DÜRKOPP ADLER

745 - 35 B

Operating Manual

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

1 About this operating manual

The operating manual for the 745-35 sewing unit was compiled with the utmost care. It contains information and notes in order to make long-term and reliable operation possible.

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback, 🕮 *Chapter 6.10 Customer service.*

Please regard the operating manual as part of the product and keep it in a safe place where it can be easily accessed. Read the operating manual completely prior to using the unit for the first time. Only pass the product on to third parties together with the operating manual.

1.1 Scope of application of the operating manual

This operating manual describes the set-up and intended use of the 745-35 sewing unit.

1.2 For whom is this operating manual?

The operating manual is intended for:

- Machine operators:
  This group of employees has been trained in operating the machine and can access the operating manual. Specifically 🕮 *Chapter 5 of the Operating manual* is important for this group of employees.
- Technicians:
  This group of employees has the appropriate technical training allowing them to perform maintenance on the sewing unit or to repair faults. Specifically 🕮 *Chapter 6 of the Installation instructions* is important for this specialized staff.Service instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by the personnel, please also observe 🕮 *Chapter 3 of the Safety instructions*.

1.3 Representational conventions – Symbols and characters

Different information is depicted or highlighted in this operating manual by the following characters for easier and quicker understanding:

Symbol/character	Meaning
•	Lists are identified by bullet points.
1. 2.	Instructions are numbered and have to be performed in the specified order.
🕮	References to further information in this operating manual or other documents are identified by this symbol.

Safety

Important warnings for the user of the machine are specifically marked. Because safety constitutes an area of major importance, hazard symbols, levels of risk, and their signal words are described separately in 🕮 *Chapter 3 of the Safety instructions*.

Location information

Information on where something is positioned using the terms “right” or “left” must always be regarded from the operator's point of view if the figure gives no other obvious indication for determining the location.

1.4 Other documents

The device contains built-in components from other manufacturers. The respective manufacturers have carried out hazard assessments for these purchased parts and confirmed compliance of the design with the applicable European and national regulations. The intended use of the built-in components is described in the corresponding manuals of the manufacturers.

1.5 Liability

All information and notes in this operating manual have been compiled in accordance with the latest technology and the applicable standards and regulations.

The manufacturer cannot be held liable for any damage due to:

- Damage during transport
- Failure to observe the operating manual
- Improper use
- Unauthorized modifications to the machine
- The deployment of untrained personnel
- Using spare parts not approved

1.5.1 Transportation

Dürkopp Adler cannot be held liable for any damage during transport. Check the delivered product immediately after receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Keep the machines, devices and packaging material in the condition they were at the time when the damage was identified. That secures any claims towards the transport company.

Report all other complaints to Dürkopp Adler immediately after receiving the product.

1.5.2 Intended use

The Dürkopp Adler 745-35 is for sewing light to moderately heavy material. Light to moderately heavy material requires a needle strength of 80-110 Nm.

The machine is only intended for processing dry material. The material must not contain any hard objects.

The seam is produced using core spun threads, polyester fibers, or cotton threads.

The sewing 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 EN 60204-31:1999.

Only authorized/trained persons may work on the machine.

The manufacturer will not be held liable for damage resulting from improper use.

WARNING

Danger due to high voltage, crushing and sharp objects.

Improper use can result in injuries.

Please follow all instructions in the manual.

ATTENTION!

Improper use could result in material damage.

Please follow all instructions in the manual.

2 Performance description

The Dürkopp Adler 745-35 is a sewing unit for the automatic runstitching of piped, flap and welt pocket openings with rectangular pocket corners.

The piping strips and additional parts are fed manually.

2.1 Features

Machine head

- Twin needle lockstitch version
- Large vertical hooks
- Externally driven center knife, speed and circuit timing programmable
- Thread trimming device for needle and hook threads
- Needle thread monitor
- Photoelectric remaining thread monitor for the hook threads
- Sewing drive as DC direct drive

Step motors for material feed

- The step motor technology results in short machine cycle times and guarantees an absolutely precise corner incision.
- Thus, it contributes to a pocket quality as yet unprecedented, combined with high productivity.

New generation of DAC III controls (DÜRKOPP ADLER Control)

- The comprehensive test and monitoring system MULTITEST is integrated in the DACIII.
- A control unit does the control tasks, monitors the sewing cycle and signals operating faults and malfunctions on the control panel.

Sewing equipment and folders

Information concerning the sewing equipment and folders for the various applications can be taken from the sewing equipment sheets of class 745-35.
Please direct your inquiries to the DÜRKOPP-ADLER sales offices.

2.2 Declaration of conformity

The machine complies with the European regulations specified in the declaration of conformity or in the installation declaration.

CE

2.3 Optional equipment

By means of a flexible system of optional equipment the sewing unit can be equipped optimally and economically corresponding to the respective application.

● = Standard equipment

O = Optional equipment

Order No.	Optional equipment	S (Speed)	A (straight pocket)	A (slanted pocket)	B (straight pocket)	B (slanted pocket)	D	F
Remaining bobbin thread monitor								
0246 497534	Remaining bobbin thread monitor	O						
Stacking devices								
0745 427524	Universal stacking device (grip stacker) to be positioned for stacking to the side.	O	O	O	O	O		
1970 593144	Flip stacker To be positioned near the machine for stacking to the side.	O	O	O	O	O	O	O
1970 593194	Bundle clamp (incl. table) For the bundling of trousers parts.	O	O	O	O	O		
0745 597604	Blow-out device For blowing out the finished workpieces.	O	O	O	O	O		
0745 597954	Smoother The smoother is used to for transporting short pieces into the stacker or to eject the pieces to be processed. The speed and the working cycle of the smoother can also be programmed.		O	O	O	O	O	O
Automatic feeding devices								

Order No.	Optional equipment	S (Speed)	A (straight pocket)	A (slanted pocket)	B (straight pocket)	B (slanted pocket)	D	F
0745 517734	Automatic feeding, on the left 180-220 mm (with flap 180-200 mm) Automatic feeding of the flap and the additional parts. Can be extended with zipper feed 0745 597774 and 0745 597794.				O	O		●
0745 517744	Automatic feeding, on the right 180-220 mm (with flap 180-200 mm) Automatic feeding of the flap and the additional parts. Can be extended with zipper feed 0745 597764 and 0745 597784.				O	O		●
Piping supports								
0745 337644	Automatic incision device for piping ends PE3 For the cutting of the piping strip in the range from the end of the center knife incision up to the piping ends. The cut length within and outside the sewing unit can be programmed in steps of 1 mm and thus be adapted to the piping projection and various needle distances. A maximum piping projection of 30 mm can be cut. The cutting areas are automatically adapted to the respective seam length as well as to the positioning point. The maximum processable pocket length with piping end incisions is 200 mm (only in conjunction with clamp K16). The incision device for piping ends is already a component of the E-equipment E3503, E3504, E3507, E3508, E3520, E3521, E6503, E6504, E6507, E6508, E6520 and E6521.				O	O		O
0793 024001	Support A3-sized table (297 x 420 mm) for storing piping strips without cutting. For seam lengths of up to 200 mm. Only to be combined with clamps K12 and K13				O	O		O
0793 024051	Support A4-sized table (210 x 297 mm) for storing piping strips without cutting. For seam lengths of up to 220 mm. Only to be combined with clamps K16.				O	O		O
Zipper feeding devices								
0745 597764	Zipper feed, on the right In conjunction with feeding device 0745 517744 For cut-to-length zippers, without slider, total width 24 mm, chain width approx. 4 mm, chain inside with ready-made pockets.				O	O		

Order No.	Optional equipment	S (Speed)	A (straight pocket)	A (slanted pocket)	B (straight pocket)	B (slanted pocket)	D	F
0745 597774	Zipper feed, on the left In conjunction with feeding device 0745 517734 For cut-to-length zippers, without slider, total width 24 mm, chain width approx. 4 mm, chain inside with ready-made pockets.				O	O		
0745 597784	Zipper feed, to the right In conjunction with feeding device 0745 517744 For cut-to-length zippers, without slider, total width 24 mm, chain width approx. 4 mm, chain outside with ready-made pockets.				O	O		
0745 597794	Zipper feed, on the left In conjunction with feeding device 0745 517734 For cut-to-length zippers, without slider, total width 24 mm, chain width approx. 4 mm, chain outside with ready-made pockets.				O	O		
Laser kits								
0745 598144	2-laser kit For expanding the standard supply of 3 laser marking lamps to 5 laser marking lamps. For an easy replacement the laser lights are equipped with a short cable and a plug.		O	O	●	●	●	●
0745 597934	3-laser kit For expanding the existing 5 laser marking lamps to a maximum of 8 laser marking lamps. A expansion to 16 switchable laser lights is possible (additional cable needed). For an easy replacement the laser lights are equipped with a short cable and a plug. With method A only deployable in combination with the 2-laser kit 0745 598144.		O	O	O	O	O	●
Trays								
0745 598224	Tray to the left for small pieces This kit contains the left-sided trays.		O	O	●	●	O	●
0745 598274	Storage table small, slanted Table extension to be used for stacking to the side for the retrieving of parts, for example lining. Size approx. 230 mm x 700 mm	O	O	O	O	O	O	O
1970 593104	Storage table (small) Size approx. 450 mm x 700 mm	O	O	O	O	O	O	O
1970 593114	Storage table (large) Size approx. 600 mm x 800 mm	O	O	O	O	O	O	O

Order No.	Optional equipment	S (Speed)	A (straight pocket)	A (slanted pocket)	B (straight pocket)	B (slanted pocket)	D	F
Light barriers								
0745 598154	Light barrier 2nd Light barrier for Speedpocket	O						
0745 598284	Kit Light barrier Additional light barrier for the 745-35 A with the production of jackets and trousers for the switchable flap detection to the left and to the right and when equipped with a slanted knife carrier also for automatic flap angle detection. Additional light barrier for the 745-35 B with the production of jackets, equipped with slanted knife carrier for automatic flap angle detection.		O	O	O	O		●
Vacuum								
0745 598234	Suction device For a precise positioning of the workpieces, to be connected to the in-house vacuum unit Note: If no in-house vacuum unit is available, a vacuum blower has to be ordered additionally.	O	O	O	●	●	●	●
1970 593314	Vacuum (side channel blower) For a precise positioning of the workpieces without in-house vacuum unit, the side channel blower can be linked to the stand.	O	O	O	O	O	O	O
Miscellaneous								
0745 567554	Pneumatic clamp adjustment For an automatic adjustment of the clamps when changing the folder		O	O	●	●	●	●
0745 597514	Downholder and Pocket bag clamp Downholder for smoothing out the fullness caused by darts with a clamping device for pocket bags	O	O	O	O	O		
0745 597524	Waistband clamp For smoothing out the fullness.		O	O	O	O		
0745 597614	Loading device lining loop triangle With this equipment the lining loop triangle is automatically fed with the pocket bag when sewing inside pockets.				O	O		O
0745 597874	Kit Pocket bag on flap NA10 and NA12 for 745-35B For the simultaneously attaching of two pocket bag halves and flap. Only in conjunction with the E-equipment E 3103, E 3503, E 6103 or E6503 for NA10 as well as E 3107, E 3507, E6107 or E6507 for NA12.				O	O		

Order No.	Optional equipment	S (Speed)	A (straight pocket)	A (slanted pocket)	B (straight pocket)	B (slanted pocket)	D	F
0745 597894	Kit: Pocket bag clamp for small pocket bags & for front positioning point		O	O	O	O		O
0745 598134	Sewing light with transformer	O	O	O	O	O	O	O
0745 598164	Kit: Piping blow-on device for the 745-35 A For the blowing on of the piping with large piping projections. Combination only in connection with clamp K22		O	O				
0745 598254	Set of castors Set of transport castors for the moving of the sewing unit without external devices	O	O	O	O	O	O	O
0745 598264	Height adjustment pedal For fastening of the pedal onto the stand and setting the pedal height.	O	O	O	O	O	O	O
B169 590074	Tape feed automatic cutting (step motor driven) Automatic cutting and feeding of a reinforcement strip pulled from a roll. Start time and cutting time can be programmed corresponding to the pocket.		O	O	O	O	O	O
Flap Clamps								
0745 417534	Flap clamp Flap clamp for K22 on the left, for the use of the clamp with flap	O	O	O				
0745 417544	Flap clamp Flap clamp for K22 on the right, for the use of the clamp with flap	O	O	O				

2.4 Subclasses

In the following chapters the characteristics of the individual subclasses of the machine will be highlighted.

2.4.1 745-35 S

Basic sewing unit for the runstitiching of rectangular piped pockets.

The piping strips and additional parts are fed manually.

Pocket length 20-200 mm (with flap max. 180 mm)

In order to complete the unit a sewing equipment is to be selected.

The setting of the corner knives with regard to the pocket length is done manually.

The programmed pocket length L1 has to be set at the corner knife station. All other pocket lengths (sewing in sequence) are executed as consecutive steps.

The distance between the corner knifes and the seam can be adjusted manually. The whole knife block can be swung out to make setting and service work possible.

Control panel BF4 for the programming of various pocket programs.

9 sewing programs are available.

Up to a maximum of 7 sewing programs can be sewn in a sequence.

Parameter for pocket length, seam tacking oder stitch condensing, stitch lengths, sewing speed, center knife and corner knife corrections, transport speeds.

2.4.2 745-35 A

Sewing unit for the automatic runstitching of piped, flap and welt pocket openings with, depending on the selected kit, slanted or rectangular pocket corners.

The piping strips and additional parts are fed manually.

Pocket length 20-220 mm (with flap max. 220 mm)

The setting of the corner knives in relation to the pocket length can be set via step motor. The distance between the corner knifes and the seam can be adjusted manually. The complete knife bracket can be swung out for setting and service operations.

For the execution of slanted pocket the following additional points apply:

The slanted pocket corners result from the seam offset of the two seam rows that can be programmed in steps of 0.1 mm. The programmable pocket corner incision - adjustable via two step motors - can be freely selected for the seam beginning and seam end and amounts to a maximum of +/13 mm relative to the second seam (to the right).

Large graphic color display BF1CE with decimal key pad and function keys. The user interface can be adapted by the user according to the functions needed. All pocket parameters are freely programmable. Any selected icon is additionally described in an info line available on each window.

2.4.3 745-35 B

Sewing unit for the automatic runstitching of piped, flap and welt pocket openings with, depending on the selected kit, slanted or rectangular pocket corners.

The piping strip is fed automatically. Feeding options of the flap and the additional pieces: from the right, from the left or from both sides.

Pocket length 20-220 mm

The setting of the corner knives in relation to the pocket length can be set via step motor. The distance between the corner knifes and the seam can be adjusted manually. The complete knife bracket can be swung out for setting and service operations.

For the execution with slanted pocket the following additional points apply:

The slanted pocket corners result from the seam offset of the two seam rows that can be programmed in steps of 0.1 mm. The programmable pocket corner incision - adjustable via two step motors - can be freely selected for the seam beginning and seam end and amounts to a maximum of +/- 13 mm relative to the second seam (to the right).

Large graphic color display BF1CE with decimal key pad and function keys. The user interface can be adapted by the user according to the functions needed. All pocket parameters are freely programmable. Any selected icon is additionally described in an info line available on each window.

2.4.4 745-35 D

Method D only serves for the matching and sewing of breast welt pockets. The additional parts are fed automatically.

Pocket length 125 mm.

As corner knife station an automatic corner knife station for slanted pocket corners is delivered as standard equipment with the sewing unit.

The setting of the corner knives in relation to the pocket length can be set via step motor. The slanted pocket corners result from the seam offset of the two seam rows that can be programmed in steps of 0.1 mm. The programmable pocket corner incision - adjustable via two step motors - can be freely selected for the seam beginning and seam end and amounts to a maximum of +/- 13 mm relative to the second seam (to the right). The complete knife bracket can be swung out for setting and service operations.

Large graphic color display BF1CE with decimal key pad and function keys. The user interface can be adapted by the user according to the functions needed. All pocket parameters are freely programmable. Any selected icon is additionally described in an info line available on each window.

The 12 mm equipment E2116 is part of the subclass

2.4.5 745-35 F

The flap that is being fed from the left can be aligned with a positioning device, allowing for a correct matching of the stripes on the flap. The piping strip is fed automatically.

Pocket length 20-200 mm (with flap max. 180 mm)

Automatic feeding of the flap and the additional parts from the right or the left.

An automatic corner knife station is delivered as standard equipment with the sewing unit.

The setting of the corner knives in relation to the pocket length can be set via step motor. The slanted pocket corners result from the seam offset of the two seam rows that can be programmed in steps of 0.1 mm. The programmable pocket corner incision - adjustable via two step motors - can be freely selected for the seam beginning and seam end and amounts to a maximum of +/13 mm relative to the second seam (to the right). The complete knife bracket can be swung out for setting and service operations.

Large graphic color display BF1CE with decimal key pad and function keys. The user interface can be adapted by the user according to the functions needed. All pocket parameters are freely programmable. Any selected icon is additionally described in an info line available on each window.

2.5 Technical data

Technical data	745-35 S
Sewing stitch type	301/Double lockstitch
Number of needles	2
Needle system	2134-85
Needle size [Nm]	80-110
Number of stitches (programmable) [min^{-1}]	2000-3000
Number of stitches on delivery [min^{-1}]	2750
Stitch length (programmable) [mm]	0.5-3
Stitch length at delivery [mm]	2.1
Number of stitches of the stitch condensing [n] (programmable)	1-10
Number of bartack stitches [n] (programmable)	0-5
Seam distance [mm]	8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30
Maximum pocket length [mm]	200
maximum seam offset [mm]	+/- 13
Operating pressure [bar]	6
Air consumption per working cycle approx. [NL]	6
Table height without castors [mm] - min - max	 797 1076
Table height with castors [mm] - min - max	 859 1138
Length, width, height [mm]	1440, 780, 1200
Weight [kg]	approx. 280 (depending on the equipment)
Nominal voltage	1 x 190-240
Frequency	50/60

3 Safety instructions

This section contains basic instructions 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 this can result in serious injury and damage to the machine.

3.1 Basic safety instructions

The machine may only be used as described in this operating manual.

The operating manual must be available at the machine's location at all times.

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

For the following work, the machine must be disconnected from the power supply using the main switch or by disconnecting the power plug:

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

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

Transportation

When the machine is being transported, use a lifting carriage or a forklift. Raise the machine max. 20 mm and secure it against slipping off.

Set-up

The connecting cable must have a power plug approved in the specific country. The power plug may only be connected to the power cable by a qualified specialist.

Operator's obligations

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

All warnings and safety signs on the machine must always be in legible condition and may not be removed. Missing or damaged labels must be replaced immediately.

Requirements to be met by the personnel

The machine may only be set up by qualified specialists.

Maintenance work and repairs may only be carried out by qualified specialists.

Work on electrical equipment may only be carried out by qualified specialists.

Only authorized persons may work on the machine. Every person who works on the machine must have read the operating manual first.

Operation

Inspect the machine while in use for any externally visible damage. Interrupt your work if you notice any changes to the machine. Report any changes to your supervisor. A damaged machine may not be used any more.

Safety equipment

Safety equipment may not be removed or put out of service. If this cannot be avoided for a repair operation, the safety equipment must be refitted and put back into service immediately afterwards.

3.2 Signal words and symbols used in warnings

Warnings in the text are distinguished by color bars. The color scheme is oriented towards the severity of the danger. Signal words specify the severity of a danger:

Signal words

Signal words and the endangerment that they describe:

Signal word	Endangerment
DANGER	Resulting in death or serious injury.
WARNING	Death or serious injury possible.
CAUTION	Moderate to minor injuries possible.
ATTENTION!	Damage possible.

Symbols In the case of dangers to personnel, the following symbols indicate the type of hazard:

Symbol	Type of danger
	General danger
	Danger due to electric shock
	Danger due to sharp objects
	Danger due to crushing

Examples Examples of the layout of the warnings in the text:

DANGER

Type and source of the danger

Consequences in the event of noncompliance

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 not complied with.

WARNING

Type and source of the danger

Consequences in the event of noncompliance

Measures for avoiding the danger

This is what a warning looks like for a hazard that could result in serious injury or even death if not complied with.

CAUTION

Type and source of the danger

Consequences in the event of noncompliance

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 not complied with.

CAUTION

Type and source of the danger

Measures for avoiding the danger

This is what a warning looks like for a hazard that could result in environmental damage if not complied with.

ATTENTION!

Type and source of the danger

Measures for avoiding the danger

This is what a warning looks like for a hazard that could result in material damage if not complied with.

4 Machine description 745-35

The Dürkopp-Adler 745-35 is a sewing unit for the automatic runstitching of piped, flap and welt pocket openings with rectangular or slanted pocket corners.

Depending on the working method different feeding devices, corner knife stations and optional equipments are used.

The correct operating principle involves a sequence of different steps and requires precise knowledge of all operating controls.

4.1 Sewing unit 745-35

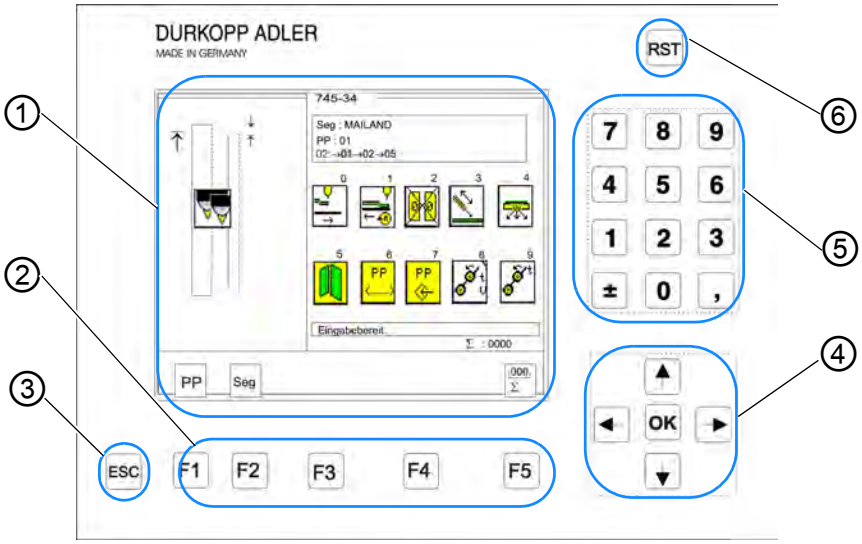
The illustration below shows the sewing unit 745-35 F.

Fig. 1: Complete overview 745-35 F

4.2 Software description

The software and all its setting possibilities are explained in detail in the Programming Instructions. The Programming Instructions are available together with the Service Instructions.

At this point only a short overview of the operating terminal with its keys and corresponding functions is added.



