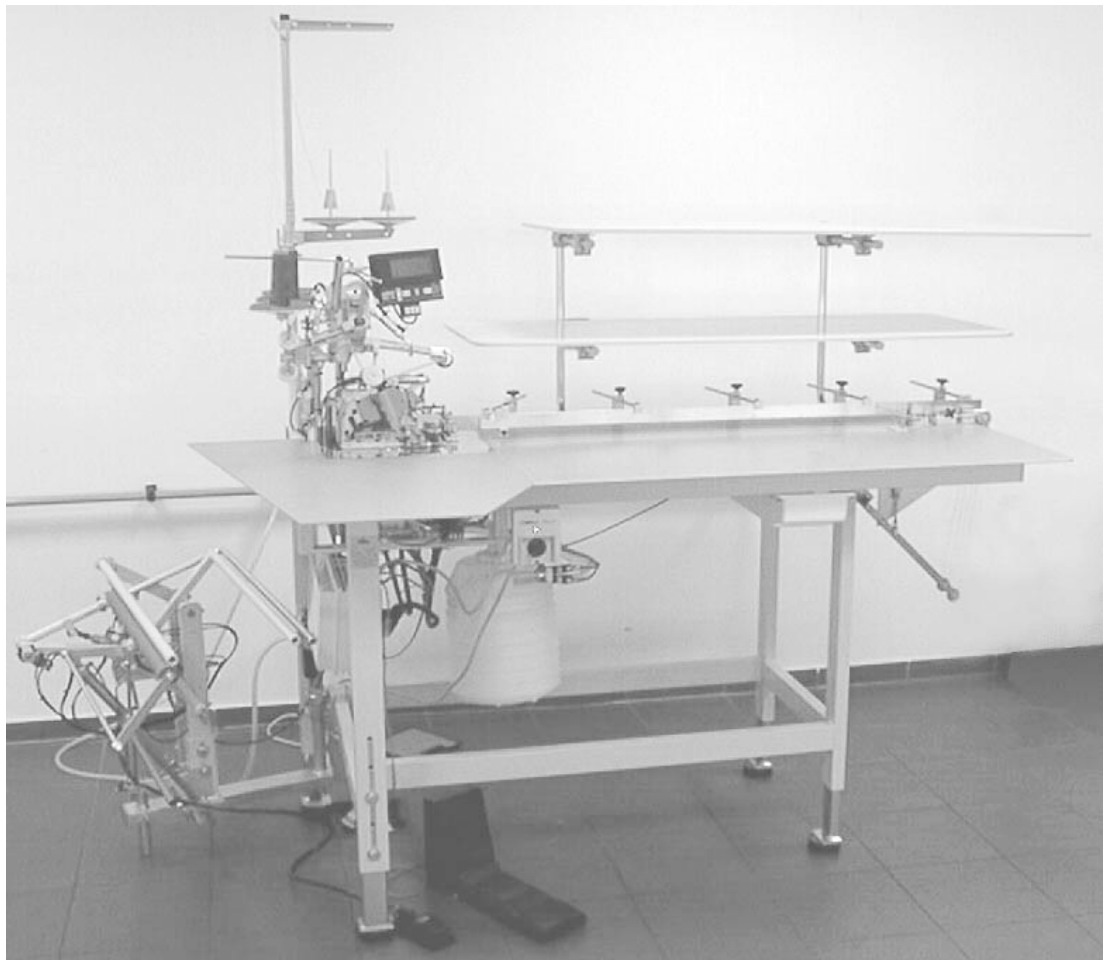


Automatic Unit for joining the Side Seam, Series 1281/4



Operating Instructions

Version 1.1, 10-15-1999 – GB

These operating instructions contain the following parts:

Part 1: Operating instructions (pages 1-xx)

addresses to the operator of the machine, that means the person who works at and with the machine.

Part 2: Mechanics manual (pages 2-xx)

is used for the putting into operation, adjustment, troubleshooting and maintenance of the machine and addresses to qualified staff only.

Please obtain all safety, warning and other hints and regulations in this manual.

The machine described in this manual is subject to further technical development. Technical modifications are integrated without further notice.

www.promelectroavtomat.ru

Part 1 Operating instructions



Hint

These operating instructions contain all information required for the operation of the machine. It addresses to the operator of the machine, that is the person that works at and with the machine. Please obtain all rules and regulations.

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1 Security advice and warning hints

1.1 Classification

Three different types of hints are used in this manual, which are indicated with different symbols and signalling words:



DANGER

This indicates a possibly dangerous situation or action, which may cause injuries to persons or severe damage to the machine.



ATTENTION

This indicates a situation or action, which may cause damage to the machine.



Hint

This indicates hints for a better use and other helpful information or hints.

Please obey all rules and regulations.

1.2 General security advice and warning hints



Danger

Danger might arise for persons, things and environment by inappropriate operation of this machine. Installation and maintenance duties may only be carried out by authorized staff.



Danger

Danger of injuries in the range of the sewing head! Don't grasp into the affected area of the needle during the sewing process!



Danger

Before any operations at or with the machine (putting into operation, operation, maintenance, repair, etc.) the person carrying out has to read and understand this manual with each appendix completely.



Danger

Before carrying out maintenance or repair duties, the mains supply must be cut off. Additionally pressure must be released from the pneumatical system.



Attention

The machine will be destroyed by a connection to a wrong mains voltage! See the section 'Technical data' before connecting the power supply.

1.3

Introduction

The manual on hand is divided into two main sections:

- the Operating Instructions with all information required for the operation and daily cleaning and maintenance routines of the machine;
- the Mechanics and Programming Instructions with all further maintenance and repair duties and a instruction for the programming of sewing programs.

1.4

Target groups of the manual

The two sections of the manual are addressed to:

Operating Instructions to the operator of the machine which is the person that works at and with the machine;

Mechanics Manual to qualified staff which is trained to estimate the working duties and recognize possible danger at an early time.



ATTENTION

All actions at and/or with the machine may only be executed by authorized persons, who have read and understood the corresponding parts of this manual.

Especially the following actions are subject to this regulation:

- operation including preparation, troubleshooting during production, cleaning, care
 - Servicing (maintenance, inspection, repair)
 - Transportation
-



ATTENTION

A specialist in accordance to IEC 364 and DIN EN 60204-1 is regarded as qualified staff.

1.5

Authorized person



DANGER

There is danger to human beings, things and environment through inadequate operation of this machine. Installation and maintenance duties may only be carried out by authorized staff.

Persons are regarded as authorized, who are able to recognize possible danger and judge the assigned duties from their technical education and experience.

Operator of the machine

Persons are regarded as authorized, who were trained in the operation of this machine and have read and understood the first part of this manual completely.

Staff for installation, preparation, programming and maintenance

Persons are regarded as authorized, who were trained in all aspects of the machine and have read and understood the complete manual on hand.

1.6 Contents of this manual

The Operating Manual for the Automatic Unit for joining the Side Seam, Series 1281/4 contains the following parts:

1. Operating Instructions
2. Mechanics Manual
3. Electrical wiring plans
4. Parts list
5. Operating Manual of the sewing head

Please check the documents delivered with the machine for completeness.

1.7 Range of validity

This operating manual is valid for machines manufactured by Beisler named 'Automatic Unit for joining the Side Seam, Series 1281/4'.

This operating manual is not valid for the sewing head applied in the machine. Please refer to the operating manual of the sewing head delivered with the machine, for which we don't take any liability.

Further security advice (verbal and written) for this machine or the components will not be repealed by this manual.

1.8 Copyright

© 1999 Beisler GmbH, Hösbach

Automatic Unit for joining the Side Seam

The 'Automatic Unit for joining the Side Seam, Series 1281/4' and this operating manual with all parts are protected on copyright. Manufacture without license will be prosecuted by law. All rights reserved on this operating manual, including reproduction in any thinkable way, either by copying, printing, on any data recording media or in translated form. Reproduction of this operating manual - even in extracts - only with written approval by Beisler GmbH.

This operating manual contains a description of the product, but no promise of certain qualities or results of use. The operating manual has been proved before delivery. The Beisler GmbH takes the liability, that this operating manual is free of errors reducing its value for the estimated use. The editors don't take liability for consecuting damage arising through application of the operating manual. We are always thankful for hints and ideas.

The technical standard of the common delivery of product and operating manual by the Beisler GmbH is decisive, if not other information is given. Technical changes without prior notice are reserved, previous operating manuals loose validity.

The general conditions of sales and delivery of the Beisler GmbH are valid.

Do you have questions or problems with installation or putting into operation? Don't hesitate to call us.

Beisler GmbH

Frohnradstr. 10 - D-63768 Hösbach

Tel: (+49) 6021 / 50 19 0

Fax: (+49) 6021 / 50 19 10

1.9

Additional regulations

This manual must be available at the machines location at any time.

The operator has to assure that only authorized persons work at and with the machine.

The operator is obliged to check the machine for visible damage and faults at least once per shift. Visible changes must be reported to the corresponding official immediately after discovery.

The company using this machine has to assure that the machine is always operated in faultless condition. Security installation may not be dismantled or put out of function.

If security installation must be dismantled for preparation, repair or maintenance of the machine, they must be mounted immediately after the duties have been terminated.

Unauthorized changes to the machine exclude liability of the manufacturer for damages.

2 Preliminary remarks

2.1 Limitation of liability

We guarantee the faultless functioning of our product in accordance with our advertising, the product information edited by the Beisler GmbH and this manual. Further product-features are not guaranteed. We take no liability for the economy and faultless function if the product is used for a different purpose than that described in the chapter „Use as agreed“.

Compensation claims are generally impossible, except if intention or culpable negligence by the Beisler GmbH is proved, or if assured product-features are not provided. If this machine is used in environments, for which it is not suited or which do not represent the technical standard, we are not responsible for the consequences.

We don't accept responsibility for damages at installations and systems in the surroundings of this machine, which are caused by a fault of the product or an error in this manual.

We are not responsible for the violation of patents and/or other rights of third persons outside the Federal Republic of Germany.

