beisler
SEWING

100-69

Operating instructions

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

1 About these instructions

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

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback through **Customer Service** (📖 *S. 136*).

Consider the instructions part of the product and store them in a place where they are readily available.

1.1 For whom are these instructions intended?

These instructions are intended for:

- Operators:
  This group is familiar with the machine and has access to the instructions. Specifically, chapter **Operation** (📖 *S. 23*) is important for the operators.
- Specialists:
  This group has the appropriate technical training for performing maintenance or repairing malfunctions. Specifically, the chapter **Setup** (📖 *S. 121*) is important for specialists. (Delete this sentence in Service Instructions)

Service Instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by personnel, please also follow the chapter **Safety** (📖 *S. 17*).

1.2 Representation conventions – symbols and characters

Various information in these instructions is represented or highlighted by the following characters in order to facilitate easy and quick understanding:

Proper setting

Specifies proper setting.

Disturbances

Specifies the disturbances that can occur from an incorrect setting.

Cover

Specifies which covers must be disassembled in order to access the components to be set.

Steps to be performed when operating the machine (sewing and equipping)

Steps to be performed for service, maintenance, and installation

Steps to be performed via the software control panel

The individual steps are numbered:

1. First step
2. Second step

… The steps must always be followed in the specified order.

- Lists are marked by bullet points.

Result of performing an operation

Change to the machine or on the display/control panel.

Important

Special attention must be paid to this point when performing a step.

Information

Additional information, e.g. on alternative operating options.

Order

Specifies the work to be performed before or after a setting.

References

🕮 Reference to another section in these instructions.

Safety Important warnings for the user of the machine are specifically marked. Since safety is of particular importance, hazard symbols, levels of danger and their signal words are described separately in the chapter **Safety** (🕮 *S. 17*).

Location information If no other clear location information is used in a figure, indications of **right** or **left** are always from the user's point of view.

1.3 Other documents

The machine includes components from other manufacturers. Each manufacturer has performed a hazard assessment for these purchased parts and confirmed their design compliance with applicable European and national regulations. The proper use of the built-in components is described in the corresponding manufacturer's instructions.

1.4 Liability

All information and notes in these instructions have been compiled in accordance with the latest technology and the applicable standards and regulations.

Dürkopp Adler cannot be held liable for any damage resulting from:

- Breakage and damage during transport
- Failure to observe these instructions
- Improper use
- Unauthorized modifications to the machine
- Use of untrained personnel
- Use of unapproved parts

Transport

Dürkopp Adler cannot be held liable for breakage and transport damages. Inspect the delivery immediately upon receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Leave machines, equipment and packaging material in the condition in which they were found when the damage was discovered. This will ensure any claims against the transport company.

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

2 Performance description

The 100-69 is a sewing unit for the runstitching of piped pocket, flap pocket and welt pocket openings with rectangular or slanted pocket corners.

2.1 Features

The **Beisler 100-69** is a sewing unit for automated runstitching of piped pocket, flap pocket and welt pocket openings with rectangular or slanted pocket corners.

The slanted pocket corners result from the offset of the two seam rows. It is possible to sew different slants at the seam beginning and at the seam end.

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

Machine head

- Twin needle lockstitch version
- Needle bars can be switched separately
- Vertical hook
- 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
- DC direct sewing drive

Step motors for the material feed and the length adjustment of the corner trimming device

The step motor technology allows short machine times and guarantees an absolutely precise material feed and accurate corner incisions. Thus, it contributes to an unequalled pocket quality combined with high productivity.

New control generation “DAC III”

The graphic user guidance exclusively occurs via internationally comprehensible symbols and text lines in the corresponding language. The various symbols are combined in groups within the menu structure of the sewing and test programs. The user-friendly operation cuts short training times.

20 storage locations with each 6 seam programs are available. Thus it is possible to generate and store up to 6 different seam programs per storage location. Each storage location can memorize up to 6 sewing programs in any order that will be sewn in sequence.

All relevant slants can be programmed by the operator via parameters.

The comprehensive test and monitoring system **MULTITEST** is integrated in the DAC. A microcomputer does the control tasks, supervises the sewing process and indicates operating errors and malfunctions in the display.

Optional equipment

Due to a flexible system of optional equipment the sewing unit can be optimally adapted to the respective application at low cost.

Sewing equipment and folders

Please see the 100-69 parts list for details concerning sewing equipment and folders for the various applications or contact the Beisler company.

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

Due to a flexible system of optional equipment the sewing unit can be optimally adapted to the respective application at low cost.

● = Standard equipment

O = optional extension

Order No.	Optional equipment	100-69 (rectangular pocket)	100-69 (slanted pocket)
Knife bracket kits			
B169 590014	Kit rectangular pocket This kit contains the knife bracket and the sewing head for rectangular pockets	O	
B169 590024	Kit slanted pocket This kit contains the knife bracket and the sewing head for rectangular and slanted pockets		O
Stacking devices			
1970 593144	Throw-over stacker To be position near the machine for stacking to the side.	O	O
0745 427524	Universal stacking device (grip stacker) To be positioned for stacking to the side.	O	O
1970 593194	Bundle clamp (incl. table) For the bundling of trousers parts	O	O
0745 597604	Blow-out device For blowing out the finished workpieces	O	O
0745 597954	Roll-off device The roll-off device is used to transport short pieces into the stacker or to eject the pieces to be processed. The speed and the working cycle of the roll-off device can also be programmed.	O	O
Zipper feeders			
1970 593414	Cutter with pull-off device Device for the processing of endless zippers Only to be deployed in conjunction with the folders RV 1970 595564 – 1970 595704.	O	O
1970 593444	Zipper guide stop for single and double piping (Interior or exterior pocket processing, manual positioning of the trimmed zipper)	O	O

Order No.	Optional equipment	100-69 (rectangular pocket)	100-69 (slanted pocket)
Breast welt processing			
B169 590094	Kit breast welt processing Consists of flap clamp for the breast welt processing, second photocell rotatable to the left, as well as 5 laser marking lamps with attachments. (only in conjunction with the kit slanted pockets 1970 596944, rapid clamp adjustment left 1970 593154 and clamp set 200 mm B169 590034)		O
Laser add-on kits			
0745 598144	Two-pack laser add-on kit For extending the standard 3 laser marking lamps to a maximum of 5 laser marking lamps. For an easy replacement the laser lights are equipped with a short cable and a plug.	O	O
0745 597934	Three-pack laser add-on kit For extending the existing 5 laser marking lamps to 8 laser marking lamps. An extension to 16 switchable laser lights is possible (additional cable 0745 597974 and PCB 9850 001073 needed). For an easy replacement the laser lights are equipped with a short cable and a plug.	O	O
Trays			
1970 593104	Rest table (small) Size about 450mm x 700mm	O	O
1970 593114	Rest table (large) Size about 600mm x 800mm	O	O
Light barriers			
B169 590114	Second photocell Second photocell for the automatic flap scanning (for the alternating processing of jackets and trousers switchable via program)	O	O
Vacuum			
B169 590084	Vacuum device For an exact positioning of the workpieces, to be connected to the in-house vacuum unit Remark: If there is no in-house vacuum unit, a vacuum generator has to be ordered additionally.	O	O

Order No.	Optional equipment	100-69 (rectangular pocket)	100-69 (slanted pocket)
1970 593314	Vacuum (side channel blower) For an exacte positioning of the workpieces without in-house vacuum unit, a side channel blower can be adapted into the stand.	O	O
Miscellaneous			
0745 598134	Sewing light with transformer	O	O
0745 598254	Set of castors Set of transport castors in order to move the sewing unit without external appliances.	O	O
B169 590074	Tape feed automatic cutting (driven by step-motor) Automatic feeding and cutting of a reinforcement strip pulled from a roll. Start time and cutting time can be programmed corresponding to the pocket.	O	O
1970 593154	Pneumatic clamp adjustment left For an automatic adjustment of the left clamp when changing the folder	O	O
1970 593164	Pneumatic clamp adjustment right For an automatic adjustment of the right clamp when changing the folder	O	O
1970 593214	Special clamp (sandwich clamp) Special clamp feed system for difficult materials (needed for piped pockets in car seats, articles made from leather or synthetic materials) Only for needle distances of 10 an 12 mm. Not combinable with the tape feed.	O	O
1970 593334	Shaped guide lining loop triangle 90° processing of interior jacket pockets	O	O
1970 593344	clamp stop Clevis clamp stop for button hole strap (processing of trousers)	O	O
1970 593364	Blow-out device left For the blowing on of the piping with large piping projections	O	O
1970 593374	Blow-on device right For the blowing on of the piping with large piping projections	O	O
B169 590104	Downholder and Pocket bag clamp Downholder for the smoothing out of the fullness caused by the darts with a clamping device for the pocket bags.	O	O

Order No.	Optional equipment	100-69 (rectangular pocket)	100-69 (slanted pocket)
Clamps			
B169 590034	Set of clamps 200 mm Universal clamp right with folding plate, without flap clamp for jackets, trousers and linings. Seam length without flap 200 mm, with flap 180 mm.		
B169 590044	Flap clamp right for 200 mm clamp (max seam length with flap 180 mm)		
B169 590054	Flap clamp left for 200 mm clamp (max seam length with flap 180 mm)		
B169 590064	Set of clamps 240 mm Contains right and left clamp for a seam length of 240 mm without flap and 220 mm with flap. Includes right and left flap clamp.		

2.4 Technical data

Technical data	100-69
Sewing stitch type	301/Double lockstitch
Number of needles	2
Needle system	2134-85
Needle size: [Nm]	80-100
Number of stitches (programmable) [min^{-1}]	3000
Number of stitches at factory setting: [min-1]	2500
Stitch length (programmable) [mm]	0.5-3,0
Number of condensed stitches [n] (programmable)	1-10
Number of bartack stitches [n] (programmable)	0-5
Seam distance [mm]	4.8, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 30
Pocket length [mm]	20-200 (240 mm optional)
maximum seam offset [mm]	+/- 13
Operating pressure [bar]	6
Air consumption per working cycle about [NL]	5
Height of table without castors [mm] - min - max	 797 1076
Height of table with castors [mm] - min - max	 859 1138
Length, width, height [mm]	1440, 780, 1200
Weight [kg]	about 280 (depending on equip-ment)
Nominal voltage [V]	1 x 190-240
Frequency [Hz]	50/60

3 Safety

This chapter contains basic information for your safety. Read the instructions carefully before setting up or operating the machine. Make sure to follow the information included in the safety instructions. Failure to do so can result in serious injury and property damage.

3.1 Basic safety instructions

The machine may only be used as described in these instructions.

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

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

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

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

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

Transport

Use a lifting carriage or forklift to transport the machine. Raise the machine max. 20 mm and secure it to prevent it from slipping off.

Setup

The connecting cable must have a power plug approved in the relevant country. The power plug may only be assembled to the power cable by qualified specialists.

Obligations of the operator

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

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

Requirements to be met by the personnel

Only qualified specialists may:

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

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

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

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

3.2 Signal words and symbols used in warnings

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

Signal words Signal words and the hazard they describe:

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

Symbols The following symbols indicate the type of danger to personnel:

Symbol	Type of danger
	General
	Electric shock

Symbol	Type of danger
	Puncture
	Crushing
	Environmental damage

Examples Examples of the layout of warnings in the text:

DANGER

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

WARNING

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

CAUTION

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

CAUTION

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

NOTICE

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

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

4 Machine description 100-69

The 100-69 is a sewing unit for the runstitching of piped pocket, flap pocket and welt pocket openings with rectangular or slanted pocket corners.

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

4.1 Machine

The illustration below shows the machine100-69.

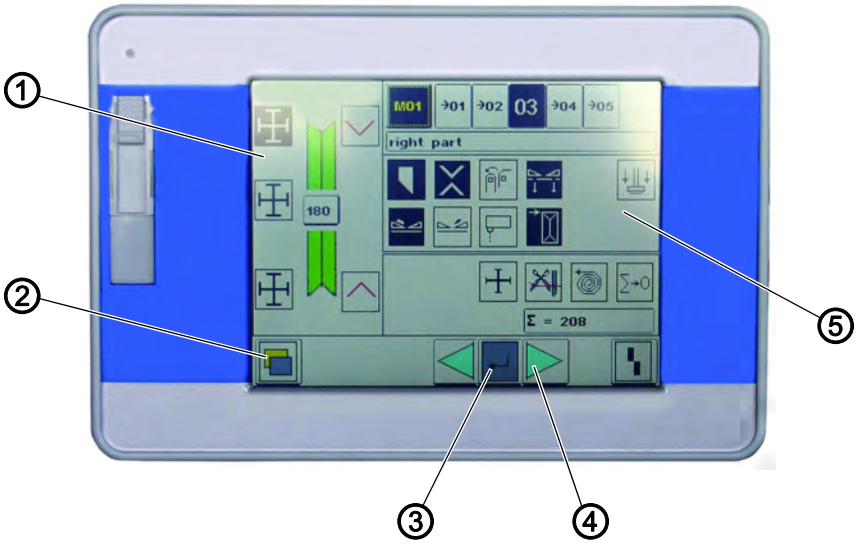
Fig. 1: Machine

4.2 Software description

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

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

Fig. 2: Software description, control panel



(1) - Colour display
(2) - Escape (ESC)
(3) - OK
(4) - Cursor
(5) - Icons indicating the function

Key groups and their function:

Key/keygroup	Function
Icons indicating the function	Directly select function/parameter.
Cursor keys	Select function/parameter. ⇦,⇨: Select icon the of requested function/parameter ⇧,⇩ : Switch the function/parameter on and off, select the previous/next parameter value level, activate the test program
Escape key	Display the former value again.
OK key	• Open the window for the setting of the selected function/parameter. • Adopt the set value.

5 Operation

The Beisler 100-69 is a sewing unit for the runstitching of piped pocket, flap pocket and welt pocket openings with rectangular or slanted pocket corners.

Fault-free operation is necessary in order to achieve a good sewing result. In order to achieve this, all relevant operations on the 100-69 will be explained below.

5.1 Working methods

WARNING

Risk of injury due to moving parts!

Crushing possible.

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

NOTICE

Property damage may occur!

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.

The individual working methods for trousers and men's jackets are described on the following pages.
The description is structured as follows:

Feeding positions

This item indicates the feeding 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.).

Feeding and starting the sewing process

The steps of the feeding process are dependent on the equipment of the respective sewing unit.

5.1.1 Working method Production of trousers

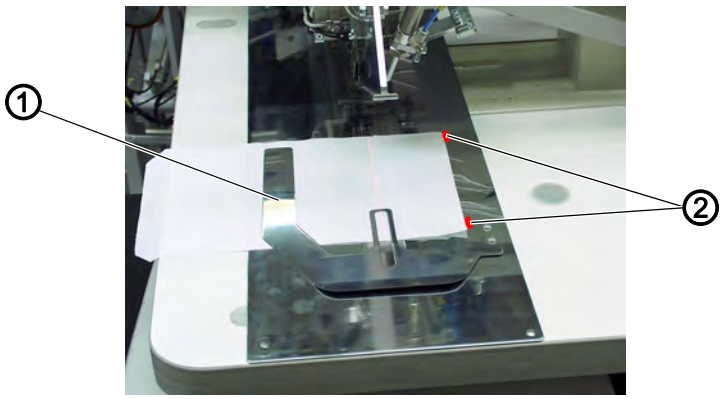
Possible processing variants

- Front trousers pockets with underlaid pocket bag.
- Hind trousers pockets with or without flap, with underlaid pocket bag.
- Hind trousers pockets with or without flap, with automatically fed reinforcement strip.

Positioning method

Example: Hind trousers without flap, with pocket bag positioned underneath

Fig. 3: Working method, production of trousers (1)

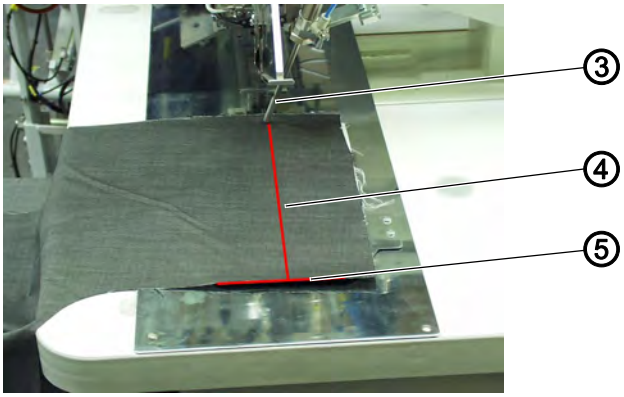


(1) - Pocket bag clamp
(2) - Markings

1st step:

1. Select the pocket program at the control panel.
2. Push the pocket bag under the pocket bag clamp (1) and position it at the markings (2). For example adhesive strips fitted on the fabric sliding sheet may serve as markings.

Fig. 4: Working method, production of trousers (2)



(3) - Downholder
(4) - Markiing
(5) - Center positioning point

2nd step:

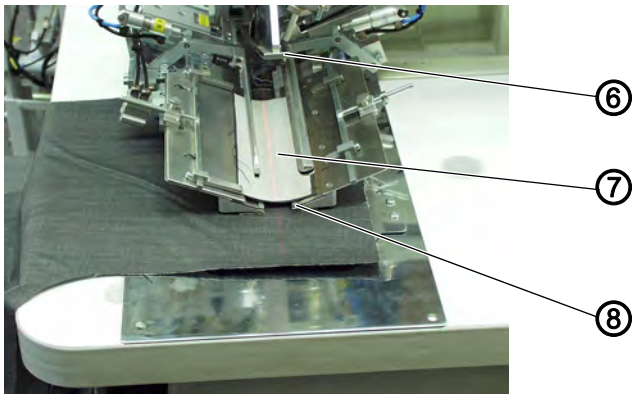
1. Position the hind trousers at the center positioning point (5) and the marking (4).
2. Actuate the central pedal.

↳ The hind trousers is clamped by the fabric downholder (3) in its position.

3. Smooth out the clamped hind trousers in the dart area.
4. If the machine is additionally equipped with vacuum:
   Actuate the left pedal.

↳ The vacuum is switched on.

Fig. 5: Working method, production of trousers (3)



(6) - Folder
(7) - Piping strip
(8) - Front edge

3rd step:

1. Step on the central pedal.

↳ The transport clamps move to the front and lower on the workpiece.

2. Position the piping strip (7) on the feeding clamps flush with the front edges (8).

   A detailed description of the alignment of the different types of piping on the feeding clamp follows.

3. Actuate the central pedal.

↳ The folder (6) lowers.

4. Actuate the central pedal once again.

↳ The sewing cycle starts.

5.1.2 Working method Breast welt pocket

Sewing patterned or plain goods

When processing plain goods without pattern it is not necessary to align jacket front part and breast welt as per pattern.

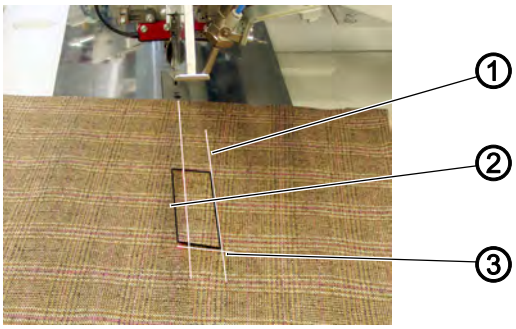
This results in a faster working method for plain goods.

- Aligning the positioning aids

Positioning method

Example: Men's jacket front part with breast welt pocket, patterned

Fig. 6: Working method, breast welt pocket (1)



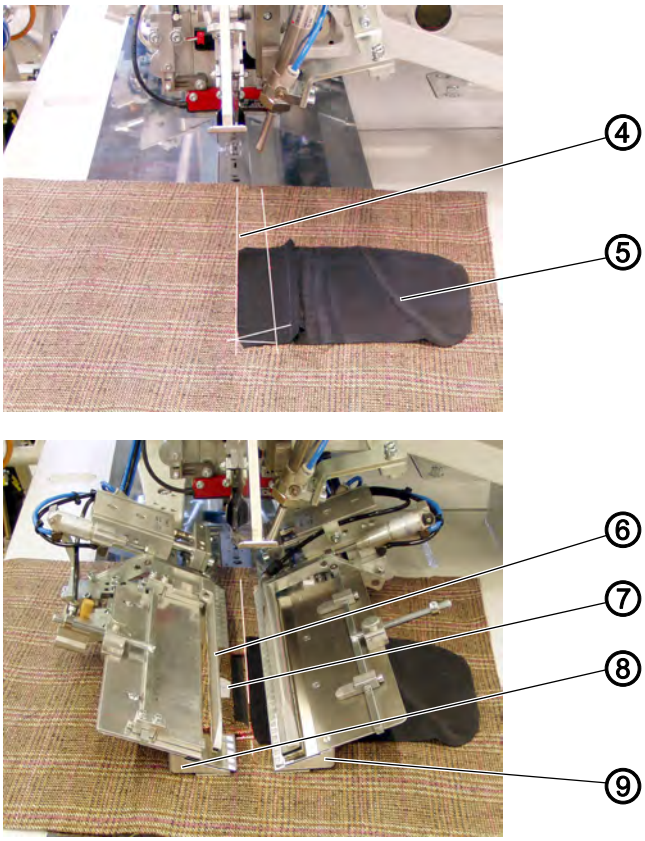
(1) - Laser marking
(2) - Breast welt
(3) - Laser marking

1st step:

1. Select pocket program **No. 7** at the control panel.
2. Position breast welt (2) on the jacket front as per the stripes.
3. Align the breast welt of the jacket front at the laser markings (1) and (3) (right and transversal laser).
4. Step on the start pedal.

↳ The vacuum is switched on.
The jacket front is aspirated.

Fig. 7: Working method, breast welt pocket (2)



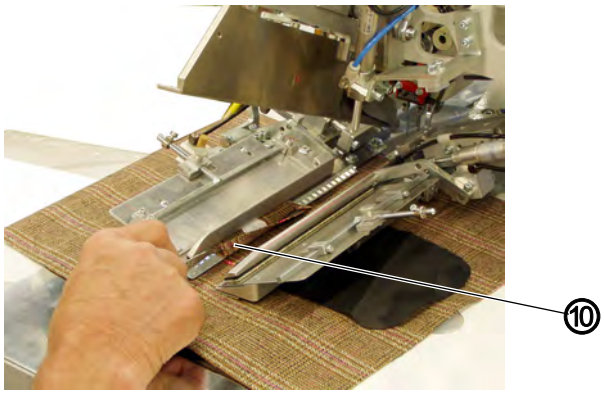
(4) - left markinge
(5) - pocket bag
(6) - flap clamp
(7) - Breast welt
(8) - left clamp
(9) - right clamp

2nd step:

1. Remove the breast welt (7).
2. Position the pocket bag (5) at the left laser (4).
3. Step on the central pedal.

↳ The fabric clamps move to the front.
The right clamp (9) clamps the jacket front.
The left clamp (8) remains without pressure

Fig. 8: Working method, breast welt pocket (3)



(10) - Seam allowance

3rd step:

1. Position the breast welt (7) at the stop of the left fabric clamp (at the front laser).
2. Fold back the seam allowance (10) at the clamp and check the course of the pattern in longitudinal direction.
   Correct the course of the pattern by slightly pulling the jacket front or by shifting the flap clamp (6).
3. Step on the central pedal.

↳ Pressure is applied on the left fabric clamp (8).

4. Actuate the central pedal.

↳ The folder lowers.

5. Actuate the central pedal once again.

↳ The sewing cycle starts.

5.2 Swinging the folding station aside

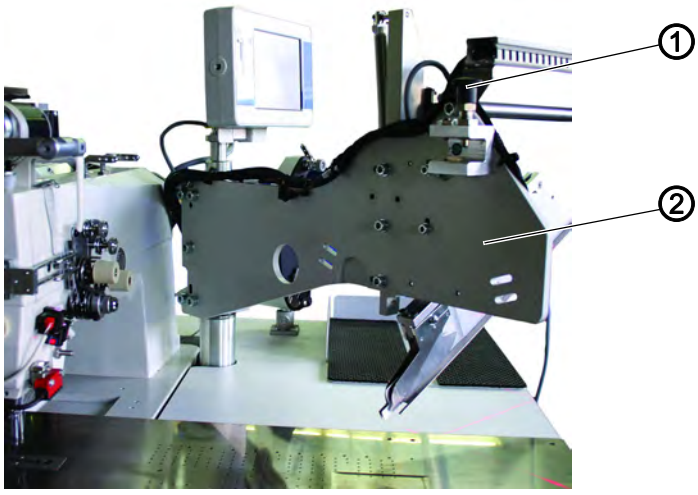
NOTICE

Property damage occurs!

After being swung back the folding station must click into lock (1).

For interventions at the sewing point (threading the needle threads, needle change etc.) the entire folding station with folder and laser lamps can be swiveled to the right.

