



2112-7

Operating Instructions

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

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1	About these instructions	3
1.1	For whom are these instructions intended?	3
1.2	Representation conventions – symbols and characters	3
1.3	Other documents	5
1.4	Liability.....	5
2	Safety	7
2.1	Basic safety instructions	7
2.2	Signal words and symbols used in warnings	8
3	Machine description	11
3.1	Components of the machine.....	11
3.2	Proper use	12
3.3	Declaration of Conformity	13
4	Operation.....	15
4.1	Switching on and off the machine.....	15
4.2	Operating the machine head	16
4.3	Function sequences	16
4.3.1	Sewing on the pocket facing.....	17
4.3.2	Lapping the left fly piece to the left trouser component	21
4.3.3	Sewing the right fly piece onto the right trouser component.....	24
4.3.4	Lapping the wing pocket to the left trouser component	27
4.3.5	Lapping the right wing pocket to the right trouser component....	29
4.4	Quick stitch width adjustment (stitch width adjustment)	32
4.5	Controlling the machine cycle.....	33
4.5.1	Controlling the machine cycle in Mode 00	34
4.5.2	Controlling the machine cycle in Mode 01	35
4.5.3	Controlling the machine cycle in Mode 02	36
4.5.4	Controlling the machine cycle in Mode 03	36
4.5.5	Controlling the machine cycle in Mode 04	37
4.5.6	Controlling the machine cycle in Mode 05	38
4.5.7	Controlling the machine cycle in Mode 06	39
4.5.8	Controlling the machine cycle in Mode 07	40
4.6	Initializing the loading process.....	41
4.7	Moving the machine to the zero position	41
4.8	Stopping the seam program	41
4.9	Standard sewing programs	42
5	Programming	45
5.1	Selecting a seam program.....	46
5.2	Activating additional seam numbers	47
5.3	Operating the stacker	47
5.4	Activating the needle thread clamp	48
5.5	Initializing the day counter	48
5.6	Checking the cutters	49
5.6.1	Checking the cutters	49
5.6.2	Winding the hook thread.....	50
6	Maintenance.....	51
6.1	Cleaning	52
6.2	Lubricating	53

6.3	Servicing the pneumatic system	54
6.3.1	Adjusting the operating pressure	54
6.3.2	Draining the water-oil mixture	55
6.3.3	Cleaning the filter element	56
6.4	Parts list	57
7	Setup.....	59
7.1	Checking the scope of delivery	59
7.2	Removing the transport locks	59
7.3	Aligning the stand	60
7.4	Electrical connection	61
7.5	Pneumatic connection	62
7.5.1	Assembling the compressed air maintenance unit	62
7.5.2	Adjusting the operating pressure	63
7.6	Connecting the vacuum device	64
7.7	Performing a test run	65
8	Decommissioning.....	67
9	Disposal.....	69
10	Troubleshooting	71
10.1	Customer Service	71
10.2	Messages of the software	71
10.3	Errors in sewing process	75
11	Technical data.....	77
11.1	Data and characteristic values	77
11.2	Requirements for fault-free operation	77

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. 71).


Consider these instructions as part of the product and keep it easily accessible.

1.1 For whom are these instructions intended?

These instructions are intended for:

- **Operators:**
This group is familiar with the machine and has access to the instructions. Specifically, chapter **Operation** ( p. 15) is important for the operators.
- **Specialists:**
This group has the appropriate technical training for performing maintenance or repairing malfunctions. Specifically, the chapter **Setup** ( p. 59) is important for specialists.

Service Instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by personnel, please also follow the chapter **Safety** ( p. 7).

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 adjustment.



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 an adjustment.

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. 7).

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 transport damages
- 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. 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 stacker to transport the machine. Raise the machine max. 20 mm and secure it to prevent it from slipping off.
Setup	The connecting cable must have a power plug approved in the relevant country. The power plug may only be assembled to the power cable by qualified specialists.
Obligations of the operator	<p>Follow the country-specific safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.</p> <p>All the warnings and safety signs on the machine must always be in legible condition. Do not remove!</p> <p>Missing or damaged warnings and safety signs must be replaced immediately.</p>
Requirements to be met by the personnel	<p>Only qualified specialists may be used for:</p> <ul style="list-style-type: none"> • Setting up the machine/putting the machine into operation • Performing maintenance work and repairs • Performing work on electrical equipment <p>Only authorized persons may work on the machine and must first have understood these instructions.</p>

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

Safety equipment Safety equipment should not be disassembled or deactivated. If it is essential to disassemble 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.

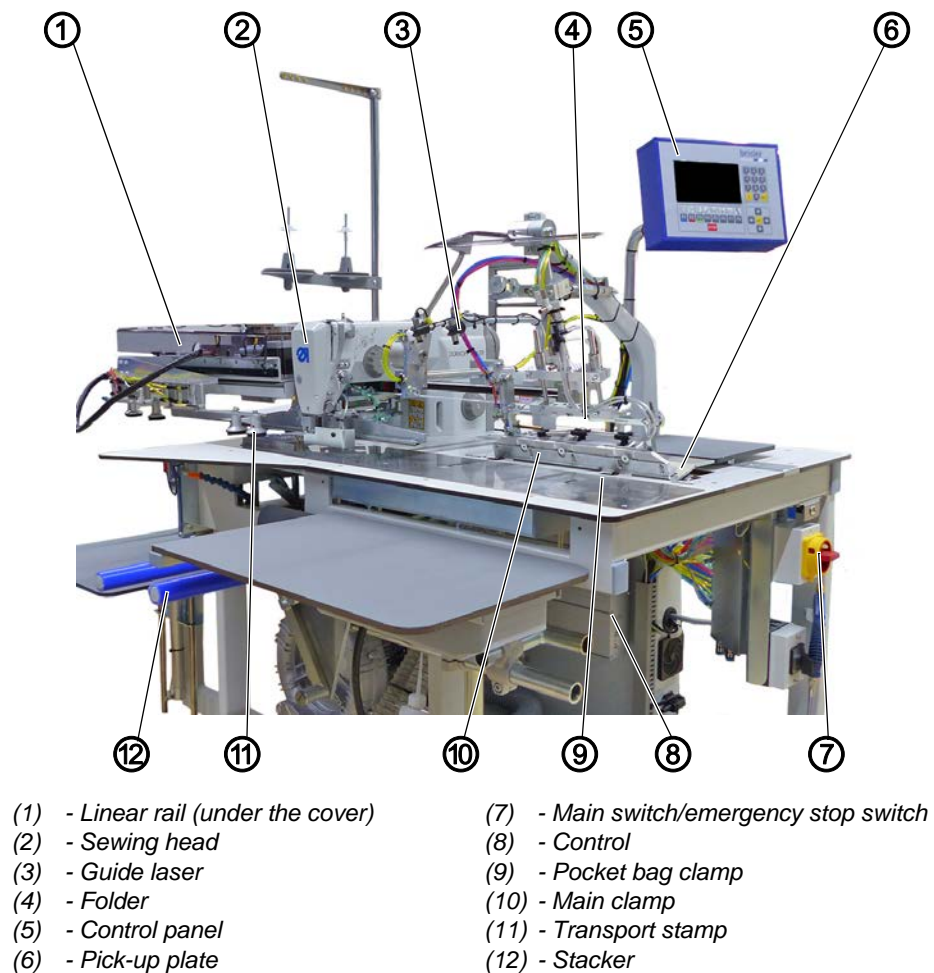
Measures for avoiding the danger.

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

3 Machine description

3.1 Components of the machine

Fig. 1: Components of the machine



3.2 Proper use

WARNING



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

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

Follow all instructions provided.

NOTICE

Non-observance will lead to property damage!

Improper use can result in material damage at the machine.

Follow all instructions provided.

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

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

The needle thicknesses permissible for the machine are listed in the **Technical data** (📖 p. 77) chapter.

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

The machine is intended for industrial use.

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

Only authorized persons may work on the machine.

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

3.3 Declaration of Conformity

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

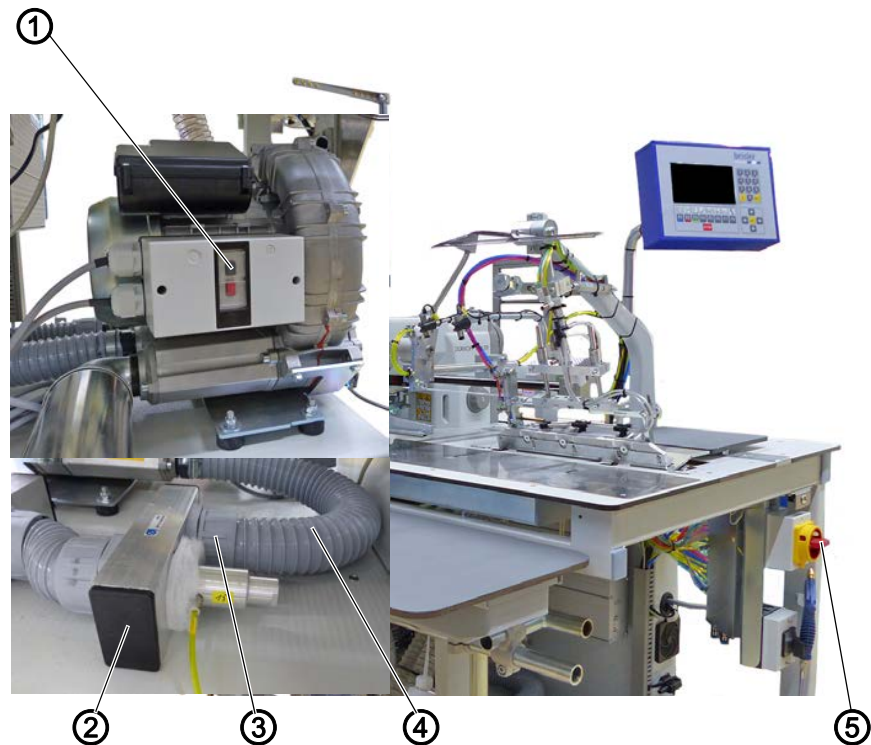


4 Operation

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

4.1 Switching on and off the machine

Fig. 2: Switching on and off the machine



- (1) - Switch
 (2) - Sleeve
 (3) - Vacuum valve

- (4) - Vacuum hose
 (5) - Main switch



To switch on the machine:

1. Turn the main switch (5) to the I position.
2. To switch the vacuum pump on, press the switch (1) or open the on-site vacuum source.



Information

Vacuum supply:

If the machine is equipped with the optional vacuum pump, the vacuum supply is now ready for operation.

If the machine is prepared for the on-site vacuum supply system, the on-site vacuum hose (4) must be connected to the sleeve (2) of the vacuum valve (3).



To switch off the machine:

1. Turn the main switch (5) to the **0** position.

4.2 Operating the machine head

The operation of the machine head (needle insertion or change, threading of needle thread and hook thread etc.) is described in the separately included operating instructions of the sewing head manufacturer.

4.3 Function sequences

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

The machine is driven by electric motors and by compressed air.

KEEP HANDS AWAY from machine during machine operation.

KEEP HANDS AWAY from the operating range of the needle.

DO NOT wear loose-fitting clothes that may become caught in the moving parts of the machine.

WARNING



Risk of injury from laser beams!

Retina damage possible.

NEVER look directly into the laser beam.

NEVER allow optical equipment such as burning glasses or lenses to interfere with the laser beam path.

The machine can perform 4 different, automated sewing functions:

- Lapping and edge folding of the pocket facing on the pocket bag
- Lapping and edge folding of the zipper fly on the front trouser component (left fly piece for men's trousers, right fly piece for ladies' trousers)
- Flat sewing of the zipper fly onto the front trouser component (right fly piece for men's trousers, left fly piece for ladies' trousers)
- Lapping and edge folding of the wing pockets on the front trouser component

4.3.1 Sewing on the pocket facing

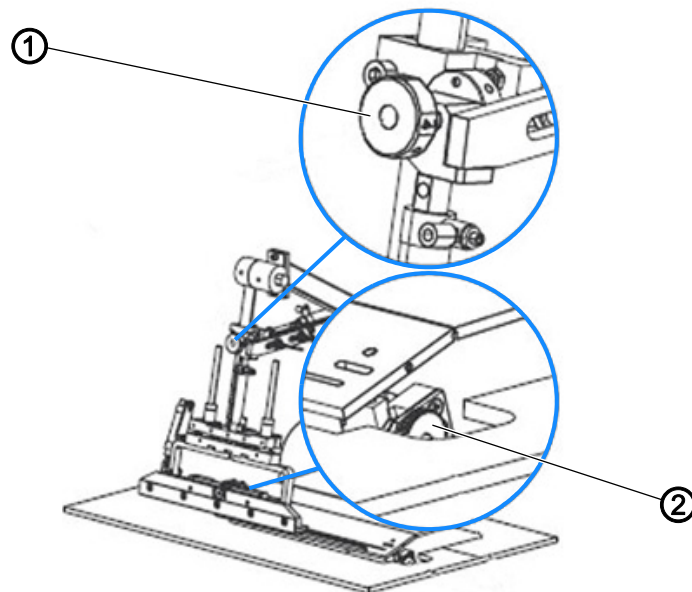
The machine allows for the automatic edge folding of pocket facing and for sewing pocket facing onto a pocket bag.

