INSTRUCTION MANUAL

Automated-Sewing-Systems AG
Instruction Manual Universal Automatic Pocket Piping Machine BASS 3200

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 3200 from the company Automated-Sewing-Systems AG and 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 AG 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. A-S-S AG does not assume any responsibility for the efficiency or perfect functioning of the Universal Automatic Pocket Piping Machine BASS 3200 if this is used for an application other than defined in the section "Proper Use".

A-S-S AG is not liable for damage occurring through the use of undefined and unauthorized spare parts or accessories.

A.1.2

A.1.2 COPYRIGHT

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Universal Automatic Pocket Piping Machine BASS 3200
The Universal Automatic Pocket Piping Machine BASS 3200 with all appropriate parts is protected by copyright. Reproduction of the machine will be prosecuted.

Instruction manual
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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 machine, which have not been approved in writing by A-S-S AG.

- The contents of the instruction manual may be changed at any time without prior notice.

- This German 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 AG 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 AG guarantees the reliability, the functioning and free repair of the Universal Automatic Pocket Piping Machine BASS 3200 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 AG,
- only original spare parts or accessories and those authorized by A-S-S AG are used. A complete spare parts list with all authorized parts may be ordered from A-S-S AG.

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 3200 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 3200,

- 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 3200 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 3200 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 3200 in training by A-S-S AG,

- 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 3200, 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 3200 is a sewing unit. It is used for folding and sewing pocket facings. The maximum length of the pocket facing for processing is 400 mm. 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 3200 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 3200 may not be used on premises which do not comply with the location requirements. The Universal Automatic Pocket Piping Machine BASS 3200 may 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.4.1

A.4 SAFETY REQUIREMENTS

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

B

Part B Instruction manual

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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 3200 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 vyline 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

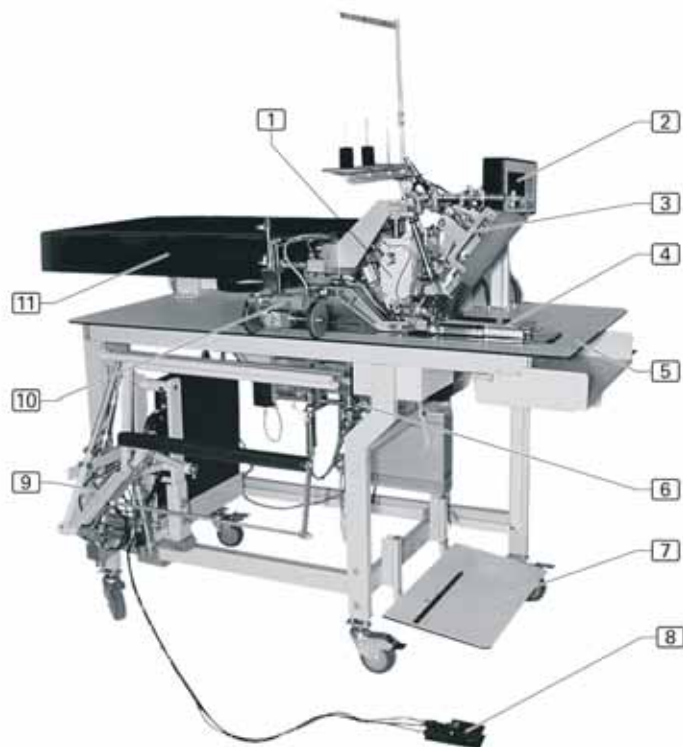As an option the universal automatic pocket piping machine can be equipped with a vacuum pump.

fig. 1

B.2

B.2.1

B.2 MACHINE FUNCTION

B.2.1
FUNCTIONING PRINCIPLE AND MACHINE OPERATING SEQUENCE

FUNCTIONING PRINCIPLE:
The universal automatic pocket piping machine BASS 3200 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 .
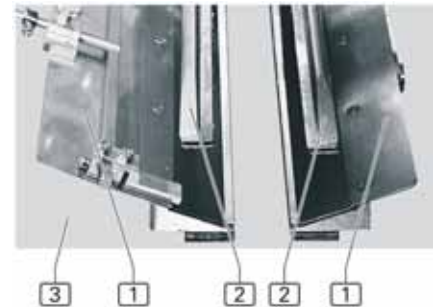
fig. 2

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
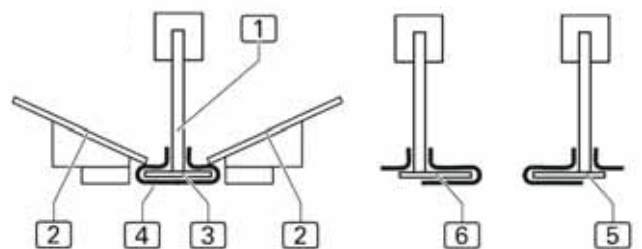• Base edge ☐6 with wider right side for single piping on jackets

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.
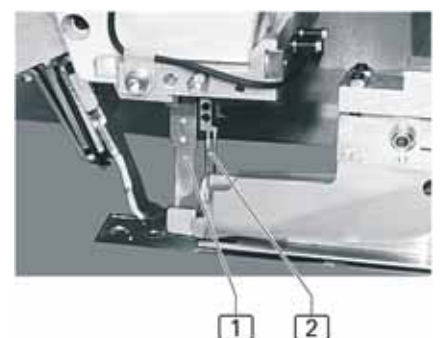
fig. 4

B.2.5

B.2.5 CORNER KNIFE

fig. 5: At the end of the sewing operation, both corner knives ☐1 are raised and the corner cut is made at the beginning and end of the seam. The needle threads are picked up by needle thread catcher ☐2 and cut at the same time.
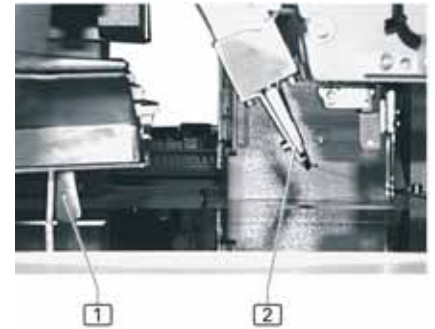

fig. 5

B.2.6

B.2.6 ROLLER AND STACKER

fig. 6: Roller ☐1 has the function of transporting the workpiece from the work surface to the stacker. Stacker ☐2 bundles the processed workpieces so that they fit perfectly on top of each other.
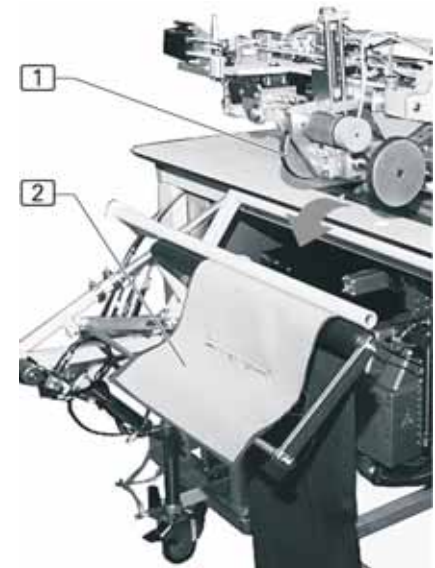

fig. 6

B.2.7

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.

ON/OFF SWITCH VACUUM PUMP

If the machine is equipped with the optional vacuum pump, beneath the main switch an additional on/off switch for vacuum pump ☐3 is installed.

PROGRAM-STOP

All motion and the sewing operation are stopped immediately if the key ☐1 on the operating element is pressed. Alternatively the program-stop function can be activated by pressing the left, black foot switch ☐5 .

FOOT SWITCH MACHINE OPERATION SEQUENCE

The sewing operation is controlled step by step by operating the right foot switch ☐4 .

FOOT SWITCH STACKER

If foot switch ☐6 is pressed down, the stacker clamp opens. The workpieces can be removed. If the foot is removed from the switch, the clamp closes again.

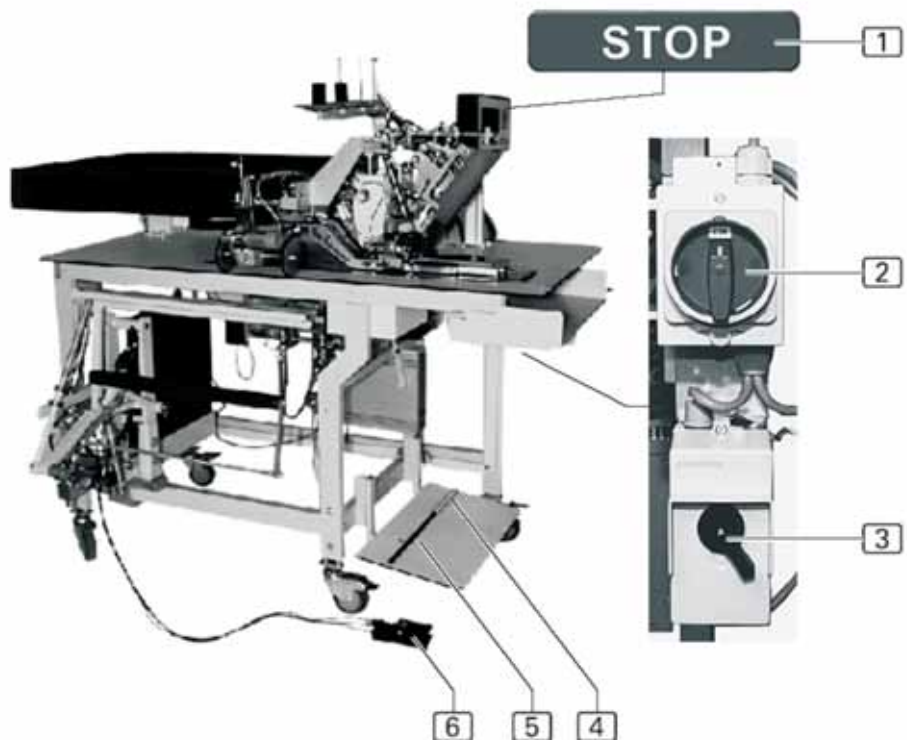
fig. 7

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:

fig. 8

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 t he 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.

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.
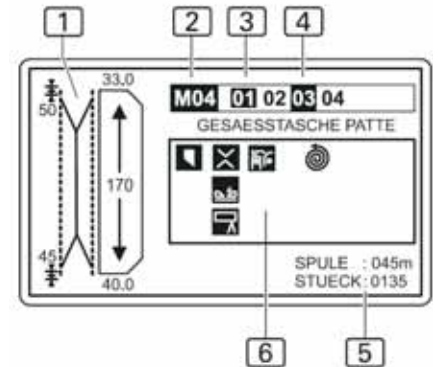

fig. 9

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.

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.