(1) - Color display
(2) - Function keys
(3) - Escape key
(4) - Cursor and OK key
(5) - Ten-key pad
(6) - RST key

Key groups and their function:

Key/key group	Function
Function keys	• Call up the parameter menus of the sewing programs (from the main menu) • Call up the test programs (after pressing the RST key) • Switch functions on and off • Quit the test programs and parameter menus.
Cursor keys	Change parameter values. ⇦,⇨: Select the symbol of the requested parameter ⇧,⇩: Switch the parameter function on and off, select the previous/next parameter value level, activate the test program
Ten-key pad	Enter the parameter values. +/-: Change the algebraic sign of the parameter.
Escape key	Display the old parameter value again.
OK key	• Open the window for the setting of the selected parameter. • Adopt the set parameter value.

Key/key group	Function
RST key	• Quit the machine program. • Stop the currently executed program.

5 Operating

The Dürkopp-Adler 745-35 is a sewing unit for the automatic runstitching of piped, flap and welt pocket openings with rectangular or slanted pocket corners.

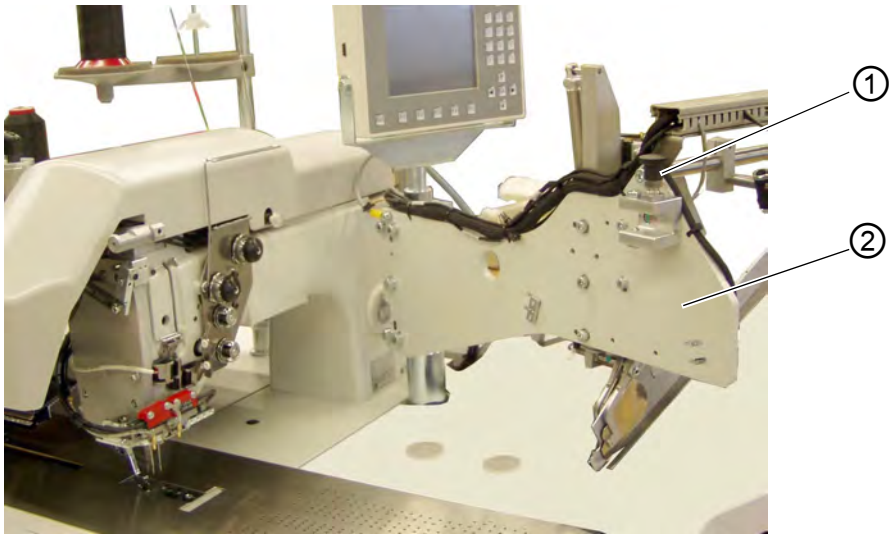
Fault-free operation is necessary in order to achieve a good sewing result. To achieve this, all relevant operations on the 745-35 will be explained below.

5.1 Swing the folding station aside.

For operations at the sewing point (threading the needle threads, needle change etc.) the whole folding station with folder and light barriers can be swung to the right.

- Pull the knob (1) in order to unlatch the lock
- Swing the complete folding station (2) with folder to the right.

Fig. 2: Swinging the folding station

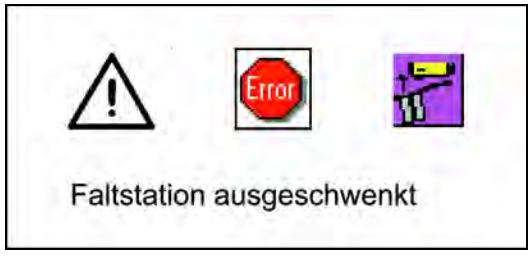


(1) - Knob/lock *(2) - Folding station*

Note:

With the sewing unit switched on, a safety message appears on the screen of the control panel.

Fig. 3: Message “Folding station swung out”



- The sewing point is freely accessible.

Swinging the folding station back

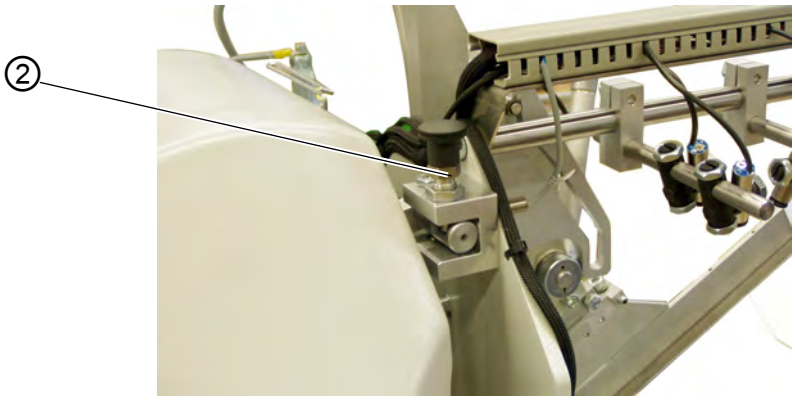
ATTENTION

Material damage!

After being swung back the folding station must click into lock (2).

- Swinging the folding station back

Fig. 4: Folding station engaged



(2) - Knob/lock

5.2 Pushing the covering hood back and removing the fabric sliding sheets

WARNING

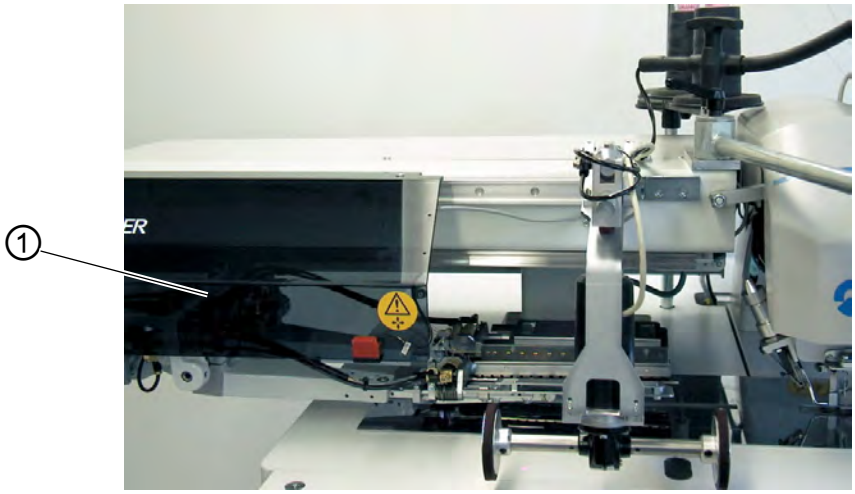
Caution: Danger of injury!

Turn the main switch off. Push the covering hood back and remove the fabric sliding sheet ONLY with the sewing unit switched off.

- Turn the main switch off

For a better accessibility of the feeding clamps the covering hood can simply be displaced.

Fig. 5: Pushing the covering hood



(1) - Covering hood

Pushing the covering hood back

- Push the covering hood (1) to the left. The feeding clamps are accessible.
- Push the covering hood (1) to the right again until you hear it snapping in.

Note

With the sewing unit switched on, a safety message appears on the screen of the control panel when the covering hood has been pushed back.

Changing the hook thread bobbins:

- Lift the fabric sliding sheet (2) in the area of the recess (3) on the table top and swing it to the left

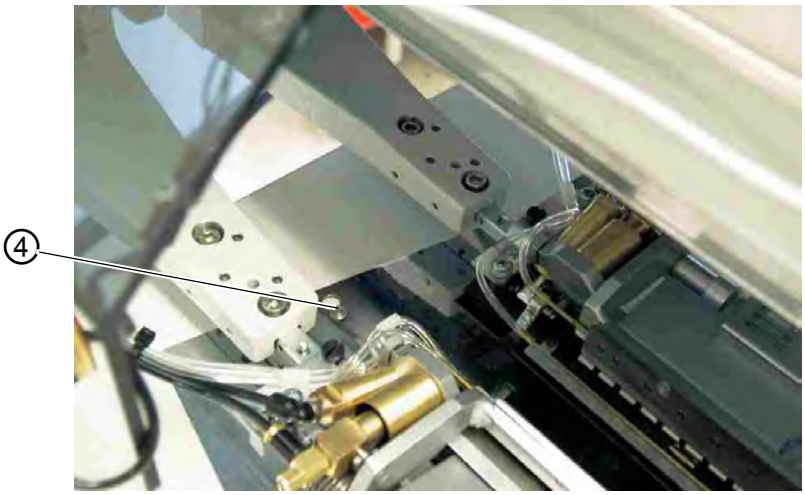
Fig. 6: Swinging the fabric sliding sheet aside

(2) - Fabric sliding sheet *(3) - Recess in the table top*

For complete removing (for maintenance work and adjustments):

- Lift off the fabric sliding sheet at the pin (4).

Fig. 7: Completely removing the fabric sliding sheet



(4) - Pin

5.3 Tilting the machine head up

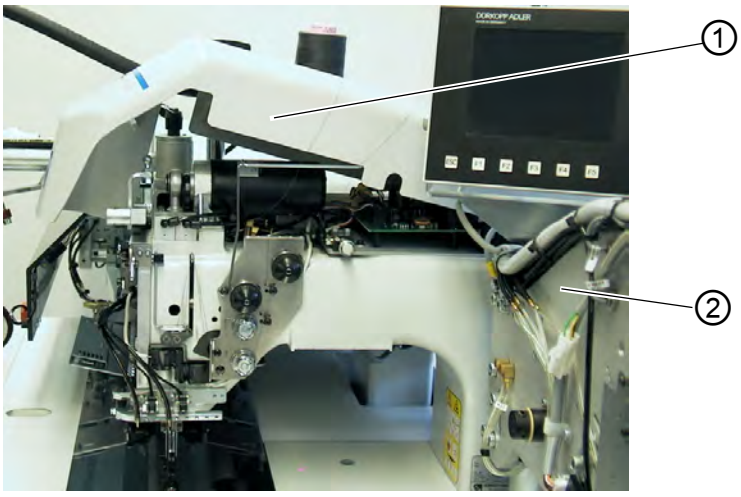
For maintenance work the machine head can be tilted up. For this purpose the transport carriage must be in its rear end position.

WARNING

Caution: Danger of injury!

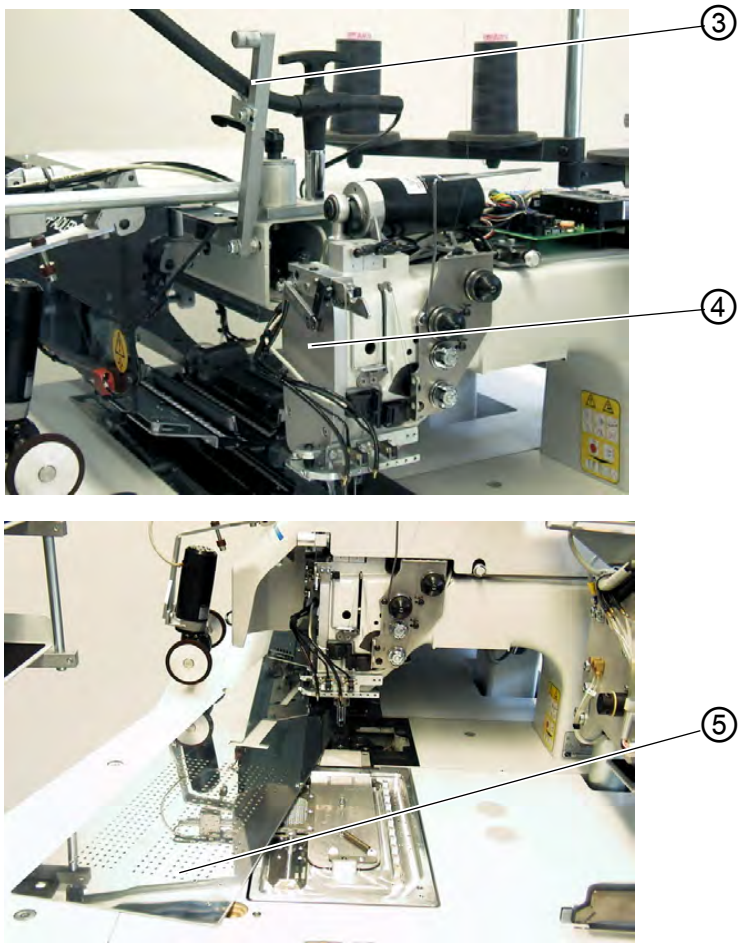
Turn the main switch off.

Fig. 8: Tilting the machine head up I



(1) - Covering hood *(2) - Folding station*

Fig. 9: Tilting the machine head up II



(3) - Locking lever
(4) - Face cover
(5) - Fabric sliding sheet

Tilting the machine head up

- Remove the covering hood (1). For this purpose lift the covering hood at the front so that the catch is released.
  Carefully lift the covering hood upwards.
- Swing the folding station (2) out by 90°.
- Swivel the locking lever (3) up.
- Lift the left fabric sliding sheet (5) at the front and swing it to the left.
- Lift the machine head in the area of head cover (4) and tilt it up carefully. The latch (6) snaps in additionally. The space under the machine table is accessible for cleaning now.

Swinging the machine head back

ATTENTION

Material damage!

Keep a firm hold of the machine head until it is completely tilted up.

- Hold the machine head in the area of head cover (4).
- Release latch (6).
- Swing the machine head back carefully.

Fig. 10: Releasing the latch

(6) - Latch

- Insert the fabric sliding sheet.
- Swivel the locking lever (3) down.
- Swing the folding station (2) back and let its locking lever click in.
- Put on the covering hood (1) and let it snap in again.

5.4 Needles and threads

Needle system: 2134-85

Recommended needle size

- Nm 90 for thin material
- Nm 100 for medium-weight material
- Nm 110 for heavy-weight material

High sewing security and good sewability are achieved with the following core threads:

- Two-ply polyester endless polyester core-spun (e.g. Epic Poly-Poly, Rasant x, Saba C, ...)
- Two-ply polyester endless cotton core-spun (e.g. Frikka, Koban, Rasant, ...)

If these threads are not available, the polyester fiber or cotton threads listed in the table can also be sewn.

Often two-ply core threads are offered by the thread manufacturers with the same designation as three-ply polyester fiber threads (3cyl.-spun). This causes uncertainty with regard to twisting and thread thickness.

When in doubt, unravel the thread and check whether it is twisted 2- or 3-ply. The label no. 120 on the thread reel of a core thread corresponds e.g. to the thread size Nm 80/2 (see table values in brackets).

In case of monofilament threads you can use needle threads and hook threads of the same thickness. The best results are achieved with soft and elastic threads (software) of the thread thickness 130 Denier.

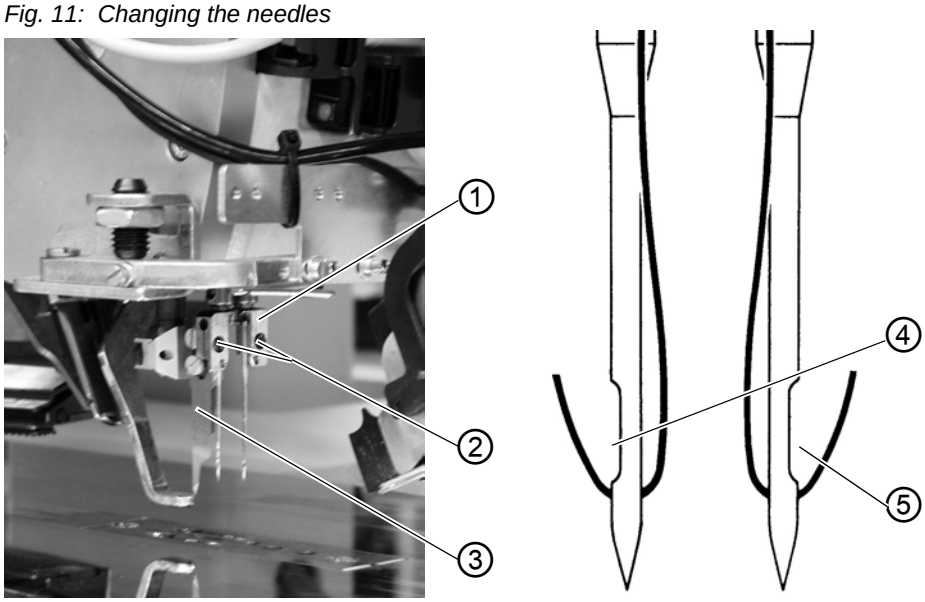
Recommended thread thicknesses:

Needle size Nm	Core thread		Core thread	
	Needle thread Polyester	Hook thread Polyester-spun Label No.	Needle thread Polyester continued Label No.	Hook thread Cotton-spun Label No.
90	120 (Nm 80/2)	120 (Nm 80/2)	120 (Nm 80/2)	120 (Nm 80/2)
100	100 (Nm 65/2)	100 (Nm 65/2)	100 (Nm 65/2)	100 (Nm 65/2)
110	75 (Nm 50/2)	75 (Nm 50/2)	75 (Nm 50/2)	75 (Nm 50/2)

Needle size Nm	Polyester fibre thread (3cycl.-spun)		Cotton thread	
	Needle thread	Hook thread	Needle thread	Hook thread
90	Nm 80/3-120/3	Nm 80/3-120/3	Ne 50/3-70/3	Ne 50/3-70/3
100	Nm 70/3-100/3	Nm 70/3-100/3	Ne 40/3-60/3	Ne 40/3-60/3
110	Nm 50/3-80/3	Nm 50/3-80/3	Ne 40/4-60/4	Ne 40/4-60/4

Changing the needles

Fig. 11: Changing the needles



(1) - Needle holder
(2) - Screw
(3) - Center knife
(4) - Needle scarf left needle
(5) - Needle scarf right needle

WARNING

Caution: Risk of injury!

Turn the main switch off.

Change the needles only with the main switch switched off.

Never reach into the area of the center knife (3) when changing the needles.

NEVER reach into the area of moving parts.

- Swing the folding station aside (📖 chapter 5.1). The needles are freely accessible.
- Loosen screw (2) and remove the needle from the needle holder (1).
- Push the new needle into the drill-hole of the needle holder (1) as far as it will go.
  ATTENTION!
  Seen from the operator's side the scarf (4) of the left needle must point to the left and the scarf (5) of the right needle must point to the right (see sketch).
- Tighten screw (2).

ATTENTION

Material damage!

After changing to another needle size the needle protection on the hook has to be readjusted (see Service Instructions).

Note:

The 745-35 is delivered as a standard with needles of the size Nm 100.

5.5 Threading in the needle thread

WARNING

Caution: Danger of injury!

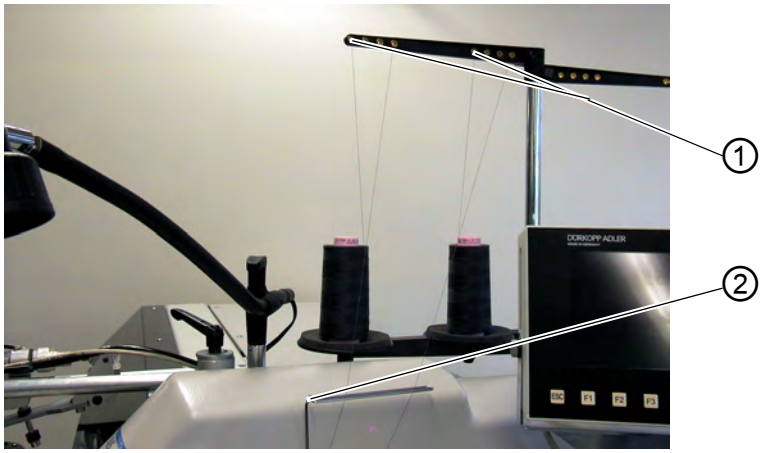
Turn the main switch off.

Thread the needle threads only with the sewing unit switched off.

The threading of the needle threads is done as shown in the illustrations below.

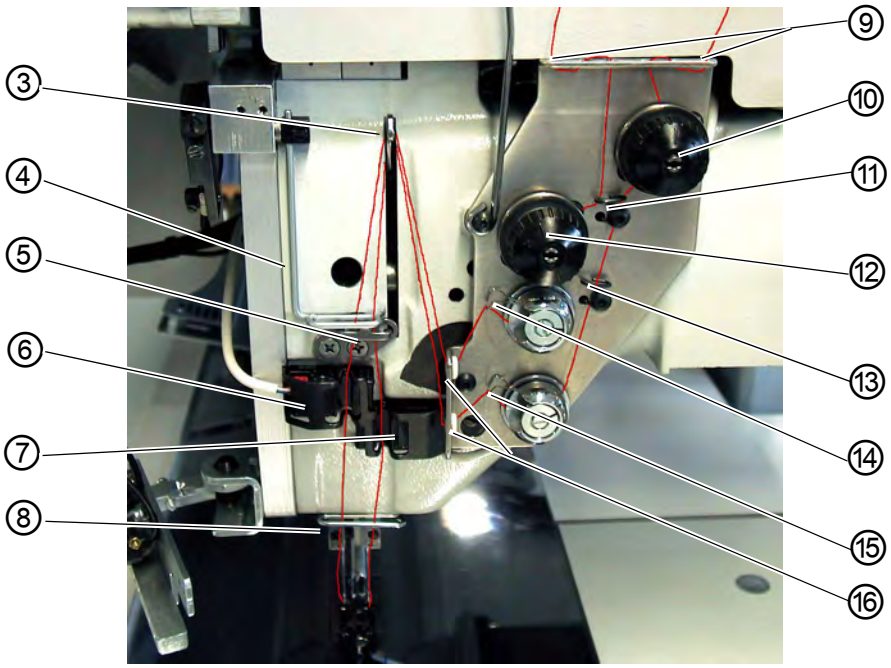
- Swing the folding station aside.

Fig. 12: Thread reel holder



(1) - Drill hole (thread reel holder) *(2) - Guide*

Fig. 13: Threading in the needle thread



(3) - Thread lever
(4) - Thread puller
(5) - Guide
(6) - Needle thread monitor
(7) - Needle thread monitor
(8) - Guide
(9) - Drill-hole in support plate
(10) - Needle thread tension
(11) - Guide
(12) - Needle thread tension
(13) - Guide
(14) - Thread tensioning spring
(15) - Thread tensioning spring
(16) - Drill-hole in the support

Left needle

- Fit the thread reel on the thread reel holder.
- Thread the thread from the thread reel through the drill-hole (1) of the thread reel holder.
- Guide the thread through guide (2).
- Guide the thread through the drill-hole in the support plate (9).
- Guide the thread through guide (11).
- Guide the thread through the tension discs of the needle thread tension (12).
- Guide the thread through the thread controller spring (14).
- Guide the thread through the upper drill-hole in the support plate (16).
- Thread the thread through the upper drill-hole in the thread lever (3).
- Guide the thread downward through the thread puller (4).
- Thread the thread through guide (5) and the needle thread monitor (6).
- Thread the thread through guide (8), through the drill-hole in the needle holder and through the eye of the needle.