Fig. 9: Swinging the folding station aside



(1) - Lock *(2) - Folding station*

1. Pull the lock (1) upwards.
2. Swing the complete folding station (2) with folder to the right.

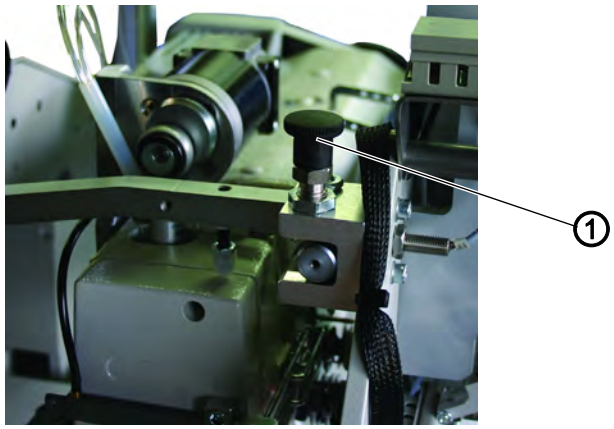
↳ The sewing point is freely accessible.

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

Fig. 10: Swinging the folding station aside, safety message

Swinging the folding station back

Fig. 11: Swinging the folding station back



(1) - Lock

1. Swing back the folding station (2) until lock (1) clicks into place.

5.3 Removing the fabric sliding sheet

WARNING

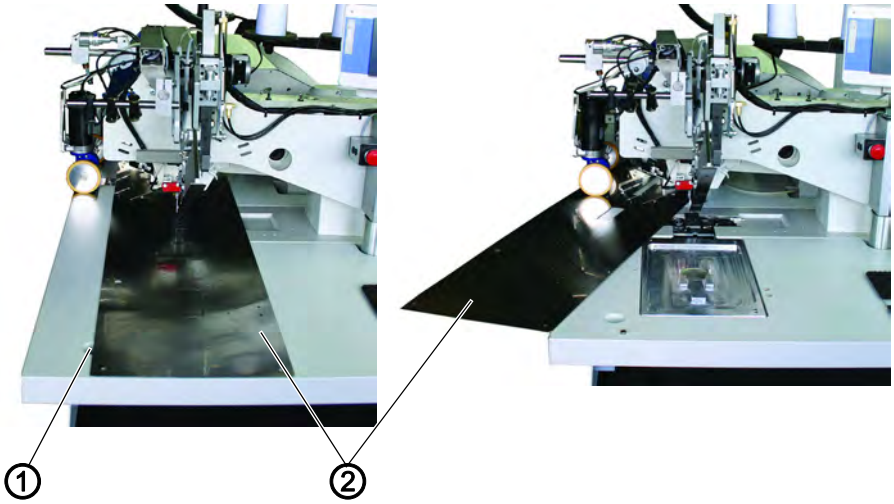
Risk of injury!

Switch off the machine.

Remove the fabric sliding sheet only with the sewing unit switched off.

Changing the hook thread bobbins

Fig. 12: Changing the hook thread bobbins



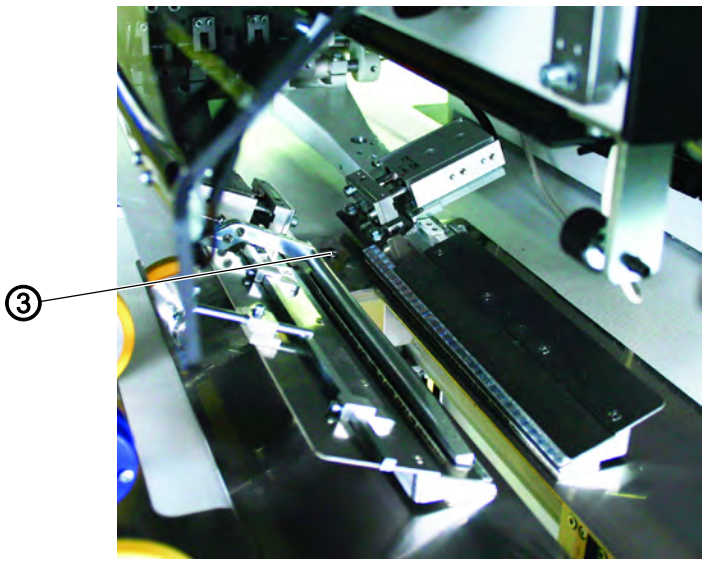
(1) - Recess

(2) - Fabric sliding sheet

1. Switch off the machine.
2. Lift the fabric sliding sheet (2) in the area of the recess (1) on the table top and swing it to the left.

Removing the hook thread bobbins (for maintenance work and adjustments)

Fig. 13: Removing the hook thread bobbins



(3) - Pin

1. Switch off the machine.
2. Completely lift the fabric sliding sheet at the rear pin (3).

5.4 Needles and threads

In order to achieve the optimal sewing result, the appropriate needles and yarns should be employed.

Recommended yarns

Needle system	2134-85
Recommended needle size	Nm 90 for thin material
Recommended needle size	Nm 100 for medium-weight material
Recommended needle size	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 fibre 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 fibre 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	Hook thread	Needle thread	Hook thread
	Polyester endless Label no.	Polyester spun Label no.	Polyester endless Label no.	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	NeB 50/3-70/3	NeB 50/3-70/3
100	Nm 70/3-100/3	Nm 70/3-100/3	NeB 40/3-60/3	NeB 40/3-60/3
110	Nm 50/3-80/3	Nm 50/3-80/3	NeB 40/4-60/4	NeB 40/4-60/4

5.4.1 Changing the needles

WARNING

Risk of injury due to sharp parts!

Switch off the machine.
Change the needles only with the main switch switched of.

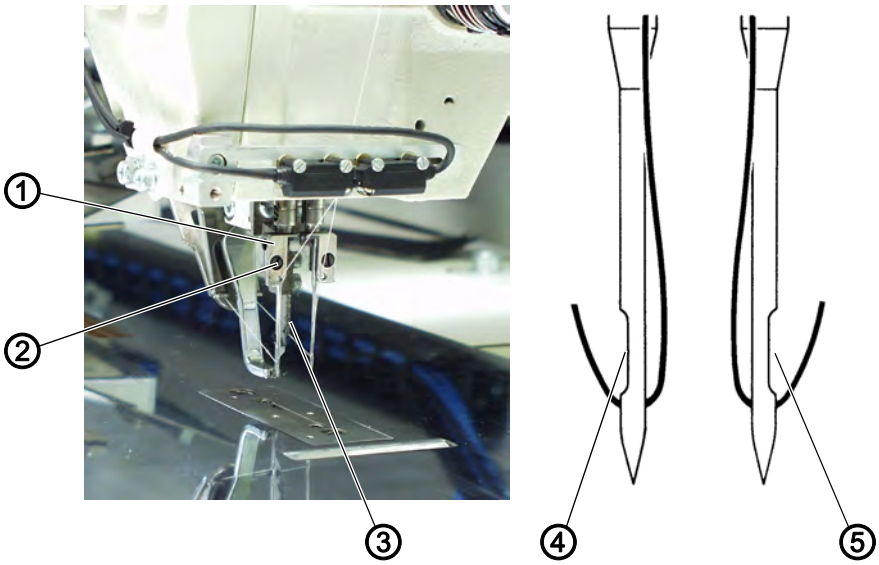
Do not reach into the area of the centre knife (3) when changing the needles.

NOTICE

Property damage may occur!

After changing to another needle size the needle protection on the hook has to be readjusted, 🕮 Service Instructions.

Fig. 14: Changing the needles



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

1. Swing the folding station aside (🕮 *S. 28*).

↳ The needles are freely accessible.

2. Loosen screw (2) and remove the needle from the needle holder (1).
3. Push the new needle into the drill-hole of the needle holder (1) as far as it will go.
   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).
4. Tighten screw (2).

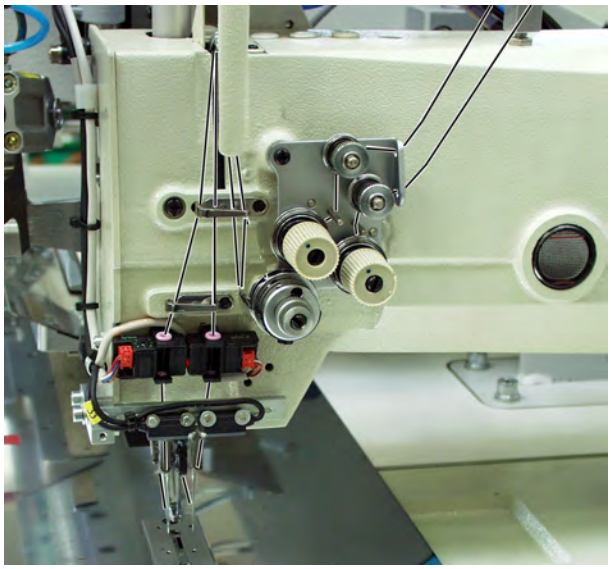
5.5 Threading in the needle threads

WARNING

Risk of injury due to sharp parts!

Switch off the machine.
Thread in the needle threads only with the sewing unit switched off.

Fig. 15: Threading in the needle threads

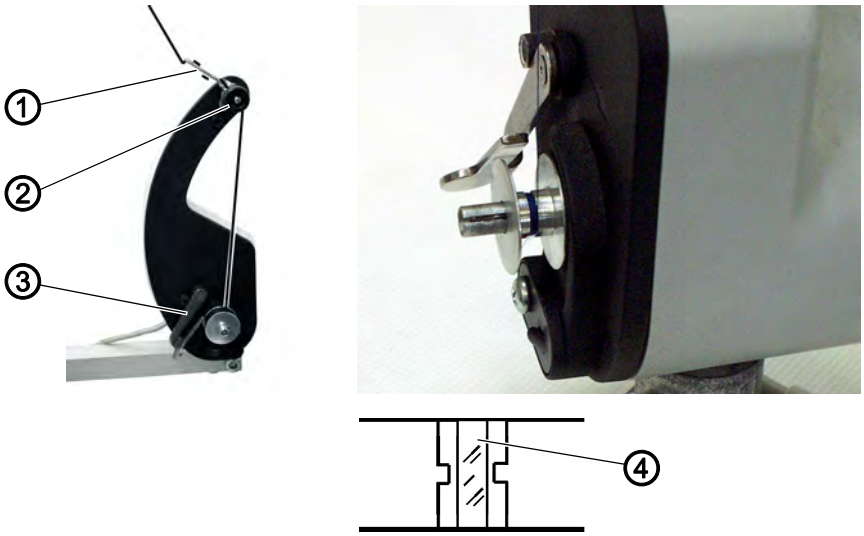


1. Thread in the needle thread as shown in the picture above.

5.6 Winding on the looper thread

The separate bobbin winder makes it possible to wind the hook thread independently from the sewing operation.

Fig. 16: Winding on the looper thread



(1) - Guide
(2) - Bobbin thread tension
(3) - Winder flap
(4) - Reflecting surface

1. Remove remaining thread from the bobbin hubs before winding.
2. Put the thread reel on the thread reel holder.
3. Guide the thread through the drill-hole of the unwinding arm.
4. Guide the thread through guide (3).
5. Guide the thread through the bobbin thread tension (2).
6. Prewind the thread to the right in the central reserve groove of the bobbin hub.
   The filled reserve groove guarantees a safe winding on, also with monofilament threads. With the thread reserves in the reserve grooves the sewing of pocket opening can be finished safely, even after the residual thread monitor has issued the message *empty bobbin*.
   The reflecting surface (4) of the bobbin hub is to be kept clean.
7. Press the winder flap (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, see 🕮 *Service Instructions*.

5.7 Residual thread monitor

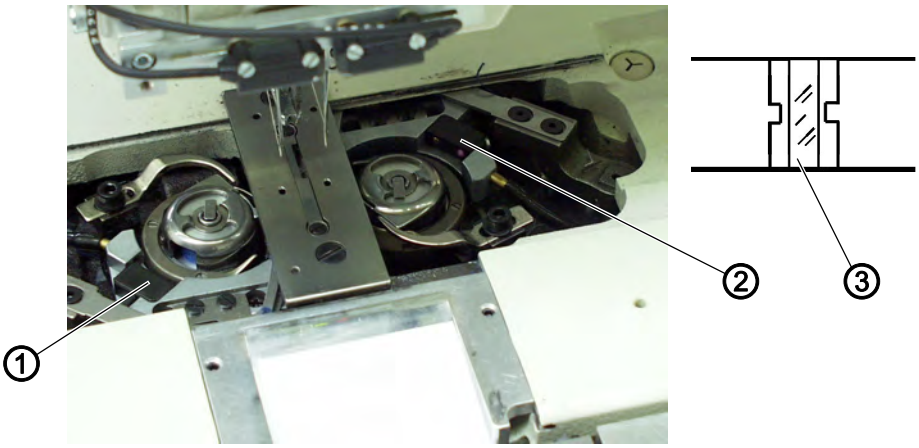
WARNING

Risk of injury!

Switch off the machine.
Clean the lenses of the light barriers only with the sewing unit switched off.

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

Fig. 17: 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 screen of the control unit will display the following message.

Fig. 18: Residual thread monitor, display message

The sewing of the pocket opening is safely finished with the thread remaining in the reserve groove of the bobbin hub.
The transport carriage stops in its rear end position.

1. Turn the main switch off.

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

5.8 Slanted pocket opening (optional)

The 100-69 is optionally equipped with an automatic corner knife station guaranteeing a precise incision of the corners of slanted pockets.
For this purpose the machine head is equipped with disengageable needle bars.

Corner knife station

The setting of the corner knives with regard to the pocket length is programmable and is effected via 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 +/- 13 mm in relation to the right seam.

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

The complete unit can be swung out for setting and service operations.

5.8.1 Swinging the corner knife station out / in

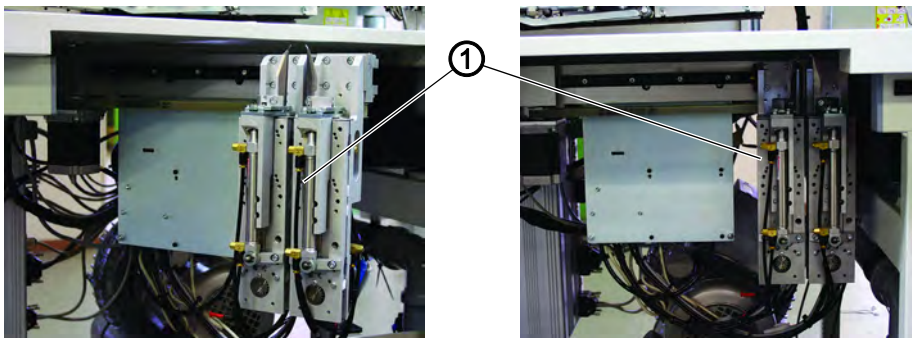
WARNING

Risk of injury!

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

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

Fig. 19: Swinging the corner knife station out/in



(1) - Corner knife station

Swivelling the corner knife station out

1. Swing out the corner knife station (1) to the left.

↳ The knives are accessible for adjusting and servicing.

Swivelling the corner knife station in

NOTICE

Property damage may occur!

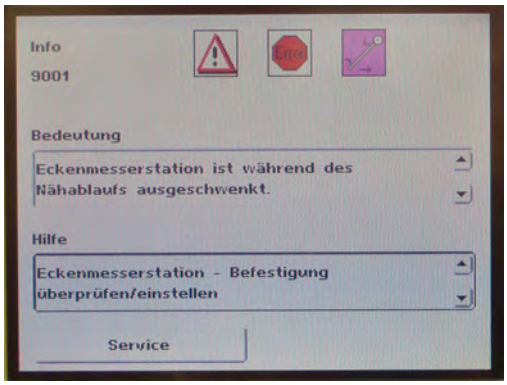
The corner knife station must audibly lock when being pushed in.

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

Note:

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

Fig. 20: Swinging the corner knife station out/in, display message



5.8.2 Setting the corner knife

WARNING

Risk of injury due to sharp parts!

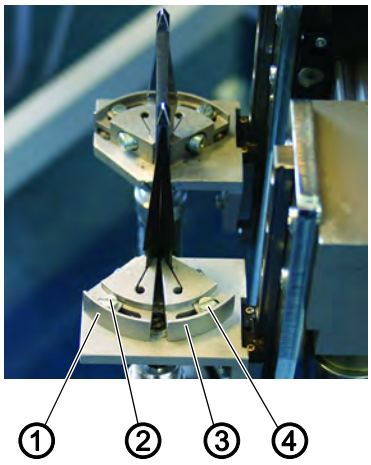
Switch off the machine.

Set the corner knife station only with the machine switched off.

1. Swinging out the corner knife station

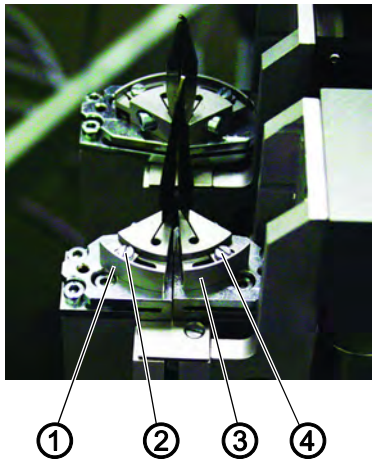
Fig. 21: Setting the corner knife

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).

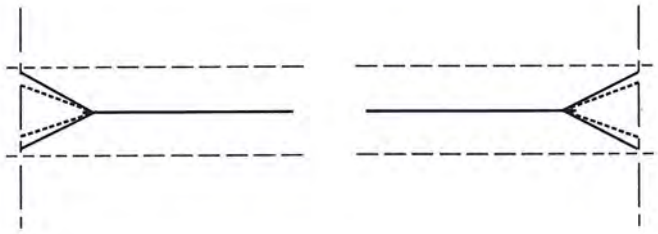
1. Loosen the screws (2) and (4).
2. Twist the knife carriers (1) and (3) symmetrically.
3. Tighten screws (2) and (4).
4. Set the angle on the other knife set accordingly.

Height of the corner knives

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

5. Swinging the corner knife station in.

Fig. 22: Setting the corner knif, cut sketch



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

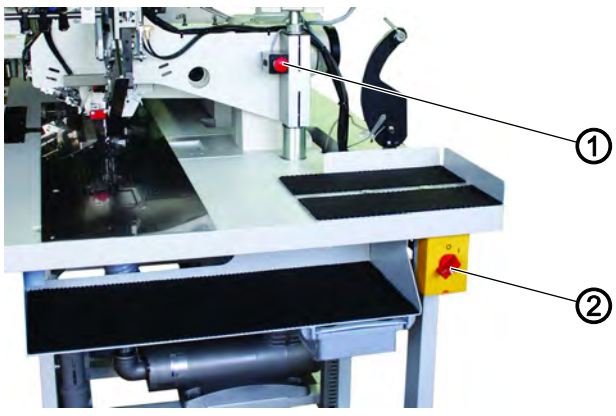
Slanted pocket corners:
The left corner knife incision is displaced of +/- 13 mm in relation to the incision on the right side

5.9 Sewing procedure

In order to achieve a good sewing result, the machine must be operated correctly. In the following the different operation steps will be explained.

5.9.1 Switching on the machine

Fig. 23: Switching on the machine



(1) - EMERGENCY-stop *(2) - Main switch*

1. Turn the main switch (2) on (turn in clockwise direction).

↳ The control unit loads the machine program.
The start screen appears in the display of the control panel and indicates the following message:

Fig. 24: Switching on the machine, display message

2. Press the EMERGENCY-stop (1).
If the transport clamps are not at the reference position, a reference run is made.

5.9.2 Reference position

WARNING

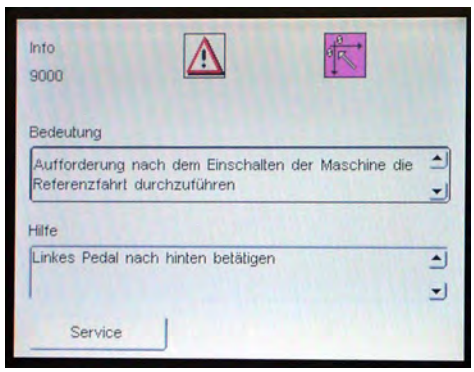
Risk of injury due to moving parts!

Do NOT reach between the folder and the folding table.

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

When the sewing unit is switched on, the control checks whether the transport carriage is in its rear end position.
If this is not the case, the display shows the following message:

Fig. 25: Reference position, display message



1. Press the EMERGENCY-stop.

↳ A reference run is started.
The transport carriage stops in its rear end position.

2. The display changes to the main screen of the sewing unit.

5.9.3 Starting the sewing cycle

3. Actuate the left pedal.

↳ By actuating the central pedal repeatedly the different steps of the feeding process are started one after the other. The individual steps depend on the working method and on the equipment of the sewing unit.

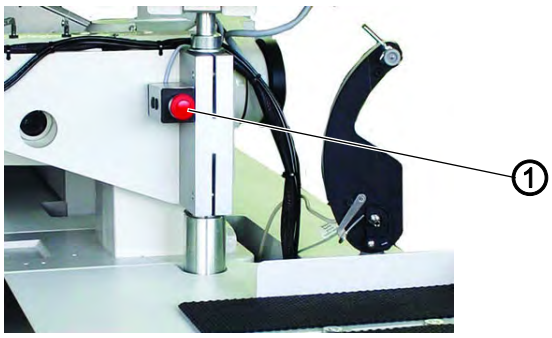
For positioning correction:
Actuate the right pedal or press the reset key.
The last step of the positioning process is undone.
The workpiece can be fed anew.

4. Step the central pedal to the front.

↳ The sewing procedure is started.

5.9.4 EMERGENCY stop

Fig. 26: EMERGENCY stop



(1) - EMERGENCY stop

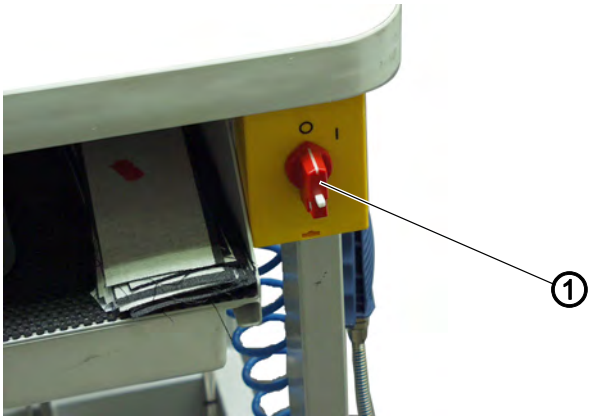
For an immediate switch-off of the sewing unit in case of operating errors, needle breakage, material accumulation etc. the safety system of the 100-69 will react as follows:

1. Press the EMERGENCY-stop (1).

↳ The sewing process is stopped immediately.

5.9.5 Switching off the machine

Fig. 27: Switching off the machine

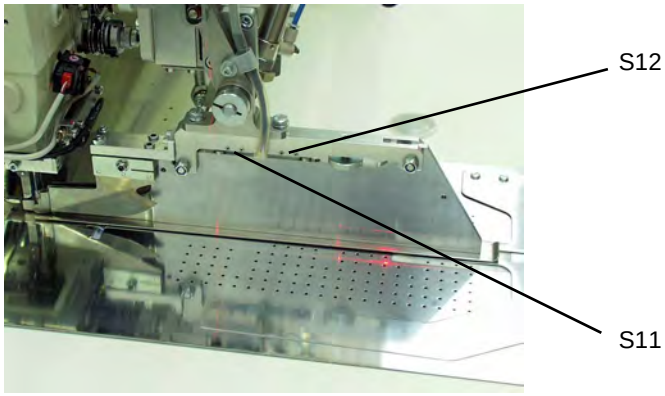


(1) - Main switch

1. Switch off the main switch (1).

5.10 Quick clamp adjustment/folder monitoring

Fig. 28: Quick clamp adjustment/folder monitoring; coding

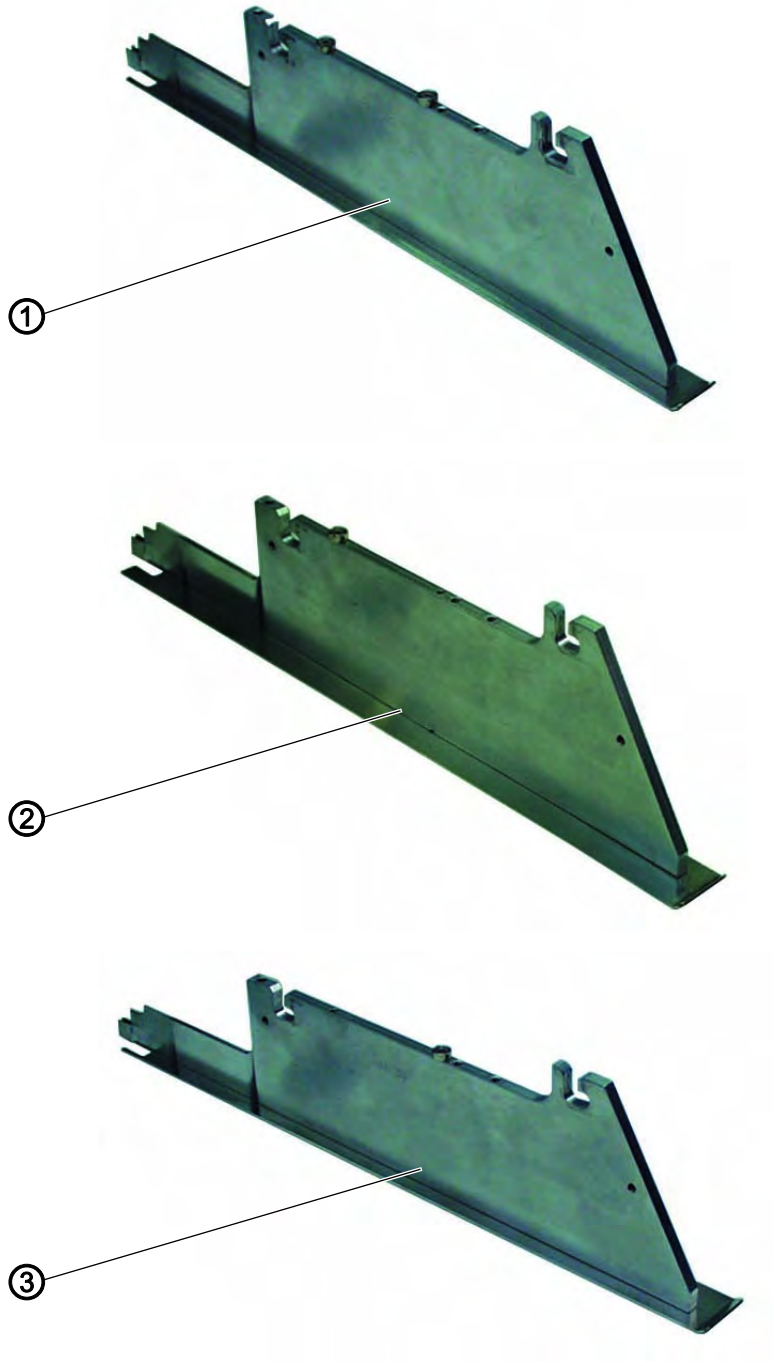


The lateral position of the transport clamps is influenced by the solenoid switches S12 and S11.

