

INSTRUCTION MANUAL

BASS 3050



Instruction Manual
Universal Automatic Pocket Piping Machine BASS 3050

CONTENTS OF THE INSTRUCTION MANUAL

THE INSTRUCTION MANUAL IS DIVIDED INTO FOUR PARTS:

A. General operating information

General information for the safe operation for operating and service personnel and for the machine operator.

B. Instruction manual

Instructions for the operating personnel working with and on this machine.

C. Service manual

Instructions for the service personnel responsible for the commissioning, setting up and maintenance work on the machine.

D. Programming manual

Programming manual for the service personnel, who carry out the production planning and setting up of the machine.

Scope of the instruction manual

This instruction manual describes the Universal Automatic Pocket Piping Machine BASS 3022/3052 is only valid for machine parts and components included in the delivery scope of the machine. It does not apply to accessories or machine parts (e.g. sewing head) from other manufacturers fitted or subsequently fitted to the machine. For these components the instruction manual of the respective manufacturer or supplier applies.

A

Part A General operating information

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A.1

A.1 SAFETY MEASURES

A.1.1

A.1.1 NON-LIABILITY

A-S-S guarantees that the product is free from faults in accordance with the published advertisements, product information and this instruction manual. Additional product features are not guaranteed. Does not assume any responsibility for the efficiency or perfect functioning of the Universal Automatic Pocket Piping Machine BASS 3022 if this is used for an application other than defined in the section "Proper Use". A-S-S is not liable for damage occurring through the use of undefined and unauthorized spare parts or accessories.

A.1.2

A.1.2 COPYRIGHT

© 2000 A-S-S

Universal Automatic Pocket Piping Machine BASS 3022 The Universal Automatic Pocket Piping Machine BASS 3022 with all appropriate parts is protected by copyright. Reproduction of the machine will be prosecuted.

Instruction manual This instruction manual is protected by copyright. The rights resulting from this, in particular the reproduction, the photomechanical or digital processing or reproduction in any other way, the removal of illustrations or tables and the translation, even in part, are only permitted with the written approval of A-S-S.

A.1.3

A.1.3 IMPORTANT INFORMATION FOR THE OPERATOR!

This machine has been constructed according to the current technical standard and is safe for operation. Nevertheless this machine can be dangerous, above all if it is operated by inadequately trained personnel or if it is used incorrectly and not for the purpose intended:

- For personnel working on and with this machine, the user must compile, on the basis of this instruction manual, written, clear instructions concerning accident prevention in the language of the personnel (FRG: Accident Prevention Regulations "UVV VBG 1 § 7, 2").
- With the help of the instruction manual familiarize the operating personnel with the function, operation and care of the machine and check that the operating personnel has understood this instruction manual.
- With the help of the instruction manual train the service personnel for the setting up and maintenance work on the machine.
- The operator is solely responsible for any structural changes to the machines, which have not been approved in writing by A-S-S.
- The contents of the instruction manual may be changed at any time without prior notice.
- This English version of the instruction manual is binding for translations into foreign languages.
- If any particular problems occur, which are not described sufficiently in this instruction manual, for your own safety please contact your supplier. Furthermore, A-S-S appreciates any information and suggestions, which serve to improve this product.
- Please keep this instruction manual in a safe place near the machine in order to be able to consult the safety instructions and information about operation, set-up and maintenance at any time.

A.1.4

A.1.4 WARRANTY

A-S-S guarantees the reliability, the functioning and free repair of the Universal Automatic Pocket Piping Machine BASS 3022 on condition that:

- The machine is used exclusively for the use intended and is operated and maintained as described in this instruction manual
- Structural changes to the machine are only carried out after the previous written permission from A-S-S,
- Only original spare parts or accessories and those authorized by A-S-S are used. A complete spare parts list with all authorized parts may be ordered from A-S-S.

If the machine is used in multiple shift operation for longer than 10 hours, the guarantee period is reduced to 3 months. The guarantee period begins with the delivery to the customer.

A.1.5

A.1.5 IMPORTANT INFORMATION FOR THE OPERATING PERSONNEL!

Please note that sewing work on the Universal Automatic Pocket Piping Machine BASS 3022 may only be carried out by trained operating personnel:

Operating personnel are those persons:

- Who have been trained on automatic sewing machines and who, on the basis of this instruction manual, have been instructed about the operation and working mode of the Universal Automatic Pocket Piping Machine BASS 3022,
- Who have been informed of the possible dangers connected with their work on the machine,
- Who, on the basis of professional experience and information about safety regulations, are able to assess the work they are doing and recognize possible dangers during operation,
- Cleaning work on the machine or on machine parts may only be carried out by those persons who have been previously informed of possible dangers, which may occur during cleaning work on the machine.

Before using the Universal Automatic Pocket Piping Machine BASS 3022 for the first time, please read the instruction manual carefully. In this way you will be using all the benefits of the machine and preventing damage.

A.1.6

A.1.6 IMPORTANT INFORMATION FOR THE SERVICE PERSONNEL!

Please note that service work on the Universal Automatic Pocket Piping Machine BASS 3022 may only be carried out by authorized specialist personnel with the appropriate qualification:

Specialist personnel are those persons:

- Who have acquired their knowledge through professional training in mechanical or electrical engineering or through specialized supplementary courses or a comparable qualifying measure,
- Who have received the knowledge required for all setting-up and maintenance work on the Universal Automatic Pocket Piping Machine BASS 3022 in training by A-S-S,
- Who, on the basis of professional experience and information about safety regulations, are able to assess the work they are doing and recognize possible dangers during their work.

Before carrying out any service work on the Universal Automatic Pocket Piping Machine BASS 3022, please read the entire instruction manual carefully. In this way you will be using all the benefits of the machine and preventing damage.

A.2

A.2 SYMBOLS

A.2.1

A.2.1 SYMBOLS IN THE OPERATING MANUAL

**WARNING!**

If ignored there is a possibility of severe or even fatal injury.

**CAUTION!**

If ignored there is a possibility of medium to light injuries or damage to property.

**NOTICE!**

Gives tips for the application and useful information.

A.2.2

A.2.2 SYMBOLS ON THE MACHINE

**DANGEROUS LOCATION!**

Attention! Please observe instruction manual.

**WARNING – HIGH VOLTAGE!**

Attention! Disconnect mains plug before opening.

A.3

A.3 APPLICATION

A.3.1

A.3.1 PROPER USE

The Universal Automatic Pocket Piping Machine BASS 3022 is a sewing unit. It is used for folding and sewing pocket facings. For processing the machine can be used with all commercially-available materials for outerwear. The machine has been developed for continuous operation in industry. The Universal Automatic Pocket Piping Machine BASS 3022 has been tested for electromagnetic compatibility and is suitable for setting up for operation on industrial premises.

A.3.2

A.3.2 IMPROPER USE

The Universal Automatic Pocket Piping Machine BASS 3022 may not be used on premises which do not comply with the location requirements. The Universal Automatic Pocket Piping Machine BASS 3022 not be used near appliances or equipment which develop strong magnetic fields. The function of the program control unit can be impaired by the influence of strong magnetic fields.

A.4

A.4 SAFETY REQUIREMENTS

A.4.1

A.4.1 STANDARDS AND DIRECTIVES

- DIN EN, Part 1: 1991-11, Part 2: 1995-06 Safety of machines
- DIN EN 60601, Teil 1: 1994-05 Safety regulations for electrically-driven measurement and control units, general requirements.
- DIN EN 50178 (VDE 0160): 1998-04 Electronic equipment for use in power installations
- DIN EN 50082 (VDE 0839) Teil 2: 1997-11 Electromagnetic compatibility, specialized basic standard, jamming resistance. Part 1: Domestic premises, business and commercial premises and small firms. Part 2: Industrial premises.
- DIN EN 60204 (DIN VDE 0113): 1993-06 Electrical equipment for industrial machines

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B.1

B.1 DESCRIPTION OF THE MACHINE

B.1.1

B.1.1 FUNCTIONAL UNITS

fig. 1: The universal automatic pocket piping machine BASS 3022 consists of several functional units, which can be coordinated with the program control unit:

- 1 Sewing head with sewing appliance, centre knife and needle thread catcher
- 2 Control element with function keys, number panel and memory chip slot
- 3 Folding station
- 4 Clamp with clamp bar and clamp drive (under cover 11)
- 5 Sliding plate with vylene flap device
- 6 Corner knife fixture
- 7 Foot switch for machine control
- 8 Foot switch for opening bundle clamp of stacker
- 9 Swing-put stacking appliance
- 10 Roller
- 11 Cloth retainer

As an option the universal automatic pocket piping machine can be equipped with a vacuum pump.

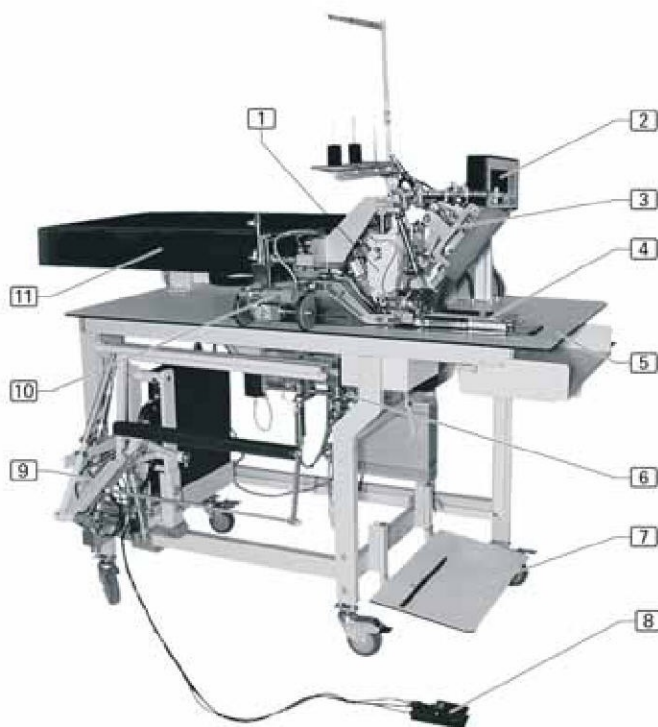


fig. 1

B.2

B.2 MACHINE FUNCTION

B.2.1

B.2.1 FUNCTIONING PRINCIPLE AND MACHINE OPERATING SEQUENCE

FUNCTIONING PRINCIPLE:

The universal automatic pocket piping machine BASS 3022 enables the automated cutting and sewing of straight and slanted pocket openings with or without flaps. The incorporation of a zip can be integrated in the sewing operation. The clamp feed unit and all cuttings systems of the sewing unit have their own drive:

- The clamp feed and corner cutting are each controlled fully automatically with a step motor.
- The centre knife is driven by a separate electric motor.

MACHINE OPERATING SEQUENCE:

The workpieces (trousers, jackets etc.) are kept at hand on external appliances, the additional parts in the storage box under the worktable:

- The workpiece is placed on the laser marking.
- The individual operations are started with the foot switch.
- The clamp moves to the insert position and sinks down onto the workpiece.
- The piping strip or welting strip is inserted in the clamp.
- The folder is lowered, the folding slides extend to fold the piping or welting strip.
- The flap or pocket pouch are positioned.
- The flap clamp closes.
- The clamp carries the workpieces to the sewing unit, where the pocket opening is sewn and cut open in the centre of the seam with the centre knife. The workpieces are then moved on to the corner knife position where the corners are cut.
- The roller takes over the finished workpieces from the clamp and carries the from the work surface to the stacker, where they are stacked on top of each other.
- As soon as the clamp has taken over the transportation to the sewing unit, the next workpiece can be positioned (overlapping work method).

B.2.2

B.2.2 CLAMP AND FLAP CLAMP

fig. 2: Clamp and flap clamp take over the transportation of the workpieces from the starting position to the sewing unit, and from there to the stacking position. For this purpose the clamp sinks with both clamp arms **1** onto the workpiece and pulls it over guide plate **3** to the sewing unit. At the same time the flap clamp presses down the flaps on the clamp arms with the two bars **2**.

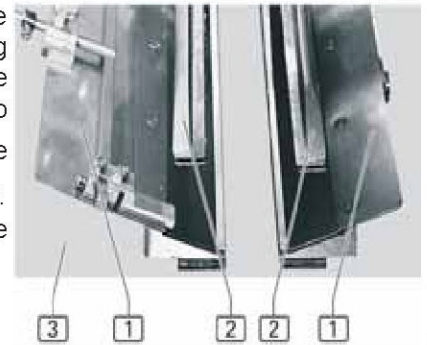


fig. 2

B.2.3

B.2.3 FOLDER

fig. 3: The folder **1** holds the piping or welting strips in position, while the two folding slides **2** fold the strips **4** round the base edge **3** of the folder. Depending on the design of the pocket opening, folders with different base edges can be used.

- Symmetrical base edges **3** for double-piped pocket
- Base edge **5** with wider left side for single-piping on trousers
- Base edge **6** with wider right side for single piping on jackets

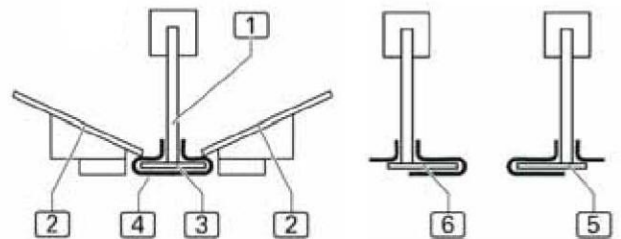
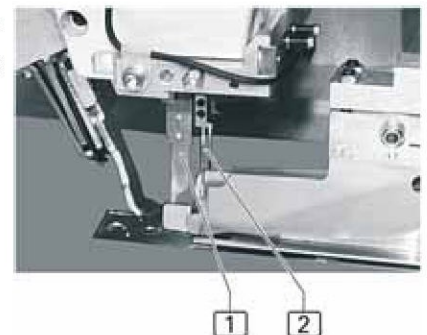


fig. 3

B.2.4

B.2.4 SEWING UNIT WITH CENTRE KNIFE

fig. 4: While the workpiece is being fed through under the sewing head, the centre knife **1** cuts the pocket opening.



B.2.5

B.2.5 CORNER KNIFE

Not applicable

B.2.6

B.2.6 ROLLER AND STACKER

Not applicable

B.2.8

B.2.7 SWITCHES

MAIN SWITCH / EMERGENCY-OFF-SWITCH fig. 7: The power supply for the machine is switched on and off with main switch

2. If the machine is out of use for longer periods, for safety reasons the machine must be switched off at the main switch, so that all functional units are deactivated. The main switch is also used as an emergency-off-switch. It is installed on the left side of the machine frame beneath the work surface.

PROGRAM-STOP

All motion and the sewing operation are stopped immediately if the key **1** on the operating element is pressed.

FOOT SWITCH MACHINE OPERATION SEQUENCE

The sewing operation is controlled step by step by operating the right foot switch

4.