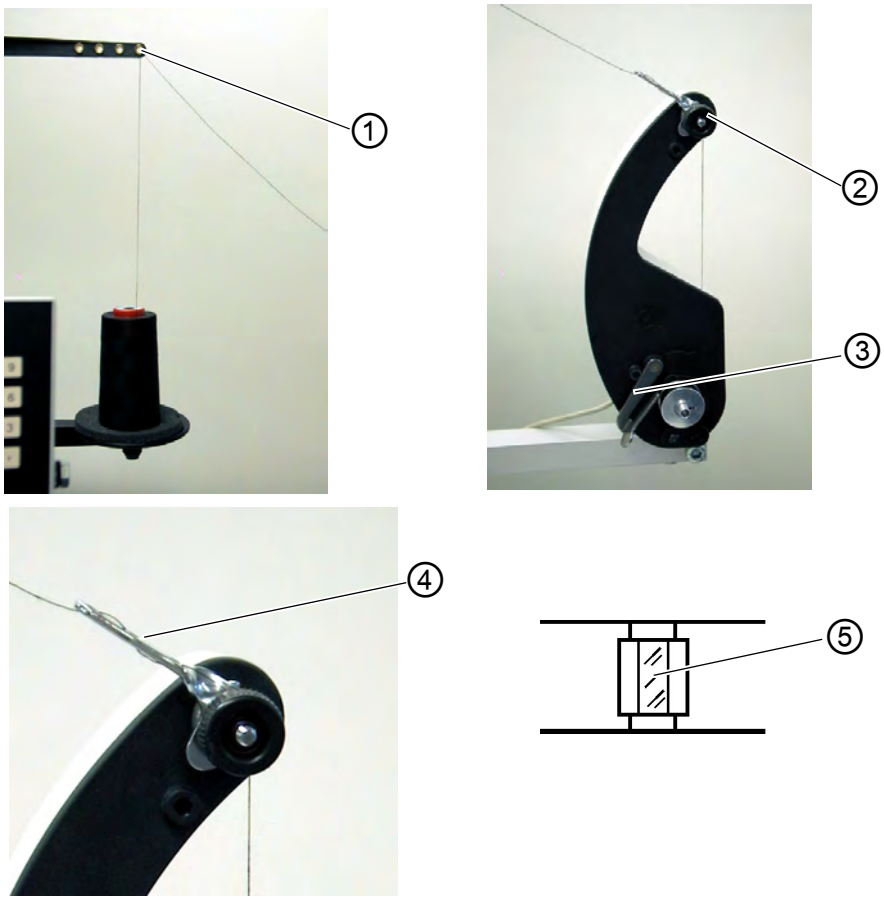
Right needle

- Fit the thread reel on the thread reel holder.
- Thread the thread from the thread reel through the drill-hole (1) of the thread reel holder.
- Guide the thread through guide (2).
- Guide the thread through the drill-hole in the support plate (9).
- Guide the thread through the tension disc of the needle thread tension (10).
- Guide the thread through the guides (11) and (13).
- Guide the thread through the thread controller spring (15).
- Guide the thread through the lower drill-hole in the support plate (16).
- Thread the thread through the lower drill-hole in the thread lever (3).
- Thread the thread downward through the thread puller (4), through guide (5) and through the needle thread monitor (7).
- Thread the thread through guide (8), through the drill-hole in the needle holder and through the eye of the needle.
- Clamp the thread in the needle thread catcher and cut it off

5.6 Winding on the bobbin thread

A separate winder makes it possible to wind up the bobbin threads without interfering the sewing process.

Fig. 14: Winding on the bobbin thread



(1) - Drill-hole in the unwinder arm
(2) - Bobbin thread tension
(3) - Bobbin retainer
(4) - Guide
(5) - Reflecting surface

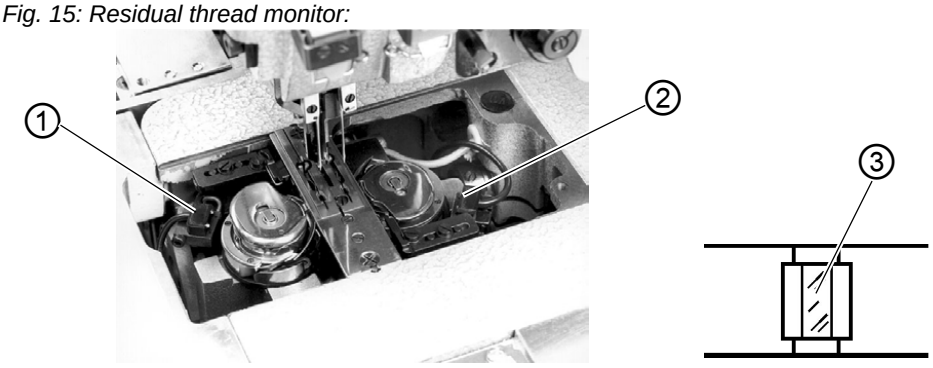
- Remove remaining thread from the bobbin hubs before winding.
- Put the thread reel on the thread reel holder.
- Thread the thread through the drill-hole (1) of the unwinding arm.
- Guide the thread through guide (4).
- Guide the thread through the bobbin thread tension (2).
- Prewind the thread to the right in the front and back reserve grooves of the bobbin hub. The full reserve grooves guarantee a secure winding, even with monofilament threads. With the thread reserves in the reserve grooves the pocket opening can safely be finished after the remaining thread monitor has indicated that the bobbin is empty. The reflecting surface (5) of the bobbin hub is to be kept clean.
- Press the bobbin retainer (3) against the bobbin hub. The winder

starts. After reaching the set bobbin filling level the winder shuts off automatically. For the setting of the bobbin filling level, 🕮 *Service Instructions*.

5.7 Residual thread monitor:

The residual thread monitor monitors the left and right hook thread bobbin with the infrared reflected light barriers (1) and (2).

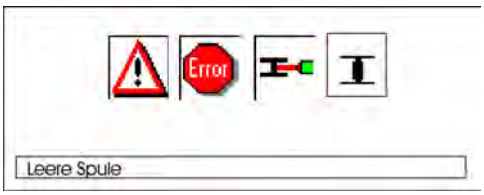
Fig. 15: Residual thread monitor:



(1) - Light barrier 1
(2) - Light barrier 2
(3) - Reflecting surface

- When the bobbin is empty, the light beam transmitted by the light barrier (1) or (2) is reflected by the exposed reflecting surface (3) of the bobbin hub.
- The display of the control box shows the message “Empty bobbin”.

Fig. 16: Message “Empty bobbin”



- The whole unit can be folded out for adjusting and servicing. The adjustment of the corner knives as to the pocket length is programmable and is realized by a step motor.

WARNING

Caution: Danger of injury!

Turn the main switch off.

Clean the lenses of the light barrier only with the sewing unit switched off.

- Turn the main switch off.
- Clean the lenses of the light barrier with a soft cloth after every bobbin change.
- Turn the main switch on.
- Start a new sewing cycle.

5.8 Changing the bobbins

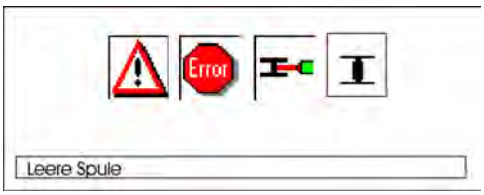
ATTENTION

Material damage!

Turn the main switch off before changing the bobbin.

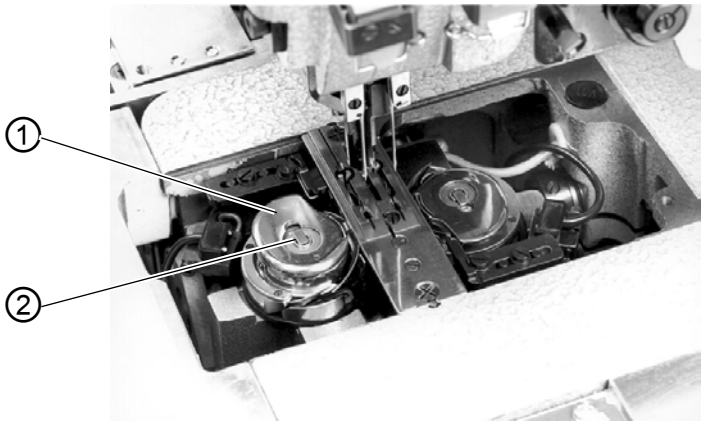
- After a certain number of seams the hook thread quantity on the bobbin is used up.
- With the residual thread monitor switched on the message “Empty bobbin” appears in the display.

Fig. 17: Message “Empty bobbin”



- The pocket opening in progress is finished with the help of the thread reserve in the reserve grooves of the bobbin hub.
- After corner incision the workpiece is moved out or stacked.
- The transport carriage runs in its rear end position. It can be restarted after the bobbin change only.

Fig. 18: Removing the bobbin Removing the empty bobbin



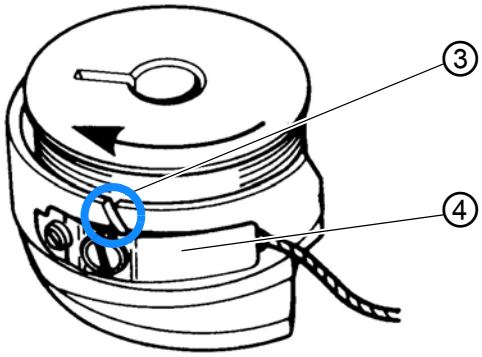
(1) - Upper part bobbin case *(2) - Bobbin case flap*

Removing the empty bobbin

- Turn the main switch off
- Swing the folding station aside.
- Lift the fabric sliding sheet and swing it to the left (📖 chapter *5.2*).
- Lift the upper part of the bobbin case (1). The bobbin case flap (2) is lifted at the same time.
- Remove the upper part of the bobbin case together with the empty bobbin.
- Remove the empty bobbin from the upper part of the bobbin case.

Inserting a full bobbin

Fig. 19: Inserting a bobbin



(3) - Slot *(4) - Thread tension spring*

- Insert a full bobbin in the upper part of the bobbin case (1).
- Pull the thread through the slit (3) under the tension spring (4).

- Pull about 4 cm of thread out of the bobbin case. When pulling the thread out, the bobbin should turn in the direction indicated by the arrow (opposite the hook's rotation).
- Insert the upper part of the bobbin case (1) with the full bobbin in the lower part of the bobbin case.
- Close the bobbin case flap (2).

ATTENTION

Material damage!

For a trouble-free function of the residual thread monitor, clean the lenses of the light barriers after each bobbin change with a **soft** cloth.

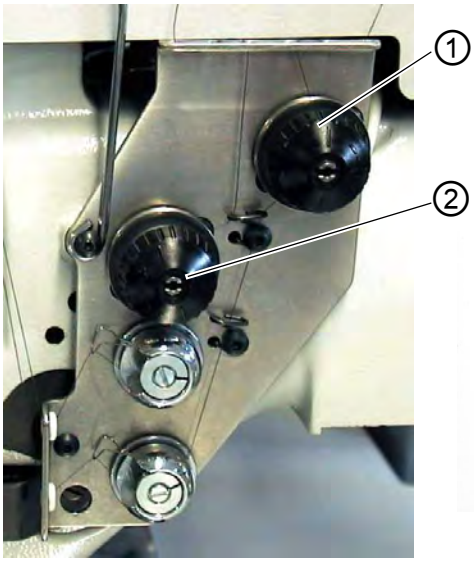
- Put the fabric sliding sheet back in place.
- Turn the main switch on.
- Start a new sewing cycle.

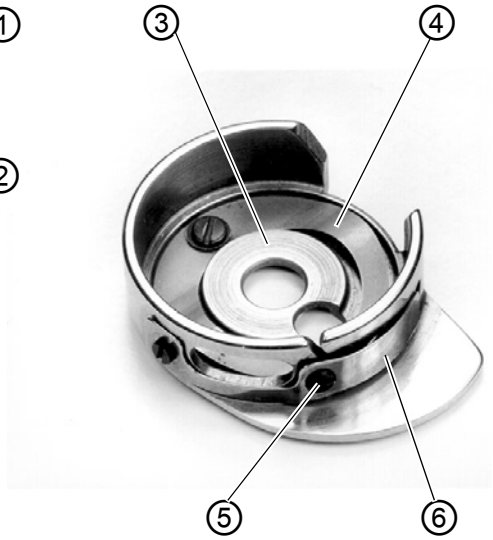
5.9 Thread tension

The cross-over point of the threads should lie in the center of the material.

Thick and hard material requires a tighter thread tension than thin and soft fabrics. Too high thread tensions can lead to undesired ruffling and thread breakage in case of thin material.

Fig. 20: Adjusting the thread tension





(1) - Knurled nut right needle thread
(2) - Knurled nut left needle thread
(3) - Surface
(4) - Brake spring
(5) - Adjusting screw
(6) - Leaf spring

Setting brake spring:

At a position stop of the machine head the brake spring avoids an over-travel of the hook thread bobbin.

- Set the brake spring (4) by adjusting its position. The brake power is set correctly when the brake spring (4) projects beyond the surface (3) by approx. 1 mm.
- When setting the tension spring (6) the brake power is to be taken into account.

Setting the tension spring:

- Start by setting the tension of the leaf spring (6) at the adjusting screw (5) to the minimum.
  Increasing the hook thread tension: Turn clockwise
  Reducing the hook thread tension: Turn counter-clockwise.
- With the bobbin inserted and the hook thread threaded through the throat plate, the pulling of the thread has to be smooth.

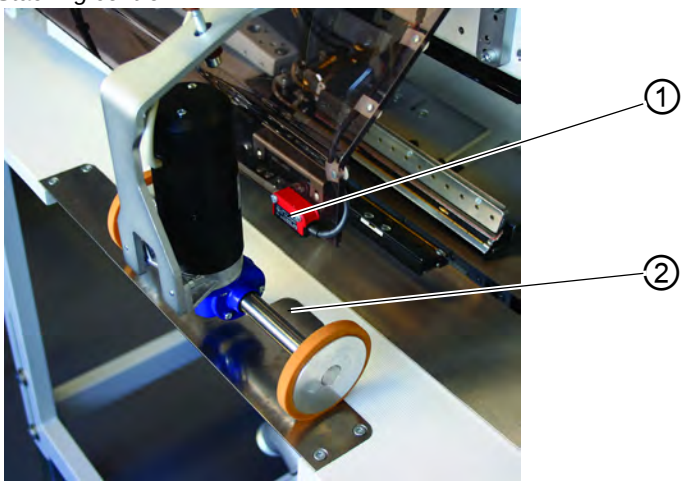
Setting the needle thread tension:

- Adjust the needle thread tension until a uniform stitch pattern is achieved.
- Set the tension of the needle threads at knurled nut (1) (right needle thread) and knurled nut (2) (left needle thread).
  Increasing the hook thread tension: Turn clockwise
  Reducing the hook thread tension: Turn counter-clockwise.

5.10 Stacking control

The reflected light barrier (1) monitors the stacking and blowing-out of the sewn workpiece. The transport carriage does not return before the workpiece has been correctly moved out.

Fig. 21: Stacking control



(1) - Reflected light barrier *(2) - Reflecting sheet*

- If the workpiece is not moved out correctly, the light beam between the reflected light barrier (1) and the reflecting sheet (2) remains interrupted. A restart is not possible.

WARNING

Caution: Danger of injury!

Do not reach into the runway of the transport carriage when removing the workpiece.

In sewing programs with automatic carriage return, the transport carriage moves to the front after clearance of the light beam.

Clean the lenses of the light barrier only with the sewing unit switched off.

- Remove the workpiece out of the light beam zone.
  A new sewing cycle can be started.

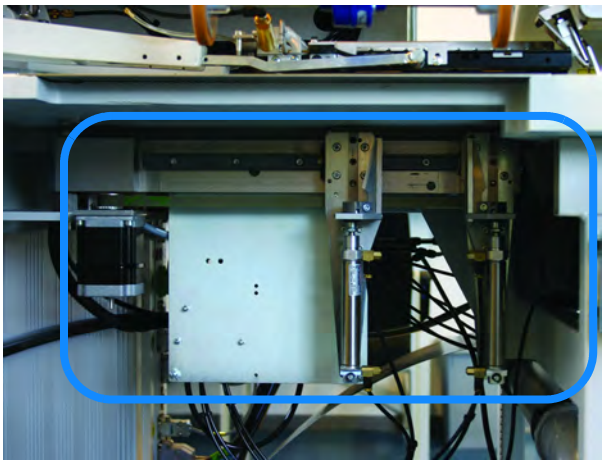
ATTENTION

For a trouble-free function of the stacking control clean the lens of the reflected light barrier once a day with a **soft** cloth.

5.11 Corner knife station rectangular pocket corners

The 745-35 is equipped with a corner knife station.

Fig. 22: Corner knife station 745-35



5.11.1 Swinging the corner knife station out / in

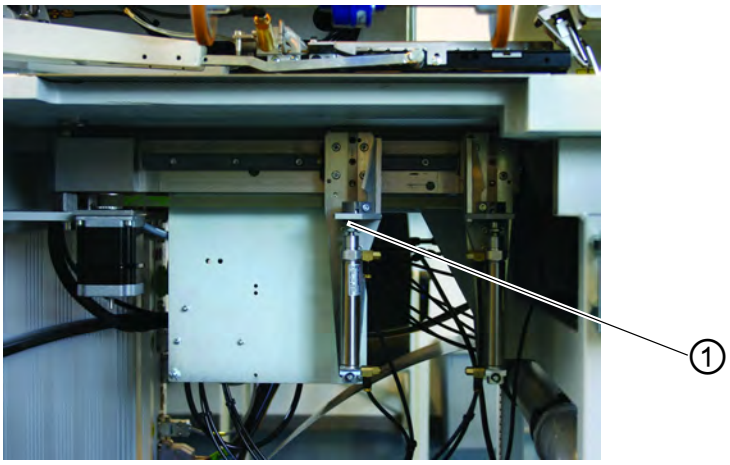
WARNING

Caution: Danger of injury!

Turn the main switch off.

Swing out the corner knife station only with the sewing unit switched off.

Fig. 23: Swinging the corner knife station 745-35



(1) - Corner knife station

Swiveling the corner knife station out

- Swing out the corner knife station (1) to the left. The knives are accessible for adjusting and servicing.

Swiveling the corner knife station in

- Swing the corner knife station (1) back under the sewing unit and make sure it locks.

ATTENTION

Material damage!

The corner knife station must audibly lock when being pushed in.

5.12 Corner knife station slanted pocket corners

The setting of the corner knives with regard to the pocket length is programmable and is effected via a step motor.

The slanted pocket corners result from the offset of the two seam rows programmable in steps of 1 mm.

The programmable pocket corner incision - adjustable via two step motors - can be freely selected for the seam beginning and seam end and amounts to a maximum of +/- 13mm relative to the second (right-sided) seam.

The distance between the corner knifes and the seam can be adjusted manually.

The whole knife block can be swung out to make setting and service work possible.

5.12.1 Swinging the corner knife station out / in

WARNING

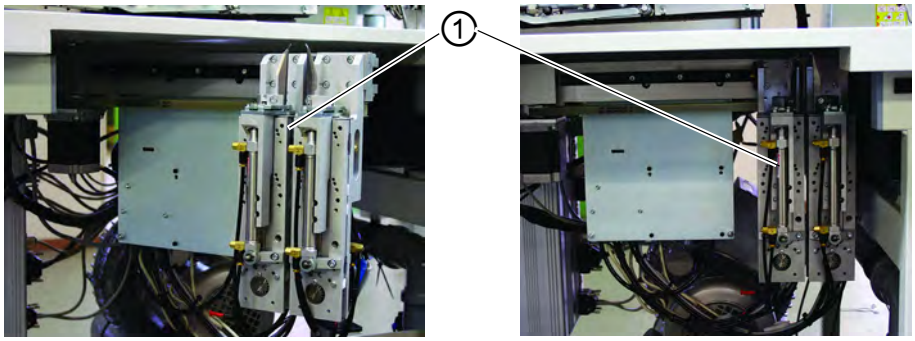
Caution: Danger of injury!

Turn the main switch off.

Swing out the corner knife station only with the sewing unit switched off.

The corner knife station (1) can be swung out completely.

Fig. 24: Swinging the corner knife station



(1) - Corner knife station

Swiveling the corner knife station out

Swing out the corner knife station (1) to the left. The knives are accessible for adjusting and servicing.

Swiveling the corner knife station in

Swing the corner knife station (1) back under the sewing unit and make sure it locks.

ATTENTION

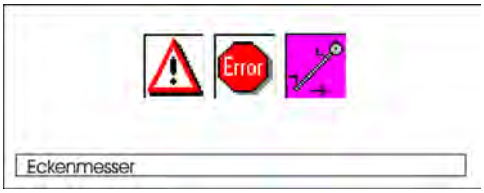
Material damage!

The corner knife station must audibly lock when being pushed in.

Note:

If the corner knife station (1) is swung out with the sewing unit switched on, the following message appears:

Fig. 25: Message “Corner knife station”



5.13 Setting the corner knife

WARNING

Caution: Danger of injury!

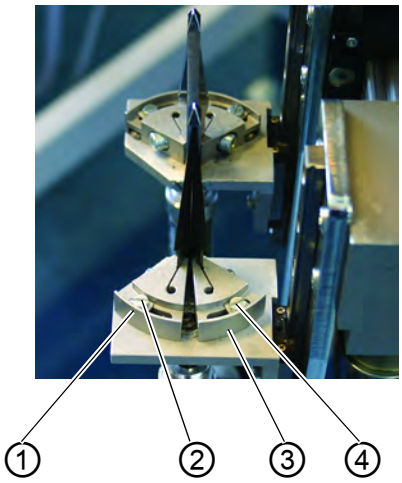
Turn the main switch off.

Set the corner knife station only with the sewing unit switched off.

Swinging out the corner knife station

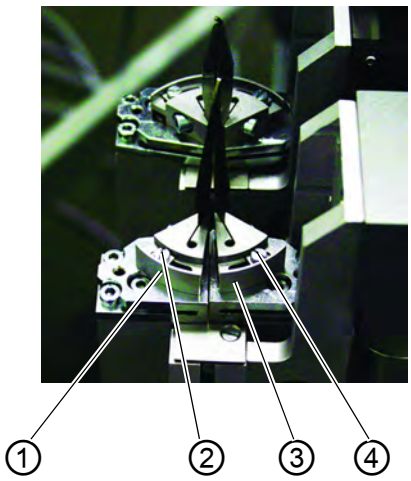
Fig. 26: Setting the corner knife

rectangular corners



(1) - Knife carrier
(2) - Screw

slanted corners



(3) - Knife carrier
(4) - Screw

Setting the angle of the corner knife station

The angle of the corner knife is set by twisting the knife carriers (1) and (3).

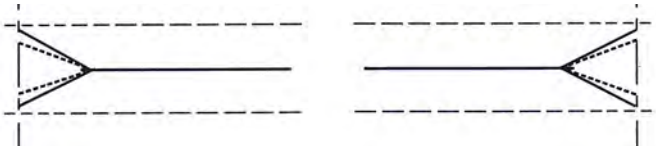
- Loosen the screws (2) and (4).
- Twist the knife carriers (1) and (3) symmetrically.
- Tighten screws (2) and (4).
- Set the angle on the other knife set accordingly.

Height of the corner knives

The height of the corner knives cannot be adjusted. The knives always completely cut through.

Swinging the corner knife station in.