We are not liable for damages, which result from improper operations according to this manual. We are not liable for missed profit and for consecuting damages due to non-regardance of security advices and warning hints. We don't accept liability for damages which resulted from the use of tools and accessoires which are not delivered and/or approved by the Beisler GmbH.

The products of the Beisler GmbH are designed for a long life. They represent the standard of technique and science and were checked on all functions individually before delivery. The electrical construction corresponds to the current norms and regulations, particularly DIN 5713 / VDE 0113. Beisler GmbH is doing product and market research for the further development and permanent improvement of their products. In the case of faults and/or technical trouble please contact the Beisler GmbH service staff. We assure that suitable measures will be done immediately.

The Beisler GmbH guarantee regulations are valid, which we will send to you on demand.

2.2 Guarantee regulations

We guarantee the fault-free functioning of the 'Automatic Unit for joining the Side Seam, Series 1281/4' according to this operating manual except the tools for a time range of six months after delivery. If the machine is used in double- or triple-shift operation, the term of guarantee is reduced to three or two months.

The term of guarantee starts with the date of delivery to the customer, independent from the time of putting into operation. Guarantee will be spoiled, if the machine isn't installed and operated according to this operating manual and the regulations given by the Beisler GmbH staff. A cost-free repair is only possible, if all regulations considering storage, transportation and putting into operations have been obeyed.

Customers and third persons may only mesh with the machine after getting a written approval by the Beisler GmbH. The Beisler GmbH takes no responsibility for injuries and damages arising from non-obeyance of this stipulation. All warranty will be spoiled in this case.

The Beisler GmbH takes no responsibility for faults of the machine as consequence of defective or functional faulty equipment in the surrounding of the machine or by the use of accessoires, which were not delivered by the Beisler GmbH.

The general conditions of sale and delivery of the Beisler GmbH are valid.

2.3

Use as agreed

The 'Automatic Unit for joining the Side Seam, Series 1281/4' has been developed for the joining of the inside and outside seams at ladies' and mens' trousers and for the closing of skirt parts.



DANGER

This machine has been developed and build for a certain purpose. Adaptions may influence security equipments negatively. We recommend to contact our service staff in such a case.

2.4

Description of the machine

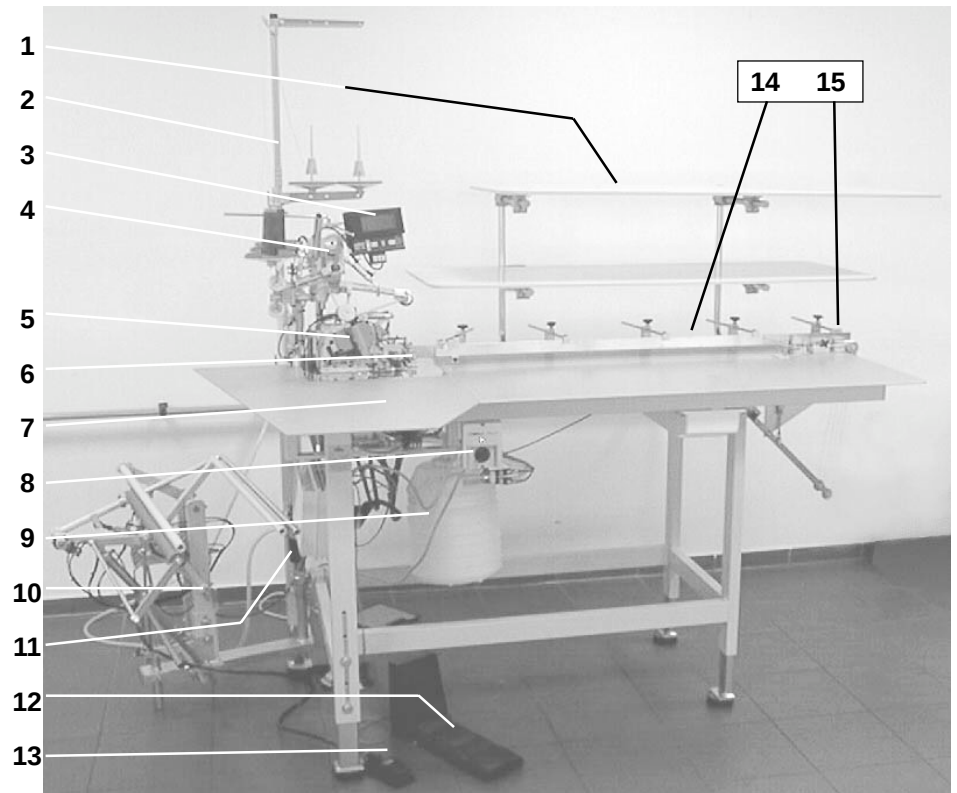
The 'Automatic Unit for joining the Side Seam, Series 1281/4' allows the rational joining of the inside and outside seam at ladies' or mens' trousers and the closing of skirt parts. The machine is equipped with a prelaying and working tables, a sewing head and several supply and transportation facilities.

All components of the machine are mounted on a base frame made of square steel pipes and controlled by an innovative micro-processor system.

Machine operation is achieved with an operation device. Here you can open several control programs, define new programs and check all machine components individually for maintenance and repair duties.

2.5

Main parts of the machine



- 1 Pre-laying tables
- 2 Spool rack
- 3 Operating device
- 4 Transportation puller
- 5 Sewing head
- 6 Contour guiding
- 7 Working table
- 8 Main switch
- 9 Collecting basket
- 10 Stacker
- 11 Compressed air supply unit
- 12 Foot pedal machine sequence
- 13 Foot pedal stacker
- 14 Mouse guiding bar
- 15 Mouse

Further information on the components of the machine are contained in the coming chapters.

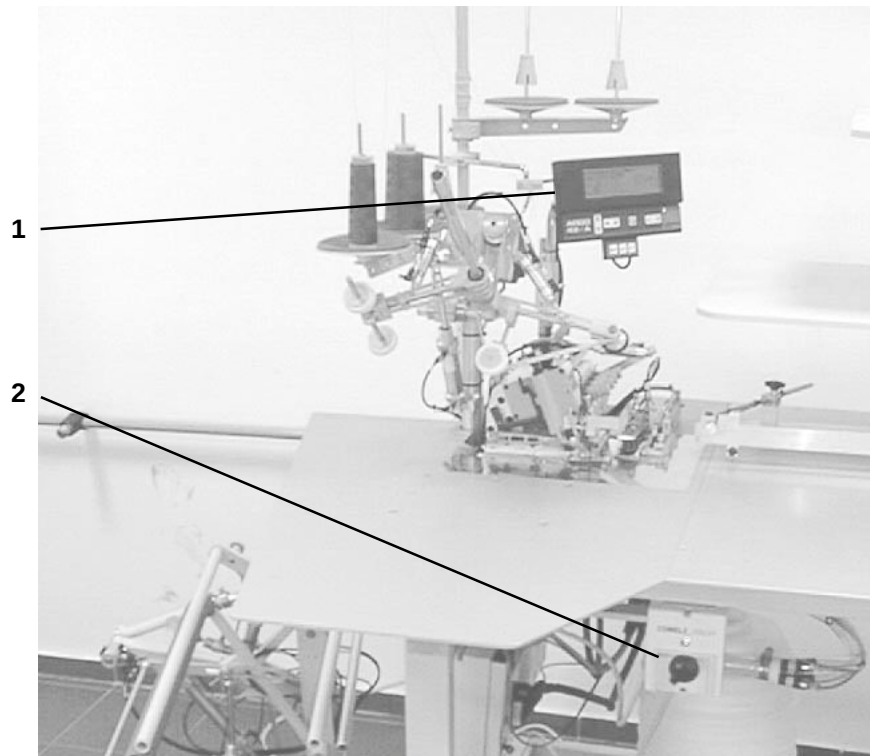
2.6

Technical data

Dimensions (LxWxH)	2,300 x 1,500 x 1,700 mm
Table height	830 ... 980 mm (adjustable)
Weight	120 kg
El. connection	220 V AC
Air connection	min. 5 bar
Power consumption	0.7 kW
Air consumption	est. 3 l/part

3

Switch on/off, Emergency-Stop, Restart



3.1

Switch on



Hint

The machine must be connected to the power and compressed air supply before it can be switched on.

The main switch (2) is located at the machine front beneath the working table.

Turn the main switch (2) clockwise until it engages. The grip of the switch points on the marking „1 – ON“. The display of the operation device (1) shows the main screen.

3.2

Switch off

Turn the main switch (2) counter clockwise until it is released. The grip of the switch points on the marking „0 – OFF“.

3.3

Emergency-Stop using the main switch

The main switch (2) is located at the machine front beneath the working table.

Turn the main switch counter clockwise, until it is released. All movements of the machine will be stopped immediately, the machine will be free of electrical power instantly.

3.4

Restart after Emergency-Stop



ATTENTION

Before you restart the machine you should remove the reason for the Emergency-Stop. Contact the responsible technician in any doubtful case. The machine may only be restarted after the reason for the Emergency-Stop has been removed.

Switch on the machine using the main switch. The current program number will be imaged in the display of the operation device. The machine is ready to use.

3.5

Adjust compressed air pressure

The machine needs an air pressure between 5 and 6 bar. This is adjusted at the air supply unit:



- 1 Control to adjust the air pressure
- 2 Air connecting hose
- 3 Pressure gauge
- 4 Collector for condensing water
- 5 Release valve for condensed water

Check the air pressure at the pressure gauge (3). If the indicated value differs from 6 bar, adjust the pressure by turning the black control (1).

4

Operation of the sewing head

The operation of the sewing head is explained in the separate manual of the sewing head, which is part of the machine's documentation.

Please obtain all rules and regulations.

5

Components of the machine

The machine contains several components, which are arranged according to their function:

1. Prelaying and working tables.
2. Mouse with guiding bar and pull-back mechanism.
3. Sewing head with contour guiding and pulling device.
4. Operation device.
5. Stacker with foot pedal.
6. Main switch
7. Collecting basket for threads and cutted cloth.
8. Foot pedal to start the program sequence.

