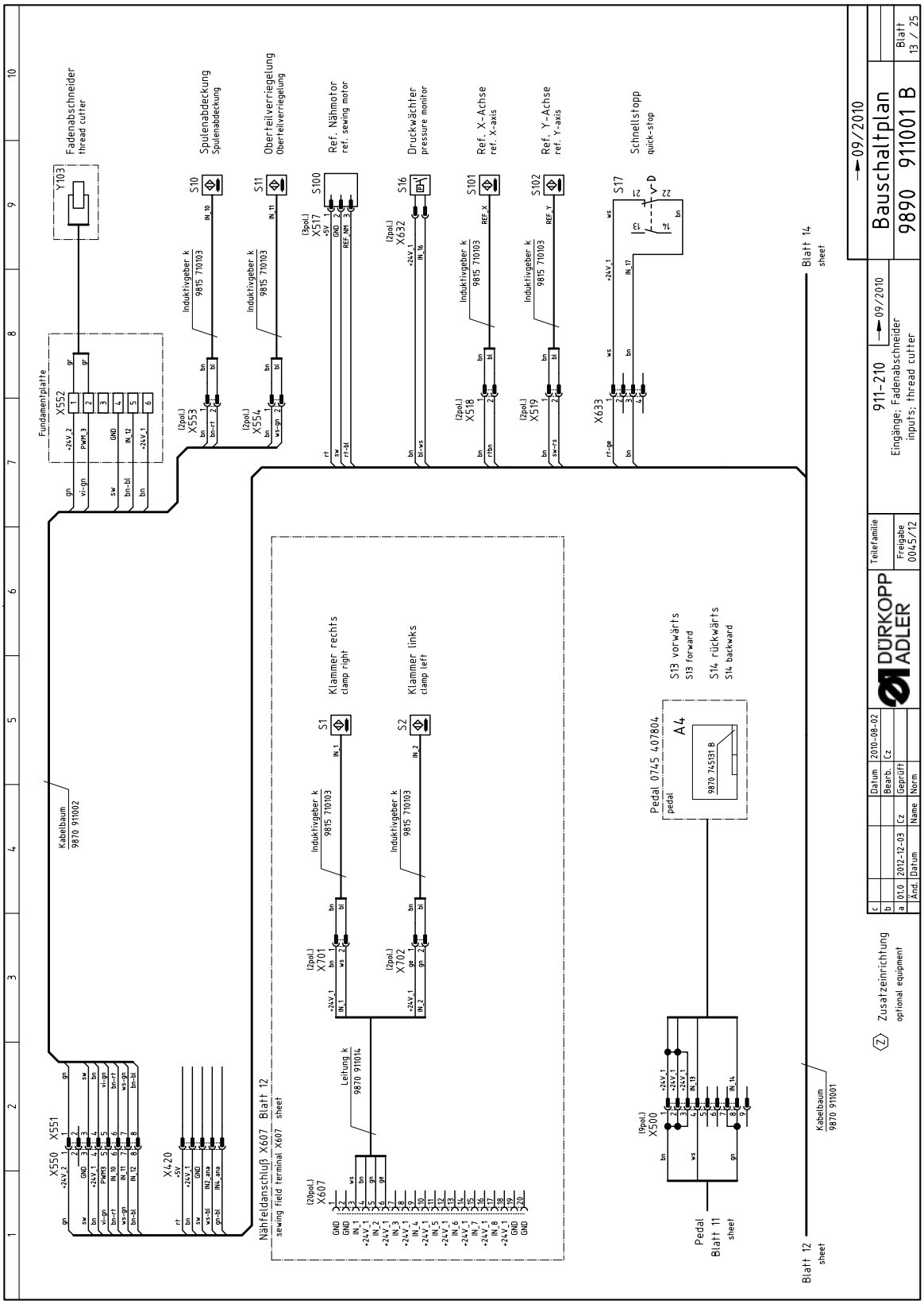

Bauschaltplan
9890 911001 B
Kl.911-210-3020; -6020; -6055
Lasermarkierungsleuchten
laser beam marker
Leiterplatte k 9850 001090
A13
A14
A15
A16
Laser
laser
H1
H2
H3
H4
X656
X657
X658
X659
X655.1
X655.2
X655.3
X655.4
X100†
Leitung k
Kl.911-210-xx20
9870 911015
Kl.911-210-6055
9870 911062
Ein-/Ausgänge (Erweiterung)
I/O (add-on)
Zusatzeinrichtung
optional equipment
Laser k
Ersatzlaser
laser col.
replacement laser
9835 501005
9835 501006
DÜRKOPP ADLER
Teilefamilie
Freigabe 0045/12
2010-08-02
2012-12-03
Blatt 8 / 25

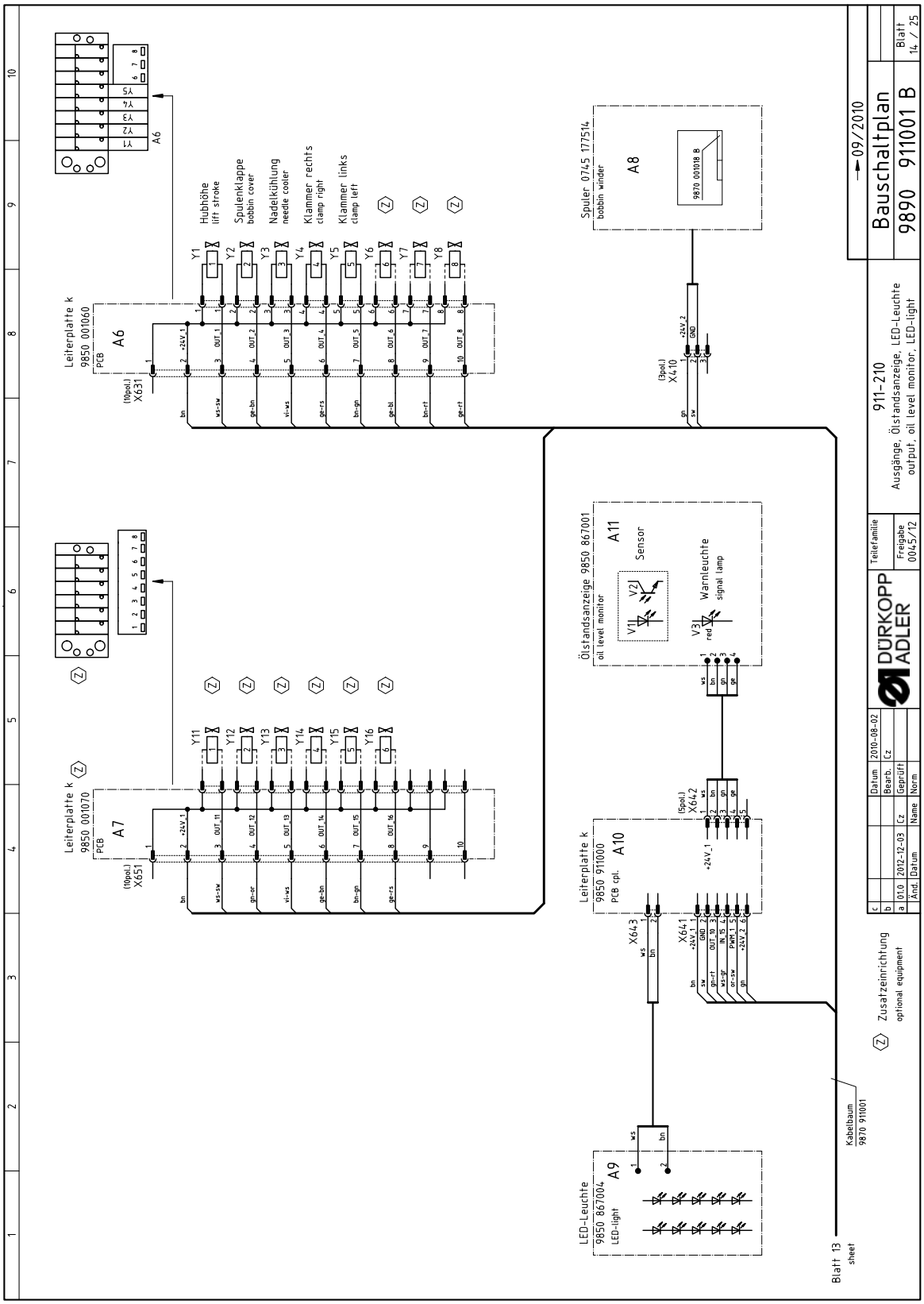

Bauschaltplan
9890 911001 B
Blatt 9 / 25
09/2010
KL.911-210-3020; -6020; -6055
Barcode-Leser
bar code reader
Teilefamilie
Freigabe 0045/12
DÜRKOPP ADLER
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm
Name
Cz
2012-12-03
01.0
Änd. Datum
Zusatzeinrichtung
optional equipment
A19
Barcodeleser 9850 911006
bar code reader
X664
Schirm
A18
Leiterplatte k 9850 911005
PCB
X1
X2
X661
X662
X663
A13
X661
V1
1N4007
A17
Pegelwandler k 9850 911004
level converter
RS232
TTL
X150b
X12
Blatt 4
sheet
DAC III, 911
Blatt 2
sheet
BDE-Schnittstelle
PDA-Interface
Data
X50b
A1
KL.911-210-xx20
9870 911016
KL.911-210-6055
9870 911063
L01
L02
L03
(*1)
Z