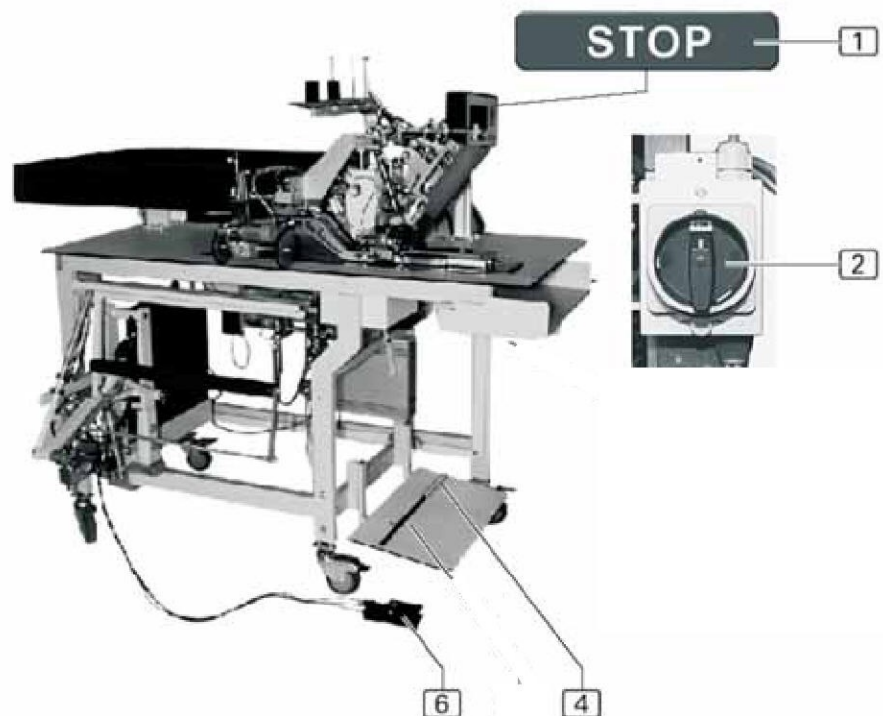


fig. 7

B.2.8

B.2.8 CONTROL ELEMENT

fig. 8: The control element is the display and input medium of the machine control unit.

DISPLAY 1

Information about the control of the machine and the parameters of the seam programs are shown on the display. If a function is added to or removed from the seam program, the symbol for the function and the corresponding parameter value are shown on or removed from the display.

INTERFACE RS 232 2

The interface RS 232 is used to connect the machine control unit to a storage chip. Program data is transferred with this interface.

PROGRAM-STOP KEY 3

The program-stop key is used to stop the operational sequence of the machine. If a program stop is carried out, a RESET must be carried out by pressing the key again, to make the program control unit ready for operation.

NUMBER PANEL 4

The M/C key is used to call up the storage unit for the seam programs. The number keys 4, 5 and 6 have a double function: In the operator menu they are used as arrow keys “

left (4)” or “right (6)” for selecting the seam of a seam program. The selection is confirmed with the number key 5 (enter). If input boxes are activated with the function keys, the number keys are used to enter the values. The input is then confirmed with the P key. In the programming/service menu the number keys 2 and 8 have the arrow key functions “up” (2)” and “down (8)”, for moving up or down in the selected menu line by line. The arrow keys “left” (4)” or “right (6)” are used to scroll backwards or forwards in the selected menu, provided the parameter list consists of several pages. Number key 5 (enter) opens the input box of the selected parameter line. With the number keys it is possible to enter a two/three-digit value. After the last figure of the value has been entered, the input box closes.

FUNCTION KEYS 5

The function keys are used to call up the menus of the program control unit.

SYMBOL BAR 6

The symbol bar shows the menus, which can be called up directly from the start level with the function keys. Other menus for setting machine or program functions can be called up from the different program levels.



fig. 8

B.2.9

B.2.9 SEAM PROGRAMS

Up to 50 seam programs (M 01 – M 50) can be programmed in the memory of the program control unit. A maximum of 6 seams with corresponding seam numbers

3 and **4** can be allocated to each of these seam programs **2**. The seams differ from each other through the control parameters, which were allotted to them during the programming of the seam program, and the machine functions which are activated.

fig. 9: The schema of the selected seam program is shown on the display:

Illustration **1** of the seam with corner cut (left) on the pocket. The corner knife cuts basic value 50 and at the end of the seam at value 45, i.e. 0.5 mm less. The corner cut is in a lengthwise direction to the seam. The value shown above the flap (33.0) specifies how far the flap should be pushed behind the needle, after the photocell has recognized the beginning of the flap. The value shown below the flap (40.0) specifies, how far the machine should continue sewing after the end of the flap.

Illustration **2** of the seam program (a seam program can consist of several seams). The activated seams **3** and **4** of the seam program, whereby seam **4** is the one actually being sewn.

Details **5** about the supply of bobbin thread (provided that no rest thread monitor is installed) and about the number of seams sewn (daily output counter). Symbols of the activated seam functions displayed in box **6**.

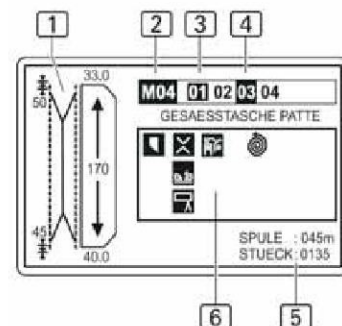


fig. 9

FACTORY SETTING

The machine's control unit is pre-programmed by the manufacturer with 7 standard programs. These seam programs are so efficient that all common pocket openings can be sewn with them. They are also very suitable for training operating personnel and as a model for programming customized seam programs.

B.2.9

B.3

B.3 OPERATING

B.3.1

B.3.1 PREPARING THE MACHINE

Before production begins, the supply connections must be checked, the machine must be connected to the compressed air and electricity systems and the sewing head must be prepared.

1. Connect the machine to the electricity system.



WARNING – Electric shock!

Contact with current-carrying parts may lead to highly dangerous electric shock. Before connecting the machine to the mains, check plugs and electric cables for damage.

- Damaged plugs, sockets or cable may not be used for connections to the mains!
- The machine is connected to a mains voltage of 230 V \pm 10 % with 50/60 Hz.
- Before connection to the mains, check whether the values for the electricity supply network match the details given on the plate on the back of the machine.
- If the details for voltage (V) and maximum current (A) do not match, the machine must not be connected.
- Connect the shockproof plug to a properly earthed and fused shockproof socket.
- Make sure that there is no tension or pressure on the electric cable.

2. **fig. 10:** Control the compressed air supply.

The compressed air supplied by the customer is reduced to the required operating pressure of 6 bar by pressure reducer **3**. Check on manometer **1** whether the correct operating pressure has been set. If necessary, adjust the pressure with valve **2**. The pressure reducer is fitted to the right rear post of the machine stand.



fig. 10

- 3 Insert the needle, thread the needle thread and insert the bobbin for the bobbin thread in the sewing head (to do so see the instruction manual of the manufacturer or of the sewing head supplier). **fig. 11:** For the preparation work the holder **2** of the folder can be swung aside to enable free access to the sewing head. If light tension or pressure is applied, the holder clicks into the snap fastener of retainer **1**
- 4 Switch on the machine with the main switch. Set the switch at position I.
- 5 After the machine has been switched on, the control program is loaded. The prompt "WAIT FOR RESET" flashes on the display.
- 6 Press the Stop key. The prompt "RESET" flashes on the display.
- 7 Carry out a reset, press the STOP key. The program control unit is initialised, the clamp moves forwards to the loading position. The seam program last selected is shown on the display.
- 8 To move the clamp back to the corner knife Position

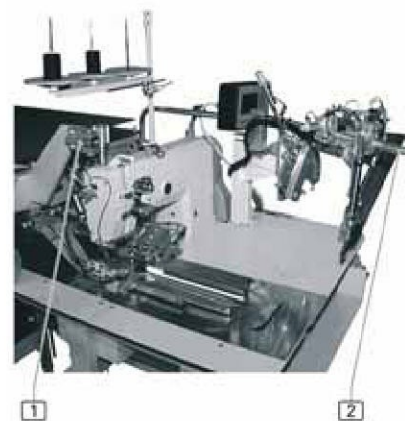


fig. 11

- Press   Key

B.3.2



NOTE – Operator menu!

On the following pages only the most important functions of the operator menu required for the direct production operation sequence are described. A detailed description of the program control unit with information about the adjustment of the program control and programming of seams can be found in Part D of the Instruction Manual.

The operator menu consists of two access levels:

- Access level 1 is displayed after the initialisation of the program control unit.
- Access level 2 is called up with a function key:

- Press key **F1**

B.3.2 Select Seamprogramm

1. Select the seam program on the control element.

Call up the Memory store:

- Press key **MC**

Enter the number of the seam program on the number panel of the control element, e.g. 01:

- Press key **0** and **1**

2. **fig. 12:** Activate or deactivate the seam number of a selected seam The seams of a seam program are sewn in turn from left to right, starting with seam **3**, which is marked. If a seam in a seam program is not to be sewn, it has to be deactivated, or if it is to be added to the seam program, it has to be activated:

Move the cursor to the seam number:

- Press key **4** or **6**
- Press key **5**

Display for selection of seam program and seam numbers:

- 1 Number of the seam program
- 3 Activated seam number, which is marked and which will be sewn
- 5 Deactivated seam number
- 2 Activated seam number
- 4 Marked seam number, which is to be activated

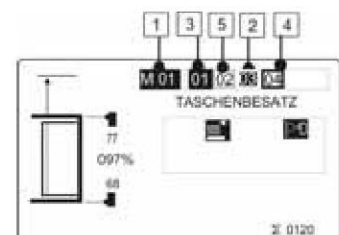


fig. 12

B.3.3

B.3.3 STOPPING A SEAM PROGRAM

A seam program cycle is stopped with the Stop key of the control element.

- 1 **fig. 13:** Press Stop key **1**. All motions and the sewing operation are stopped immediately.
- 2 Press the Reset foot switch All motions and the sewing operation are stopped immediately.




Fig. 13

B.3.4

B.3.4 RESETTING A SEAM PROGRAM STEP BY STEP

If a seam program is interrupted by pressing the stop key, it can be reset step by step up to the starting position of the clamp.

1. Reset work step:

- Press  key
- Press foot switch Reset

B.3.5

B.3.6



B.3.6 MANUAL NEEDLE THREAD PICK-UP

This function activates the needle thread catcher if a new threading operation is necessary after the thread has broken, or if a threading rearrangement is necessary.

1. Move clamp back to corner position

- Press   key

2. Activate needle thread catcher

- Press and hold   key

3. Deactivate needle thread catcher again:

- Release  key

B.3.7

B.3.7 MANUAL WINDING

If this function is activated, the sewing head drive turns at low speed. For winding both threads must be removed from the needles and the bobbin must be removed from the hooks. With this operation the clamp is moved back to the corner knife position, the folder holder is swung aside.

1. Move clamp back to corner knife position:

- Press   key

2. Change to access level 1:

- Press   key

3. Start drive of sewing head for winding:

- Press   key

4. Stop winding operation:

- Press   key again

B.3.8

B.3.8 RESETTING DAY COUNTER AT ZERO

This function is used to set the day counter at zero for a new production cycle or a completed work cycle.

1. Change to access level 1:



- Press **F1** key

2. Call up the reset day counter function:



- Press **F6** key

The day counter moves back to zero. Display: = 0000

B.3.9

B.3.9 RESETTING THE BOBBIN THREAD LENGTH

When checking the amount of thread already used, if a semi-full bobbin is removed and a full bobbin inserted, the thread length display can be set back to zero.

1. Change to access level 1:



- Press **F1** key

3. Call up the Reset bobbin thread length function:



- Press **F8** key

B.3.10

B.3.10 SEWING OPERATION

The clamp should always be moved back to the corner knife position so that the position point on the laser markings remains in clear view and the workpieces can be positioned easily,

1. Move the clamp back to the corner knife position:



- Press **F8** key or alternatively
- Press the left foot switch (Reset)



NOTE – Resetting the machine operating sequence!

The machine operating sequence is reset step by step. For example, to position the clamp in the starting position (behind the roller), it may be necessary to reset several work steps, whereby the F8 key and the left foot switch work synchronously.

- 1 **fig. 14:** Position workpiece **1** and align it on the laser markings.
- 2 Press the foot switch (machine control); clamp **2** moves forwards.



Fig. 14



NOTE – Stopping the machine operating sequence!

Once the sewing operation has started, the machine operating sequence can only be stopped by pressing the program-stop key.

- 4 **fig. 15:** Press the foot switch (machine control); clamp **1** is lowered onto the workpiece. Insert the piping strip or welting strip **2** in the clamp.



Fig. 15

5. **fig. 16:** Press the right foot switch (machine control); folder **1** is lowered between the two clamp arms. The folding slides extend to fold the piping or welting strip. If necessary, position the flap or pocket pouch. Press the right foot switch (machine control) again; the flap clamp **2** lowers and holds the accessory parts in position on the clamp arms.

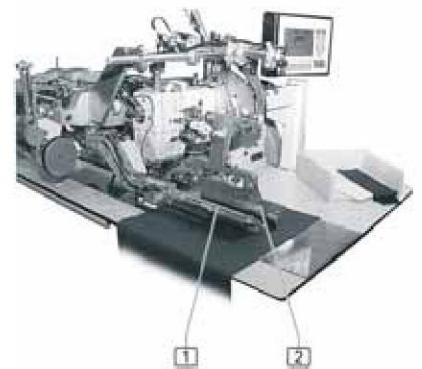


Fig. 16

OPTIONAL!

6. **fig. 17:** Press the foot switch (machine control); the clamp **1** moves the workpieces to the sewing unit **2**, where the pocket opening is cut with the centre knife and the corners with the corner knives. The pocket opening is sewn. As soon as the clamp has taken over the transportation to the sewing unit, the next workpiece can be positioned (overlapping work method)

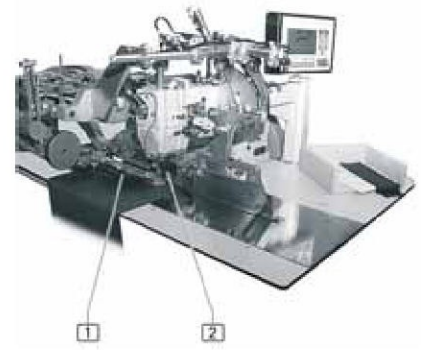


Fig. 17

B.3.11

B.3.11 SWITCHING OFF THE MACHINE

After long periods of non-operation, the machine must be switched off completely.

- 1 Switch off the electricity supply. Set the main switch at the 0 position.
- 2 Disconnect the machine from the compressed air/ vacuum supply systems.



B.3.12

B.3.10 INTERMEDIATE CLEANING OF THE MACHINE

The machine should be cleaned after long production series, but at least once a day.