Fig. 27: Cut sketch



Rectangular pocket corners:
The right and the left corner knife incision are parallel

Slanted pocket corners:
The left corner knife incision is displaced of +/- 13 mm in relation to the incision on the right side

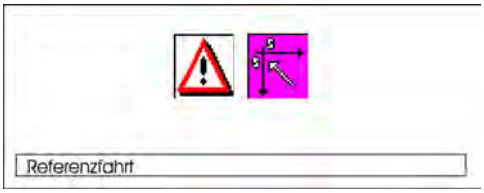
5.14 Reference position, Starting the sewing cycle, Quick stop

Reference position

The reference position is necessary to reach a defined initial position.

- Turn the main switch on. The control is initialized.
- The DÜRKOPP ADLER logo briefly appears on the screen.
- If this is not the case, the display shows the message “Reference run”.

Fig. 28: Message “Reference run”



WARNING

Caution: Danger of injury!

Danger of suffering bruising between folder and rest table.

- Step back on the pedal (745-35 A).

respectively

- Step back on the left pedal (745-35 B, 745-35 F, 745-35 F). The reference run starts. The transport carriage runs in its rear end position.
- The display changes to the main screen of the sewing unit.

Starting the sewing cycle

- Step forward on the pedal (745-35 A).

respectively

- Step back on the left pedal (745-35 B, 745-35 F, 745-35 D)
  By actuating the left pedal several times, the various steps of the positioning procedure are triggered successively. The individual steps depend on the working method (A, B, F, D) and the equipment of the sewing unit (see chapter 2.16).
- For positioning corrections: Step back on the pedal resp. on the left pedal. The last step of the feeding process is canceled. The workpiece can be fed anew.
- Step forward on the pedal (745-35 A).
  The sewing procedure is started.

respectively

- Step forward on the left pedal (745-35 B, 745-35 F, 745-35 D).
  The sewing cycle is started.

Quick stop

The safety system of the 745-35 offers two possibilities for the immediate shutdown of the unit in case of faulty operation, needle or thread breakage etc.:

- Step back on the pedal, respectively the left pedal. The current step of the positioning process or the sewing cycle is aborted immediately. The following message appears:

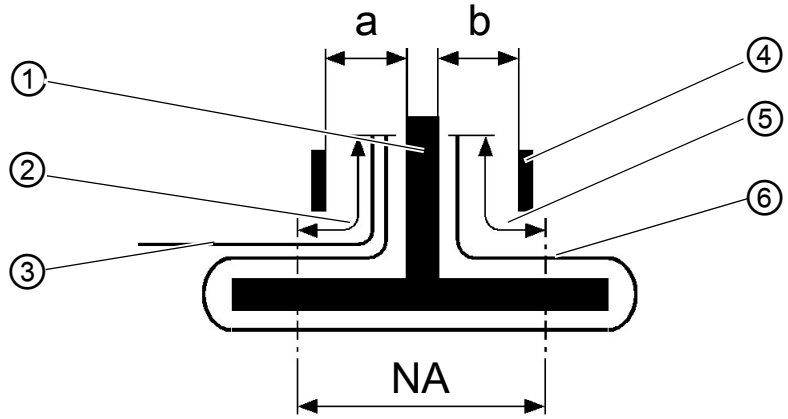
Fig. 29: Message display

- Step back on the pedal, respectively the left pedal. The carriage runs out of the feeding area.
- Press the key “RST” on the control panel. The current sewing cycle is aborted.

5.15 Flap and Piping Projection

To ensure an unimpeded passage of the workpieces at the folder or pick-up folder station, the maximum projections of piping, flap and material thickness must not be exceeded. Check the maximum admissible width of the piping strips for the different sewing equipments (E-no.) in the Equipment Sheets of the 745-35.

Fig. 30: Flap and Piping Projection



(1) - Folder
(2) - Flap projection max. 20 mm
(3) - Flap
(4) - Guide plate at the folder
(5) - Piping projection max. 20 mm /40 mm
(6) - Piping strip

NA: Seam distance
***a, b**: Material passage at the folder*

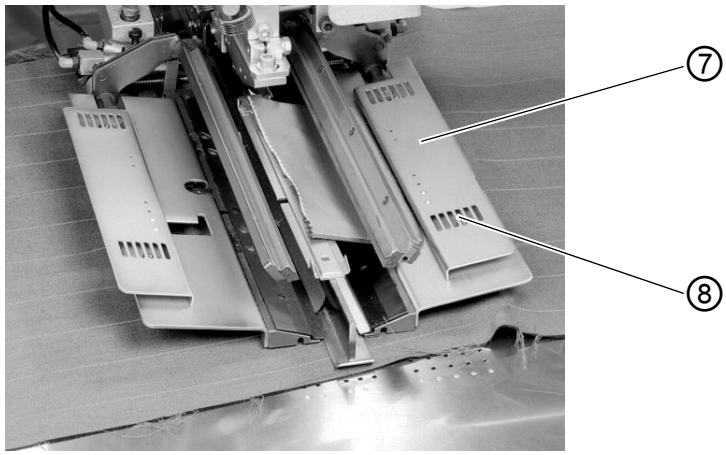
In case of equipment allowing a piping projection of 40 mm and equipped with blowing tubes at the feeding clamps, the parameter “Blowing of pocket bag/piping” can be selected in order to guarantee a trouble-free intake of piping and/or flap, 🕮 *Programming Instructions*.

Setting the sew-in depth of the flap (only manual feed)

The stop (8) determines the sew-in depth and thus the flap projection.

- Pull the stop (8) to the front (towards the operator) and lift it. Place stop (8) in another pair of slotted holes.
- For fine adjustment adjust the hexagonal bolts (7) underneath the stop (8).

Fig. 31: Sew-in depth of the flap



(7) - Hexagonal bolt *(8) - Stop*

5.16 Piping strip length

The piping strip length must be dimensioned in a way that it projects approx. 20 mm beyond the seam beginning and seam end. This piping strip length is calculated as follows:

Piping strip length = sewing length + 2 x 20 mm

5.17 Working method B

A short explanation of the machine's working method will follow:

Working method	Explanation
B	Piped pockets, automatic feeding of the piping strips, with/without incision of the piping end Automatic feeding of the flap and add-on pieces from the right, from the left, or from both sides (optional)

The working method is described on the following pages. The description is structured as follows:

Positioning points

This item indicates the positioning points for the different workpieces (e.g. left and right parts).

Aligning the positioning aids

Here you will find a description how to adjust and align the positioning aids (e.g. positioning marks, marking lamps, guides etc.).

Positioning and starting the sewing process

Under this point you will find a list of the individual positioning steps illustrated by typical examples.

ATTENTION

Material damage!

The steps of the positioning process are dependent on the equipment of the respective sewing unit. Thus, the positioning steps described in the examples only apply for sewing units with identical equipment.

WARNING

Caution: Danger of injury!

Do not reach under the downholder, the feeding clamp and the folder during the positioning process.

Piped pockets, automatic feed of the piping strip, without/with incision of the piping ends

Example:

Sewing pocket openings with or without flap in jacket front parts

Loading positions for left and right jacket front parts

- Position the left jacket front parts (7) at the rear light spot (6). Position the right front part (1) at the front light spot (3).

It is useful to generate a pocket program for left jacket front parts (rear light spot selected) and a pocket program for right jacket front parts (front light spot selected). Thus, you only have to alter the pocket program in the main screen when changing between left and right jacket front parts.

WARNING

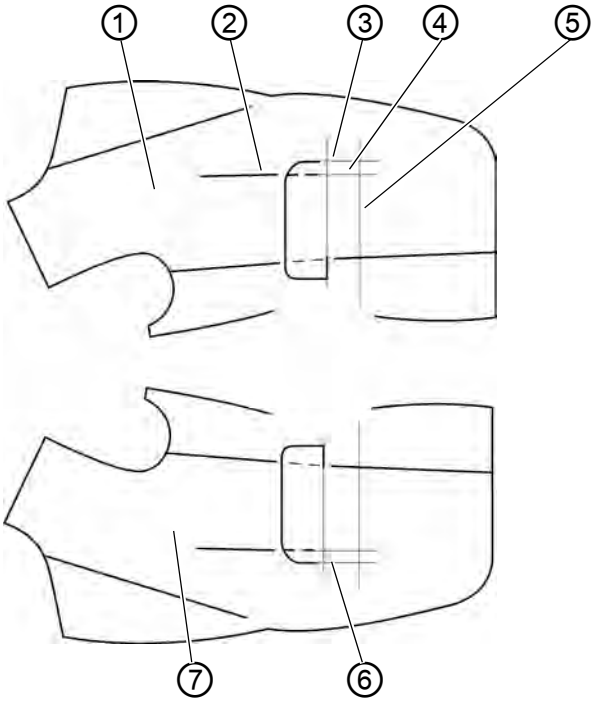
Caution: Danger of injury!

Do not reach into the working area of the positioning device when triggering the individual steps of the positioning process.

Feeding and starting the sewing process

Example: Right jacket front part

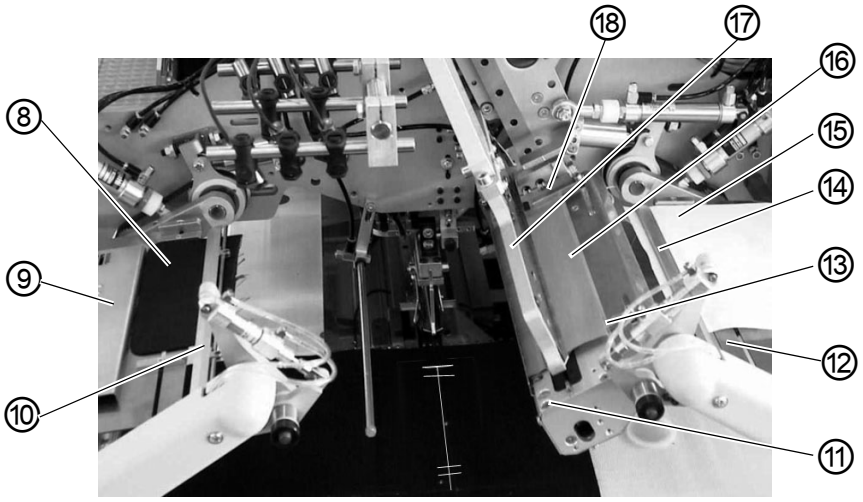
Fig. 32: Positioning aids



(1) - right jacket front part
(2) - Dart
(3) - Light spot
(4) - Light spot
(5) - Light spot
(6) - Light spot
(7) - Left jacket front part

With piping incision

Fig. 33: Positioning aid



(8) - Flap
(9) - Stop
(10) - Flap feed
(11) - Stop
(12) - Support table
(13) - Stop
(14) - Flap clamp
(15) - Pocket bag
(16) - Piping strip
(17) - Pick-up folder
(18) - Stop

1. Position the piping strip (16) at the front stop (11). (For the left jacket front part position the piping strip at the rear stop (13)). Position the piping strip also at the lateral stop (11).

2. Step forward on the right pedal and hold it stepped down. The left flap clamp (10) opens.

3. Position flap (8) at the stop (9).

4. Release the right pedal. Flap clamp (14) closes.

5. Step back on the right pedal and hold it stepped down. The right flap clamp (14) opens.

6. Align the pocket bag (15) on the support table (12) at the positioning mark (e.g. thin adhesive tape).

7. Release the right pedal. The flap clamp (14) closes.

8. Position the right jacket front part (1) with dart (2) at the light spot (4).

9. Align the pocket incision at the vertical line of the light spot (5) (center knife incision).

10. Step forward on the left pedal.
    The piping strip is incised and taken up by the pick-up folder.
    The transport carriage moves to the loading position.
    The feeding clamps lower.

11. Step forward on the left pedal.
    The folding sheets close.
    The pick-up folder (17) lowers with the piping strip. The piping strip is blown against the folder by air nozzles fitted in the feeding clamps.
    Setting, 🕮 *Programming Instructions*

    In order to correct the positioning, step back on the left pedal:

    1st pedal touch: The folding sheets open. The pick-up folder swivels back to the initial position.

    2nd pedal touch: The feeding clamps lift.

    3rd pedal touch: The transport carriage moves back to the waiting position.

12. Flap feeder (10) with the flap (8) and flap feeder with the pocket bag (15) swivel in.

13. Step forward on the left pedal.
    The flap clamps close.
    The flap feeds open, lift and swivel out.

14. Step forward on the left pedal.
    The sewing cycle starts.

Note

According to the selected pedal mode the sequence of the positions 10 to 14 is effected in inching operation or automatically.

Selecting the pedal mode, 🕮 *Programming Instructions*.

By actuating the key “F3”, the piping strip that has already been picked will be released again.

Example:

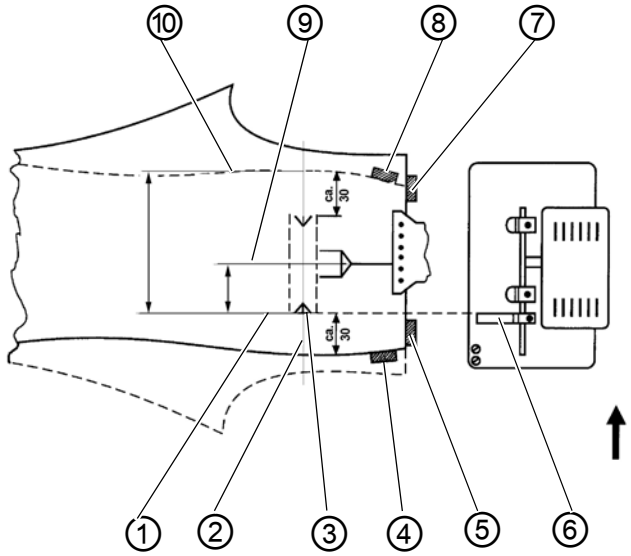
Sewing pocket openings with or without flap in hind trousers

Loading positions for hind trousers parts

- Hind trousers can be positioned according to two methods:
  a) symmetrical at the central light spot (9) (according to the dart)
  b) according to the positioning marks (4) or (8)
- Align the end of pocket opening (3) preferably at the rear light spot (1). The hind trousers parts should be positioned as close as possible to the operator. Thus, the hind trousers can - after positioning - be safely smoothed out when the feeding clamps move forward.

Aligning the positioning aids

Fig. 34: Positioning aids



(1) - Light spot
(2) - Light spot
(3) - Pocket opening end
(4) - Positioning mark
(5) - Positioning aid
(6) - Stop
(7) - Positioning aid
(8) - Positioning mark
(9) - Light spot
(10) - Light spot

Positioning aids (5) and (7):

- Align the end of the pocket opening at the light spots (1) and (10).
- Bring the center of the pocket opening (3) in line with light spot (2).
- Fix two positioning marks (5) and (7) (e.g. thin adhesive tape) on the waistband edge of the fabric sliding sheet

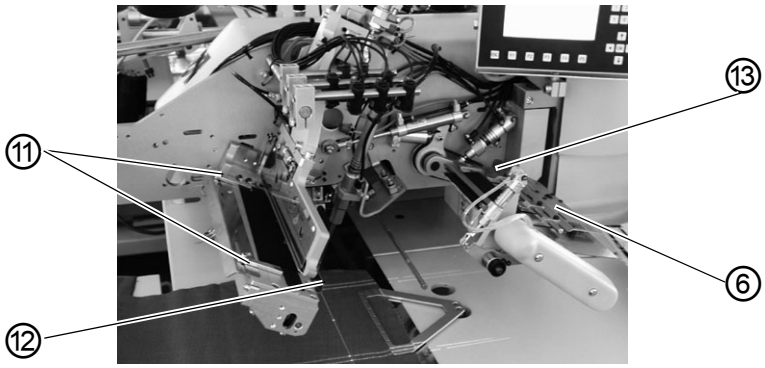
Symmetrical alignment at the light spot (9) (positioning method a)):

- Align the light spot (9) to be exactly above the dart (12). The front light spot (10) can be shifted towards the operator.

Alignment according to positioning marks (4) and (8) (positioning method b)):

- Position the right hind trousers.
  Fix a positioning mark (4) (e.g. thin adhesive tape) on the hip bow of the right hind trousers.
  The distance between hip bow and pocket opening end (3) has to be approx. 30 mm.
- Position the left hind trousers.
  Attach a positioning mark (8).
  Between the positioning mark (8) and the light spot (1) has to be the distance of: 30 mm + pocket length.

Fig. 35: Positioning aids



(6) - Stop
(11) - Piping
(12) - Dart
(13) - Flap

Stop (6) for the automatic feed of the flap (13):

- Adjust the stop (6) of the feeding device as to the pocket opening end (3).

ATTENTION

Material damage!

If the flap (13) is positioned outside the dotted line (of the sewing area), the function sequence will be interrupted. Error number 9720 or 9722 will appear on the display.

- When positioning symmetrically at the light spot (9), set the stop (6) for flaps for shorter pocket lengths correspondingly lower within the sewing area.
- Also adjust the stops for the positioning of the piping (11) in such a way that the piping is symmetrical to the light spot (9).

WARNING

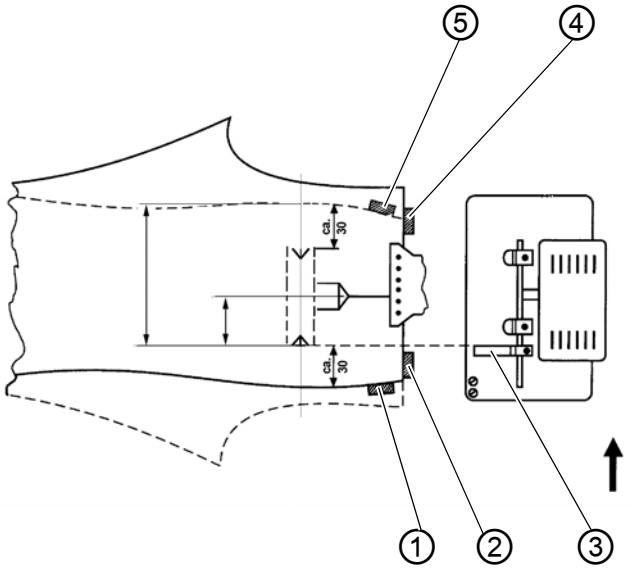
Caution: Danger of injury!

Do not reach into the working area of the positioning device when triggering the individual steps of the positioning process.

Positioning and starting the sewing process

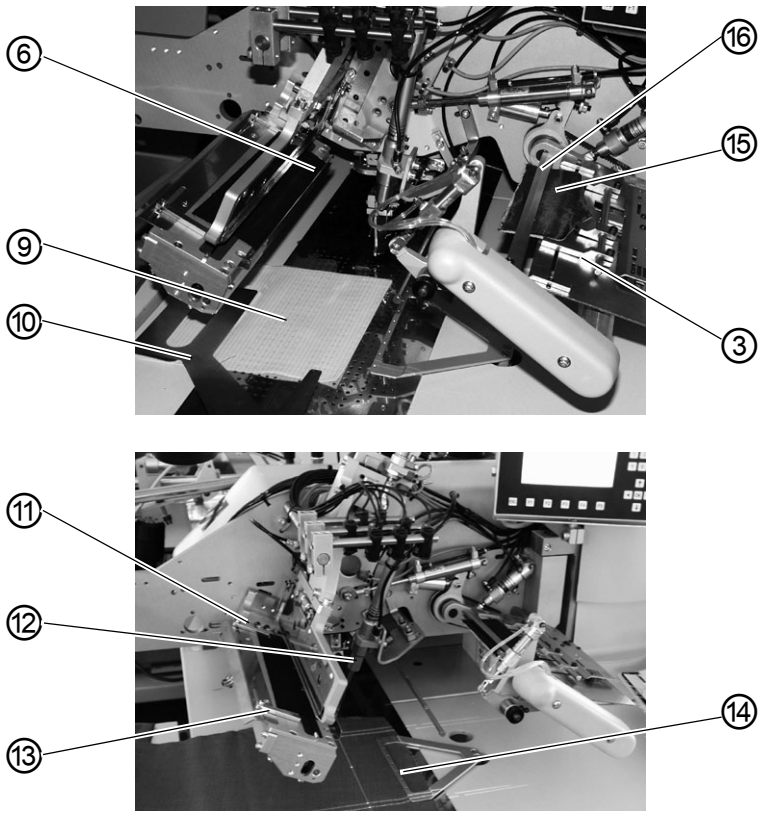
With piping incision

Fig. 36: Positioning aids



(1) - Positioning mark
(2) - Positioning mark
(3) - Stop
(4) - Positioning mark
(5) - Positioning mark

Fig. 37: Sewing process



(6) - Lateral stop
(9) - Pocket bag
(10) - Pocket bag clamp
(11) - Front stop
(12) - Downholder
(13) - Rear stop
(14) - Waistband clamp
(15) - Flap
(16) - Feeding device

1. Position the piping strip at the front stop (11) or at the rear stop (13).
   Position the piping strip at the lateral stop (6).

2. Step back on the right pedal and hold it stepped down. The feeding device (16) opens.

   Position flap (15) at stop (3) of the feeding device. When sewing pockets with pipings on both sides, position loop and facing also on the feeding device.

3. Release the right pedal.
   The feeding device (16) closes.

4. Push the pocket bag (9) under the pocket bag clamp (10) and align it according to the positioning marks.
   Adhesive strips fitted on the fabric sliding sheet may serve as markings.

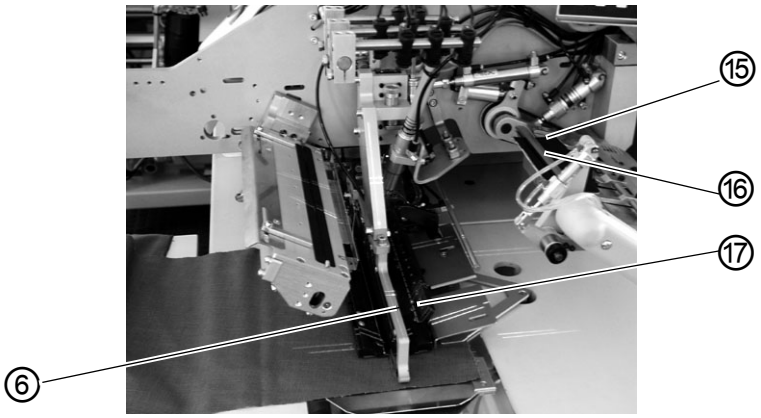
5. Align the hind trousers according to positioning method a) or b) at the positioning marks (5) and (1) as well as (4) and (2).

6. Step forward on the left pedal.
   Downholder (12) and waistband clamp (14) lower and clamp the hind trousers in its position.
   Smooth the clamped hind trousers out to the side and to the front.

7. Step forward on the left pedal.
   The vacuum is switched on.

8. Step forward on the left pedal.
   The piping is incised and picked up.
   The transport carriage moves to the loading position.
   The feeding clamps lower.

Fig. 38: Flap feed



(6) - Pick-up folder
(15) - Flap
(16) - Feeding device
(17) - Flap clamp

9. Step forward on the left pedal.
   The pick-up folder (6) lowers with the piping strip onto the hind trousers.
   The folding sheets close.