Depending on the way how the pocket facing and the pocket bag are supposed to be sewn together, the two sewing pieces must be aligned with one another at the line-up positions.

The exact line-up position of pocket bag and pocket facing is marked on the working plate / the pick-up plate with strips of adhesive tape or a felt pen. While doing so, make sure the pocket bag is positioned in the operating range of the pocket bag clamp.

Positioning and aligning

Fig. 3: Sewing on pocket facing (1), positioning and aligning



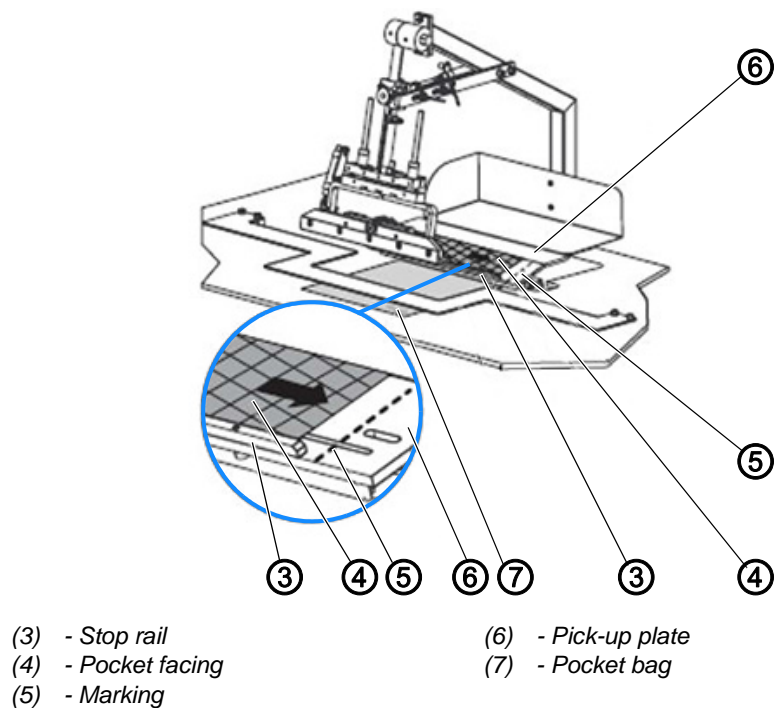
(1) - Revolver

(2) - Adjusting wheel

The **stitch width** depends on the thickness of the fabric. The thicker the sewing material used, the wider the stitch width.

You use the adjusting wheel (2) to determine the **maximum fabric thickness of the pocket facing**. The adjusting wheel is continuously adjustable. The stitch width can be set to 4 different levels at the revolver (1), see chapter **Quick stitch width adjustment** (📖 p. 32).

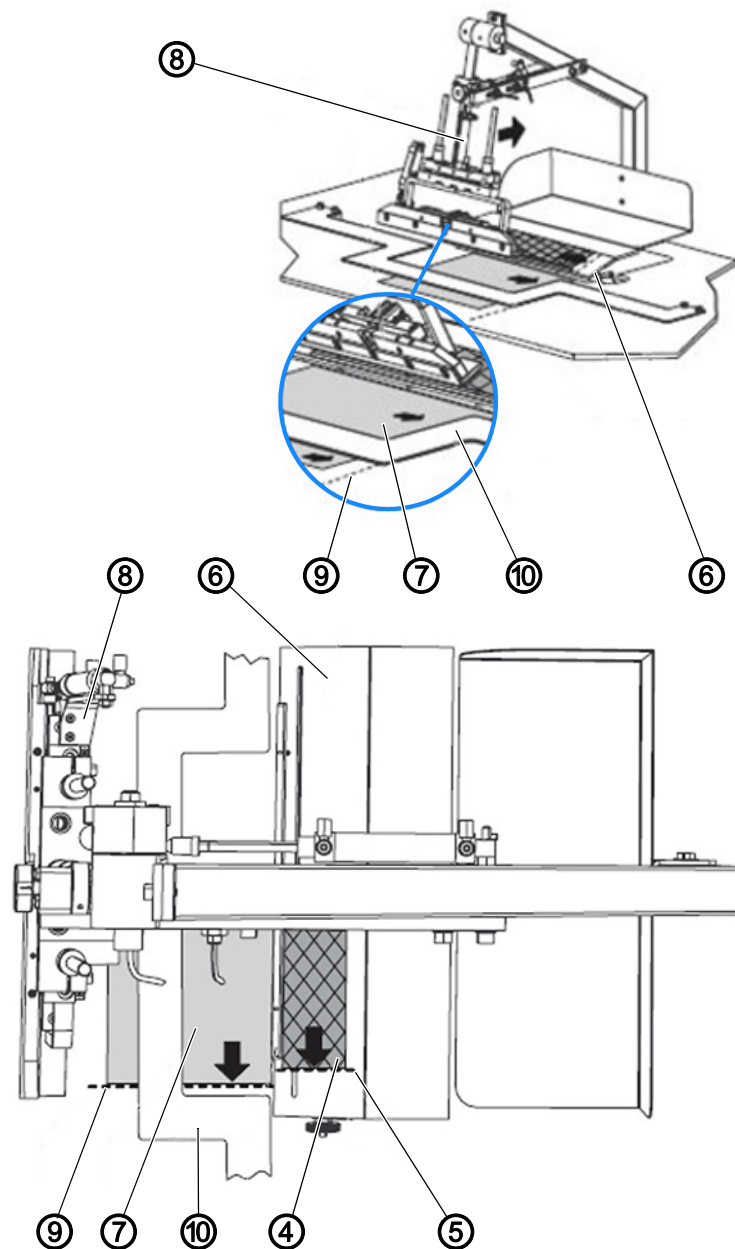
Fig. 4: Sewing on pocket facing (2), positioning and aligning



The pocket facing (4) is lined up at the stop rail (3) of the pick-up plate (6). The exact alignment to the pocket bag (7) is indicated by a marking (5) on the pick-up plate.

Edge folding and pickup of the pocket facing

Fig. 5: Sewing on the pocket facing (3), edge folding and pickup of the pocket facing



- (4) - Pocket facing
- (5) - Marking
- (6) - Pick-up plate
- (7) - Pocket bag

- (8) - Folder
- (9) - Marking
- (10) - Pocket bag clamp

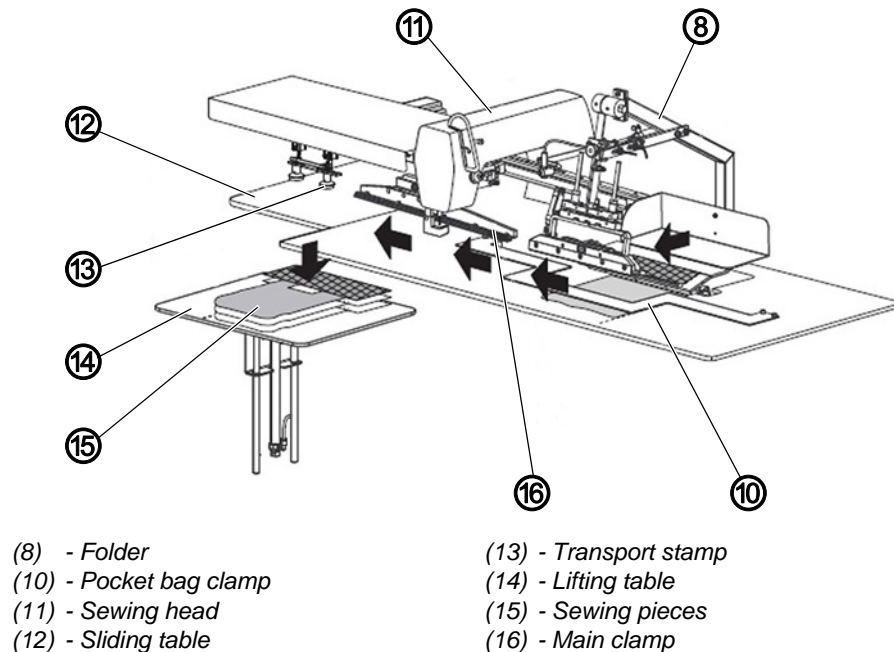
The folder (8) moves right to the pick-up plate (6). The pocket facing (4) is folded and picked up.

During this time, the pocket bag (7) is positioned on the working plate.

The pocket bag is lined up within the operating range of the pocket bag clamp (10). The exact position to the pocket facing (4) is determined by a marking (9) on the working plate.

Transport and sewing

Fig. 6: Sewing on pocket facing (4), transport and sewing



The folder (8) moves to the left with the pocket facing, is lowered and places the pocket facing onto the pocket bag.

The pocket bag clamp (10) fixes the pocket bag in place on the working plate until the main clamp (16) picks up the sewing pieces (15) and transports them to the sewing head (11). The pocket bag clamp (10) closes while the folder (8) moves to the left.

The main clamp (16) moves to the loading station and picks up the sewing pieces (15). The folder (8) moves back up to its initial position. The main clamp (16) pushes the sewing piece (15) on the working plate from the loading station to the sewing head (11).

The sewing head (11) performs the functions *sewing stitch* and *thread cutting*. All other functions, such as *seam length* or *specifying the seam beginning and the seam end point*, are captured by the sensor system and controlled by the control in accordance with the set values.

The thread supply and the thread feed to the sewing head are monitored by the sensors *needle thread monitor* and *remaining thread monitor*. The reel stand can hold 2 thread reels.

After being stitched down, the sewing piece (15) is blown even and transported to the stacker by the transport stamp (13).

The stacker consists of a sliding table (12) and a lifting table (14). The sewing pieces (15) are put down on the sliding table (12) of the stacker. The sliding table (12) then moves backward, and the sewing pieces (15) fall onto the lifting table (14) where they are stacked.

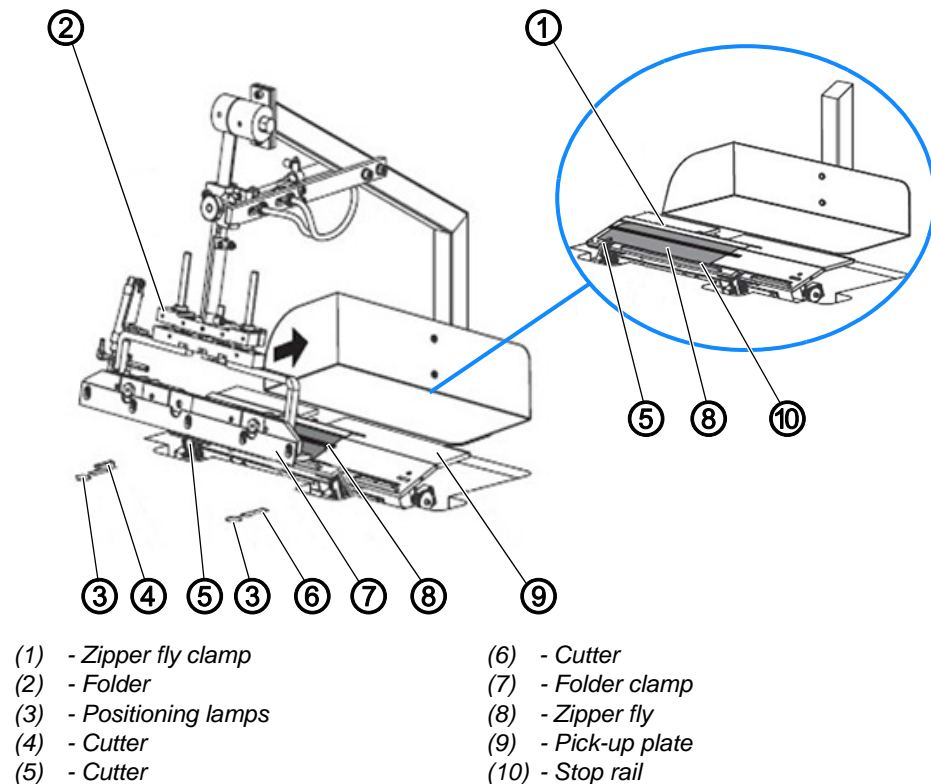
The lifting table (14) is lowered automatically by photocell control or in pre-set steps in accordance with the input quantities.