SEAM PROGRAMS PRE-PROGRAMMED BY THE MANUFACTURER:

M 01
Seam 01 Flap pocket right jacket part
Seam 02 Flap pocket left jacket part
Seam 03 Piped pocket right jacket part
Seam 04 Piped pocket left jacket part

M 02
Seam 10 Slanted flap pocket right jacket part
Seam 11 Slanted flap pocket right jacket part
Seam 12 Slanted piped pocket right jacket part
Seam 13 Slanted piped pocket left jacket part

M 03
Seam 20 Inside jacket pocket with vyline length100 mm
Seam 21 Inside jacket pocket with vyline length100 mm
Seam 22 Inside jacket pocket with vyline length150 mm
Seam 23 Inside jacket pocket with vyline length150 mm

M 04
Seam 30 Back pocket back trouser part
Seam 31 Front trouser pocket front trouser part
Seam 32 Back pocket with flap back trouser part
Seam 33 Back pocket with button loop back trouser part

M 05
Seam 40 Pocket with zip
Seam 41 Back pocket with zip

M 07
Seam 14 Welted breast pocket left jacket part

B.3

B.3.1

B.3 BEDIENUNG

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 ± 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. If the machine is equipped with a vacuum system:

   • Switch on the vacuum system supplied by the customer
   or
   • Switch on the optional vacuum pump.

4. 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☐ .
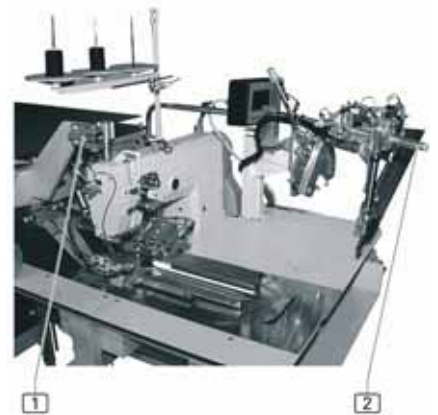

fig. 11

5. Switch on the machine with the main switch. Set the switch at position I.

6. After the machine has been switched on, the control program is loaded. The prompt "WAIT FOR RESET" flashes on the display.

7. Press the Stop key. The prompt "RESET" flashes on the display.

8. 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.

9. To move the clamp back to the corner knife position:

• Press ☐F8☐ key

☞ **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 F1 key

B.3.2

B.3.2 NAHTPROGRAMM AUSWÄHLEN

1. Select the seam program on the control element.

   Call up the Memory store:

- Press [M/C] key

   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 t o 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

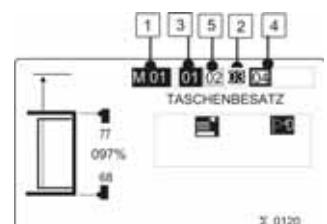fig. 12

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 $\boxed{1}$.
    All motions and the sewing operation are
    stopped immediately.

2. Press the Reset foot switch
    All motions and the sewing operation are
    stopped immediately.

Abb. 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 $\boxed{\text{F8}}$ key

*   Press foot switch Reset

B.3.5

B.3.5 FEED VYLINE (OPTIONAL)

After changing the vyline roll for example, with this function first of all the vyline is
    cut and then fed to the starting position. This function can only be used if the
    vyline mode is activated.

1. Activate the cutting operation and feed function:

*   Press $\boxed{\text{F6}}$ key

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 F8 key

2. Activate needle thread catcher

• Press and hold F5 key

3. Deactivate needle thread catcher again:

• Rlease F5 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 F8 key

2. Change to access level 1:

• Press F1 key

3. Start drive of sewing head for winding:

• Press F7 key

4. Stop winding operation:

• Press F7 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:

Σ–0

•   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.

2. **fig. 14:** Position workpiece ① and align it on the laser markings.

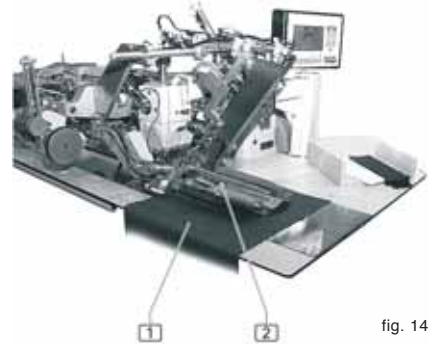3. Press the right foot switch (machine control); clamp ② moves forwards.

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 right 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.
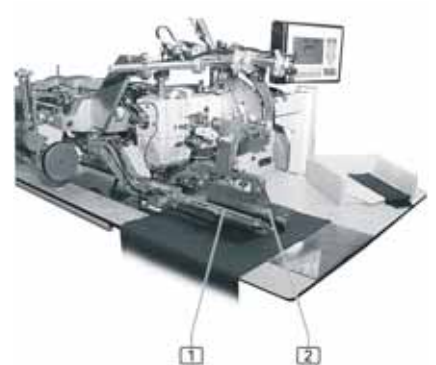
Abb. 16

6. **fig. 17:** Press the right 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)
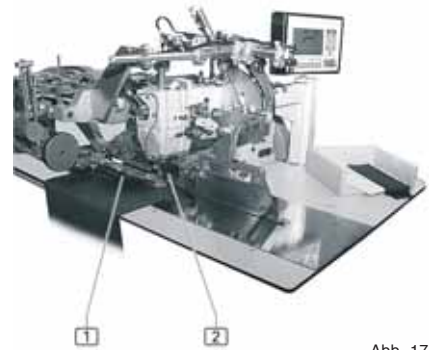
Abb. 17

7. **fig. 18:** The clamp ☐3☐ then transports the sewing piece on to roller ☐2☐, which moves it off the work surface, so that stacker ☐1☐ can take over the workpiece and store it as a bundle.

Abb. 18

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.

Abb. 19

C

Part C Service manual

TABLE OF CONTENTS

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 t he 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.
- Memory chip programmed by the manufacturer with standard sewing programs.

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 ± 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.3.1

C.3 COMMISSIONING

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.

SETTING THE TABLE HEIGHT:

1. **fig. 1:** Raise the machine with lifting apparatus by placing this at the lifting point ☐3☐ (arrow markings) under the cross beam. If the optional transport rollers are attached, release the brake on the rollers before raising.

2. Loosen the fastening screw ☐1☐ and ☐2☐ on each of the table legs.

3. Pull out the table leg ☐4☐ to the required height.

4. Retighten the fastening screw for height adjustment.

Abb. 1

5. Set the machine back onto the ground and check the horizontal alignment on all sides with a spirit level.
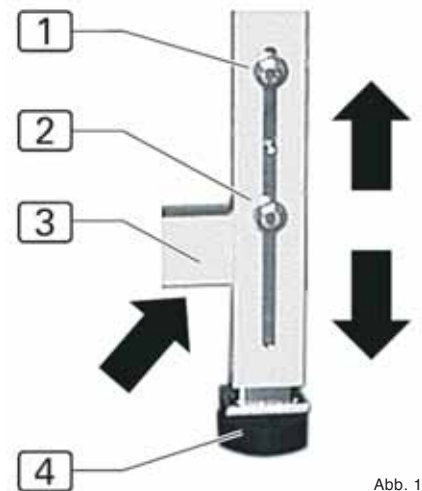
☞ **NOTE – Transportation lock!**
After aligning the machine and before it is connected to the power supply source all transportation locks must be removed.

- 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.

Abb. 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.

☞ **NOTE – Components required!**
The following components must be provided by the customer:

• A vacuum tube with an inner diameter of at least 1 ¼ " or, if necessary, an adapter or reducer for fitting the customer's vacuum tube to the connection muff (outer diameter 1 ¼ ") of the machine's vacuum valve.
• A tube clip with an inner diameter of at least 1 ¼ ".

1. **fig. 3:** Fit customer's vacuum tube ☐2 to the connection muff of vacuum valve ☐1 .

2. Fasten vacuum tube with tube clip ☐3 .

3. Open customer's vacuum source.

fig. 3

C.3.3

C.3.3 LOCK STACKER

fig. 4: Lock the stacker with clamping mechanism ⬚1⬚ on the table stand of the machine and adjust the guard to secure the stacker.

fig. 4

C.3.4

C.3.4 POWER SUPPLY

The machine is connected to a mains voltage of 230 V ± 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. Check, whether the safety bar around the stacker is folded down into the safety position.

2. 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.

3. Check the Program Stop function. Start a machine operating sequence and press the STOP key. The machine operating sequence must be interrupted.

4. 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 7 standard programs. This 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..

fig. 5

☞ **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

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 $\boxed{1}$ as far as possible towards the left end position.
2. Remove cover $\boxed{8}$ of the drive roller. To do so remove the four fastening screws.
3. Slacken the tooth belt by loosening the two screws $\boxed{6}$ and $\boxed{7}$ of the end plate.
4. Loosen the locknuts of both adjusting screws $\boxed{4}$ and $\boxed{5}$ and loosen both screws.
5. Unscrew both screws $\boxed{2}$ and $\boxed{3}$ 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 $\boxed{4}$ and $\boxed{5}$, 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.
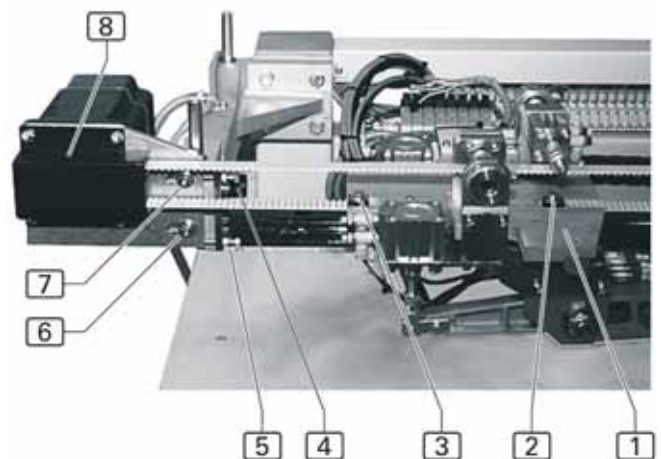
fig. 7

CHANGING THE TOOTHED BELT OF THE SEWING DRIVE:

1. **fig. 8:** Remove belt guard ⑤ with initiator by removing both screws ② .
2. Remove the four screws ④ of the motor and if necessary slightly push up drive roller ③ . Remove t he toothed belt.
3. First place the exchange belt in the top roller of the sewing drive.
4. Turn thread take-up lever ① to the top position and align the notch of the motor drive roll vertically.
5. Place the toothed belt on the drive roller, press the drive roller down to pre-tension the belt and tighten the fastening screws.
6. Screw on belt guard ⑤ .
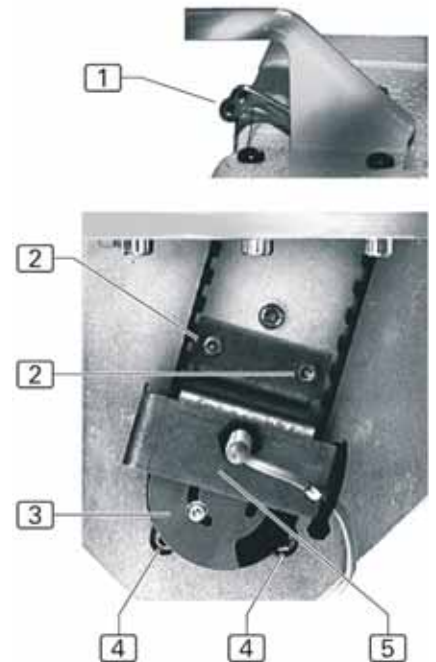
fig. 8

CHANGING THE TOOTHED BELT OF CORNER KNIFE STEP MOTOR:

The corner knife drive is accessible from the rear side of the machine. The toothed belt is screwed to the motor holder. Loosen the pre-tension of the toothed belt.

fig. 9: Remove both fastening screws ② of the belt clamp of the motor holder ① , remove toothed belt ③ from the sliding roller (left side) and the drive roller (right side). The exchange belt is cut to the right length. Place the exchange belt on the sliding roller and drive roller and screw it to the motor holder with the belt clamp. Pre-tension the toothed belt.
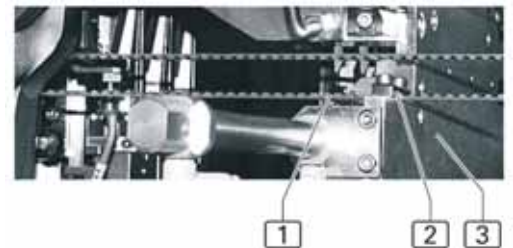
fig. 9

CHANGING THE TOOTHED BELT OF THE ROLLER:

fig. 10: Reduce the pre-tension by loosening screws ③ and ④ .
Raise the suspension of the roller disks and remove toothed belt ② . Place the exchange belt over the left roller disk ① on the drive and sliding roller.
Pre-tension the toothed belt, press down the suspension and tighten both screws.
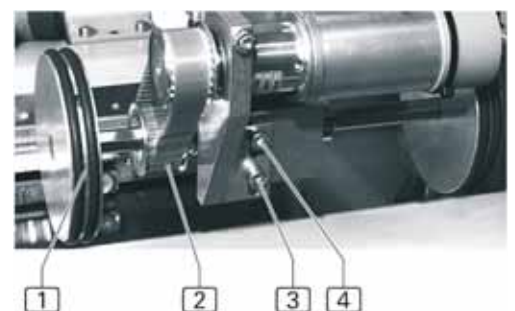
fig. 10

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.
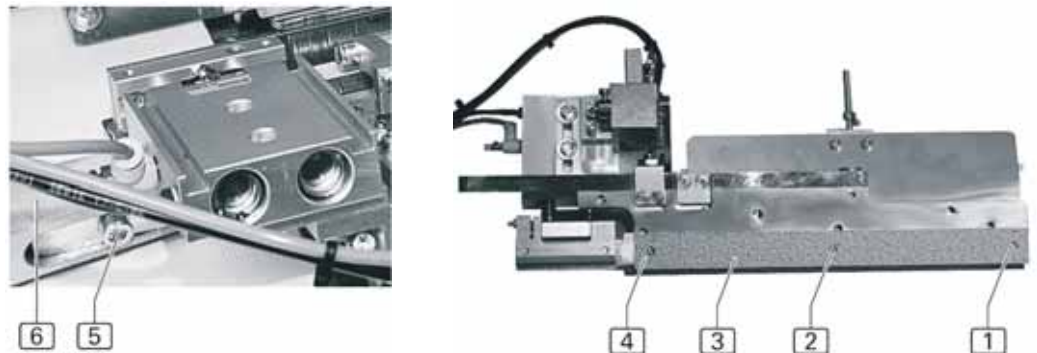
fig. 11

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.
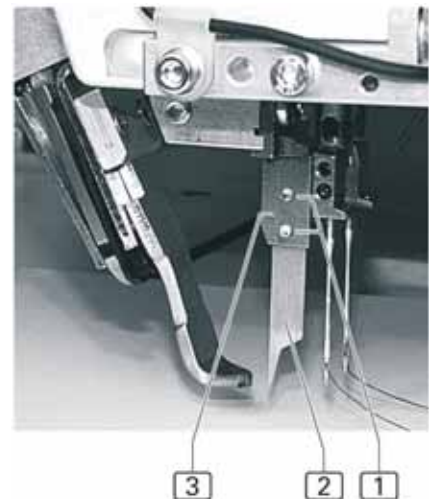
fig. 12

☞ **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.5.8 CHANGING THE CORNER KNIFE

MOTOR-DRIVEN CORNER KNIFE:
The guide pin of the corner knife is fixed in the holder block with a grub screw.
1. Fold down the corner knife device.
2. **fig. 13:** Loosen the grub screw [2] .
3. Pull the corner knife [1] up out of holder block [3] .
4. Insert the exchange knife with the guide pin in the hole in the holder block and fasten it with the grub screw.
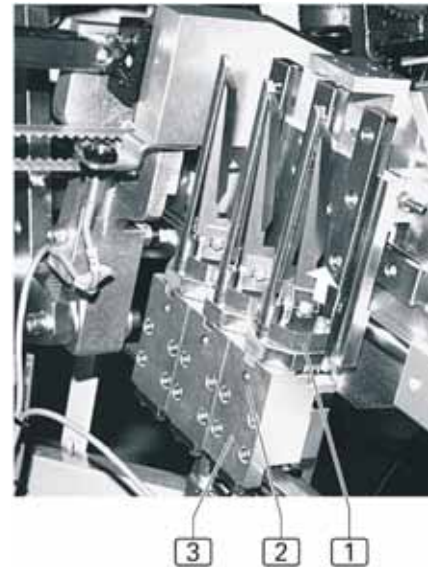
fig. 13

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. If for functional reasons the folder clamp is equipped with two switches, both contact screws must be checked.
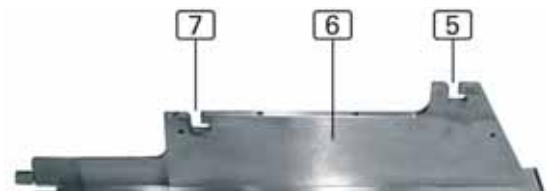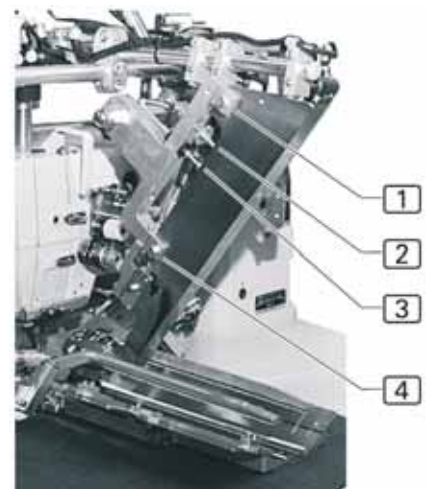
fig. 15

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.   **fig. 16:** In the case of normal material thicknesses the distance A between the inner edges of feed plates ⬚1 and ⬚3 of the clamp and the respective outer edge of the folder base ⬚2 should be 1.5 mm 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 for adjusting the distance are located on the clamp carriage. Adjusting screw ⬚4 for the distance on the right and 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 it, turn clockwise.

SINGLE PIPING STRIP:
1.   Insert the folder for single piping.
2.   Move the clamp to the loading position and switch off the machine.
3.   **fig. 16:** In the case of normal material thicknesses the distance A between the inner edges of feed plates ⬚1 and ⬚3 of the clamp and the respective outer edge of the folder base ⬚2 should be 1.5 mm 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 adjust the distance with an automatic quick clamp adjustment, loosen locknut ⬚6 and turn the adjusting screw ⬚7 . To increase the distance turn anti-clockwise, to reduce it, turn clockwise.
5.   On machines without automatic quick clamp adjustment, the distance on adjusting screw ⬚5 is set for the left distance.
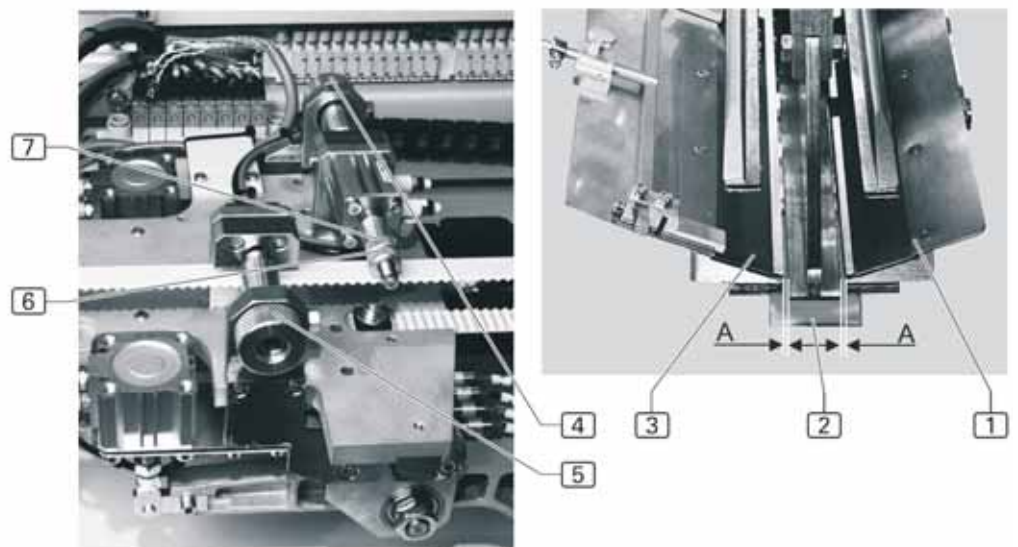
fig. 16

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.

fig. 17

⎡6⎤   ⎡5⎤ ⎡4⎤ ⎡3⎤   ⎡2⎤   ⎡1⎤
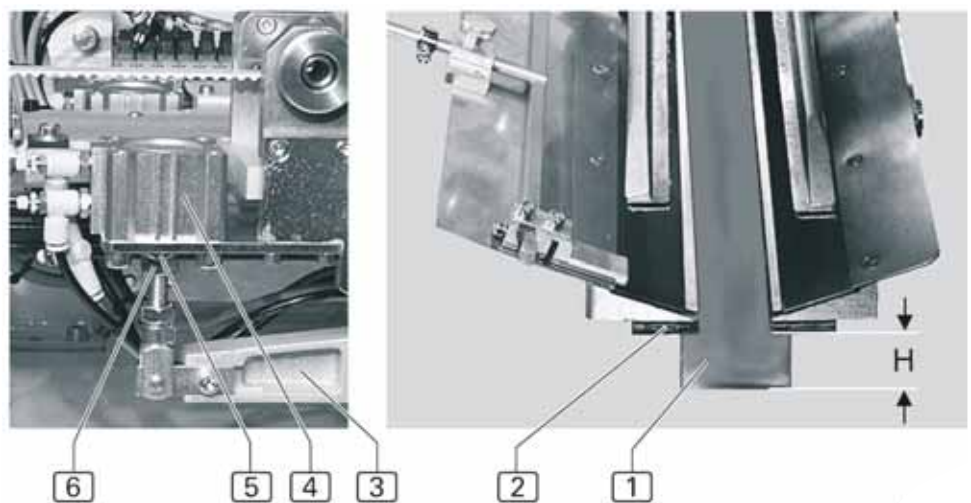
C.6.4

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, program-ming 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 pres-sure 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 in-creased.