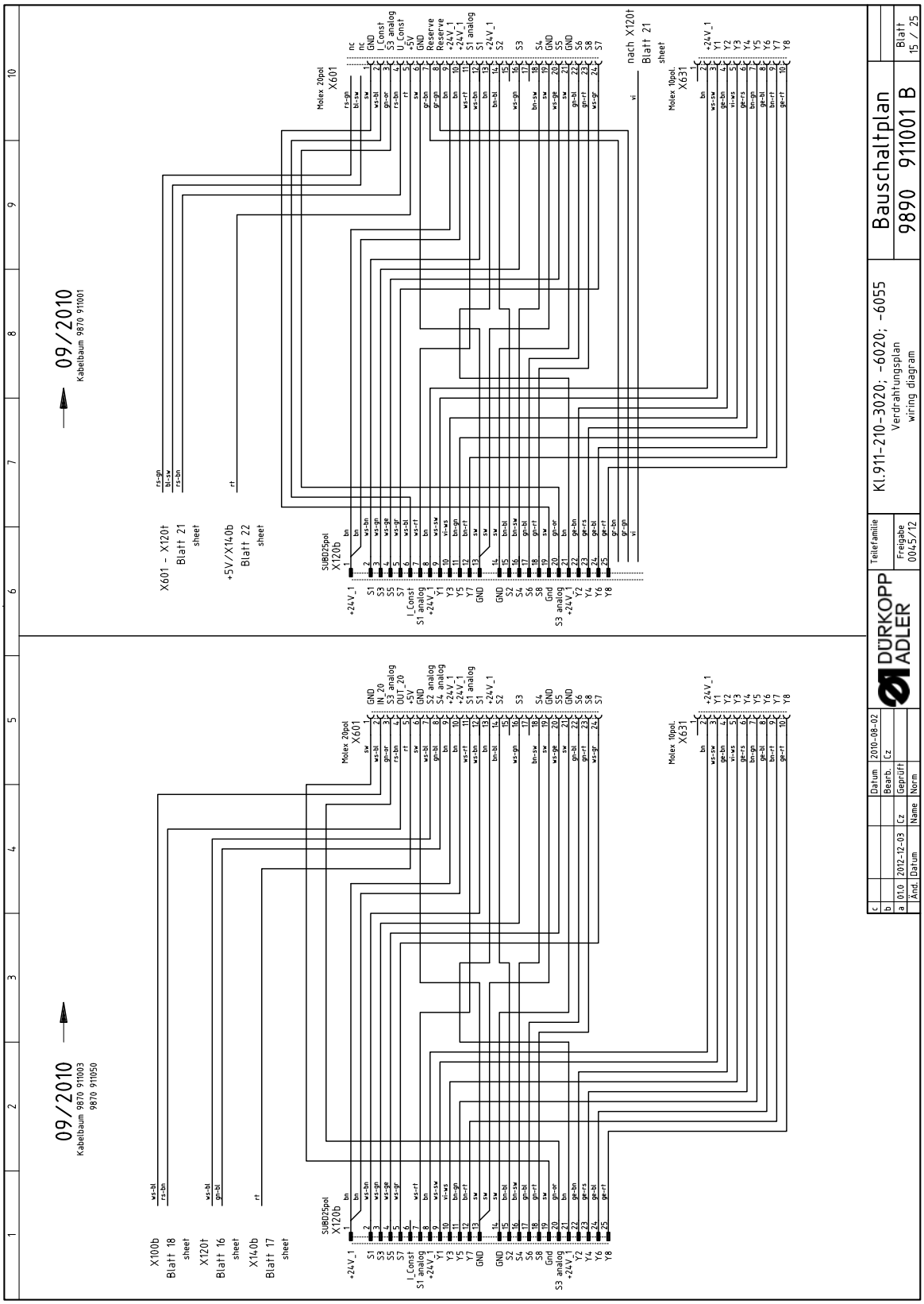

Bauschaltplan
9890 911001 B
911-210
Zuleitung, Steuerung, Nähantrieb, Schrittmotore
lead, control, sewing drive, stepping motors
09/2010
Blatt 11
sheet
Hauptschalter
main switch
Netzstecker
main plug
Steckdose
wall socket
Leitung k
9870 001020
Leitung k
9870 001021
Steuerung k DAC III, 911
9850 001224
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
Kabelbaum
9870 911001
Zusatzeinrichtung
optional equipment
Motor X-Achse
encoder X-axis
Motor Y-Achse
encoder Y-axis
Motor Z-Achse
encoder Z-axis

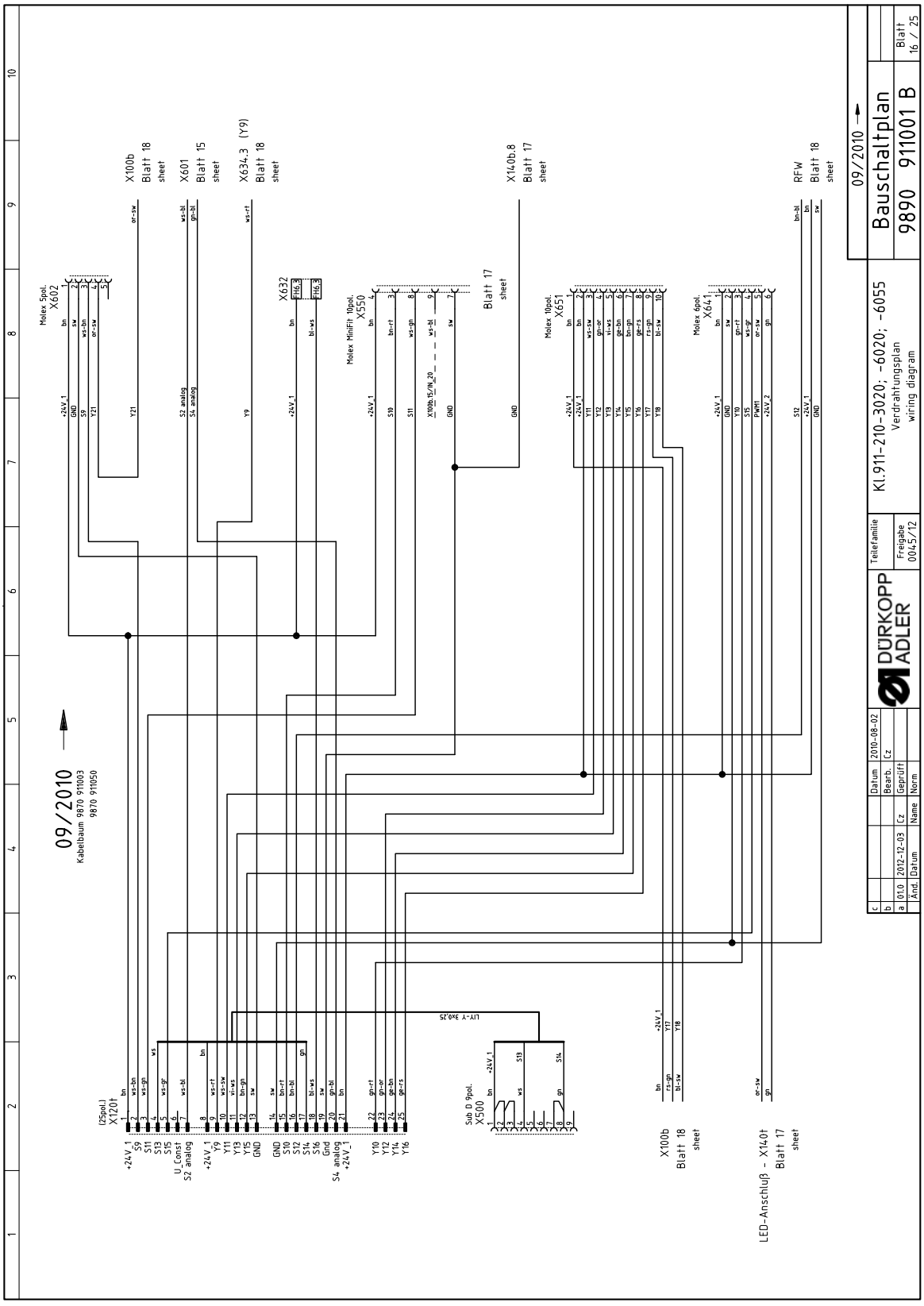

Steuerung k DAC III, 911
9850 001224
control DAC III, 911
A1
Bedienfeld BFT
9850 001087
control panel
A2
Tastenfeld
keypad
Bedienfeld
control panel
sicherer Halt
safety stop
PWM
Ref.-Signale
ref. signals
CAN-Schnittstelle
CAN interface
BDE-Schnittstelle
PDA-interface
Pedal
Blatt 13
sheet
Ein-/Ausgänge 9-16
I/O 9-16
Ein-/Ausgänge 1-8
I/O 1-8
Stepper 3-4 Signale
stepper 3-4 signals
Ein-/Ausgänge (Erweiterung)
I/O (add-on)
Diag-Schnittstelle
test interface
Kabelbaum
9870 911001
Blatt 10
sheet
Blatt 12
sheet
09/2010
Bauschaltplan
9890 911001 B
Blatt
11 / 25
911-210
I/O, PWM, Ref.-Signale, Bedienfeld
I/O, PWM, ref.-signals, control panel
Teilefamilie
Freigabe
0045/12
DÜRKOPP ADLER
Datum
Bearb.
Geprüft
Norm
2010-08-02
Cz
Name
2012-12-03
Cz
Änd.
Datum
01.0
a
b
c
Zusatzeinrichtung
optional equipment
Kodierung
coding