4.3.2 Lapping the left fly piece to the left trouser component

Ideally, the side pocket and the left trouser component are premarked by a gusset. If a gusset is not available, the line-up position is marked with adhesive tape or with a felt pen on the working plate or on the pick-up plate.

Lining up the left fly piece

Fig. 7: Lapping the left fly piece to the left trouser component (1), lining up the left fly piece



The zipper fly clamp (1) is open during the line-up process. The zipper fly (8) is lined up at the stop rail (10) of the pick-up plate (9). The exact position to the cutter (5) is marked by the gusset in the zipper fly (8).

The zipper fly clamp (1) closes and fixes the zipper fly (8) in place.

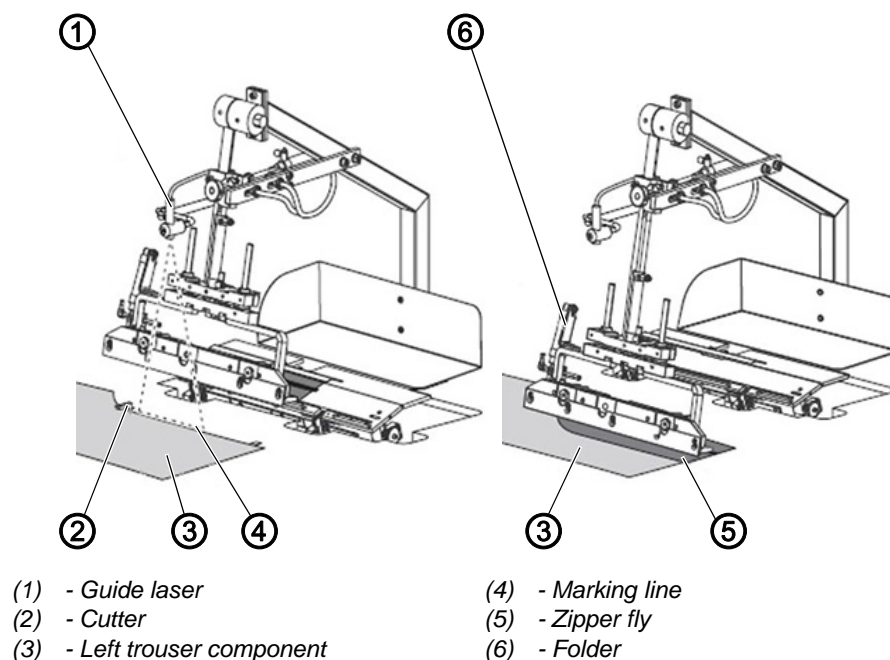
The folder (2) moves right to the pick-up plate (9). The zipper fly (8) is incised by the cutter (6) and then folded and picked up by the folder clamp (7).

The cutter (4) of the working plate opens, the cutter (6) is passive and remains concealed in the working plate.

The positioning lamps (3) make it easier to line up the gusset of the left trouser component with the cutter (4).

Lining up the left trouser component

Fig. 8: Lapping the left fly piece to the left trouser component (2), lining up the left trouser component



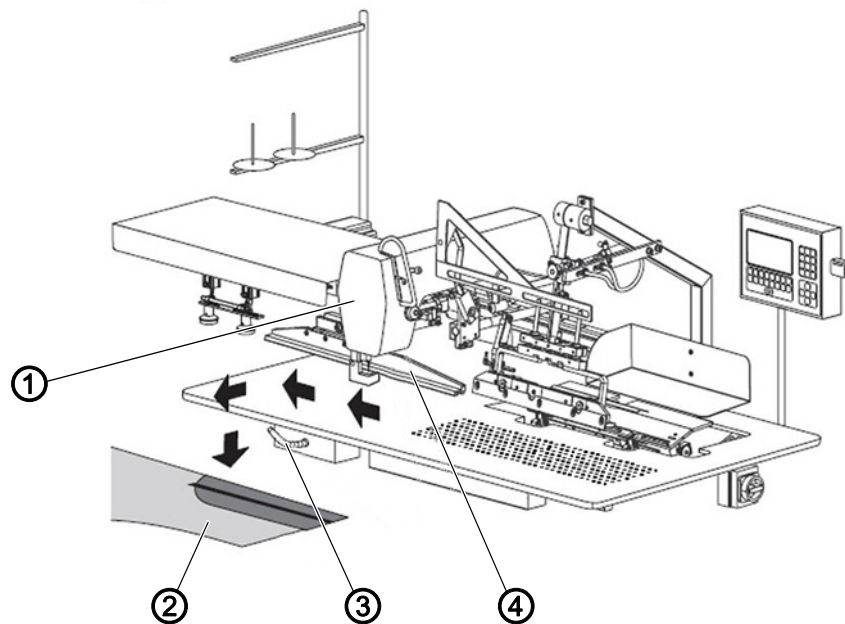
The left trouser component (3) is lined up with the gusset to the cutter (2) and parallel to the red marking line (4) of the guide laser (1).

The folder (6) moves left to the working plate with the zipper fly (5), lowers and places the zipper fly (5) onto the left trouser component (3).

While the folder (6) moves left to the working plate, the left trouser component (3) is incised by the cutter (2).

Sewing the left fly piece to the trouser component

Fig. 9: Lapping the left fly piece to the left trouser component (3), sewing the left fly piece to the trouser component



(1) - Sewing head
 (2) - Trouser component

(3) - Compressed air device
 (4) - Main clamp

The main clamp (4) moves to the loading station and picks up the trouser component (2). The folder moves to its initial position. The main clamp (4) transports the trouser component (2) on the working plate from the loading station to the sewing head (1).

The sewing head (1) performs the functions *sewing stitch* and *thread cutting*. All other functions, such as *seam length* or *specifying the seam beginning and the seam end point*, are captured by the sensor system and controlled by the control in accordance with the set values.

The thread supply and the thread feed to the sewing head (1) are monitored by the sensors *needle thread monitor* and *remaining thread monitor*. The reel stand can hold 2 thread reels.

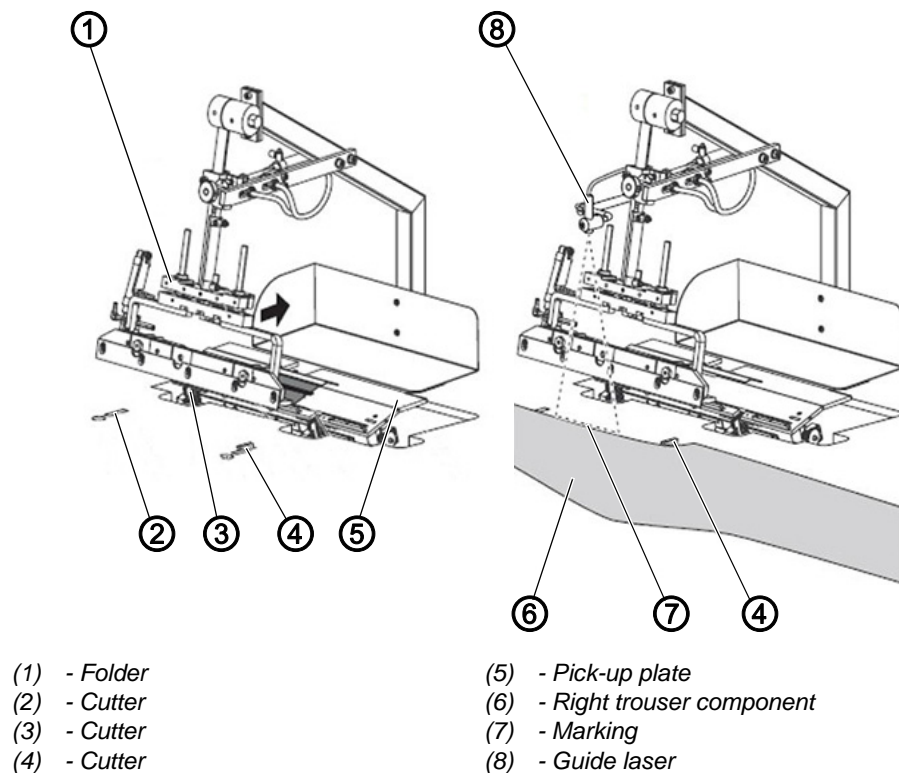
After the sewing process, the trouser component (2) is blown off the worktable by the compressed air device (3).

4.3.3 Sewing the right fly piece onto the right trouser component

Ideally, the right trouser component is premarked by a gusset. If a gusset is not available, the line-up position is marked with adhesive tape or with a felt pen on the working plate or on the pick-up plate.

Lining up the right trouser component

Fig. 10: Sewing the right fly piece onto the right trouser component (1), lining up the right trouser component

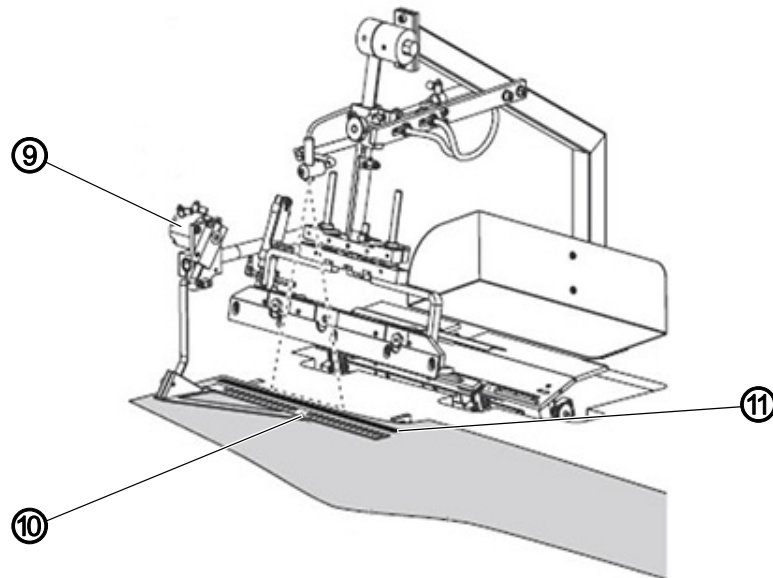


The folder (1) moves right to the pick-up plate (5) and makes the working plate accessible. The cutter (4) opens, the cutters (2) and (3) are passive and remain concealed in the working plate.

The right trouser component (6) is aligned with the gusset at the cutter (4) and parallel to the pick-up plate (5) and the folder (1) at the red marking (7) of the guide laser (8).

Lining up the right fly piece

Fig. 11: Sewing the right fly piece onto the right trouser component (2), lining up the right fly piece



(9) - Stop
(10) - Stop rail

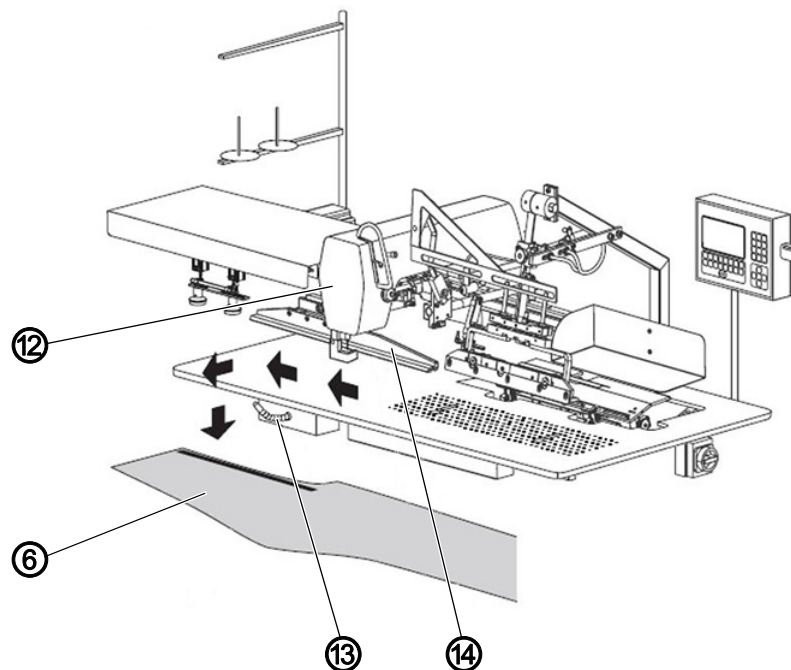
(11) - right fly piece

After the cutter has made the incision, the stop (9) swivels to the right trouser component.