⎡2⎤   ⎡1⎤
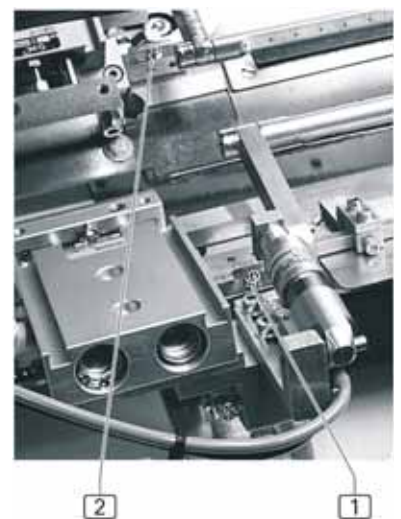
fig. 18

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.
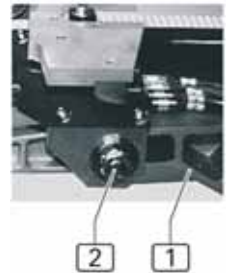
fig. 19

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 ☐3 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.
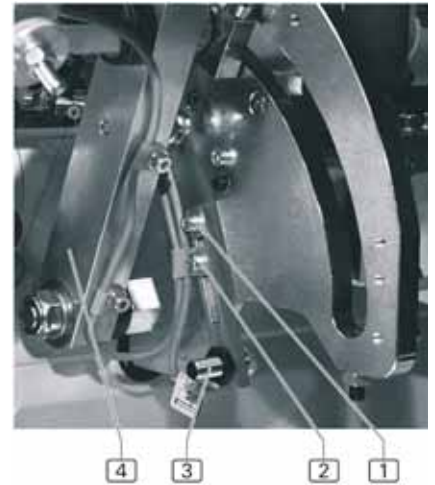
fig. 23

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.
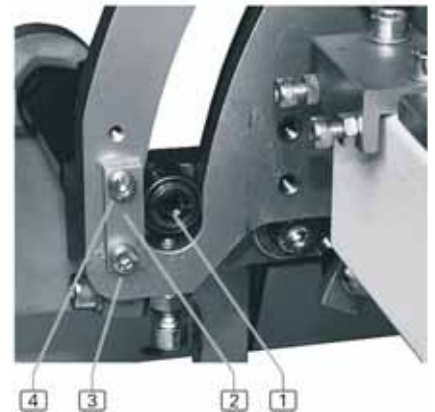
fig. 24

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
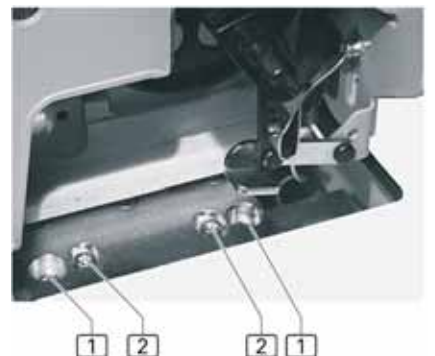
fig. 25

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.

fig. 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.
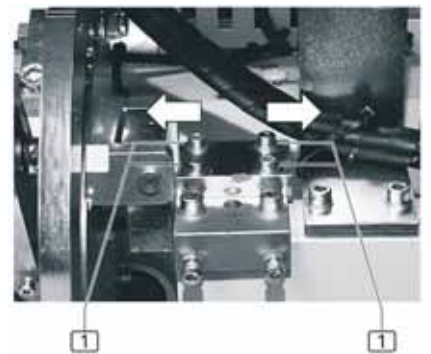
fig. 27

☞ **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.

fig. 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.
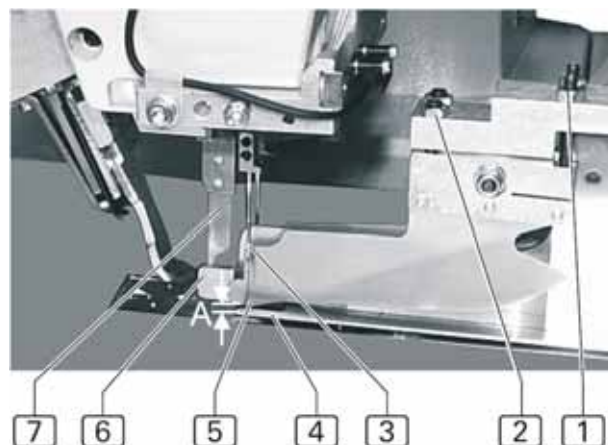
fig. 29

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.
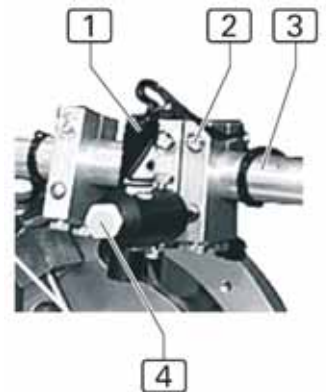
fig. 30

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.
*   L2 must be set at a distance B = 90 mm from L1.
*   The laser lamp L3 for the seam end is positioned at a distance C = 180 mm from L1.
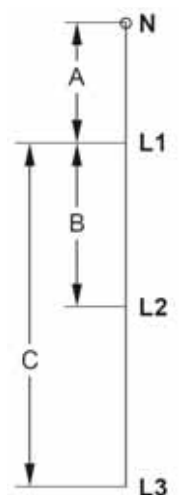
fig. 31

C.6.17

C.6.17 POSITIONING THE DART STRETCHER

In the slide plate there is a recess [4] into which the cylinder is lowered and stopped slightly by rubber stopper [3] .

1. **fig. 32:** The dart stretcher position is preset on guide bar [1] by loosening locking screw [3] and sliding block [2] into position on the guide bar.
2. Retighten locking screw [3] .
3. The position of rubber stopper [5] can be altered by loosening threaded bush [6] and turning it in or out on the cylinder bar.
4. Finally screw   lock the threaded bush on the cylinder bar again

fig. 32

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.
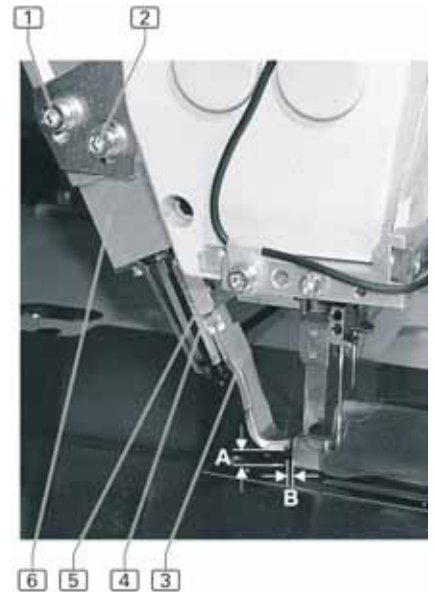
ADJUSTING THE HEIGHT OF THE NEEDLE THREAD CATCHER:
When the thread catcher cylinder ⑥ is extended, there must be a distance A of 3 – 4 mm between the slide plate and the catcher.

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.

fig. 33

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.
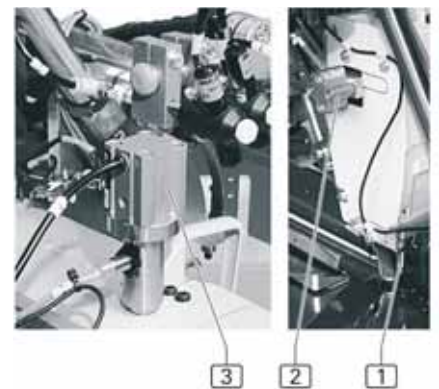
fig. 34

ADJUSTING THE LEVEL OF THE SAFETY INITIATOR:

fig. 35: When the centre knife is switched off, LED S04 on safety initiator 5 must flash. The safety initiator 5 must be positioned at a distance of 0.3 – 0.5 mm from the knife bar.

1. For the adjustment loosen locknut 4 on the safety initiator.
2. Screw the safety initiator into the cylinder post until it touches the centre knife bar.
3. Unscrew the safety initiator by ½ turn again.
4. Retighten the locknut.
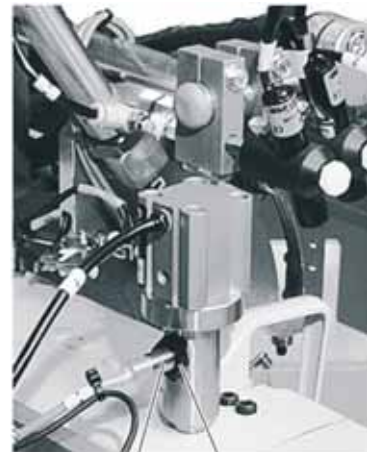
ADJUSTING THE HEIGHT OF THE CENTRE KNIFE:
When it is switched on, in its lowest position the front edge of centre knife 1 must be distance A = 1 mm higher than the upper edge 2 of the needle plate.

1. To adjust the height, loosen both screws 5 and 3 adjust the centre knife on holder
2. Retighten the screws.
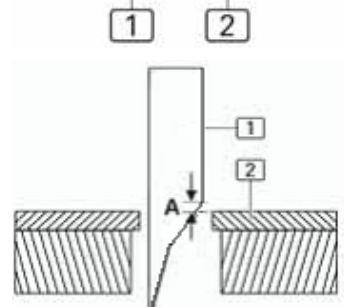
ADJSUTING THE CUTTING ANGLE OF THE CENTRE KNIFE:
The centre knife should slightly cross the stationary knife in the needle plate.