The piping strip is blown against the folder by air nozzles fitted in the feeding clamps. Setting, 🕮 *Programming Instructions*

In order to correct the positioning, step back on the left pedal:

1st pedal touch: The folding sheets open. The pick-up folder (6) swivels back to the initial position.

2nd pedal touch: The feeding clamps lift.

3rd pedal touch: The transport carriage moves back to the waiting position.

10. Step forward on the left pedal.
    The feeding device (16) swivels in with flap (15).

11.Step forward on the left pedal.
Flap clamp (17) closes. The sewing process starts.

Note

According to the selected pedal mode the sequence of the positions 8 to 11 is effected in inching operation or automatically.

Selecting the pedal mode, 🕮 *Programming Instructions*.

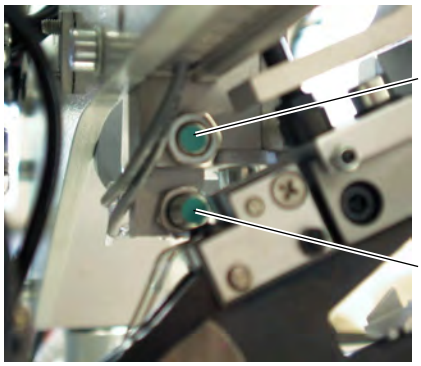
By actuating the key “F3”, the piping strip that has already been picked will be released again.

5.17.1 Folder monitoring

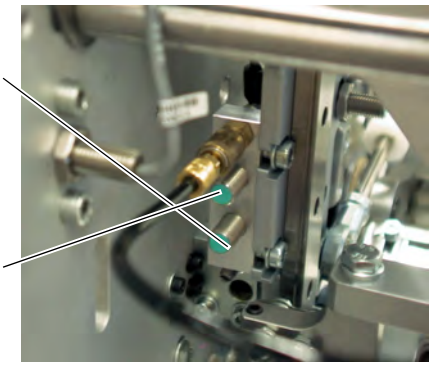
The deployed folder is monitored by the sensors S7 and S8. The sensors are actuated by a switch angle that is fixed on the folder, respectively on the pick-up folder.

Fig. 39: Sensors

Method A

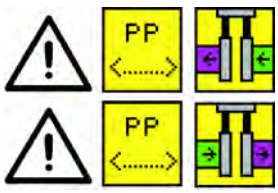


Methods B and F



If a sewing program with incorrect clamp position settings is started, the following message appears:

Info 9014



Correction

- Step back on the left pedal.The error message is cancelled.
- Select another program or alter the setting in the program.

Setting

With single piping left

The sensor S 7 is active. The outer position of the left clamp must be set.

With single piping right

The sensor S 8 is active. The outer position of the right clamp must be set.

With double piping

None of the sensors is active.

5.18 Functions and operation of the optional equipment

This chapter explains the functions and the operating of the most important optional equipments.

5.18.1 Automatic incision device for piping ends

With the automatic incision device for piping ends the piping strip end is cut open from the center knife incision to the piping ends. The cutting areas are automatically adapted to the respective seam length as well as to the positioning point.

The piping strip ends can be incised up to 30 mm (with a pocket length of 180 mm) or 20 mm (with a pocket length of 200 mm). The incision device for piping ends is already a component of the E-equipments E 3503, E 3504, E 3507 and E 3508, E3520, E3521, E6503, E6404, E6507, E6508, E6520 and E6521.

The total length L of a piping incision always amounts to approx. 45-50 mm (dependent on the fabric) and cannot be altered. The programmable value S indicates the length of the cut within the pocket length T. The value S is set to 15 mm as a standard. With this adjustment the piping strip is incised 30 mm from the seam. When increasing the value S, the cut is shifted to the middle of the pocket; when the value S is reduced, the cut is shifted outward (see figure 54).

Note

At the front or the rear positioning point with sewing lengths of 200 mm, the cutting length can only be altered inward toward the pocket center.

Activating and switching the piping incision device on

- Select the parameter “Piping incision device” and the icon “Piping incision device on/off” under the menu item “Pocket parameters” (key F1), 🕮 *Programming Instructions*.

Correcting the position of the cut

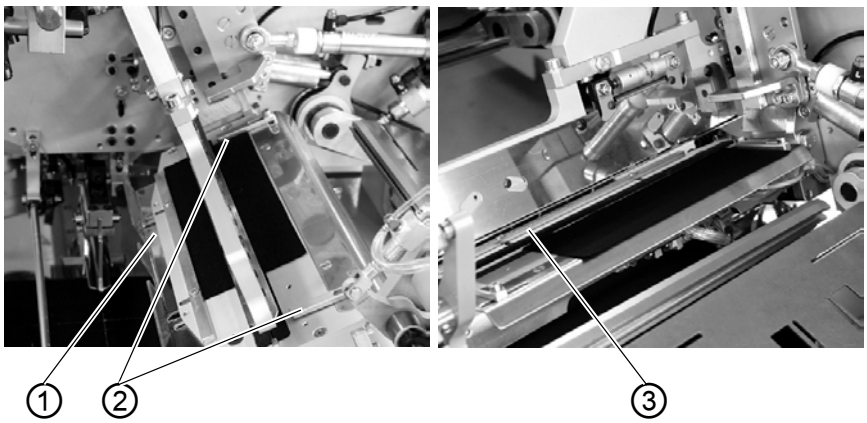


- Select the parameters “Piping incision device on/off - Correcting the piping incision at the seam beginning” or “Piping incision device on/off - Correcting the piping incision at the seam end” under the menu item “Pocket parameters” (key F1), 🕮 *Programming Instructions*. The entered correction value corresponds to the value S, see figure below.

Function and operation

Positioning when processing double piping

Fig. 40: Stops



(1) - Lateral stop
(2) - Stops
(3) - Center stop

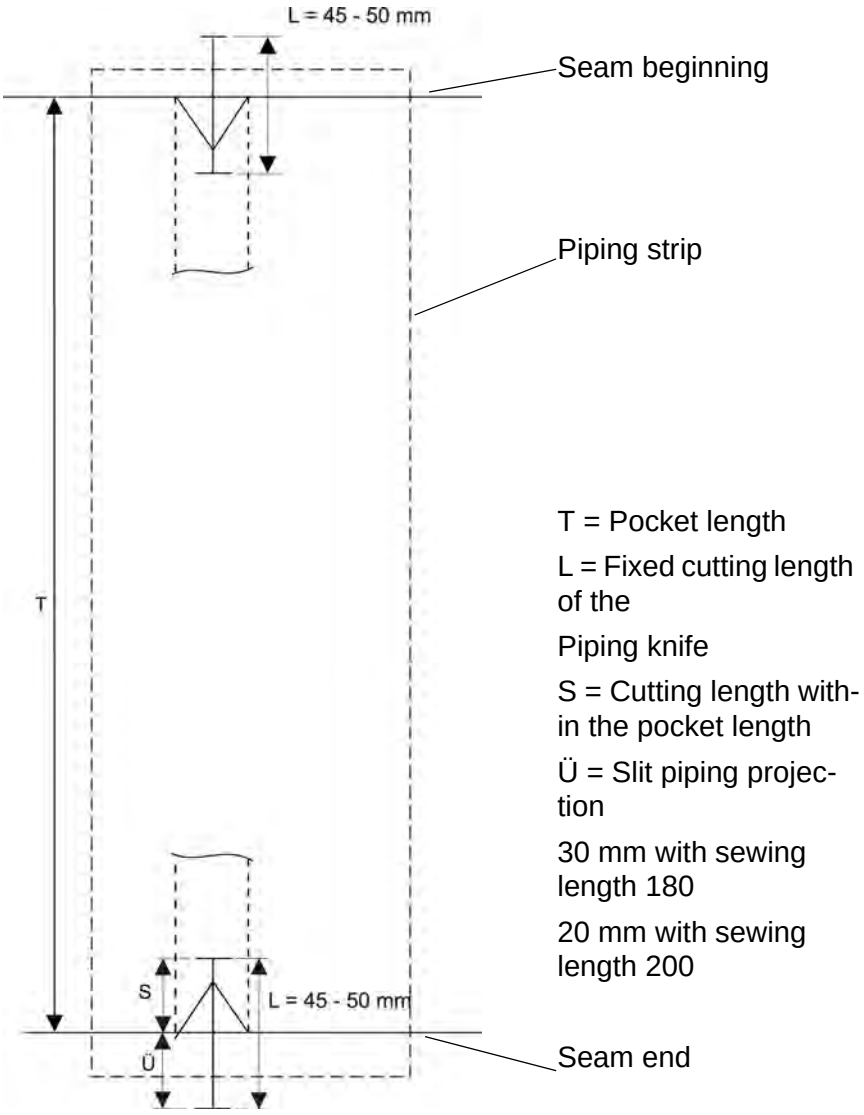
- Position the piping strip at the front or rear stop (2) for the respective positioning point. Position the piping strip also at the lateral stop (1).
- Carry out the loading process as described in chapter 2.16.4 (method B) or chapter 2.16.6 (method F) and start the sewing cycle.

Positioning when processing single piping

- Position the piping strip at the front or at the rear stop (2). Position the piping strip also at the center stop (3)

View of the cutting areas

Fig. 41: Position of the cutting areas



Example:	
Cutting length	S = 15 mm
Fixed cutting length	L = 45 mm
Slit piping projection	Ü = 30 mm

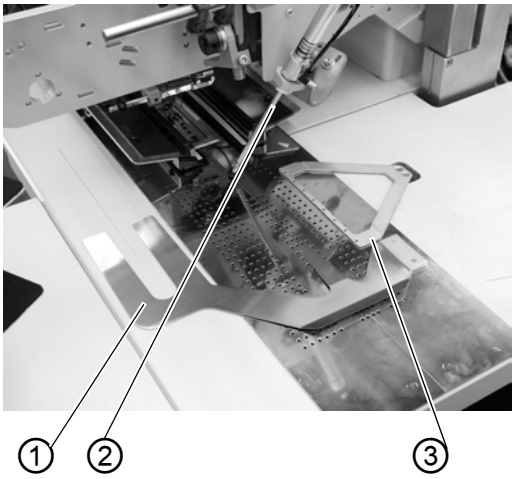
5.18.2 Downholder and Pocket bag clamp

With these equipment hind trousers and pocket bags are safely held when smoothing out the fullness caused by the dart.

The devices consist of the following components:

- Downholder (2)
- Pocket bag clamp (1)

Fig. 42: Holding devices



(1) - Pocket bag clamp
(2) - Downholder
(3) - Waistband clamp

WARNING

Caution: Danger of injury!

Do not reach under the downholder (2) during the positioning process.

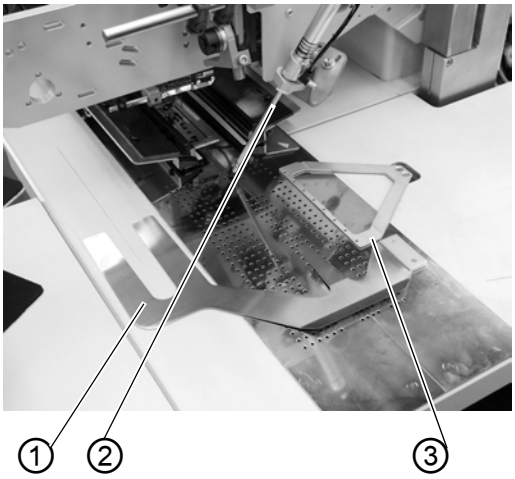
Function

- Push the pocket bag under the pocket bag clamp (1) and align it.
- Align the hind trouser.
- Step forward on the left pedal.
  The downholder (2) lowers and locks the hind trouser in its position.
- Smooth out the clamped hind trousers laterally and to the front.

5.18.3 Waistband clamp

The waistband clamp retains the upper edge of the workpiece and thus allows for an optimal smoothing out of the fullness in hind trousers. The waistband clamp is often used in conjunction with the downholder and the pocket bag clamp.

Fig. 43: Holding devices



(1) - Pocket bag clamp
(2) - Downholder
(3) - Waistband clamp

WARNING

Caution: Danger of injury!

Do not reach under downholder (2) and waistband clamp (3) during the positioning process.

Function

- Push the pocket bag under the pocket bag clamp (1) and align it.
- Push the hind trousers under the open waistband clamp (3) and align it.
- Step forward on the left pedal.
  Downholder (2) and waistband clamp (3) lower and clamp the hind trousers in its position.
- Smooth out the clamped hind trousers laterally and to the front.

5.18.4 Feeding devices for flaps, pocket bags, etc.

When using these feeding aids the total duration of a working cycle is reduced.

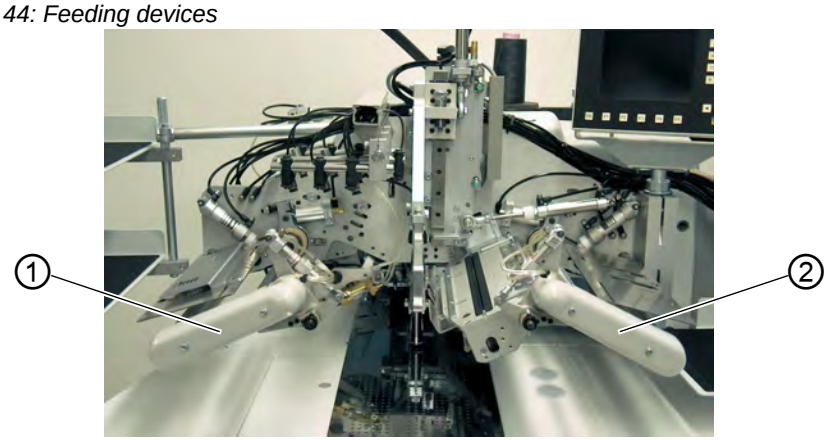
The manual positioning of flap, pocket bag etc. is already carried out during the cycle time.

All feeding devices can also be used in conjunction with the device for slitting the piping ends. The feeding devices are equipped with a blower for a flat pocket bag.

Two different feeding devices are available for an optimum adaptation to the respective field of application:

- Left feeding devices, sewing length 180-220 mm
- Right feeding devices, sewing length 180-220 mm

Fig. 44: Feeding devices



(1) - Feeding device left *(2) - Feeding device right*

Switching the transfer device on

- Switch on the transfer device in the menu item “Pocket parameters (F1)”.

Function

- Step back on the right pedal and hold it stepped down.
  The right clamp (2) of the feeding device opens.
- Insert flap or additional part in the feeding device.
- Release the right pedal.
  Flap clamp of the feeding device (2) closes.
- Step forward on the right pedal and hold it stepped down.
  The left flap clamp of the feeding device (1) opens.
- Position the flap at the stops of the feeding device.
- Release the right pedal.
  The flap clamp of the feeding device (1) closes.

After the folding process

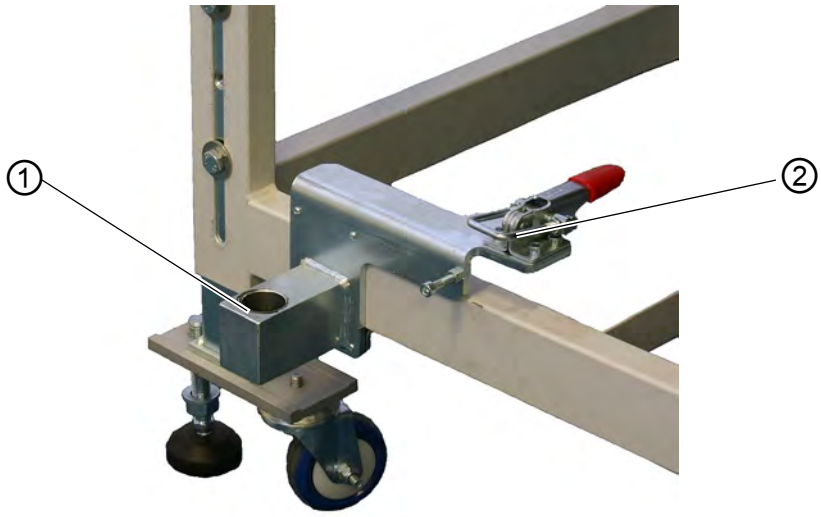
- Step forward on the left pedal.
  The flap clamps of the feeding devices (1) and (2) swivel in the loading area and automatically feed the flap or other parts to be attached.

5.18.5 Stacker

The nipper stacker or the throw-over stacker can both be deployed at the 745-35.

Both stacker are inserted in the seat (1) shown below and locked (2) in place.

Fig. 45: Stacker seat



(1) - Seat for stacker *(2) - Lock*

Nipper stacker With the nipper stacker the finished workpieces from the sewing unit are deposited on the rack.

Activate the stacker:

- Activate the nipper stacker via the control panel in the menu "Machine parameters", 🕮 *Programming Instructions*. The parameter signals to the control unit that the sewing unit is equipped with a nipper stacker.

Switching the stacker on

- Switch on the nipper stacker in the menu "Pocket parameters", 🕮 *Programming Instructions*.

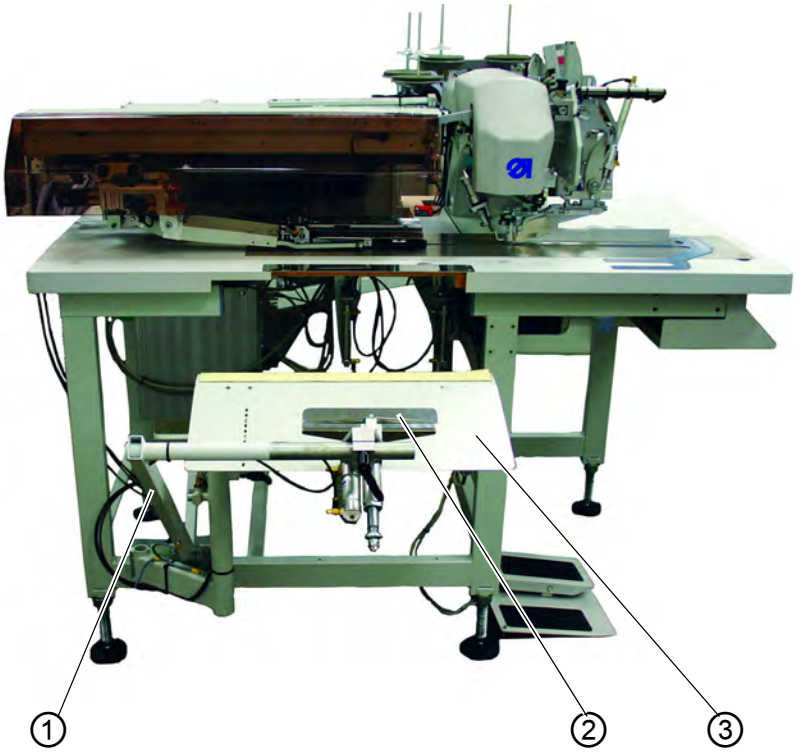
Basic position

- Stacker shackle (1) at the front, stacker grip (2) open.
  The opened stacker grip (2) should be positioned 20-25 mm in front of the table top, so that the workpieces can be passed.
- With the stop signal the stacker grip (2) moves to the front and seizes the workpiece.
- The stacker shackle (1) swings to the back and pulls the workpiece off the table.
- Set the movement of the stacker shackle (1) with the throttles so that it moves smoothly without jerk.
- The stacker grip (2) opens.
- The workpiece is deposited on top of the stacker board (3).

The stacker board hight has to be set in a way that allows for a safe depositing of the workpiece.

- The stacker shackle (1) swings to the front.

Fig. 46: Nipper stacker



(1) - Stacker shackle
(2) - Stacker nipper
(3) - Stacker board

Throw-over stacker

The finished workpieces are stacked on the throw-over stacker.

The stacked and clamped workpieces can be removed when actuating the foot switch.

The throw-over stacker is driven by a trigger and controlled automatically.

Activate the stacker:

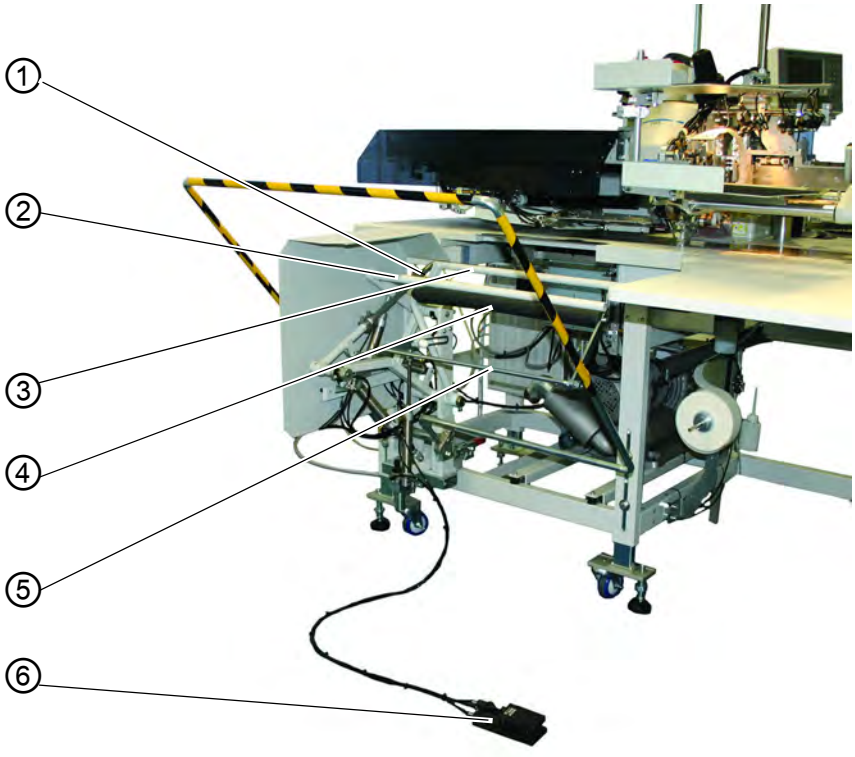
- Activate the throw-over stacker via the control panel in the menu "Machine parameters", 🕮 *Programming Instructions*. The parameter signals to the control unit that the sewing unit is equipped with a throw-over stacker.

Switching the stacker on

- Switch on the throw-over stacker in the menu "Pocket parameters", 🕮 *Programming Instructions*.