The right fly piece (11) is lined up directly at the stop rail (10) and flush with the right trouser component.

Sewing the right fly piece to the trouser component

Fig. 12: Sewing the right fly piece onto the right trouser component (3), sewing the right fly piece to the trouser component



(6) - Right trouser component
(12) - Sewing head

(13) - Compressed air device
(14) - Main clamp

The main clamp (14) moves to the loading station and picks up the trouser component (6). The folder moves to its initial position. The main clamp (14) transports the trouser component (6) on the working plate from the loading station to the sewing head.

The sewing head (14) performs the functions *sewing stitch* and *thread cutting*. All other functions, such as *seam length* or *specifying the seam beginning and the seam end point*, are captured by the sensor system and controlled by the control in accordance with the set values.

The thread supply and the thread feed to the sewing head (14) are monitored by the sensors *needle thread monitor* and *remaining thread monitor*. The reel stand can hold 2 thread reels.

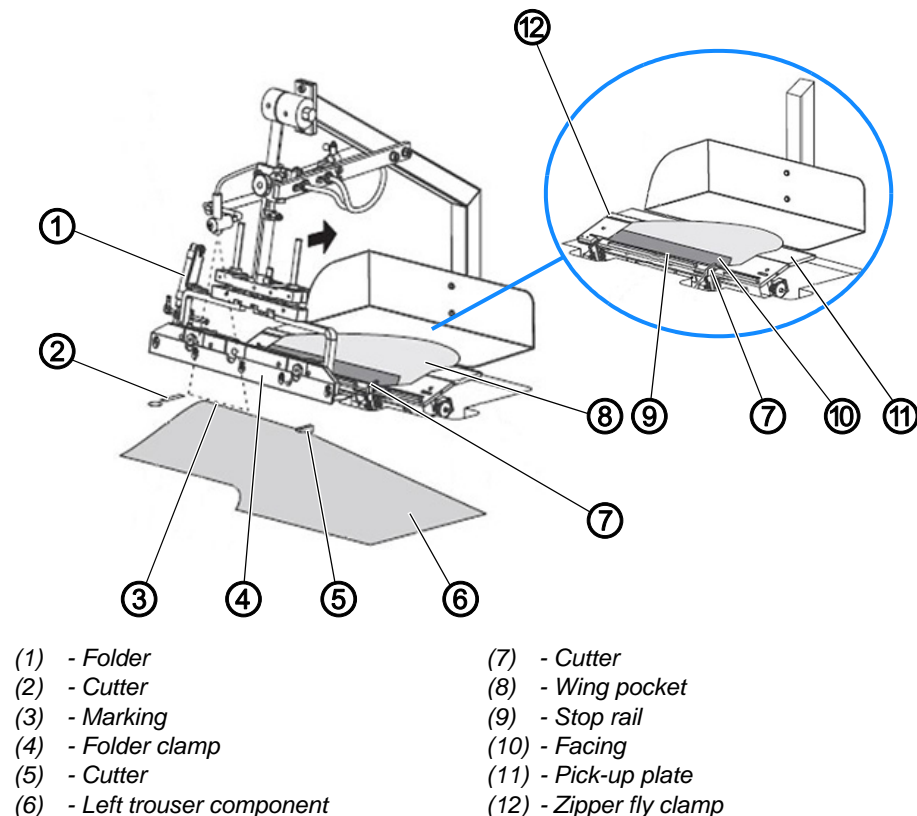
After the sewing process, the trouser component (6) is blown off the worktable by the compressed air device (13).

4.3.4 Lapping the wing pocket to the left trouser component

Ideally, the wing pocket and the left trouser component are premarked by a gusset. If a gusset is not available, the line-up position is marked with adhesive tape or with a felt pen on the working plate or on the pick-up plate.

Lining up the left wing pocket and the trouser component

Fig. 13: Lapping the left wing pocket to the left trouser component (1), lining up the left wing pocket and the trouser component



The zipper fly clamp (12) is closed during the line-up process.

The facing (10) of the wing pocket (8) is lined up at the stop rail (9) of the pick-up plate (11). The exact position to the cutter (7) is marked by the gusset in the facing (10).

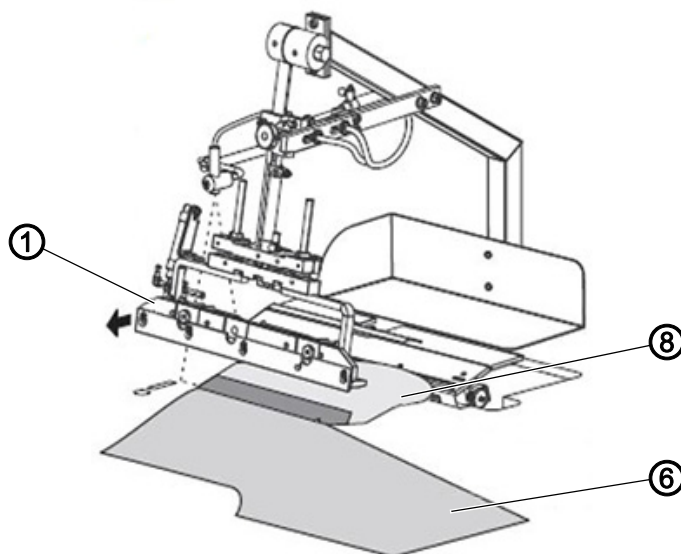
The folder (1) moves right to the pick-up plate (11). The facing (10) of the wing pocket (8) is incised by the cutter (7) and then folded and picked up by the folder clamp (4).

The cutter (5) of the working plate opens, the cutter (2) is passive and remains concealed in the working plate.

The left trouser component (6) is aligned with the gusset at the cutter (5) and parallel to the pick-up plate (11) and the folder (1) at the red marking (3) of the guide laser.

Sewing the left wing pocket to the trouser component

Fig. 14: Lapping the left wing pocket to the left trouser component (2), sewing the left wing pocket to the trouser component



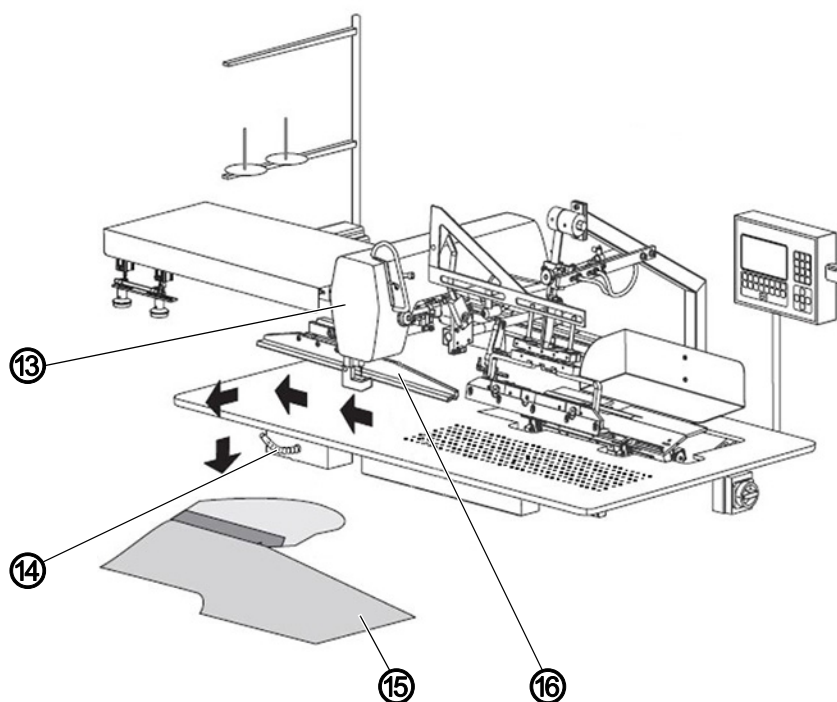
(1) - Folder

(8) - Wing pocket

(6) - Left trouser component

The folder (1) moves left to the working plate with the wing pocket (8), lowers and places the wing pocket (8) onto the left trouser component (6).

Fig. 15: Lapping the left wing pocket to the left trouser component (3), sewing the left wing pocket to the trouser component



(13) - Sewing head

(14) - Compressed air device

(15) - Sewing pieces

(16) - Main clamp

While the folder (1) moves left to the working plate, the left trouser component (6) is incised by the cutter (5).

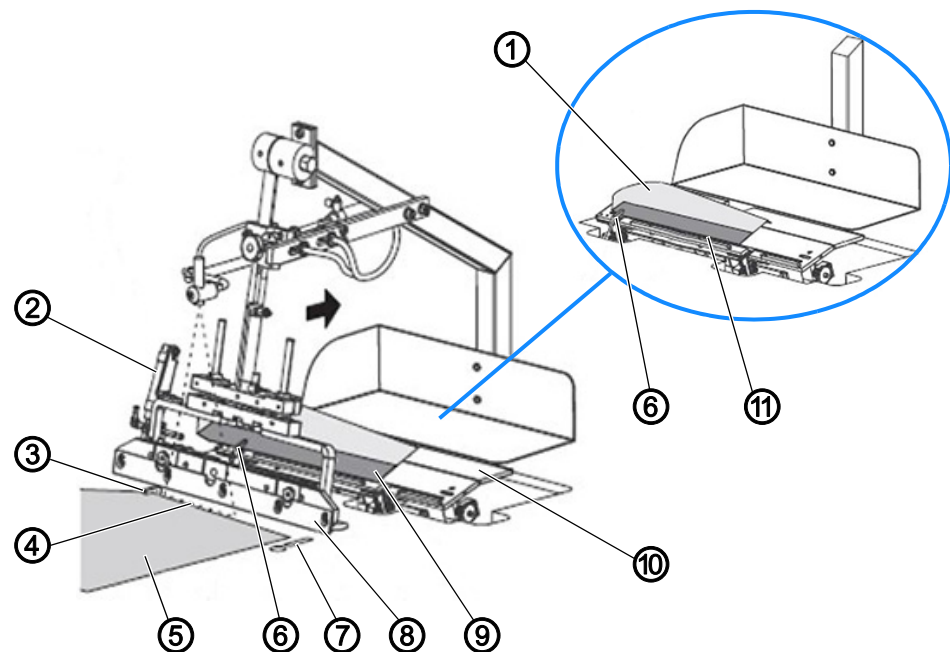
The main clamp (16) moves to the loading station and picks up the trouser component and the wing pocket. The folder moves to its initial position. The main clamp (16) transports the sewing pieces on the working plate from the loading station to the sewing head (13). After the sewing process, the sewing pieces (15) are blown off the worktable by the compressed air device (14).

4.3.5 Lapping the right wing pocket to the right trouser component

Ideally, the wing pocket and the right trouser component are premarked by a gusset. If a gusset is not available, the line-up position is marked with adhesive tape or with a felt pen on the working plate or on the pick-up plate.

Lining up the right wing pocket and the trouser component

Fig. 16: Lapping the right wing pocket to the right trouser component (1), lining up the right wing pocket and the trouser component



- | | |
|-------------------------------|----------------------|
| (1) - Wing pocket | (7) - Cutter |
| (2) - Folder | (8) - Folder clamp |
| (3) - Cutter | (9) - Facing |
| (4) - Marking | (10) - Pick-up plate |
| (5) - Right trouser component | (11) - Stop rail |
| (6) - Cutter | |

The zipper fly clamp is closed during the line-up process.

The facing (9) of the wing pocket (1) is lined up at the stop rail (11) of the pick-up plate (10). The exact position to the cutter (6) is marked by the gusset in the facing (9).

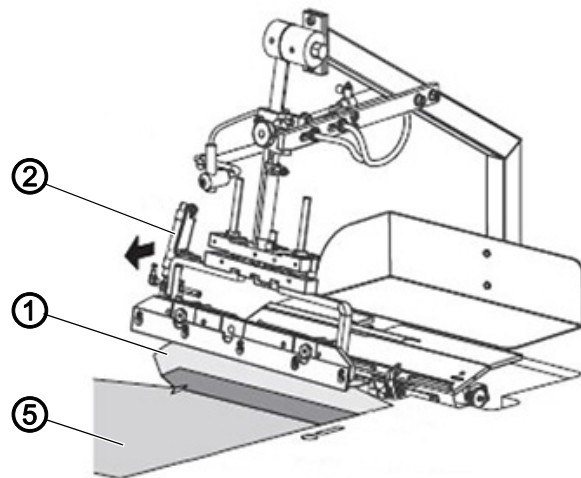
The folder (2) moves right to the pick-up plate. The facing (9) of the wing pocket (1) is incised by the cutter (6) and then folded and picked up by the folder clamp (8).