5.1

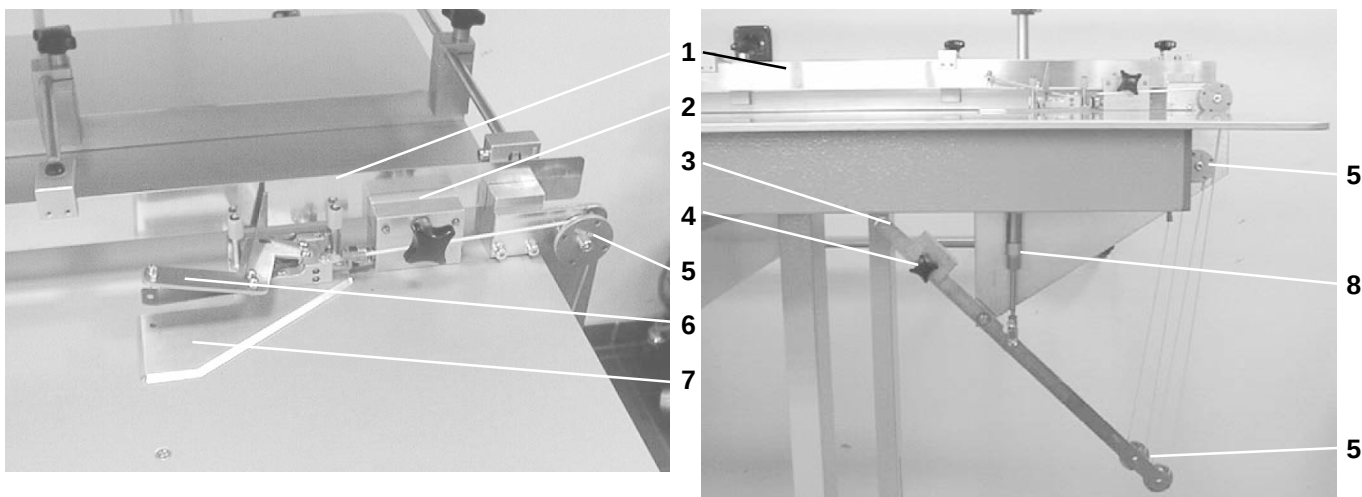
Prelaying and working tables

The machine is equipped with two prelaying tables, where the trouser or skirt parts can be stored. These parts can be aligned on the working table.

5.2

Mouse with guiding bar and pull-back mechanism

The mouse is used for the clamping of the trouser and skirt parts to prevent them from sliding away.



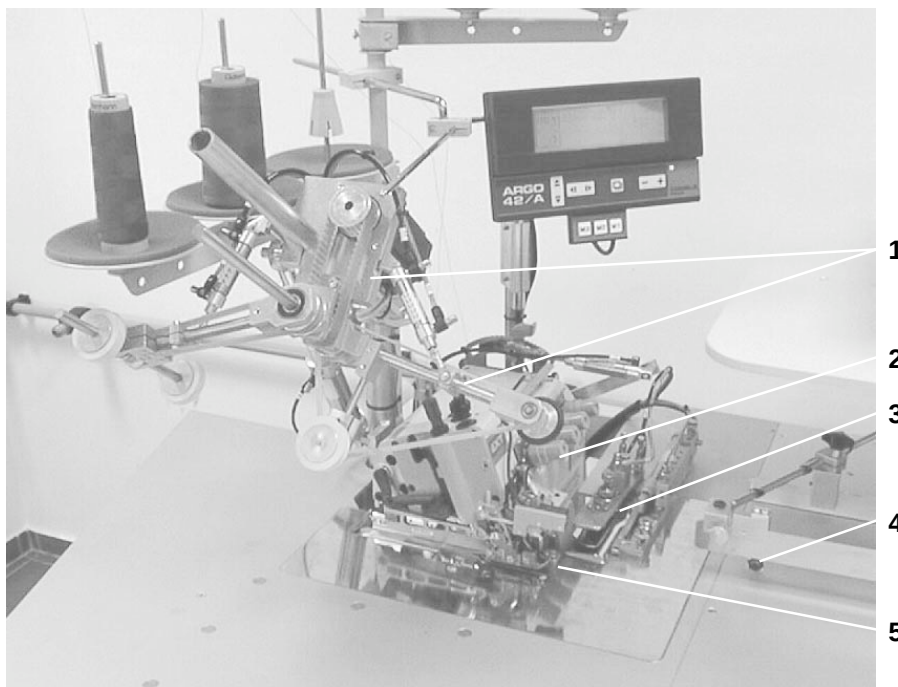
The cloth is clamped between mouse plate (7) and clamping arm (6). During the sewing, the mouse will be pulled along the guiding bar (1), until a termination switch triggers the opening of the clamping arm (6).

The mouse will now be driven backward by the pull-back mechanism (5), until the adjustable stop (2) is touched.

The pull-back mechanism is mounted below the working table and contains an arm (3), an adjustable counter weight (4), several rolls (5) and the cylinder (8) to open and close the clamping arm (6).

5.3

Sewing head with contour guiding and pulling device



- 1 Pulling device (swung up)
- 2 Sewing head
- 3 Contour guiding
- 4 Termination switch of the mouse
- 5 Sewing foot

The fabrics are sewed with the sewing head. The pulling device (1) helps to transport the cloth during the automatic sewing. With the contour guiding (3) a perfect joining of the trouser or skirt parts is achieved.

5.4

Operation device

You can operate the machine during production using the operation device. You can open existing programs and program new ones.



- 1 Display
- 2 Cursor keys
- 3 Special key
- 4 Minus/Plus keys
- 5 M-keys (M1, M2, M3)

5.4.1

Components of the operation device

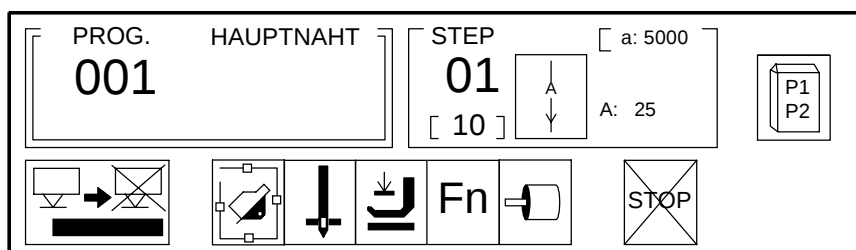
The components of the operation device provide the following functions:

- Display (1):** all information required for the operation of the machine are imaged here.
- Cursor keys (2):** use them to move the cursor and mark all required commands and options.
- Special key (3):** press this key if several information is required for an adjustment.
- Minus/Plus keys (4):** use them to enable/disable functions, reduce/increase numeric values and select programs.
- Key M1 (5):** press this key to set back the mouse.
- Key M2 (5):** press this key to trigger the stacking.
- Key M3 (5):** press this key to swing the pulling device up.

5.4.2

Explanation of the display

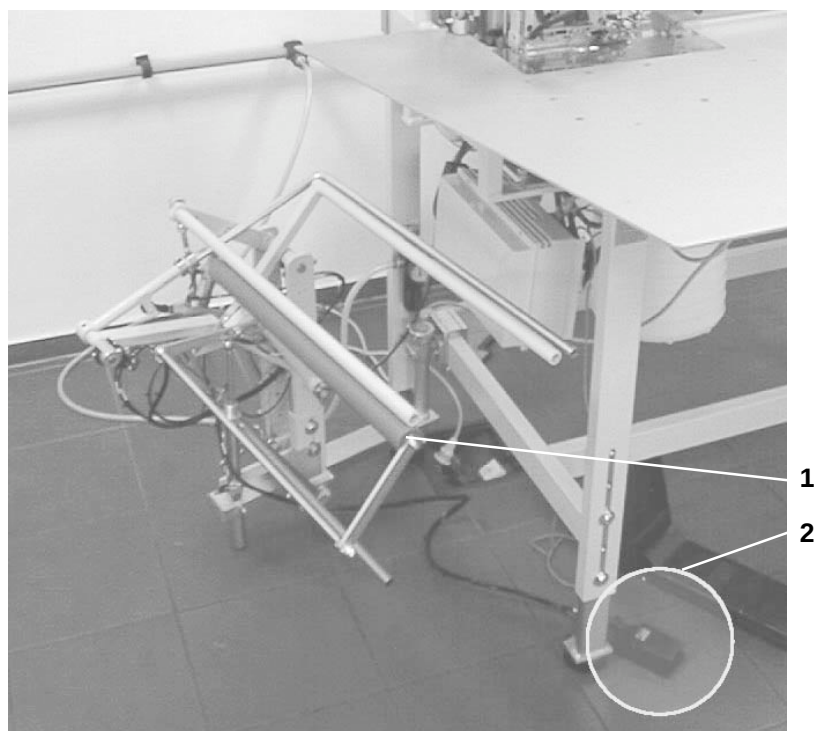
After switching on with the main switch, the program will be displayed which had been used previously. The machine is ready for sewing instantly:



As a factory setting, several sewing programs are contained in the buffer of the machine, which can be selected using the Plus/Minus keys. The available programs are listed further below.

5.5

Stacker



1 Stacker

2 Foot pedal

The sewed trousers or skirts are stacked after the sewing process. This is executed automatically.

Press the foot pedal (2) to open the stacker (1) if you want to take out the sewed fabrics.