CAUTION – Danger of injury!

If the machine is set into motion accidentally, there is a risk of being pulled into the operating area of the machine and being injured. For all cleaning work on the machine disconnect it from the mains!

- Turn off the machine at the main switch.
- Remove the plug from the socket and ensure that it is not reconnected.

1. **fig. 19:** With the aid of the air gun 1 remove dust and thread remnants from the sewing head, from the work surface and the clamp.



Fig. 19

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C.1

C.1 DELIVERY OF THE MACHINE

C.1.1

C.1.1 PACKAGING

The machine is delivered in a sturdy packing case on a pallet. All packaging materials can be separated and are recyclable.

- Pinewood pallet
- Plywood packing case / cardboard box
- Polyethylene sheet (PE)



NOTICE – Transportation lock!

During transportation all moving machine parts are secured (with cable clips). Those points where a cable clip has been applied are marked with a red label. After the machine has been set up and aligned at its place of operation, the transportation locks must be removed.



NOTICE – Damage during transportation!

If, when unpacking the machine, damage is discovered, the cause of which indicates improper transportation, please inform your supplier immediately.

C.1.2

C.1.2 SCOPE OF DELIVERY

The machine is delivered ready for operation. The scope of delivery comprises:

UNIVERSAL AUTOMATIC POCKET PIPING MACHINE:

- The machine, which is mounted ready for operation and on which sewing tests have been carried out, is delivered with different accessories depending on the customer. Please check the accurate assembly using the data in the delivery note.
- Service-Package with machine oil.

CONTROL ELEMENT AND PROGRAMMING CONTROL UNIT:

- Control element installed ready for operation.

TECHNICAL DOCUMENTATION:

- Instruction manual
- Service manual
- Programming manual

C.2

C.2 STORAGE AND ASSEMBLY LOCATION

C.2.1

C.2.1 FLOOR QUALITIES

The flooring surface at the place of assembly must be sufficiently stable. It must be possible to erect the machine vibration-proof. If several machines are being set up in one room, it is imperative to take the static carrying capacity of the floor into consideration.

WEIGHT

- Machine with folding stacker approx. 220 kg

C.2.2

C.2.2 ROOM CLIMATE

CLIMATIC REQUIREMENTS ON THE OPERATING ROOM:

The equipment may only be stored or set up in closed operating spaces.

- Room temperatures +10 °C to +45 °C
- Max. relative humidity 80 %

C.2.3

C.2.3 SPACE REQUIREMENT

For operation during production and for maintenance work the machine must be freely accessible from all sides. The machine should be assembled in such a way that there is a 1 m wide free space on all sides.

DIMENSIONS:

- L x B x H 1650 x 800 x 1300 mm

DIMENSIONS WITH FOLDING STACKER:

- L x B x H 1650 x 1170 x 1800 mm



NOTE – Electromagnetic interference!

The machine should not be set up in the direct vicinity of equipment or electrical components (e.g. transformers), which develop a strong magnetic field. Strong magnetic fields can impair the function of the program control unit.

C.2.4

C.2.4 SUPPLY CONNECTIONS

For the supply of energy to the machine, the customer must provide electricity and compressed air installations, and, if the machine is not equipped with a vacuum pump, a vacuum connection.

CONNECTION TO THE MAINS:

The machine is supplied with power with a properly earthed connections to the mains with:

- Shockproof plug 230 V AC \pm 10 %, 50/60 Hz
- Power input 1.3 kW
- Fuse 16 A



NOTE – Power surges!

A condition for the perfect functioning of the machine is that the mains network supplies a constant current. Any power surges have a particularly adverse effect on the stability of the program control unit.

COMPRESSED AIR SUPPLY:

The customer's compressed air source must meet up to the following specifications:

- Operating pressure 6 bar
- Compressed air quality Oil-free
- Compressed air consumption 1 6 NL/AT

C.3

C.3 COMMISSIONING

C.3.1

C.3.1 ALIGNING THE MACHINE TABLE

After installation at the designated place of operation, the machine table must be aligned:

- Adjust the machine table to the required height.
- Adjust the machine table horizontally on all sides.



NOTE – Transportation lock!

After aligning the machine and before it is connected to the power supply source all transportation locks must be removed.

- Cut through the plastic clips.
- Remove labels.

C.3.2

C.3.2 CONNECTING COMPRESSED AIR / VACUUM

CONNECTING THE MACHINE TO THE COMPRESSED AIR:

fig. 2: The machine has a pre-installed compressed air connection. It consists of the following components:

Pressure reducer **3** with manometer **5** and water separator **4**, flexible pressure tubing with slide-on cover **1**.

The pressure reducer is fitted to the right rear assembly post above the worktable.



Fig. 2

CONNECTING THE MACHINE TO THE COMPRESSED AIR:

- 1 Connect the compressed air tube to the supply point provided by the customer.
- 2 Set the compressed air source provided by the customer at a machine operating pressure of 6 bar by turning the pressure regulator **2** and reading the value on manometer **5**:
 - Increase pressure, turn clockwise,
 - Reduce pressure, turn anti-clockwise.

CONNECTING THE MACHINE TO THE VACUUM (OPTIONAL) :

If the machine is equipped with the optional vacuum pump, no installation work is necessary. The vacuum system is ready for operation. If the machine is delivered without a vacuum pump, the customer's vacuum pump must be fitted to the vacuum valve of the machine. The vacuum valve is located on the bottom cross bar of the table stand.

C.3.3

C.3.4

C.3.4 POWER SUPPLY

The machine is connected to a mains voltage of 230 V \pm 10 % with 50/60 Hz.



WARNING – Electric shock!

Contact with current-carrying parts may lead to highly dangerous electric shock. Before connecting the machine to the mains, check plugs and electric cables for damage.

- Damaged plugs, sockets or cable may not be used for connections to the mains!
- Before connection to the mains, check whether the values for the electricity supply network in the operating rooms match the details given on the plate on the back of the machine.
- If the details for voltage (V) and maximum current (A) do not match, the machine must not be connected.
- Connect the shockproof plug to a properly earthed and fused shockproof socket.
- Make sure that there is no tension or pressure on the electric cable.
- Install the electricity cable in such a way that free access to and around the machine is not hindered.



NOTE – Electrical work!

Work on the electrical installation of the machine may only be carried out by qualified and authorized specialists. In the case of any action by unauthorized persons, all liability claims become invalid.

C.3.5

C.3.5 SAFETY CHECK

Before the machine is released for operation, all protective equipment must be checked for perfect functioning.



CAUTION – Danger of injury!

The protective equipment is for the safety of the operating and service personnel when working on and with the machine. If the protective equipment is not or only partly functioning, the machine must not be set into operation.

CARRYING OUT A SAFETY CHECK:

1. The main switch is also an emergency-off-switch. Check whether the switch functions by switching on the machine, starting a machine cycle and switching off the machine at the main switch during sewing. All motions of the feed band and the sewing head must stop, the program control unit must switch off.
2. Check the Program Stop function. Start a machine operating sequence and press the STOP key. The machine operating sequence must be interrupted.
3. Press the STOP key again to start a reset of the program control unit:
 - The clamp feed must move to its starting position
 - The folder must swing up
 - The stacker mechanism must be ready for take-over.

C.4

C.4 STARTING AND STOPPING THE MACHINE

C.4.1

C.4.1 WORKING WITH THE MACHINE

FACTORY SETTING

The factory setting of the machine's program control unit is pre-programmed with 2 standard programs. These seam programs are so efficient that nearly all common pocket openings can be sewn with it. They are also suitable for training operating personnel and as a model for programming customized seam programs.

C.4.2

C.4.2 STOPPING THE MACHINE

To stop the machine it must be disconnected from all power supply sources.

DISCONNECTING THE MACHINE FROM THE MAINS:

1. Deactivate the program control unit: Press the STOP key.
2. Switch off the machine at the main switch, set the switch at the 0 position.
3. Pull the mains plug out of the socket and protect it against reconnection.

DISCONNECTING THE COMPRESSED AIR:

1. Close off the customer's compressed air source.
2. Remove the compressed air tube from the connection point.



NOTE – Protection against dust!

If the machine is going to be out of operation for a longer period, it ought to be covered with a plastic sheet.

C.5

C.5 SERVICING



Danger – Electric shock!

Contact with current-carrying parts may lead to highly dangerous electric shock. If the machine is set into motion accidentally, there is a risk of being pulled into the operating area of the machine and being injured. For all servicing and cleaning work on the machine disconnect it from the mains!

- Turn off the machine at the main switch.
- Remove the plug from the socket and ensure that it is not reconnected.
- If the power supply is not required for the repair and setting-up of the machine, during this work the machine must be disconnected from the mains.

C.5.1

C.5.1 INSPECTION

The machine must be inspected once a year. The scope of the examination includes in particular:

- the machine's protective equipment
- the operability of the program control unit,
- the functioning of the inputs and outputs.

C.5.2

C.5.2 CLEANING

The machine should be cleaned after long production series, but in between at least once a day.

CLEANING THE MACHINE SURFACE:

- 1 Disconnect the machine from the mains.
- 2 Remove material remnants.
- 3 **fig. 5:** Well remove dust and thread remnants on the sewing head and knives, on the folder and clamps on the work surface as well as on the edge guide of the clamp feed unit with air gun **1**.
- 4 Wipe off condensation or oil film with a dry, clean cloth.
- 5 After cleaning apply silicone spray to the sliding plate of the work table to improve the gliding quality of the sewing parts..



C.5.3



NOTE – Plastic surfaces!

Parts of the equipment surfaces are made of plastic materials. Solvents can damage plastics and make them unsuitable for use. Do not clean the machine's surface, in particular the control element, with cleansing agents containing solvents.



NOTE – Service work!

Service work on the machine may only be carried out by an authorized Technical Service or by personnel, who during training by the supplier or manufacturer have acquired the necessary knowledge for adjusting and servicing the machine.



NOTE – Guarantee!

Only original spare parts may be used for installing or changing machine parts. Manufacturer and suppliers do not take on any liability for spare parts from other manufacturers.

C.5.3 MAINTENANCE WORK

The following maintenance work must be carried out at the specified intervals:

CHECK THE OIL LEVEL OF THE SEWING HEADS DAILY:

- 1 The oil level is checked through the inspection glass on the sewing head. The oil level must be between the markings for the minimum and maximum oil level. If it is too low, oil must be added
- 2 Information concerning the specifications of the oil to be used and instructions for adding oil can be found in the instruction manual for the sewing heads included with this machine.

EMPTY WATER SEPARATOR ONCE A WEEK:

- 1 Have a water tank at hand.
- 2 **fig. 6:** Drain off the water from the water separator of the pressure reducer. Press the button **1** on the collection pan of the pressure reducer until the water has been drained off completely.

LUBRICATE EDGE GUIDE ONCE A YEAR:

The edge guide must be lubricated on the lubrication fittings once a year with commercially-available ball bearing grease.



fig. 6

C.5.4

C.5.4 REMOVING/INSTALLING THE CONTROL ELEMENT:

- 1 Disconnect the machine from the power supply network.
- 2 Remove the plug of the interface cable by loosening the two screws.
- 3 Remove the screws from the holder of the control element.
- 4 Remove the control element, attach the new part and screw it into place.
- 5 Insert the plug of the interface cable in the RS 232 interface and secure it with both screws.

C.5.5

C.5.5 CHANGING THE TOOTHED BELT

CHANGING THE TOOTHED BELT OF THE CLAMP FEED UNIT:

- 1 **fig. 7:** Slide clamp carriage **1** as far as possible towards the left end position.
- 2 Remove cover **8** of the drive roller. To do so remove the four fastening screws.
- 3 Slacken the tooth belt by loosening the two screws **6** and **7** of the end plate.
- 4 Loosen the locknuts of both adjusting screws **4** and **5** and loosen both screws.
- 5 Unscrew both screws **2** and **3** of the toothed belt from the clap carriage.
Remove the toothed belt.
- 6 Place the exchange belt, which is cut to length ready for installation, on the drive roller and sliding roller.
- 7 On the end of the toothed belt are drilled holes. Place both ends with the belt clamps fitting exactly over the drilled holes and screw to the clamp carriage.
- 8 Screw the cover back on.
- 9 Tighten the toothed belt by turning both adjusting screws **4** and **5**, until the toothed belt has tension load of 20 Nm in the middle of the linear feed unit. The top and bottom toothed belts must touch each other. Tighten the locknuts of the adjusting screws and both screws of the end plate.

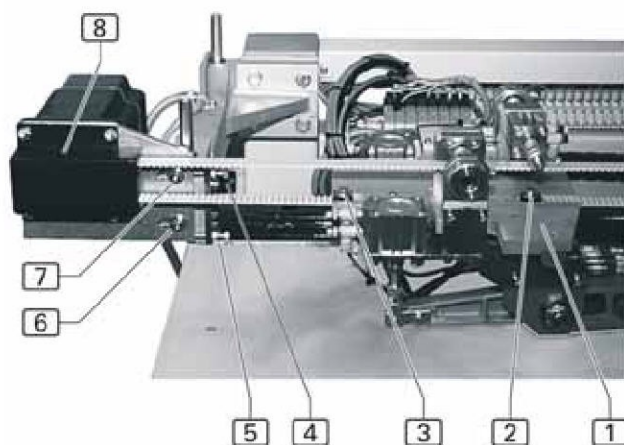


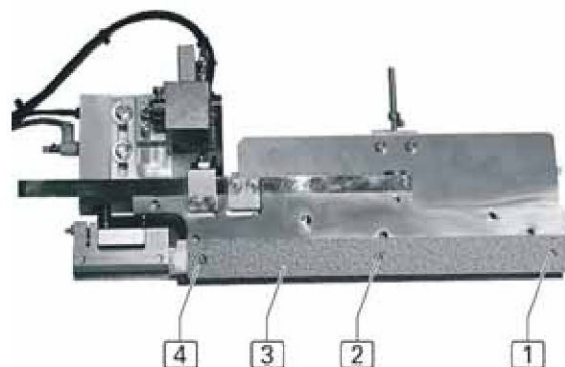
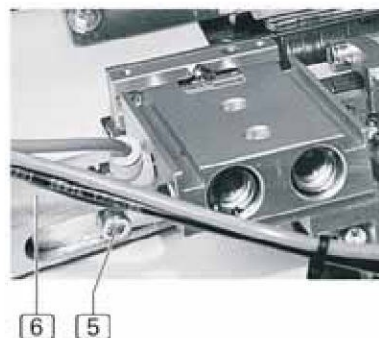
fig. 7

C.5.6

C 5.6 CHANGING THE CLAMP RUBBER

Move the clamp carriage to the starting position. Press the STOP key. Switch off the machine and remove the pressure tubes on the clamp snap fastener.

fig. 11: Unscrew left and right clamp side from clamp arm **6**. Remove fastening screw **5** and take off clamp side. Rubber feed strip **3** is fastened to the bearing plate with three screws **1**, **2** and **4**. Remove the screws, insert a new rubber strip and refasten.