The cutter (3) of the working plate opens, the cutter (7) is passive and remains concealed in the working plate.

The right trouser component (5) is aligned with the gusset at the cutter (3) and parallel to the pick-up plate (10) and the folder (2) at the red marking (4) of the guide laser.

Sewing the right wing pocket to the trouser component

Fig. 17: Lapping the right wing pocket to the right trouser component (2), sewing the right wing pocket to the trouser component



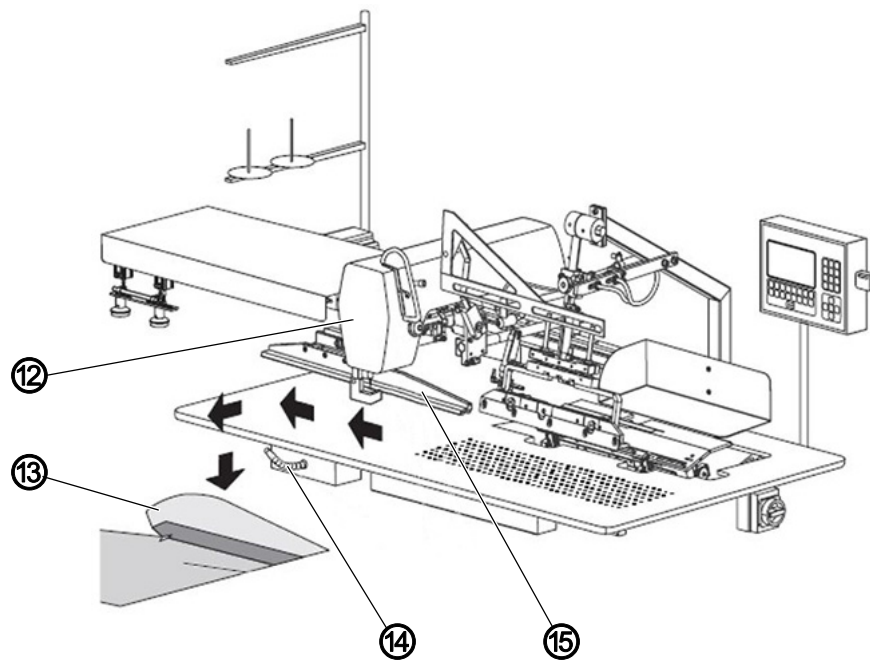
(1) - Wing pocket
(2) - Folder

(5) - Right trouser component

The folder (2) moves left to the working plate with the wing pocket (1), lowers and places the wing pocket (1) onto the trouser component (5).

While the folder (2) moves left to the working plate, the right trouser component (5) is incised by the cutter (3).

Fig. 18: Lapping the right wing pocket to the right trouser component (3), sewing the right wing pocket to the trouser component



(12) - Sewing head
(13) - Sewing pieces

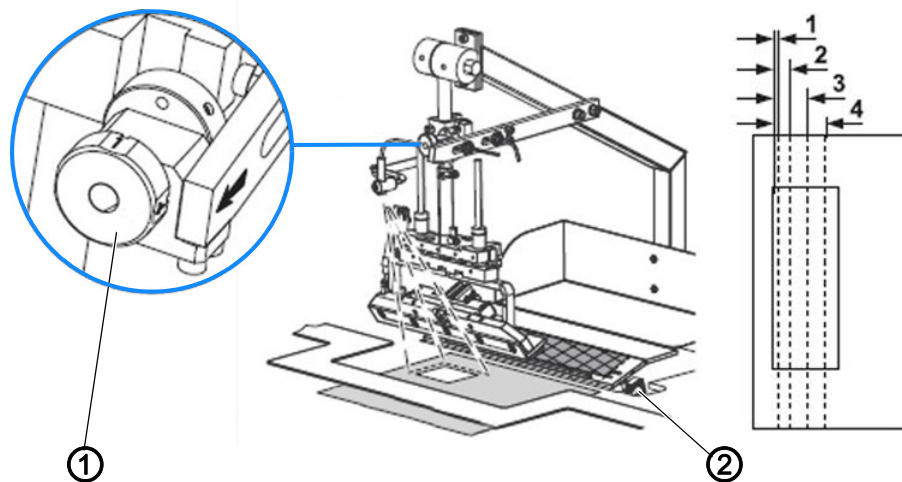
(14) - Compressed air device
(15) - Main clamp

The main clamp (15) moves to the loading station and picks up the trouser component (5) and the wing pocket (1). The folder (2) moves to its initial position.

The main clamp (15) transports the sewing pieces on the working plate from the loading station to the sewing head (12). After the sewing process, the sewing pieces (13) are blown off the worktable by the compressed air device (14).

4.4 Quick stitch width adjustment (stitch width adjustment)

Fig. 19: Quick stitch width adjustment



(1) - Adjusting wheel

(2) - Adjusting wheel

The quick stitch width adjustment allows for the selection of preset 4 seam widths (stitch widths).

The stitch width depends on the thickness of the fabric.

The thicker the sewing material used, the wider the stitch width. The right stitch width is determined by performing multiple sewing tests.



To select one of the preset stitch widths:

1. Turn the adjusting wheel (1) to the desired position 1 - 4.



Important

Before you can turn the adjusting wheel (1):

- Position the sewing material on the pick-up plate
- Press the right pedal to move the folder to the left position



To change the preset stitch widths:

1. Turn the adjusting wheel (2) at the pick-up plate.
 - **To set a greater stitch width:** turn clockwise
 - **To set a smaller stitch width:** turn counterclockwise

4.5 Controlling the machine cycle

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

The machine is driven by electric motors and by compressed air.

KEEP HANDS AWAY from machine during machine operation.

KEEP HANDS AWAY from the operating range of the needle.

DO NOT wear loose-fitting clothes that may become caught in the moving parts of the machine.

WARNING



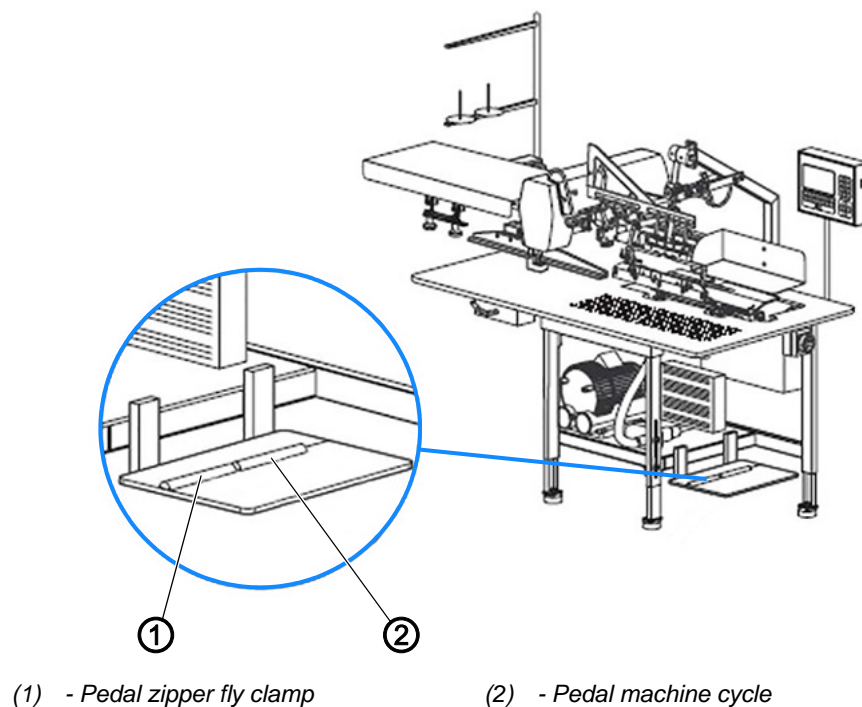
Risk of injury from laser beams!

Retina damage possible.

NEVER look directly into the laser beam.

NEVER allow optical equipment such as burning glasses or lenses to interfere with the laser beam path.

Fig. 20: Controlling the machine cycle



(1) - Pedal zipper fly clamp

(2) - Pedal machine cycle

The complete process of the seam programs is controlled by using the pedals *Zipper fly clamp* (1) and *Machine cycle* (2).

Each seam offers several alternatives (Mode 00 - Mode 07) for controlling the process (see chapter **Standard sewing programs** (📖 p. 42)).

4.5.1 Controlling the machine cycle in Mode 00



To control the machine cycle in Mode 00:

1. Line up the pocket facing.
2. Press the *Machine cycle* pedal and hold it down.

↳ The pocket facing is picked up by the folder.

3. Line up the pocket bag.

4. Release the pedal.

↳ The further machine cycle is fully automatic.

The pocket bag clamp closes.

The folder places the pocket facing onto the pocket bag.

The main clamp picks up the sewing pieces and transports them to the sewing head.

The sewing pieces are stitched down and transported to and deposited at the stacker by the transport stamp.

The main clamp returns to its start position.

↳ The next machine cycle starts.



Information

If the fully automatic machine cycle was started, the next sewing pieces can be lined up already.

The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.5.2 Controlling the machine cycle in Mode 01



To control the machine cycle in Mode 01:

1. Line up the pocket facing.
2. Press the *Machine cycle* pedal and hold it down:
 - ↳ The pocket facing is picked up by the folder.
3. Line up the pocket bag.
4. Release the pedal.
 - ↳ The pocket bag clamp closes.
5. Press the *Machine cycle* pedal briefly.
 - ↳ The folder moves to the left and deposits the pocket facing.
6. Press the *Machine cycle* pedal briefly.
 - ↳ The main clamp picks up the sewing pieces and moves to the sewing head.
7. Press the *Machine cycle* pedal briefly.
 - ↳ The sewing pieces are stitched down.
8. Press the *Machine cycle* pedal briefly.
 - ↳ The sewing pieces are transported to and deposited at the stacker by the transport stamp.
The main clamp returns to its start position.
The next machine cycle starts.



Information

When the sewing pieces have been transported to the sewing head, the next pocket facing can be lined up.
The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.5.3 Controlling the machine cycle in Mode 02



To control the machine cycle in Mode 02:

1. Line up the pocket facing.
2. Press the *Machine cycle* pedal and hold it down:
 - ↳ The pocket facing is picked up by the folder.
3. Line up the pocket bag.
4. Release the pedal.
 - ↳ The pocket bag clamp closes.
The folder moves to the left and deposits the pocket facing.
The main clamp picks up the sewing pieces.
5. Press the *Machine cycle* pedal briefly.
 - ↳ The further machine cycle is fully automatic.



Information

When the sewing pieces have been transported to the sewing head, the next pocket facing can be lined up.
The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.5.4 Controlling the machine cycle in Mode 03

After any work step, the further machine cycle can be continued automatically.



To control the machine cycle in Mode 03:

1. Press the *Machine cycle* pedal and hold it down.
 - ↳ The further machine cycle is fully automatic.

4.5.5 Controlling the machine cycle in Mode 04



To control the machine cycle in Mode 04:

1. Line up the left fly piece.
2. Press the *Zipper fly clamp* pedal.
 - ↳ The zipper fly clamp closes.
3. Press the *Machine cycle* pedal.
 - ↳ The folder moves right to the pick-up plate.
The cutter *Zipper fly* cuts.
The zipper fly is folded and picked up.
4. Press the *Machine cycle* pedal and hold it down.
 - ↳ The cutter *Left trouser component* opens.
The vacuum is activated.
5. Line up and smooth out the left trouser component.
6. Release the pedal.
 - ↳ The further machine cycle is fully automatic.
The cutter *Left trouser component* cuts.
The folder places the zipper fly on the left trouser component.
The main clamp picks up the sewing pieces.
The main clamp transports the sewing pieces to the sewing head.
The sewing pieces are stitched down and blown off the working plate with compressed air.
The main clamp returns to its start position.
The next machine cycle starts.