1. Loosen the Allen screw 7 and turn the holding block on the knife bar by approx. 1° - 2°.
2. Retighten the Allen screw.
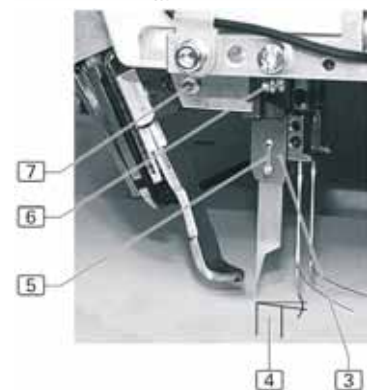
ADJUSTING THE LATERAL POSITION OF THE CENTRE KNIFE:
Laterally the centre knife must be aligned in such a way that the pressure on the stationary knife is kept as low as possible.

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

fig. 35

☞ **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.6.20 ADJUSTNG THE CORNER KNIFE

ADJUSTING THE CUTTING DEPTH OF THE CORNER KNIFE:
fig. 36: At the maximum cutting position the corner knife should be set at a depth A of 15 mm.

1. Loosen locking screw [2].
2. Adjust corner knife [1] to width A.
3. Tighten the locking screw.
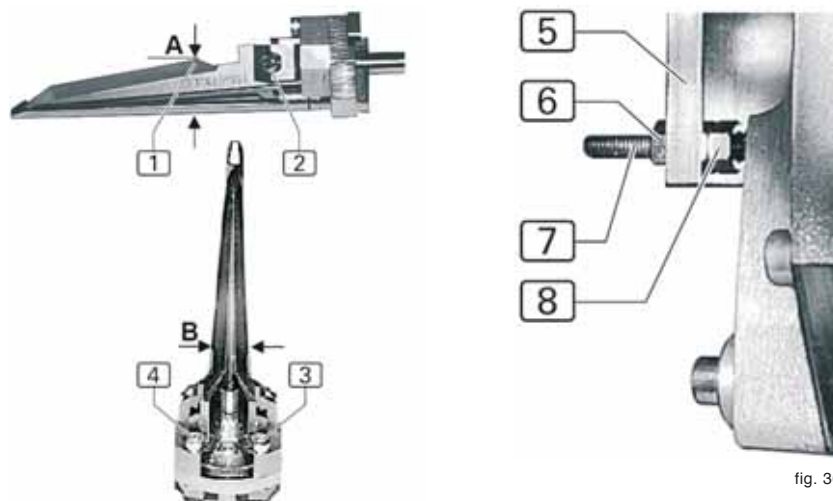
fig. 36

ADJUSTING THE CORNER KNIFE TO SEAM WIDTH:
At the maximum cutting position the corner knife should be set at a cutting width B of 1.5 mm to 1.8 mm less than the seam width.

1. Loosen locking screw [3] and [4] for each knife blade.
2. Move each knive to the right position.
3. Tighten the locking screws.

ADJUSTING THE STOP OF THE CORNER KNIFE DEVICE:
The front corner knife must be positioned at a distance of 150 mm from the needles. This distance is set with the stop.

1. Loosen both nuts [6] and [8] and turn the nuts far enough so that the stop plate [5] can be moved on threaded rod [7].
2. Set the stop plate at a distance of 150 mm.
3. Tighten both nuts to lock the stop plate in position.

C.6.21

C.6.21 CLEANING THE REMAINING THREAD MONITOR

CLEANING THE SENSOR HEAD OF THE REMAINING BOBBIN THREAD MONITOR
The sensor head of the remaining bobbin thread monitor is freed from thread and fluff remnants with compressed air.
fig. 37: After each bobbin change both sensor heads ☐1☐ and ☐2☐ must be cleaned with a soft, dry cloth.

fig. 37

C.6.22

C.6.22 ADJUSTING THE FLAP SCAN

fig. 38: The photocell determines the switch point on the folding slide. The full scanning point ☐4☐ of the photocell must hit the refection sheet when the folding slide is extended. If necessary the position of photocell ☐4☐ on holder ☐3☐ must be altered.

1. Loosen both locking screws ☐1☐ and ☐2☐ and adjust the photocell on the holder.
2. Retighten the locking screws ☐1☐ and ☐2☐ .

fig. 38

C.6.23

C.6.23 ADJUSTING THE VYLINE FLAP DEVICE

STARTING POSITION
fig. 39: The vyline strip [2] must still be visible when the slide plate has been inserted. The positioning of the vyline strip is correct, if the distance A from the front edge of the vyline flap device [1] to the beginning of the strip is 3 mm. The vyline is cut to the right length on the stationary knife [3]. The material allowance of the vyline strip (distance from stationary knife to starting position) is controlled by the feed stroke of the vyline flap device. Adjustments to the vyline flap device and cutting operation are carried out on the bottom side of the vyline plate [4].
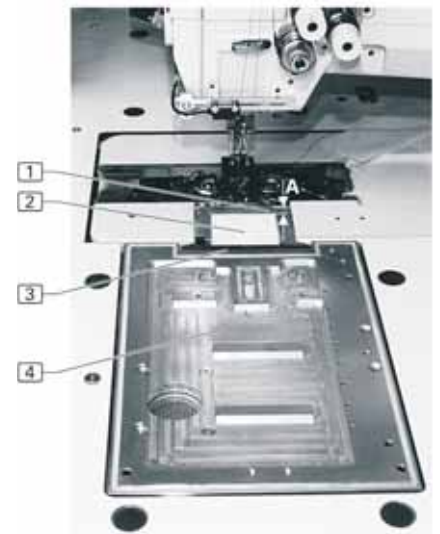
fig. 39

fig. 40: ADJUSTING THE VYLINE FEED STROKE
1.   To adjust the feed mechanism, loosen locking screw [4] on the cylinder.
2.   Adjust rod [3] with the cylinder.
3.   Retighten the locking screw.

C.6.23.1

C.6.23.1 ADJUSTING THE VYLINE FEED ROLLER

fig. 40: The vyline feed roller [5] must turn easily, without frictional resistance.

1.   Loosen one of the two Allen screws [6] and shift the roller slightly.
2.   Check the frictional resistance.
3.   Retighten the Allen screw.

ADJUSTING THE VYLINE FEED STROKE
1.   To adjust the feed mechanism, loosen locking screw [4] on the cylinder.
2.   Adjust rod [3] with the cylinder.
3.   Retighten the locking screw.
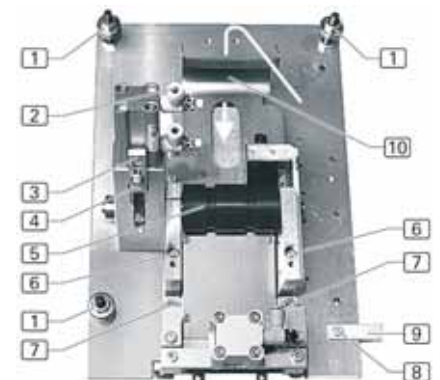
fig. 40

C.6.23.2

C.6.23.2 ADJUSTING THE VYLINE FEED SPEED

The vyline feed stroke and the clamp speed must be synchronous.
The vyline feed speed is adjusted on throttle ☐2 .

1.   Reduce the speed, turn throttle anti-clockwise.

C.6.23.3

C.6.23.3 ADJUSTING THE KNIFE PRESSURE

1.   Loosen both Allen screws ☐7 and adjust the stationary knife (on the upper side of the vyline plate), until the vyline strip is cut neatly.
2.   Tighten both Allen screws.

C.6.23.4

C.6.23.4 ALIGNING THE VYLINE PLATE

The screw fittings of the vyline plate consist of three nuts for adjusting the height and the locknuts for locking the plate at the adjusted height. When the screw fittings are loosened, care must be taken that the vyline plate does not tilt.

1.   Pull the vyline strip out of the flap device..
2.   Loosen the three screw fittings ☐1 of the vyline plate.
3.   Align the vyline plate on the table top by turning the nuts for adjusting the height.
4.   Retighten the locknuts.

C.6.23.5

C.6.23.5 REMOVING THE VYLINE PLATE

1.   To remove the vyline plate, the nuts from the three screw fittings ☐1 must be removed, and the locking screw ☐8 of the table top post must be loosened.
2.   Swing the table top post by 90°.
3.   Lift the vyline plate up out of the table top.

C.6.23.6

C.6.23.6 INSERTING VYLINE STRIPS

The vyline strip is led over the guide bar ☐10 to feed roller ☐5 and then on to the vyline flap device on the top side of the vyline plate..

C.6.24

C.6.24 ADJUSTING THE ROLLER

When the roller is lowered, the play of the collar screw 1 must be 1 mm.

1. **fig. 41:** To adjust the play, loosen the locknut of collar screw ☐1 and adjust the collar screw.
2. Retighten the locknut.
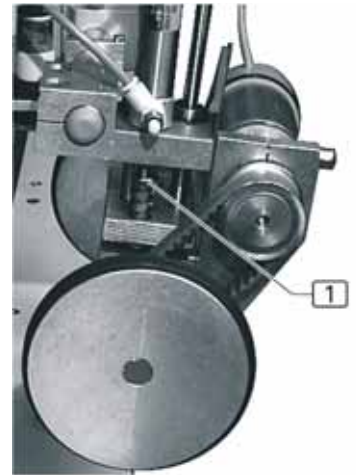
fig. 41

C.6.25

C.6.25 ADJUSTING THE SENSITIVITY OF THE REMAINING BOBBIN THREAD MONITOR

The board 9020054 for controlling the sensitivity setting of the remaining bobbin thread monitor is installed in the top left section of the switch cabinet.

fig. 42: The sensitivity of the remaining bobbin thread monitor is set with the two potentiometers ☐3 (for the right bobbin) and ☐4 (for the left bobbin).

The LED ☐2 shows the switching status of potentiometer ☐3,

the LED ☐1 shows the switching status of potentiometer ☐4.
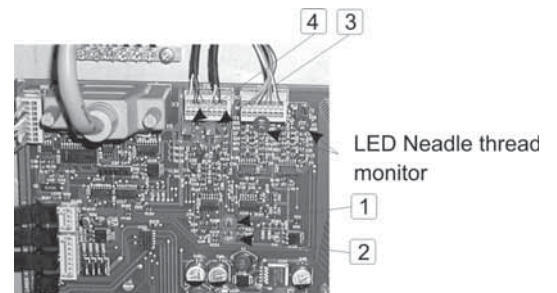
fig. 42

1. Insert a full bobbin in the hook and attach the slide plate.
2. Bring the beginning of the bobbin thread to above the needle plate (thread the needle thread and turn the sewing head once) and pull the thread. During this operation, if the bobbin is not moving, the LED must be dark and must not flash when the bobbin is rotating either.
3. Insert the bobbin with the remaining thread in the hood and attach the slide plate.
4. Bring the beginning of the bobbin thread to above the needle plate (thread the needle thread and turn the sewing head once) and pull the thread. During this operation, if the bobbin is not moving, the LED must be dark and must flash when the bobbin is rotating.
5. To adjust the right bobbin thread monitor turn potentiometer ☐3 until, while the empty bobbin is rotating, the reflection surface is recognized and the LED ☐2 flashes. The thread monitor shows a sensitive reaction if the potentiometer is turned to the right in a clockwise direction.
6. To adjust the left bobbin thread monitor turn potentiometer ☐4 until, while the empty bobbin is rotating, the reflection surface is recognized and the LED ☐1 flashes. The thread monitor shows a sensitive reaction if the potentiometer is turned to the right in a clockwise direction.