J 11

C.5.7

C.5.7 CHANGING THE CENTRE KNIFE

The centre knife is fastened to the holder with two screws.

- 1 **fig. 12:** Loosen both screws **1**.
- 2 Change knife **2** and screw to holder **3** with the fastening screws.
- 3 Set the side pressure on the knife as low as possible.

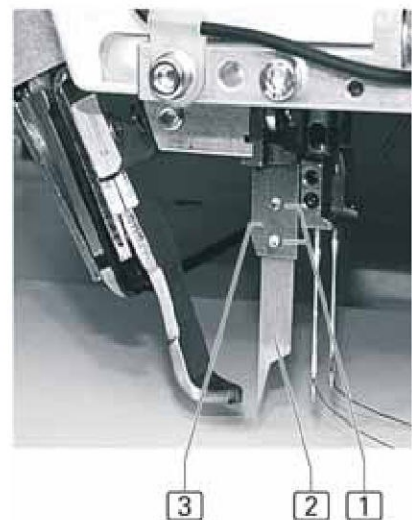


fig. 12



NOTE – STATIONARY KNIFE!

The stationary knife of the centre knife is not changed when the knife is changed! It is only necessary to change the stationary knife when clear impressions from the top knife become visible or when an acceptable cut is not achieved by changing the knife pressure.

C.5.8

C.5.9

C.5.9 CHANGING THE SEWING HEAD

On a pre-adjusted machine the sewing head can be changed without carrying out any adjustment work again.

- 1 **fig. 14:** Remove both fastening screws **1** of the sewing head on the machine frame and Allan screw **3** on the height adjustment unit.
- 2 Lift up the sewing head and set the new sewing head into position.
- 3 Screw in and tighten the fastening screws.
- 4 If necessary, align the needle plate of the sewing head flush to the height of the needle plate cutout on the sliding plate. Loosen locknut **4** and adjust height adjustment screw **2**.
- 5 Retighten the locknut.



fig. 14

C.6

C.6 ADJUSTING THE MACHINE



NOTE – Cover!

To carry out the adjustments on the clamp components the clamp feed cover must be removed.



NOTE – Depressurizing a unit!

For some adjustment work it is necessary to depressurize units. To do so the pressure tubes are removed from the unit. The check valve closes at the connection point and is reopens, as soon as the pressure tube is replaced.



NOTE – Input-/Output-code numbers!

Some components have to be moved to a certain position for the adjustment work. These separate movements can be started with the input/output function. Details about this function are given in Part D Programming manual.

C.6.1

C.6.1 CHANGING THE FOLDER

Depending on the configuration, part of the machine equipment is a folder for double piping and a folder for single piping with a left and right slanted base edge.

- 1 **fig. 15:** At cutouts **5** and **7** the folder **6** is lowered into the bolts **1** and **4** of the folder clamp.
- 2 Loosen knurled screw **2** on the fastening, push the folder up a little in the guide bar and remove it.
- 3 After changing the folder, retighten the knurled screw on the fastening.
- 4 Make sure that the contact screw **3** activates the switch on the folder clamp. If not, turn the contact screw a little functional reasons the folder clasp equipped with two switches, both screws must be checked.

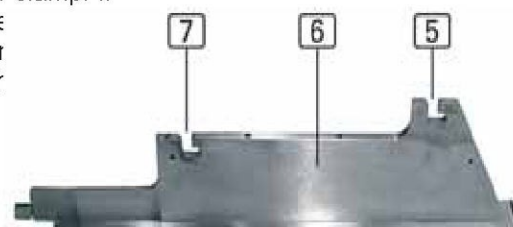
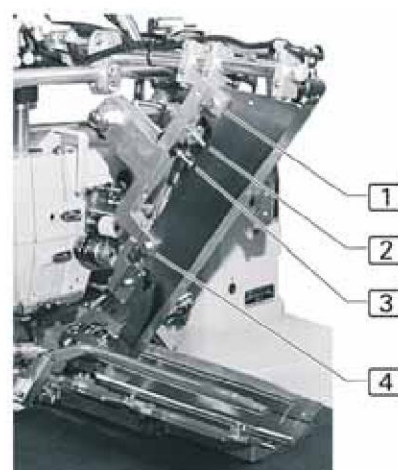


fig. 15

C.6.2

C.6.2 LATERAL ADJUSTMENT OF THE DOUBLE/SINGLE PIPING

Double piping:

1. Insert the folder for double piping.
2. Move the clamp to the loading position and switch off the machine.
3. **Pic2** In the case of normal material thickness the distance A between the clamp 1 and 3 the clamp and the respective outer edge of the folder base 2 should be 1 – 1,5mm each on the right and left. On very thick materials the distance must be increased so that the folder can fold the material.
4. Both screws **4** for the distance on the right an adjusting screw **5** for the Distance on the left.
5. Alter the distance, turn the adjusting screw. To increase the distance turn anti clockwise, to reduce ist, turn clockwise.
The figure is equivalent to running "trousers". When running jacket is the adjustment, bar / double piping on the right

SINGLE PIPING STRIP.

1. Insert the folder for double piping.
2. Move the clamp to the loading position and switch off the machine.
3. **Pic2** In the case of normal material thickness the distance A between the clamp 1 and 3 the clamp and the respective outer edge of the folder base 2 should be 1 – 1,5mm each on the right and left. On very thick materials the distance must be increased so that the folder can fold the material.
4. To adjusting the distance with an automatic quick clamp adjustment, loosen locknut **Nr.6** and turn the adjusting screw **Nr.7** To increase the distance turn anti-clockwise, to reduce is, turn clockwise..
5. On maschines without automatic quick clamp adjustment, the distance on adjusting srew **Nr.5** is set for the left distance.

The figure is equivalent to running "trousers".

When running jacket is the adjustment, bar / double piping on the right

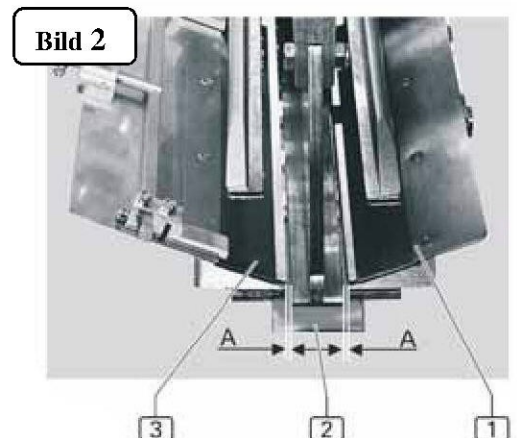
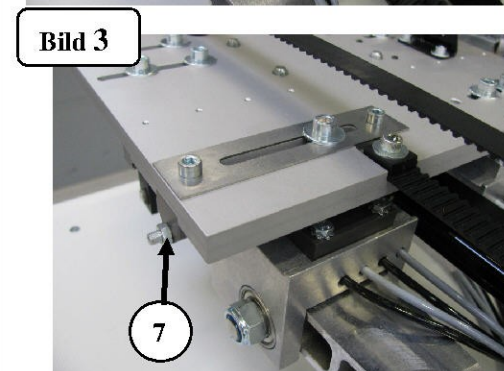
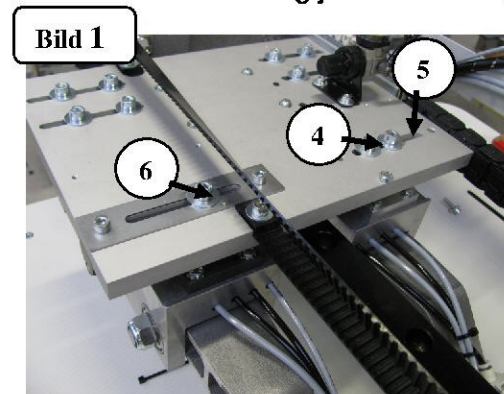


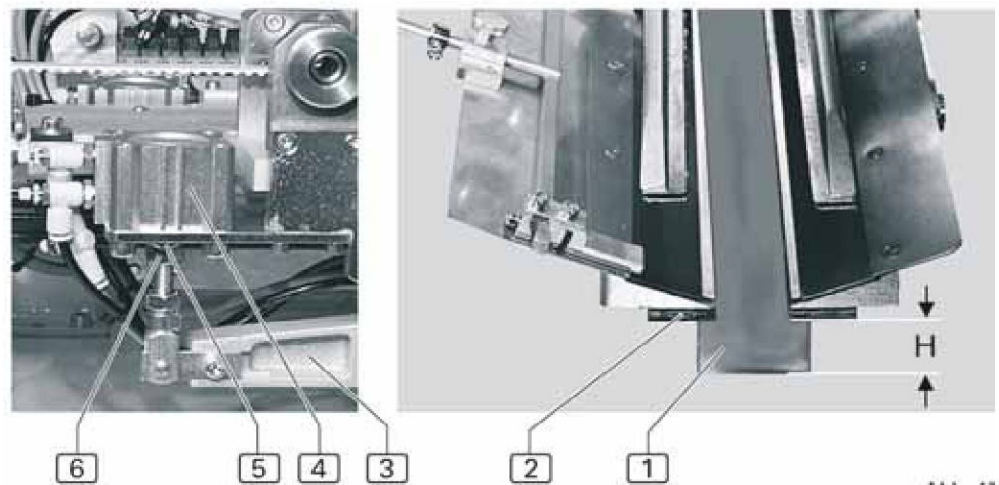
Abb. 16

C.6.3

C.6.3 ADJUSTING THE VERTICAL PLAYOF THE CLAMP

The height of the clamp at the loading position must be 30 mm.

1. **fig. 17:** Move the clamp to the loading position and disconnect the pressure cylinder **4** from the pressure source.
2. Measure the distance H (30 mm) between the lower edge of the clamp rubber **2** and the worktable **1**.
3. The height of the clamp is set on pressure cylinder **4** of the clamp arm **3**. The higher the pressure cylinder is raised, the higher the position of the clamp.
4. Loosen locknut **4**, turn the position of the pressure cylinder on shaft **5** to the set height using an open-end spanner and retighten the locknut.



C.6.4

C.6.4 PRESSURE DISTRIBUTION OF MAIN CLAMP

So that the clamp can feed the workpieces to the sewing unit and on to the stacker without a lateral offset and without distortion, both clamp surfaces must have the same contact pressure.

1. Move the clamp to the loading position.
2. Place a thin piece of material under the clamp.
3. Close the clamp (output function, programming manual D) and remove the material from the side. The clamp must rest on the material with even pressure over the entire length of the clamp rubber.
4. **fig. 18:** If necessary, adjust the pressure with the adjusting screws **1** and **2**. The pressure is set separately for each surface. The adjustment screw is an Allen screw fixed with a counter nut. By turning anti-clockwise the pressure in the front area of the clamp is increased.

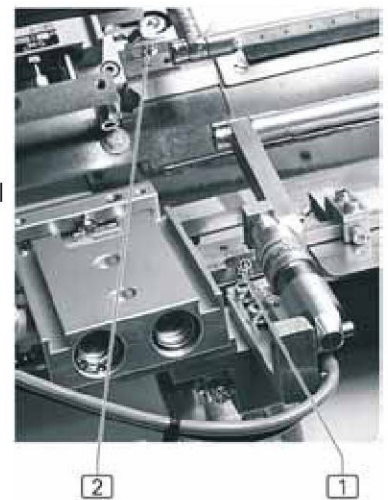


fig. 18

C.6.5

C.6.5 ADJUSTING THE AXIAL PLAY OF THE CLAMP

fig. 19: To adjust the axial play of the clamp, fastening screw **2** of the clamp arm **1** on the clamp carriage is tightened. The axial play must be set at zero.



fig. 19

C.6.6

C.6.6 CHECKING THE PHOTOCELL SWITCH POINT

After aligning the clamp, the switch point and functioning the photocell is checked over the entire length of the reflection sheet on the clamp

1 Call up the test program and check the functioning of the photocell on the display (see Programming Manual). As long as the photocell is shown as an inverted symbol, the light beam is reflected.

2 **fig. 20:** The light beam **5** of the photocell should be aligned exactly in the centre of the reflection sheet **4**. If necessary, the photocell can be shifted sideways.

3 Loosen fastening screws **1** and **2**, shift the photocell and then retighten the screws.



fig. 20

C.6.7

C.6.7 ADJUSTING THE FOLDING SLIDE

The stroke H of the pressure cylinder of folding slide **6** must be 4 – 4.5 mm. This corresponds to the length A which the folding slide extends when folding the material.

- 1 **fig. 21:** Move the clamp to the loading position, switch off the machine and disconnect the pressure cylinders **2** and **5** from the pressure source.
- 2 To set the stroke, turn adjusting screws **1** and **4**.
- 3 Move the folding slide manually on both sides to the starting position or disengaging position and check the stroke.
- 4 To adjust the parallel position of the folding slide, both screws **3** and **7** are loosened and the folding slide aligned exactly at the inner edges of the clamp surfaces.

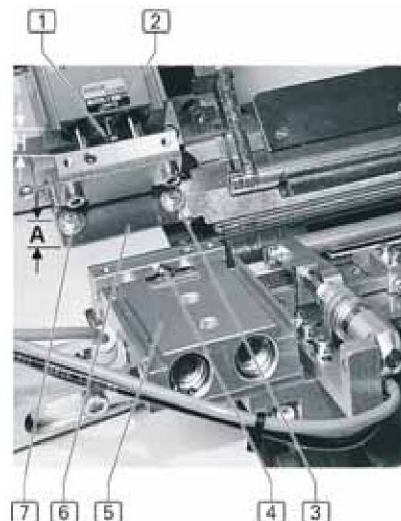


fig. 21

C.6.8

C.6.8 ADJUSTING THE VERTICAL POSITION OF THE FOLDER

The distance H between slide plate and folder base depends on the thickness of the material and must be adjusted accordingly. The basic setting for a standard material thickness is 2 mm. If the folder is too low, the material is blocked. If the folder is set too high, the folding slides cannot fold the workpiece.

- 1 Lower the folder.
- 2 **fig. 22:** For adjustment work loosen the locknuts **2** and turn Allen key **1**.
- 3 Retighten the locknuts.
- 4 After altering the height, the position of the initiator on the loading plate should be checked (see next chapter).



fig. 22

C.6.9

C.6.9 ALIGNING THE INITIATOR

fig. 23: When the folder is lowered, initiator **3** is activated. The purpose of the initiator is to make the folding slides close at the right moment, provided these are activated in the program control unit. If the initiator is not set correctly, the folding slides either open too soon or not at all.

- 1 To adjust the initiator, loosen both fastening screws **1** and **2**.
- 2 With the rods slide the initiator to the correct position and tighten both screws again.