According to the equipment the solenoids are fitted on the folders in different positions.

Depending on the selected folder the clamps will be adjusted automatically between two preset positions.

Fig. 29: Quick clamp adjustment/folder monitoring; folder types



(1) - Double piping
(2) - Simple piping left
(3) - Simple piping right

5.11 Functions/operation of the optional equipment

This chapter explains the functions and the operation of the most important optional equipment.

5.11.1 Tape feed unit

The step motor- and length-controlled tape feed with automatic trimming transports the reinforcement strip under the pocket opening and cuts it off at the seam end (e.g. when sewing inside and outside pockets of men's jackets).

A sensor supervising the tape feed is integrated in the tape feeding unit.

The complete process is carried out during the cycle time. No further positioning and auxiliary times are required.

If the tape is not correctly fed during the sewing process, f. e. due to jamming or wrong threading, the control unit issues a message.

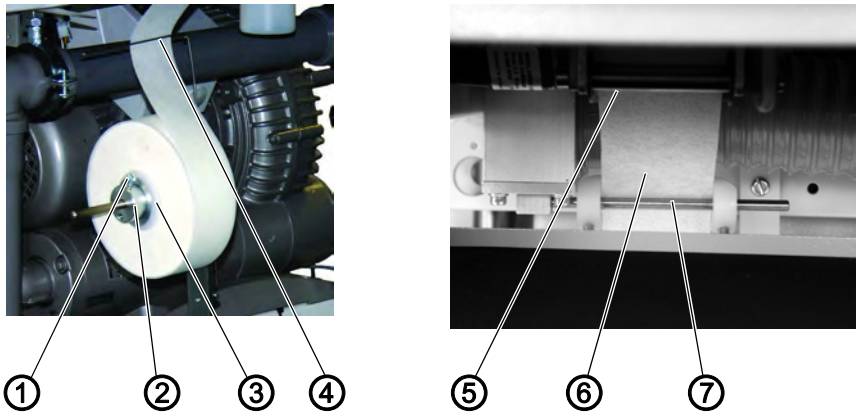
Activating the tape feed and switching it on

1. Activate the tape feed at the control panel in the menu item `Seam functions`.

2. Press the icon.

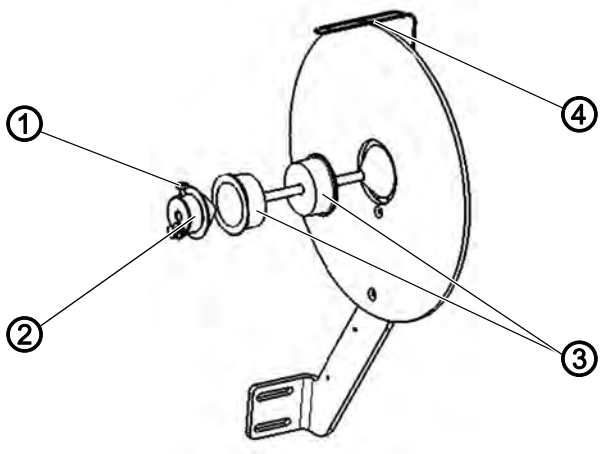
Inserting the reinforcement strip

Fig. 30: Inserting the reinforcement strip



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

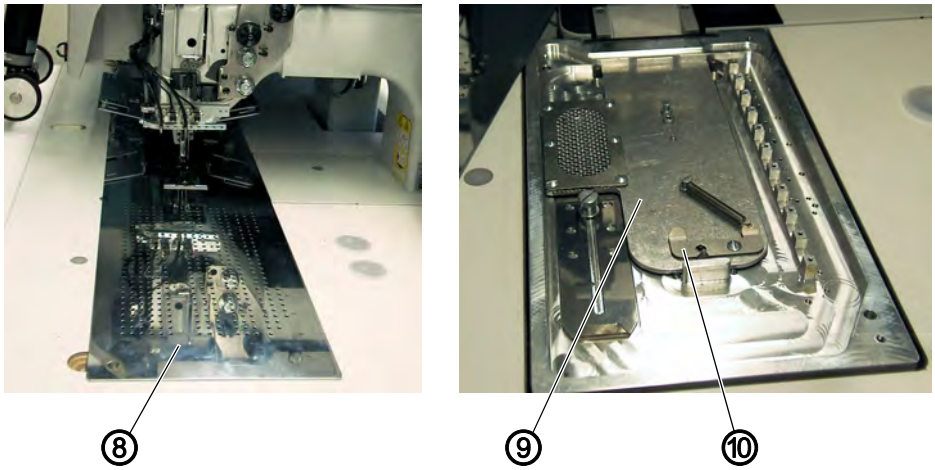
Fig. 31: Inserting the reinforcement strip; Tape feed: detail



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

1. Loosen screw (1) and pull off the setting ring (2) from the shaft.
2. Remove the empty tape roll including the adapter (3).
3. Insert the adapter (3) into a new tape roll on both sides (right and left).
4. The full tape roll has turn while unwinding.
5. Push the setting ring (2) back onto the shaft and tighten screw (1) again.
6. Guide the reinforcement strip consecutively through guide (7) and (5).

Fig. 32: Inserting the reinforcement strip; setting



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

7. Swivel the fabric sliding sheet (8) aside.
8. Press the damper slide (10) to the rear and lift off the cover (9).
9. The reinforcement strip is cut off and moved to the initial position.
10. Swivel the fabric sliding sheet (8) back again.
11. -Press the icon.

↳ The reinforcement strip is cut and pushed to the initial position.

Function and operation

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.

The tape projection at the seam beginning and seam end can be set in the menu item `seam parameters` with the parameters 21 and 22 (📖 *S. 57*).

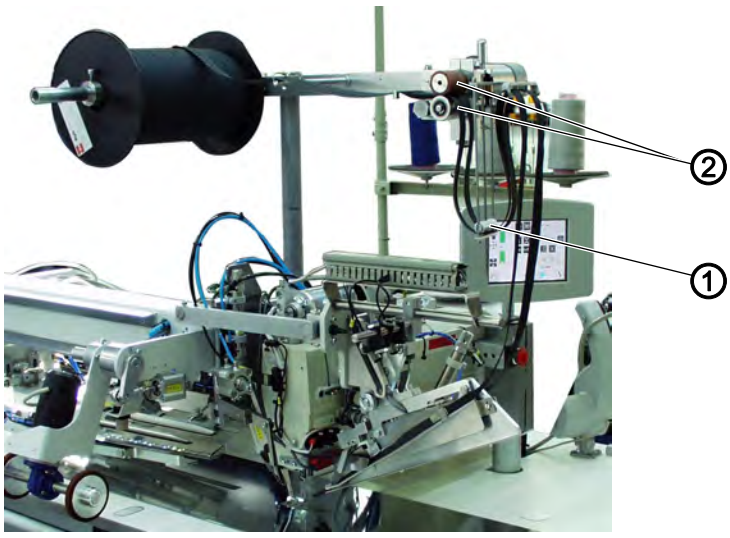
5.11.2 Device for endless zippers

WARNING

Risk of injury!

Do not reach into the range of moving parts during the processes of swiveling and cutting.

Fig. 33: Device for endless zippers



(1) - Feed rod *(2) - Driving roller*

Function

When the zipper halves are pulled along by the transport clamps during the sewing process, the feed rod (1) is pulled upwards by the zipper getting shorter.

The feed rod switches on the zipper feed and the driving rollers (2) continue to feed the zipper until the switch rod drops down and switches the feed off again.

This procedure ensures that there is always enough zipper material available for a warp-free sewing.

Activating and switching the zipper device on

1. Press the icon.

↳ The zipper device is activated.

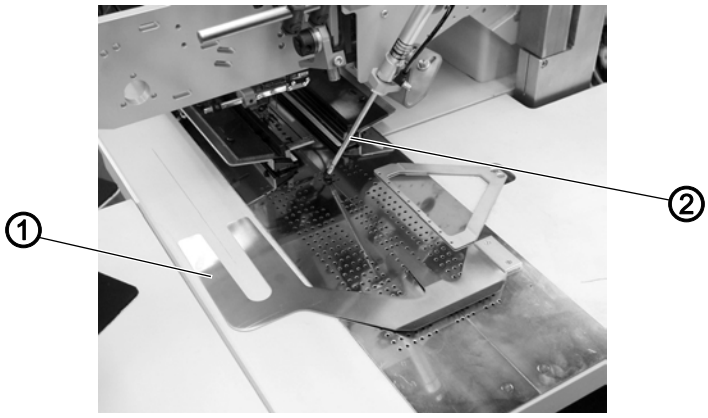
5.11.3 Downholder and Pocket bag clamp

WARNING

Risk of injury due to moving parts!

Do not reach under the downholder during the positioning process.

Fig. 34: Downholder and pocket bag clamp



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

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)

Function

1. Push the pocket bag under the pocket bag clamp (1) and align it.
2. Align the hind trouser.
3. Step forward on the left pedal.

↳ The downholder (2) lowers and locks the hind trouser in its position.

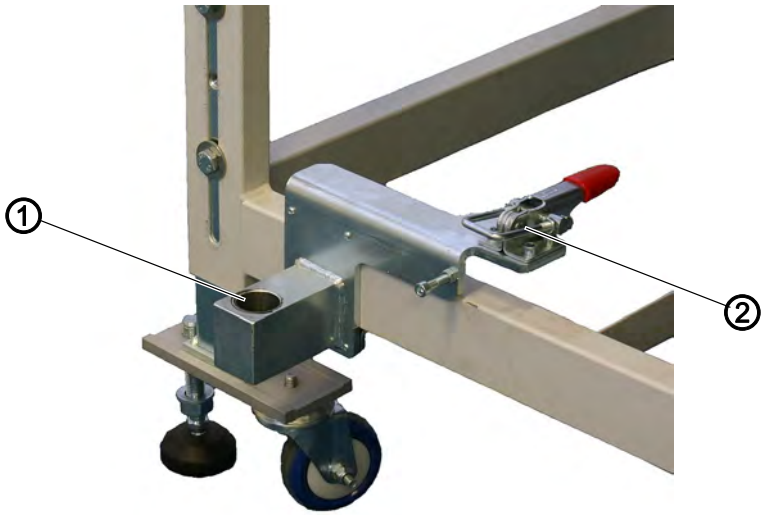
4. Smooth out the clamped hind trousers laterally and to the front.

5.11.4 Stacker

The grip stacker or the throw-over stacker can both be deployed at the 100-69.

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

Fig. 35: Stacker, seat



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

Grip stacker

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

Activate the stacker:

- Activate the grip stacker via the control panel in the menu `machine parameters` (📖 *S. 57*). The parameter signals to the control unit that the sewing unit is equipped with a grip stacker.

Switching the stacker on

- Switch on the grip stacker in the menu `pocket parameters` (📖 *S. 57*).

Basic position

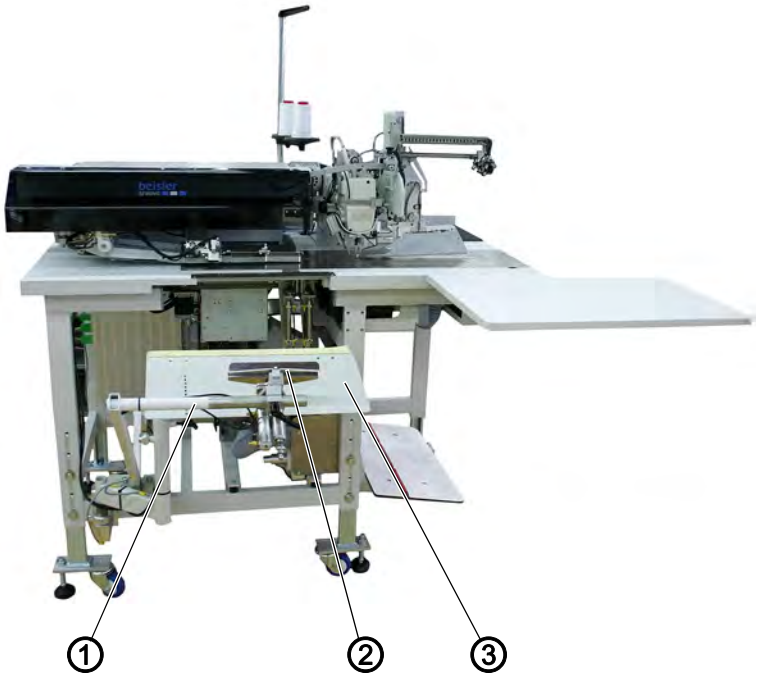
1. Stacker shackle (1) at the front, stacker grip (2) open.
   The opened stacker grip (2) should be positioned 20-25 mm in front of the table top, so that the workpieces can be passed.
2. With the stop signal the stacker grip (2) moves to the front and seizes the workpiece.

3. The stacker shackle (1) swings to the back and pulls the workpiece off the table.
4. Set the movement of the stacker shackle (1) with the throttles so that it moves smoothly without jerk.
5. The stacker grip (2) opens.
6. 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.

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

Fig. 36: Stacker, grip stacker



(1) - Stacker shackle
(2) - Stacker grip
(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 pedal.

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

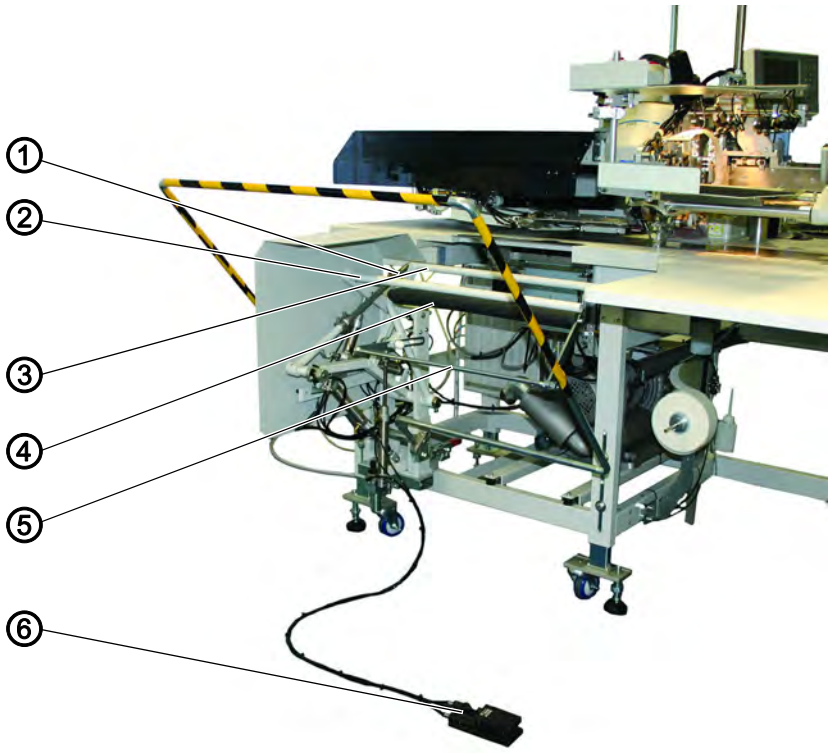
Activate the stacker:

- Activate the throw-over stacker via the control panel in the menu `machine parameters` (📖 *S. 57*). The parameter signals to the control unit that the sewing unit is equipped with a throw-over stacker.

Switching the stacker on

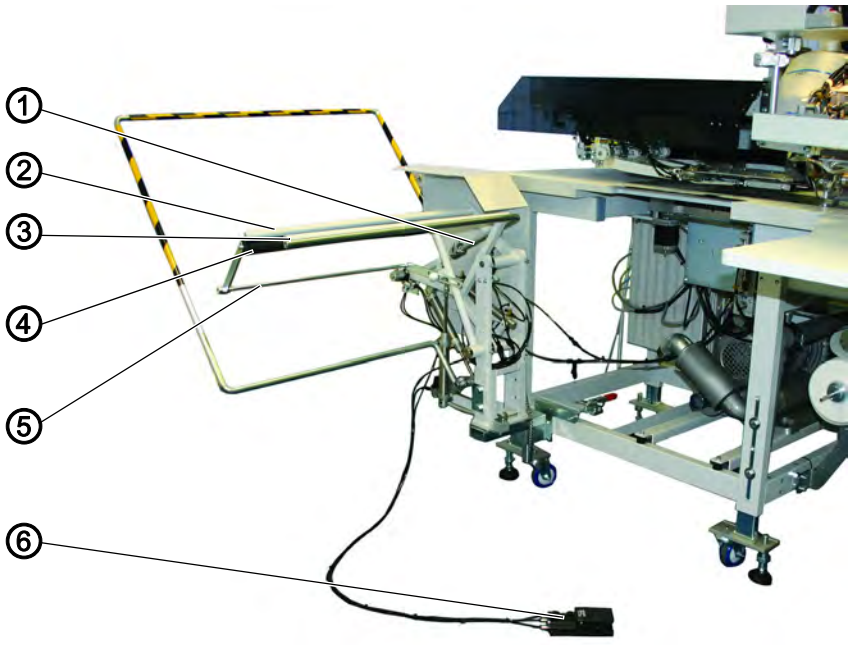
- Switch on the throw-over stacker in the menu `pocket parameters` (📖 *S. 57*).

Fig. 37: Stacker; Throw over stacker (locked)



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

Fig. 38: Stacker; Throw over stacker (swung out)



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

Function sequence

- 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 smoothes 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

1. Actuate the pedal (6) and hold it down.

↳ The stacked goods stand (4) is lowered.

2. Remove the stacked workpieces.

5.11.5 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

NOTICE

Property damage may occur!

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

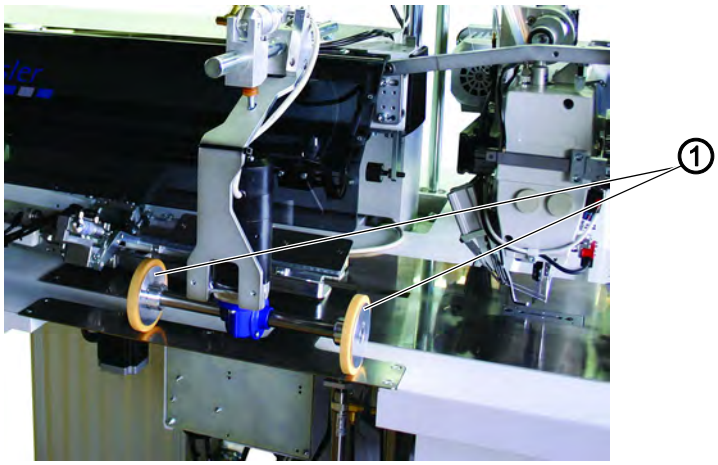
Stacker switched on: Roll-off device serves as stacker extension.

Stacker switched off: Roll-off device serves as ejector.

- Activate the roll-off device at the control panel in the menu item `seam parameters` (📖 *S. 57*). 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 `seam parameters` (📖 *S. 57*).

Fig. 39: Activating and switching on the stacker extension



(1) - Transport rollers

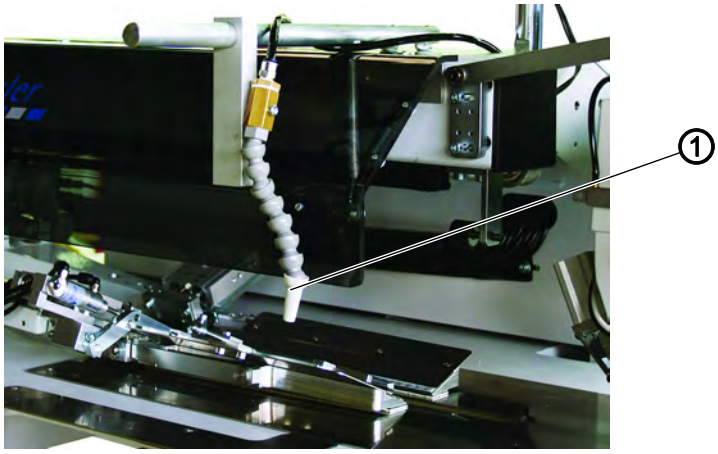
Function

- 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.

5.11.6 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. 40: Blow-out device



(1) - Blow-out device

Switching the blow-out device on

- Switch on the blow-out device in the menu item `seam parameters` (📖 *S. 57*).

Note:

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

5.11.7 Bundle clamp

WARNING

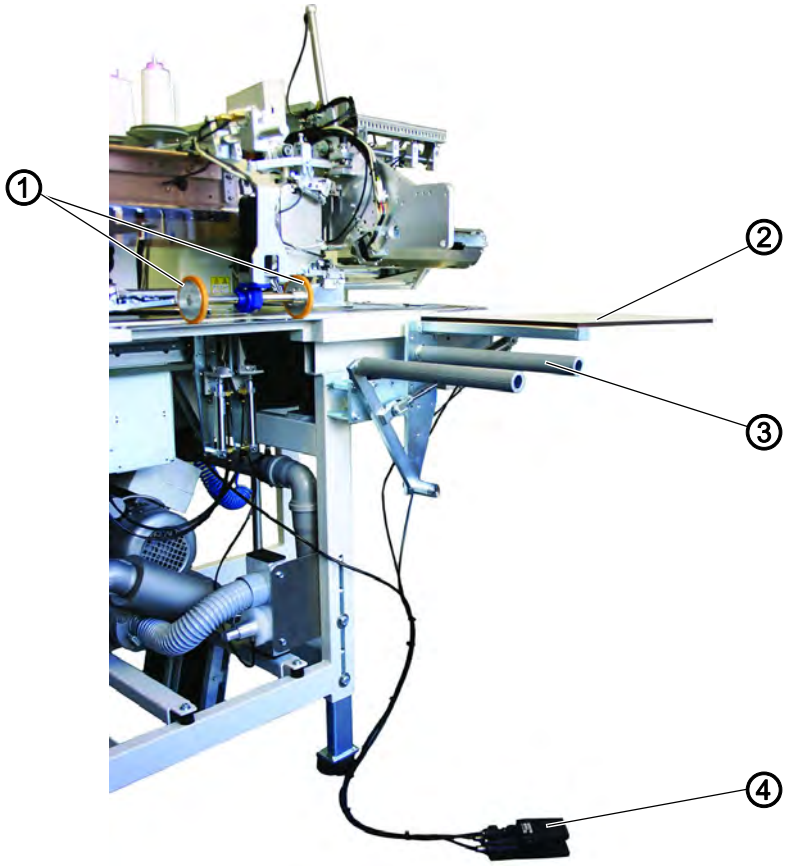
Risk of injury due to moving parts!

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

The bundle clamp including the positioning table is designed for the production of trousers. The bundles 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 drop down while being held by the bundle clamp.

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

Fig. 41: Bundle clamp



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

Function and operation

1. Step the pedal (4) down and hold it down.

↳ The bundle clamp (3) opens.

2. Insert the hind trousers parts into the bundle clamp (3).
3. Release the pedal.

↳ The bundle clamp (3) closes.

4. 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 down on the bundle clamp (3).