C.7

C.7 SPECIFICATIONS

POWER SUPPLY

Voltage	230 V ±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

QUALIY OIL-FREE

Air consumption	16 NL

VACUUM

Min. suction power	144 m3/h

D

Part D Programming manual

TABLE OF CONTENTS

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 interface.

fig. 1

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.2.1

D.2 PROGRAMM CONTROL UNIT

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   Flap pocket right jacket part
Seam 02   Flap pocket left jacket part
Seam 03   Piped pocket right jacket part
Seam 04   Piped pocket left jacket part

M 02
Seam 10   Slanted flap pocket right jacket part
Seam 11   Slanted flap pocket right jacket part
Seam 12   Slanted piped pocket right jacket part
Seam 13   Slanted piped pocket left jacket part

M 03
Seam 20   Inside jacket pocket with vyline length100 mm
Seam 21   Inside jacket pocket with vyline length100 mm
Seam 22   Inside jacket pocket with vyline length150 mm
Seam 23   Inside jacket pocket with vyline length150 mm

M 04
Seam 30   Back pocket back trouser part
Seam 31   Front trouser pocket front trouser part
Seam 32   Back pocket with flap back trouser part
Seam 33   Back pocket with button loop back trouser part

M 05
Seam 40   Pocket with zip
Seam 41   Back pocket with zip

M 07
Seam 14   Welted breast pocket left jacket part

D.2.2

D.2.2 OVERVIEW OF THE MENU LEVEL

```
          STOP
       1   ⌂2   3
      ⇦4   ⤶5   6⇨
       7   ⤓8   9
       P   0   M/C
```

(1) F1: SEAM SEQUENCES
(1) F2: SEAM FUNCTIONS
(1) F3: SEAM PARAMETERS
(1) F4: BASIC PARAMETERS
(1) F5: INIT - PARAMETERS
(1) F6: OTHER

(2) F1: ENTER SEAM NAME
(2) F2: COPY SEAM NUMBERS
(2) F3: MODEL BASIC PARAMETERS
(2) F4: MODEL SEAM PARAMETERS
(2) F5: DELETE SEAM
(2) F6: MACHINE - CHIP

(3) F1: Current seam - chip
(3) F2: Chip – current seam
(3) F3: Machine memory - chip
(3) F4: Chip – machine memory
(3) F5: Format chip
(3) F6:

(2) F1: I/O TEST
(2) F2: DIAGNOSTICS
(2) F3: SERVICE CODE
(2) F4: ADDITIONAL PROGRAMS
(2) F5:
(2) F6:

(3) F1: SERVICE TEST
(3) F2: SEWING MOTOR
(3) F3: CLAMP MOTOR
(3) F4: CORNER KNIFE MOTOR
(3) F5: CENTRE KNIFE MOTOR
(3) F6: ROLLER MOTOR

(4) F1: Memory test
(4) F2: I/O scan
(4) F3: I/O long run test
(4) F4: I/O analog
(4) F5: Other tests
(4) F6:

(4) F1: Start sewing motor
(4) F2: Thread trimmer
(4) F3: Synchronizer
(4) F4: Parameter INT
(4) F5:
(4) F6:

(3) F1: MECHANICS CODE
(3) F2: SYSTEM UPDATE
(3) F3: LANGUAGES
(3) F4: PIECE COUNTER
(3) F5:
(3) F6:

(4) F1: Start clamp motor
(4) F2: Clamp motor long run test

(4) F1: EPROM - CHIP
(4) F2: CHIP - EPROM
(4) F3: TEXTS - CHIP
(4) F4: CHIP - TEXTS
(4) F5: RS 232 – CHIP
(4) F6:

(4) F1: Corner knife long run test

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 initialised 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.

1. F1   Call up access level 2 of the operator menu
2. F2   Corner knife adjustment
3. F3   Set the seam length or flap safety segment
4. F4   Sew over flaps
5. F5   Manual needle thread take-up
6. F6   Feed interface (optional)
7. F7   Not assigned
8. F8   Reset seam program step by step

D.3.1.2

D.3.1.2 CALL UP ACCESS LEVEL 2

•   Press F1 key

D.3.1.3

D.3.1.3 CORNER KNIFE ADJUSTMENT

This function alters the position of the corner knife at the beginning and end of the seam. The pre-set value 50 is a reference value and places the corner knife exactly on the seam.

- If the value is set higher than 50, the corner knife cuts further away from the seam towards the outside.
- If the value is set lower than 50, the corner knife positions inside of the seam.

The conversion unit for increasing/reducing the value is 0.1 mm. If the value 50 is increased by 6 points to 56, the corner knife cuts 0.6 mm further outside the seam. If the value is adjusted to 38, the corner knife cuts 1.2 mm further inside. The maximum value is 99 (50 + 49 = 4.9 mm further outside). The minimum value is 00 (5.0 mm further inside).

1. Set the value at the beginning of the seam:

   • Press F2 key

   The cursor moves to the top input box.

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

   • Press P key

3. Set the value at the end of the seam:

   • Press F2 key twice

   The cursor moves to the bottom input box.

4. Set a two-figure value with the number keys and confirm:

   • Press P key

D.3.1.4

D.3.1.4 SETTING THE SEAM LENGTH OR FLAP SAFETY SEGMENT

This information defines the length of the seam or the flap safety segment and can be set in a range from 40 mm – 180 mm.

NOTE – Special version!
An optional version is available with values in a range from 20 mm – 240 mm. With the 20 mm setting buttonholes can then be piped.

When sewing a pocket opening with flap, the safety segment of the photocell is also determined with this setting. The safety segment works with a tolerance of 10 mm. For example, with the value 140 mm it is possible to sew flap lengths between 130 mm and 150 mm. When sewing flaps, the safety segment can be deactivated by entering the value 999. This makes it possible to sew all flap lengths with one seam program.

1. Set seam length

• Press F3 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 P key

D.3.1.5

D.3.1.5 SEWING OVER FLAPS

On pocket openings with flap this value defines the flap scan by the photocell.
In this way the point of reversal for the seam is determined, and therefore the segment, which is sewn over at the beginning and end of the seam.

- Beginning of seam: The smaller the value set, this is the segment which is oversewn.
- End of seam: The larger the value set, this is the segment which is oversewn.

1. Set value at beginning of seam:

   • Press F4 key
   The cursor moves to the top input box.

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

   • Press P key

3. Set the value at the end of the seam:

   • Press F4 key twice
   The cursor moves to the bottom input box.

4. Set a two-figure value with the number keys and confirm:

   • Press P key

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 F8 key

2. Activate needle thread catcher:

   • Press and hold F5 key

3. Deactivate needle thread catcher again:

   • Release F5 key

D.3.1.7

D.3.1.7 FEED VYLINE (OPTIONAL)

For example, after changing the vyline roll, with this function first the vyline is cut and then the machine moves back to the starting position. This function can only be used if the vyline mode is activated.

1.   Activated cutting operation and feed motion:

• Press F6 key

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 F8 key

D.3.1.9

D.3.1.9 DESCRITION 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
F3 Switch the corner knife on/off
F4 Switch the stacker on/off
F5 Switch the laser markings on off
F6 Reset the daily output counter
F7 Manual winding
F8 Reset the bobbin thread length
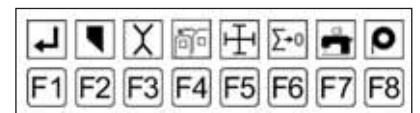
D.3.1.10

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

•   Press F1 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 F2 key

D.3.1.12

D.3.1.12 SWITCHING THE CORNER KNIFE ON/OFF

For the marked seam of the seam program the corner knife can be switched on or off.

1. Switch the corner knife function on/off:

• Press F3 key

D.3.1.13

D.3.1.13 SWITCHING THE STACKER ON/OFF

For the marked seam of the seam program the stacker can be switched on or off. The stacker unit can be swung aside, so that e.g. completed workpieces can be taken from the work table to the container.

1.   Switch the stacker function on/off:

• Press F4 key

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 F5 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:

F1   Laser markings centre knife
F2   Laser markings front positioning point
F3   Laser markings centre positioning point
F4   Laser markings back positioning point
F5 – F8   Customized positioning points (optional)

3. Confirm setting:

• Press ⟨5⟩ 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:

Σ=0

• Press F6 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 F8 key (as often as necessary)

2.   Start sewing head drive for winding:

     • Press F7 key

3. Stop winding process:

     • Press F7 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 F8 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 ⃞P 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 ⃞M/C 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 ⎡P⎤ key

2. Select the SEAM SEQUENCES function:

   • Press ⎡F1⎤ key

3. Position the cursor at this position:

   • Press key ⎡4⎤ or ⎡6⎤

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 ⎡5⎤ key

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

6. Eingabe bestätigen:

   • Press ⎡P⎤ 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 $\boxed{4}$ or $\boxed{6}$

2. Call up the programming menu:

    • Press $\boxed{P}$ key

3. Call up the INIT-PARAMETER function:

    • Press $\boxed{F5}$ key

Programming level 2 is displayed.

4. Call up the COPY FROM SEAM NUMBER function:

    • Press $\boxed{F2}$ 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 $\boxed{P}$ key

2.   Call up the INIT-PARAMETER function:

   • Press $\boxed{F5}$ key

Programming level 2 is displayed.

3.   Call up the DELETE SEAM function:

   • Press $\boxed{F5}$ 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 $\boxed{5}$ 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 $\boxed{P}$ key

2.   Call up the SEAM SEQUENCE function:

   • Press $\boxed{F1}$ key

3.   Set cursor on the seam number to be deactivated:

   • Press key $\boxed{4}$ or $\boxed{6}$

4.   Carry out the function:

   • Press $\boxed{M/C}$ key

5. Confirm function has been carried out:

   • Press $\boxed{P}$ key

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

Reactivating the seam

1.   Call up the programming menu:

   • Press $\boxed{P}$ key

2.   Call up the SEAM SEQUENCE function:

   • Press $\boxed{F1}$ 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 $\boxed{4}$ or $\boxed{6}$

4.   Open input box:

   • Press $\boxed{5}$ key

5.   Enter a two-figure seam number and confirm the input:

   • Press $\boxed{P}$ 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 ⎡P⎤ key

2.   Call up the SEAM FUNCTIONS function:

     • Press ⎡F2⎤ 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 ⟨4⎤ or ⎡6⟩

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

     • Press key ⎡2⎤ or ⎣8⎦

5.   Switch marked seam function on/off:

     • Press ⎣5⎦ 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.