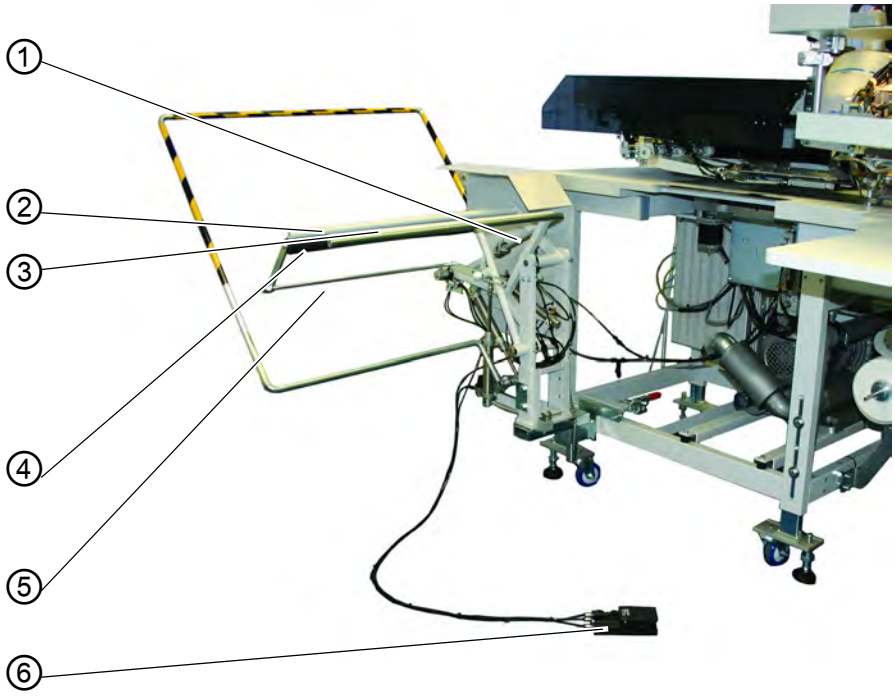
Function sequence

Fig. 47: Throw-over stacker locked



(1) - Smoother
(2) - Clamping pipe
(3) - Clamping pipe
(4) - Stacked goods stand
(5) - Holder
(6) - Foot pedal

Fig. 48: Throw-over stacker swung-out



(1) - Smoother
(2) - Clamping pipe
(3) - Clamping pipe
(4) - Stacked goods stand
(5) - Holder
(6) - Foot pedal

- During the sewing cycle the material runs into the opening between the stacked goods stand (4) and the clamping pipe (3).
- After the incision of the corners and the lifting of the feed clamps, the stacking process is triggered by a control pulse. The clamping pipe (3) and the smoother (1) swivel against the stacked goods stand (4).
  The work piece is clamped.
- A pneumatic cylinder retains the clamping pipe (3) at the stacked goods stand (4).
- The clamping pipe (2) opens.
  For this it swivels away from the stacked goods stand (4).
- The smoother (1) lifts and smooths out the workpiece above stacked goods stand (4) and holder (5) and then moves to its initial position.
- The clamping pipe (2) closes.
  For this it swivels back against the stacked goods stand (4) and clamps the stacked workpiece.
- The clamping pipe (3) and the smoother (1) swivel back together to their basic position. The clamping pipe (2) is thereby retained at the stacked goods stand (4).

Removing the stacked workpieces

- Actuate the foot switch (6) and hold it down.
  The stacked goods stand (4) is lowered.

Remove the stacked workpieces.

5.18.6 Roll-off device

The stacker extension is used in conjunction with the throw-over stacker.

The transport rollers (1) convey the workpiece into the stacker opening. This is necessary for all workpieces positioned in transverse direction or for those which are too short for being seized by the throw-over stacker (e.g. when sewing linings of inside pockets).

The workpiece must have a minimum length of 200 mm from the middle of the pocket opening to the left edge so that it can be safely seized by the transport rollers (1).

The transport rollers (1) are driven via an electronically adjustable drive. The roller speed and the on-time can be separately set to several grades at the control panel of the control unit.

Activating and switching on the stacker extension

ATTENTION

Material damage!

During the rolling-off the solenoid valves have a dual function.

Stacker switched on: Roll-off device serves as stacker extension

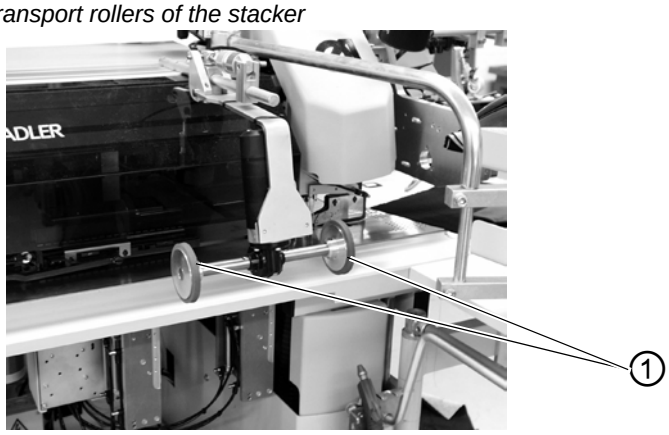
Stacker switched off: Roll-off device serves as ejector

- Activate the roll-off device at the control panel in the menu item “Machine parameters”, 🕮 *Programming Instructions*. The parameter indicates to the control unit that the sewing unit is equipped with a roll-off device.


- Switch on the throw-over stacker and the stacker extension in the menu "Pocket parameters", 🕮 Programming Instructions.

Function

Fig. 49: Transport rollers of the stacker



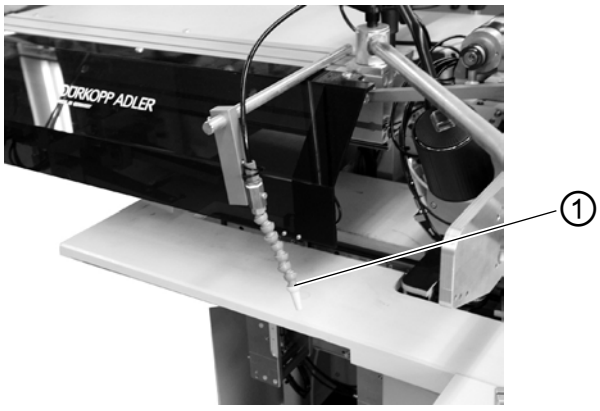
(1) - Transport rollers

- With the lifting of the feeding clamps after the sewing and cutting sequence, the transport rollers (1) lower.
- The transport rollers (1) convey the small workpiece into the stacker opening.
- The stacking process follows.

5.18.7 Blow-out device

The blow-out device (1) is used in conjunction with the bundle clamp. The blower pipe conveys the workpiece out of the sewing area.

Fig. 50: Blow-out device



(1) - Blow-out device

Switching the blow-out device on

- Switch on the blow-out device in the menu item “Machine parameters”, 🕮 *Programming Instructions*.

Note:

The blower pipe continues blowing until the light barrier at the stapler control is free.

5.18.8 Bundle clamp

The bundle clamp including the positioning table are suitable for the production of trousers. The bundle are deposited on the table and stuck in the bundle clamp. After sewing they are removed with the smoother or the blow-out device and descend while being held by the bundle clamp.

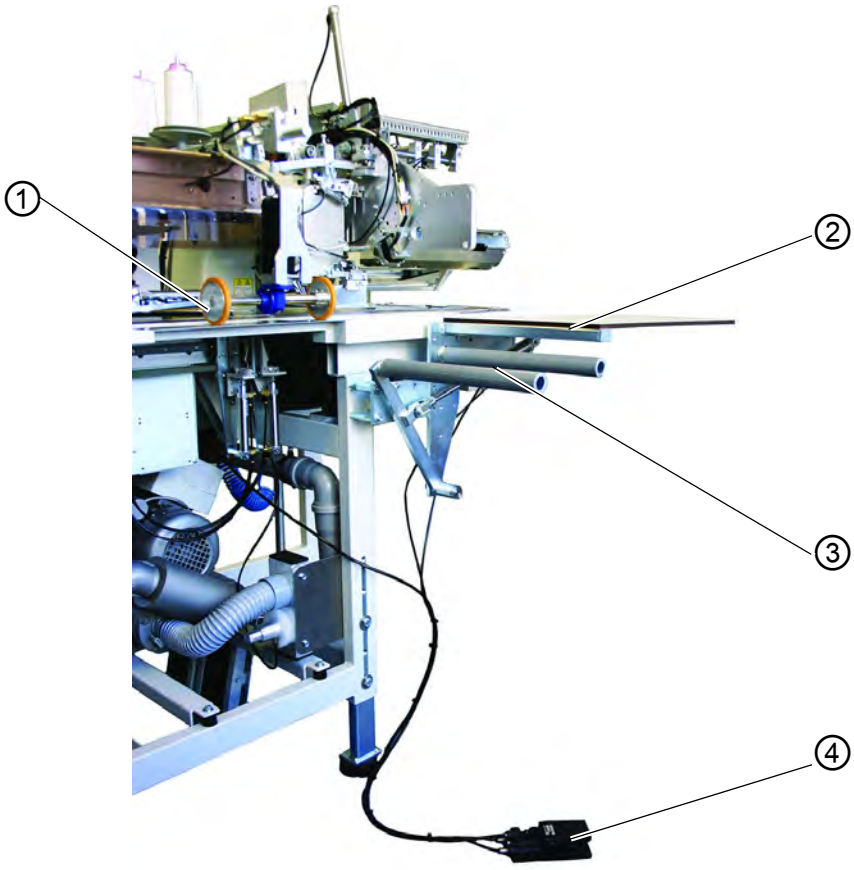
In order to optimize the bundle array, a smoother device (produced on customer demand) can be deployed.

WARNING

Caution: Danger of injury!

Risk of suffering bruising between the arms of the bundle clamps.

Fig. 51: Bundle clamp



(1) - Transport rollers
(2) - Table extension
(3) - Bundle clamp
(4) - Foot switch

Function and operation

- Step the foot switch (4) down and hold it down. The bundle clamp (3) opens.
  The bundle clamp (3) opens.
- Insert the hind trousers parts into the bundle clamp (3).
- Release the foot switch.
  The bundle clamp (3) closes.
- Deposit the clamped hind trousers parts on the table extension (2).
- With the lifting of the feeding clamps after the sewing and cutting sequence, the transport rollers (1) lower.
- The transport rollers (1) convey the hind trousers part out of the sewing unit.
  The hind trousers part will then dangle on the bundle clamp (3).

5.18.9 Tape feed and automatic cutting

The electromotive, length-controlled tape feed and automatic cutting transports the reinforcement strip under the pocket opening and cuts it off at the seam end (e.g. when sewing jacket inside and outside pockets). The complete process is carried out during the cycle time. No further positioning and auxiliary times are required.

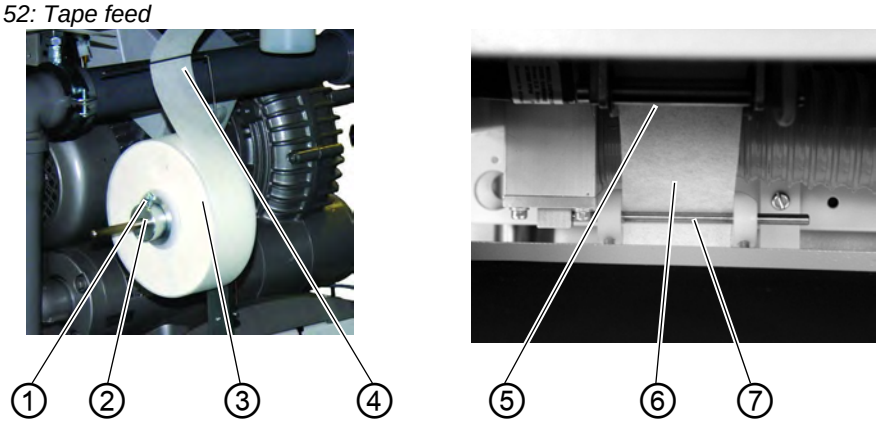
Activating and switching on the tape feed

- Activate the tape feed at the control panel in the menu item “Machine parameters”, 🕮 *Programming Instructions*. The parameter indicates to the control unit that the sewing unit is equipped with a tape feed.

- Switch on the tape feed in the menu item “Pocket program”, 🕮 *Programming Instructions*.

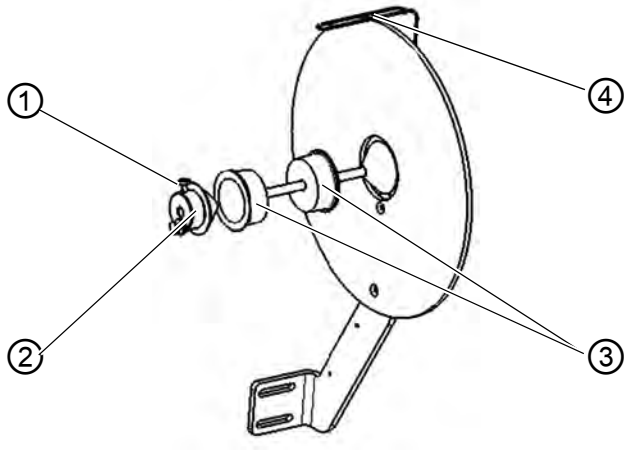
Inserting the reinforcement strip

Fig. 52: Tape feed



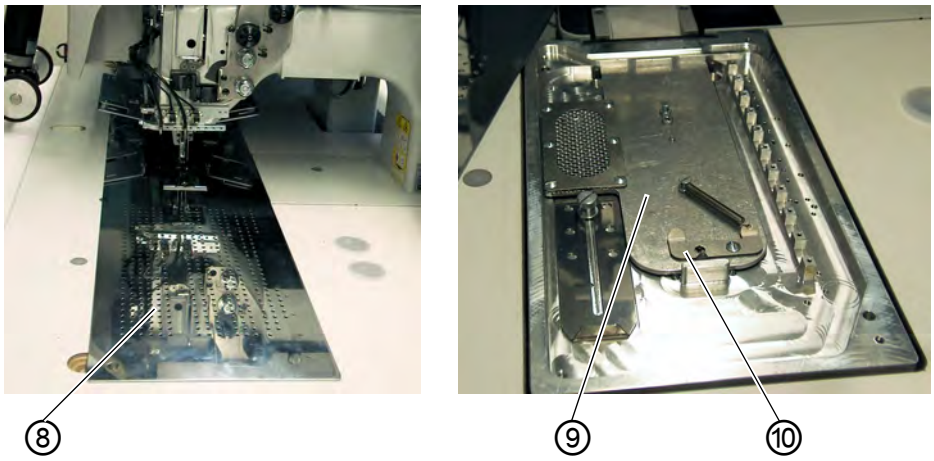
(1) - Screw
(2) - Setting ring
(3) - Adapter (inside)
(4) - Wire bow
(5) - Guide
(6) - Reinforcement strip
(7) - Guide

Fig. 53: Tape feed in detail (depicted without tape roll)



(1) - Screw
(2) - Setting ring
(3) - Adapter (inside)
(4) - Wire bow

Fig. 54: Setting



(8) - Fabric sliding sheet
(9) - Cover
(10) - Damper slide

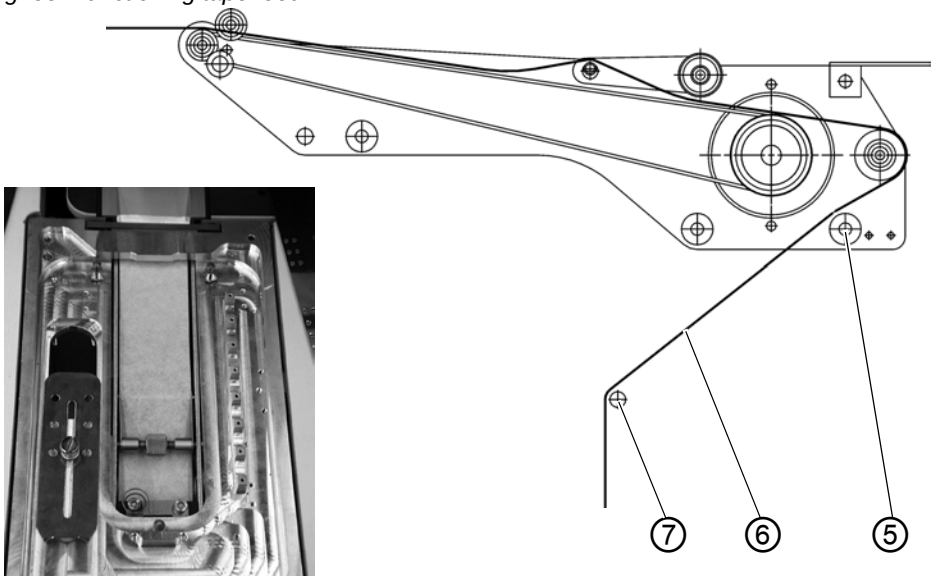
- Loosen screw (1) and pull off the setting ring (2) from the shaft.
- Remove the empty tape roll including the adapter (3).
- Insert the adapter (3) into a new tape roll on both sides (right and left).
- The full tape roll has to unwind in the direction indicated by the arrow (see sketch above).
- Push the setting ring (2) back onto the shaft and tighten screw (1) again.
- Guide the reinforcement strip consecutively through guide (7) and (5).
- Swivel the fabric sliding sheet (8) aside.
- Press the damper slide (10) to the rear and lift off the cover (9).

- Press the “F4” key.
  The tape brake is released and the reinforcement strip advances continuously.
- Insert the reinforcement strip into the feeding device according to the sketch.
- Transport the reinforcement strip approx. 20 mm on the fabric sliding sheet for the first working cycle.
- Swivel the fabric sliding sheet (8) back again.

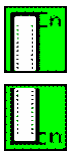
- Press the “F4” key. The reinforcement strip is cut to the correct length.

Function and operation

Fig. 55: Functioning tape feed



- The tape puller pulls a short length of the reinforcement strip from the roll.
- Before the next sewing cycle the transport roller of the feeding device advances the reinforcement strip a little.
- When sewing the pocket opening the reinforcement strip is seized and sewn in according to the set sewing length.
- At seam end the reinforcement strip is cut off automatically.

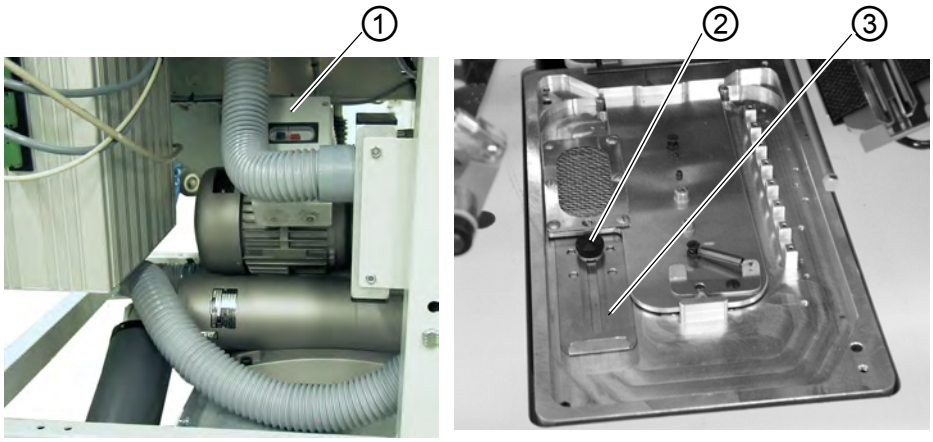


- The tape projection at seam beginning and seam end can be set in the menu item “Pocket parameters”, 🕮 *Programming Instructions*.

5.18.10Vacuum device

The vacuum device is required for an accurate positioning of the workpieces, if no in-house vacuum unit is available.

Fig. 56: Vacuum device



(1) - Switch
(2) - Knurled nut
(3) - Damper slide

Switching the vacuum device on

- Activate the vacuum device at the control panel in the menu item “Machine parameters”.
- Turn on switch (1) at the control box of the vacuum device.
- Activate the vacuum at the control panel in the menu item “Pocket parameters”.

Adjusting the vacuum intensity

- Loosen the knurled nut (2).
- Shift the damper slide (3)
  Shift backwards (towards the machine head) = less vacuum
  Shift forwards (towards the operator) = more vacuum
- Tighten the knurled nut (2).

5.18.11Set of parts "Pocket bag on flap"

The set of parts allows the simultaneous attaching of two pocket bag halves when sewing the piping. Flap and pocket bag are separated before sewing so that the light barrier scans the flap length only. This manufacturing method does not require the subsequent attaching of the pocket bag to the piping projection and the pocket opening stays straight and without any distortion.

Standard checking

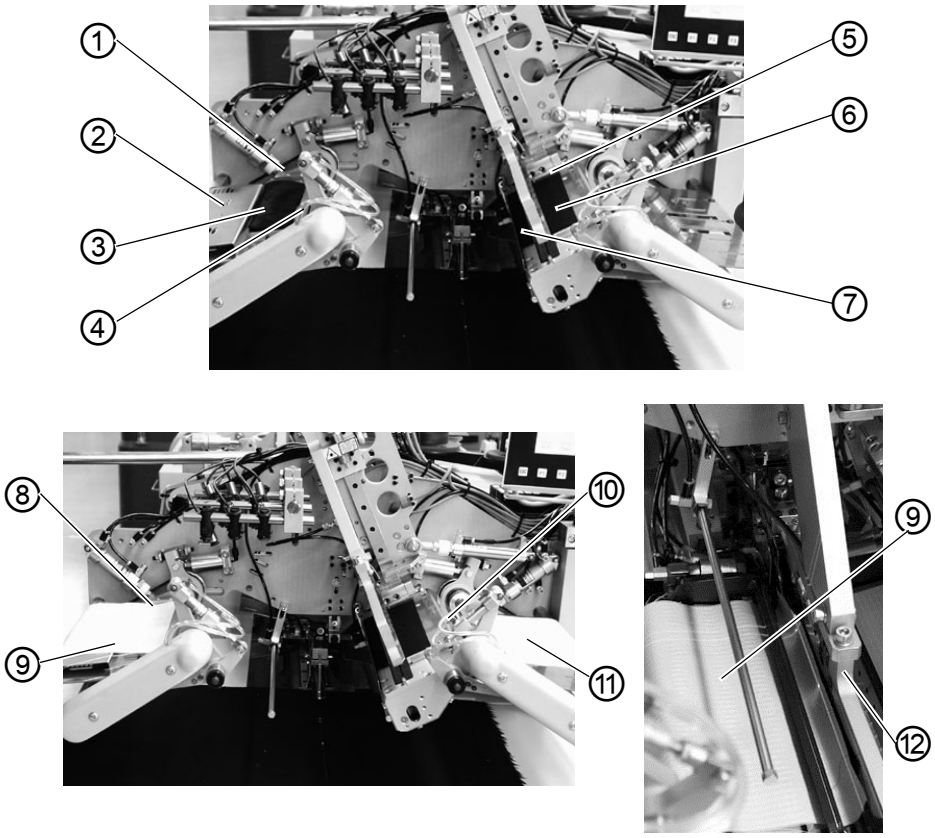
- In the machine parameters the mode “Pocket bag on flap” has to be set, 🕮 *Programming Instructions*. The lifted left clamp moves to the loading position 10 mm further to the left. Adjust the stops according to the Service Instructions chapter 4.4.

- In the pocket parameters the parameter “Blowing of pocket bag/piping” has to be set to mode 5 “Blowing of pocket bag on flap”. Selecting the parameter “Blowing of pocket bag/piping”, 🕮 *Programming Instructions*.
- The stroke of the lifted left feeding clamp must not exceed 15 mm (standard 20 mm). Setting the feeding clamp stroke, 🕮 *Service Instructions*.
- In order to guarantee that flap and pocket bag are securely separated when running into the folder, use the front positioning point when working with this set of parts.
- The rear marking lamp and the rear flap stop have to be set to the flap length to be sewn.
- In order to guarantee a trouble-free sewing process the pocket bag must lie at least 10 mm in front of the flap. The piping projection must not exceed 10 mm.