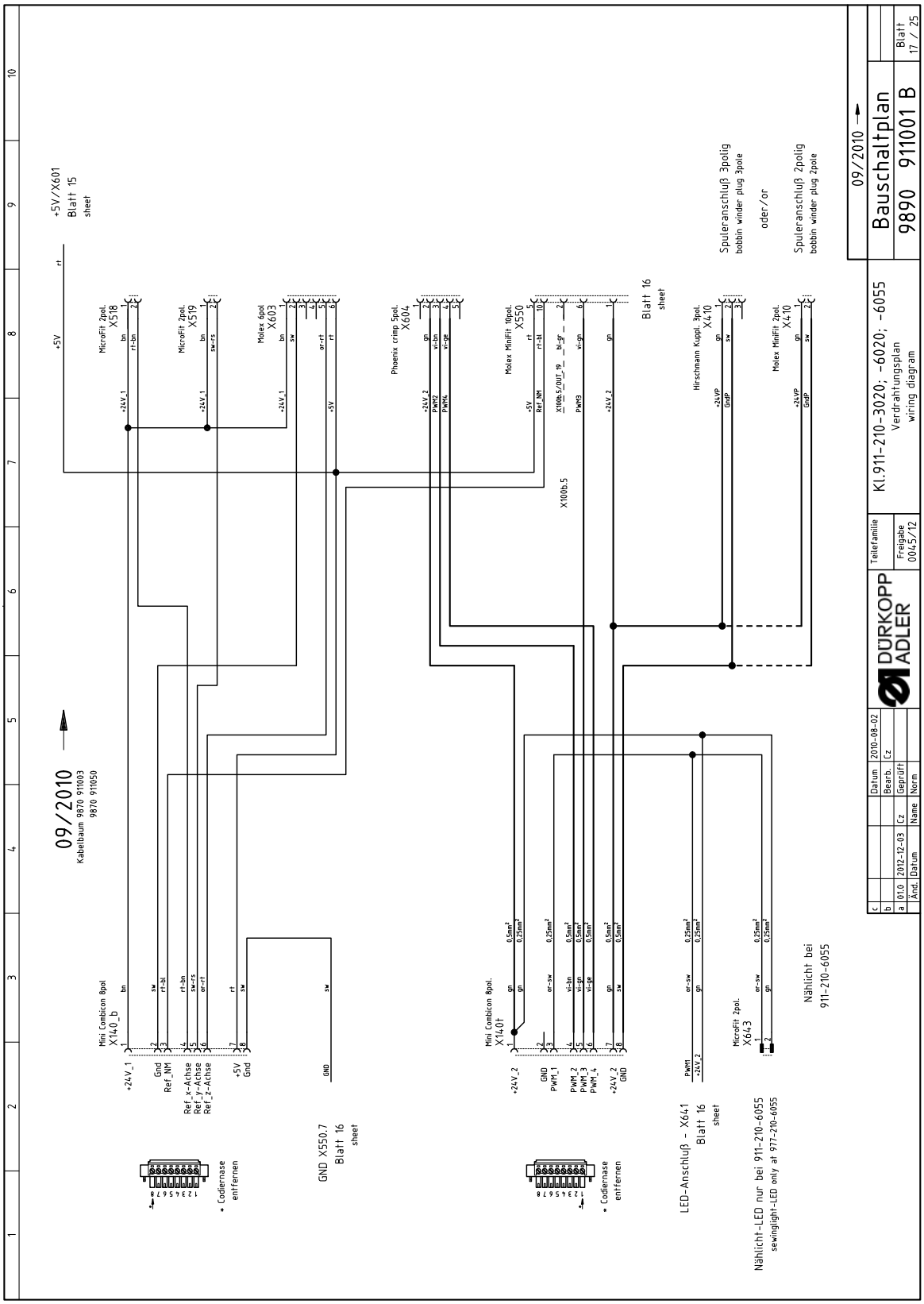

Leiterplatte k 9850 910001
PCB
A3
A3
9850 910001
X601
X602
X603
X604
X605
X606
X607
X608
X609
X610
X611
X12
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
Molex 20pol.
Molex C-Grid
Molex 4pol
Molex 3pol
Molex 10pol
(20pol.)
GND
I_Const
S3 analog
U_Const
+5V
Reserve
+24V_1
IN_ANA_1
IN_1
IN_2
nc
IN_3
IN_4
IN_5
IN_6
IN_7
X120 nc.
X120 nc.
IN_ANA_2
+24V_1
GND
IN_9
OUT_9
REF_NM
REF_X
REF_Z
+5V
+24V_2
PWM_2
PWM_4
PWM_1
IN_SH
Nähfeld weiter Blatt 13
sewing field more sheet
Blatt 13
sheet
Blatt 11
sheet
Kabelbaum
9870 911001
Konfiguration beachten !
observe the configuration !
Zusatzeinrichtung
optional equipment
Oberfadenwächter
upper thread monitor
S9
9870 911010
IN_OFW1
Ref. Z-Achse
ref. z-axis
S103
X522
9870 911011
Fadenspannung 1
thread tension 1
Y102.1
Fadenspannung 2
thread tension 2
Y102.2
X521
9870 911012
Fadenklemme
thread clamp
Y104
Schalter k 9880 910001
verdrahtet wie 9880 580003
A5
S104
Sicherer Halt
safety stop
V1
thread tension control
L15R 6-Np
+24V FS
PWM_2 (FS)
+24V_2
PWM4 (FK)
PWM1 (Reserve)
SH
OUT_3
GND
911-210
Leiterplatte
PCB
09/2010
Bauschaltplan
9890 911001 B
Blatt
12 / 25
Teilefamilie
Freigabe
0045/12
DÜRKOPP ADLER
Datum
Bearb.
Geprüft
Norm
2010-08-02
Cz
Cz
Name
2012-12-03
01.0
Änd.
Datum

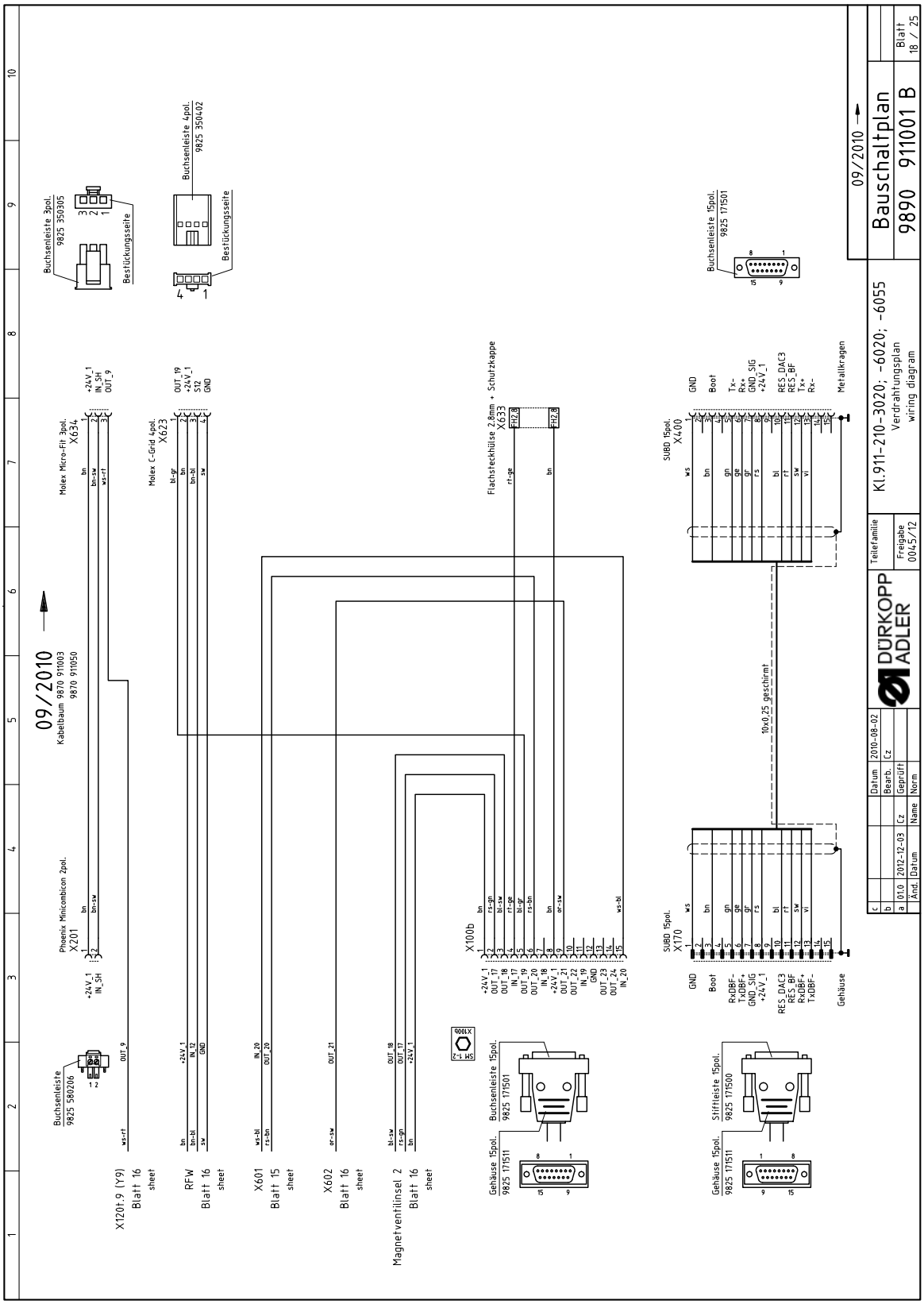

Bauschaltplan
9890 911001 B
911-210
Eingänge; Fadenabschneider
inputs; thread cutter
09/2010
Blatt 13 / 25
Fadenabschneider
thread cutter
Spulenabdeckung
Spulenabdeckung
Oberteilverriegelung
Oberteilverriegelung
Ref. Nähmotor
ref. sewing motor
Druckwächter
pressure monitor
Ref. X-Achse
ref. X-axis
Ref. Y-Achse
ref. Y-axis
Schnellstopp
quick-stop
Induktivgeber k
9815 710103
Fundamentplatte
Kabelbaum
9870 911002
Nähfeldanschluß X607 Blatt 12
sewing field terminal X607 sheet
Klammer rechts
clamp right
Klammer links
clamp left
Leitung k
9870 911014
Pedal 0745 407804
pedal
A4
9870 745191 B
S13 vorwärts
S13 forward
S14 rückwärts
S14 backward
Pedal
Blatt 11
sheet
Blatt 12
sheet
Blatt 14
sheet
Kabelbaum
9870 911001
Zusatzeinrichtung
optional equipment
DÜRKOPP ADLER
Teilefamilie
Freigabe
0045/12
Datum
Bearb.
Geprüft
Norm
2010-08-02
Cz
2012-12-03
Name
Änd.
Datum