Information

If the automatic machine cycle was started, the next sewing pieces can be lined up already.
The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.5.6 Controlling the machine cycle in Mode 05



To control the machine cycle in Mode 05:

1. Line up the left fly piece.
2. Press the *Zipper fly clamp* pedal.
↳ The zipper fly clamp closes.
3. Press the *Machine cycle* pedal.
↳ The folder moves right to the pick-up plate.
The cutter *Zipper fly* cuts.
The zipper fly is folded and picked up.
4. Press the *Machine cycle* pedal and hold it down.
↳ The cutter *Left trouser component* opens.
The vacuum is activated.
5. Line up and smooth out the left trouser component.
6. Release the pedal.
↳ The cutter *Left trouser component* cuts.
The folder places the zipper fly on the left trouser component.
7. Press the *Machine cycle* pedal.
↳ The main clamp moves to the loading station and picks up the sewing pieces.
8. Press the *Machine cycle* pedal.
↳ The further machine cycle is fully automatic.
The main clamp transports the sewing pieces to the sewing head.
The sewing pieces are stitched down and blown off the working plate with compressed air.
The main clamp returns to its start position.
The next machine cycle starts.



Information

If the automatic machine cycle was started, the next sewing pieces can be lined up already.
The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.5.7 Controlling the machine cycle in Mode 06



To control the machine cycle in Mode 06:

1. Press the *Machine cycle* pedal.
 - ↳ The folder moves right to the pick-up plate.
The cutter *Right trouser component* opens.
2. Press the *Machine cycle* pedal and hold it down.
 - ↳ The vacuum is activated.
3. Line up and smooth out the right trouser component.
4. Release the pedal.
 - ↳ The cutter *Right trouser component* cuts.
The zipper fly stop swivels to the trouser component.
5. Line up the right fly piece on the right trouser component at the stop.
6. Press the *Machine cycle* pedal.
 - ↳ The further machine cycle is fully automatic.
The folder moves to the left.
The main clamp picks up the sewing pieces.
The main clamp transports the sewing pieces to the sewing head.
The sewing pieces are stitched down and blown off the working plate with compressed air.
The main clamp returns to its start position.
The next machine cycle starts.



Information

If the automatic machine cycle was started, the next sewing pieces can be lined up already.
The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.5.8 Controlling the machine cycle in Mode 07



To control the machine cycle in Mode 07:

1. Press the *Machine cycle* pedal.
 ↳ The folder moves right to the pick-up plate.
 The cutter *Right trouser component* opens.
2. Press the *Machine cycle* pedal and hold it down.
 ↳ The vacuum is activated.
3. Line up and smooth out the right trouser component.
4. Release the pedal.
 ↳ The cutter *Right trouser component* cuts.
 The zipper fly stop swivels to the trouser component.
5. Line up the right fly piece on the right trouser component at the stop.
6. Press the *Machine cycle* pedal.
 ↳ The folder moves to the left.
 The main clamp moves to the loading station and picks up the sewing pieces.
7. Press the *Machine cycle* pedal.
 ↳ The further machine cycle is fully automatic.
 The main clamp transports the sewing pieces to the sewing head.
 The sewing pieces are stitched down and blown off the working plate with compressed air.
 The main clamp returns to its start position.
 The next machine cycle starts.



Information

If the automatic machine cycle was started, the next sewing pieces can be lined up already.
 The *Machine cycle* pedal remains deactivated until the main clamp reaches its start position. After that, the next machine cycle can be started.

4.6 Initializing the loading process

This function depends on the start mode of the machine cycle. It refers only to machine movements that can be performed before the automatic cycle.



To initialize the loading process:

1. Press the **F8** key.
- ↳ The machine movements are immediately reset to the initial position by the activation command.

4.7 Moving the machine to the zero position

Prior to starting production, after machine tests or after corrections to seam programs, the machine must be returned to the zero position for starting the machine cycle.



To move the machine to the zero position:

1. Press the **STOP** key 2 times.

4.8 Stopping the seam program



To stop the seam program:

1. Press the **STOP** key.
- ↳ All machine movements and the sewing process are stopped immediately.



Information

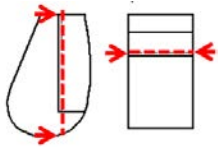
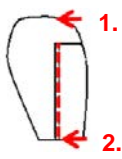
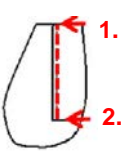
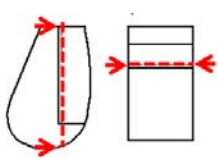
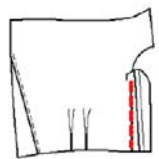
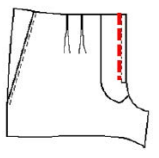
To restart the machine after a program stop, all functions must be reset, and the machine cycle must be returned to the zero position.

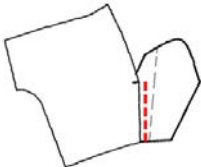
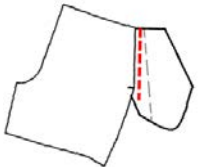


To reset all functions:

1. Press the **STOP** key 2 times.
- ↳ The control program performs a reset.
-

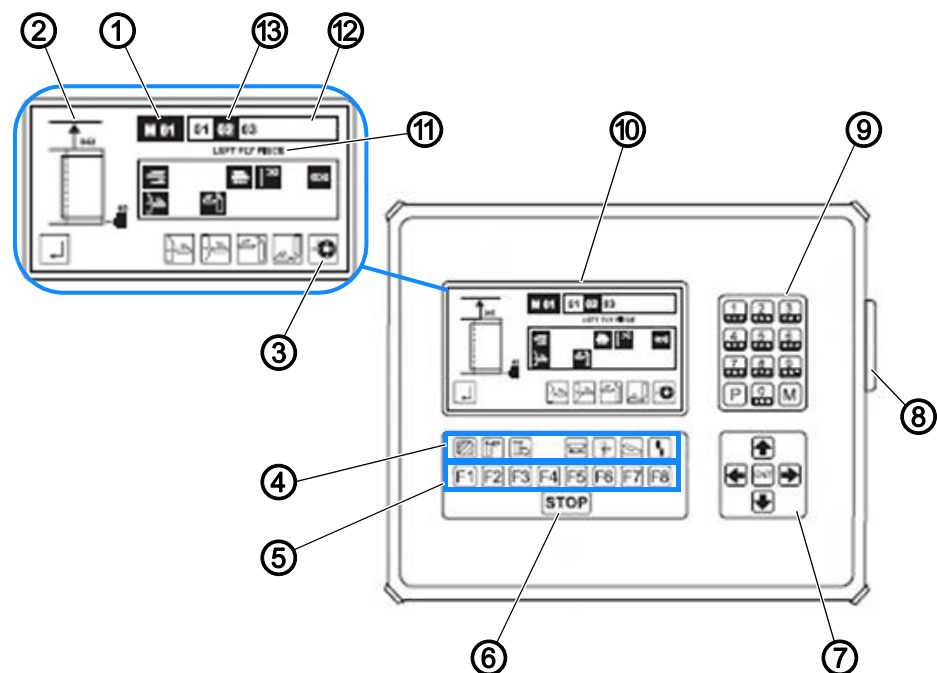
4.9 Standard sewing programs

Factory-programmed seam programs		
Seam program M 01		
M01: 01		Pocket facing → Close edge → Edge via photocell
M01: 02		Pocket facing front trouser component RIGHT 1.→ Edge via seam length measurement 2.→ Edge via photocell
M01: 03		Pocket facing front trouser component LEFT 1.→ Edge via photocell 2.→ Edge via seam length measurement
M01: 04		Manual seam without folder station → Close edge → Edge via photocell
Seam program M 02		
M02: 11		Lapping of the left fly piece
M02: 12		Sewing on the right fly piece (option)

Factory-programmed seam programs		
Seam program M 03		
M03: 15		Lapping of the RIGHT wing pocket (option)
M03: 16		Lapping of the LEFT wing pocket (option)

5 Programming

Fig. 21: Programming



- | | |
|--------------------------------|--|
| (1) - Seam program description | (8) - Slot for memory stick |
| (2) - Seam symbol | (9) - Numeric keypad |
| (3) - Submenu bar | (10) - Display |
| (4) - Icon bar | (11) - Seam description |
| (5) - Function keys F1 - F8 | (12) - Display of activated seam functions |
| (6) - Program STOP key | (13) - Seam number in seam program |
| (7) - Arrow keys | |

During machine operation, the display (10) shows the values of the selected seam program. If menus are activated, the menu symbol or the corresponding parameters of the function are displayed.

The display shows the following information:

- Seam program description (1)
- Seam symbol (2)
- Bar of requestable submenus (3)
- Seam description (11)
- Display of activated seam functions (12)
- Seam number in seam program (13)

The memory stick is the storage medium for backup copies of all program control data. Programs can be copied to and stored on the memory stick and uploaded to the machine control again if required. The memory is connected at the corresponding port (8).

If the **Program STOP** key (6) is pressed during machine operation, all machine movements and the sewing process are stopped.

The numeric keypad (9) is used to enter all changeable number values. By pressing the **M** key, you can request the desired seam programs. By pressing the **P** key, you can request submenus, confirm inputs and exit the programming mode.

Pressing the \uparrow/\downarrow arrow keys (7) will move the cursor one line up or down in the selected menu.

Pressing the \leftarrow/\rightarrow arrow keys (7) will either mark the desired parameter or - if the parameter list comprises several pages - browse forward or backward.

The **F1 - F8** (5) function keys are used to request the menus on the selected level for setting or changing machine functions.

The symbol bar (4) indicates the menus that can be requested using the function keys directly from the start level.

All other functions of the machine can be set or changed by selecting the corresponding menus on the different program levels.

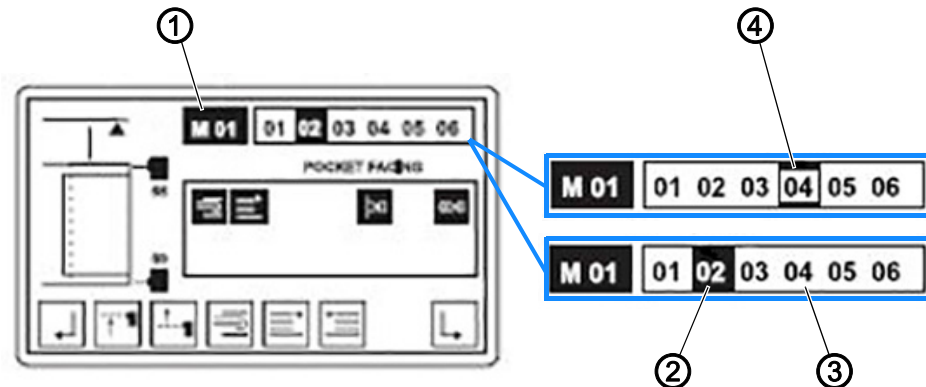
5.1 Selecting a seam program



Information

After the machine has been switched on and the control program has started up, the sewing program that had been selected last is active.

Fig. 22: Selecting a seam program



- (1) - Seam program
- (2) - Active seam number

- (3) - Passive seam number
- (4) - Selected seam number

Seam programs are stored in the memory (**M**) where up to 50 seam programs (M01 - M50) can be programmed. Each seam program (1) can be assigned up to 6 seam numbers (01 - 06). The 6 seams are distinguished by their control functions.



To select a seam program:

1. Select a seam program on the control panel.
2. Press the **M** key.
3. Use the numeric keypad to enter the desired seam program (01 - 06).
↳ The selected program is activated immediately.
4. Select the seam number of the desired seam.
5. Use the arrow keys **←/→** to move the cursor to the seam number.
↳ The selected seam number (4) is highlighted with a frame.
6. To confirm your selection, press the **ENT** key.

5.2 Activating additional seam numbers



To activate an additional seam number:


1. Use the arrow keys **←/→** to move the cursor to the seam number.
↳ The selected seam number is highlighted with a frame.
2. To confirm your selection, press the **ENT** key.
↳ The seam number of the deactivated seam is no longer highlighted in black.

5.3 Operating the stacker

To gain easy access to the sewing pieces deposited at the stacker, you can lower the lifting table and move the sliding table backward.




To lower and raise the **lifting table**:

1. Open the submenu *Lifting table*  and press the **F4** key.



To move the **sliding table** forward or back:


1. Open the submenu *Sliding table*  and press the **F5** key.

5.4 Activating the needle thread clamp

Before the first start of a seam program, the needle thread clamp must be activated to protect the needle thread from being pulled out of the needle when the machine cycle starts.



To activate the needle thread clamp:

1. Open the submenu *Thread clamp*  and press the **F6** key.

5.5 Initializing the day counter

Use this function to reset the day counter for a program cycle or for a completed work process to zero.