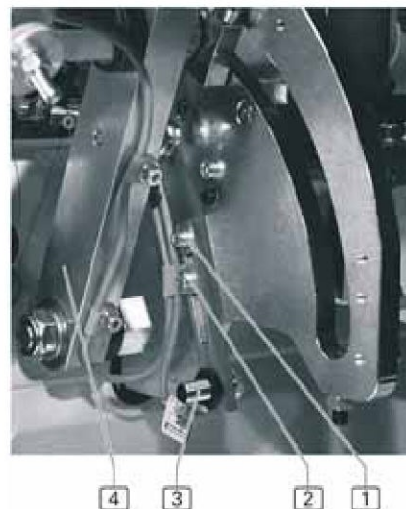


fig. 23

C.6.10

C.6.10 ADJUSTING THE FOLDER PLAY

When lowered the position of the folder must be absolutely stable. Therefore, the guide unit of the folder suspension should not have any play in the end position.

- 1 Lower the folder.
- 2 **fig. 24:** Loosen both fastening screws **3** and **4** of the stop **2**.
- 3 Push the stop completely against bearing **1** and retighten both screws.

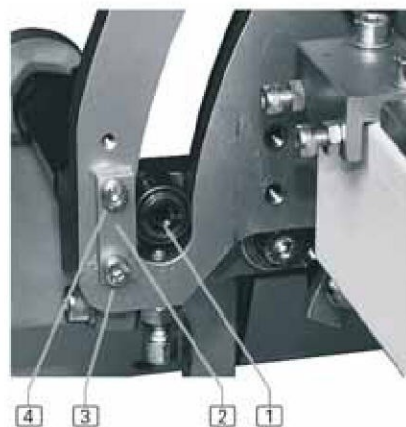


fig. 24

C.6.11

C.6.11 ALIGNING THE FOLDER ON SLIDE PLATE

In case the complete sewing head was removed, before carrying out fine adjustments on the clamp and folder, the sewing head and the folder must be aligned to the sliding plate.

ALIGNING THE SEWING HEAD TO THE SLIDE PLATE CUTOUT:

- 1 **fig. 25:** Loosen both locking screws **1** and the Allen screw **2** on the height adjustment device.
- 2 Align the sewing head in the slide plate cutout.
- 3 Retighten the locking screws and the Allen screw

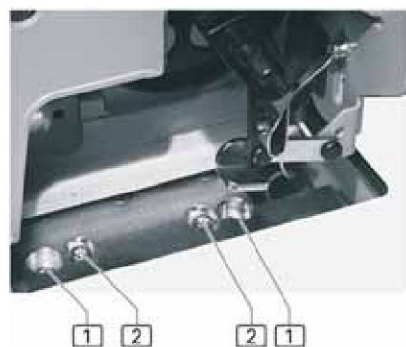


fig. 25

ALIGNING THE NEEDLE PLATE TO THE SLIDE PLATE:

If necessary, align the top edge of the needle plate to the top edge of the slide plate.

- 1 **fig. 26:** Loosen locking screw **1**. Adjust the height of the sewing head position by turning adjusting screws **2** and **3**.
- 2 Tighten the locking screws.



ig. 26

ADJUSTING THE PIPING WIDTH / ALIGNING THE FOLDER TO THE SEWING HEAD AND NEEDLES:

- 1 Lower the folder.
- 2 **fig. 27:** Loosen the four fastening screws **1** of the holder.
- 3 To set the lateral distance to the clamp or to the needles, the complete holder can be shifted within the slot on the assembly bracket. Both needles should be at the same distance from the left and right inner edge of the clamp respectively.
- 4 Retighten the four fastening screws of the holder.

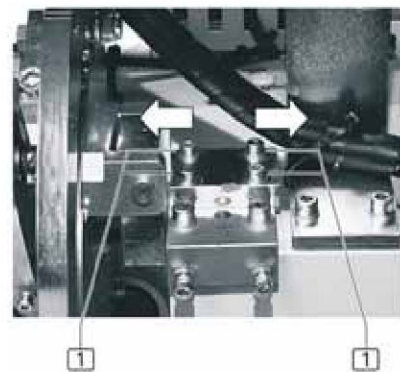


fig. 27



NOTE – Adjusting the piping!

If the setting of the folder holder was adjusted, the lateral distance of the folder for single/double piping must also be readjusted.

FINE ADJUSTMENT OF THE PIPING WIDTH:

1. **fig. 28:** Slightly loosen the Allen screw **2**.
2. Loosen the locknut of grub screw **1** on the opposite side of the plate.
3. By turning plate **3** set the exact width of the piping on grub screw
4. Retighten the Allen screw.



ig. 28

C.6.12

C.6.12 ALIGNING THE CENTRE KNIFE GUARD

fig. 29: The centre knife **7** should be able to move in the centre between both protection plates of the centre knife guard **6**. The protection plates can be adjusted on both sides with the aid of pliers.

C.6.13

C.6.13 LATERAL CLEARANCE OF THE GUIDE PLATE TO THE NEEDLE

fig. 29: The distance of the guide plate **5** to needle **3** should be as small as possible. However, the guide plate must not touch the needle or the needle head, as this could cause a high noise development and thread breakage. The guide plate can be adjusted with the aid of pliers.

C.6.14

C.6.14 VERTICAL STOP OF GUIDE PLATE

fig. 29: There should be a maximum distance A of 0.5 mm between the top side of the folder base and the lower edge of the guide plate **5**. During the sewing operation the guide plates must retain the folded material. When sewing particularly thick material, they must be adjusted.

- 1 To adjust the height of the guide plate, loosen the locknuts of grub screws **1** and
- turn one of the two grub screws for each side.
- 2 Retighten the locknuts.

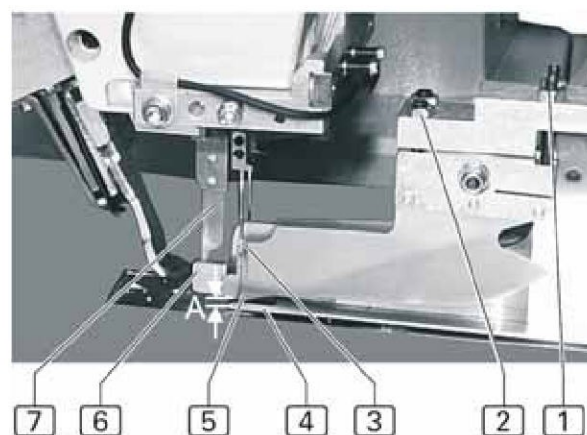


fig. 29

C.6.15

C.6.15 ADJUSTING THE GUIDE PLATE PRESSURE

Both guide plates must exercise slight pressure on the folded material. If the pressure is too low, the needle may break during the start tack. If the pressure is too high, the flap is dislodged at the beginning of the seam. The pressure of both guide plates must be adapted to the material being sewn.

- 1 To adjust the pressure of the guide plate, loosen the locknuts of the grub screws
- 2 and turn one of the two grubs for each side of the folder.
- 2 Retighten the locknuts

C.6.16

C.6.16 ADJUSTING THE LASER POSITION

The position of the laser marking (L1 – L3) is measured from the needles. **fig. 30:** For positioning the laser lamps **1** on guide bar **3** can be shifted, swivelled and turned in their holders.

1. Loosen locking screw **2**.
2. Alter the position of the laser lamp on the Guide bar and retighten the locking screw.
3. To align the laser markings on the middle cut, the laser lamp can be turned in its holder.
For this purpose loosen locking screw **3**,
Adjust the laser marking and retighten the Locking screw.

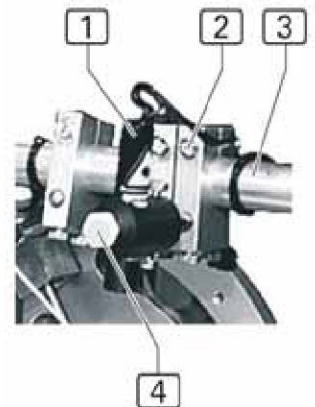


fig. 30

C.6.16.1

C.6.16.1 LASERPOSITION

- **fig. 31:** The first laser lamp L1 for the seam start must be positioned at a distance A = 135 mm from the needles N.
- The laser lamp L3 for the seam end is positioned at a distance C = 180 mm from L1.

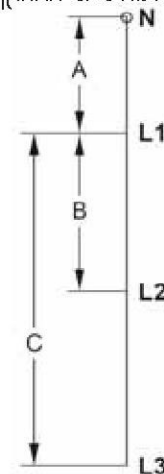


fig. 31

C.6.17

C.6.18

C.6.18 ADJUSTING THE NEEDLE THREAD CATCHER

fig. 33: After sewing and while the clamp moves to the corner cutting position, the needle threads are caught up by needle thread catcher **4**. The threads are first clamped on the top side of the catcher and then cut on the rear side. The thread clamp must hold the threads during the first starting stitches to ensure a neat seam pattern at the beginning of the seam.

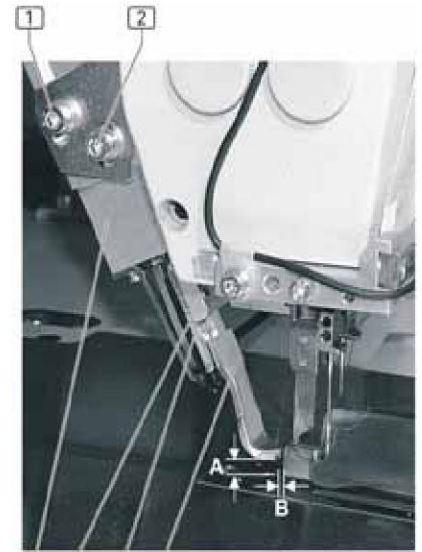


fig. 33

ADJUSTING THE HEIGHT OF THE NEEDLE THREAD CATCHER:

When the thread catcher cylinder **6** is extended, there must be a distance A of 3 – 4 mm between the slide plate and the catcher.

- 1 To adjust the height loosen screws **1** and **2** on the cylinder and slide the cylinder to the correct distance A.
- 2 Retighten both screws.

ADJUSTING THE POSITION OF THE MATERIAL DEFLECTOR:

- 3 The deflecting bar **3** must not collide with the needle guard of the folder. The distance B must be at least 1 – 1.5 mm.
- 4 Loosen both screws **5** and slide the material deflector into position.
- 5 Tighten the screws.

C.6.19

C.6.19 ADJUSTING THE CENTRE KNIFE

STARTING OPERATION fig. 34: At the beginning of the cutting operation, the centre knife is lowered by pressure cylinder Y4 **3**. The blocking pin on pressure cylinder Y5 **2** moves out and locks the centre knife **1** in the required position.

STOPPING OPERATION

As soon as the seam end is reached, the centre knife switches off. This operation can be delayed by a parameter input in the control unit. The blocking pin on cylinder Y5 **2** is retracted. The pressure bar can raise the centre knife with the pressure spring.

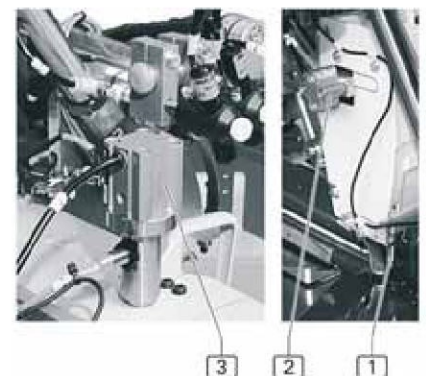
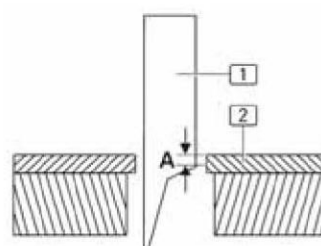


fig. 34

ADJUSTING THE HEIGHT OF THE CENTRE KNIFE:

When it is switched on, in its lowest position the front edge of centre knife **1** must be distance $A = 1$ mm lower than the upper edge **2** of the needle plate.

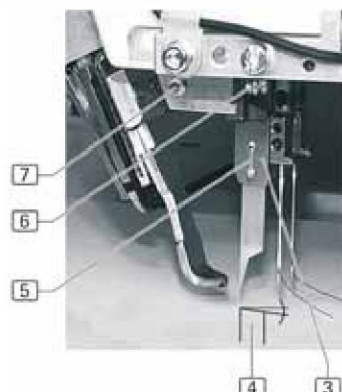
- 1 To adjust the height, loosen both screws **5** and **3** adjust the centre knife on holder
- 2 Retighten the screws.



ADJUSTING THE CUTTING ANGLE OF THE CENTRE KNIFE:

The centre knife should slightly cross the stationary knife in the needle plate.

1. Loosen the Allen screw **7** and turn the holding block on the knife bar by approx. $1^\circ - 2^\circ$.
2. Retighten the Allen screw.



ADJUSTING THE LATERAL POSITION OF THE CENTRE KNIFE:

Laterally the centre knife must be aligned in such a way that the pressure on the stationary knife is kept as low as possible.

- 1 Loosen both screws **6** and align the centre knife exactly.
- 2 Retighten the screws.



NOTE – Adjusting the centre knife!

If the centre knife is pressing too strongly against the stationary knife, at the end of the sewing operation it is possible that the pressure cylinder cannot return the knife bar to its starting position again. In addition the knife blade quickly becomes blunt, which may cause an untidy cut, different seam lengths, inaccurate corner cuts and puckered seams.

C.6.20

C.6.21

C.6.22

C.6.23

C.6.23.1

C.6.23.2

C.6.23.3

C.6.23.4

C.6.23.5

C.6.23.6

C.6.24

C.6.25

C.7

C.7 SPECIFICATIONS

POWER SUPPLY

Voltage	230 V \pm 10 %, 50/60 Hz
Power supply	(1, N, PE) AC
Power input	1.3 kW
Fuse	16 A

MACHINE DIMENSIONS WITHOUT FOLDING STACKER

Width x length x height in mm 800 x 1650 x 1300

MACHINE DIMENSIONS WITH FOLDING STACKER

Width x length x height in mm 1170 x 1650 x 1800

TABLE HEIGHT

Adjustable height in mm 850 - 1150

WEIGHT

Weight without folding stacker approx. 200 kg Weight with folding stacker approx. 220 kg

COMPRESSED AIR

Operating pressure 6 bar

QUALITY OIL-FREE

Air consumption 16 NL

VACUUM

Min. suction power 144 m³/h

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D.1

D.1 CONTROL ELEMENT

fig. 1: The control element is the display and input medium of the machine control unit.

DISPLAY 1

Information about the control of the machine and the seam parameters is shown on the display. If a seam function is switched on or off, the symbol for the seam function with its corresponding parameter value appears on or disappears from the display.

INTERFACE RS 232 2

The interface RS 232 is used to connect the machine control unit to a memory chip. Program data is transferred with this fig. 1 interface.



PROGRAM STOP KEY 3

The program stop key is used to stop the machine cycle. If a program stop is initiated, a RESET must be carried out by pressing the key again, in order to make the program control unit ready for operation again.