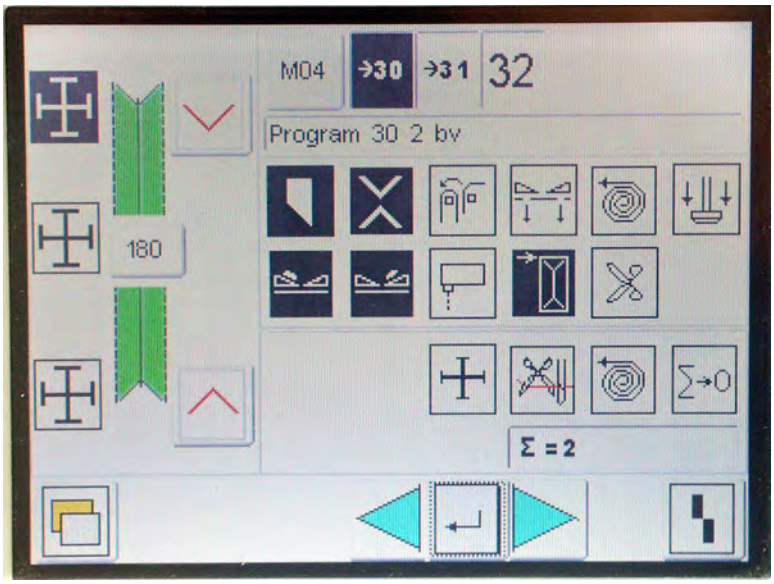
6 Programming

6.1 Menu structure of the sewing and setting programs

The individual parameters as well as the setting and test programs are arranged in various groups.

1. Switch on the machine.
2. Press the reset button.

Fig. 42: Menu structure of the sewing and setting programs



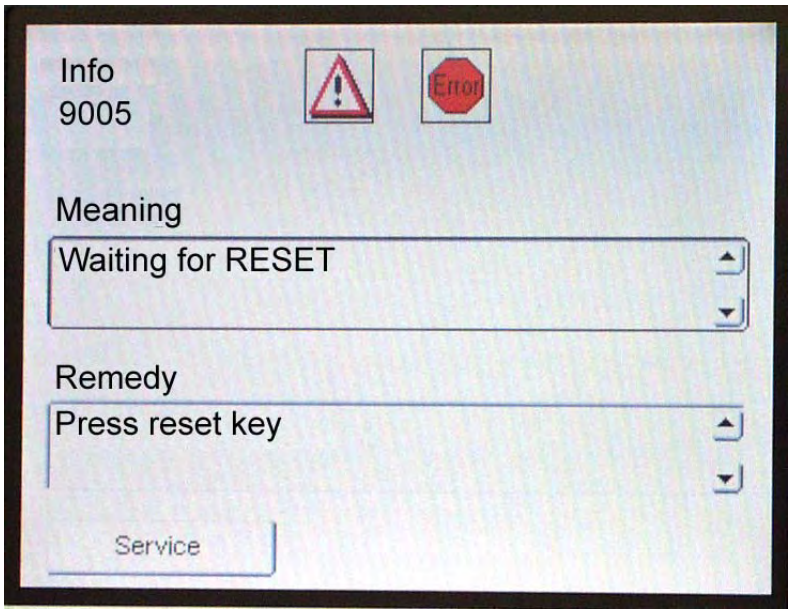
Menu level 1

- seam sequences
- seam function
- copy seam programs
- seam parameters
- global parameters
- service
- version

3. Switch on the machine.

↳ The control loads the machine program.
The start screen appears in the display of the touch screen monitor.

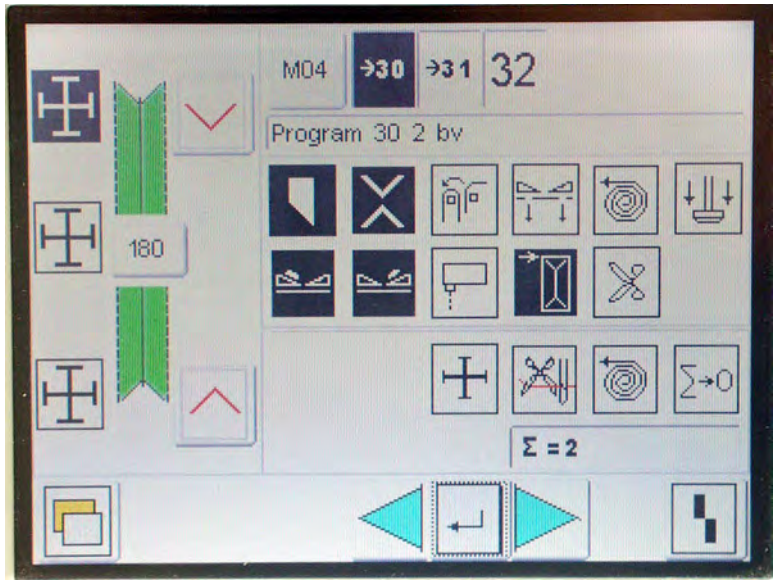
Fig. 43: Start screen



4. Press the program stop button at the control panel.

↳ The display changes over to the main screen.

Fig. 44: Main screen



Calling up the menu levels

1. Switch on the machine.

↳ The control loads the machine program.
The start screen appears in the display of the touch screen monitor.

2. Press the program stop button at the control panel.

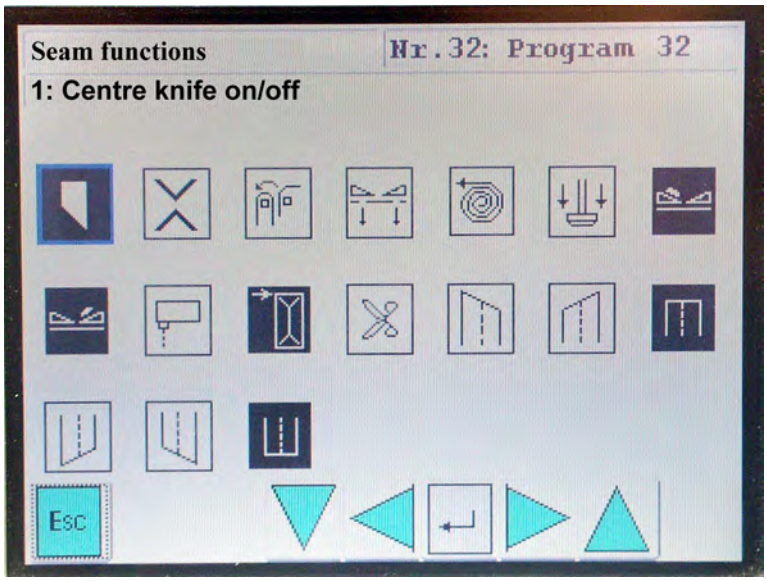
↳ The display changes over to the main screen.

3. Press the button  .

↳ You go to the menu level 1.

6.2 Switching seam functions on and off

Fig. 45: Switching seam functions on and off



1. Tap the desired parameter.

↳ The symbol of the selected parameter is framed in blue.

2. Tap the desired parameter again.

↳ The function is switched on or off.

 (On)  (Off)

6.3 Specified seam programs

The following seam programs have been stored by the manufacturer:

Storage location		Kind of seam
M01	01	Flap pocket - men’s jacket, right part
	02	Flap pocket - men’s jacket, left part
	03	Piped pocket - men’s jacket, left part
	04	Piped pocket - men’s jacket, right part
M02	10	Slanted flap pocket - right part

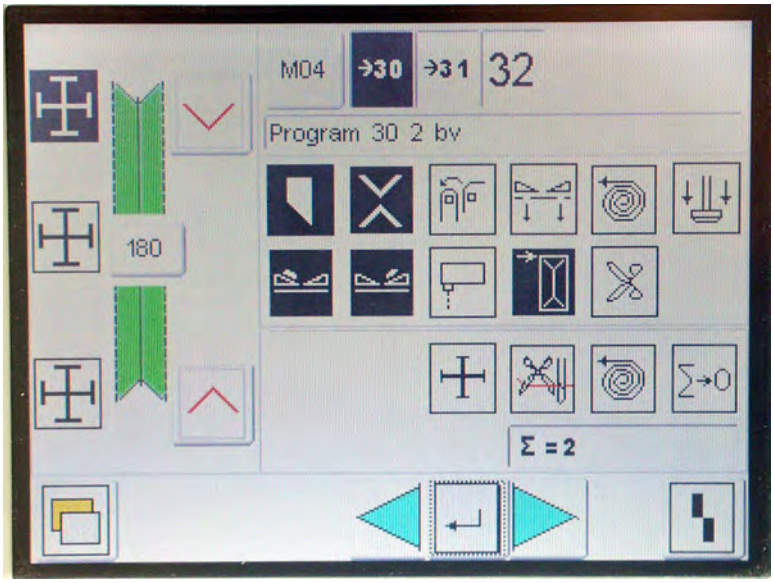
Storage location		Kind of seam
	11	Slanted flap pocket - left part
	12	Slanted piped pocket - right part
	13	Slanted piped pocket - left part
M03	20	Men’s jacket inside pocket with fleece; pocket length 60 mm
	21	Men’s jacket inside pocket with fleece; pocket length 100 mm
	22	Men’s jacket inside pocket with fleece; pocket length150 mm
	23	Men’s jacket inside pocket with fleece; pocket length 155 mm
M04	30	Hip pocket
	31	Front trousers pocket
	32	Hip pocket with flap
	33	Hip pocket with loop
M05	40	Pocket with zipper
	41	Hip pocket with zipper
M07	16	Men’s jacket: breast welt pocket

6.4 Main screen

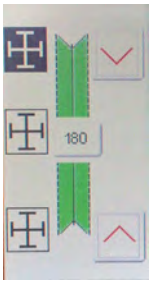
On the main screen, the seam pattern, the seam program, the selected pocket sequence as well as important seam functions are displayed.

The seam functions can be individually selected by the user.

Fig. 46: Main screen

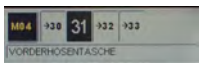


Seam pattern



The left halft of the display shows the seam pattern of the selected seam program.

Storage location and seam program



The top right corner of the display shows the program number and the selected pocket sequence.

 Move the cursor to the desired seam program number

 Press the return key.

↳ The seam program is activated.

 Press the return key.

↳ The seam program is deactivated.

Note:

If no seam program is active, an error message is produced.

Seam functions

The symbols in the middle of the right display half enable a quick access to important parameters.

 Center knife switched [on/off]

 Corner knife switched [on/off]

 Stacker or ejector roller [on/off]

 Vacuum automatic

 Tape feed [on/off]

 Holding stamp [on/off]

 Left flap clamp [activate/deactivate]

 Right flap clamp [activate/deactivate]

 Light barriers [activate/deactivate]

 Feeding position

 Zippe scissors and zipper unwinder [on/off]

The functions and adjustments of the individual seam functions are described more exactly in the chaper **seam parameters** (🕮 *S. 67*).

Other function buttons

 Laser lamps [activate/deactivate]

 Threading key for needle thread (thread clamp)

 Manual tape feed

 Reset the daily piece counter

Information line

In the information line the selected function is explained in a brief text.

Piece counter (daily piece counter)

The current reading of the piece counter is displayed on the right under the parameter symbols.

The piece counter indicates the number of pieces produced after the las counter reset.

Cursor keys

Changing between the individual Icons

RETURN key

Activating or deactivating of functions

Reset key

Resetting of functions

6.5 Menu level 1

Via the menu level 1 the user can adapt the sewing unit to his special requirements, e. g. it is possible to generate ne seam programs, to optimize existing seam programs and to alter parameter values.

6.5.1 Seam sequences

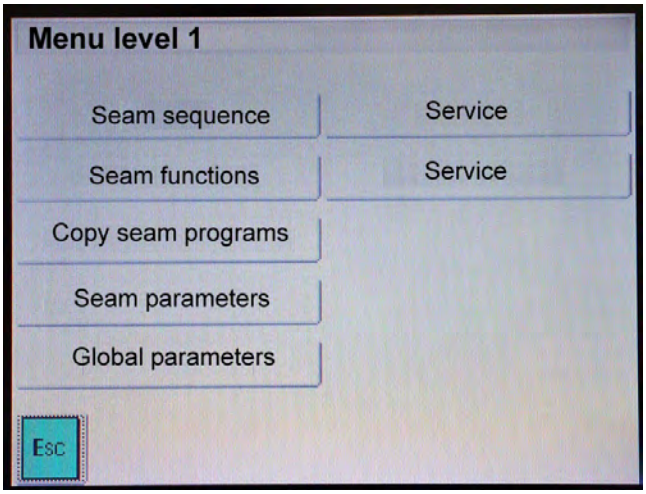
Under this menu it is possible to allocate seam programs to the individual storage locations.

A total of 20 independent storage locations is available.
Up to 6 programs can be combined on evers storage location in any desired order.

1. Press the symbol on the main screen.

↳ The display changes over to the screen *menu level 1*.

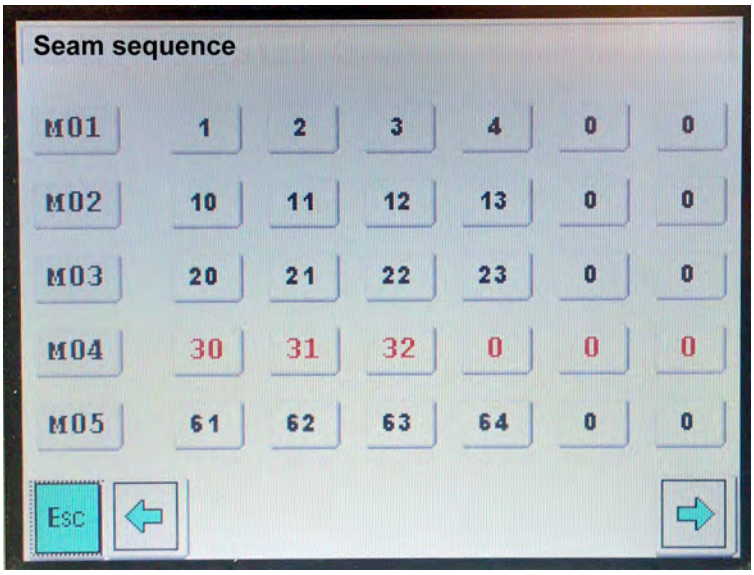
Fig. 47: Menu level 1



2. Tap the symbol *seam sequence*.

↳ The display changes over to the screen *seam sequence*.

Fig. 48: Seam sequence



Programming seam sequences

M04

1. Tap the desired storage location.
   Example: M04.

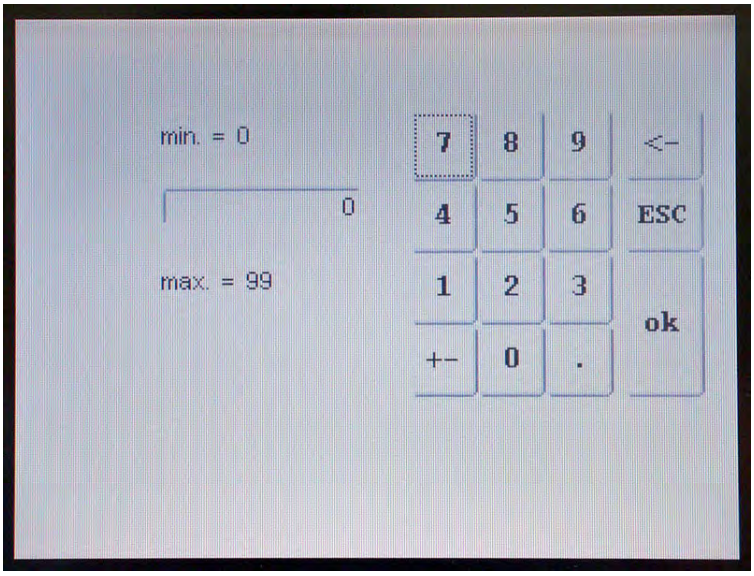
↳ The selected pocket sequences are displayed in red:
0 = seam program location is empty.

30

2. Tap the first storage location.
   Example: Tap a 0 for the seam program.

↳ The following screen appears:

Fig. 49: Pogramming seam sequences



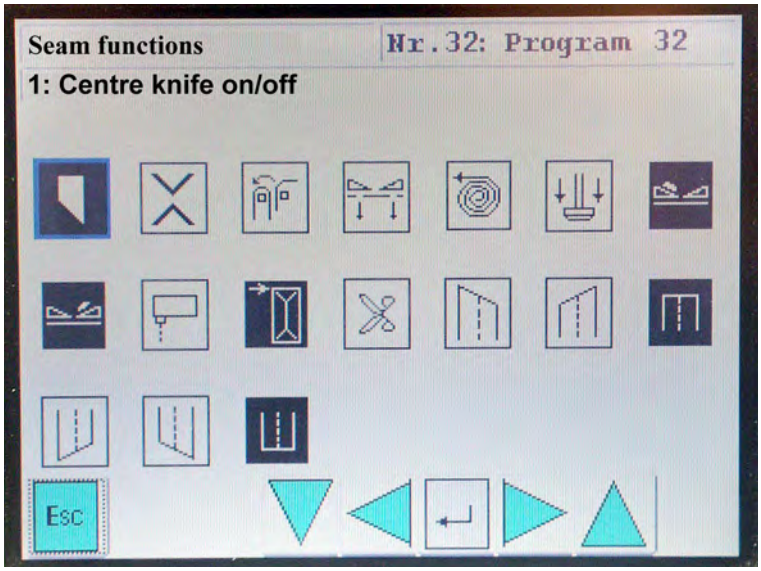
3. Enter the number (01 ... 99) of the desired seam program.
   Example: 33
   0 = no seam program

4. Tap the OK key.

↳ The display returns to the main screen.

6.5.2 Seam functions

Fig. 50: Seam functions



Via this menu the seam functions to be switched on or off for the current seam program on the main screen can be activated according to the equipment.

1. Select the icon with the cursors keys.

↳ The icon is framed in blue.

2. Tap the RETURN key.

↳ The function is activated.

The icon is displayed with a black background  .

or

3. Tap the seam function key directly.

↳ The function is activated.

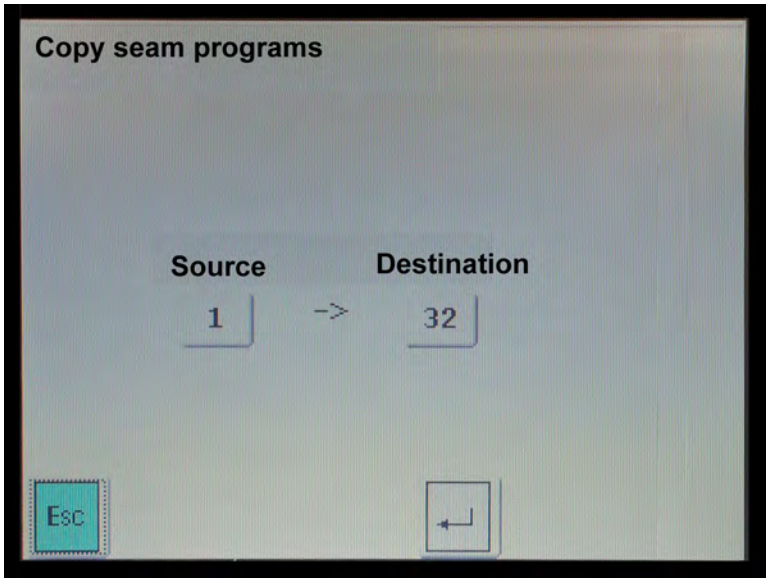
The icon is displayed with a black background  .

Note:

It is advisable to activate only those functions with which the machine is equipped.

6.5.3 Copying seam programs

Fig. 51: Copying seam programs



Via this menu new seam programs can be generated or existing ones can be overprinted.

The following steps are required:

1. Select a new seam program location (Example: Program No. 32).
2. Copy an existing program (Example: 1) to the new program location.
3. Adapt the seam parameters or seam functions of the new program to your requirements.

Copying the seam program

Attention!

Existing programs are overwritten.

1. Tap *copy seam programs*.
2. Select new seam program location (Example: Program No. 32).
3. Tap *source*.

↳ The numeric pad appears.

4. Tap the number of the source program.
5. Tap *destination*.

↳ The numeric pad appears.

6. Tap the number of the new program location.
7. Tap the OK key.

↳ The data of program 1 are copied to the program location 32.

6.5.4 Seam parameters

Under this menu item the parameters for programming the various seam programs are called up.

With the helpü of the parameters the seam course and the corresponding additiional functions are programmed.

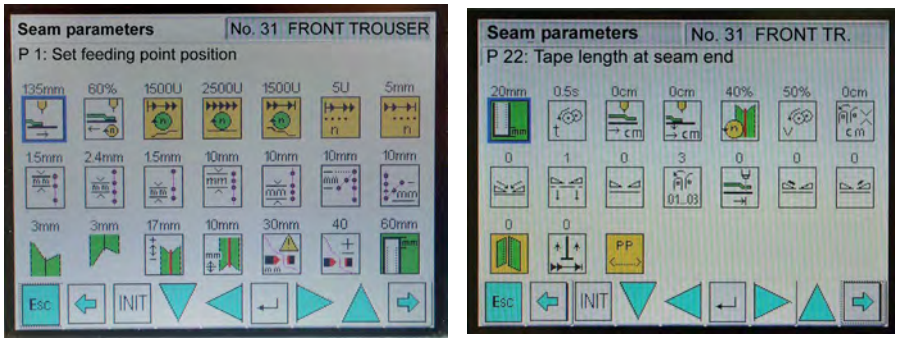
1. Press the symbol on the main screen.

↳ The display changes over to the screen *menu level 1*.

2. Tap the symbol `seam parameters`.

↳ The display changes to *seam parameters*.

Fig. 52: Seam parameters (1)

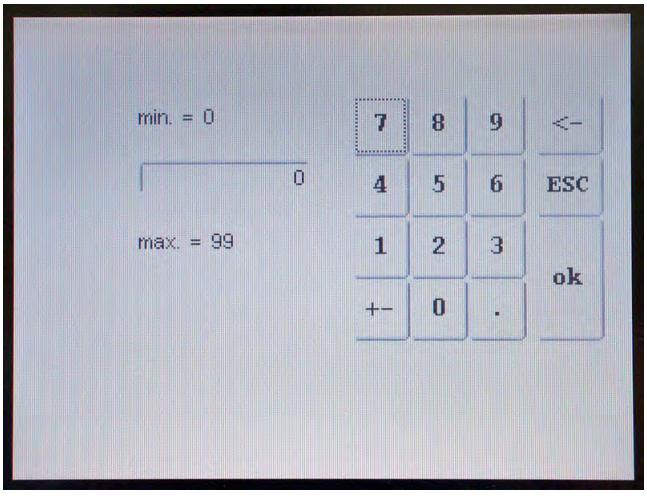


The selected pocket program is indicated in the upper part of the display (e. g. **No. 32**).
If available, the pertaining program name is displayed (e. g. **<Program 32>**).

3. Tap the desired parameter or select it with the cursor keys.

↳ The symbol of the selected parameter is blue-shadowed.

Fig. 53: Seam parameters (2)



In the screen `numeric pad` the minimum and maximum value valid for the respective function is indicated.

With the key <- an input can be deleted.

4. Alter the selected parameter as described above.

↳ By tapping the function key OK the display returns to the screen *menu level 1* and the alteres value is taken over.

1 Front feeding point

Via this parameter the feeding point is set.
The set value determines the reference point of the seam.
Input: 135, 225, 315 mm
Factory setting: -

2 Feeding speed

Via this parameter the clamping speed from the feeding position to the sewing start point is set.
As soon as the photocell is active, the speed is reduced by half to enable a precise scanning. When processing fleece material the speed is reduced to a third.
Input: 10 - 90%
Factory setting: 35%

3 Speed at the seam beginning

Via this parameter the speed of the machine head is set.
It is dependent on the needle and centre knife switching.
Input: 500 - 2000 rpm
Factory setting: 1500 rpm

4 Speed within the seam

Via this parameter the speed within the seam is set.
Input: 500 - 3000 rpm
Factory setting: 2500 rpm

5 Speed at the seam end

Via this parameter the speed at the seam end is set.
Input: 500 - 2000 rpm
Factory setting: 1500 rpm

6 Seam section speed at the seam beginning

Via this parameter the seam section at the seam beginning to be sewn with the *speed at the seam beginning* is set.
Input: 0 - 99 mm
Factory setting: 5 mm

7 Seam section speed at the seam end

Via this parameter the seam section at the seam end to be sewn with the *speed at the seam end* is set.
Input: 0 - 99 mm
Factory setting: 5 mm

8 Stitch length seam beginning

Via this parameter the stitch length for bartacks or stitch condensing at the seam beginning is set.
Input: 0,5 - 3 mm
Factory setting: 1,5 mm

9 Stitch length main seam

Via this parameter the stitch length within the seam is set.
Input: 0,5 - 3,5 mm
Factory setting: 2,4 mm

10 Stitch length seam end

Via this parameter the stitch length at the seam end is set.
It affects bartacks and condensed stitches at the seam end.
Input: 0,5 - 3,0 mm
Factory setting: 1,5 mm

11 Seam section stitch length at the seam beginning

Seam section with stitch length of parameter *`stitch length at the seam beginning`*.
Input: 0,5 - 99 mm
Factory setting: 10 mm

12 Seam section stitch length at the seam end

Seam section with stitch length of parameter *`stitch length at the seam end`*.
Input: 0,5 - 99 mm
Factory setting: 10 mm

13 Bartack length at the seam beginning

Via this parameter the bartack length at the seam beginning is set. If this value is set to 0, it is automatically sewn with condensed stitches.
Input: 0 - 20 mm
Factory setting: 10 mm

14 Bartack length at the seam end

Via this parameter the bartack length at the seam end is set. If this value is set to 0, it is automatically sewn with condensed stitches.
Input: 0 - 20 mm
Factory setting: 10 mm

15 Slant at the seam beginning

Via this parameter the slant at the seam beginning is set.
Offset seam (difference left/right needle) at the seam beginning.
Input: 0 - 10 mm
Factory settung: 3 mm

16 Slant at the seam end

Via this parameter the slant at the seam end is set.
Offset seam (difference left/right needle) at the seam end.
Input: 0 - 10 mm
Factory settung: 3 mm

17 Engaging the centre knife

According to the seam and knife width the centre knife should make an approx. 1 mm longer cut than the corner knife at the seam beginning.
Input: 0 - 30 mm
Factory setting: 8 mm

 18 Disengaging the centre knife

According to the seam and knife width the centre knife should make an approx. 1 mm longer cut than the corner knife at the seam end.
Input: 0 - 30 mm
Factory setting: 6 mm

 19 Thread monitor on

Seams ection after which the thread monitor is activated; alter the parameter for sewing lengths < 30 mm.
Input: 0 - 99 mm
Factory setting: 30 mm
Set the value to 10 for pocket lengths under 40 mm.