Positioning and starting the sewing process

Example: Right jacket front part

Fig. 57: Positioning aids



(1) - Front stop
(2) - Lateral stop
(3) - Flap
(4) - Left flap clamp
(5) - Front stop
(6) - Piping strip
(7) - Lateral stop
(8) - Stop
(9) - Pocket bag
(10) - Right flap clamp
(11) - Pocket bag
(12) - Pick-up folder

With automatic piping incision

1. Position the piping strip (6) at the front stop (5).
   Position the piping strip also at the lateral stop (7).

2. Step forward on the right pedal and hold it stepped down.
   The left piping clamp (4) opens.

3. Position the flap (3) at the lateral stop (2) and at the front stop (1).

4. Release the right pedal.
   The left flap clamp closes.

5. Position the left pocket bag half (9) at the stop (8) above the flap (3).

6. Clamp pocket bag (9) and flap (3) together by stepping forward on the right pedal. Hold the flap with one finger so that it does not slip.

7. Release the right pedal.
   The left flap clamp (4) closes.

8. Step back on the right pedal and hold it stepped down.
   The right flap clamp (10) opens.

9. Align the right pocket bag half (11) on the rest table at the positioning mark (e.g. thin adhesive tape).

10. Release the right pedal.
    The right flap clamp (10) closes.

11. Position the right jacket front part with the dart at the light spot.

12. Align the pocket incision at the vertical line of the light spot (center knife incision).

13. Step forward on the left pedal.
    The transport carriage moves to the loading position. The feeding clamps lower. The piping strip (6) is incised and taken up by the pick-up folder.

14. Step forward on the left pedal.
    The pick-up folder (12) lowers with the piping strip.

15. The left flap feed with the flap and the left pocket bag half as well as the right flap feed with the right pocket bag half swivel in.

16. Step forward on the left pedal.
    The flap clamps close. The flap feeders open, lift and swivel out.

17. Step forward on the left pedal.
    The sewing cycle starts. During the feeding process the pocket bag (9) is blown by air for a better running into the folder.

5.18.12Zipper feeders

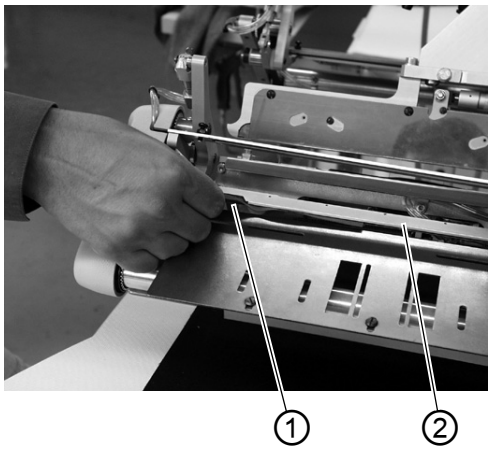
Zipper feeders are available for the processing of cut-to-length zippers, without slider, total width 24 mm, chain width approx. 4 mm. They exist in four different variants, compare list of optional equipments.

Prerequisites

In the pocket parameters the parameter “Flap feeding mode” has to be set to mode 2 “Flap feed swiveled in during the sewing operation”,
📖 *Programming Instructions*.

Function and operation

Fig. 58: Zipper feeder



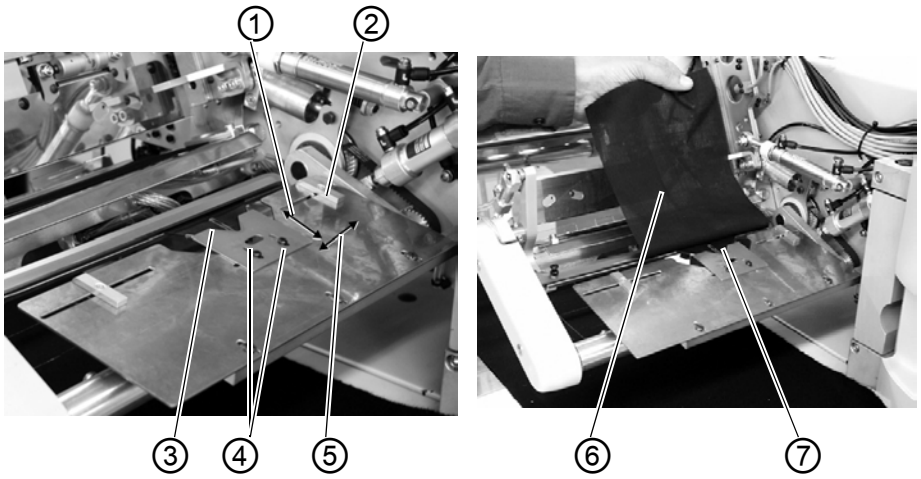
(1) - Zipper *(2) - Guide bar*

- Cut the zipper to the correct length.
- Push the cut-to-length zipper (1) into the guide bar (2) up to a positioning mark fixed on the rest table (thin adhesive tape).
- If required, position and feed pocket bag and start the sewing cycle.

5.18.13Set of parts “Shaped guide lining loop triangle”

With this equipment the lining loop triangle is automatically fed with the pocket bag when sewing inside pockets. Only in conjunction with the methods B and F.

Fig. 59: Shaped guide lining loop triangle



(1) - Lateral shifting
(2) - Stop
(3) - Shaped guide
(4) - Screws
(5) - Sewing direction
(6) - Pocket bag
(7) - Lining loop triangle

Adjusting the shaped guide

- Loosen the screws (4).
- Adjust the shaped guide (3) in sewing direction (5) to the center of the pocket length.
- Set the sew-in depth of the lining loop triangle (7) by lateral shifting (1) of the shaped guide (3).
- Tighten screws (4).

Function and operation

- Insert the lining loop triangle (7) into the shaped guide (3).
- Position the pocket bag (6) at stop (2) or the positioning mark (thin adhesive tape).
- Clamp pocket bag and lining loop triangle together by stepping back on the right pedal. Hold the lining loop triangle with one finger so that it does not slip.
- Feed the pocket bag with lining loop triangle by stepping on the left pedal and start the sewing cycle.

5.19 Maintenance

WARNING

Caution: Danger of injury!

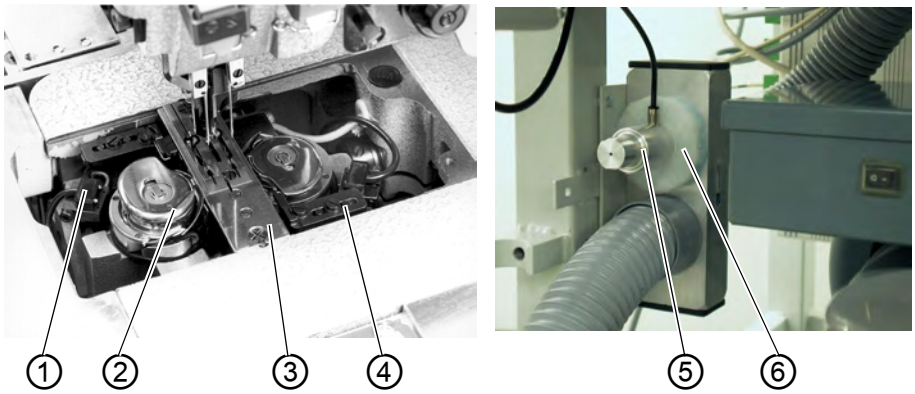
Turn the main switch off.
The maintenance of the sewing machine must only be done when the machine is switched off.

5.19.1 Cleaning

A clean sewing unit protects from malfunctions!

Clean and check daily:

Fig. 60: Cleaning



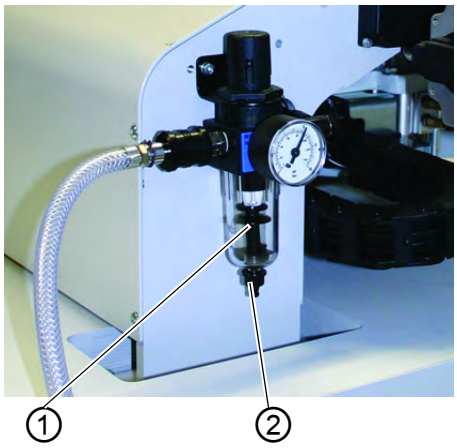
(1) - Light barrier
(2) - Hook
(3) - Hook
(4) - Light barrier
(5) - Vacuum valve
(6) - Filter ring

- Clean the area around the hooks 2 and 3 with the compressed air pistol.
- Clean the lenses of the light barriers (1) and (4) of the remaining thread monitor with a soft cloth each time the bobbin is changed.
- Cleaning of the filter ring (6) at the vacuum valve (5):
  Blow out with a compressed air pistol.

The filter ring can be ordered as spare part.

Clean and check daily:

Fig. 61: Cleaning



(1) - Water separator *(2) - Drain screw*

- Check the water level in the pressure regulator.
  The water level must not reach the filter element. After screwing in the drain screw (2) blow the water with pressure out of the water separator (1). The filter element separates dirt and condensed water. After a certain time of operation wash the dirty filter tray and the filter element with benzine and blow clean with the compressed air pistol.

ATTENTION

Material damage!

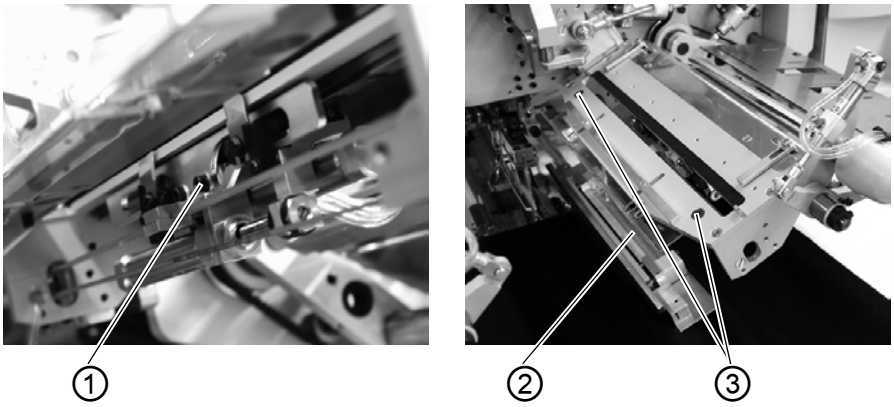
Do not use any solvents for washing out the filter tray and the filter element!
They destroy the filter tray.

Check and clean weekly

Sewing units with automatic piping incision

- Loosen screw (3) and remove the stop (2).
- Clean the surroundings of the cutting unit (1) and the transport belt with an air gun.
- Mount the stop again.

Fig. 62: Cleaning



(1) - Cutting unit
(2) - Stop
(3) - Screws

5.19.2 Weekly lubrication

WARNING

Caution: Danger of injury!

Oil can cause skin rashes.

Avoid a longer skin contact with the oil.

After contact wash yourself thoroughly.

ATTENTION

Risk of environmental damage

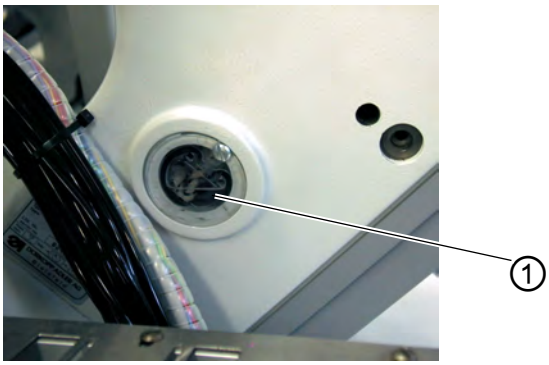
The handling and disposal of mineral oils is subject to legal regulations.
Deliver used oil to an authorized collecting station.
Protect your environment.
Do not spill any oil.

For filling up the oil reservoirs use nothing but DA 10 lubricating oil or an equivalent oil with the following specification:

- Viscosity at 40° C: 10 mm^2/s
- Ignition point: 150° C

Checking the oil level in the oil reservoir for the lubrication of the machine head

Fig. 63: Oil reservoir machine head

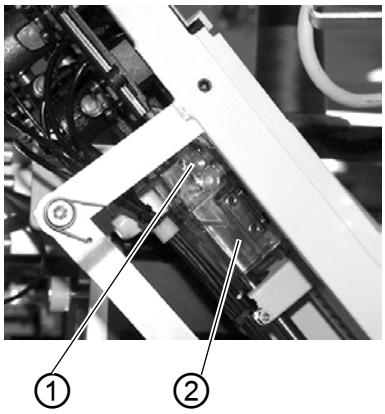


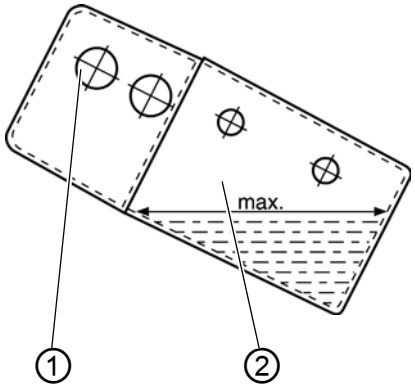
(1) - Oil reservoir

- Tilt the machine head up (📖 *chapter 5.3*).
- The oil level in the oil reservoir (1) must not drop below the marking “min”.
- If necessary, fill oil through the drill-hole in the inspection glass up to the marking “max”.

Checking the oil level in the oil reservoir for the lubrication of the hook

Fig. 64: Oil reservoir hook lubrication





(1) - Nipple

(2) - Oil reservoir

- Tilt the machine head up (📖 *chapter 5.3*).
- Fill up the oil reservoir (2) through the nipple (1) up to the marking “max”.

6 Installation

In the following, the steps are listed in chronological order. The structure of the chapter is oriented towards this sequence.

The manufacturer will not be held liable for damage resulting from improper use.

WARNING

Danger of injury due to insufficient technical knowledge

During the installation of the machine, insufficient technical knowledge can lead to serious injuries.

The machine should be installed ONLY by trained personnel.

DANGER

Risk of injury due to electric power!

Unprotected contact with electric power can cause dangerous injuries to life and limb.

All work on the electrical equipment may ONLY be carried out by qualified electricians or other appropriately trained persons.

ALWAYS disconnect the power plug before carrying out work at the electrical equipment.

6.1 Delivery scope

What items are supplied depends on your order. Prior to set-up, please check that all parts required are present.

- Standard equipment
- Optional equipment
- Small parts in the accessories

6.2 Installing the sewing unit

6.2.1 Transportation

.

CAUTION

Risk of injury due to incorrect transportation!

Do NOT lift the sewing unit at the table tops.

ALWAYS use an elevating platform truck or a forklift truck.

CAUTION

Risk of injury due to unstable footing!

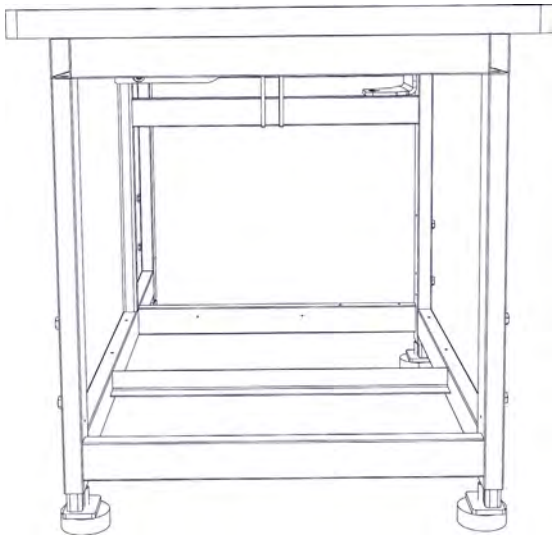
Before commissioning the sewing unit screw out the stand feet until a secure footing is achieved.

Lifting the sewing unit

- Only with an elevating platform truck or a forklift.

Stand without castors

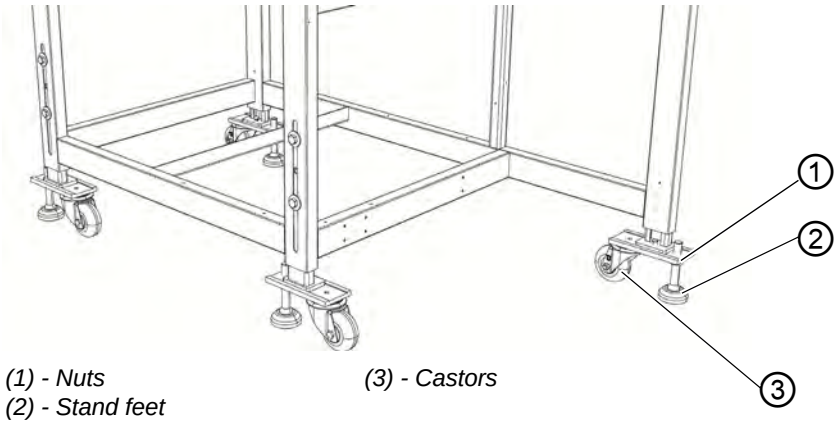
Fig. 65: Stand without castors



Stand with castors

For in-house transport the stand can be equipped with four castors.

Fig. 66: Stand with castors



(1) - Nuts
(2) - Stand feet
(3) - Castors

Rolling the sewing unit (optional)

- For transport purpose unfasten the nuts (1) of the stand feet (2) and screw them in.
- After transport secure the sewing unit by turning the stand feet (2) out until the castors lift off the ground (3).
- Tighten the nuts (1).

6.2.2 Removing the transport securing devices

Before installing the sewing unit, you have to remove all the securing devices.

All moving parts must be unlocked:

- Transport carriage
- Method plates
- Corner knife station
- Feeder
- Assembly group, for example stacker

If the sewing unit has to be transported to another place, you have to attach the securing devices again.

Also observe the notices in the supplement delivered with the machine when dismantling/mounting the securing devices.

6.2.3 Setting the working height

The working height is adjustable between 797 and 1138 mm (measured to the upper edge of the table plate).

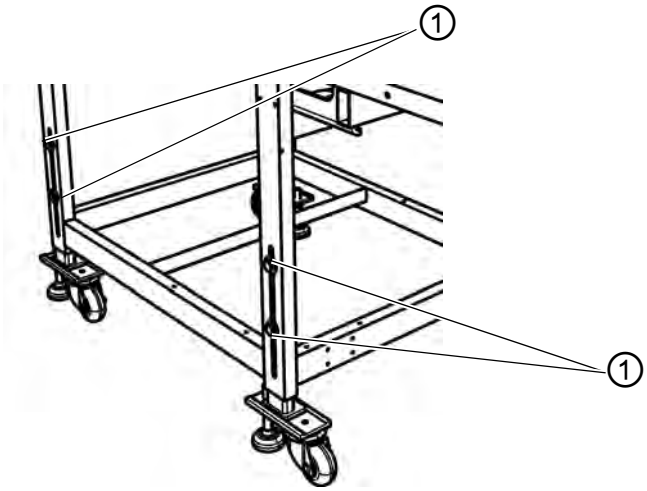
The sewing unit is set to the lowest working height of 797 mm at delivery.

CAUTION

Be careful when loosening the attachment screws.

The sewing unit may keel over when the tubular feet of the frame are pulled out.

Fig. 67: Setting the working height



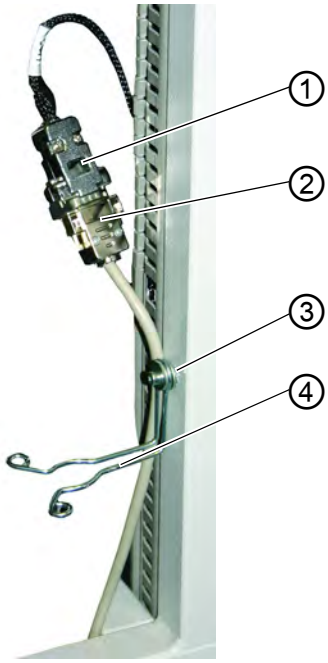
(1) - Screws

Set the height of the sewing unit by pulling equally the tubular feet of the frame.

- Loosen the four screws (1).
- Level out the table top at the desired working height.
  To avoid a jamming, pull out respectively push in the tubular feet evenly on both sides.
- Tighten the screws (1).

6.2.4 Connecting the foot pedal

Fig. 68: Connection foot pedal



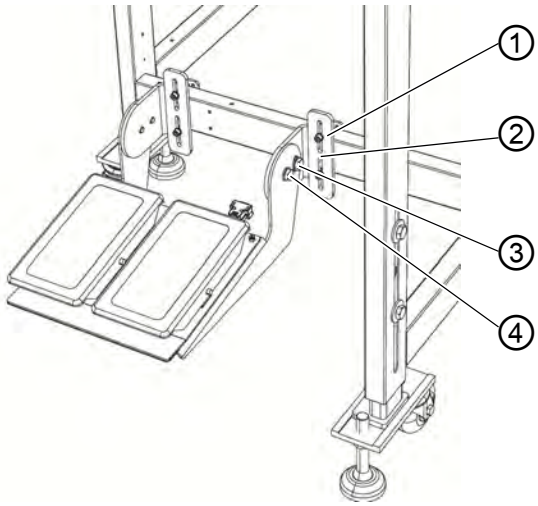
(1) - Socket
(2) - Plug
(3) - Grounding clip
(4) - Oil can holder

- Insert the plug (2) of the foot pedal into the socket (1) on the stand.
- Put the grounding clip (3) around the cable and fix the oil can holder (4).

6.2.5 Adjusting the foot pedals

For convenience the parts are only named on one side. But the same mapping is valid for the other side of the pedal.

Fig. 69: Adjusting the foot pedals with an adjustable stand



(1) - Screws
(2) - Slotted hole
(3) - Screws
(4) - Screws

The foot pedals can be adjusted in height, angle of inclination and lateral position.

Setting the height

- Loosen the four screws (1) and shift them in the slotted hole (2).
- Pay attention that the height of the pedal is even.
  Tighten the four screws (1).

Setting the angle of slope

- Loosen the two screws (3) and the two screws (4) and swivel the pedal.
- Tighten the two screws (3) and the two screws (4) with the pedal at the desired angle.

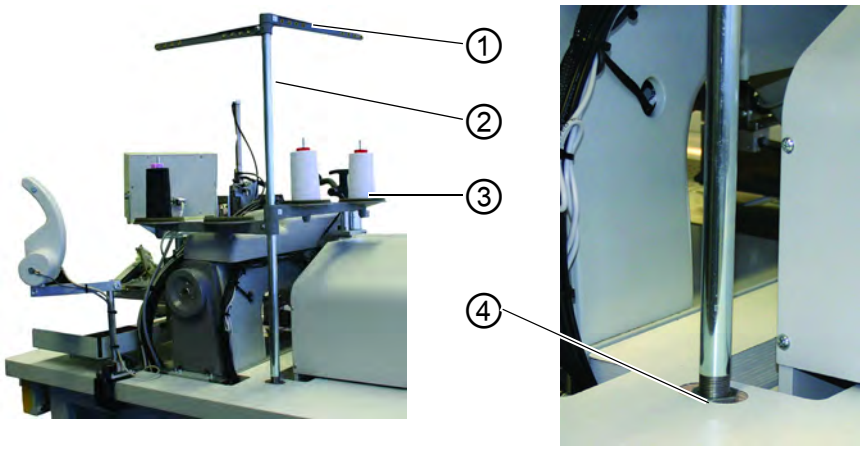
Setting the lateral position

- Loosen the four screws (1) and shift the pedal laterally on the stand brace.
- Tighten the four screws (1).