NUMBER PANEL 4

fig. 2: The seam program memory is called up with the M/C key. Number keys 4, 5 and 6 have a double function: In the operator menu they serve as arrow keys "left" (4) or "right" (6) for selecting a seam in the seam program. The selection is confirmed with number key 5 (enter). If input boxes are deactivated with function keys, the number keys are used to enter values. The input is then confirmed with the P key. In the programming/service menu the number keys 2 and 8 have the arrow key functions "up" (2) and "down" (8) for moving up or down line by line in the selected menu. With the arrow keys "left" (4) or "right" (6) it is possible to scroll forwards or backwards in the selected menu, if the parameter list consists of several pages. Number key 5 (enter) is used to open the selected parameter line. With the number keys it is now possible to enter the two/three-figure value. After the last number of the value has been entered, the input box closes.



fig. 2

FUNCTION KEYS 5

The function keys are used to call up the menus of the program control unit.

SYMBOL BAR 6

The symbol bar shows menus, which can be called up directly from the start level with the function keys. Further menus for adjusting machine or program functions can be called up from the different program levels.

D.2

D.2 PROGRAMM CONTROL UNIT

D.2.1

2.1 PROGRAM CONTROL UNIT STRUCTURE

The program control unit is controlled by three different types of menu:

- 1 Operator menus with direct access
- 2 Programming menus
- 3 Service menus

OPERATOR MENUS

In an operating menu functions are called up directly

- which permit corrections to the sewing operation,
- which support auxiliary processes, which become necessary during work with the machine, e.g. winding thread,
- which enable machine functions to be switched on or off, e.g. the stacker.

PROGRAMMING MENUS

The programming menus make it possible to program seam programs with the corresponding seams:

- Altering existing seams
- Copying and renaming seam programs
- Creating new seams
- Deleting seams

SERVICE MENUS

The service menus are used for the data management of the seam programs and have functions which support the installation and testing of the machine:

- Transfer and storage of data
- Input-/Output tests of the compressed air system initiators
- Diagnosis tests for motors
- Additional programs

Access to a part of the service and programming menus is only possible with a password. The password is a protection against unauthorized data manipulation. Before entering data or carrying out alterations in a service menu, the service code must be entered. If required, the service code can be obtained from the manufacturer.

MENU LEVELS STRUCTURE

The operator menus consist of direct access 1 and direct access 2. The programming menus consist of level 1 and level 2. The service menus stretch from level 2 to level 5.



CAUTION – Damage to the machine!

Some of the menu inputs start individual machine units or a machine cycle. If components have been dismantled completely or in part, or are not ready for operation, this can lead to the damage of machine components. Only carry out inputs when the machine is in a status ready for operation!

SEAM PROGRAM

A seam program controls the complete machine cycle during production:

- feeding the workpiece to the sewing head,
- sewing a seam and
- ejecting the workpiece.

A machine program is defined by three different types of values and functions:

- basic parameters,
- seam parameters
- seam functions

Seam programs can be extended, renamed or copied. In a seam program at least one seam must be activated. If a seam program consists of several seams, it is possible to deactivate a part of the seams. It is always possible to program a completely new seam program.

It is easier:

- to copy a seam program already programmed by the manufacturer to a free storage space in the memory storage and change it,
- to copy a modified and adapted seam program to a free storage space in the memory storage and adapt it further.

SEAM NUMBER

In turn, each seam program can run with up to six seams. The seams are allocated to the seam program by seam numbers (01, 02, 03, 04, 05, 06).



NOTE – Processing seams!

All data alterations made in the program control unit

- adjusting parameters
- changing seam names
- copying a seam
- deleting a seam

always refer to the marked seam of the seam program shown on the display.

MEMORY STORE

Seam programs are filed in the memory store (M). Up to 50 seam programs (M 01 – M 50) can be programmed in the memory store of the program control unit. For purposes of a data back-up all seam programs filed in the memory store can be transferred to a PC via the interface RS 232, and saved on a storage medium.

FACTORY SETTING

The program control unit of the machine is pre-programmed by the manufacturer with a standard program. This seam program is so efficient that nearly all common pocket pouches can be sewn with it. It is also suitable for training operating personnel and as a model for programming customized seam programs.

SEAM PROGRAMS PRE-PROGRAMMED BY THE MANUFACTURER:

M 01

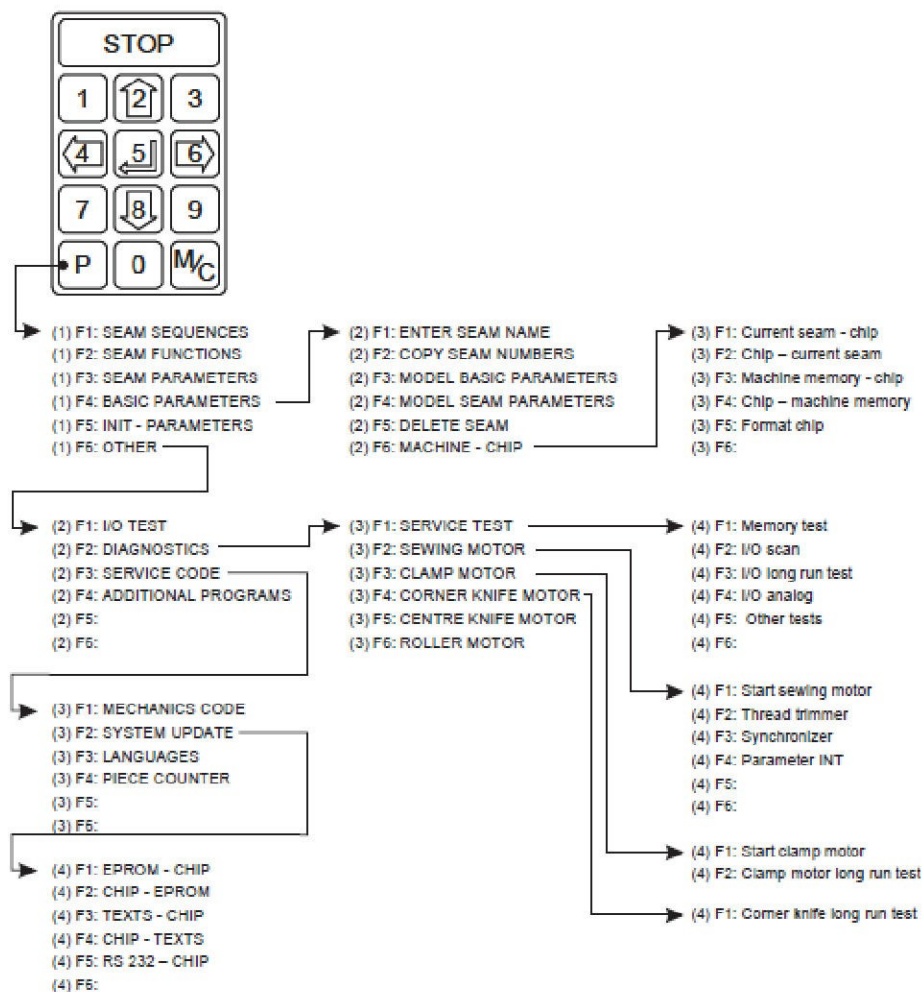
Seam 01	Piped pocket right jacket part
Seam 02	Piped pocket left jacket part

M 04

Seam 30	Back pocket back trouser part
Seam 31	Front trouser pocket front trouser part
Seam 34	Button hole

D.2.2

D.2.2 OVERVIEW OF THE MENU LEVEL



D.3

D.3 PROGRAMMING

D.3.1








D.3.1 OPERATOR MENUS

The functions of the operator menus are divided into two access levels and can be called up directly after the program control unit has been initialized or after each RESET:

D.3.1.1

D.3.1.1 DESCRIPTION OF THE OPERATOR LEVEL 1 FUNCTIONS

The function keys of access level 1 are allocated to the symbols located above them. These symbols cannot be changed and always remain visible.

-  Call up access level 2 of the operator menu
-  Set the seam length or flap safety segment
-  Sew over flaps
-  Manual needle thread
-  Feed interface (optional)
-  Not assigned
-  Reset seam program step by step



D.3.1.2

D.3.1.2 CALL UP ACCESS LEVEL 2

- Press  key

D.3.1.3

D.3.1.4

D.3.1.4 SETTING THE SEAM LENGTH


This information defines the length of the seam and can be set in a range from 20 mm – 199 mm.

1. Set seam length

- Press  key

The cursor moves to the input box which is then activated.

2. Set a three-figure value with the number keys and confirm:

- Press  key

D.3.1.5

D.3.1.6

D.3.1.6 MANUAL NEEDLE THREAD TAKE-UP

This function activates the needle thread catcher if a new threading operation is necessary after the thread has broken, or if a threading rearrangement is necessary.

1. If necessary move the clamp back to the corner knife position:..3




- Press  key

2. Activate needle thread catcher:



- Press and hold  key

3. Deactivate needle thread catcher again:

- Release  key

D.3.1.7

D.3.1.8

D.3.1.8 RESET LOADING OPERATIONS STEP BY STEP

Using the foot switch, the loading operations can be reset step by step back to the start of the sewing operation. Afterwards a machine cycle can only be stopped by pressing the STOP key or the RESET foot switch.

1. Reset operation:

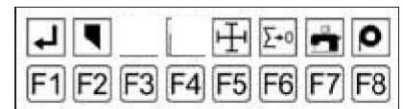
- Press  key

D.3.1.9

D.3.1.9 DESCRIPTION OF THE FUNCTION OF ACCESS LEVEL 2

The function keys of the access level 2 are allocated to the symbols, which are shown on the display. These symbols are only visible, when access level 2 had been called up. They are shown as inverted, when the machine function, which they represent, is deactivated in the marked seam of the seam program.

- F1 Return to access level 1 of the operator menu
- F2 Switch the centre knife on/off
- F5 Switch the laser markings on off
- F6 Reset the daily output counter
- F7 Manual winding
- F8 Reset the bobbin thread length



D.3.1.10

D.3.1.10 RETURN TO ACCESS LEVEL 1 OF THE OPERATOR MENU

- Press  key

D.3.1.11

D.3.1.11 SWITCHING THE CENTRE KNIFE ON/OFF

For the marked seam of the seam program the centre knife can be switched on or off. If the function is deactivated, the symbol in the symbol bar is shown as an inverted symbol and is faded out in the seam function box of the display.



NOTE – Centre knife function!

If the centre knife is deactivated in a seam, the corner knives are likewise deactivated.

1. Switch the centre knife function on/off:

- Press   key

D.3.1.12


D.3.1.13

D.3.1.14

D.3.1.14 SWITCHING THE LASER MARKINGS ON/OFF







With this function the laser markings can be set or deactivated.

1. Activate the function:

• Press  key

In the symbol bar of the display a symbol for the laser marking is allocated to each function key.

2. With the function keys the various lasers installed on the machine can be switched on or off:

	Laser markings centre knife
	Laser markings front positioning point centre
	Laser markings positioning point
	Laser markings back positioning point
 - 	Customized positioning points (optional)

3. Confirm setting:

• Press  key

D.3.1.15

D.3.1.15 RESETTING THE DAILY OUTPUT COUNTER

This function is used to rest the daily output counter at zero for a new production run.

1. Call up the reset daily output counter function:

• Press  key




The daily output counter jumps back to zero.

1. Display: PIECES = 0000

D.3.1.16

D.3.1.16 MANUAL WINDING



If this function is activated, the sewing head drive turns at load speed. For the winding process both threads must be removed from the needles and the bobbins removed from the hooks. Before this operation the clamp is moved back to the corner knife position, the folder swung aside.

1. Reset clamp to corner knife position:
 - Press  key (as often as necessary)
2. Start sewing head drive for winding:
 - Press  key
3. Stop winding process:
 - Press  key again

D.3.1.17

D.3.1.17 RESETTING THE BOBBIN THREAD LENGTH

For checking the amount of thread already used, if a semi-full bobbin is removed and a full bobbin inserted, the thread length display can be set back to zero.

1. Call up the Reset bobbin thread length function:
 - Press   key

D.3.2

D.3.2 PROGRAMMING MENUS

The programming menus enable the programming of seam programs with their corresponding seams. It is always possible to program a completely new seam program. It is easier:

- to copy a seam program already programmed by the manufacturer to a free storage space in the memory storage and adapt it to the production conditions
- to copy an already modified seam program to a free storage space in the memory storage and adapt it further.

To create a new seam program following work steps are required:

- 1 Occupy a free storage space.
- 2 Add seams or copy existing seams into a seam program.
- 3 Configure seams (adapt to the production).



NOTE – Scrolling back in programming levels!

If programming menus are selected, the last menu processed is called up. It is possible to see from the figure (1) in front of the functions which programming level was selected. To be able to call up certain functions, one has to scroll back through the programming and service menus.

- Call up the programming menu:

o Press  key

- Scroll back through programming menu:

o Press  key

D.3.2.1

D.3.2.1 OCCUPYING FREE STORAGE SPACES

Seam programs are filed in the memory store (M). In the Memory store of the program control unit up to 50 seam programs (M01 – M50) can be programmed. The storage spaces M 01 are occupied by the manufacturer.

1. Select a free storage space:

- Press  key

2. Enter a two-figure number: *SEAM PROGRAM NOT OCCUPIED!* appears on the display, indicating that the storage space is available. At the same time a seam is created (with the same number as the seam program)

D.3.2.2

D.3.2.2 ADDING SEAMS

Up to six seams can be allocated to the seam program. These are then reconfigured with corresponding seam functions and seam parameters.



1. Call up the programming menu:

- Press  key

2. Select the SEAM SEQUENCES function:


- Press  F1 key

3. Position the cursor at this position:

- Press key  or 

If the cursor is moved to an existing seam number, the new seam number is set in front of the existing seam. If the new seam number is a continuation of the existing series, the cursor must be positioned to the right of the last seam number.

4. Open input box:

- Press  key

5. Enter seam number (possible name 01 – 49).





6. Confirm input:


- Press  key

D.3.2.3

D.3.2.3 COPYING SEAMS

Existing seams can be copied into the seam program and then be adapted. This method is generally simpler and more time-saving, as in the seam to be copied seam functions and parameters, which are also required for the new seam, already exist. With this function it is possible to write over an existing seam or to fill a new, non-configured seam with sewing data.

1. Set the cursor on the seam number of seam, into which the existing seam is to be copied:
 - Press key  or 
2. Call up the programming menu:
 - Press  key
3. Call up the INIT-PARAMETER function:
 - Press  key

Programming level 2 is displayed.
4. Call up the COPY FROM SEAM NUMBER function:
 - Press  key
5. Enter the number of the seam to be copied in the input box. *OK PLEASE WAIT!* appears on the display, indicating that the copying process has been successfully completed.

D.3.2.4


D.3.2.4 DELETING CONTENTS OF A SEAM PROGRAM

A seam program (e.g. M 03) consists of several seams (e.g. 20, 21, 22, 23). The contents of these seams, the seam parameters, can be completely deleted.