 20 Thread monitor filter

The smaller the number, the more sensitive the needle thread monitor will react.
Input: 0 - 99
99 = Thread monitor deactivated
Factory setting: 20

 21 Fleece length at the seam beginning

Via this parameter the fleece projection at the seam beginning is set.
Input: 0 - 99 mm
Factory setting: 20 mm

 22 Fleece length at the seam end

Via this parameter the fleece projection at the seam end is set.
Input: 0 - 99 mm
Factory setting: 20 mm

 23 Duration of ejector roller rotation

Via this parameter the precise positioning of the workpiece for the subsequent stacking operatiion is set.
Input: 0 - 99 Sek.
Factory setting: 0,5 Sek.
For the blowing module the *blowing time* is set.

24 Selection and position of intermediate stop

Via this parameter the position to which the main clamp is to be moved after stacking is set.
Input: 0 - 48 cm
Input 01 cm: The main clamp is moved to the feeding station
Factory setting: 0 cm

25 Feeding the workpiece (selection and position)

If an input is made, the main clamp becomes pressureless after corner incision automatically and the workpiece is pushed to the set position.
Input: 0 - 48 cm
Input 01 cm: The workpiece is moved to the feeding station
Factory setting: 0 cm

26 Centre knife speed

Via this parameter the cutting speed of the centre knife is set.
Input: 10 - 99%
Factory setting: 40%

27 Ejector roller speed

By reducing the speed you will achieve a more precise positioning when stacking.
Input: 0 - 99%
Factory setting: 50%

28 Stacker position

Via this parameter the stacking position is set.
Input: 01 - 99 cm
Factory setting: 0 cm

- 00: Stacking at the position of corner incision
- 01 - 99: The main clamp moves to another position after the corner incision
  - 01: The function is switched on and the main clamp moves to a fixed position of 380 mm from the feeding position
  - 02 - 99: The higher the value, the farther the main clamp will move to the back

 29 Folding slide mode

Via this parameter the folding slide is set.
Input: 00: Left and right folding slide active
01: Left folding slide is active
02: Right folding slide is active
03: Left and right folding slide inactive

 30 Vacuum mode (option)

IIn conjunction with icon  under the menu *seam functions*.

Via this parameter the activation of the vacuum is set.
Input: 00: Vacuum on automatically, main clamp to the feeding position
01: Vacuum on by pressing the pedal forward

 31 Main clamp mode

Via this parameter the activation of the main clamp is set.
Input: 00: Main clamp left/right down and fixed
01: Main clamp left down and fixed
02: Main clamp right down and fixed
03: Both main clamps not fixed

 32 Stacker mode

Input: 01: only ejector
02: Stacker
03: Stacker with ejector
With blowing device: Input 01

 33 Back push barrier aktive - inaktive

Input: 00: Back push barrier active
01: Back push barrier inaktive

 34 Flap clamp mode, left

Input: 00: Flap clamp active with pedal only
01: Flap clamp active automatically

 35 Flap clamp mode, right

Input: 00: Flap clamp active with pedal only
01: Flap clamp active automatically

36 Breast welt mode

The breast welt is swivelled in with the help of the flap station.
01: Folder down after flap clamp closed
02: Folder down after left main clamp closed

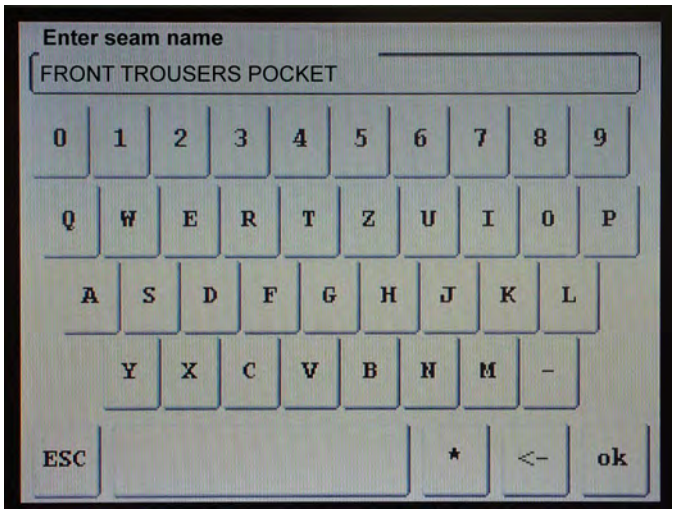
37 Folder up at the seam end

For quicker feeding it is possible to move the folder to the inital position directly after the seam end.
Input: 00: off
01: on

Entering the name of the seam program

↳ The following screen appears:

Fig. 54: Entering the name of the seam program



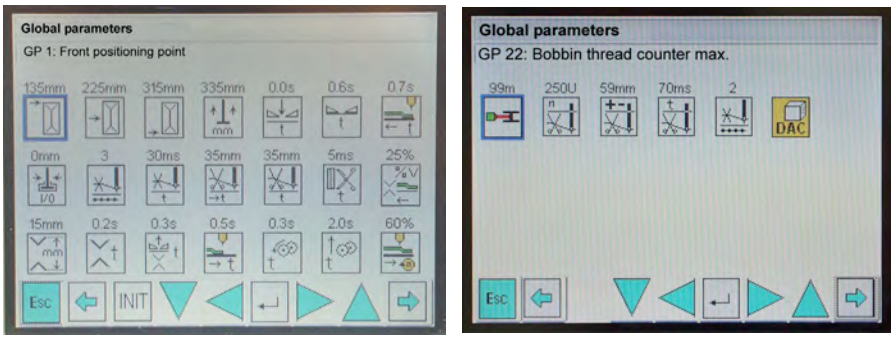
1. Enter the seam name.
2. Tap the OK key.

6.6 Global parameters

The global parameters comprise the general machine settings.

Alterations will affect all programmed seams.

Fig. 55: Global parameters



The following global parameters can be altered:

01 Front feeding point

Distance between feeding position and sewing start.
When the seam length is changed, only the seam end will vary
Input: 100 - 300 mm
Factory setting: 135 mm

02 Central feeding point

With this setting the seam beginning is calculated in such a way that seam beginning and seam end are equelly shiftet when the seam length is changed.
This is usually required for a hip pocket with dart in case the dart is to be located in the middle of the pocket.
Input: 100 - 400 mm
Factory setting: 225 mm

03 Rear feeding point

Setting: Distance between feeding position and seam end.
When the seam length is changed, the seam end remains unchanged and the seam beginning varies.
Input: 200 - 450 mm
Factory setting: 315 mm

04 Folder up after sewing

The time when the folder is swivelled up after sewing
If the section is set too short, the folder will get caught at the folding slides.
Input: 100 - 500 mm
Factory setting: 335 mm

05 Clamp automatically down

When a time is set, the main clamp will close after reaching the feeding position plus the set time.
Input: 0,0 - 1,0 Sek.
Factory setting: 0,0 Sek.

06 Time after clamp down

Time delay between the funtion *clamp down* and the next operation.
Input: 0,0 - 1,0 Sek.
Factory setting: 0,3 Sek.

07 Time before feeding

When the set time is over, the main clamp moves from the feeding position to the sewing start (when the pedal is pressed forward).
Input: 0,0 - 1,0 Sek.
Factory setting: 0,2 Sek.

08 Piping blowing on/off

Piping or flap are blown against the folder to avoid slipping of the piping.
Input: 00: off
01: on

09 Thread clamp open at seam beginning

After the first stitches the needle threads should be released by the thread clamp.
The thread clamp opens after the number of stitches ste in this parameter.
Input: 0 - 20
Factory setting: 2

10 Thread clamp open - Duration

Duration of *thread clamp open at seam beginning*.
The thread catcher must extend so far that the threads are released.
Input: 0 - 99 ms
Factory setting: 20 ms

11 Until the needle thread is trimmed at the seam end

Time for catching and trimming the needle thread.
Input: 0 - 100 mm
Factory setting: 30 mm

12 Duration of needle thread trimming

Duration of the impulse for the thread catcher.
The cylinder must get out completely.
Input: 0 - 50 mm
Factory setting: 28 mm

13 Cutting duration of zipper scissors

Influences the zipper scissors in such a way that it cuts the zipper completely before moving to the end position.
Input: 0,0 - 0,5 Sek.
Factory setting: 0,5 Sek.

14 Moving to the cutting position

Percentage of the speed of the main clamp when moving to the corner knives.
Input: 10 - 99%
Factory setting: 25%

15 Distance of korner knives

Distance of the korner knives to each other.
Mechanical adjustment of the front and rear korner knives in the reference position.
Input: standard korner knives: 50 mm
slanted korner knives: 56 mm
Factory setting: depending on the equipment

16 Corner knife cutting

Cutting duration of the corner knives.
Input: 0,0 - 1,0 Sek.
Factory setting: 0,3 Sek.

17 Main clamp open

Opening of the main clamp after corner trimming.
If a too short time is set, the workpiece may slide out of the machine before being taken over by the stacker.
Input: 0,0 - 1,0 Sek.
Factory setting: depending on the equipment

18 Taking over of workpieces

When returning the wirkpieces by a non-fixed clamp (processing of inside pockets) the main clamp opens after corner trimming and the ejector roller transports the workpiece out of the clamp sideways.
Afterwards the clamp is switched via this parameter so that the workpiece is quickly scanned and transported to the feeding position by the main clamp.
Input: 0,0 - 1,0 Sek.
Factory setting: 0,5 Sek.

19 Until the rotation of the ejector roller

Time for the start of the ejector roller rotation.
Input: 0,0 - 1,0 Sek.
Factory setting: 0,1 Sek.

20 Until ejector roller up

Holding the workpiece after ejecting until the stacker has taken it over safely.
Input: 0,0 - 3,0 Sek.
Factory setting: 0,5 Sek.

21 Clamp speed (Max.)

Speed of the main clamp when moving to the feeding position.
Input: 10 - 99%
Factory setting: 70%

22 Bobbin thread counter on/off or thread length full

Function can be switched on or off.
Input: 00: Bobin thread monitoring on.
With this setting the bobbin thread counter is deactivated automatically
01: Thread length full
Factory setting: 00

 23 Thread trimmer speed

Positioning speed for thread trimming systems.
Input: 70 - 500 rpm
Factory setting: 250 rpm

 24 Thread trimmer position

Correction of the start of the thread trimmer impulse.
The smaller the set number, the earlier the bobbin thread trimmer will start.
Input: 1 - 59 mm
Factory setting: 59 mm

 25 Thrad trimmer duration

The duration of the bobbin thread trimming should be as short as possible, because otherwise the main clamp will be moving already.
Input: 0 - 200 ms
Factory setting: 80 ms

 26 Thread tension

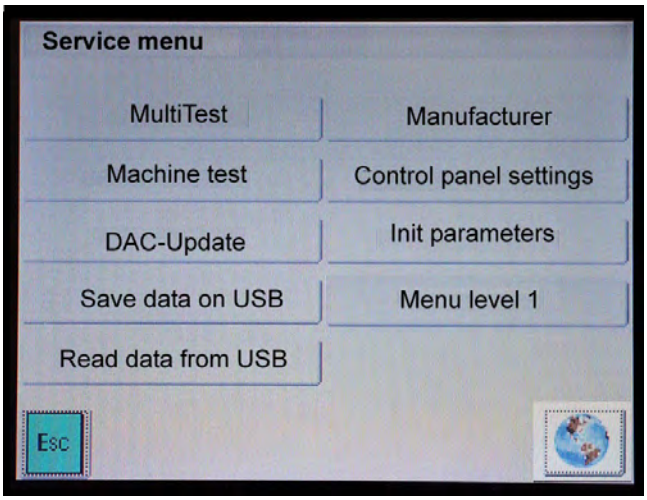
Number of stitches until the needle thread tensions close after the sewing start.
Input: 0 - 10
Factory setting: 0

Setting the machine parameters

Go to the technician level via code number.
(for Beisler service personnel only)

6.7 Service menu

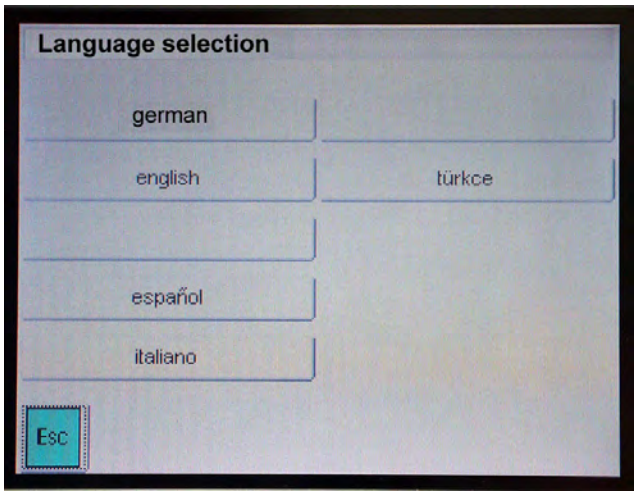
Fig. 56: Service menu



The machine software includes various machine-specific settings and test programs.

Select language

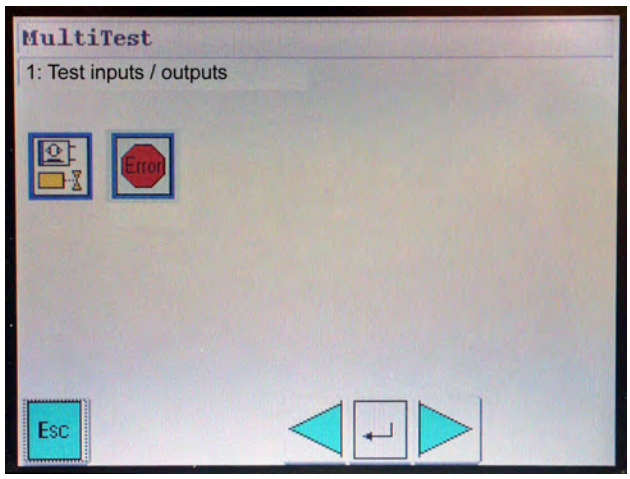
Fig. 57: Select language



6.7.1 Multi test

The test programs in this menu allow the quick test of input and output elements of the sewing unit.

Fig. 58: Multi test



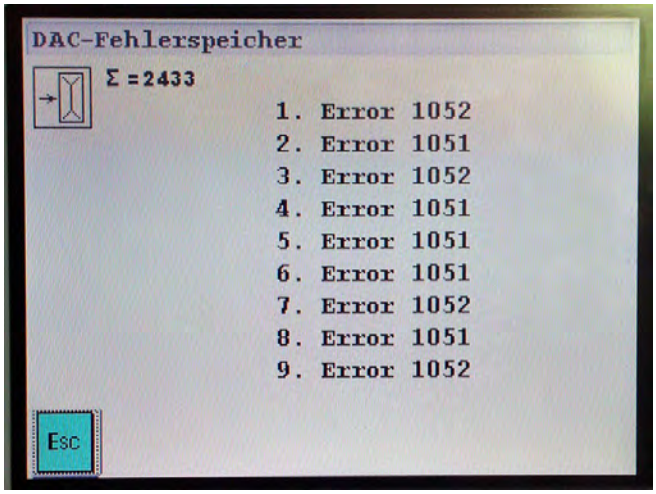
1. Tap the inputs and outputs.

↳ The program serves for testing the input and output elements.

1. Tap the Error list.

↳ The DAC Error list appears.

Fig. 59: DAC Error list



Display of the piece counter.
The count cannot be deleted.

Testing inputs/outputs

NOTICE

Attention!

The input elements have been carefully set by the manufacturer.

Settings and corrections must only be done by traines service personnel.

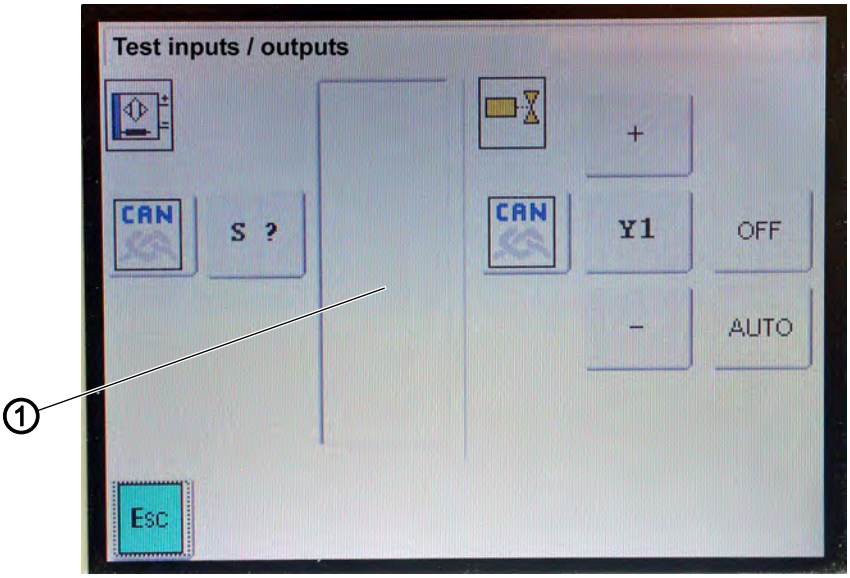
WARNING

Caution risk of injury!

Do not reach into the running machine during the function test.

Testing input elements

Fig. 60: Testing input elements



(1) - Field

1. Change between the basic module (inputs S1 to S104) and the CAN node (inputs SC101 to SC110) with the CAN key.

2. Tap key S?.

↳ The numeric pad appears.

3. Enter the code number of the desired input element (see tables).

4. Actuate the input element and check the switching state on the display.

↳ In the field (1) the designation and the switching state (+/-) of the actuated input is displayed.

ESC

5. Tap the ESC key to quit the menu.

NOTE:

It is possible to test several inputs one after the other.

Input elements (X120b)

Input element	Designation
S1	OFW1 left
S2	OFW2 right
S3	DATAOUT (MM DC module)
S4	DATAOUT (ejector roller DC module)
S5	Main clamp feeding position
S6	Feeding station safety switch
S7	Folder down

Input elements (X120t)

Input element	Designation
S9	Corner knife unit swivelled in
S10	Reverse lock (LS)
S12	Zipper feed
S14	Pedal start
S15	Pedal reset
S16	Pedal vacuum

Input elements (X140b)

Input element	Designation
S100	Ref. sewing motor
S101	Ref. feeding unit (X)
S102	Ref. knife support seam beginning (Y)

Input elements (X100b)

Input element	Designation
S17 Interrupt	LS flap scanning 1
S20 Interrupt	LS flap scanning 2

Input elements (X100t)

Input element	Designation
S21 Interrupt	Tape control (tape feed)
S24 Interrupt	Program stop switch

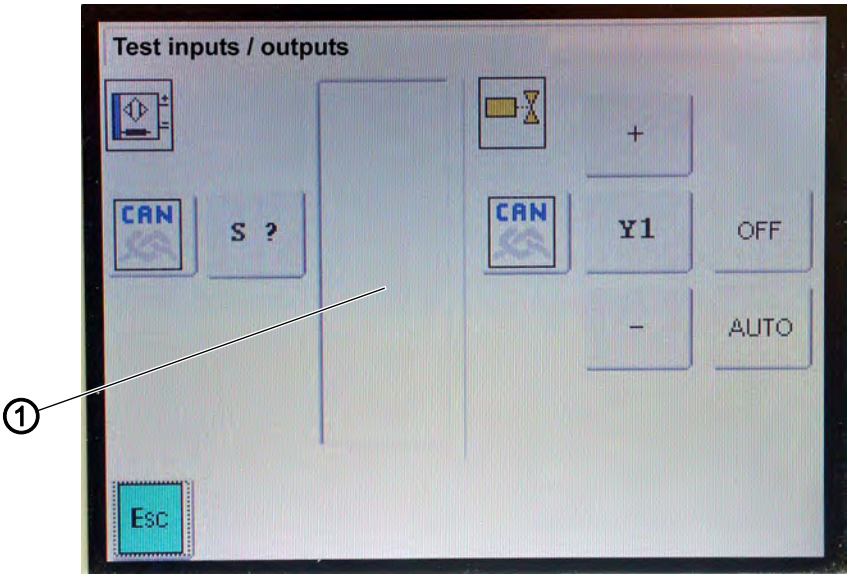
Input elements CAN module plug 1

1. Tap CAN key.

Input element	Designation
SC101	Folder up
SC102	Stamp up
SC103	Clamp adjustment left
SC104	Scissors up
SC105	Scissros down
SC106	Clamp adjustment right
SC107	Corner knife down seam end
SC108	Corner knife down seam beginning
SC109	Corner knife down seam end (left)
SC110	Corner knife down seam beginning (left)

Testing output elements

Fig. 61: Testing output elements



(1) - Field

1. Change between the basic module and the CAN node with the CAN key.

↳ Y1 or Y101 is displayed.

2. Select the desired output with +/-.

OR

3. Tap Icon Y1 or Y101.
4. Enter the code number of the desired output element (see tables).

5. Tap OK key.

↳ The output element is displayed.

6. Tap OFF key.

↳ The output element is switched off.
The display shows -.

7. Tap AUTO key.

↳ The output element is red-shadowed and actuated in interval mode.

Output elements (DAC3-X120b)

Valve	Designation
Y1	Needle thread catcher
Y3	Centre knife tappet
Y5	Bobbin thread trimmer
Y6	Thread lifting
Y7	Needle disengagement, left
Y8	Needle disengagement, right

Output elements (DAC3-X120t)

Valve	Designation
Y9	Folder down
Y10	Folder up
Y11	Corner knife up
Y12	Corner knife up, small pocket
Y13	Corner knife left - movable
Y14	Corner knife right - movable
Y15	Corner knife left - stationary
Y16	Corner knife right - stationary

Output elements (DAC3-X140t)

Valve	Designation
Y101	Zipper motor

Output elements CAN node plug 1

Valve	Designation
YC101	Flap clamp right
YC102	Folding slide left
YC103	Folding slide right
YC104	Flap clamp left
YC105	Main clamp open
YC106	Main clamp left
YC107	Main clamp right
YC108	Blowing bobbin thread monitor
Option:	
YC109	Quick clamp adjustment left
YC110	Stamp
YC111	Y10 Vacuum
YC112	Y13 Stacker start
YC113	Y23 Ejector roller
YC114	Y51 Fleece lifting
YC115	Y09 Fleece trimming
YC116	Y50 Quick clamp adjustment right

Output elements CAN node plug 3

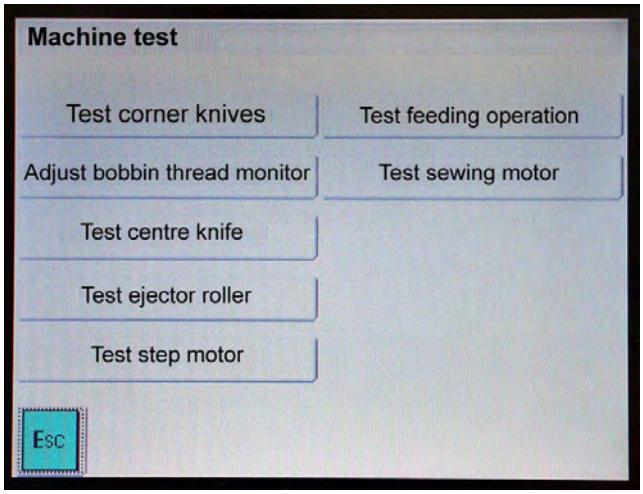
Valve	Designation
YC133	Large pin bar (waistband clamp)
YC134	Scissors swivelling
YC135	Scissors cutting
YC136	Blowing of piping
YC141 bis YC148	Laser lamps

Output elements CAN node plug 4

Valve	Designation
YC149 bis YC156	Laser lamps (extension)

6.7.2 Machine test

Fig. 62: Machine test

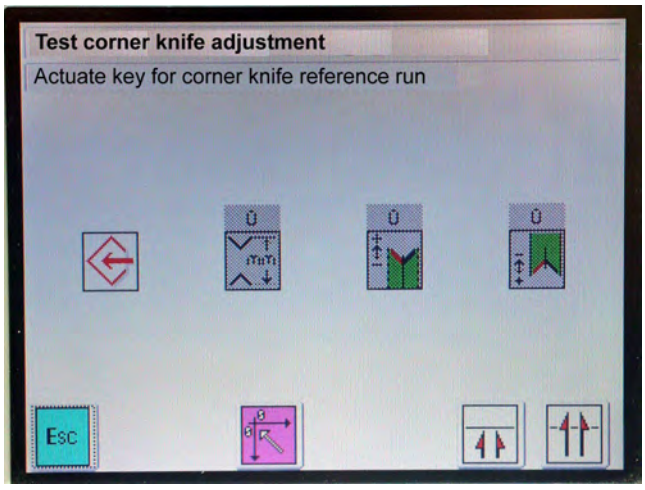


The machine test serves for adjusting and testing of individual sewing unit components.