Corner knife:
Cuts the pocket corners. If the centre knife is deactivated, the corner knife is automatically deactivated, too.

Stacker:
Stacks the completed parts automatically.

Vacuum:
Holds the workpiece at the positioning point, until the clamp has closed, and helps to spread the fullness over the workpiece.

Vyline:
Activates the automatic vyline flap device (reinforcement for inner pockets)

Dart stretcher (3rd hand):
Holds one point of the workpiece so that the fullness can be smoothed more easily (e.g. when sewing darts in trouser back parts).

Blowing flap:
The piping is blown at the fold, and as a result straightens up better. This function should be activated when sewing thin materials.

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).

Trapezoidal form left:
Pre-selected seam type. This seam type is only possible with disengagable needles, the left seam is longer than the right one (e.g. jacket, sewing breast pockets).

Straight form:
Seam form. Both seams are the same length, both needles work parallel to each other.

Trapezoidal form right:
Pre-selected seam type. This seam type is only possible with disengagable needles, the left seam is shorter than the right one.

Slanted form left:
Pre-selected seam type. This seam type is only possible with disengagable needles. Both seams are the same length, the right seam is set back compared to the left seam.

Slanted form right:
Pre-selected seam type. This seam type is only possible with disengagable needles. Both seams are the same length, the left seam is set back compared to the right seam.

Scan flap left (photocell left):
Standard equipment. Necesssary for sewing only the left or only the right flap.

Scan flap right (photocell right):
Optional standard equipment, additional photocell.

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.

Cutter for zip (optional):
When sewing a continuous zip, with this function the machine receives the command to stop, so that the zip can be cut.

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 ⌷P⌷ key

2.   Call up the SEAM PARAMETER function:

   • Press ⌷F3⌷ key

The list of the seam parameters is displayed..

3.   Scroll forwards or backwards in the list:

   • Press key⌷4⌷ or ⌷6⌷

4.   Move up or down line by line:

   • Press ⌷2⌷ or ⌷8⌷ key

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

   • Press ⌷5⌷ 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 vyline 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

08   Stitch length seam start [2.5 mm] / (0,5 – 3 mm)
Stitch length at seam start for bartack or condensed stitches

09   Stitch length seam [2.4 mm] / (0.5– 3.5 mm)
Stitch length in seam area

10   **Stitch length seam end [1,5 mm] / (0.5 – 3.0 mm)**
influences bartacks and condensed stitches at end of seam

11   Segment stitch length seam start [1 0 mm] / (0.5 – 99 mm)
Segment with stitch length from parameter 10

12   Segment stitch length seam end [1 0 mm] / (0.5 – 99 mm)
Length of segment with speed from parameter10

13   Tack length seam start [1 0 mm] / (0 – 20 mm)
If this value is set at 0, condensed stitches are sewn automatically

14   Tack length seam end [1 0 mm] / (0 – 20 mm)
If this value is set at 0, condensed stitches are sewn automatically

15   Slant at seam start [3 mm] / (0 – 10 mm)
Slanted seam at beginning of seam (difference left/right needle)

16   Slant at seam end [3 mm] / (0 – 10 mm)
Slanted seam at end of seam (difference left/right needle)

17   Switch on centre knife [18 mm] / (0 – 30 mm)
Depending on seam and knife width, at the beginning of the seam the centre knife should continue cutting approx. 1 mm further than the corner knife

18   Switch off centre knife [0 mm] / (0 – 30 mm)
Depending on seam and knife width, at the end of the seam the centre knife should continue cutting approx. 1 mm further than the corner knife

19   Thread monitor on after [30 mm] / (0 – 99 mm)
Length of segment after which the thread monitor is activated. If the seam is < 30 mm, alter the parameter

20   Thread monitor filter [07] / (0 – 99 mm)
The smaller the number, the more sensitive the reaction of the needle thread monitor, value 99: Thread monitor is deactivated

21   Vyline length at seam start [60 mm] / (0 – 99 mm)
Excess length of vyline at seam start

22   Vyline length at seam end [80 mm] / (0 – 99 mm)
Excess length of vyline at seam end

23   Turning speed roller, duration [0.5 Sek] / (0 – 99 Sek)
Accurate positioning of the workpiece for following stacking

24   Intermediate stop, selection + Pos. [0 cm] / (0 – 48 cm)
Enter the position to which the clamp should move after stacking:
01 cm = clamp is moved to loading station

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

27   Roller speed [99 %] / (10 – 99 %)
By reducing the speed, a more accurate positioning of the workpiece for stacking is achieved

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

 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

 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

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

00   01   02   05   06

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

36   **Reverse feed lock off**
00 Reverse feed lock activated
01 Reverse feed lock off

37   **Folder as dart stretcher [00] / (00 – 01)**
00 Normal loading process activated
01 At the first step on the foot switch, the folder sinks down and holds the workpiece in place; at the next step the clamp moves to the loading position; after the clamps have closed, the folder is raised to enable piping strips to be loaded; only required when sewing trousers and for automatic pocket setter 100-58 without dart stretcher.

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
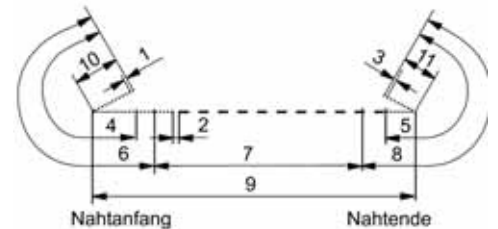
D.3.2.15

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
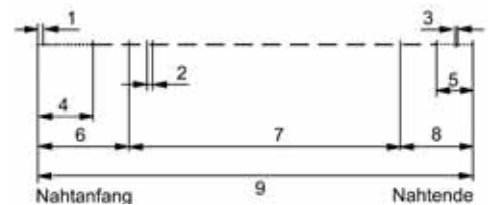
D.3.2.16

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
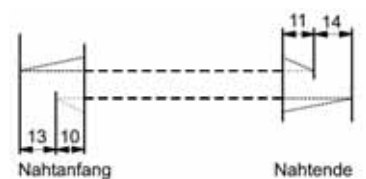
D.3.2.17

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 ⃞P⃞ key

2.   Call up the BASIC PARAMETERS function:

   • Press ⃞F4⃞ key

The list of basic parameters is displayed.

3.   Scroll back or forth in the list:

   • Press key ⃞4⃞ or ⃞6⃞

4.   Move up or down line by line:

   • Press key ⃞2⃞ or ⃞8⃞

5.   Open input box of the selected parameter line:

   • Press ⃞5⃞ 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		set value	
	165 mm		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)

17   Blow piping off [05 mm]
Piping or flap are blown onto the folder to prevent the piping moving; do not set the time too long, or the thread will be blown on to the needle

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

23   Knife cutting - duration [0.5 s]
Influences the zip cutter, so that it cuts through the zip completely, before moving to the end position

24   Movement for cutting [35 %]
Clamp speed (in %), with which the main clamp moves to the corner knives

25   Corner knife distance [036 mm]
Distance between the corner knives

26   Corner knife cutting – duration [02 s]
Cutting duration of the corner knives

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

29 To turn roller [0.1 s]
Time for beginning of turning motion of the roller

30 Roller raised – time [0,5 s]
Holding of the workpiece after rolling, until the stacker has securely taken over the workpiece

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

39 Impulse smoothing device [0.0]
Duration of switch impluse (optional smoothing device for trousers)

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 P key

3.   Select the INIT-PARAMETER function:

• Press F1 key

4.   Call up the MACHINE < - >CHIP function:

• Press F6 key

5.   Call up the FORMAT CHIP function:

• Press F6 key

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

6.   Confirm confirmation enquiry:

• Press 5 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

or

6. Save all seam programs, call up the MACHINE MEMORY - > CHIP function:

    • Press ⌷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 ⎣P⎦ key

3.   Select the INIT-PARAMETER function:

    • Press ⎣F5⎦ key

4.   Call up the MACHINE < - CHIP function:

    • Press ⎣F6⎦ key

5.   Transfer the selected seam shown on the display, call up the CHIP - >

    • Press ⎣F2⎦ key

or

6.   Transfer the complete data of all seam programs, call up the CHIP - > MACHINE MEMORY function:

    • Press ⎣F4⎦ key

7.   Confirm confirmation enquiry:

    • Press ⎣5⎦ 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 ⌞P⌟ key

2. Call up the OTHER function:

    • Press ⌞F6⌟ key

3. Call up the SERVICE CODE function:

    • Press ⌞F3⌟ 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 ⌞P⌟ 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.
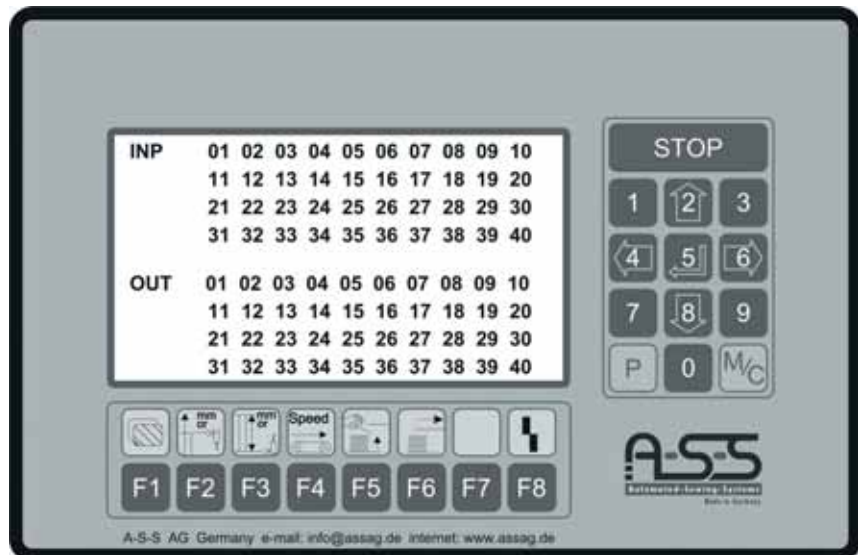
1. Call up the programming menu:

    • Press $\boxed{P}$ key

2. Call up the OTHER function:

    • Press $\boxed{F6}$ key

3. Call up the I/O TEST function:

    • Press $\boxed{F1}$ key

4. Select the number range:

    • Press key $\boxed{8}$ or $\boxed{2}$

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 $\boxed{4}$ or $\boxed{6}$

6. Activate the output:

    • Press $\boxed{5}$ key

The reference number has a black background. The output is activated.