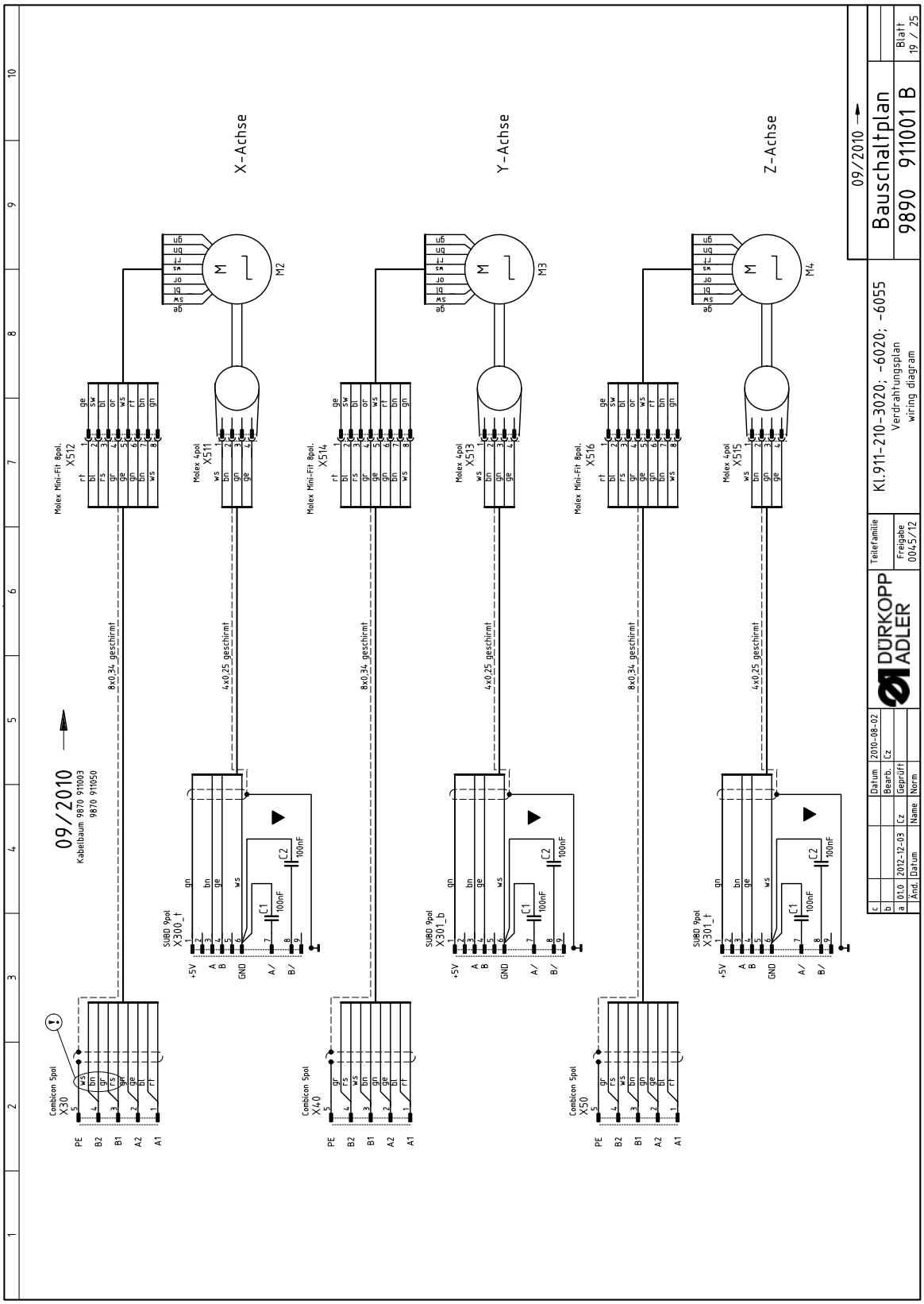

09/2010
Bauschaltplan
9890 911001 B
Blatt 14 / 25
911-210
Ausgänge, Ölstandsanzeige, LED-Leuchte
output, oil level monitor, LED-light
Teilefamilie
Freigabe 0045/12
DÜRKOPP ADLER
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm
Name
Cz
2012-12-03
01.0
Änd. Datum
Leiterplatte k 9850 001060 PCB A6
Leiterplatte k 9850 001070 PCB A7
Leiterplatte k 9850 911000 PCB cpl. A10
Ölstandsanzeige 9850 867001 oil level monitor A11
Sensor
Warnleuchte signal lamp
LED-Leuchte 9850 867004 LED-light A9
Spuler 0745 177514 bobbin winder A8
Hubhöhe lift stroke
Spulenklappe bobbin cover
Nadelkühlung needle cooler
Klammer rechts clamp right
Klammer links clamp left
Zusatzeinrichtung optional equipment
Kabelbaum 9870 911001
Blatt 13 sheet

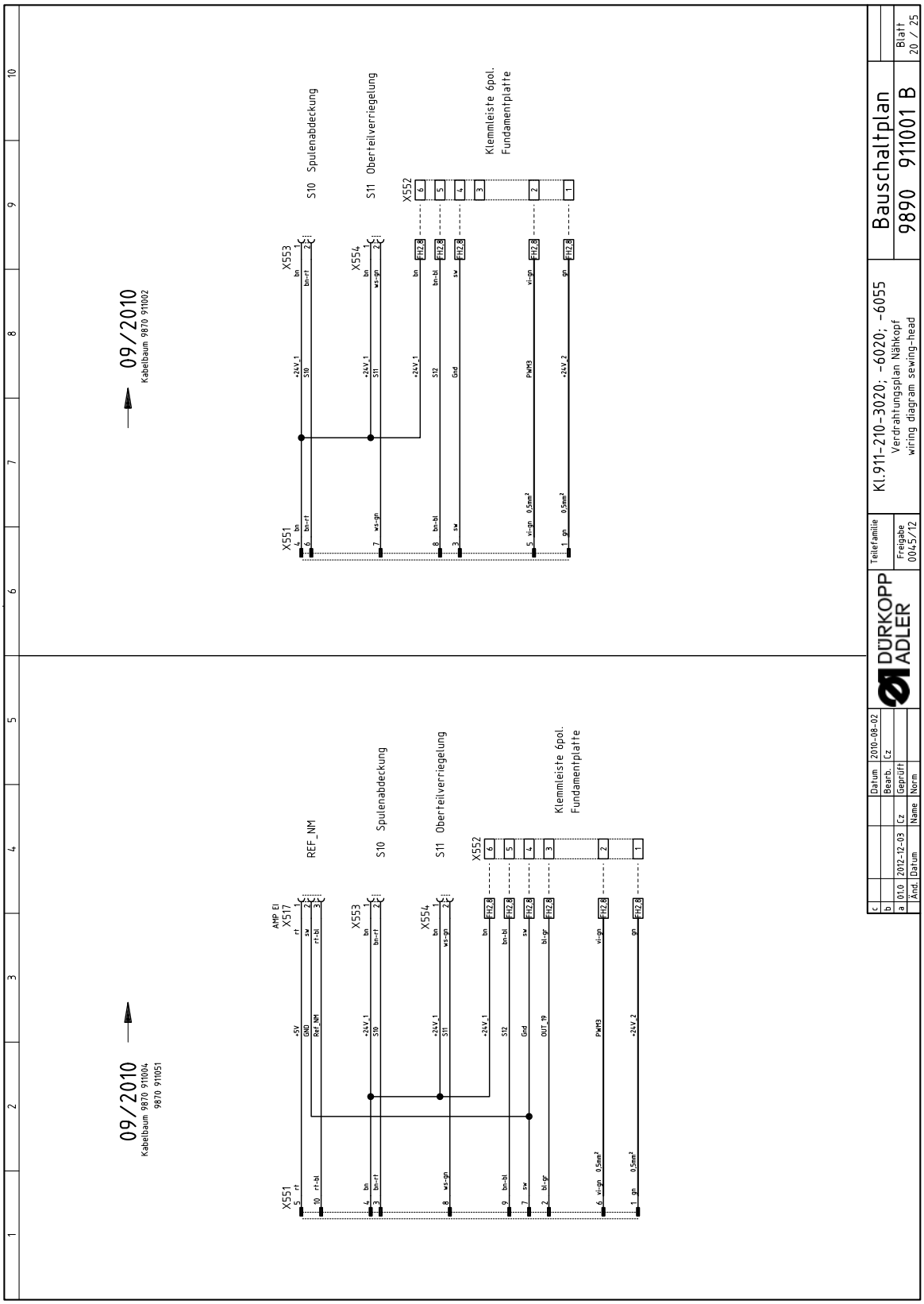

09/2010
Kabelbaum 9870 911001
09/2010
Kabelbaum 9870 911003
9870 911050
Bauschaltplan
9890 911001 B
Kl.911-210-3020; -6020; -6055
Verdrahtungsplan
wiring diagram
DÜRKOPP ADLER
Teilefamilie
Freigabe
0045/12
Blatt
15 / 25
2010-08-02
2012-12-03
01.0
Änd. Datum
Name
Norm
Geprüft
Bearb.
Datum
Cz
nach X120t
Blatt 21
sheet
X601 - X120t
+5V/X140b
X100b
X120t
X140b
Molex 20pol
X601
Molex 10pol.
X631
SUBD25pol
X120b