Testing corner knife unit

With this program the step motors and cylinders can be tested.

Fig. 63: Testing corner knife unit



 Machine parameters corner knife

 Corner knife distance is displayed or checked.
After opening the menu the step motors for the corner knives can be tested.

Test correction of corner knives at the seam beginning (only slanted pockets)

Test correction of corner knives at the seam end (only slanted pockets)

Reference run corner knife supports

Test corner knife cylinders

1. Perform a reference run.
2. Tap the desired parameter.

↳ The program is started.

3. Tap the ESC key to quit the menu.

Machine parameters corner knives (basic adjustment)

In the program machine parameters the basic adjustment of the step motors for the corner knives to the seam is made.

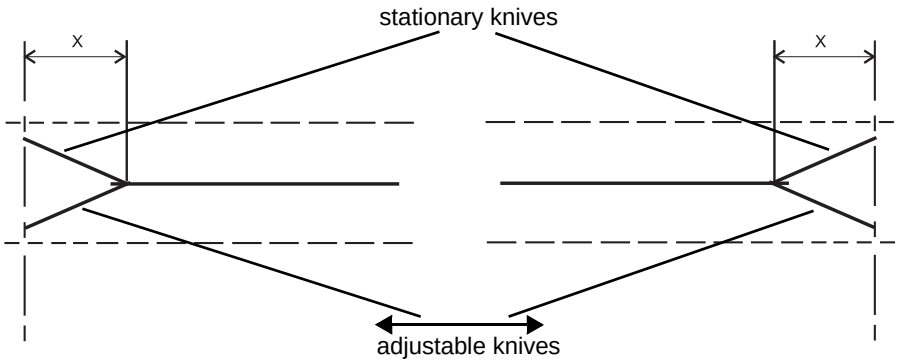
Prior to the correction of the corner incisions a workpiece should be prepared and sewn.
For this purpose proceed as follows:

1. Set the maximum sewing length at the control.
2. Iron a piece of fleece on a workpiece.

↳ Thus the corner incisions are better visible.

3. Perform a test seam.
4. Check the seam pattern.

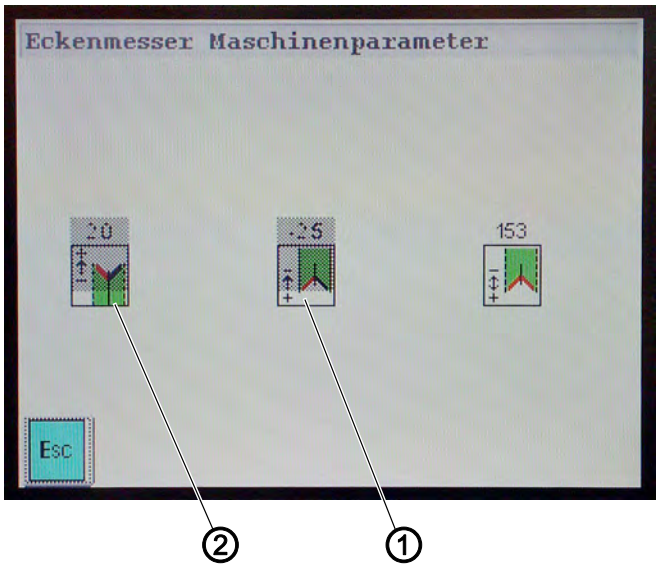
Fig. 64: Machine parameters corner knives (1)



NOTICE!

With machines for straight pockets the icons (1) and (2) are grey-shadowed and cannot be selected.

Fig. 65: Machine parameters corner knives (2)



(1) - Icon *(2) - Icon*

Correction left corner knife at seam beginning zero point or position of movable knife to stationary knife

Slanted seam only.
Input: ca. 2,0
NOTE:
The 2 movable knives must be in parallel position.

Correction left corner knife at seam end zero point or position of movable knife to stationary knife

Slanted seam only.
Input: ca. 2,5

Correction value distance between needles and corner knives at the seam end

Input: ca. 153
NOTE:
The entered value applies to all seam programs. If the value *seam end* is changed, the value *seam beginning* changes automatically.

Corner knife distance (test program)

WARNING

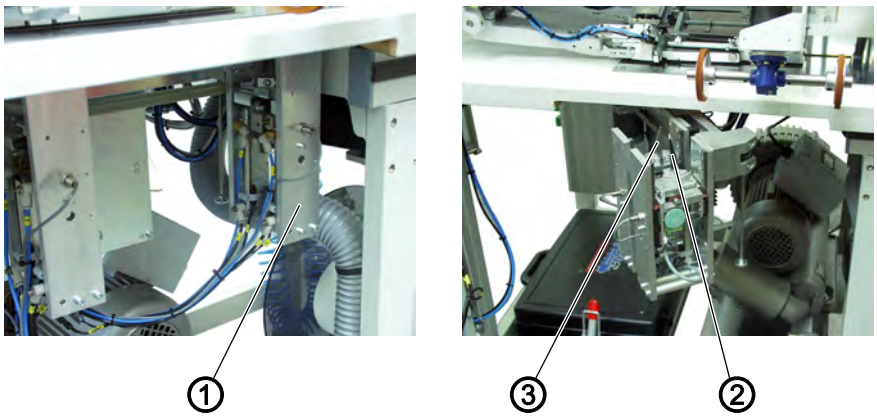
Caution risk of injury!

Do not reach into the area of the corner knives.

Carry out tests on the running machine with utmost caution.

With this program the corner knife distance can be checked or it can be tested whether the step motors move to the correct position.

Fig. 66: Corner knife distance (test program)



(1) - Corner knife station
(2) - Corner knife
(3) - Corner knife

1. Tap function key.

↳ The stepmotors of the corner knife station (1) perform a reference run.

2. Swivel out the corner knife station (1).

3. Tap the symbol *corner knife distance*.
4. Enter a corner knife distance.

5. Tap the OK key.

↳ The corner knifes move to the set value.

6. Check the distance between the corner knives (2) and (3).

Correction corner knives at seam beginning (slanted pockets only)

1. Tap the symbol
2. Enter a correction value (+/-).

3. Tap the OK key.

↳ The front corner knives move to the set value.

Correction corner knives at seam end

1. Tap the symbol.
2. Enter a correction value (+/-).

3. Tap the OK key.

↳ The rear corner knives move to the set value.

NOTE:

The enteres values are automatically reset when returning to the main screen.

Testing the corner knife motion

WARNING

Caution risk of injury!

Do not reach into the area of the corner knives. The corner knives shooting up can cause severe cuts.

Check the corner knives with utmost caution when the machine is running.

The corner knives are tested in a sequence.

- 1. Step: front corner knives move upwards and remain in top position
- 2. Step: rear corner knives move upwards and remain in top position
- 3. Step: only the left front corner knife moves upwars and remains in top position
- 4. Step: right front corner knife moves upwards and remains in top position
- 5. Step: left rear corner knife moves upwards and remains in top position
- 6. Step: right rear corner knife moves upwards and remains in top position
- 7. Step: complete cutting operation with all four knives

1. Tap symbol.

↳ The test sequence is started.

2. Tap symbol again.

↳ The next step is processed.

3. Tap symbol until all steps have been carried out.

4. Tap symbol to return to the previous step-

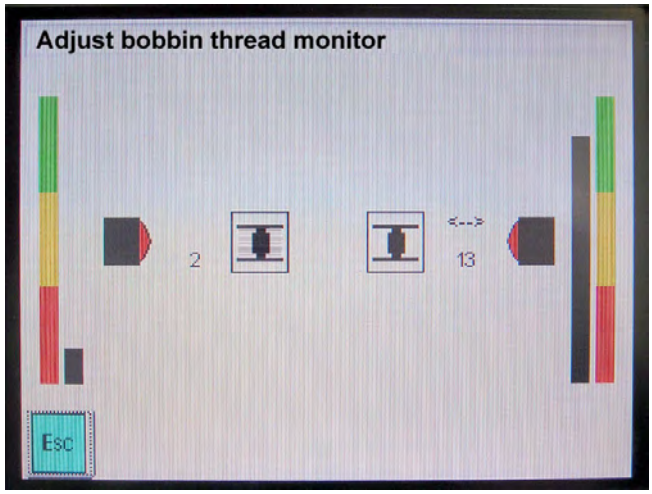
ESC

5. Tap the ESC key to quit the menu.

6.7.3 Testing the bobbin thread monitor

This program serves for aligning the reflected light barrier of the bobbin thread monitors.

Fig. 67: Testing the bobbin thread monitor



Test with full bobbin

1. Insert a full bobbin.
2. Cover the bobbin thread monitor against extraneous light.
3. Pull the bobbin thread.

↳ A value between 0 - 4 should be indicated in the bar graph.

ESC

4. Tap the ESC key to quit the menu.

Test with empty bobbin

1. Insert an empty bobbin.
2. Cover the bobbin thread monitor against extraneous light.
3. Turn the empty bobbin until the surface is in parallel position to the bobbin thread monitor.

↳ A value between 9 - 15 should be indicated in the bar graph.

ESC

4. Tap the ESC key to quit the menu.

6.7.4 Testing the centre knife

With this program the centre knife drive can be tested.

Fig. 68: Testing the centre knife

1. Tap the symbol.

↳ The numeric pad appears.

2. Enter the desired speed in %.
   The standard value is 40%.

3. Tap the OK icon.

4. ITap the ON icon.

↳ The motor runs at the entered speed.

5. Tap the icon *knife*.

↳ The cylinder presses the knife into the cutting position.

6. Tap the icon OFF.

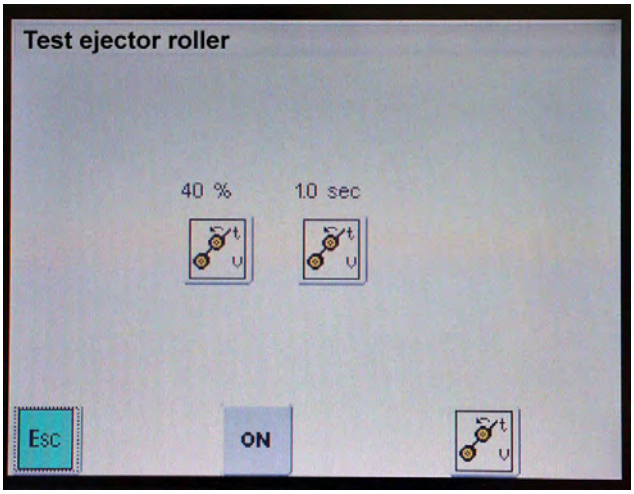
↳ The motor stops.

7. Tap the ESC key to quit the menu.

6.7.5 Testing the ejector roller

With this program the function of the ejector roller is tested.

Fig. 69: Testing the ejector roller



1. Tap the icon *ejector roller speed*.

↳ The numeric pad appears.

2. Enter the desired speed.

3. Tap the icon OK.

4. Tap the icon *ejector roller time*.

↳ The numeric pad appears.

5. Enter the desired time.

6. Tap the icon OK.

7. Tap the icon ON.

↳ The motor runs with the entered speed.

8. Tap the icon OFF.

↳ The motor stops.

9. Tap the icon.

↳ The ejector roller lowers, rotates for the time set and returns to its initial position.

10. Tap the ESC key to quit the menu.

6.7.6 Testing the step motor for the transport clamp

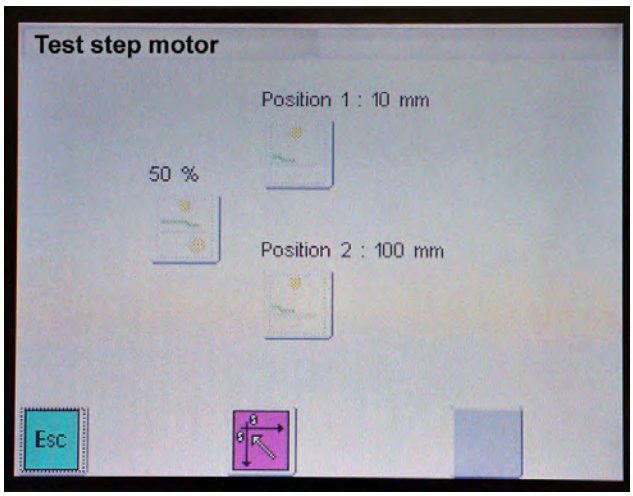
WARNING

Caution risk of injury!

The main clamp moves to the front and to the rear at top speed.

With this program the step motor function is tested.

Fig. 70: Testing the step motor for the transport clamp



1. Tap the icon.

↳ The main clamp moves to the reference position.

2. Enter the desired speed and position.

3. Tap the icon ON.

↳ The test program is started.
The transport clamp moves back and forth within the set position.
Place a marking at the clamp slide and check whether the transport clamp always moves to the same positions.

4. Tap the icon OFF.

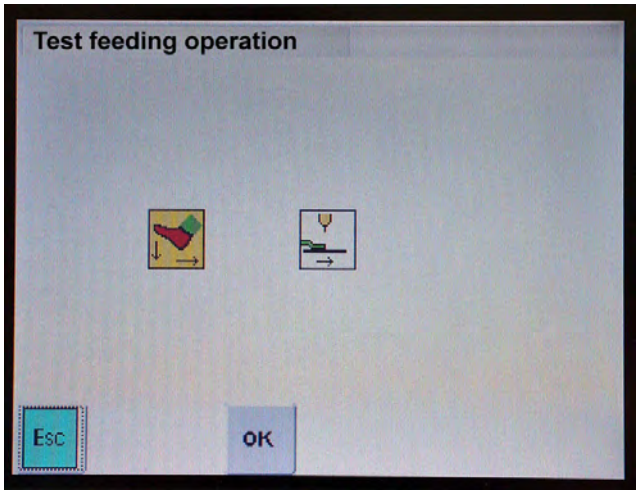
↳ The test program stops.

5. Tap the ESC key to quit the menu.

6.7.7 Testing feeding operation, material feed and sewing cycle

With this program the feeding operation is tested.

Fig. 71: Testing feeding operation, material feed and sewing cycle



2 different test modes are available:

- Mode 1: The whole feeding operation and sewing cycle is carried out
- Mode 2: Only the feeding operation and the clamp feed are started and stopped with the pedal

1. Tap the icon.
2. Enter the mode.

3. Tap the icon ON.

↳ The test program is started.

4. Tap the icon ESC until the main screen appears.
5. Start the feeding test with the central pedal.
   The test can be repeated as often as required.
6. Switch the machine off and on.

↳ The test mode is deleted.

6.7.8 Testing the sewing motor

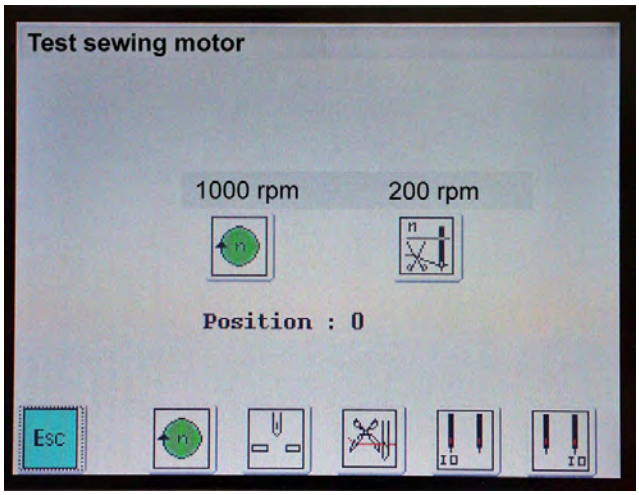
NOTICE

Property damage may occur!

Pull the threads out of the needles and the thread lever.

With this program the sewing motor is tested.

Fig. 72: Testing the sewing motor



1. Tap the icon.
2. Enter the desired speed.

3. Tap the icon.

↳ The sewing motor runs with the entered speed.

4. Tap the icon.

↳ The sewing motor stops in reference position and the value is indicated in the display *position*.
Example: 355

5. Tap the icon.
6. Enter the desired speed for the thread trimming.

7. Tap the icon.

↳ The sewing motor runs with the entered speed.

8. Tap the icon.

↳ The sewing motors stops automatically and the thread trimmer is actuated.

9. Tap the icon.

↳ The sewing motor runs with the entered speed.

10. Tap the icon.

↳ The left needle is switched on or off.

11. Tap the icon.

↳ The right needle is switched on or off.

12. Tap the icon.

↳ The sewing motor stops in reference position and the value is indicated in the display *position*.
Example: 355

6.7.9 DAC Update

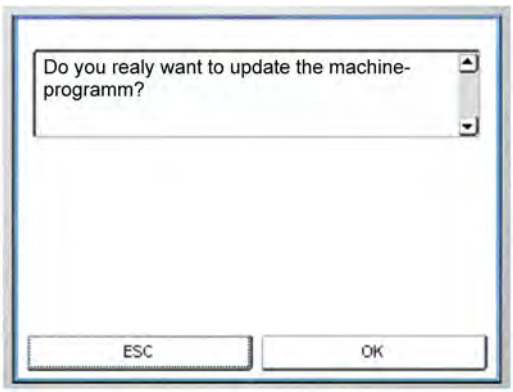
NOTICE

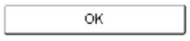
Property damage may occur!

During the data transfer to the control the machne must not be switched off.

1. Switch off the machine.
2. Plug the USB-Stick in the plug-in position at the side of the control box.
3. Switch on the machine.
4. Change to the menu `DAC Update`.

Fig. 73: DAC Update (1)

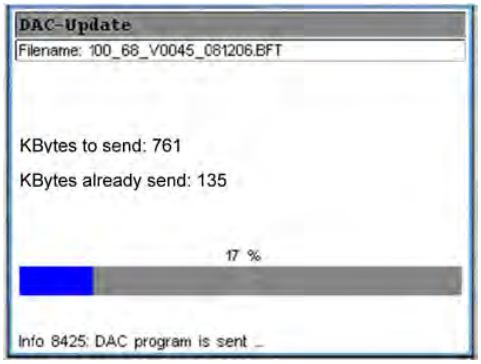




5. Tap the OK key.

↳ The following screen appears:

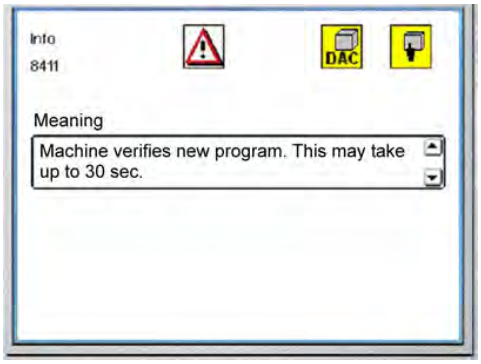
Fig. 74: DAC Update (2)



6. Wait until the programs for operation and control are stored in the control panel.
   As long as the LED flashes do not remove the USB stick from thecontrol panel.

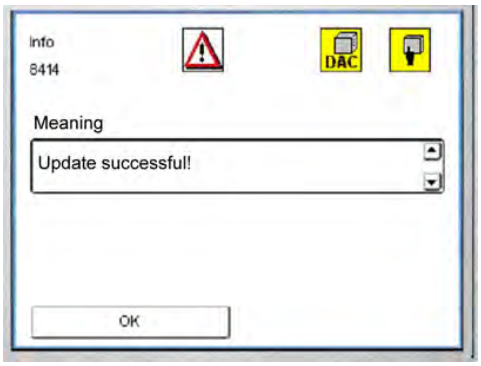
↳ After the transfer the following screen appears:

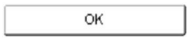
Fig. 75: DAC Update (3)



↳ The machine verifies the new program.
When finished the following screen appears:

Fig. 76: DAC Update (4)





7. Tap the icon OK.

↳ The update is finished.

6.7.10 Storing and loading program data with the USB stick

A customary USB stick is used for the long-term storage of sewing programs and the transfer of the machine software.

By means of the USB stick sewing programs, seam patterns and machine parameters can be transferred to other machines.

Fig. 77: Storing and loading program data with the USB stick

Saving data on a USB stick

NOTICE

Property damage may occur!

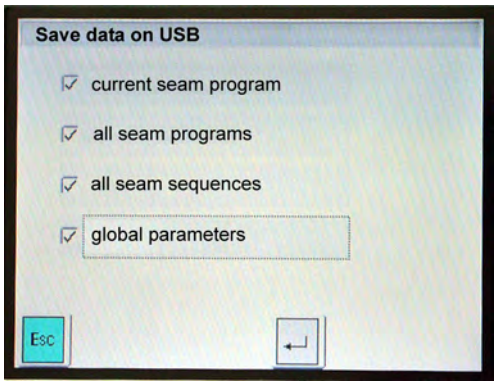
During the data transfer to the control the machine must not be switched off.

When transferring programs from one machine to another: only transfer the program sequences and seam programs.

Global parameters, machine parameters, program sequences and seam programs can individually be transferred to the USB stick.

1. Plug the USB stick into the touch screen monitor when the main screen is displayed.
2. Change to the menu `save data on USB`.

Fig. 78: Save data on a USB stick (1)



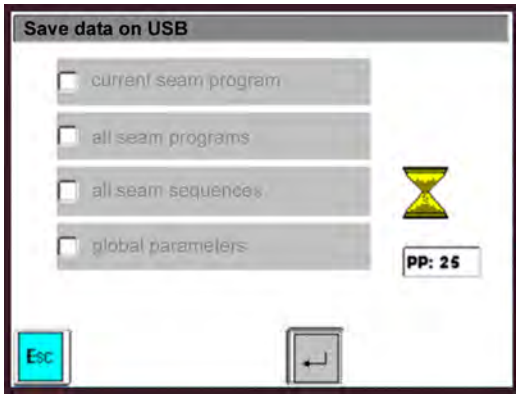
3. Tap the data to be saved on the USB stick.

↳ A checkmark appears in the check boxes.

4. Tap the RETURN icon.

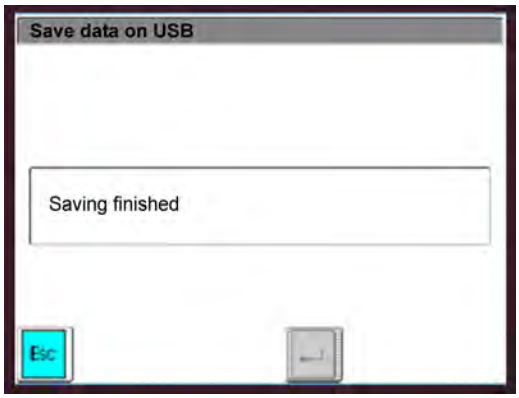
↳ The saving process starts.
A lamp flashes at the USB stick.

Fig. 79: Save data on a USB stick (2)



↳ When the saving process is finished, the following screen appears:

Fig. 80: Save data on a USB stick (3)



5. Unplug the USB stick.

6. Tap the ESC key until the main screen appears.

Reading data from the USB stick

NOTICE

Property damage may occur!

During the data transfer to the control the machine must not be switched off.

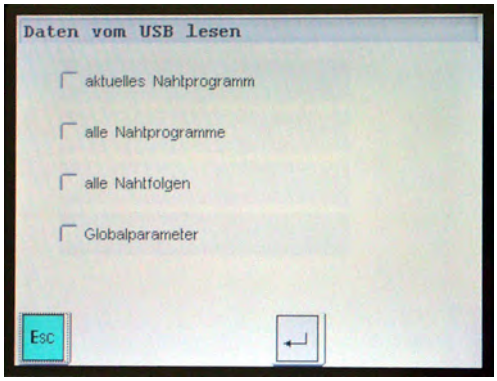
When transferring programs from one machine to another: only transfer the program sequences and seam programs.

Machine parameters, program sequences and seam programs can individually be transferred to the USB stick.