7. Deactivate the output:

    • Press $\boxed{5}$ key

SWITCHING THE OUTPUT INTERMITTENTLY:

1.   Mark the output reference number with the cursor.

       • Press down key $\boxed{5}$ for about 3 seconds

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

2.   Switch off the interval function:

       • Press $\boxed{5}$ key

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

3.   Deactivate the output:

       • Press $\boxed{5}$ key

MARKING OF THE INPUTS

Input number	Switch number	Description		Connection 3202
01	01	Loading station closed	Initiator	X1.9a - 01
02	02	Clamp forwards	Initiator	X1.9a - 02
03	03	Clamp position 2	Initiator	X1.9a - 03
04	04	Centre knife raised	Initiator	X1.9a - 04
05	05			
06	06	Folder raised	Initiator	X1.9a - 06
07	07	Folder lowered	Initiator	X1.9a - 07
08	08	Dart stretcher		X1.9a - 08
09	09	Vacuum on/off		X1.9a - 09
10	10	Needle thread monitor track A Sensor head	Tastkopf	X1.2a -
11	11	Remaining thread monitor Sensor head	Tastkopf	X1.1a -
12	12	Corner knife home position	Initiator	X1.9a - 12
13	13	Corner knife lowered seam start	Initiator	X1.9a - 13
14	14	Corner knife lowered seam end	Initiator	X1.9a - 14
15	15	Flap scan Photocell	Fotozelle	X1.9a - 15
16	16	2. Flap scan Photocell	Fotozelle	X1.9a - 16
17	17	Vyline end Photocell	Fotozelle	X1.13a - 17
18	18	Reverse feed lock Photocell	Fotozelle	X1.13a - 18
20	20	Program forwards		X1.13a - 20
21	21	Program back		X1.13a - 21
	26	Quick clamp adjustment double piping/strip	Initiator	
	27	2. Quick clamp adjustment jacket/ trousers	Initiator	
32	32	Cutter home position (raised)	Initiator	X1.13a - 22
33	33	Cutter cutting position	Initiator	X1.13a - 23
50	50	Close flap stacker plate		X1.13a - 32
51	51	Needle thread monitor tract B Sensor head	Tastkopf	X1.2a -

MARKING OF THE OUTPUTS

Y-No. ASS	Output No.-ASS	Description		Connection 3202
1	1	Thread trimmer		X1.7a - 01
2	2	Needle thread catcher		X1.7a - 02
3	3	Release thread tension		X1.7a - 03
4	4	Centre knife impulse		X1.7a - 04
5	5	Centre knife tappet		X1.7a - 05
6	6	Folder up		X1.7a - 06
7	7	Folder down airless	luftlos	X1.7a - 07
8	8	Dart stretcher		X1.7a - 08
9	9	Vacuum		X1.7a - 09
10	10	Roller down		X1.7a - 10
11	11	Stacker start		X1.7a - 11
12	12	Trouser smoother		X2.8a - 22
13	13	Corner knife raised seam start.		X1.7a - 13
14	14	Corner knife raised seam end		X1.7a - 14
15	15	Cut vyline		X1.7a - 15
16	16	Release vyline		X1.7a - 16
17	17	Feed vyline		X1.11a - 17
18	18	Flap clamp right		X1.11a - 18
19	19	Flap clamp left		X1.11a - 19
20	20	Folding slide right		X1.11a - 20
21	21	Folding slide left		X1.11a - 21
22	22	Main clamp right down airless	luftlos	X1.11a - 22
23	23	Main clamp left down airless	luftlos	X1.11a - 23
24	24	Main clamp up airless	luftlos	X1.11a - 24
25	25	Shift main clamp to side		X1.11a - 25
26	-	First quick clamp adjustment double/strip		X1.13a - 19
27	-	Second quick clamp adjustment jacket/trousers		
28	28	Blow piping		X1.11a - 26
29	02	Blow bobbin thread remnants		X1.07a - 02
30	30	Pull zip (2 cylinders)		X2.8a - 20
31	31	Zip clip (on needle)		X2.8a - 21
32	32	Engage cutter		X2.8a - 18
33	33	Cutter cut		X2.8a - 19
34	34	Corner knife left NE		X1.11a - 27

35	35	Corner knife left NAX1		X1.11a - 28
36	36	Corner knife stop centre		X1.11a - 29
37	37	Disengage needle right	Output	X1.11a - 30
38	38	Disengage needle left airless	luftlos	X1.11a - 31

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 $\boxed{P}$ key

2. Call up the OTHER function:

    • Press $\boxed{F6}$ key

3. Call up the SEWING MOTOR function:

    • Press $\boxed{F2}$ key

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

$\boxed{F1}$ SEWING MOTOR DRIVE
$\boxed{F2}$ TEST THREAD TRIMMER
$\boxed{F3}$ SYNCHRONIZER
$\boxed{F4}$ PARAMETER INIT for testing sewing motor
$\boxed{F5}$ SYNCRONOUS 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 $\boxed{F1}$ key

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

    • Press $\boxed{5}$ key

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

3. End the test:

    • Press $\boxed{P}$ 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

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 ⎡F4⎤ key

2.   Data is transferred automatically:

   • Press ⎣5⎦ key

3.   End the test:

   • Press ⎡P⎤ key

F5 SYNCHRONOUS RUN

D.3.3.3.2

D.3.3.3.2 TEST CLAMP MOTOR LEVEL 3

1.   Call up the programming menu:

   • Press ⎡P⎤ key

2.   Call up the OTHER function:

   • Press ⎡F6⎤ key

3.   Call up the clamp motor function:

   • Press ⎡F3⎤ key

The menu contains two test functions:

⎡F1⎤ ACTIVATE CLAMP MOTOR
⎡F2⎤ 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 ⃞F1⃞ key

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

3. Change the direction of the clamp:

    • Press key ⃞4⃞ or ⃞6⃞

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

5. End the test:

    • Press ⃞P⃞ 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 ⃞F2⃞ key

2. Start the motion of the clamp:

    • Press ⃞5⃞ 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 ⃞P⃞ key

D.3.3.3.3

D.3.3.3.3 CORNER KNIFE MOTOR TEST LEVEL 3 / LONG-RUN TEST

In a long-run test the change of direction between the outer and inner position is tested. Before this test is carried out, the mobile corner knife must be move to its starting position (corner knife on initiator 12).

1. Call up the programming menu:

    • Press $\boxed{P}$ key

2. Call up the OTHER function:

    • Press $\boxed{F6}$ key

3. Call up the CORNER KNIFE MOTOR function::

    • Press $\boxed{F4}$ key

4. Set the corner knife into motion:

    • Press $\boxed{5}$ key

The corner knife then moves at a constant speed to the outside and inside and must always change direction at the same point.

5. Conclude the test:

    • Press $\boxed{P}$ key

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 $\boxed{P}$ key

2. Call up the OTHER function:

    • Press $\boxed{F6}$ key

3. Call up the CENTRE KNIFE MOTOR function:

    • Press $\boxed{F5}$ 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 $\boxed{5}$ key

5. Conclude the test:

    • Press $\boxed{P}$ key

D.3.3.3.5

D.3.3.3.5 ROLLER MOTOR TEST LEVEL 3

Routine for testing the speed and feed power of the roller motor.

1. Call up the programming menu:

    • Press ⌷P⌷ key

2. Call up the OTHER function:

    • Press ⌷F6⌷ key

3. Call up the ROLLER MOTOR function:

    • Press ⌷F6⌷ key

4. Enter a value between 01 ... 99 in the input box and test the turning motion of the roller.

5. Switch off the motor:

    • Press ⌷5⌷ key

5. Conclude the test:

    • Press ⌷P⌷ key

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 activates seam program
Error 04: Wrong clamp	Clamp is not at positioning station	ICheck 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, module 9020038 or module 9020043
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 10: There is a part in it	Reverse feed lock does not become bright	Remove the workpiece from the machine; check photocell 17; renew photocell foil
Error 11: Switch on vacuum first	Vacuum switch S09 not activated (error only in vacuum mode 01)	Press foot switch S09; check S09; change vacuum mode
Error 12: End of vyline	Photocell 17 does not respond	Adjust photocell sensitivity; renew reflection foil, readjust photocell; carry out input test

Error 14: Wrong insertion / seam length	Seam length longer than max. possible seam	Positioning point or seam length not programmed correctly
Error 15: Dart stretcher not raised	Dart stretcher (3rd hand) not in resting position	Check S08 input; check smooth running of cylinder Y08; check air pressure
Error 17: Folder not raised	Folder not or too late in resting position	Check S06 input; check smooth running of cylinder Y06; check air pressure
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 20: Corner knife not in position	Corner knives did not move together	Check initiator S12; check step motor
Error 21: Centre knife not raised	Centre knife not or too late in home position	Check initiator S04; check that mech. parts are running smoothly; check readjustment spring; cutting pressure of centre knife too high
Error 22: Corner knife not lowered in front position	Corner knife at seam end not or too late in home position	Check initiator S14; check cylinder Y14; check that mech. parts are running smoothly; check air pressure
Error 23: Corner knife not lowered in rear position	Corner knife at seam start not or too late in home position	Check initiator S13; check cylinder Y13; check that mech. parts are running smoothly; check air pressure
Error 24: Cutter not raised	Zip cutter not or too late in home position	Check initiator S32; check cylinder Y32; check that mech. parts are running smoothly; check air pressure

Error 25: Cutter not lowered	Zip cutter not or too late in cutting	I Check initiator S33; check cylinder Y33; check that mech. parts are running smoothly; check air pressure
Error 29: No impulses from sewing motor	Sewing motor does not start	Check sewing motor and synchronisation; check connection board 9020038 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 Efka initiator; check sewing motor control unit
Error 33: Sewing motor does not stop	Sewing motor does not stop in position	Reduce speed thread trimmer; check Efka initiator; 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 36: Bobbin empty	Set bobbin thread length	Press 5<ENT> key; define bobbin thread length with basic parameter 05
Error 37: Bobbin only with thread rest	No sewing thread on the bobbin	Change bobbin; clean sensor head on hook; readjust poti. on board 9020039

Error 41: No flap	Flap scan not activated	Insert flap; readjust photocell; renew photocell foil
Error 42: Photocell not bright	Flap scan not deactivated	Set longer safety length; position flap further in; check photocell 15
Error 43: Photocell bright too soon I	Flap scan deactivated too soon	Set shorter safety length; check photocell 15; change photocell foil
Error 44: Photocell dark too soon	PFlap scan activated too soon	Adjust front positioning point; position flap further in; change photocell foil, check photocell 15
Error 49: Error AT I/O	Communication error	Hardware error; transfer error
Error 54: Station not locked	Loading station not closed	Check initiator S01; close loading station