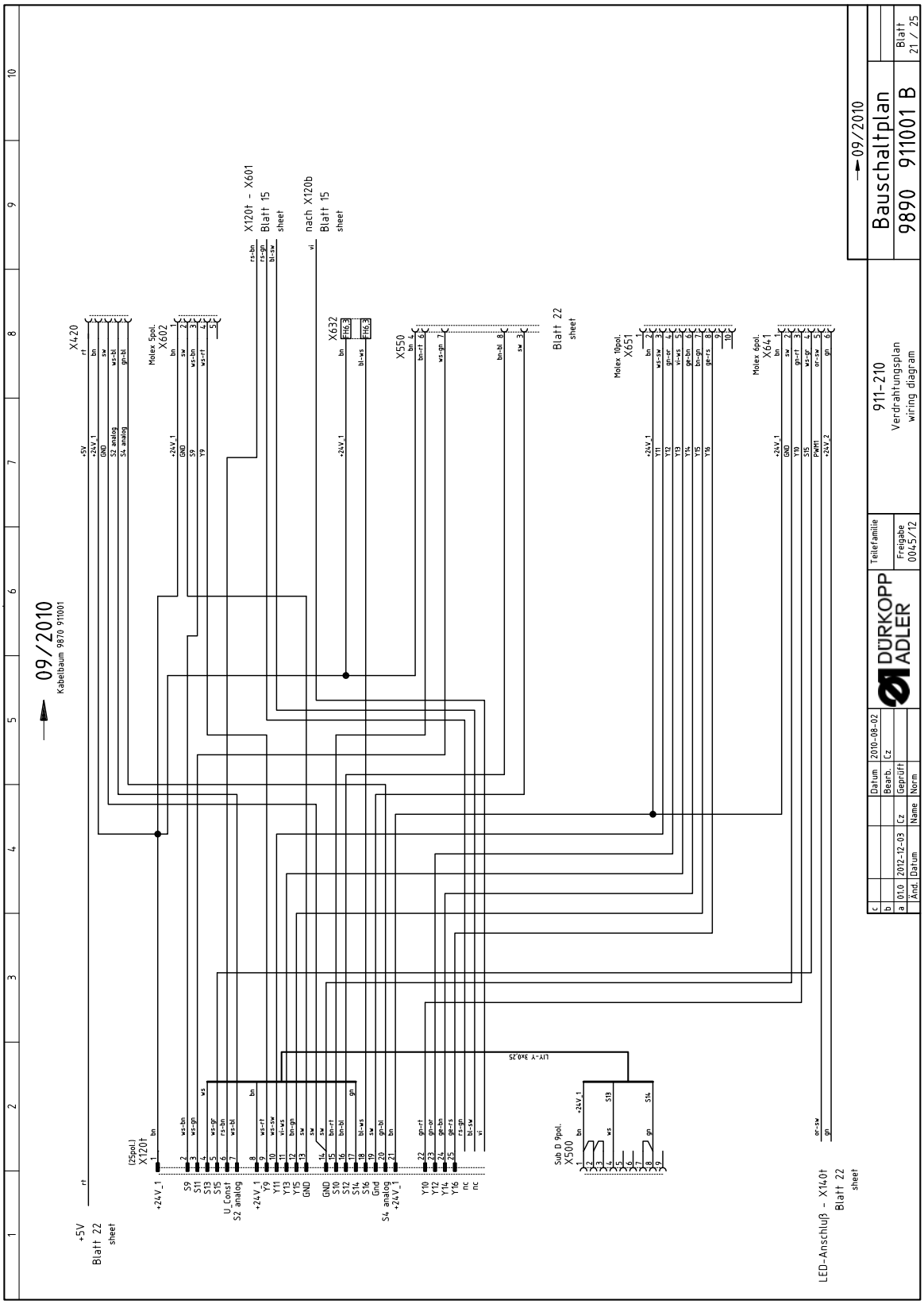

09/2010
Kabelbaum 9870 911003
9870 911050
Bauschaltplan
9890 911001 B
Blatt 16 / 25
KL.911-210-3020; -6020; -6055
Verdrahtungsplan
wiring diagram
DÜRKOPP ADLER
Teilefamilie
Freigabe 0045/12
X120f (25pol.)
X602 Molex 5pol.
X550 Molex MiniFit 10pol.
X651 Molex 10pol.
X641 Molex 6pol.
X500 Sub D 9pol.
X632
X100b Blatt 18 sheet
X601 Blatt 15 sheet
X634.3 (Y9) Blatt 18 sheet
X140b.8 Blatt 17 sheet
RFW Blatt 18 sheet
Blatt 17 sheet
LED-Anschluß - X140f Blatt 17 sheet
LiY-Y 3x0,25

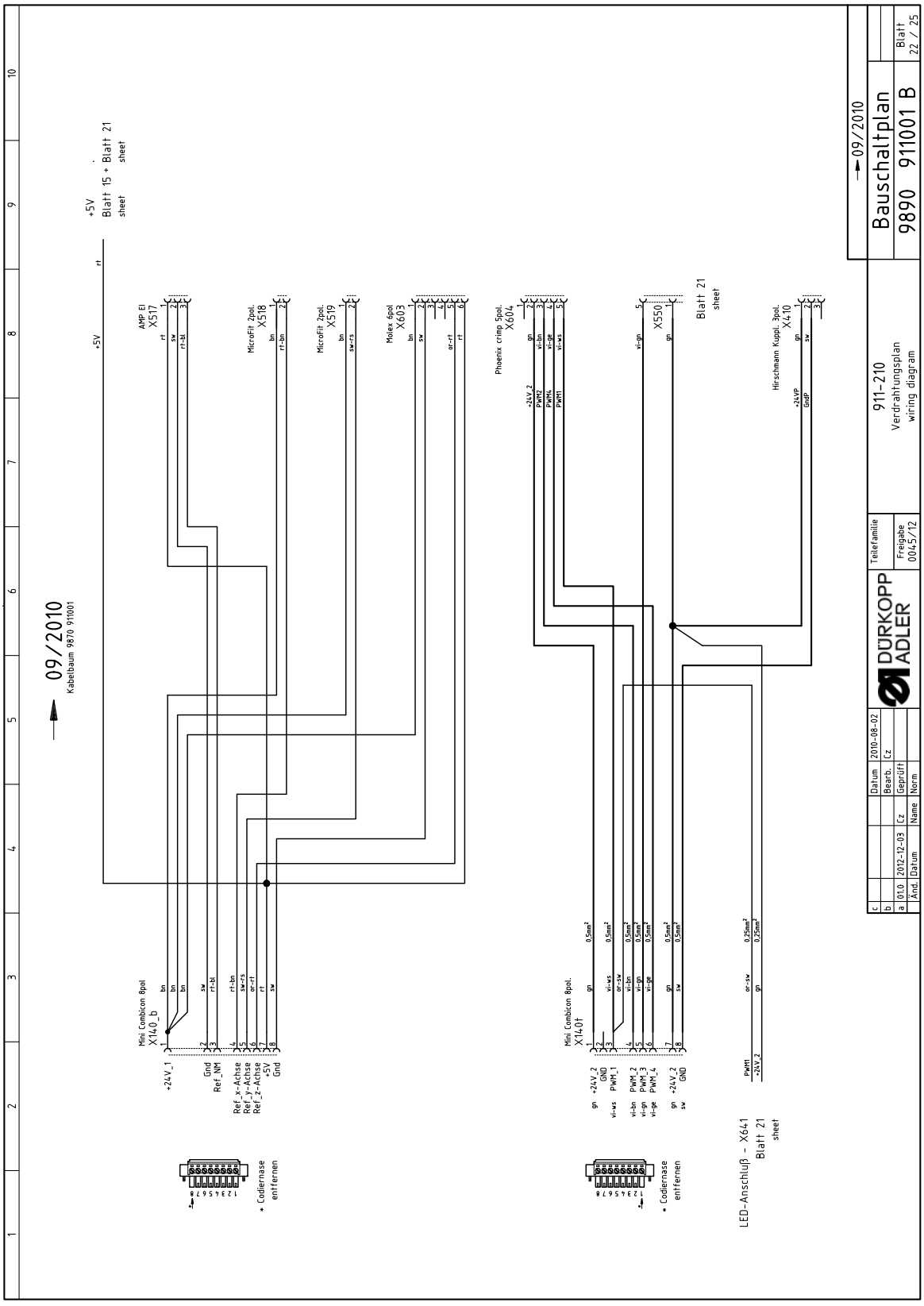

09/2010
Kabelbaum 9870 911003
9870 911050
+5V/X601
Blatt 15
sheet
MicroFit 2pol. X518
MicroFit 2pol. X519
Molex 6pol X603
Phoenix crimp 5pol. X604
Molex MiniFit 10pol. X550
Blatt 16
sheet
Hirschmann Kuppl. 3pol. X410
Molex MiniFit 2pol. X410
Spuleranschluß 3polig
bobbin winder plug 3pole
oder/or
Spuleranschluß 2polig
bobbin winder plug 2pole
Mini Combicon 8pol. X140_b
Mini Combicon 8pol. X1401
Microfit 2pol. X643
Ref_x-Achse
Ref_y-Achse
Ref_z-Achse
GND X550.7
Blatt 16
sheet
LED-Anschluß - X641
Blatt 16
sheet
Codiernase entfernen
Nählicht bei
911-210-6055
Nählicht-LED nur bei 911-210-6055
sewinglight-LED only at 977-210-6055
09/2010
Bauschaltplan
9890 911001 B
Blatt 17 / 25
Kl.911-210-3020; -6020; -6055
Verdrahtungsplan
wiring diagram
Teilefamilie
Freigabe 0045/12
DÜRKOPP ADLER
2010-08-02
2012-12-03
Datum
Name
Bearb.
Geprüft
Norm
Cz