1. Plug the USB stick into the touch screen monitor when the main screen is displayed.

↳ The following screen appears:

Fig. 81: Reading data from the USB stick (1)



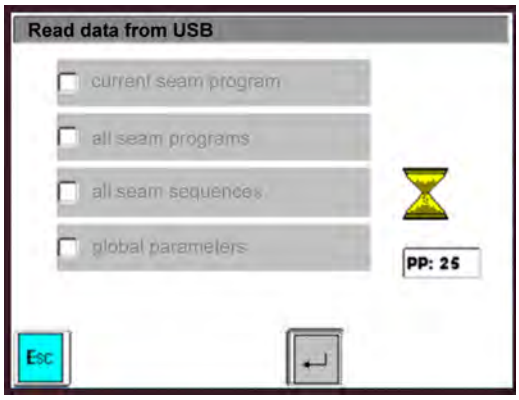
2. Tap the data to be read from the USB stick.

↳ Checkmarks appear in the checkboxes.

3. Tap the RETURN icon.

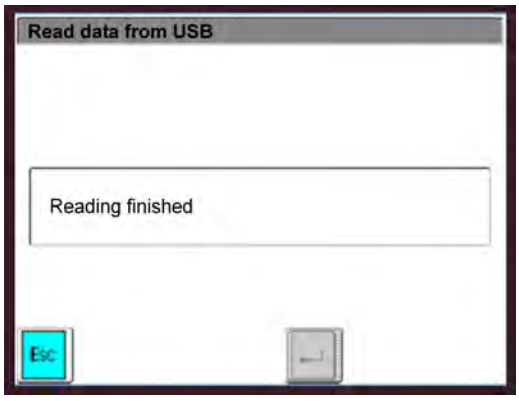
↳ The loading process starts.
A lamp flashes at the USB stick.

Fig. 82: Reading data from the USB stick (2)



↳ When the saving process is finished, the following screen appears:

Fig. 83: Reading data from the USB stick (3)



4. Unplug the USB stick.
5. Tap the ESC key until the main screen appears.

ESC

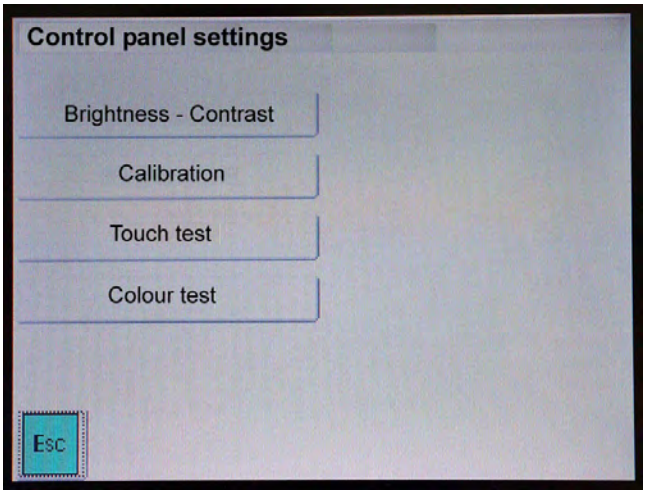
6.7.11 Manufacturer

This menu is only accessible to Beisler service personnel.

6.7.12 Contol panel settings

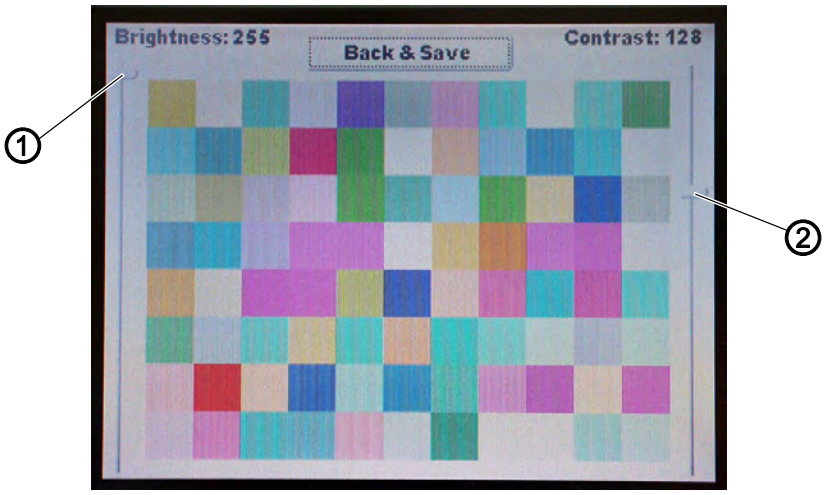
Via this menu the display of the control panel is set.

Fig. 84: Control panel settings



Brightness and Contrast

Fig. 85: Brightness and Contrast



(1) - Slide control *(2) - Slide control*

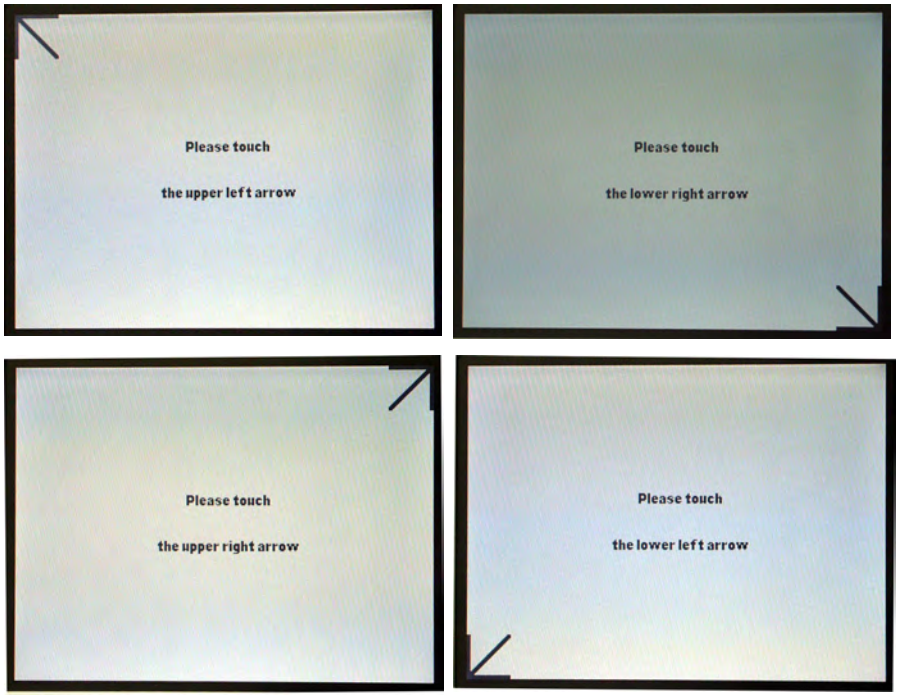
1. Adjust the brightness with the slide control (1).
2. Adjust the contrast with the slide control (2).
3. Tap the icon *Back & Save*.

↳ The settings are saved.

Calibration

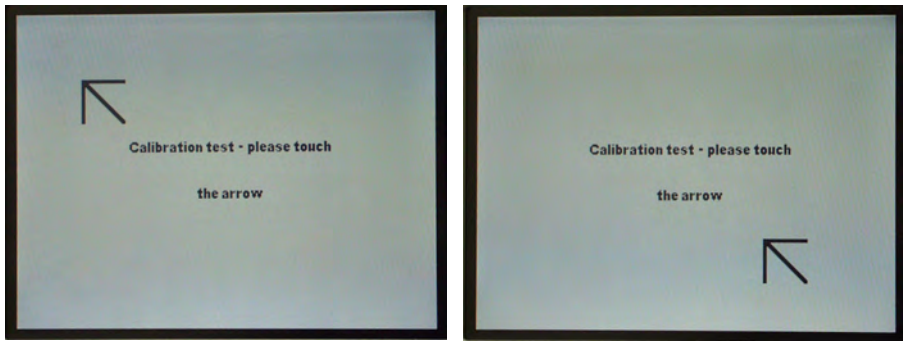
Via this menu the display is calibrated.

Fig. 86: Calibration 1



1. Follow the instructions on the screen and tap the arrows in all 4 corners of the screen.

Fig. 87: Calibration 2



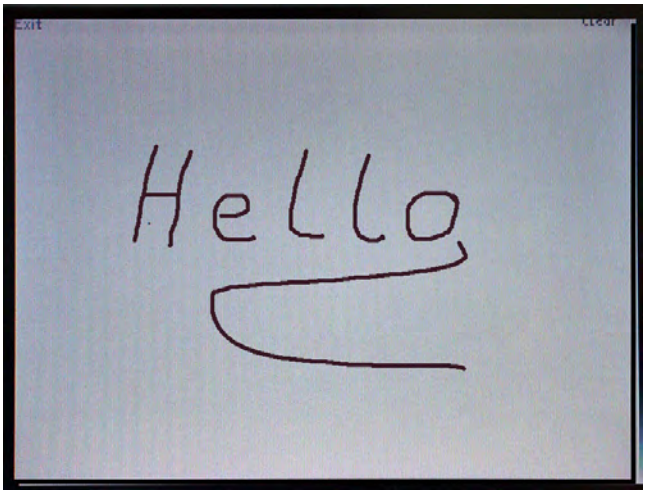
2. Touch the upper arrowhead on the screen.
3. Touch the lower arrowhead on the screen.

↳ The calibration is finished.

Touch test

Via this menu the touch screen is tested.

Fig. 88: Touch test



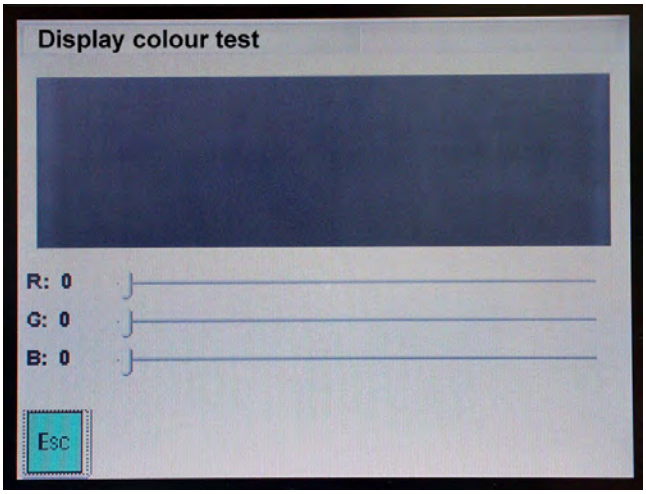
1. Write something on the screen with a soft pen.

↳ If the wirting does not appear on the spot where the pen had been put, the screen has to be calibrated, see 🕮 *Calibration*.

Colour test

Via this menu the display is calibrated.

Fig. 89: Colour test

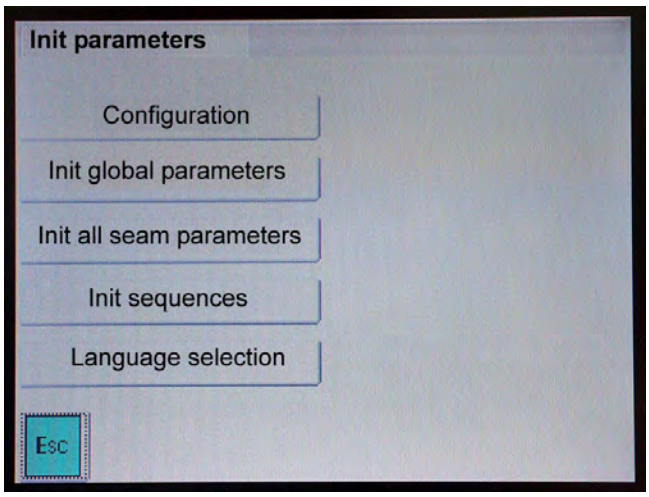


1. Adjust the colours red, yellow and blue with the slide controls.

6.7.13 Init parameters

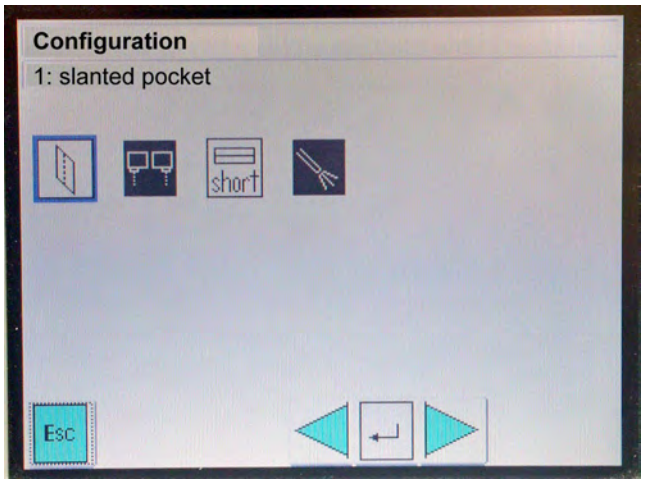
Via this menu it is possible to configure the machine and to generate new seam programs.

Fig. 90: Init parameters



Configuration

Fig. 91: Configuration



According to the equipment of the machine the individual icons are active or inactive.

Slanted pocket

ON/OFF

Light barriers for flap left/right

ON/OFF

Short pocket (optional)

ON/OFF

Blower

ON/OFF

Init global parameters

NOTICE

Via this menu all global parameters are rest to the factory settings.

Init all sewing parameters

NOTICE

Via this menu all seam parameters are reset to the factory settings.

Init sequences

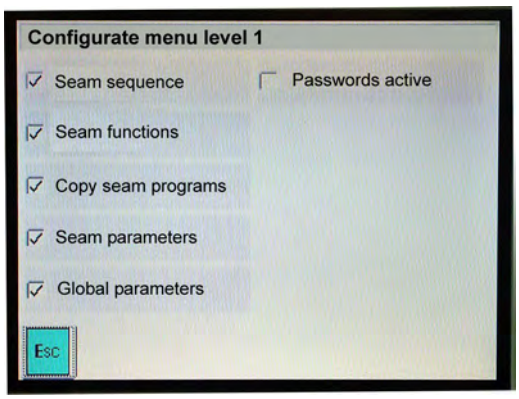
NOTICE

Via this menu all sequences are reset to the factory settings.

6.7.14 Configurating the menu level 1

Via this menu item the display in the menu level 1 can be adjusted. The activation of the menu levels can be secured via a password.

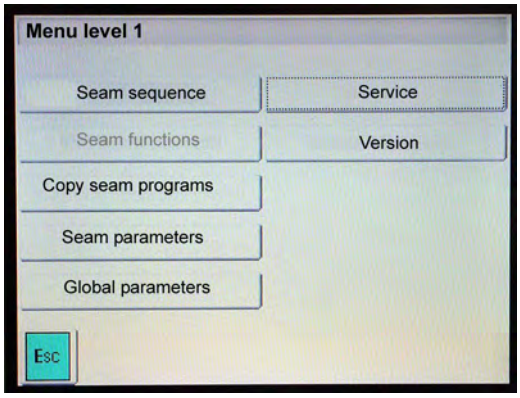
Fig. 92: Configurating the menu level 1 (1)



1. Activate or deactivate menu items.

↳ If a menu item is deactivated, it is grey-shadowed in the menu level 1 and cannot be selected anymore.
Example: Seam functions deactivated:

Fig. 93: Configurating the menu level 1 (2)



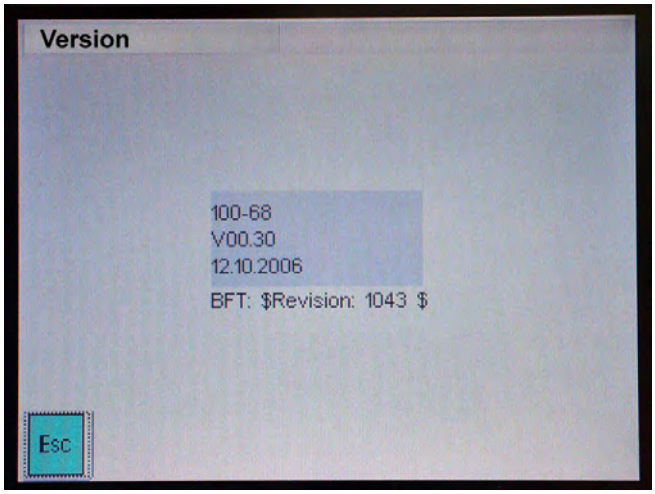
2. Tap *function passwords* active.

↳ The menu is secured by a password.
The password is 25483.

6.7.15 Version

This menu item provides information about the current software version.

Fig. 94: Version



7 Maintenance

WARNING

Risk of injury from sharp parts!

Punctures and cutting possible.

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

WARNING

Risk of injury from moving parts!

Crushing possible.

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

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

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

Maintenance intervals

Work to be carried out	Operating hours			
	8	40	160	500
Cleaning	●			
Lubricating	●			
Servicing the pneumatic system	●			

7.1 Cleaning

WARNING

Risk of injury from flying particles!

Flying particles can enter the eyes, causing injury.

Wear safety goggles.
Hold the compressed air gun so that the particles do not fly close to people.
Make sure no particles fly into the oil pan.

NOTICE

Property damage from soiling!

Lint and thread remnants can impair the operation of the machine.

Clean the machine as described.

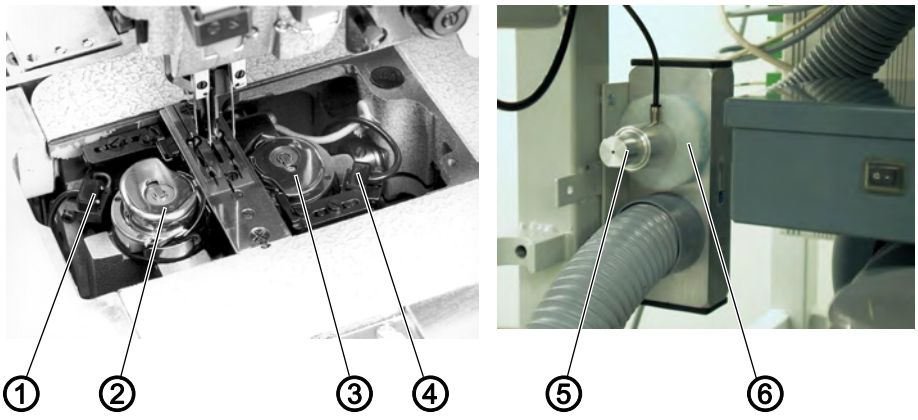
NOTICE

Property damage from solvent-based cleaners!

Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

Fig. 95: Cleaning



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

1. Clean the area around the hooks (2) and (3) with the compressed air pistol.
2. 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.

3. Cleaning of the filter ring (6) at the vacuum valve (5):
   Blow out with a compressed air pistol.

7.2 Lubricating

CAUTION

Risk of injury from contact with oil!

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

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

NOTICE

Property damage from incorrect oil!

Incorrect oil types can result in damage to the machine.

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

CAUTION

Risk of environmental damage from oil!

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

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

For topping off the oil reservoir, use only lubricating oil **DA 10** or oil of equivalent quality with the following specifications:

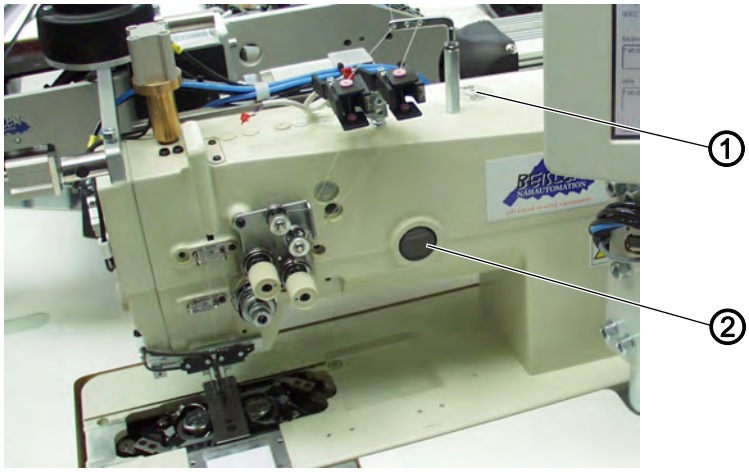
- Viscosity at 40 °C: 10 mm²/s
- Flash point: 150 °C

You can order the lubricating oil from our sales offices using the following part numbers:

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

Lubricating the machine head

Fig. 96: Lubricating the machine head



(1) - Drill hole *(2) - Oil reservoir*

The oil level in the oil reservoir (2) must not drop below the marking MIN.

If necessary, fill oil through the drill-hole (1) up to the upper marking MAX

7.3 Servicing the pneumatic system

7.3.1 Setting the operating pressure

NOTICE

Property damage from incorrect setting!

Incorrect operating pressure can result in damage to the machine.

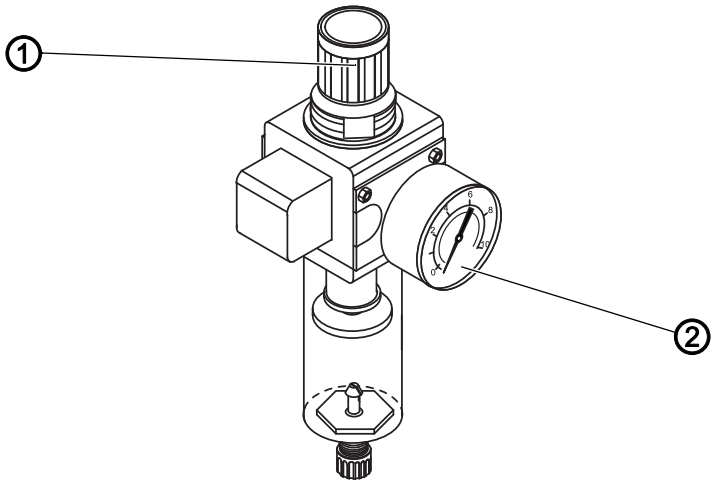
Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical data** (📖 *S. 39*) chapter for the permissible operating pressure. The operating pressure cannot deviate by more than ± 0.5 bar.

Check the operating pressure on a daily basis.

Fig. 97: Setting the operating pressure



(1) - Pressure controller *(2) - Pressure gage*

To set the operating pressure:

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

7.3.2 Draining the water condensation

NOTICE

Property damage from excess water!

Excess water can cause damage to the machine.

Drain water as required.

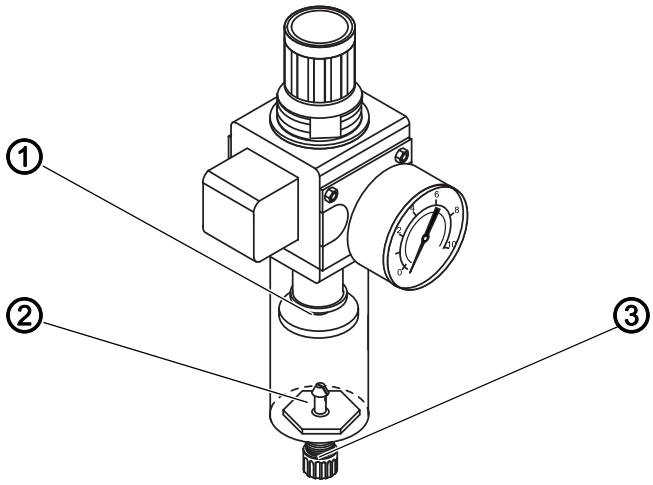
Water condensation accumulates in the water separator (2) of the pressure controller.

Proper setting

Water condensation must not rise up to the level of the filter element (1).

Check the water level in the water separator (2) on a daily basis.

Fig. 98: Draining the water condensation



(1) - Filter element
(2) - Water separator
(3) - Drain screw

To drain water condensation:

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

7.3.3 Cleaning the filter element

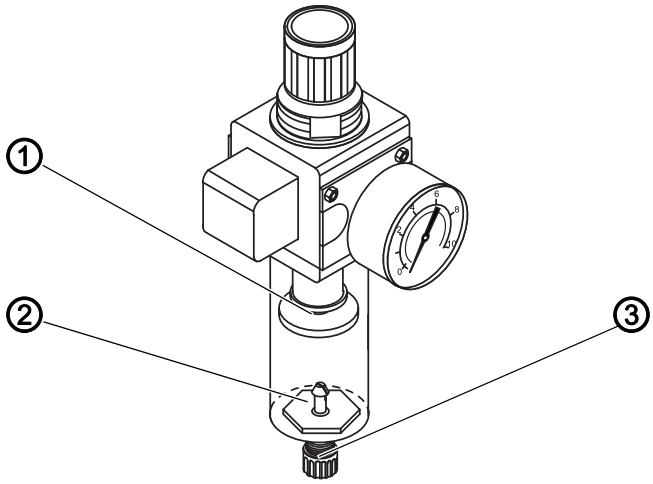
NOTICE

Damage to the paintwork from solvent-based cleaners!

Solvent-based cleaners damage the filter.

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

Fig. 99: Cleaning the filter element



(1) - Filter element
(2) - Water separator
(3) - Drain screw

To clean the filter element:

1. Disconnect the machine from the compressed air supply.
2. Drain the water condensation (📖 *S. 117*).
3. Loosen the water separator (2).
4. Loosen the filter element (1).
5. Blow out the filter element (1) using the compressed air gun.
6. Wash out the filter tray using benzine.
7. Tighten the filter element (1).
8. Tighten the water separator (2).
9. Tighten the drain screw (3).
10. Connect the machine to the compressed air supply.