To reset the day counter to zero:

1. Move to level 1.
2. Press the **F1** key.
- ↳ The display shows the icons of the functions that can be selected on

this level:

	GP	SP	1-2	$\Sigma=0$		1/0	
F1	F2	F3	F4	F5	F6	F7	F8

3. Open the submenu *Day counter*  and press the **F6** key.
- ↳ The day counter has been reset to zero.
4. Return to the start level.
5. Press the **F1** key.
- ↳ The display shows the message *PART: 0000*.

5.6 Checking the cutters

CAUTION



Risk of injury from sharp parts!

Cutting injuries may be sustained.

NEVER reach into the area of the extending cutters.

The sharpness and function of the 3 cutters can be checked individually. When the corresponding function key is pressed, a cutting movement is performed.

5.6.1 Checking the cutters




To check the cutters:

1. Call up the *Cutter test*  menu.

↳ The display shows the icons of the functions that can be selected on


this level:



2. Press the *Working plate cutter (left trouser component)*  icon.


3. Press the **F4** key.

↳ The cutter performs a cutting movement.

4. Press the *Working plate cutter (right trouser component)*  icon.


5. Press the **F5** key.

↳ The cutter performs a cutting movement.

6. Press the *Pick-up plate cutter (left fly piece/right wing pocket)*  icon.

7. Press the **F6** key.

↳ The cutter performs a cutting movement.

8. Press the *Pick-up plate cutter (left wing pocket/right fly piece for ladies' trousers)*  icon.

9. Press the **F7** key.


↳ The cutter performs a cutting movement.

5.6.2 Winding the hook thread

The *Cutter test* allows you to wind the bobbin thread.




To wind the bobbin thread:

1. Call up the *Cutter test*  menu.

↳ The display shows the icons of the functions that can be selected on

this level:

							
F1	F2	F3	F4	F5	F6	F7	F8

2. Open the submenu Bobbin  and press the **F8** key.

↳ The bobbin thread is wound on.

6 Maintenance

WARNING



Risk of injury from sharp parts!

Punctures and cutting possible.

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

WARNING




Risk of injury from moving parts!

Crushing possible.

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

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

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

Maintenance intervals

Work to be carried out	Operating hours			
	8	40	160	500
Cleaning				
Cleaning the machine head	•			
Lubricating				
Lubricating the clamp rail	•			
Servicing the pneumatic system				
Adjusting the operating pressure	•			
Draining the water-oil mixture	•			
Cleaning the filter element		•		

6.1 Cleaning

WARNING



Risk of injury from flying particles!

Flying particles can enter the eyes, causing injury.

Wear safety goggles.

Hold the compressed air gun so that the particles do not fly close to people.

Make sure no particles fly into the oil pan.

NOTICE

Property damage from soiling!

Sewing dust and thread residues can impair the operation of the machine.

Clean the machine as described.

NOTICE

Property damage from solvent-based cleaners!

Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.



To clean the machine:

1. Switch off the machine.
2. Remove fabric residues.
3. Using a compressed air gun, blow off dust and thread residues at the sewing head, at the working plate, at the main clamp and at the linear rail.
4. Wipe machine parts dry using a dry, clean cloth.

6.2 Lubricating

CAUTION



Risk of injury from contact with oil!

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

Avoid skin contact with oil.

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

NOTICE

Property damage from incorrect oil!

Incorrect oil types can result in damage to the machine.

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

CAUTION



Risk of environmental damage from oil!

Oil is a pollutant and must not enter the sewage system or the soil.

Carefully collect up used oil.

Dispose of used oil and oily machine parts in accordance with national regulations.



Lubricating the clamp rail

To lubricate the clamp rail:

1. Switch off the machine.
2. Wipe off the clamp rail using a clean, oil-saturated cloth.

6.3 Servicing the pneumatic system

6.3.1 Adjusting the operating pressure

NOTICE

Property damage from incorrect adjustment!

Incorrect operating pressure can result in damage to the machine.

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

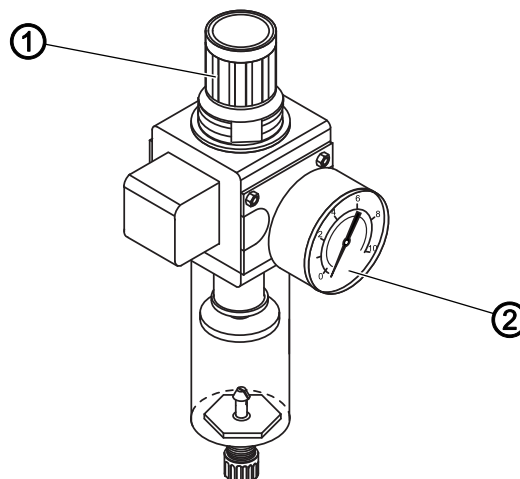


Proper setting

Refer to the **Technical Data** (p. 77) 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. 23: Adjusting the operating pressure



(1) - Pressure regulator

(2) - Pressure gage



To adjust the operating pressure:

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

6.3.2 Draining the water-oil mixture

NOTICE

Property damage from excess liquid!

Too much liquid can result in damage to the machine.

Drain liquid as required.

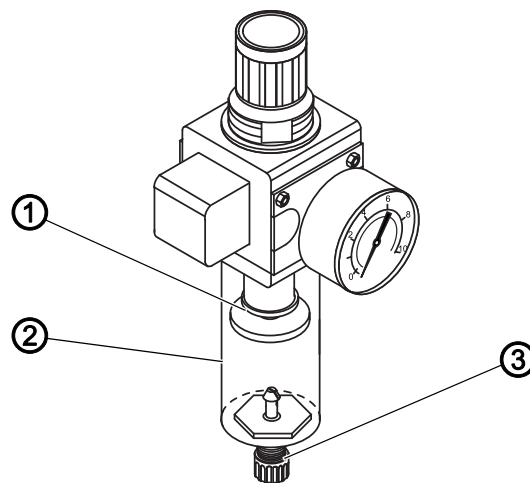
The collection tray (2) of the pressure regulator will show accumulation of a water-oil mixture.

**Proper setting**

The water-oil mixture must not rise up to the level of the filter element (1).

Check the level of the water-oil mixture in the collection tray (2).

Fig. 24: Draining the water-oil mixture



- (1) - Filter element
(2) - Collection tray

- (3) - Drain screw



To drain the water-oil mixture:

1. Disconnect the machine from the compressed air supply.
2. Place the vessel under the drain screw (3).
3. Loosen the drain screw (3) completely.
4. Allow the water-oil mixture to drain into the vessel.
5. Tighten the drain screw (3).
6. Connect the machine to the compressed air supply.

6.3.3 Cleaning the filter element

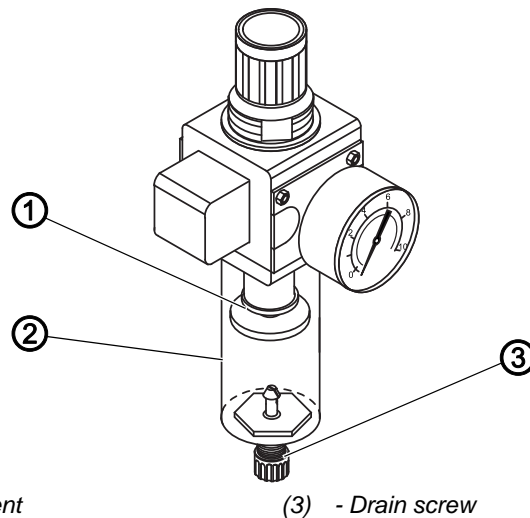
NOTICE

Damage to the paintwork from solvent-based cleaners!

Solvent-based cleaners damage the filter.

Use only solvent-free substances for washing out the filter tray.

Fig. 25: Cleaning the filter element



(1) - Filter element
(2) - Collection tray

(3) - Drain screw



To clean the filter element:

1. Disconnect the machine from the compressed air supply.
2. Drain the water-oil mixture (📖 p. 55).
3. Unscrew the collection tray (2).
4. Unscrew the filter element (1).
5. Blow out the filter element (1) using the compressed air gun.
6. Wash out the filter tray using benzine.
7. Tighten the filter element (1).
8. Tighten the collection tray (2).
9. Tighten the drain screw (3).
10. Connect the machine to the compressed air supply.

6.4 Parts list

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

www.duerkopp-adler.com



7 Setup

WARNING



Risk of injury from cutting parts!

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

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

WARNING



Risk of injury from moving parts!

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

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

7.1 Checking the scope of delivery

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

7.2 Removing the transport locks

Remove all transport locks before setting up the machine.

7.3 Aligning the stand

WARNING



Risk of injury from moving parts!

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

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

CAUTION

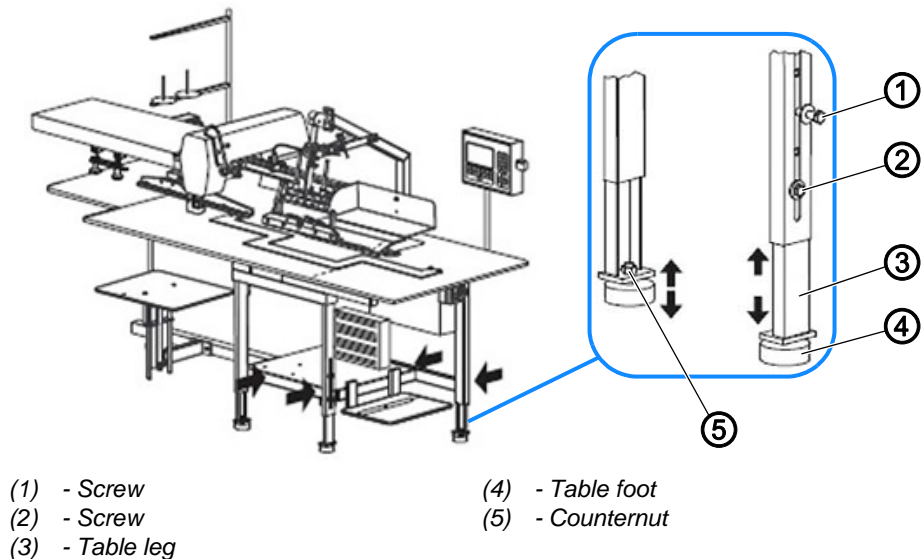


Risk of musculoskeletal damage from incorrect setting!

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

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

Fig. 26: Aligning the stand



Adjusting the working height



To adjust the working height:

1. Use a stacker or lifting carriage to lift the machine.
To do so, position the stacker or lifting carriage at the lift points (arrows) below the cross members.



Important

If the machine is equipped with optional transport rollers, release brakes before lifting.

2. Loosen screws (1) and (2).
3. Pull the table legs (3) out to the desired length.
4. Tighten screws (1) and (2).
5. Lower the machine to the floor.

Aligning the stand horizontally



To align the stand horizontally:

1. Place a bubble level onto the working plate.
2. Loosen the counternuts (5).
3. Align the stand horizontally on all sides.
To do so, raise or lower the table feet (4) as required.
4. Tighten the counternuts (5).

7.4 Electrical connection

DANGER



Risk of death from live components!

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

Only qualified specialists may perform work on electrical equipment.



Important

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

The cables and plugs as well as the pedals of the machine have already been fully installed.



To establish the electrical connection:

1. Connect the machine to the power supply.

7.5 Pneumatic connection

NOTICE

Property damage from oily compressed air!

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

Ensure that no oil particles enter the compressed air supply.

NOTICE

Property damage from incorrect adjustment!

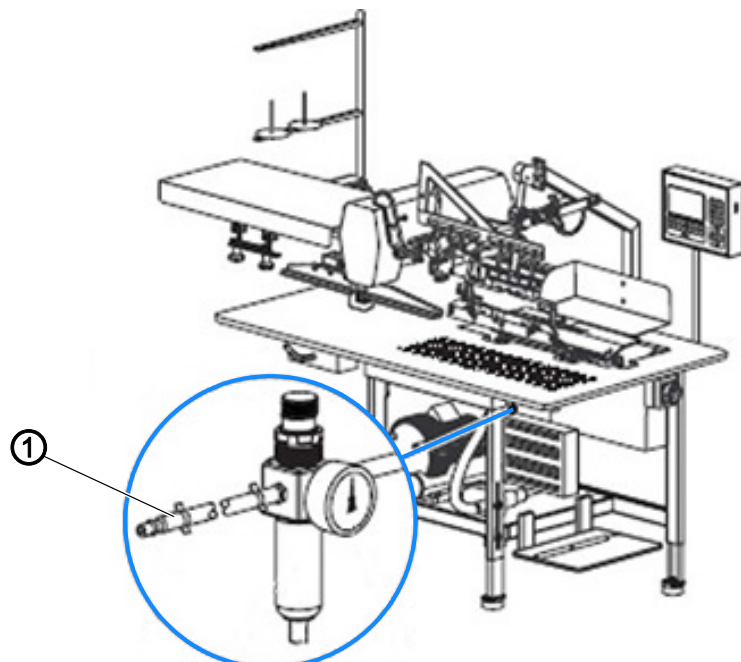
Incorrect system pressure can result in damage to the machine.