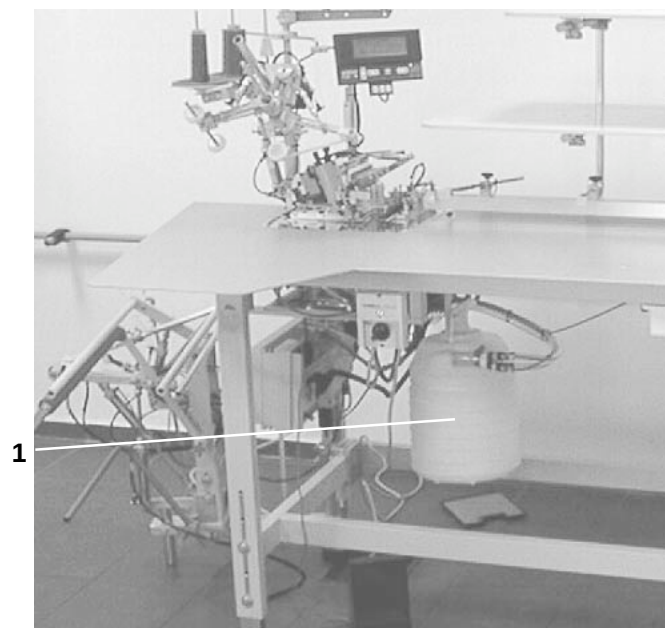
5.6

Main switch

The main switch is located at the front side of the machine, right-handed beneath the working table. Use it to switch the machine on and off.

5.7

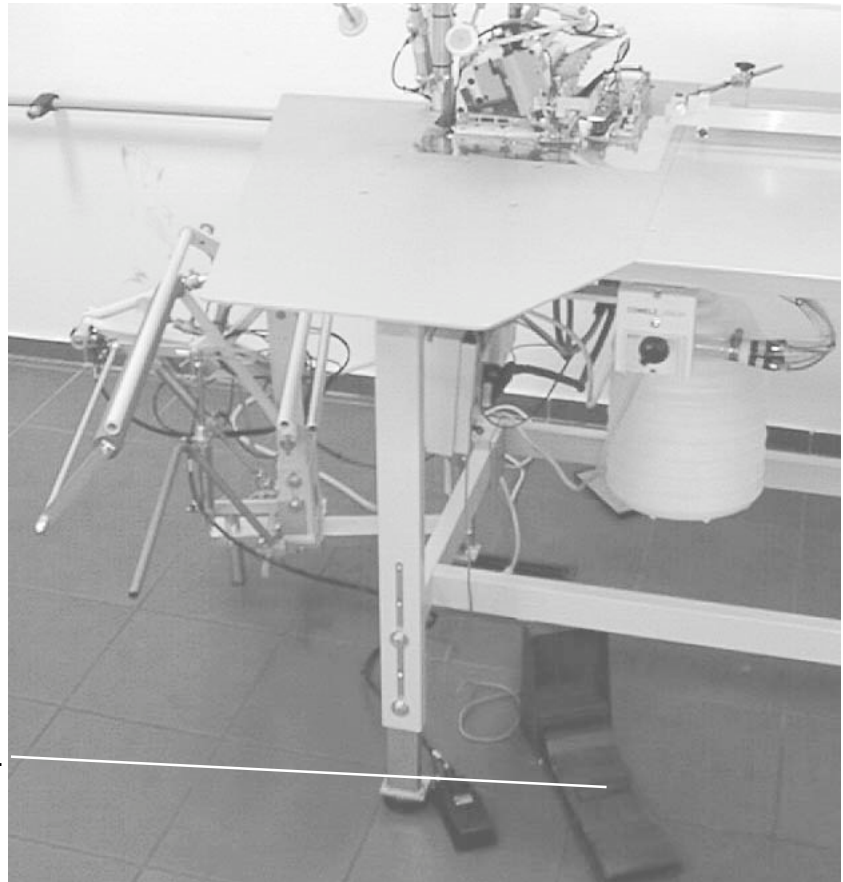
Collecting basket



The cut threads and possible cloth parts are evacuated from the sewing foot. They are collected in the collecting basket, which can be emptied easily.

5.8

Foot pedal



Use the foot pedal to start the program sequence. Two ways of switching have to be distinguished:

Press forward

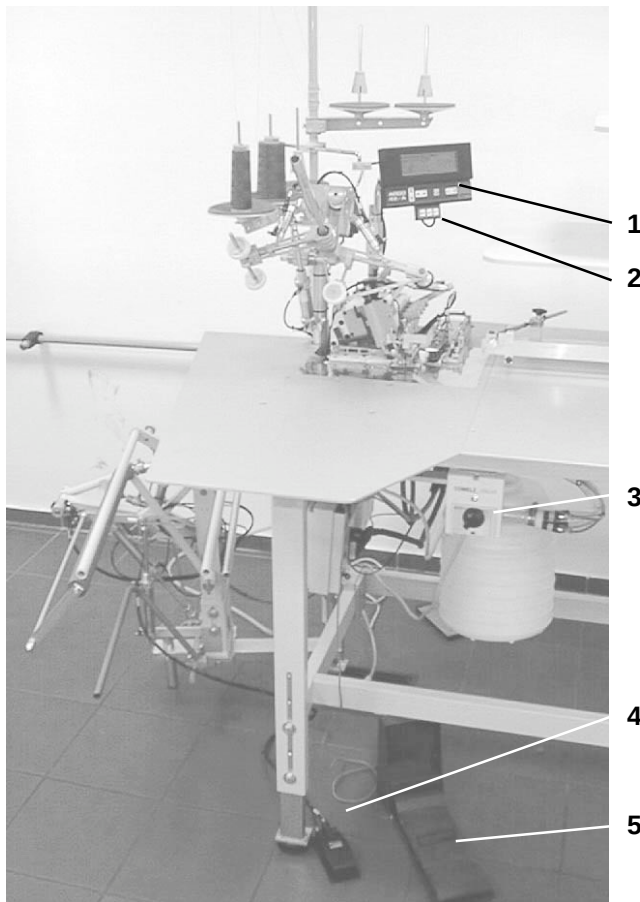
weight on the foot tip and tilting the foot pedal forward;

Press backward

weight on the heel and tilting the foot pedal backward.

6 Operation of the machine

6.1 Controls



- 1 Operation device
- 2 M-keys
- 3 Main switch
- 4 Foot pedal stacker
- 5 Foot pedal machine sequence

Please see chapter 5 for explanations on the controls.

6.2 Production sequence

The Automatic Unit for joining the Side Seam, Series 1281/4 works semi-automatic with high production speed. The operator of the machine has to:

- select the desired sewing program;
- align the fabrics correctly;
- sew the first part of the seam manually;
- start the automatic sewing;
- supervise the fault-free functioning of the machine.

The production sequence contains the following steps:

1. Align the trouser (or skirt) parts on the working table.
2. Clamp the parts with the mouse.
3. Insert the fabrics under the sewing foot just before the needle.
4. Sew manually over the pocket or the hip bow.
5. Separate the trouser (or skirt) parts with three fingers.

6. Insert the contour guiding between the parts.
7. Start the automatic sewing of the rest of the seam.

6.2.1 Select a sewing program

This is described in section 6.3.2.

6.2.2 Align trouser (skirt) parts

The correct alignment of the trouser (skirt) parts is decisive for good sewing results. Align the trouser (skirt) parts on the working table so that the front and back part fits together perfectly.

6.2.3 Clamp parts with the mouse

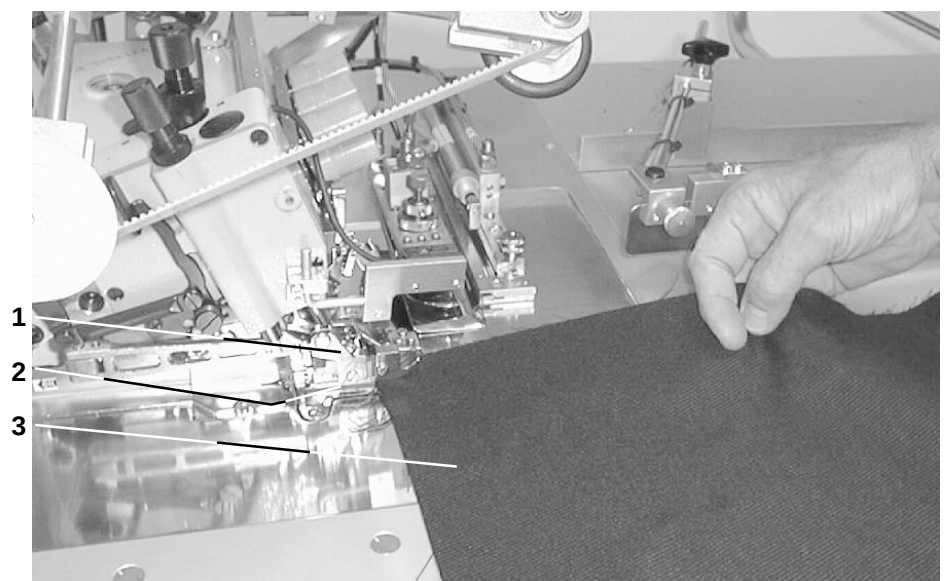
1. Insert the trouser (skirt) parts (3) between the clamping arms (2) of the mouse:



2. Press on the upper clamping arm (2) to clamp the cloth.

6.2.4 Insert the fabrics under the sewing foot

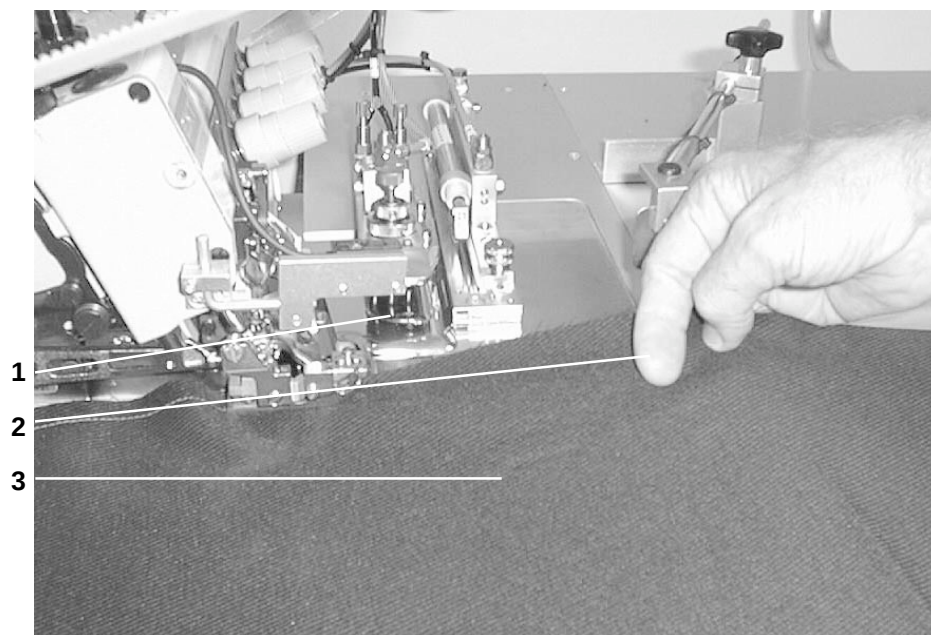
Take both trouser (skirt) parts (3) and insert them beneath the sewing foot (1), right in front of the needle (2):