1. Call up the programming menu:

- Press  key

2. Call up the INIT-PARAMETER function:

- Press  key

Programming level 2 is displayed.

3. Call up the DELETE SEAM function:

- Press  key

4. Enter the two-figure seam number in the input box. The confirmation enquiry *ARE YOU SURE?* appears on the display.

5. Confirm deleting operation:

- Press  key

OK PLEASE WAIT! appears on the display, indicating that the deleting process has been successfully completed.









CAUTION – Deleting function!

This deleting function affects all seam programs. If a seam is used in several seam programs, this deleting function will delete the seam content in all seam programs. If this seam is selected again, the information *SEAM PROGRAM NOT OCCUPIED!* will be given.

D.3.2.5







D.3.2.5 DEACTIVATING /ACTIATING A SEAM IN A SEAM PROGRAM

Individual seams in a seam program can be deactivated. A deactivated seam is not deleted, but can be selected reactivated at any time. This function only has an effect in the currently selected seam program. It is recommendable to record this procedure, as in a modified seam program it is not possible to see which seams have been deactivated.

1. Call up the programming menu:
 - Press  key
2. Call up the SEAM SEQUENCE function:
 - Press  key
3. Set cursor on the seam number to be deactivated:
 - Press key  or 
4. Carry out the function:
 - Press  key
5. Confirm function has been carried out:
 - Press  key

On the display the seam number from the seam sequence is faded out

Reactivating the seam

1. Call up the programming menu:
 - Press  key
2. Call up the SEAM SEQUENCE function:
 - Press  key
3. Define the position of the seam in the seam sequence. Set the cursor on the seam number after which the deactivated seam is to be reactivated:
 - Press key  or 
4. Open input box:
 - Press  key
5. Enter a two-figure seam number and confirm the input:
 - Press  key

D.3.2.6

D.3.2.6 NAMING A SEAM WITH COMBINATION OF SYMBOLS / ENTERING A SEAM NAME

In addition to a seam number, seams can also be named with a combination of symbols consisting of letters, numbers, and punctuation marks.

1. Call up the programming menu:

- Press **[P]** key

2. Call up the INIT-PARAMETER function:

- Press **[F5]** key

Programming level 2 is called up.

2. Select the ENTER SEAM NAME function:

- Press **[F1]** key

With the function keys **[F1]** - **[F6]**, it is possible to scroll through 6 letters or symbols per function key. Numbers can be entered with the number keys.

With the function keys **[F7]** and **[F8]** it is possible to move the cursor one position to the left or right.

3. Confirm the input:

- Press **[P]** key

D.3.2.7

D.3.2.7 CONFIGURING SEAMS

For the configuration of seams, seam functions as well as seam parameters and basic parameters are available.


- **Seam functions** Seam functions are machine components which can be switched on or off, and which carry out a part function of a sewing operation, e.g. the corner knife or the stacker.
- **Seam parameters** Seam parameters are settings which only apply to a certain seam in the seam program. Any alterations only affect the selected seam of a seam program, in which the adjustment is made. If, however, a seam number has been copied into several seam programs, the alteration of a seam parameter is made in all seams with the identical seam number.
- **Basic parameters** Basic parameters are values, which control the basic functions of the machine. If basic parameters are altered, the alteration affects all stored seam programs.

D.3.2.8

D.3.2.8 SWITCHING SEAM FUNCTIONS ON / OFF

Different machine functions can be switched on or off for an individual seam. An activated function is shown as an inverted (i.e. white on black) symbol in the function box on the display.

1. Call up the programming menu:

- Press  key

2. Call up the SEAM FUNCTIONS function:

- Press  key

The selection menu for the seam functions is displayed. The marked seam function is named on the left under the display.


3. Move the cursor to the left or right in the selection menu:

- Press key  or 

4. Move the cursor up or down in the selection menu

- Press key  or 

5. Switch marked seam function on/off:

- Press  key

DESCRIPTION OF THE SEAM FUNCTIONS



Centre knife:

Cuts open the pockets between the seams. If the centre knife is deactivated, the corner knife is automatically deactivated, too.

**Flap clamp left:**

Activates the left flap clamp on the clamp, so that additional pieces can be added (e.g. pocket pouch, edging strips).

**Flap clamp right:**

Activates the right flap clamp on the clamp, so that additional pieces can be added (e.g. pocket pouch, edging strips).

**Front loading:**

Reference point for seam begin when sewing without flap.

**Centre loading:**

Reference point for seam begin when sewing without flap.

**Rear loading:**

Reference point for seam begin when sewing without flap.

D.3.2.9


D.3.2.9 ADJUSTING SEAM PARAMETERS

An alteration of the seam parameters only affects the selected seam of the seam program, in which the adjustment was made.

1. Call up the programming menu:

- Press  key

2. Call up the SEAM PARAMETER function:

- Press  key

The list of the seam parameters is displayed.


3. Scroll forwards or backwards in the list:

- Press key  or 

4. Move up or down line by line:

- Press  or  key

5. Open the input box of the selected parameter line:

- Press  key

6. The input box closes after the last figure of the value has been entered.

Following seam parameters can be altered:

- [Factory settings are given in square brackets]
- (the possible adjustment range is given in round brackets)

01 Adjust the positioning point [135/225/315 mm]

The set value defines the seam reference point

02 Insertion speed [60 %] / (10 – 90 %)

Height of the clamp speed from the insertion position to the seam start position. As soon as the photocell becomes active, the speed is halved, to enable accurate scanning. When sewing vylane the speed is reduced to 30 %

03 Speed at seam start [1500 rpm] / (500 – 2000 rpm) Speed of the sewing drive, freely selectable, dependent on switching status of needle and centre knife

04 Seam speed [2500 rpm] / (500- 3000 rpm)
Speed of sewing drive in the seam area, freely selectable

05 Speed at seam end [1500 rpm] / (500 – 2000 rpm)
Speed of sewing drive, freely selectable

06 Segment speed seam start [5 mm] / (0 – 99 mm)
Length of segment with speed from parameter 03

07 Segment speed seam end [5 mm] / (0 – 99 mm)
Length of segment with speed from parameter 05

25 Fetch part, selection + Pos. [0 cm] / (0 – 48 mm)

After corner cutting the clamp is automatically depressurized, the workpiece is shifted to the set position: 01 cm = workpiece is moved to positioning station

26 Centre knife speed [40 %] / (10 – 99 %)

Defines the cutting speed

28 Stacking position, selection + Pos. [00 cm] / (01 – 52 cm)

Position of clamp after corner cut

30 Flap clamp mode

The flap clamps can be set for different switching modes. The illustration on the right shows the respective position in the switching status:



Both flap clamps switched off

00 Loading position

04 Loading position automatically with folding slide

00



04



Flap clamp left on/right off

00 Loading position with foot switch pressure

02 Loading position automatically with folding slide with foot switch pressure

04 Loading position automatically with folding slide with foot switch pressure

00



02



04



Flap clamp left off /right on

00 Loading position with foot switch pressure

02 Loading position automatically with folding slide with foot switch pressure

04 Loading position automatically with folding slide with foot switch pressure

00



04





Both flap clamps switched on

- 00 Loading position with foot switch with second foot switch pressure
- 01 Loading position with foot switch with clamp insert
- 02 Loading position automatically with folding slide with foot switch
- 05 Loading position with foot switch with second foot switch pressure
- 06 Loading position with foot switch pressure



31 Folding slide mode

- 00 Folding slide left and right activated
- 01 Folding slide left activated
- 02 Folding slide right activated

32 Vacuum Mode (Optional)

- 00 Vacuum off
- 01 Vacuum on with foot switch vacuum (with display "switch on vacuum", if not switched on with foot switch)
- 02 Vacuum on automatically, when the clamp moves to positioning point
- 03 Vacuum on with foot switch forwards

33 Clamp mode

- 00 Clamp arm left/right lowered and under pressure
- 01 Clamp arm left lowered and under pressure
- 02 Clamp arm right lowered and under pressure
- 03 Both clamp arms depressurized; under pressure at insertion
- 04 Move clamp left to side

35 Stacker mode

- 01 Roller only
- 02 Stacker only
- 03 Stacker and roller

D.3.2.10

D.3.2.10 WORKING WITHOUT AUTOMATIC CLAMP REVERSE FEED

Seam parameter 24: Intermediate stop, selection + Pos. This parameter makes it possible to fix the position of the clamps after stacking. Seam parameter 24 = 00 cm With this setting the clamps wait at the corner knife position until the foot switch for sewing sequence is pressed.

D.3.2.11

D.3.2.11 WORKING WITH AUTOMATIC CLAMP REVERSE FEED

Seam parameter 24: Intermediate stop, selection + Pos. Seam parameter 24 = 01 cm With this setting the clamps automatically move to the loading position after stacking. After the foot switch for sewing sequence has been pressed, the main clamp can be closed.

D.3.2.12

D.3.2.12 WORKING WITH AN INTERMEDIATE CLAMP STOP

Seam parameter 24: Intermediate stop, selection + Pos. Seam parameter 24 = 20 cm With this setting after stacking the clamp moves automatically to 20 cm before the positioning point. After the foot switch for sewing sequence has been pressed, the clamp moves to the positioning point. The higher the value selected for seam parameter 24, the greater the distance the clamp stops before the positioning point.

D.3.2.13

D.3.2.13 WORKING WITH AUTOMATIC PART RETRIEVAL BY THE CLAMP

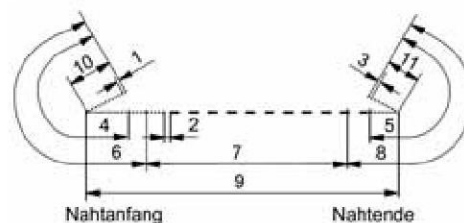
Seam parameter 25: Fetch part, selection + Pos. Seam parameter 25 = 00 cm Part retrieval by clamp function is switched off. Seam parameter 25 = 01 cm Part retrieval to positioning point with the clamp. With this setting the clamps are raised after corner cutting and the seam parameter 23 (turning motion roller) becomes effective. The roller rolls the workpiece a short distance out of the opened clamp. The clamp is then depressurized after the time given in basic parameter 28 (take over fetch parts function) and moves to the positioning point with the clamp arms lowered. Seam parameter 25 = 01 cm If the value 00 s is entered for seam parameter 23 (turning speed roller duration), the roller is not activated, the clamp remains closed and then moves depressurized to the positioning point. Seam parameter 25 = 20 cm Part retrieval by clamp to 20 cm before loading position.

D.3.2.14

D.3.2.14 SEWING WITH BARTACKS

The reference number indicates the respective seam parameter, with which the seam section can be adjusted.

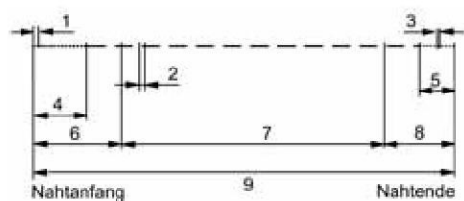
- 1 = parameter 8
- 2 = parameter 9
- 3 = parameter 10
- 4 = parameter 11
- 5 = parameter 12
- 6 = parameter 3 / 6 / 11
- 7 = parameter 4
- 8 = parameter 5 / 7
- 9 = parameter Access level 1
- 10 = parameter 13
- 11 = parameter 14



D.3.2.15

D.3.2.15 SEWING WITH CONDENSED STITCHING

- 2 = parameter 9
- 4 = parameter 11
- 5 = parameter 12
- 6 = parameter 3 / 6 / 11
- 7 = parameter 4
- 8 = parameter 5 / 7
- 9 = parameter Access level 1

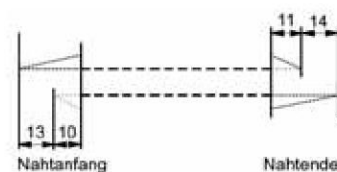


D.3.2.16

D.3.2.16 SEWING WITH OFFSET SEAM

The reference number indicates the respective seam parameter, with which the seam section can be adjusted.

- 10 = parameter 13
- 11 = parameter 14
- 13 = parameter 15
- 14 = parameter 16



D.3.2.17



D.3.2.17 ADJUSTING THE BASIC PARAMETERS

The basic parameters should only be altered with extreme caution, each alteration should be tested step by step.








NOTE – Setting!

The machine's basic parameters are optimally set. The manufacturer has chosen the optimum setting for the basic parameters and their optimum coordination. If the values are altered improperly, the processing quality may be impaired and in the worst case machine components may be damaged.

1. Call up the programming menu:
 - Press  key
2. Call up the BASIC PARAMETERS function:
 - Press  key

The list of basic parameters is displayed.

3. Scroll back or forth in the list:
 - Press key  or 
4. Move up or down line by line:
 - Press key  or 
5. Open input box of the selected parameter line:
 - Press  key
6. After the last figure of the value has been entered, the input box closes.

The following basic parameters can be altered [factory settings are shown in square brackets]:

- 01 FRONT POSITIONING POINT [135 MM]**
Distance between feed position and sewing start; if the seam length is altered, the seam end varies
- 02 CENTRE POSITIONING POINT [225 MM]**
With this setting, if the seam length is altered, the seam start is calculated so that seam start and seam end are shifted by the same extent; this is generally used for back pockets with darts, if the dart is intended to be in the centre of the pocket
- 03 BACK POSITIONING POINT [315 MM]**
Setting: Distance feed position – seam end, if the seam length is altered, the seam end remains at the same point and the seam start varies
Clamp length
165 mm set value 205 mm 245 mm 315 mm 290 mm 330 mm

**NOTE – Size of value!**

This parameter defines the clamp end. If the value is set too high, problems may occur when sewing flaps.