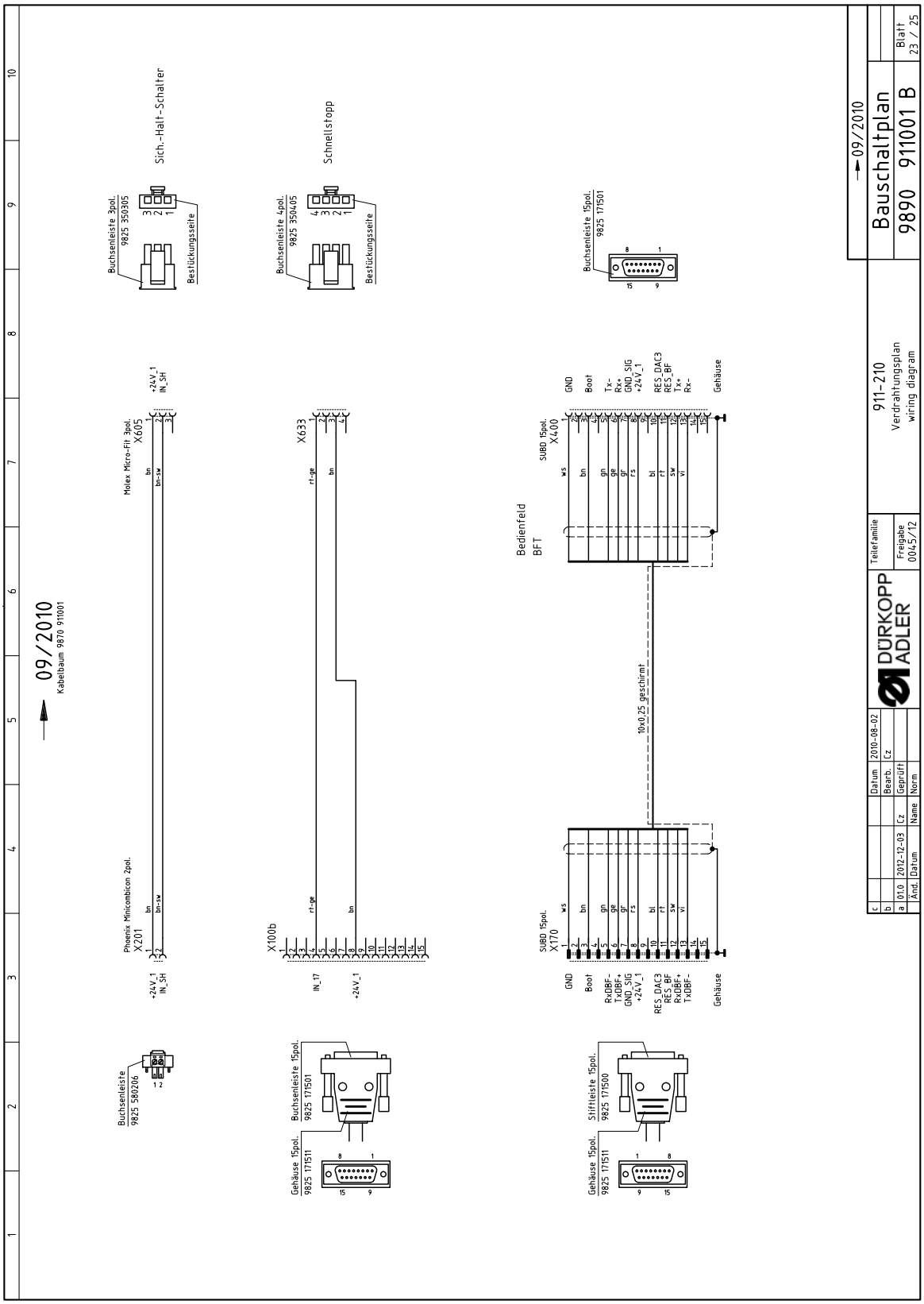

09/2010
Kabelbaum 9870 911003
9870 911050
Bauschaltplan
9890 911001 B
Blatt 18 / 25
KL.911-210-3020; -6020; -6055
Verdrahtungsplan
wiring diagram
Teilefamilie
Freigabe 0045/12
Phoenix Minicombicon 2pol.
X201
Molex Micro-Fit 3pol.
X634
Molex C-Grid 4pol.
X623
Flachsteckhülse 2.8mm + Schutzkappe
X633
X100b
SUBD 15pol.
X400
SUBD 15pol.
X170
Buchsenleiste 3pol.
9825 350305
Buchsenleiste 4pol.
9825 350402
Buchsenleiste 15pol.
9825 171501
Stiftleiste 15pol.
9825 171500
Gehäuse 15pol.
9825 171511
Buchsenleiste
9825 580206
Bestückungsseite
Metallkragen
10x0.25 geschirmt
X1201.9 (Y9)
RFW
X601
X602
Magnetventilinsel 2
Blatt 16
Blatt 15
sheet

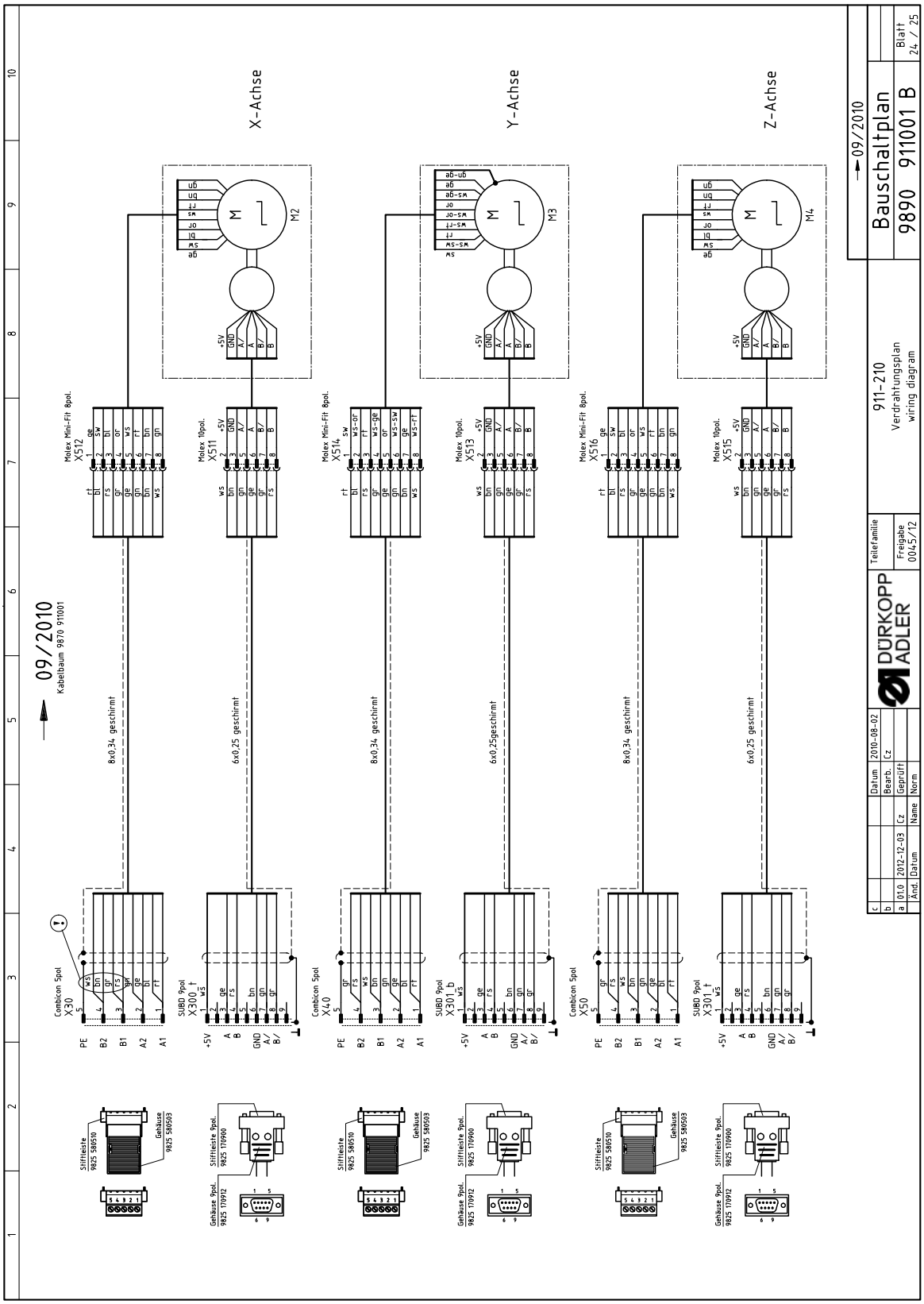

X-Achse
Y-Achse
Z-Achse
09/2010
Kabelbaum 9870 911003
9870 911050
09/2010
Bauschaltplan
9890 911001 B
Blatt 19 / 25
KL.911-210-3020; -6020; -6055
Verdrahtungsplan
wiring diagram
DÜRKOPP ADLER
Teilefamilie
Freigabe 0045/12
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm
Name
Änd. Datum
01.0 2012-12-03 Cz
Molex Mini-Fit 8pol. X512
Molex 4pol X511
Molex Mini-Fit 8pol. X514
Molex 4pol X513
Molex Mini-Fit 8pol. X516
Molex 4pol X515
Combicon 5pol X30
Combicon 5pol X40
Combicon 5pol X50
SUBD 9pol X300_1
SUBD 9pol X301_b
SUBD 9pol X301_1
8x0,34 geschirmt
4x0,25 geschirmt
C1 100nF
C2 100nF
+5V
A
B
GND
A/
B/
PE
B2
B1
A2
A1
M2
M3
M4