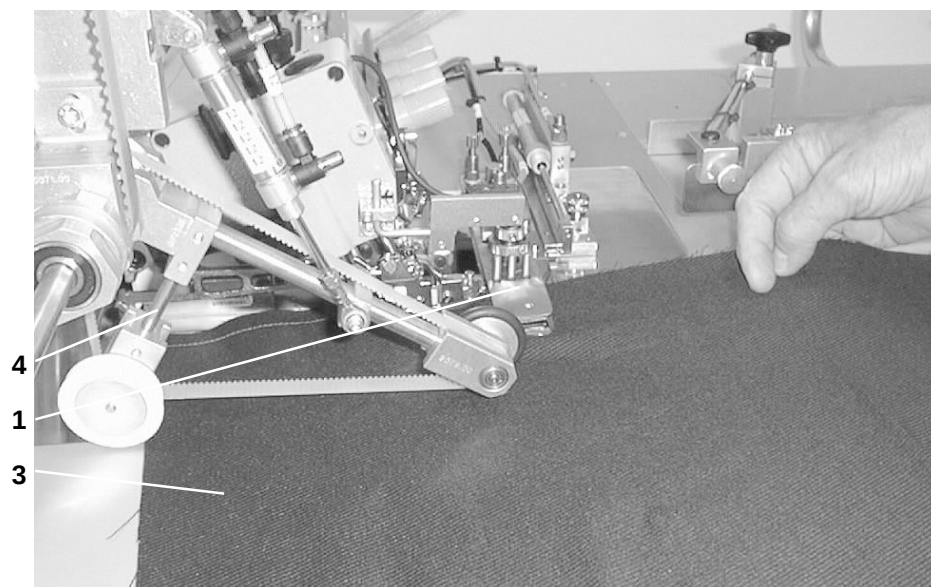
6.2.5 Sew manually across the pocket

1. Press the foot pedal forward; the sewing head starts sewing.
2. Sew manually across the pocket or the hip bow.

6.2.6 Separate trouser (skirt) parts



1. Use three fingers (2) to separate the front and back trouser (skirt).
2. Hold one finger below, one finger between and one finger above the cloths.
3. Press the foot pedal backward to drive the contour guiding (1) forward beneath, between and above the cloths (3). At the same time, the pulling device (4) will be lowered:



4. Press the foot pedal forward to start the automatic sewing of the rest of the programmed seam.
5. After the seam is finished, the parts will be stacked automatically.

6.3 Program control



Hint

This machine is controlled with programs, which are contained in the memory of the machine and can be opened by the operator. The modification of existing and the programming of new sewing programs should be reserved to experienced and qualified personell. The possibilities are explained in the second part of this manual.

6.3.1 Available sewing programs

In the daily production, the operator will only have to open one of the existing sewing programs. The following programs are available as a factory setting:

Prog.	Description
001	Program for the joining of the inside and outside seam; manual sewing across the pocket without contour guiding; automatic program sequence after pressing back the foot pedal; this program is well suited for the education time of the operating personell and programmed with slow sewing speed; additionally there is a program stop after the insertion of the contour guiding.
002	same program like 001 but with additional width regulation in the range of the hip bow of the back trouser with top feed enabled; the back trouser is in top position.
003	same program like 002, but with additional width regulation in the range of the hip bow of the back trouser with bottom feed enabled; the back trouser is in bottom position.
004	sewing programs 002 and 003 alternatingly.
005	sewing programs 003 and 002 alternatingly.
006	program for sewing the sleeve lining.
007	like program 001, but with contour guiding movable in sewing direction.
008	like program 002, but with contour guiding movable in sewing direction.
009	like program 003, but with contour guiding movable in sewing direction.
010	like program 004, but with contour guiding movable in sewing direction.
011	like program 005, but with contour guiding movable in sewing direction.

The currently selected program is imaged in the upper left corner of the display.

6.3.2 Select a sewing program

1. Move the cursor to the program number.
2. Press the Plus/Minus key repeatedly, until the desired program number is displayed.

6.4

Additional settings at the operation device

The operator may not open the Setup pages of the machine control. This should be preserved to especially educated and experienced technicians. You have to enter the machine code to open the Setup pages.



Attention

Damage to the machine due to inadequate programming possible! The machine code should be kept secret and accessible to persons only, who are allowed to program and setup the machine.

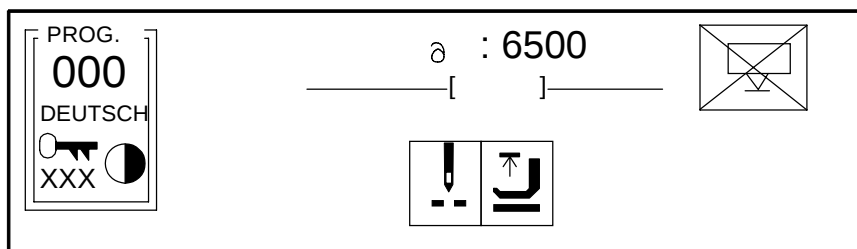
Only two settings may be executed by the operator:

- select the operation language;
- adjust display contrast.

6.4.1

Select operation language

Position the cursor on the program number and press the Minus key once. This will be displayed:



Use the arrow keys to move the cursor on the displayed operation language (here: deutsch = german) and press the Plus key, until the desired operation language is displayed.

Move the cursor back on „000“.



Hint

The descriptions in the sewing programs will always be displayed in the language that had been used to enter them.

6.4.2

Adjust display contrast

Open page „Program 000“ (see 6.4.1) and position the cursor on the half-filled circle symbol. Press the Plus or Minus key to adjust the contrast of the display.

Position the cursor on „000“ and press the Plus key to select a sewing program.

**DANGER**

Possible injuries due to improper execution of cleaning and maintenance duties! The operator of the machine may only carry out the cleaning and maintenance duties described in this section. Further measures are reserved to the responsible service technician.

7.1

Cleaning of the machine

**Hint**

To achieve the value and daily functionality of this machine, it should always kept clean and free of production waste.

Clean the machine components as described:

Operation device	clean it using a dry, clean and lint-free cloth; heavy dirt can be removed using a slightly saturated cloth.
Complete machine	use a vacuum cleaner daily and if required to clean the machine.

7.2

Maintenance

**ATTENTION**

Damage to the machine due to inadequate maintenance possible! The execution of the maintenance duties should be reserved to experienced and especially qualified staff. The required measures are described in the mechanics manual in the second part of this documentation.

7.2.1

Check oil level in the sewing head

There is a window in the sewing head, where you can check the level of the oil contained in the sewing head. Check the oil level daily and fill in required oil immediately.

**ATTENTION**

Damage to the sewing head due to low oil! Check the oil level in the sewing head daily and fill in missing oil immediately. Otherwise, the sewing head can be damaged.

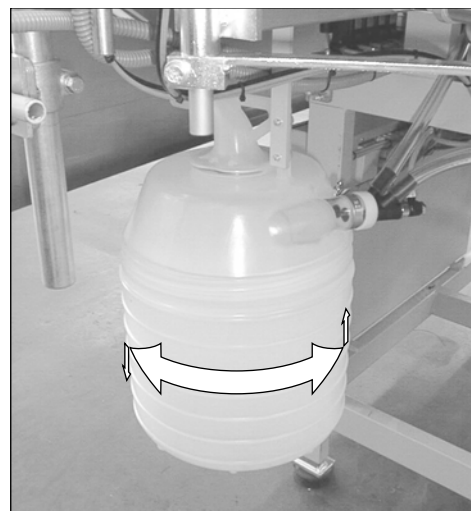
Information on the oil level check and filling in of missing oil is contained in the operating instructions of the sewing head which is part of the machine documentation.

7.2.2

Empty collecting basket

As an option the machine is equipped with a collection installation, which collects the pinked hem edge and the cut threads from the range of the sewing head.

The cloth and threads are collected in a basket, located beneath the working table.



Turn the lower part of the basket to the left to screw it off. Empty the basket. Mount the basket with a rotating movement to the right.



Hint

Please assure that the collected waste materials are treated in accordance to the local waste regulations. Help to keep nature clean and preserve the natural resources.

7.2.3

Empty water separator

The machine is equipped with a pressured air supply unit, where an automatic water separator is mounted.

If there is water in the cup, it will be released automatically if the pressured air supply is closed.

7.3

Troubleshooting hints

Whenever an error or fault appears or an error message is imaged in the display, the responsible technician have to be contacted.



Hint

This part of the operating instructions contains all information required to put the machine into operation and to do programming, troubleshooting and maintenance. It addresses to trained technical personnel, which is able to overview their tasks and recognize possible danger at an early moment. The operating instructions given in part 1 of this manual are to be considered as part of this mechanics manual.

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1 Delivery, transportation, storage

1.1 Delivery



Hint

Check right after receiving the machine, whether all parts according to the parts list are complete and without damage. Later compensation claims can't be accepted.

If you see damage to the transportation packing of the machine, which indicates a possible damage to the delivered parts, don't hesitate to claim this to the transportation company.

1.2 Transportation

Generally it is possible to move the machine. Obey the following hints:

1. Cut off the power supply, release the pneumatical pressure.
2. Fix movable and loose parts.
3. Lift the base with a hoisting device and be sure to lift possible additional devices (e.g. stacker). If the machine is equipped with transportation casters (option), you will have to release the brakes at every caster.
4. Move the machine carefully to the new location.