- 04 Raise folder down [315 mm]**
Point for raising the folder after the seam; if the distance is too short, the folder catches on the folding slides
- 05 Thread length bobbin full [57 m]**
If an incorrect thread length is entered, this results in an incorrect display of the remaining thread value
- 08 Clamp lowered automatically [0.0 s]**
If a time is set, the clamp does not close until it reaches the loading position plus the time set here
- 09 Time after lower clamp [1.0 s]**
Time delay between lower clamp and the next work step, lower folder
- 16 Time before insertion [0.0 s]**
After the time set, the main clamp moves from the loading position to the sewing start (with pressed foot switch forwards)
- 18 Thread clamp open – at seam start [0.2 s]**
After the first two stitches, the needle thread should be released from the thread clamp; the thread clamp opens after the time set here
- 19 Thread clamp open – opening duration [0,1 s]**
Duration the thread clamp remains open at the seam start
- 21 Cut needle thread – time [0.3 s]**
Time for catching and cutting the needle thread
- 22 Cut needle thread – duration [0.2 s]**
Length of thread after needle thread has been picked up

- 27 Clamp open [0.0 s]**
Opens the clamp after corner cutting; if the time entered is too short, the workpiece may slide onto the machine before it is taken over by the stacker
- 28 Take over the fetch parts function [0.5 s]**
For parts retrieval with unstable clamp (sewing inside pockets) the clamp opens after corner cutting, the roller throws the part out of the side of the clamp; the clamp is then started with this parameter, so that the workpiece can be felt and conveyed to the loading position more quickly
- 31 Clamp speed [90 %]**
Moving speed of the clamp to positioning point
- 32 Sequence step by step [00]**
Input > 01 makes it possible to move through all the machine functions with the foot switch
- 33 Remaining thread photocell on/off [00] (optional)**
The function can be switched on and off; 01 = remaining thread monitor on; with this setting the bobbin thread counter is deactivated automatically
- 34 Thread trimmer cutting speed [250 rpm]**
Positioning speed for thread trimming systems:
- 35 Thread trimmer position [00] / (00 - 59)**
Correction start thread trimmer impulse; the lower the value, the sooner the bobbin thread trimmer is started
- 36 Thread trimmer duration [0.15 s]**
The duration of the bobbin thread trimmer should be as short as possible, or the clamp may start moving again
- 40 Scanning photocell II (optional)**
The optional second photocell for scanning is switched on/off
00 switch off 01 switch on

D.3.2.18

D.3.2.18 STORAGE FUNCTIONS

The program control unit possesses several functions for storing seam programs or seams on the memory chip. Alternatively stored seam programs or seams can be transferred to the storage medium of the control element.







NOTE – Data backup!

If the EPROM or the microprocessor of the machine control unit are defective, there is a risk of data loss. All seam programs or the individual seams should therefore be stored on the memory chip at regular intervals. The memory chip with the standard seam programs delivered by the manufacturer should not be used for the data backup!


D.3.2.19

D.3.2.19 FORMATTING THE MEMORY CHIP

If additional memory chips (available as accessories) are used for the data backup, the storage medium must be formatted before its first use.

1. Insert the memory chip in the interface RS 232 of the control element.
2. Call up the programming menu:
 - Press  key
3. Select the INIT-PARAMETER function:
 - Press  key
4. Call up the MACHINE < - >CHIP function:
 - Press  key
5. Call up the FORMAT CHIP function:
 - Press  key

The confirmation enquiry **ARE YOU SURE?** appears on the display.

6. Confirm confirmation enquiry:
 - Press  key
7. **OK PLEASE WAIT!** is shown on the display during the formatting process until formatting has been completed.

D.3.2.20

D.3.2.20 DATA BACKUP ON MEMORY CHIP

The storage function enables either the backup of only one selected seam or of all seam programs.

1. Insert the memory chip in the interface RS 232 of the control element.
 2. Call up the programming menu:
 - Press **[P]** key
 3. Select the INIT-PARAMETER function:
 - Press **[F5]** key
 4. Call up the MACHINE < - > CHIP function:
 - Press **[F6]** key
 5. Save selected seam, call up the CURRENT SEAM - > CHIP function:
 - Press **[F1]** key c
- or
6. Save all seam programs, call up the MACHINE MEMORY - > CHIP function:
 - Press **[F3]** F3 key
 7. Confirm confirmation enquiry:
 - Press **[5]** key
 8. *OK PLEASE WAIT!* is shown on the display during the storage process until data transfer has been completed

D.3.2.21







D.3.2.21 DATA TRANSFER TO STORAGE MEDIUM OF THE CONTROL ELEMENT

Data stored on the memory chip can either be transferred to the control element as a selected individual seam or as the complete data of all seam programs.



NOTE – Overwriting data!

If the complete data of all seam programs is transferred to the control element, all data (e.g. including the altered seams) will be overwritten. Alterations to seams should therefore always be saved immediately on the memory chip as an individual backup.

1. Insert the memory chip in the interface RS 232 of the control element.
2. Call up the programming menu:
 - Press  key
3. Select the INIT-PARAMETER function:
 - Press  key
4. Call up the MACHINE < - CHIP function:
 - Press  key
5. Transfer the selected seam shown on the display, call up the CHIP - >
 - Press  keyor
6. Transfer the complete data of all seam programs, call up the CHIP - > MACHINE MEMORY function:
 - Press  key
7. Confirm confirmation enquiry:
 - Press  key
8. *OK PLEASE WAIT!* is shown on the display during the transfer process until data transfer has been completed

D.3.3

3.3 SERVICE MENUS

The service menus possess functions, which support the installation and testing of the machine. These functions are called up using two menus:

- I/O test
- Diagnostics (F2), with the appropriate test programs: Sewing motor, clamp motor, corner knife motor, centre knife motor, roller motor



NOTE – Scrolling back in programming levels!

If the service menus are called up, the last menu used is always displayed. It is possible to recognize which programming level was selected from the number (1) in front of the functions. In order to be able to call up certain functions, one must scroll back in the programming menus and service menus.

- Scroll back through the programming menu:
- Press key

D.3.3.1

D.3.3.1 SERVICE CODE

The functions in the service menus are protected by a two-step password:

- First the machine code (99160) is entered, so that seam parameters, basic parameters and seam programs can be copied, and part of the diagnostics programs can be called up.
- If you want to change to other test functions you have to enter the second service code. You will get this code if you send the serial number of your machine to ASS Company.

1. Call up the programming menu:

- Press key

2. Call up the OTHER function:

- Press key

3. Call up the SERVICE CODE function:

- Press key

4. Enter the code number on the number panel, by changing the position of the cursor to the relevant number position desired:

- Press key 4 or 6









5. Confirm the input:


- Press key

D.3.3.2

D.3.3.2 INPUT/OUTPUT TEST

The input/output function makes it possible to select the inputs/outputs of the machine control unit for fault finding and for checking individual machine steps. The outputs (OUT) are called up and tested separately. The corresponding inputs (INP) are shown when the output is activated. In addition the selected output can be switched intermittently. Activated in-/outputs are marked with underlying reference numbers.

1. Call up the programming menu:
 - Press  key
2. Call up the OTHER function:
 - Press  key
3. Call up the I/O TEST function:
 - Press  key
4. Select the number range:
 - Press key  or 
5. Mark the number of the output to be tested by moving the cursor in front of the relevant reference number. The cursor appears as an arrow.
 - Press key  or 
6. Activate the output:
 - Press  key

The reference number has a black background. The output is activated.
7. Deactivate the output:
 - Press  key

SWITCHING THE OUTPUT INTERMITTENTLY:

1. Mark the output reference number with the cursor.

- Press down key  for about 3 seconds

The reference number flashes on a black background. The output switches intermittently.

2. Switch off the interval function:

- Press  key

The reference number has a black background but no longer flashes. The output is still activated.

3. Deactivate the output:

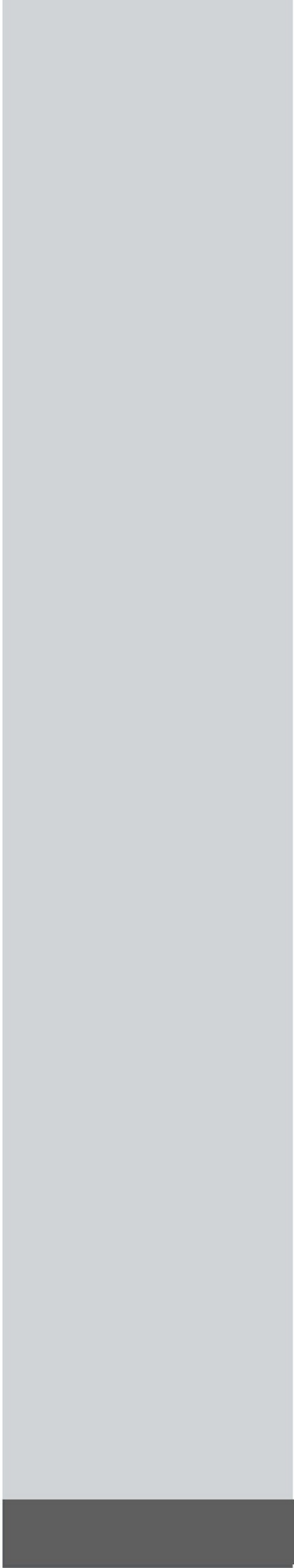
- Press  key

MARKING OF THE INPUTS

Input number	Switch number	Description		
02	02	Clamp forwards	Initiator	
05	05			
07	07	Folder lowered	Initiator	
10	10	Needle thread monitor track A Sensor head	Tastkopf	
11	11	Remaining thread monitor Sensor head	Tastkopf	
20	20	Program forwards		

MARKING OF THE OUTPUTS

Y-No.	Output No.-	Description		
1	1	Thread trimmer		
2	2	Needle thread catcher		
3	3	Release thread tension		
4	4	Centre knife impulse		
5	5	Centre knife tappet		
6	6	Folder up		
7	7	Folder down airless	luftlos	
18	18	Flap clamp right		
20	20	Folding slide right		
22	22	Main clamp right down airless	luftlos	
23	23	Main clamp left down airless	luftlos	
24	24	Main clamp up airless	luftlos	
27	-	Second quick clamp adjustment jacket/trousers		



D.3.3.3

D.3.3.3 DIAGNOSTICS

In the diagnostics menu is a summary of the service functions, which are used to test machine units as well as the initiators for driving these units.

D.3.3.3.1

D.3.3.3.1 TEST SEWING MOTOR



NOTE – Prepare sewing unit for test!

Before carrying out the test, swing the holder of the folder aside. Remove all threads and bobbins from the sewing unit. ASS sewing units may only be driven with max. 250 rpm.

1. Call up the programming menu:

- Press  key

2. Call up the OTHER function:

- Press  key

3. Call up the SEWING MOTOR function:

- Press  key

The menu contains four test functions, which can be called up over four separate sub-menus.



SEWING MOTOR DRIVE



TEST THREAD TRIMMER



SYNCHRONIZER PARAMETER INIT for testing sewing motor




SYNCHRONOUS RUN



F1 SEWING MOTOR DRIVE LEVEL 4

The actual speed of the sewing motor is compared with the set speed.

1. Call up the SEWING MOTOR DRIVE function:


- Press  key

2. Enter the required speed on the number panel and confirm the input:

- Press  key

The sewing drive starts, the actual speed is measured and displayed.

3. End the test:

- Press  key

F2 TEST THREAD TRIMMER LEVEL 4

The needle is positioned, the thread trimmer activated (basic parameter 36: Duration thread trimmer).

1. Call up the THREAD TRIMMER function:

- Press **F2** key

2. Start the sewing drive:

- Press **0** key

3. End the test:

- Press **P** key

F3 SYNCHRONIZER LEVEL 4

After this test function has been selected two values appear on the display:

- Balance wheel increments
- Balance wheel position

By turning the balance wheel to the left or to the right the increments are counted. For each turn this must be 520 increments.

1. Call up the SYNCHRONIZER function:

- Press **F3** key

2. Check the "needle raised" position:

- Press **0** key

The needle is brought into position. 510 increments should be shown on the display. This value should not deviate by more than 1 increment. Otherwise the position must be reset with basic parameter 37.

3. End the test:


- Press **P** key

D.3.3.3.2


F4 TEST PARAMETER INIT FOR SEWING MOTOR

After the control unit or sewing motor have been replaced, this function is used to transfer the parameter required for the sewing motor from the control unit.


1. Call up the SEWING MOTOR INIT function:

- Press  key

2. Data is transferred automatically:

- Press  key

3. End the test:

- Press  key

F5 SYNCHRONOUS RUN

D.3.3.3.2 TEST CLAMP MOTOR LEVEL 3


1. Call up the programming menu:

- Press  key



2. Call up the OTHER function:

- Press  key

3. Call up the clamp motor function:

- Press  key

The menu contains two test functions:

-  Activate clamp Motor
-  Long run test clamp motor



NOTE – Qualification of the service personnel!

The clamp motor may only be driven by trained and authorized service personnel.

F1 ACTIVATE THE CLAMP MOTOR

This test program is used to check the speed of the clamps. The clamp motors must reach a set value of 0.5 m/s.

1. Call up the ACTIVATE THE CLAMP MOTOR function:

- Press  key

2. Enter the value 05 (5 m/s) in the input box.

3. Change the direction of the clamp:

- Press key  or 

4. The actual value nn (nn m/s) is displayed in the input box.

5. End the test:

- Press  key

F2 LONG RUN TEST CLAMP MOTOR / FEED MOTOR

The reversal point of the clamp is tested in a long-run test.

1. Call up the LONG RUN TEST CLAMP MOTOR function:

- Press  key

2. Start the motion of the clamp:

- Press  key

The clamp now moves to and fro at high speed and must always change direction in the same places.

3. End the test:






- Press  key

D.3.3.3.3

D.3.3.3.4

D.3.3.3.4 CENTRE KNIFE MOTOR TEST LEVEL 3

Routine for testing the speed of the centre knife motor.

1. Call up the programming menu:
 - Press  key
2. Call up the OTHER function:
 - Press  key
3. Call up the CENTRE KNIFE MOTOR function:
 - Press  key
4. Enter a value between 01 ... 99 in the input box and test the cutting quality of the centre knife.
5. Switch off the motor:
 - Press  key
6. Conclude the test:
 - Press  key

D.3.3.3.5

D.4

D.4 ERROR CODES

Error message	Cause	Elimination
Error 01: Seam program not loaded	Current seam program not loaded; possibly sections and parameters have not been entered or the seam program was deleted	Enter parameters manually or take them over from other seam programs, copy from fixed programs
Error 02: Seam not activated	Current seam number not activated	Press key 5 to activate seam program
Error 04: Wrong clamp	Clamp is not at positioning station	Check Initiator ES02
Error 05: I/O communication error	Error when transferring data between control unit and I/O module	Check the connection cable; if necessary replace control unit, I/O module
Error 08: Clamp at stop	Reverse feed lock does not become bright	Check limit initiator S02; test program input test
Error 09: Main clamp does not move when switched	Main clamp is blocked at loading position	Check limit initiator S02; test program input test; check smooth running of clamp

Error 14: Wrong insertion / seam length	Seam length longer than max. possible seam	Positioning point or seam length not programmed correctly
Error 18: Folder not lowered	Folder not or too late in loading position	Check S07 input; check smooth running of cylinder Y06; check air pressure

Error 29: No impulses from sewing motor	Sewing motor does not start	Check sewing motor and synchronisation; check connection board to sewing motor
Error 30: Sewing motor is too quick	When trimming thread sewing motor has not reached trimming speed	Check sewing motor control unit
Error 32: No thread trimmer position	Cutting position for thread trimming not reached	Reduce thread trimmer speed; check sewing motor control unit
Error 33: Sewing motor does not stop	Sewing motor does not stop in position	Reduce speed thread trimmer; check sewing motor control unit
Error 34: Needle not raised	Needle is not in "raise take-up lever" position	I Check Efka initiator; check sewing head for binding; reload motor parameters
Error 35: Thread breakage	Needle thread monitor reacts	

Error 49: Error AT I/O	Communication error	Hardware error; transfer error
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