7.4 Parts list

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

www.duerkopp-adler.com

8 Setup

WARNING

Risk of injury from cutting parts!

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

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

WARNING

Risk of injury from moving parts!

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

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

8.1 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

8.2 Installing the machine

8.2.1 Transportation

CAUTION

Risk of injury!

Do NOT lift the sewing unit at the table tops.

ALWAYS use an elevating platform truck or a forklift.

CAUTION

Risk of injury!

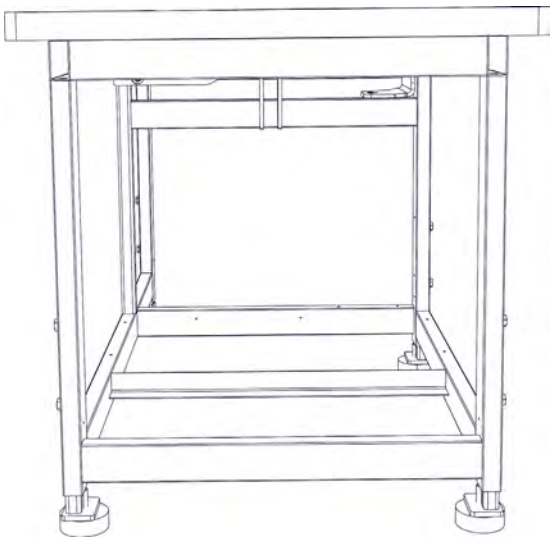
Before commissioning the sewing unit screw out the stand feet until a secure footing is achieved.

Lifting the sewing unit

- Only with an elevating platform truck or a forklift.

Stand without castors

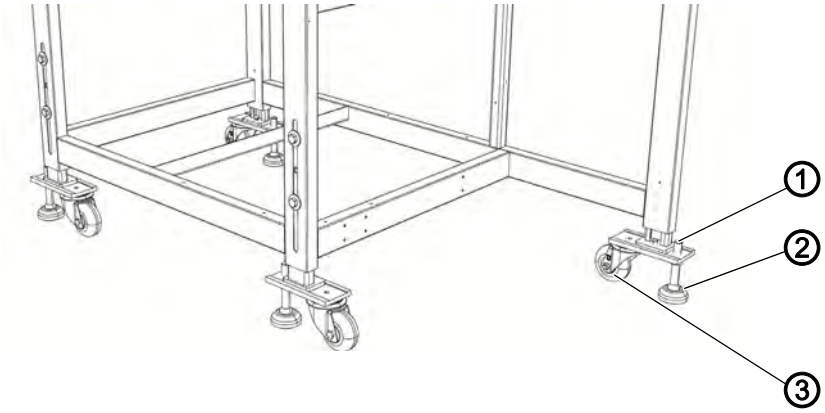
Fig. 100: Stand without castors



Stand with castors

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

Fig. 101: Stand with castors



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

Rolling the sewing unit (optional)

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

8.2.2 Removing the transport securing devices

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

All movable parts have to be unlatched.

- Transport carriage
- Plate depending on sewing method
- Corner knife station
- Feeding device
- Extensions like f. e. stacker

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

Before removing/fixing the security devices, please consult the supplementary sheet delivered with the machine.

8.2.3 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.

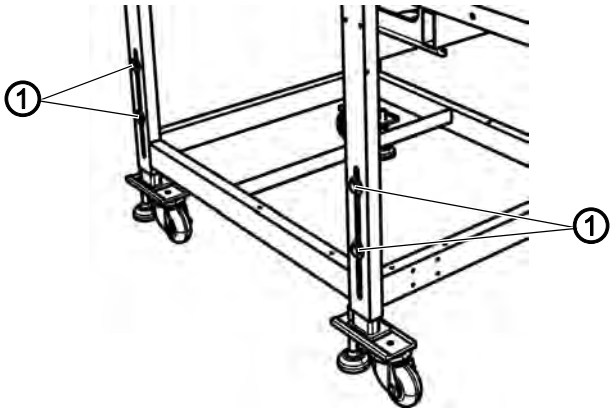
CAUTION

Risk of injury due to moving parts!

Be careful when loosening the attachment screws.

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

Fig. 102: Setting the working height



(1) - Screws

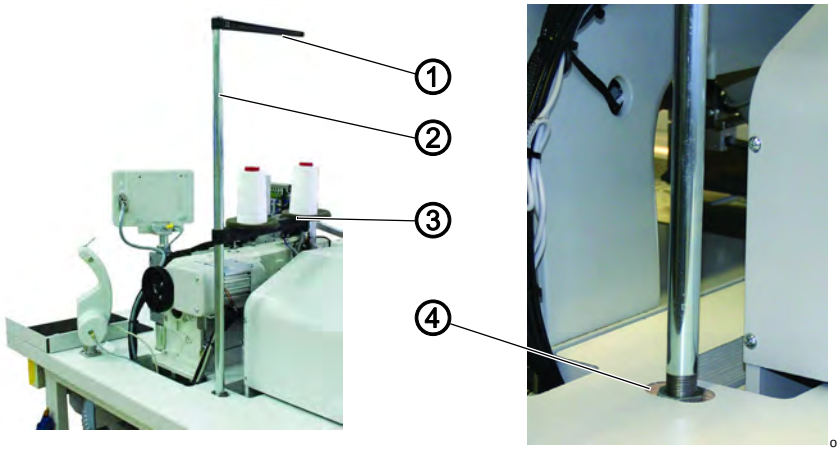
Set the height of the sewing unit by pulling equally the tubular feet of the frame.

1. Loosen screws (1) (4x).
2. Level out the table top at the desired working height.
   To avoid a jamming, pull out resp. push in the tubular feet equally on both sides.
3. Tighten screws (1).

8.3 Attaching the machine parts removed for shipping

8.3.1 Attaching the thread reel holder

Fig. 103: Attaching the thread reel holder

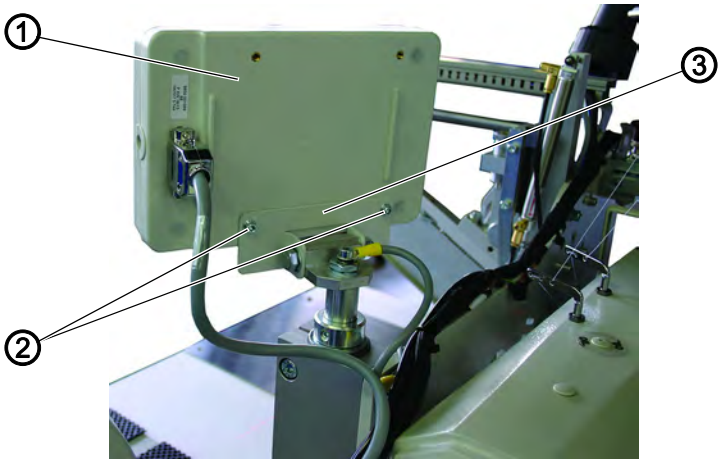


(1) - Unwinding arm
(2) - Thread reel holder
(3) - Reel plate
(4) - Droll hole

1. 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.
2. Mount and align the reel plate (3) and the unwinding arm (1) as shown in the illustration.

8.3.2 Mounting the control panel

Fig. 104: Mounting the control panel

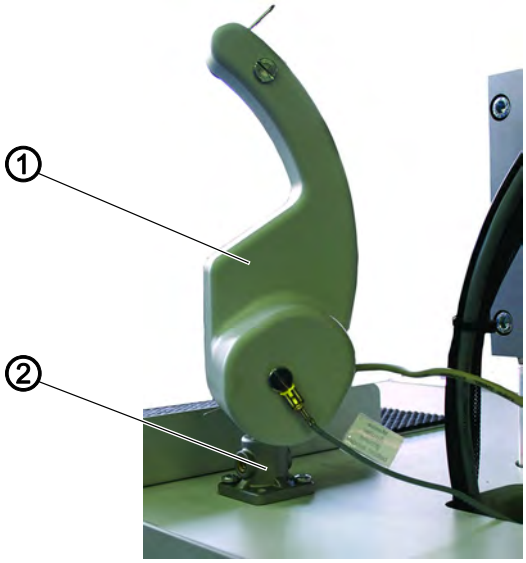


(1) - Control panel
(2) - Screws
(3) - Holder

1. Fix the control panel (1) with screws (2) on holder (3).

8.3.3 Fixing the winder

Fig. 105: Fixing the winder



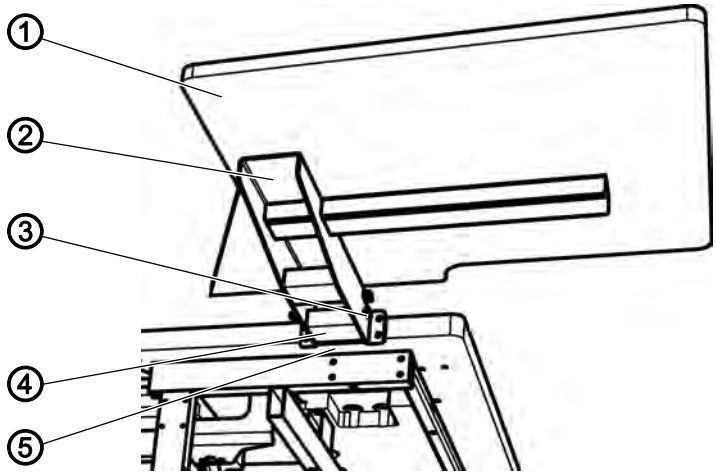
(1) - Winder *(2) - Take up*

1. The winder (1) is inserted into the take-up (2).

8.3.4 Table extensions (optional equipment)

Rest table (large)

Fig. 106: Rest table (large)



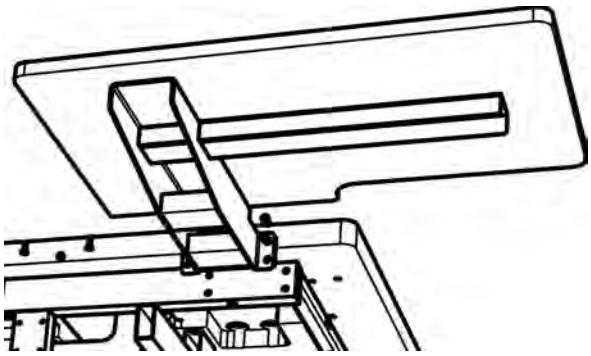
(1) - Table extension
(2) - Mounting bracket
(3) - Screws
(4) - Counterplate
(5) - Stand rail

1. Insert the counterplate (4) into the stand rail (5).
2. Loosely fix the mounting bracket (2) with screws (3) (4x) with the counterplate (4).
3. Align the table extension's height according to the height of the table top and tighten screws (3) (4x).

Rest table (small)

The mounting of the small rest table is identical with the mounting for the large rest table.

Fig. 107: Rest table (small)



8.4 Electrical connection

DANGER

Risk of injury due to electric power!

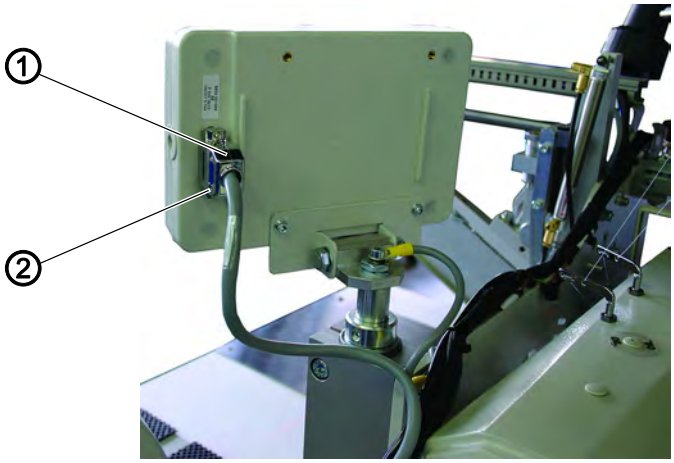
Unprotected contact with electric power can cause dangerous injuries to life and limb.

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.

8.4.1 Connecting the control panel

Fig. 108: Connecting the control panel

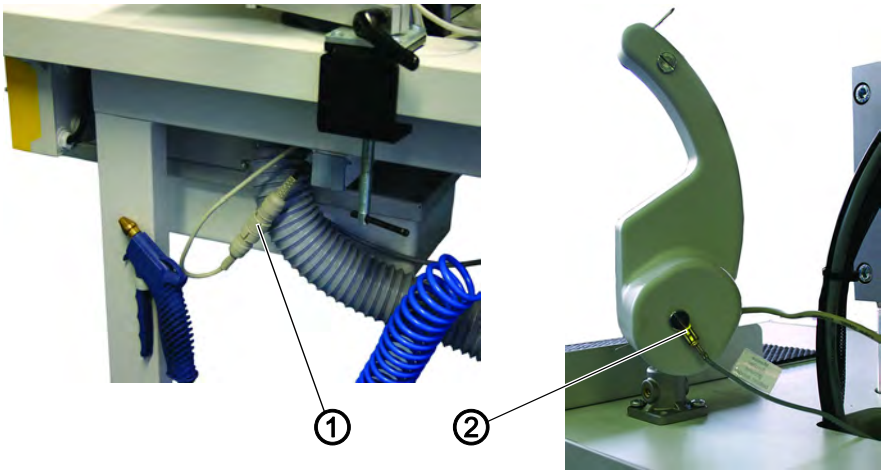


(1) - Plug *(2) - Screws*

1. Carefully insert plug (1) into the rear panel of the control panel.
2. Tighten the screws (2) of plug (1).

8.4.2 Connecting a separate winder

Fig. 109: Connecting a separate winder

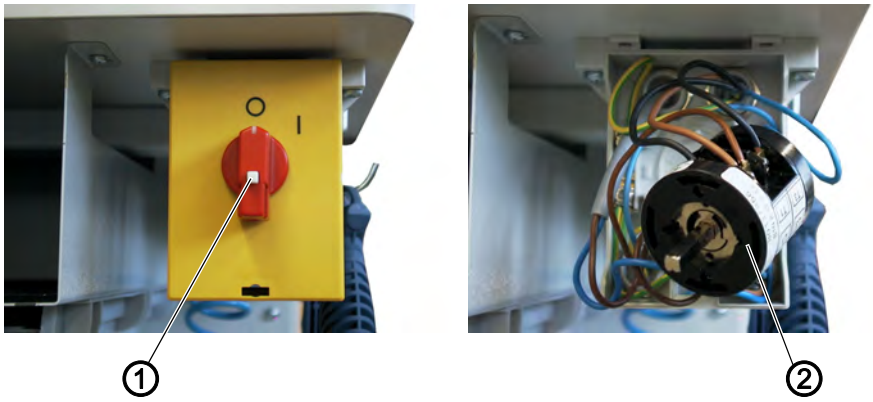


(1) - Plug X412 *(2) - Equipotential bonding*

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

8.4.3 Checking the nominal voltage and connecting to the mains

Fig. 110: Checking the nominal voltage and connecting to the mains



(1) - Main switch

(2) - Switch element

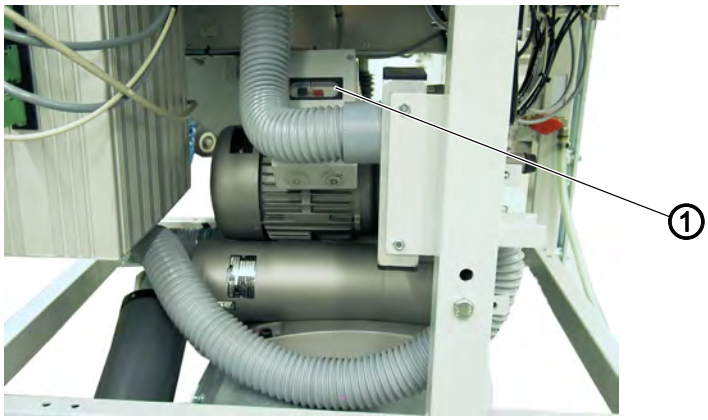
The adaptation to the local mains voltage has to be effectuated by correctly connecting the cables to the switch element (2) of the main switch (1).

1. Remove the mains plug.
2. Loosen the screw in the switch handle and remove the cover.
3. Check the configuration of the connections at the switch element and change the connections according to the existing mains voltage (see wiring diagram).
4. Attach the cover again and fasten the screw.
5. Connect the mains plug.

8.4.4 Checking the nominal voltage of the vacuum device

The adaptation to the local mains voltage has to be done at the terminal strip in control box (1). This adaptation may only be carried out by qualified electricians.

Fig. 111: Checking the nominal voltage of the vacuum device



(1) - Cover of safety switch

1. Screw off the cover of the safety switch (1).
2. Check the arrangement of the connections to the safety switch and if necessary, change the connections. (see wiring diagram)
3. If necessary, change the connections according to the local mains voltage.
4. Screw on the safety switch cover (1) again.

8.4.5 Direction of rotation of the sewing motor and the vacuum blower

The sewing unit is equipped with the latest step motor technology. A check of the direction of rotation of the sewing motor is not required because it is automatically set by the control.

- The direction of rotation of the vacuum blower can be inverted by exchanging the phase (plug).

8.5 Pneumatic connection

NOTICE

Property damage may occur!

For a trouble-free function of the pneumatic control processes the compressed air net has to be rated as follows:

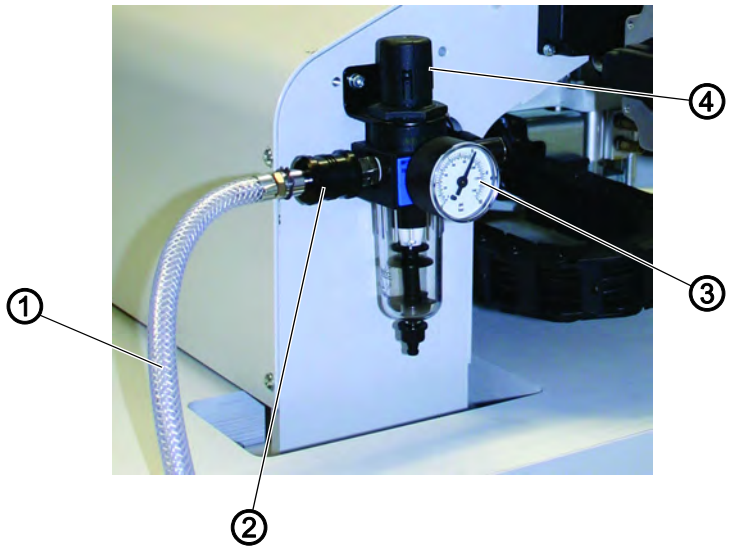
Even at the moment of the highest air consumption, the minimum operating pressure must not drop below **6 bar**.

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

In case of a important air pressure decrease:

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

Fig. 112: Pneumatic connection



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

Connecting the compressed air maintenance unit

1. 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

NOTICE

Property damage may occur!

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.

The operating pressure amounts to 6 bar. It can be read off at the manometer (3).

1. 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

8.6 Conncetion to the in-house vacuum unit

NOTICE

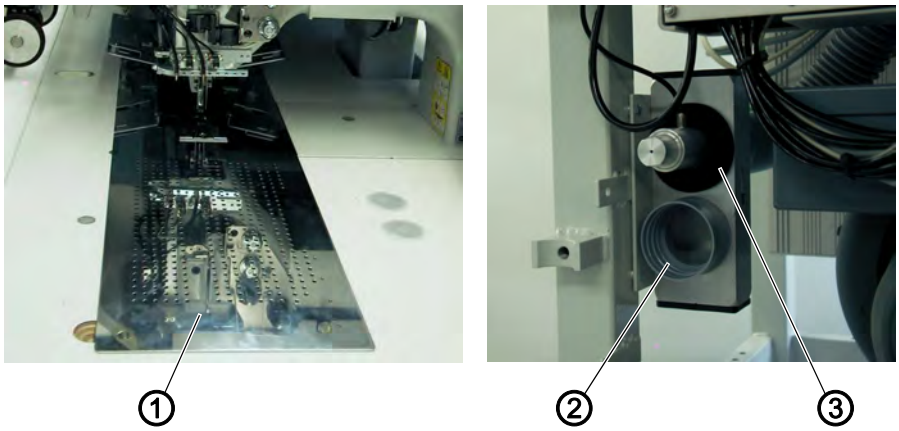
Property damage may occur!

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).

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.

Fig. 113: Connection to the in-house 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).

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

8.7 Putting into operation

DANGER

Risk of injury due to pointed items and glare!

Switch off the machine before threading in the needle and hook thread.

Do not look into the light source.

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

1. Plug in the mains plug.
2. Threading the needle thread (📖 *S. 34*)
3. Thread in the looper thread.
4. Turn the main switch on.

↳ The control is initialized.

5. Step back on the left pedal.

↳ The reference run starts.
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.

6. By actuating the left pedal the various steps of the positioning procedure are triggered successively and the sewing cycle is started.

NOTICE

Property damage may occur!

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

Any 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 (📖 *S. 57*).
- Postioning and operating (📖 *S. 23*).

8.8 Installation of the software

NOTICE

Property damage may occur!

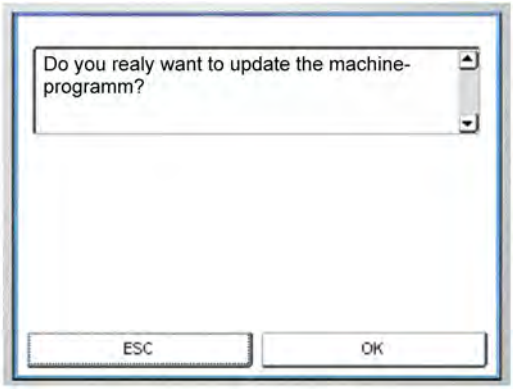
During the loading process do not remove the USB flash drive and do not switch off the machine (otherwise you will destroy the software).

Fig. 114: Installation of the software (1)

1. Switch off the sewing unit.
2. Insert the USB flash drive vertically into the control panel.
3. Switch on the sewing unit.
4. Change to the menu DAC-Update.

↳ This screen will be displayed:

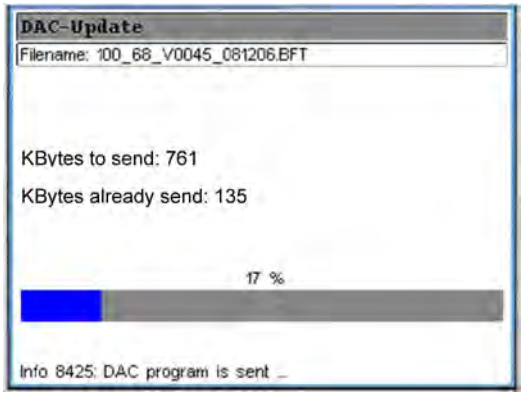
Fig. 115: Installation of the software (2)



5. Press the **OK** button.

↳ This screen will be displayed:

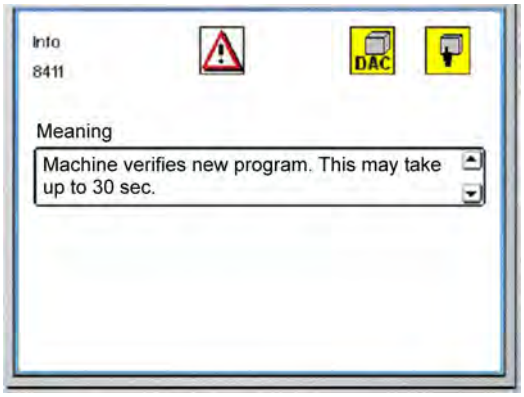
Fig. 116: Installation of the software (3)



6. Wait until the storing of the programs for the operation and the control is finished.
   The USB flash drive must not be removed from the control panel while the LED is still flashing.

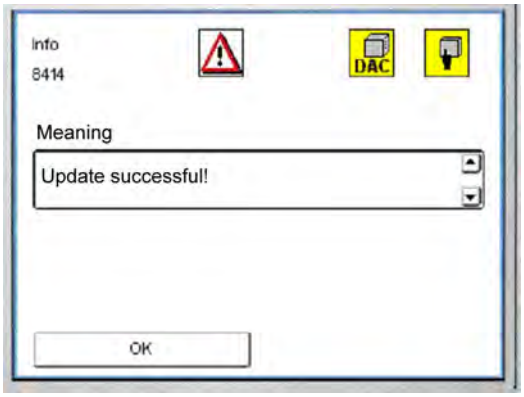
↳ After the transfer this screen will be displayed:

Fig. 117: Installation of the software (4)



↳ The sewing unit verifies the new program. After the verification is completed this this screen will be displayed:

Fig. 118: Installation of the software (5)



7. Press the **OK** button.

↳ The update is completed.

8.9 Customer service

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

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9 Decommissioning

WARNING

Risk of injury from a lack of care!

Serious injuries may occur.

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

CAUTION

Risk of injury from contact with oil!

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

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

To decommission the machine:

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

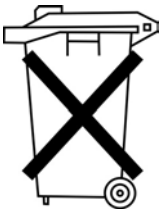
10 Disposal

CAUTION

Risk of environmental damage from improper disposal!

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

ALWAYS comply with the national regulations regarding disposal.



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

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

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

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