Attention

Attention when moving the machine on sloping areas! Enormous pull power arises from the machine weight.

1.3 Storage

If no other agreement is fixed, the following limitations have to be kept:

1. In closed rooms only.
2. Temperature range -10 ... +45 °C.
3. Humidity max. 80% non-condensing.



Attention

If stored or transported in improper environments, the machine can be damaged severely. Damages may not be visible from the outside.

2

Installation



Attention

Installation and putting into operation may only be carried out by mechanically and electrically qualified staff. These people must read and understand the complete operating manual before starting.

2.1

Technical data

Dimensions	2,300 x 1,500 x 1,700 mm (LxWxH)
Table height	830 ... 980 mm (adjustable)
Weight	120 kg
Power connection	220 V AC
Power consumption	0.7 kW
Fuse	15 A
Pressure air	min. 6 bar
Req. air quality	free of oil
Air consumption	est. 3 NL/part

2.2

Mechanical installation



Attention

Check before starting the installation, whether the desired location meets the requirements (see chapter 2.1, technical data). This is very important regarding the stability of the ground.

2.2.1

Unpack and put up

1. Remove the packing material and possible transportation protections.
2. Position the machine on a solid and horizontal ground.
3. Level the machine to a horizontal stand using the adjustable frame feet.



1. Connect the air pipe (2) to your air system.
2. Open the air supply of your air system.
3. Level the air pressure to 6 bar using the control (1); the air pressure can be read at the scale (3).
4. Water collected in the water separator (4) can be released by pressing on the valve (5).



Attention

We recommend to switch off the air supply when the machine is not in duty. Use the control (1).

2.3

Elektrical installation



Hint

All work at the electrical components of the machine may only be carried by qualified staff (qualified electrical employee or instructed person according to IEC 364 and DIN EN 60204-1).



Danger

Parts under electrical current! Without cutting off the power supply, you might be injured severely. Please obey the security advice given in chapter 1.



Attention

The machine will be destroyed by connecting to a wrong mains voltage! Check, whether the requirements from chapter 'Technical data' meet the local conditions.

1. Use the power cord located at the backside of the machine.
2. Plug it into a socket.
3. Lay the cord in a way, that the danger of stumbling is avoided.



Danger

Danger to life from insufficient grounding! Do a grounding according to DIN EN 60204-1.

2.4

First putting into operation

This machine has been configured to the individual requirements of the customer. The first putting into operation can be done easily:

1. Adjust the machine to a horizontal stand.
2. Connect power and air supply.
3. Switch on the machine using the main switch at the front side of the machine.
4. Check all security systems for function and efficiency.



Danger

The machine may only be used for production purposes, after the safety installations have been checked. If a safety installation doesn't work adequately, it must be repaired first.

As a factory setting, several production programs are contained in the buffer of the machine. You may use one of them or create your own programs.

3 Programming instructions and machine setup

As a factory setting, 2 sewing programs (4 if the machine is equipped with a pinking mechanism) are contained in the memory of the machine, which can be selected and used by the operator. These programs had been programmed based on long experience and should be sufficient for the use of the machine. The available programs are described in the first part of this manual.

Existing programs can be modified and adjusted to your personal requirements. You can also program completely new sewing programs. All modified or new programs can be copied on a storage module for data recovery purposes.

3.1 General hints

If you want to set or modify certain functions, you have to place the cursor using the arrow keys on the icon of the function and change the setting using the Plus/Minus keys.

At several functions you can press the Special key to open a setup page for the specific function.

The machine setup can be modified on the following pages:

Setup -01 Machine type

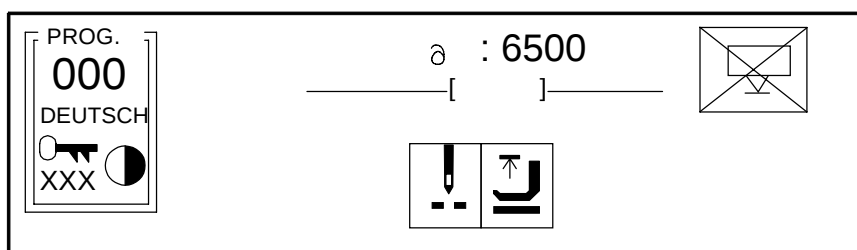
Setup -02 Position actor, turn direction, needle position, revs, acceleration curve of the foot pedal, cover page, storing of error messages, enable access code

Setup -03 Presser foot, photo cell

Setup -10 Inputs and outputs

3.2 Selection of the setup pages

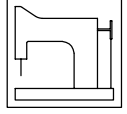
1. Position the cursor on the program number and press the Minus key. This will be displayed:



2. Position the cursor on the left-handed „x“ below the key symbol.
3. Press the Minus key to change the „x“ to a zero.
4. Position the cursor on the middle „x“ and press the Minus key.
5. Position the cursor on the right-handed „x“ and press the Minus key.
6. Position the cursor on the program number 000 and press the Minus key. Setup page -01 will be displayed.

3.3

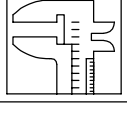
Setup page -01

SETUP -01 	MARKE	TYPE
	BERWENDLICH	

Here you can set the machine type. The type „Überwendlich“ must be selected.

3.4

Setup page -02

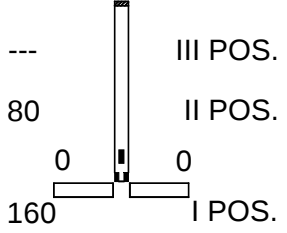
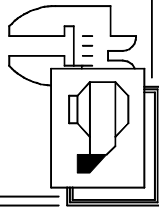
SETUP -02 	  
	  

Here you can see six icons which represent the machine functions. To select a function, position the cursor on the respective icon and press the Special key to open the setup page or press the Plus/Minus key to switch the function on or off.

3.4.1

Position actor, turn direction, needle position



SETUP-02		
		

Turn direction

After opening the setup page, the cursor is positioned on the icon of the turn direction. Press the Plus key to change the turn direction (viewed on the belt disc).

Define needle zero-position

1. Position the cursor on the icon of the needle zero position.
2. Turn the hand wheel with impetus in the set turn direction until the angle value below the turn direction icon changes.
3. Turn the hand wheel, until the needle stands at the top edge of the stitch plate.
4. Press the Plus key to accept the value as zero position.
5. Press the Special key to leave the page or continue with the setting of the needle top and bottom position.

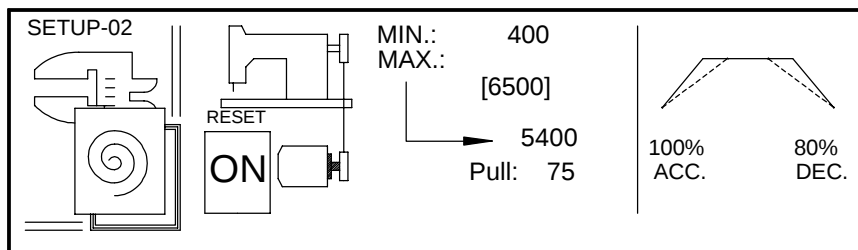
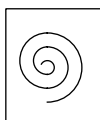
Define needle top and bottom position

These positions are defined as a factory setting but can be modified:

1. Position the cursor on the stroke „II. Pos.“.
2. Turn the hand wheel into the set turn direction, until the needle stands in the desired top position.
3. Read the angle value below the turn direction icon (est. 80).
4. Press the Plus or Minus key to enter the displayed value into the entry box beside the stroke „II Pos.“.
5. Position the cursor on the stroke „I Pos.“.
6. Press the Plus or Minus key to enter the value „160“ into the entry box beside the stroke „I Pos.“.
7. Press the Special key to leave the setup page.

3.4.2

Revs (min. and max.)



Position the cursor on all sections listed below and set the recommended values using the Plus or Minus key:

MAX.: 5400
MIN.: 400
ACC. 100 %
DEC. 80 %
Pull: 75

Press the Special key to leave the setup page.

3.4.3

Foot pedal



Hint

The settings contained here are set perfectly as a factory setting and may not be modified.

3.4.4

Cover Page



SETUP -02		P ——— TXT ——— 1:P1 Puller 44 2:P2 Kettuptran 30 3:P3 Staplertran 1 4:P4 Vorrichtung	P ——— TXT ——— 5:P5 6:P6 7:P7 8:P8 Cover N:1
----------------------------	--	---	--

Here you can enable parameters. Enabled parameters will be listed on the cover page 001 and can be modified there, without accessing the machine setup.

Move the cursor to the parameter to be enabled or disabled. Press the Plus key. An enabled parameter is indicated by a triangle displayed to the left of it. The cover page icon on setup page -02 must be enabled to allow the use of the cover page. If it is enabled, the cover page will be displayed before program page PROG 001:

COVER 001 POS 0	P1 PULLER: 44 P2 KETTUPTRANS: 30 P3 STAPLERTRANS: 1	a: 5000 STEP: 1 PRG: 1
--	--	------------------------------

Open the page COVER 001, position the cursor on the desired parameter and modify the setting by pressing the Plus or Minus key.

- P1** PULLER: this parameter is the speed of the pulling device transportation during the sewing;
- P2** KETTUPTRANS: here you can set the speed of the smooth-out device for cutting the chain; this speed should be adjusted in a way that the thread chain can be sucked into the kett-up safely;
- P3** STAPLERTRANS: here you can set the stacking position of the fabrics after the cutting of the chain.

3.4.5 Store error messages

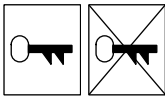


SETUP -02	ERROR	PARTIAL	TOTAL
	--:--	12:15	38:20
	--:--	04:35	27:15
	--:--	30:00%	40:00%

The last 16 error messages are documented on this page. They are listed with the time of their appearance and the time period until the next error message.