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

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

7.5.1 Assembling the compressed air maintenance unit

Fig. 27: Assembling the compressed air maintenance unit



(1) - Pressure hose with push-in plug



To assemble the compressed air maintenance unit:

1. Connect the pressure hose with push-in plug (1) to the on-site terminal unit.
2. Open the compressed air supply.



Order

Proceed by carrying out the following adjustment:

- Adjusting the operating pressure

7.5.2 Adjusting the operating pressure

NOTICE

Property damage from incorrect operating pressure!

Incorrect operating pressure can result in damage to the machine.

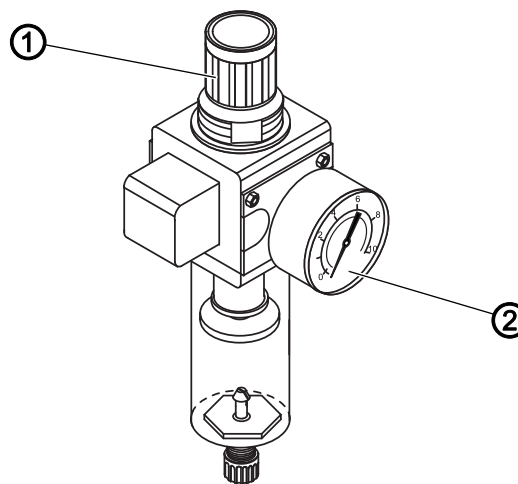
Ensure that the machine is only used when the operating pressure is set correctly.



Proper setting

Refer to the **Technical Data** (📖 p. 77) chapter for the permissible operating pressure. The operating pressure cannot deviate by more than ± 0.5 bar.

Fig. 28: Adjusting the operating pressure



(1) - Pressure regulator

(2) - Pressure gage



To adjust the operating pressure:

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

7.6 Connecting the vacuum device



Information

No installation is required if the machine is equipped with the optional vacuum pump. The vacuum pump is ready for operation.

If the machine was delivered without the vacuum pump, the on-site vacuum source must be connected to the vacuum valve of the machine. The vacuum valve is assembled on the storage surface below the worktable.

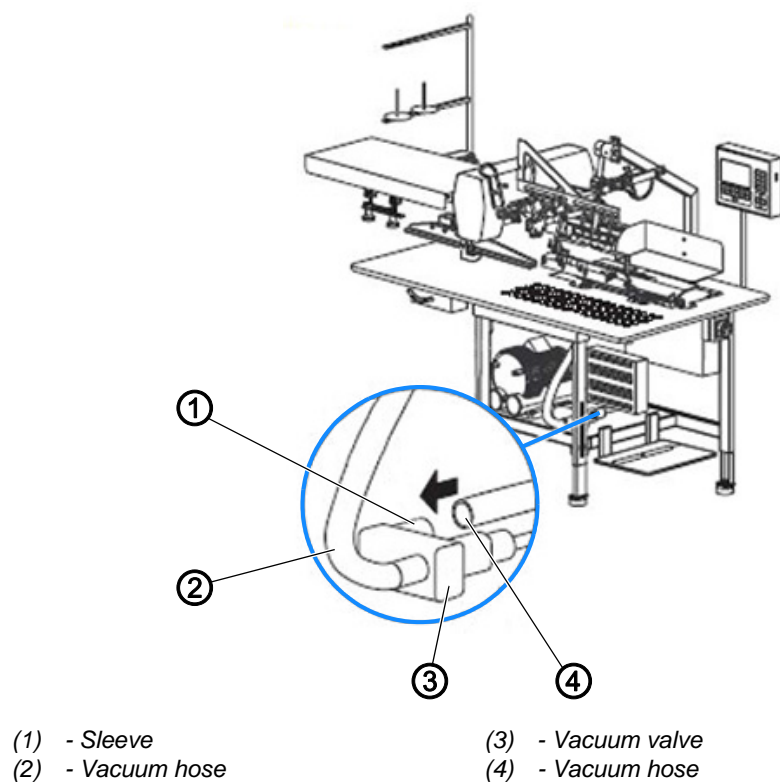


Important

The following components must be provided on site:

- Vacuum hose with an internal diameter of 1¼ "
- OR**
- Adapter / reducer for connecting the on-site vacuum hose to the sleeve (outer diameter 1¼ ")
- Hose clamp with an internal diameter of 1¼ "

Fig. 29: Connecting the vacuum device





To connect the vacuum device:

1. Slip the vacuum hose (4) onto the connection adapter (1) of the vacuum valve (3).
2. Connect the vacuum hose (4) to the hose clamp.
3. Make sure that the vacuum hose (2) leading to the machine has been attached correctly and securely.
4. Open the on-site vacuum source.

7.7 Performing a test run

WARNING



Risk of injury!

The safety devices protect the operating and service personnel while working on or with the machine.

If the safety devices are fully or partially inoperative, the machine must NOT be started up.

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



To perform a test run:

1. Check to see if the cover above the clamp transport unit is correctly and safely installed.
2. Check to see if the finger guard at the sewing head covers the needle effectively.
3. Make sure that the guide laser is not directed into the view area of the user.



Important

The main switch also serves as an emergency stop switch.

4. Check the function of the main switch.
To do so, start the machine, start a machine cycle and turn the machine off during sewing.
 - ↳ All operational movements of the clamp and of the sewing head must stop.
The control must switch off.
5. Check the function of the key Program STOP.
Start a machine cycle and press the key.
 - ↳ All operational movements of the clamp and of the sewing head must stop.

8 Decommissioning

WARNING

**Risk of injury from a lack of care!**

Serious injuries may occur.

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

CAUTION

**Risk of injury from contact with oil!**

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

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



To decommission the machine:

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

9 Disposal

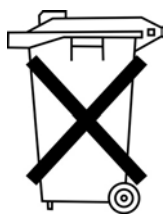
CAUTION



Risk of environmental damage from improper disposal!

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

ALWAYS comply with the national regulations regarding disposal.



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

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

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

10 Troubleshooting

10.1 Customer Service

Contact for repairs and issues with the machine:

Dürkopp Adler GmbH

Potsdamer Str. 190
33719 Bielefeld, Germany

Tel. +49 (0) 180 5 383 756

Fax +49 (0) 521 925 2594

Email: service@duerkopp-adler.com

Internet: www.duerkopp-adler.com



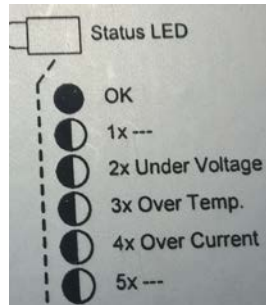
10.2 Messages of the software

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

Code	Meaning	Remedial action
Error 01 Seam program empty	Current seam program empty; possibly, distances and routes have not been input or the entire program was erased	Insert program values manually, copy from other program or retrieve from ROM (parameter INIT)
Error 02 Seam not enabled	Current seam program not activated; number appears black on white	Press <ENT> key to activate program
Error 05 I/O communication error	Error transmitted between control unit and I/O module	Check connecting cable; if not OK, replace control unit and/or I/O module
Error 06 Step pulses not valid	Clamp slide not positioned correctly	Check sensor connection to clamp motor; check connecting cable between adapter board 9020020 and I/O module 9020013; replace adapter board 9020020

Code	Meaning	Remedial action
Error 07 No step pulses from clamp motor	No step pulses from clamp motor. If the clamp motor moved slightly, the step pulses could not be processed properly. If the motor did not move, problem may be caused by control unit or clamp motor power unit	Check connection to clamp motor; replace clamp motor; replace adapter board 9020020; check condition of LEDs at power board (Berger); if required, check Berger motor; check connection to clamp motor (plug); check connection between 9020020 and power unit (plug); replace adapter board 9020020
Error 08 Main clamp at stop	Limit switch ES04 switched during clamp movement even though clamp should have been distant still	Check distance counter using test program (steps); if counter is faulty, replace clamp motor or adapter board 9020020; if counter is OK, check switch 04
Error 09 Clamp can not leave the switch	Clamp slide moves to limit switch during initialization but does not return (direction not reversed)	Using test program <i>Clamp motor actuation</i> , enter slow speed and reverse direction using arrow keys; if motor does not reverse direction, check: connection between 9020020 and power unit (plug); Berger power unit; if motor reverses direction, check limit switch ES04
Error 13 Clamp position error	Excessive difference between nominal position (stepper motor default) and actual position (pulse from setpoint device) of clamp slide; clamp slide probably blocked	remove blocked component; check clamp slide for easy movement: Check motor pinion (may be loose on shaft); tension transport belt
Error 14 Insertion/sewing length error	Seam length exceeds maximum possible seam distance; excessive insertion distance	Program seam distance / insertion distance correctly
Error 16 Folder not left	ES08 (folder at left stop) does not switch or switches too late	Check ES08 (input); check mechanical components for easy movement

Code	Meaning	Remedial action
Error 29 No pulses from sewing motor	No pulses from sewing motor after sewing process starts (sewing motor does not run)	Check sewing motor and synchronization; check connection between I/O module 9020013 and sewing motor; read both upper LEDs at 9020013; left LED illuminates briefly when needle up; right LED shows synchronization pulses (512 pulses/rotation); if no LED illuminates when handwheel is actuated, check sewing motor power supply and replace sewing motor, if required. If LEDs are OK and motor does not run before error message, check connection between 9020020 and sewing motor, replace 9020020 or sewing motor, if required; if motor makes some stitches before error message, check connection between control unit and I/O module; replace components as required
Error 30 Sewing motor too fast	During thread cutting, sewing motor did not reach cutting speed within error period	Replace sewing motor or synchronizer
Error 32 Thread cutting position does not come	During thread cutting, sewing motor did not reach the cutting position	Input slower cutting speed and earlier cutting position; replace sewing motor or synchronizer
Error 33 Sewing motor does not stop	After thread cutting, sewing motor does not stop within error period	Input slower cutting speed and earlier cutting position; replace sewing motor or synchronizer
Error 35 Thread breaking	Thread monitor detects thread breaking	
Error 37 Bobbin thread only rest	The photocell at the bobbin capsule is illuminated; bobbin empty	If bobbin is not empty, the photocell is set too sensitive and needs to be adjusted
Error 41 No part	Photocell FZ21 remains illuminated during insertion	Adjust photocell sensitivity; input test 21
Error 42 Photocell not lighted	Photocell FZ21 does not detect seam end	Seam distance too long; adjust photocell sensitivity; input test 21

Code	Meaning	Remedial action
Error 43 Photocell lighted too early	Photocell FZ21 detects intermittent reflection during insertion	Adjust photocell sensitivity; input test 21
Errors 45 - 48 I/O DAC, ULN, 485, RES	Internal hardware error during data transmission to adapter board 9020020	Replace 9020020
Error 56	Error in 3-phase stepper motor-Power amplifier D900	

10.3 Errors in sewing process

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

Error	Possible causes	Remedial action
Loose stitches	Thread tensions are not adjusted to the sewing material, the sewing material thickness or the thread used	Check thread tensions
	Needle thread and hook thread have not been threaded correctly	Check threading path
Needle breakage	Needle thickness is unsuitable for the sewing material or the thread	Use recommended needle thickness

11 Technical data

11.1 Data and characteristic values

Technical data	Unit	2112-7
Type of stitches		301
Hook type		Horizontal hook, small
Number of needles		1
Needle system		134 SERV 7 or 797
Needle strength	[Nm]	80 - 120
Thread strength	[Nm]	Max. 30/3
Stitch length	[mm]	1 - 6.5
Speed maximum	[min ⁻¹]	5000
Speed on delivery	[min ⁻¹]	4200
Max. folding length	[mm]	320
Max. sewing length	[mm]	350
Mains voltage	[V]	190 - 230
Mains frequency	[Hz]	50/60
Operating pressure	[bar]	6
Length	[mm]	1750
Width	[mm]	1450
Height	[mm]	1700
Table height	[mm]	890 - 1250
Weight	[kg]	265

11.2 Requirements for fault-free operation

Compressed air quality must conform to ISO 8573-1: 2010 [7:4:4].



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