09/2010
Kabelbaum 9870 911002
09/2010
Kabelbaum 9870 911004
9870 911051
S10 Spulenabdeckung
S11 Oberteilverriegelung
Klemmleiste 6pol.
Fundamentplatte
REF_NM
X551
X552
X553
X554
X517
Bauschaltplan
9890 911001 B
Kl.911-210-3020; -6020; -6055
Verdrahtungsplan Nähkopf
wiring diagram sewing-head
DÜRKOPP ADLER
Blatt 20 / 25


09/2010
Kabelbaum 9870 911001
09/2010
Bauschaltplan
9890 911001 B
Blatt 21 / 25
911-210
Verdrahtungsplan
wiring diagram
Teilefamilie
Freigabe
0045/12
DÜRKOPP ADLER
Datum 2010-08-02
Bearb. Cz
Geprüft
Norm
Name
Cz
2012-12-03
01.0
Änd. Datum
X420
X602
X632
X550
X651
X641
X1201
X500
X120f - X601
nach X120b
Blatt 15
Blatt 22
sheet
LIY-Y 3x0,25
LED-Anschluß - X140f


09/2010
Kabelbaum 9870 911001
+5V
Blatt 15 + Blatt 21
sheet
AMP EI
X517
MicroFit 2pol.
X518
MicroFit 2pol.
X519
Molex 4pol
X603
Phoenix crimp 5pol.
X604
Hirschmann Kuppl. 3pol.
X410
X550
Blatt 21
sheet
Mini Combicon 8pol
X140_b
Mini Combicon 8pol.
X1401
+24V_1
Gnd
Ref_NM
Ref_x-Achse
Ref_y-Achse
Ref_z-Achse
+5V
Gnd
+24V_2
GND
PWM_1
PWM_2
PWM_3
PWM_4
+24V_2
GND
PWM1
+24V_2
LED-Anschluß - X641
Blatt 21
sheet
* Codernase
entfernen
* Codernase
entfernen
09/2010
DÜRKOPP ADLER
Telefamilie
Freigabe
0045/12
911-210
Verdrahtungsplan
wiring diagram
Bauschaltplan
9890 911001 B
Blatt
22 / 25
Datum
Bearb.
Geprüft
Norm
2010-08-02
Cz
Cz
Name
2012-12-03
Datum
01.0
And.


09/2010
Kabelbaum 9870 911001
Sich.-Halt-Schalter
Buchsenleiste 3pol.
9825 350305
Bestückungsseite
Schnellstopp
Buchsenleiste 4pol.
9825 350405
Bestückungsseite
Buchsenleiste 15pol.
9825 171501
Bedienfeld
BFT
SUBD 15pol.
X400
GND
Boot
Tx+
Rx+
GND_SIG
+24V_1
RES_DAC3
RES_BF
Tx+
Rx-
Gehäuse
10x0,25 geschirmt
SUBD 15pol.
X170
GND
Boot
RxDBF-
TxDBF+
GND_SIG
+24V_1
RES_DAC3
RES_BF
RxDBF+
TxDBF-
Gehäuse
Phoenix Minicombicon 2pol.
X201
+24V_1
IN_SH
Molex Micro-Fit 3pol.
X605
+24V_1
IN_SH
X633
IN_17
+24V_1
X100b
Buchsenleiste
9825 580206
Buchsenleiste 15pol.
9825 171501
Gehäuse 15pol.
9825 171511
Stiftleiste 15pol.
9825 171500
Gehäuse 15pol.
9825 171511
DÜRKOPP ADLER
Teilefamilie
Freigabe
0045/12
911-210
Verdrahtungsplan
wiring diagram
09/2010
Bauschaltplan
9890 911001 B
Blatt
23 / 25
Datum
Bearb.
Geprüft
Norm
2010-08-02
Cz
2012-12-03
Name
Änd.
Datum


09/2010
Kabelbaum 9870 911001
X-Achse
Y-Achse
Z-Achse
M2
M3
M4
Molex Mini-Fit 8pol. X512
Molex 10pol. X511
Molex Mini-Fit 8pol. X514
Molex 10pol. X513
Molex Mini-Fit 8pol. X516
Molex 10pol. X515
Combicon 5pol X30
SUBD 9pol X300 †
Combicon 5pol X40
SUBD 9pol X301 b
Combicon 5pol X50
SUBD 9pol X301 †
8x0,34 geschirmt
6x0,25 geschirmt
6x0,25geschirmt
Stiftleiste 9825 580510
Gehäuse 9825 580503
Stiftleiste 9pol. 9825 170900
Gehäuse 9pol. 9825 170912
09/2010
Bauschaltplan
9890 911001 B
Blatt 24 / 25
911-210
Verdrahtungsplan
wiring diagram
DÜRKOPP ADLER
Teilefamilie
Freigabe 0045/12
2010-08-02
2012-12-03
Datum
Bearb.
Cz
Geprüft
Norm
Name

Kurzzeichen	Teilenummer	Benennung	denomination	Typ	Bemerkung
Q0	9815 580008	Netzschalter	main switch		rot-gelb
S1	9815 710103	Induktivgeber	approximate switch	M8x1x40	konf. ET 9815 710100
S2	9815 710103	Induktivgeber	approximate switch	M8x1x40	konf. ET 9815 710100
S9	9815 740001	Oberfadenwächter	thread monitor	IDS/D	
S10	9815 710103	Induktivgeber	approximate switch	M8x1x40	konf. ET 9815 710100
S11	9815 710103	Induktivgeber	approximate switch	M8x1x40	konf. ET 9815 710100
S16	0999 220829	Druckschalter	pressure switch		Druckwächter
S17	9815 101010	Taster	push-button		rot
S17	9815 101085	Schaltelement	switch-element		Schnellstopp
S100	9815 935006	Lichtschranke	light barrier		Ref. Nähmotor
S101	9815 710103	Induktivgeber	approximate switch	M8x1x40	konf. ET 9815 710100
S102	9815 710103	Induktivgeber	approximate switch	M8x1x40	konf. ET 9815 710100
S103	9815 935006	Lichtschranke	light barrier		Ref. Z-Achse
X0	9625 190104	Netzstecker	mains plug	Schuko (DE)	
X1	9625 190103	Steckdose	wall socket	Schuko (DE)	(on request/auf Wunsch)
Y102	9820 110021	Hubmagnet	solenoid DC		Fadenspannung 1+2
Y103	9820 110016	Hubmagnet	solenoid DC		Fadenabschneider
Y104	9820 110037	Hubmagnet	solenoid DC		Fadenklemme

Kurzzeichen	Teilenummer	Benennung	denomination	Typ
A1	9850 001224	Steuerung k	control	DAC III
A2	9850 911002	Bedienfeld k	control panel	OP7000 m.Prog
A2	9850 911007	Bedienfeld k	control panel	OP7000 m.Prog
A2	9850 911009	Bedienfeld k	control panel	OP7000 m.Prog
A3	9850 910001	Leiterplatte k	PCB	
A4	0745 407904	Fuß-Schalter	foot-switch	
A5	9880 580003	Schalter k	switch	
A5	9805 320005	LED	LED	
A6	9850 001060	Leiterplatte k	PCB	8 Magnetventile
A7	9850 001060	Leiterplatte k	PCB	8 Magnetventile
A8	0745 177514	Spuler	bobbin winder	
A8	0867 170204	Spuler	bobbin winder	
A9	9850 867004	Leiterplatte k	PCB	
A10	9850 911000	Leiterplatte k	PCB	
A11	9850 867001	Leiterplatte k	PCB	
A12	9850 867003	Leiterplatte k	PCB	
A12.1	9815 925002	Lichtschranke	light barrier	
A13	9850 001090	Leiterplatte k	PCB	
A14	9850 001090	Leiterplatte k	PCB	
A15	9850 001090	Leiterplatte k	PCB	
A16	9850 001090	Leiterplatte k	PCB	
A17	9850 911004	Pegelwandler	Leiterplatte k	
A18	9850 911005	Leiterplatte k	PCB	
A19	9850 911006	Barcodeleser k	bar code reader cpl.	
F400	9825 810107	Sicherung	fuse	FF6.3A
F401	9825 810417	Sicherung	fuse	T6.3A
F402	9825 810417	Sicherung	fuse	T6.3A
F403	9825 810417	Sicherung	fuse	T6.3A
F404	9825 810107	Sicherung	fuse	FF6.3A
H1.2.3.4	9835 501005	Laser k	laser cpl.	
H1.2.3.4	9835 501006	Laser	laser	
M1/M1.1	9800 170034	Nähantrieb o.S.	sewing motor	750W, HoSing
M2	9800 580034	Schrittmotor	stepper	
M2.1	0580 490194	Drehgeber k	encoder	
M3	9800 580038	Schrittmotor	stepper	
M3.1	0580 490194	Drehgeber k	encoder	
M4	9800 580033	Schrittmotor	stepper	
M4.1	0580 490194	Drehgeber k	encoder	