6.3 Attaching the machine parts removed for shipping

6.3.1 Thread reel holder

Fig. 70: Attaching the thread reel holder



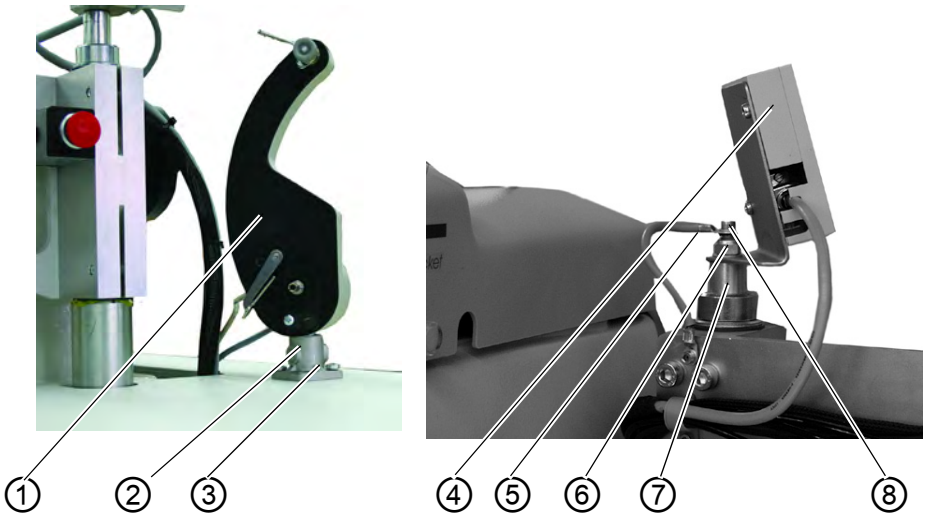
(1) - Unwinder arms
(2) - Thread reel holder
(3) - Reel plate
(4) - Drill-hole

- Insert the thread reel holder (2) in the drill-hole (4) of the table top and fasten it with a nut underneath the table top.
- Mount and align the reel plate (3) and the unwinding arms (1) as shown in the illustration.

6.3.2 Fastening the control panel and the bobbin winder

The holder for the control panel and the external winder is fixed on the right side of the machine head (seen from the operator's view)

Fig. 71: Fastening the control panel and winder



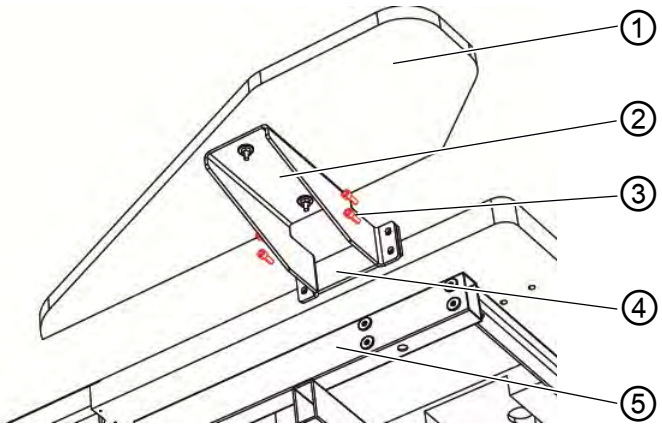
(1) - Winder
(2) - Screw
(3) - Pin
(4) - Control panel
(5) - Ground cable
(6) - Nut
(7) - Centering mandrel
(8) - Screw

- Fasten the control panel (4) onto the centering mandrel (7) for the folder station with nut (6).
- Fasten the ground cable (5) with screw (8).
- Fasten the winder (1) with screw (2) onto pin (3)

6.3.3 Table extensions (optional equipment)

Storage table small, slanted

Fig. 72: Table extension



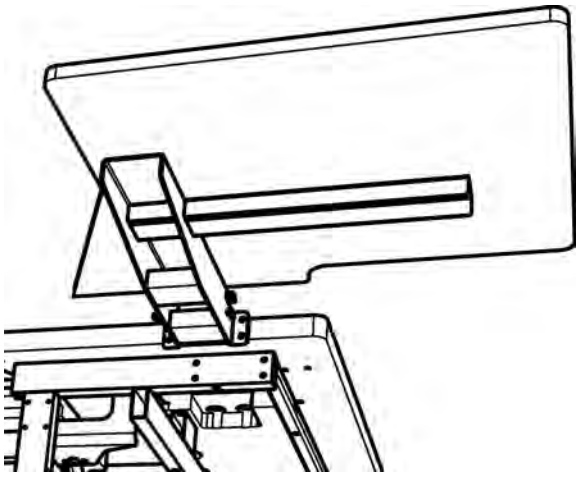
(1) - Table extension
(2) - Mounting bracket
(3) - Screws
(4) - Striker
(5) - Stand brace

- Insert the striker (4) into the stand brace (5).
- Slightly fasten the mounting bracket (2) using the four screws (3) with the striker (4).
- Align the table extension (1) to the height of the table top and tighten the four screws (3).

Storage table (large)

The fastening of the large storage table is identical to the fastening of the slanted table above.

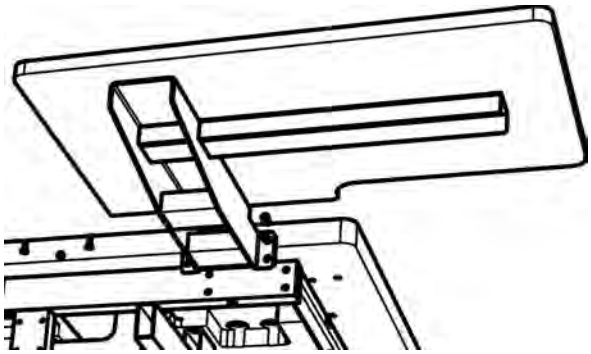
Fig. 73: Table extension to be used for stacking.



Storage table (small)

The fastening of the small storage table is identical to the fastening of the slanted table above.

Fig. 74: Attachment table extension



6.4 Electrical connection

DANGER

Risk of injury due to electric power!

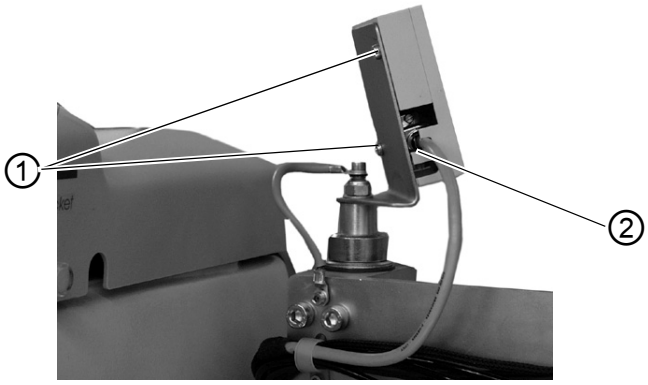
Unprotected contact with electric power can cause dangerous injuries to life and limb.

All work on the electrical equipment may ONLY be carried out by qualified electricians or other appropriately trained persons.

ALWAYS disconnect the power plug before carrying out work at the electrical equipment.

6.4.1 Connecting the control panel DACIII

Fig. 75: Connection control panel

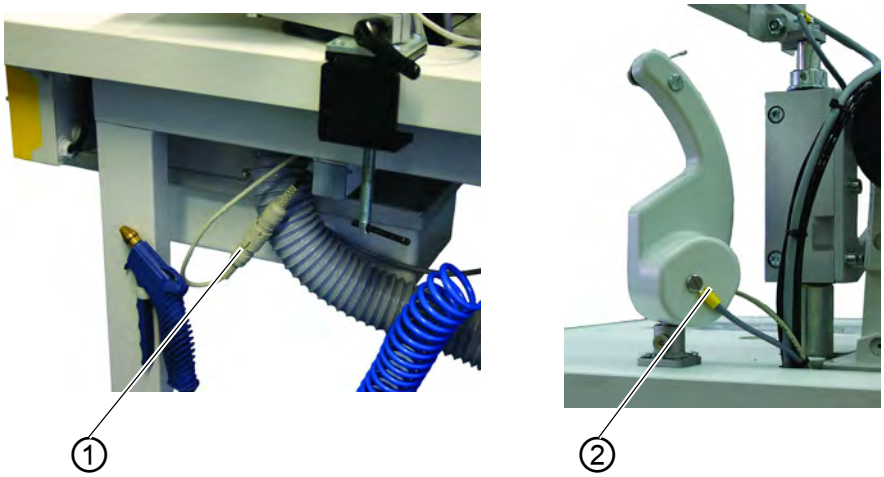


(1) - Screws *(2)- Plug X410*

- Carefully insert plug (2) into the rear panel of the control panel.
- Carefully tighten the screws of the plug (2).
- Fasten the control panel with the screws (1) onto the holder.

6.4.2 Connecting a separate winder

Fig. 76: Connection separate winder



(1) - Plug X412

(2) - Equipotential bonding

- Insert the plug of the bobbin winder into the socket (1) underneath the table top and secure with a cap nut.
- Connect the potential compensation cable (2).

6.5 Pneumatic connection

For the operation of the pneumatic components the sewing unit has to be supplied with anhydrous compressed air.

ATTENTION!

Material damage!

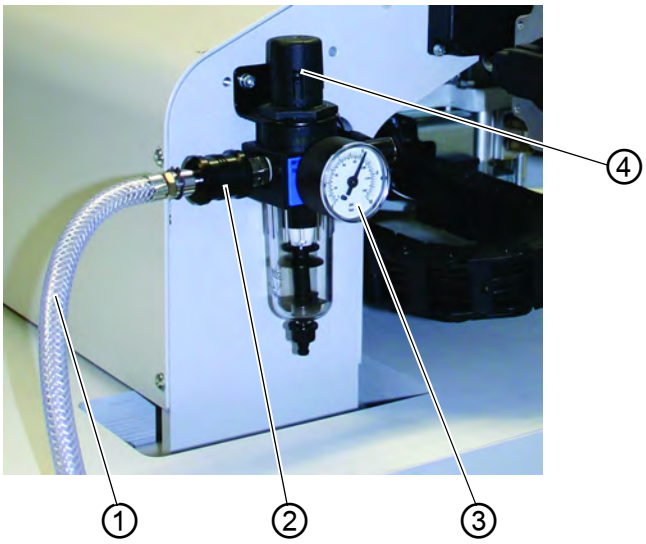
For a trouble-free function of the pneumatic control procedures the compressed air supply must operate as follows:

Even at the moment of the highest air consumption, the minimum operating pressure must not drop below **6 bar.**

In case of a too high loss of pressure:

- Increase the compressor output.
- Increase the diameter of the compressed air hose.

Fig. 77: Pneumatic connection



(1) - Connection hose
(2) - Slide valve
(3) - Pressure gauge
(4) - Turning handle

6.5.1 Connecting the maintenance unit for compressed air

- Connect the connection hose (1) to the slide valve (2) and the compressed air line by means of a hose coupling ¼ “.

Setting the operating pressure

- The operating pressure amounts to 6 bar.
  It can be read off at the manometer (3).
- To adjust the operating pressure pull up and turn handle (4).
- Turning in clockwise direction = the pressure is increased
- Turning counter-clockwise = the pressure is reduced

ATTENTION!

Material damage!

No oil-bearing compressed air must be fed from the compressed air line. Behind the filter cleaned compressed air is withdrawn as blowing air for cleaning machine parts and for blowing out workpieces. Oil particles contained in the blowing air lead to malfunctions and stains on the workpieces.

6.6 Connection to the in-house vacuum unit

Note:

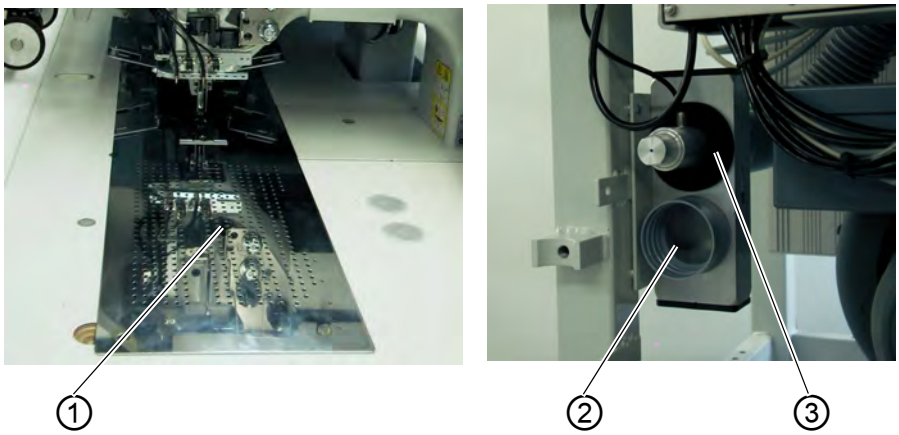
In case there is no in-house vacuum unit available, the vacuum device hat to be ordered in addition. The connection procedure is explained in the supplementary instructions.

ATTENTION!

Material damage!

When mounting the vacuum device (side-channel blower) it is absolutely necessary to exchange the joint ring (3) (black) at the connection valve against a filter ring (white) (included in the accessories).

Fig. 78: Connection vacuum unit



(1) - Working table
(2) - Connection vacuum unit
(3) - Seal ring

The suction unit facilitates the precise feeding and positioning of the workpiece on the work table (1).

- Connect the hose of the in-house vacuum unit to the connection valve (2).

6.7 Oil lubrication

WARNING

Caution: Danger of injury!

Oil can cause skin rashes.

Avoid a longer skin contact with the oil.

After contact wash yourself thoroughly.

ATTENTION

Risk of environmental damage

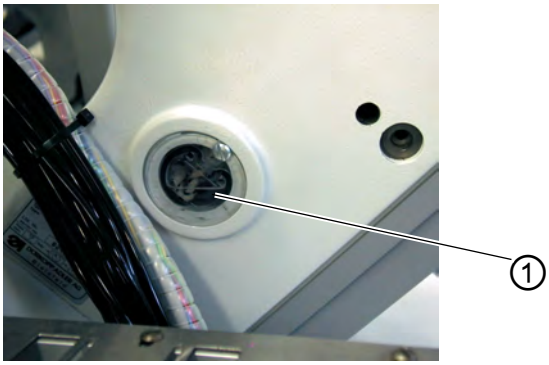
The handling and disposal of mineral oils is subject to legal regulations.
Deliver used oil to an authorized collecting station.
Protect your environment.
Do not spill any oil.

For filling up the oil reservoirs use nothing but DA 10 lubricating oil or an equivalent oil with the following specification:

- Viscosity at 40° C: 10 mm^2/s
- Ignition point: 150° C

Oil reservoir for the lubrication of the machine head

Fig. 79: Oil reservoir machine head

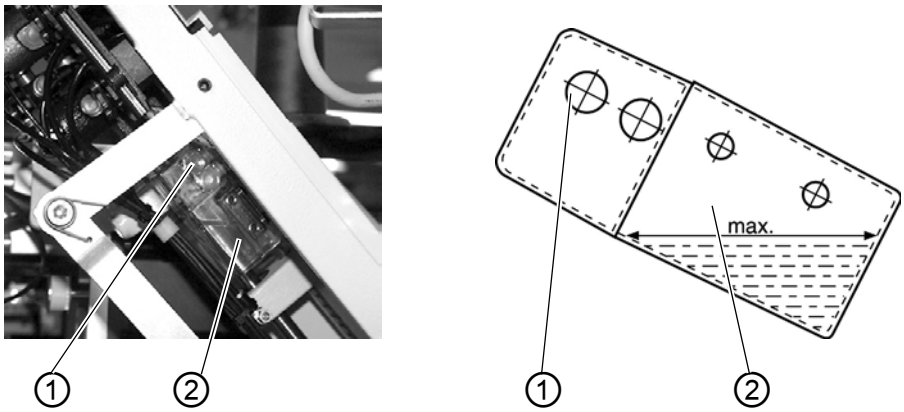


(1) - Oil reservoir

- Fill the oil reservoir (1) with oil through the drill-holes in the inspection glass.
  The oil level has to be between the markings “min” and “max”.

Oil reservoir for the hook lubrication

Fig. 80: Oil reservoir for the hook lubrication



(1) - Nipple

(2) - Oil reservoir

- Tilt the machine head up (📖 chapter 5.3).
- Fill the oil reservoir (2) with oil up to the “max.” through nipple (1). marking through nipple (1) (see sketch).

6.8 Putting into operation

After completion of the installation work a sewing test should be made.

- Plug in the mains plug.

DANGER

Risk of injury due to pointed items and glare

Switch off the main switch before threading in the needle and hook thread.

Do not look into the light source.

- Threading the needle thread (📖 chapter 5.5).
- Threading the hook thread (📖 chapter 5.6)
- Turn on the main switch.
  The control unit is initialized.
- Step back on the left pedal.
  Reference run is started.
  The transport carriage stops in its rear end position.
  The reference position is necessary in order to get a defined initial position of the transport carriage.
- By actuating the left pedal the various steps of the positioning procedure are triggered successively and the sewing cycle is started.

ATTENTION!

Material damage!

At sewing start the workpiece has to lie underneath the feeding clamps.

Movement of the transport carriage without material damages the coating of the feeding clamps.

- For the selection of the sewing program and further settings of the control unit, 📖 *part 4: Programming Instructions*.
- Positioning and operating, 📖 *part 1: Operating Instructions*.

6.9 Installation of the software

6.9.1 General information

Loading a specific sewing Loading a specific sewing software in the DACIII control unit is possible with the help of the “Programmed Dongle”.

The “Programmed Dongle” has a label indicating the class and software version.

Such a loading (booting) may be used in order to provide several DACIII control unit with a sewing software (first installation) or to install a newer machine software (update).

With the delivery of the machine only the test software (allowing the loading of sewing software) is installed in the control unit. The test software offers no further functions. If the test software gets damaged during the loading process, it is no longer possible to load a software using a dongle. In such a case use a PC with a loader cable.

ATTENTION!

Material damage!

The sewing unit is delivered with a machine software installed on it.

ATTENTION!

Turn off the main switch before connecting the dongle.

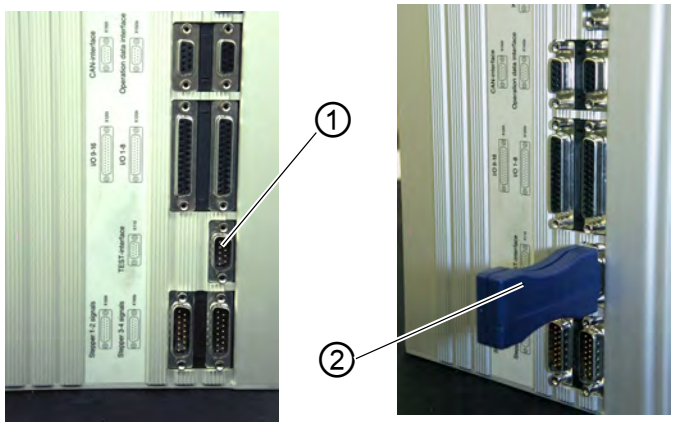
6.9.2 Loading the program

ATTENTION!

Material damage!

During the loading process do not remove the dongle and do not switch off the machine (otherwise you will destroy the software).

Fig. 81: Connecting the dongle



(1) - Plug X110 *(2) - Dongle*

- Turn off the main switch.
- Insert the dongle (2) into the port X110 (TEST-Interface) (1) of the control unit.
- Turn on the main switch. The Software will be loaded. The loading process takes less than 60 seconds.
- During this time, the version of the control panel will be displayed, e.g. “BF1 C A 03" (blue screen).
- Once the loading process is finished, the new program version will be displayed e.g. “745 A01”.
- The new operating system must be confirmed via the “OK” key.
- Then the machine's operating system will be started.
- Remove the dongle 2 from the port X110 (1).
- The machine is ready for operation.

Note!

Remove the dongle before re-starting the machine, otherwise it will load the sewing program again.

After a replacement (first installation) of the DAC III control, the error message Error 9900 or Error 9901 or Error 9902 will be displayed after loading the operating system.

First, an initialization has to be carried out, 🕮 *Programming Instructions chapter 6*.

6.9.3 Dongle-Update via Internet

ATTENTION!

Material damage!

When transferring the machine software onto the dongle, it will first be deleted (formatted).

The programs (sequences, parameters) saved on the dongle will then be deleted. If still needed, please make a backup of the files into a computer (desktop, notebook).

The required software “Dongle Copy” is available in the “Download Area”.

Dongles can be updated by means of Internet. In order to do so, visit the Dürkopp Adler AG homepage “www.duerkopp-adler.com”. In the sections “Download Area” and “Software” you will find the auxiliary download software and the appropriate machine software. The instructions available on the website as well, describe the complete update procedure of the dongle.

6.10 Customer service

If you have any questions regarding the machine, damage occurring, or wear, please contact

Dürkopp Adler AG

Potsdamer Str. 190

33719 Bielefeld

Phone: +49 (0) 180 5 383 756

Fax.: +49 (0) 521 925 2594

E-Mail: service@duerkopp-adler.com

Internet: www.duerkopp-adler.com

7 Decommissioning

In order to remove the machine from service for a longer period or definitely, some operations have to be carried out.

WARNUNG

Risk of injury due lacking of care

When decommissioning the machine, a lack of care or expertise can lead to serious injuries.

Clean the machine ONLY when it is switched off.

Avoid skin contact with oil rests.

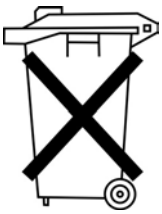
ONLY trained personnel may disconnect the machine.

How to decommission the machine:

1. Switch off the main switch.
2. Pull out the mains plug.
3. Disconnect the pneumatic connection.
4. Wipe out the oil rests in the oil sunk underneath the fabric plate with a cloth.
5. Cover the control panel in order to protect it from dust and dirt.
6. If possible, completely cover the machine in order to protect it from dust, dirt or damage.

When transporting the machine, pay heed to the necessary safety precautions.

8 Disposal



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

The machine must be disposed of in an appropriate and correct manner according to the national regulations.

ATTENTION

Risk of environmental damage due to incorrect oil disposal.

Incorrect disposal of old oil can result in severe environmental damage.

ALWAYS observe the legally prescribed regulations for disposal of oil.

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

DÜRKOPP ADLER AG
Potsdamer Str. 190
33719 Bielefeld
Germany
Phone +49 (0) 521 925 00
E-Mail: service@duerkopp-adler.com
www.duerkopp-adler.com

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