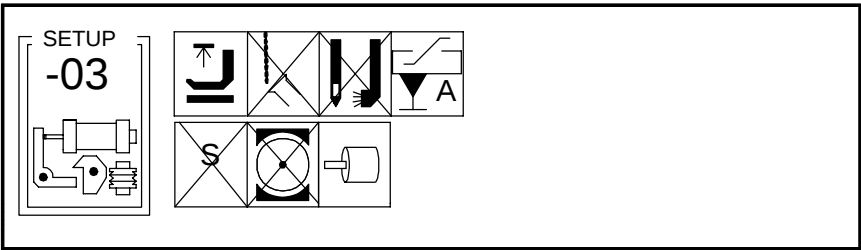
Press the Special key to leave this page.

3.4.6 Enable access code



Use the Plus key to enable (left) or disable (right) the icon of the access code. If the access code is enabled, the code must be entered before a setup page can be opened.

3.5 Setup page -03



Eleven icons are displayed here, but only five of them are enabled.

To enable/disable a function, position the cursor on the respective icon and press the Plus/Minus key. A disabled icon is crossed out.

To select the setup page of a function, this function must be enabled. Then position the cursor on the respective icon and press the Special key.

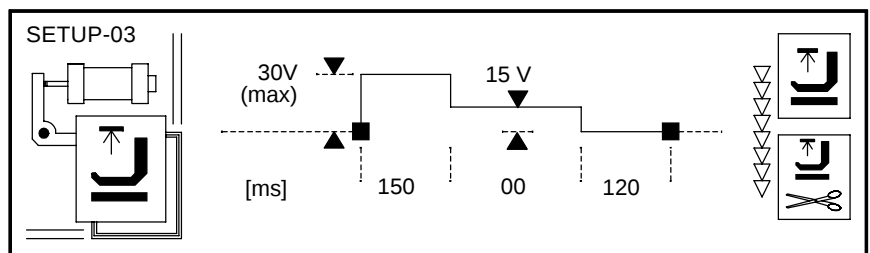


Hint

If the presser foot cannot be enabled, you will first have to switch off output F1 on setup page -10. More explanations are given further below.

3.5.1

Presser foot

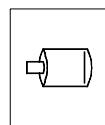


1. Position the cursor on the time of maximum power (left value in lower row) and press the Plus/Minus key until 150 ms is set. This assures that the presser foot is lifted safely after seam end.
2. Position the cursor on the value of the holding voltage (upper row, value in the middle of the display) and press the Plus/Minus key until 15 V is set. This assures that the magnetic valve for the foot release will not be overloaded.
3. Position the cursor on the value of the start delay (right edge) and enter 120 ms here. This time is required to assure that the sewing foot rests safely on the cloth before sewing starts.
4. Position the cursor on both presser foot icons and set them to „Presser foot up“ like shown in the picture.
5. Press the Special key to leave this page.
6. Check, whether the presser foot is programmed on „up“ on page „PROG 000“, too.

3.5.5

Step motor transportation unit

The motor of the transportation unit is optimized as a factory setting and should not be modified. Open the corresponding setup page to check the settings:



SETUP-03		1	2	3	4
	JS	0	80	80	80
	KJ	2	8	8	8
	KP	1	8	8	8
	KA	6	8	8	8
	IL	1	1	1	1
	IH	7	10	10	10

All values must be set like shown in the drawing.

- JS** jog speed: this function is not used at this machine;
- KJ** speed factor in POS mode: speed for the smooth-out distance;
- KP** speed factor in puller mode (1 ... 15): speed factor for the synchronous operation (1 ... 7 = half step mode; 8 ... 15 = full step mode);
- KA** acceleration curve of the step motor;
- IL** holding voltage in home position (1 ... 15): this should reduced to a minimum to avoid over heating;
- IH** working voltage (1 ... 15): here you have to consider the manufacturer's information; if the working voltage is set too high, the motors will be destroyed.

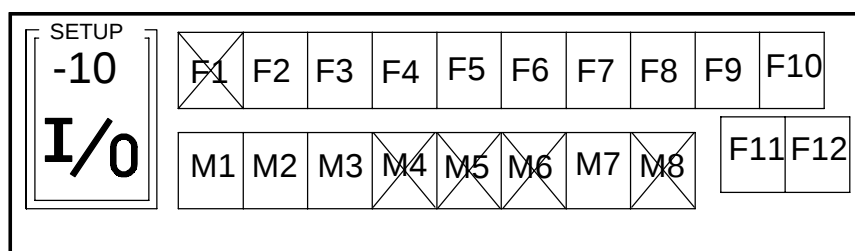


ATTENTION

Damage to the motors due to inadequate settings! Before you modify one of the values shown here (especially value IH), you should contact the Beisler service staff.

3.6

Setup page -10



All inputs (F1 ... F12) and outputs (M1 ... M8) are displayed on this page. For disabled inputs/outputs, the respective icon is crossed out.

At this machine, the output F1, and the inputs M3 ... M6 and M8 must be disabled. Position the cursor on the icon of an input/output and press the Plus/Minus key to alter the setting.

The outputs are valves and occupied as follows:

Valve description	Output connector
F1 Y1 Lift sewing foot	pin 1
F2 Y2 Table blowing	pin 3
F2 Y13 Waste evacuation (option with stitch type 515)	pin 3
F2 Y16 Tension release for needle thread (option stitch type 515)	pin 3
F3 Y3 Contour guiding up and blowing in the contour guiding	pin 5
F4 Y4 Contour guiding forward/backward	pin 7
F5 Y5 Kett-up	pin 9
F6 Y6 Smooth-out device up/down	pin 11
F7 Y7 Stacker impulse	pin 13
F8 Y8 Transportation unit up/down	pin 15
F9 Y9 Top feed adjustment	pin 17
F10 Y10 Bottom feed adjustment	pin 18
F11 Y11 Mouse backward	pin 14
F12 Y14 Drive contour guiding laterally (see below)	pin 14
Y15 Stacker up/down (option)	pin 12 +24 V
	pin 19 -24 V



The inputs are occupied as follows:

Description		Rounded connector (6-pin)
M1	Key mouse backward	pin 4
M2	Key for stacker impulse	pin 3
M3	Key pulling device up	pin 1
M7	Initiator mouse backward	pin 1 (input connector)

3.7

Program inputs and outputs

The inputs and outputs can be enabled/disabled on setup page -10. Enabled inputs and outputs can be programmed.

To program an input or output, position the cursor on the respective icon and press the Special key. The setup page will be opened.

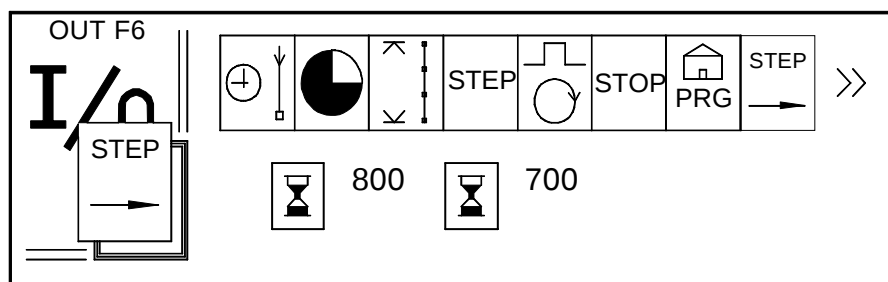


Hint

The programming of inputs and outputs is not executed program-specific. The setting is the same for all programs. Modifications effect all sewing programs.

3.7.1

Setup page of inputs and outputs



A programming is shown for the example of output F6 (displayed in the upper left corner of the display).

A function must be selected for each input/output, a start delay and duration must be programmed. The selected function is displayed on the left side in front of the background „I/O“. The icons will be explained further below.

The start delay is displayed to the right of the left-handed „hour glass“, the active duration to the right of the right-handed hour glass. The available functions are displayed above the hour glasses in a horizontal row.

Do the following to program an input or output:

1. Position the cursor on the icon of a function in the upper right part of the display.
2. Press the horizontal arrow keys until the desired function icon is marked.
3. Press the Plus key to select the marked function icon. It will be displayed in the area „I/O“.
4. Position the cursor on the time value to the right of the left-handed hour glass icon if you want to program a start delay (in ms) for the selected function.
5. Press the Plus/Minus key repeatedly, until the desired value is displayed.
6. Position the cursor on the time value to the right of the right-handed hour glass, where you can program the active time (in ms) for the selected function.
7. Press the Plus/Minus key repeatedly, until the desired time value is displayed.

8. Press the Special key to leave the setup page and store the changes.
9. Repeat this procedure for all inputs and outputs which you want to modify.

3.7.2 Settings for this machine

The inputs and outputs at this machine should be programmed as follows:

Inputs

Mouse backward	M1	Fn		F11 ON
Stacker impulse	M2	Fn		F7 ON
Pulling device up	M3	Fn		F8 TOG
Mouse backward	M7	Fn		F11 ON

Outputs

Table blowing	F2		 100	 100
Contour guiding up and blowing in the contour guiding	F3	STEP 	 5	 30
Contour guiding backward / forward	F4	STEP	 0	 45
Kett-up	F5		 0	 450
Smooth-out device up/down	F6	STEP 	 800	 100
Stacker impulse	F7		 0	 75
Pulling device up/down	F8	STEP	 0	 50

Top feed adjustment	F9			
Bottom feed adjustment	F10			
Mouse backward	F11			
Pulling device up/down	F12	STEP		

3.8 Meanings of the used symbols

Step type symbols



Pause - passing of a time

if the time symbol is programmed in a step, the program sequence will be continued after the programmed time has passed; outputs can be enabled in this step.



Continue with next step

it will be switched to the next step automatically after the displayed step has been executed.

Program-specific symbols



Manual sewing

if this icon is contained in a step, you can sew manually pressing the foot pedal forward; switch to the next program step by pressing the foot pedal backward.



Semi-automatic execution

if this icon is contained in a step, the step will be switched on by pressing the foot pedal forward; after a programmed time expired or a stitch counting, it will be switched to the next step automatically.



Automatic execution

this step will be executed automatically.



Enabled outputs

one or several outputs are enabled in this step; position the cursor on this icon and press the Special key, to display the enabled outputs; crossed out icons represent disabled outputs.