Bemerkung
mit Speichererweiterung
911-210-3020
911-210-6020
911-210-6055
Verteiler / FS-Regelung
2-stufig S13+S14
Einfädelschalter, LED gelb 24V
Standard
optional
911-210-3020/6020
911-210-6055
LED-light
Verteiler
Ölstandsanzeige S16,Y10
RFW
RFW S12
Lasernetzteil
Lasernetzteil
Lasernetzteil
Lasernetzteil
TTL / RS232
Netzteil
konf. ET 9835 501010
5x20mm
5x20mm
5x20mm
5x20mm
5x20mm
incl. Verlängerung 9835 501008
Ersatz Laser
für DAC III
X-Achse *(nur montiert lieferbar)*
Y-Achse *(nur montiert lieferbar)*
Z-Achse *(nur montiert lieferbar)*

9890 911001 B/25

c			Datum	2010-08-02
b			Bearb.	Cz
a	01.0	2012-12-03	Cz	Geprüft
	Änd.	Datum	Name	Norm

DÜRKOPP ADLER

Teilefamilie

Freigabe 0045/12

Kl.911-210-3020; -6020; -6055

Teileliste

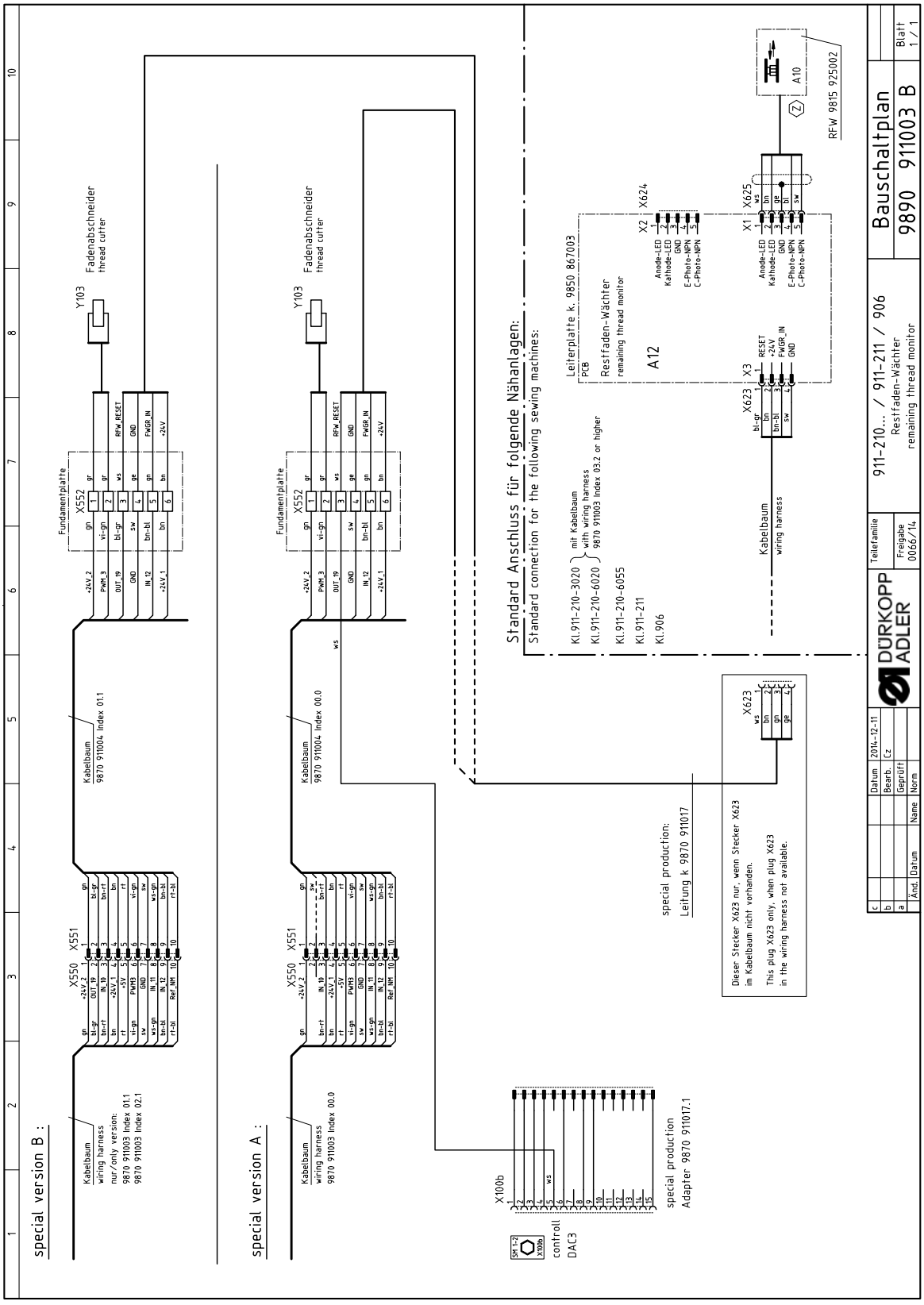
parts list

Bauschaltplan

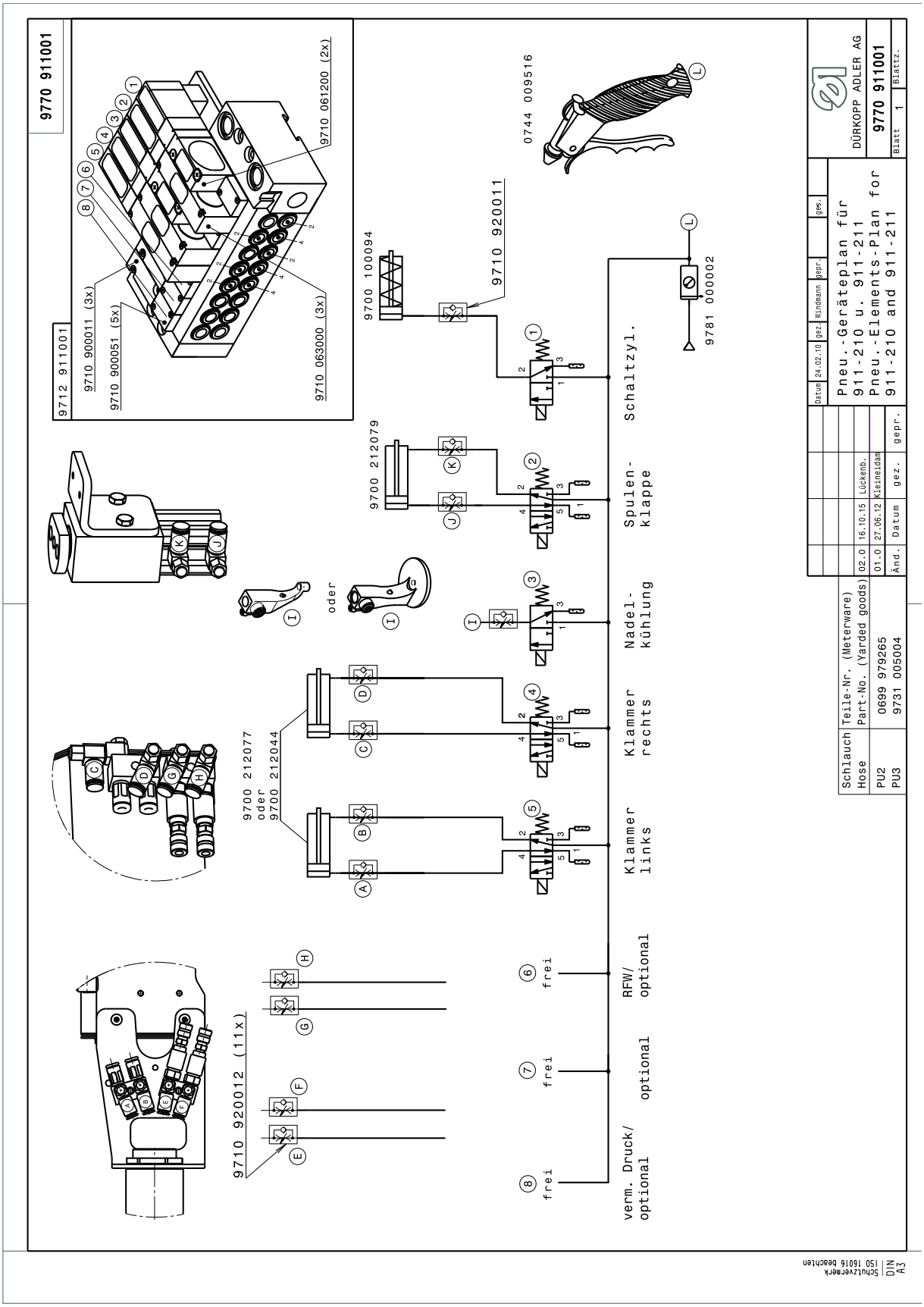
9890 911001 B

Blatt 25 / 25

13.2 Wiring diagram - remaining thread monitor



13.3 Pneumatic diagram



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