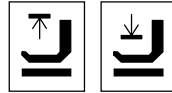
Stop

the program will be stopped after the execution of this step; usually this icon is used in the last step of a sewing program.



No stop

there will be no program stop but a continuation with the next step.



Sewing foot up – down

indicates the position of the sewing foot at program start and end.



Needle position after sewing stop

position the cursor on this icon and press the Plus key to select, whether the needle shall stand in top or bottom position after the stop.

4

Use of the storage module

All sewing programs and the setup data are stored on the storage module delivered with the machine.



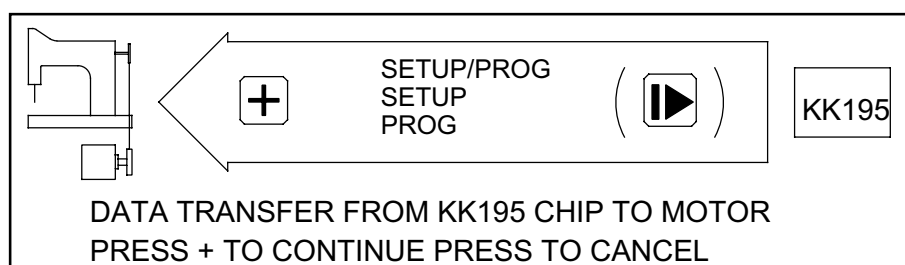
Hint

The delivered module is a backup copy of the machine data. It should be kept at a safe place.

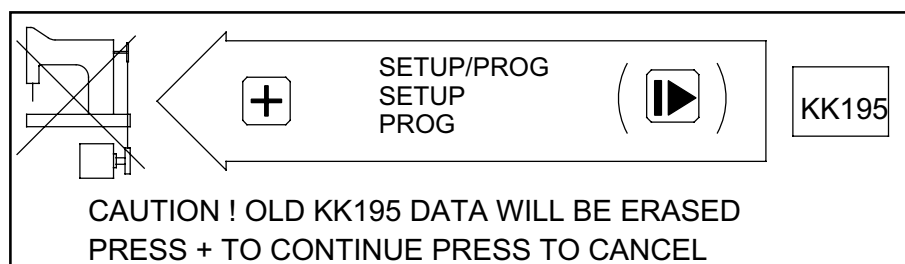
4.1

Load data from the storage module

1. Switch off the machine using the mains switch.
2. Plug the storage module KK 195 into the slot on the right side of the operation device.
3. Switch on the machine using the mains switch.
4. The display shows you what you can load from the storage module:



5. Press the Plus key.
6. Confirm the inquiry, whether the data contained in the machine's memory shall be overwritten.
7. Use the arrow keys to mark one of the three options (SETUP/PROG = setup-data and sewing programs will be loaded; SETUP = only setup-data will be loaded; PROG = only sewing programs will be loaded).
8. Press the Plus key.
9. Now you have to confirm the loading of data into the machine control:

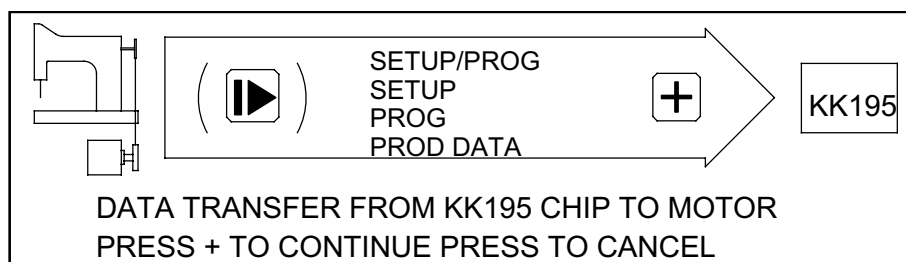


10. Press the Plus key to start the loading. The selected data will be loaded into the machine control.
11. Then, setup page -02 will be displayed. Enter all data like described in section 3.4.
12. Press the Special key. Program 001 will be displayed and the machine is ready to use.

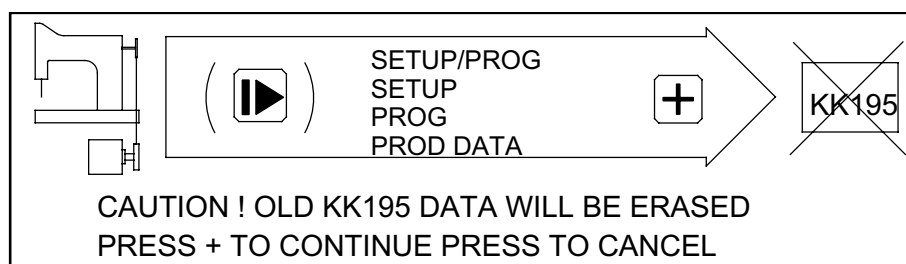
4.2

Write data on the storage module

1. Switch off the machine using the mains switch.
2. Plug the storage module KK 195 (Part No. 24.831.08) into the slot on the right side of the operation device.
3. Switch on the machine using the mains switch. This will be displayed:



4. Press the key „Arrow to the right“ to turn the displayed arrow in the direction like shown in the picture.
5. Select one of four options using the vertical arrow keys: SETUP/PROG = write setup data and sewing programs; SETUP = write setup data only; PROG = write sewing programs only; PROD DATA = write program data only.
6. Press the Plus key and this will be displayed:



7. Press the Plus key to overwrite data which are contained on the storage module. Then, the selected data will be written.
8. Pull the storage module out of the operation device. The machine is ready to use.

4.3

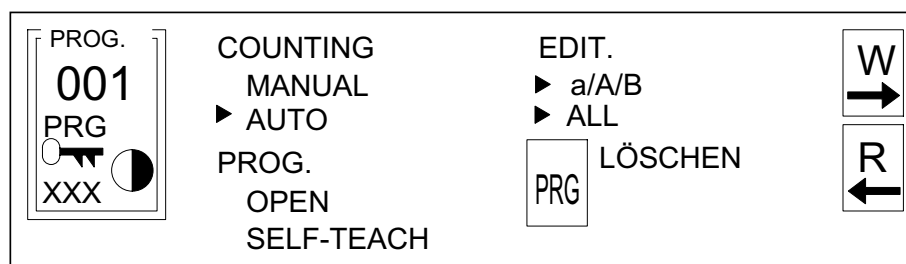
Write single programs on the storage module



Hint

For each single program, a separate storage module is required.

1. Select the program to be copied on the storage module.
2. Press the Special key and this will be displayed (example):



3. Position the cursor on the „W“ in the upper right corner of the display and push the storage module into the slot at the operation device.
4. Press the Plus key to write the selected sewing program on the storage module.

4.4

Read a single sewing program into the machine control

1. Select the program memory location, where the program shall be read to.
2. Press the Special key. The same will be displayed like shown in section 4.3.
3. Position the cursor on the letters „PRG“ and press the Plus key to delete the data contained on the selected memory location.
4. An inquiry will be displayed, where you have to confirm the deletion by pressing the Plus key. **The deletion cannot be undone.**
5. Plug the storage module into the slot at the operation device.
6. Position the cursor on the letter „R“.
7. Press the Plus key to read the program from the storage module into the machine control.
8. Press the Special key to leave the page. The machine is ready to use.



Hint

You can use this procedure to copy a sewing program from one memory location to another.

5 Troubleshooting hints

5.1 Error – possible solution

The machine does not start and the control lamp on the operation device MT800 is off – replace 10 A melting fuse; if the new fuse melts, too or the machine does not start: replace control board KK66.

The devices will not be enabled – the motor functions but the devices like thread cutter, foot lifting or needle cooling will not be enabled – replace 3 A melting fuses, then cut off all devices electrically from the motor control; switch on the machine and connect all devices one after another; after every connection, switch on the machine and check melting fuses; in this way, the defective device can be detected (possibly magnetic valve); if the electrical elements of the devices are ok and the replacement of the fuses brought no success: replace I/O-module, replace control board KK66.

The operation device MT800 is switched on, but the display is not clear or without function – switch machine off and on; pull out the connecting cable of the operation device MT800, check and remount it; possibly do the same with the connecting cable between control board KK66 and I/O-module; replace operation device MT800, replace I/O-module, replace control board KK66.

5.2 Error messages in the display – possible solution

Fault in the control board (KG) – replace control board KK66.

External fault (KE) – switch machine off and on; check power supply; check environment for disturbing devices (spark-generating devices, high-frequency machines, a.s.o.).

Program defective (KP) – delete defective program and program it again; if several programs are defective, all programs should be loaded from the storage module; if the loaded programs are defective: replace control board KK66.

Position actor defective (SG) – check the connecting cable of the position actor; check the connecting cable between I/O-module and control board KK66; replace position actor, replace I/O-module, replace control board KK66.

Driving belt loosened (CA) – make correct belt tension; check, whether the motor is fixed properly on the base frame.

Motor overloaded (MS) – there can be many reasons: e.g. missing oil in the sewing head, oil too cold, possibly sewing thread wrapped around the belt disc, ...

Motor blocked (MB) – possible causes: machine blocked, needle blocked, ...

5.3 Hints for several repair duties

Replacement of the I/O-module – the replacement of the I/O-module does not require any adaption duties.

Replacement of the position actor – after replacement, the setting of the needle zero position is required.

Replacement of control board KK66 – procedure: demount rear cover, pull off four cable connectors to the control board, loosen both fixing screws, pull off control board from the motor. Be aware to avoid damage to the electronic components; put the control board into a bag protecting it from electrostatical load and avoid any contact to metal things. After replacing the control board, all setup data and the sewing programs must be loaded into the machine.

Replacement of the front box – this is the statical element of the connection control box and of the foot pedal; each transmission element of the pedal is calibrated; since that, the front box should only be replaced as a whole.

Replacement of the motor – this is fixed with four screws in the motor housing; the control board must be removed before it can be demounted.

Loading of new software – future developments can be loaded into the control by replacing an EPROM; to replace the EPROM, remove rear cover, replace EPROM (mounted on a frame in the upper left corner); when inserting the new EPROM be sure to insert all pins and bend none.

