

PFAFF

1114

Instruction Manual

This instruction manual applies to machines from the following serial numbers onwards:

6 001 000 →



This Instruction Manual is valid for all models and subclasses listed in the chapter „ Specifications „.



The adjustment manual for the machines can be downloaded free of charge from the internet address

www.pfaff-industrial.com/de/service/download/index.php3.

As an alternative to the internet download the adjustment manual can also be ordered in book form under part no. **296-12-18 617/002**.

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1 Safety

1.01 Directives

This machine is constructed in accordance with the European regulations contained in the conformity and manufacturer's declarations.

In addition to this Instruction Manual, also observe all generally accepted, statutory and other regulations and legal requirements and all valid environmental protection regulations! The regionally valid regulations of the social insurance society for occupational accidents or other supervisory organizations are to be strictly adhered to!

1.02 General notes on safety

- This machine may only be operated by adequately trained operators and only after having completely read and understood the Instruction Manual!
- All Notes on Safety and Instruction Manuals of the motor manufacturer are to be read before operating the machine!
- The danger and safety instructions on the machine itself are to be followed!
- This machine may only be used for the purpose for which it is intended and may not be operated without its safety devices. All safety regulations relevant to its operation are to be adhered to.
- When exchanging sewing tools (e.g. needle, roller presser, needle plate and bobbin), when threading the machine, when leaving the machine unattended and during maintenance work, the machine is to be separated from the power supply by switching off the On/Off switch or by removing the plug from the mains!
- Everyday maintenance work is only to be carried out by appropriately trained personnel!
- Repairs and special maintenance work may only be carried out by qualified service staff or appropriately trained personnel!
- Work on electrical equipment may only be carried out by appropriately trained personnel!
- Work is not permitted on parts and equipment which are connected to the power supply! The only exceptions to this rule are found in the regulations EN 50110.
- Modifications and alterations to the machine may only be carried out under observance of all the relevant safety regulations!
- Only spare parts which have been approved by us are to be used for repairs! We expressly point out that any replacement parts or accessories which are not supplied by us have not been tested and approved by us. The installation and/or use of any such products can lead to negative changes in the structural characteristics of the machine. We are not liable for any damage which may be caused by non-original parts.

1.03

Safety symbols



Danger!
Points to be observed..



Danger of injury for operating and specialist personnel!



Caution

Do not operate without finger guard and safety devices.
Before threading, changing bobbin and needle, cleaning etc. **switch off main switch.**

1.04

Important points for the user

- This Instruction Manual is an integral part of the machine and must be available to the operating personnel at all times.
- The Instruction Manual must be read before operating the machine for the first time.
- The operating and specialist personnel is to be instructed as to the safety equipment of the machine and regarding safe work methods.
- It is the duty of the user to only operate the machine in perfect running order.
- It is the obligation of the user to ensure that none of the safety mechanisms are removed or deactivated.
- It is the obligation of the user to ensure that only authorized persons operate and work on the machine.

Further information can be obtained from your PFAFF agent.

1.05 Operating and specialist personnel

1.05.01 Operating personnel

Operating personnel are persons responsible for the equipping, operating and cleaning of the machine as well as for taking care of problems arising in the sewing area.

The operating personnel is required to observe the following points and must:

- always observe the Notes on Safety in the Instruction Manual!
- never use any working methods which could adversely affect the safety of the machine!
- not wear loose-fitting clothing or jewelery such as chains or rings!
- also ensure that only authorized persons have access to the potentially dangerous area around the machine!
- always immediately report to the person responsible any changes in the machine which may limit its safety!

1.05.02 Specialist personnel

Specialist personnel are persons with a specialist education in the fields of electrics, electronics and mechanics. They are responsible for the lubrication, maintenance, repair and adjustment of the machine.

The specialist personnel is obliged to observe the following points and must:

- always observe the Notes on Safety in the Instruction Manual!
- switch off the On/Off switch before carrying out adjustments or repairs, and ensure that it cannot be switched on again unintentionally!
- wait until the luminous diode on the control box is no longer blinking or on before beginning adjustment or repair work.
- never work on parts which are still connected to the power supply! Exceptions are explained in the regulations EN 50110.
- replace the protective coverings and close the electrical control box after all repairs or maintenance work!

1.06

Danger



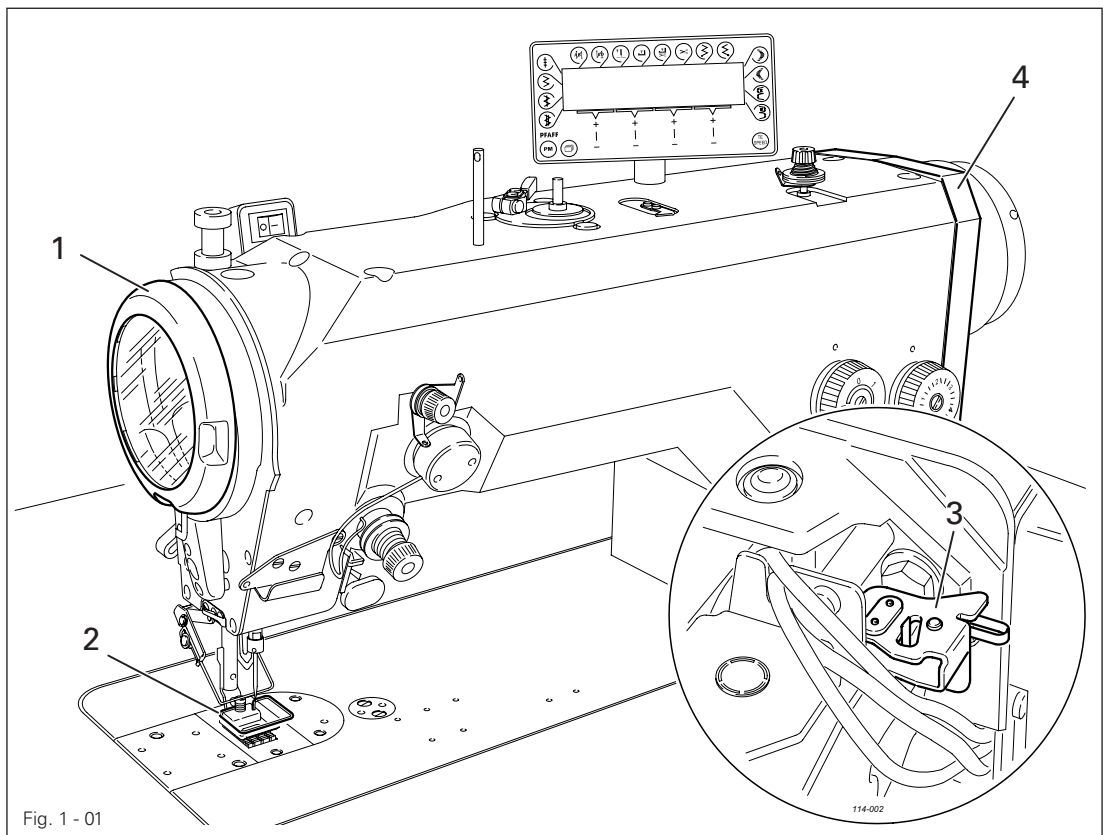
A working area of 1 meter is to be kept free both in front of and behind the machine while it is in operation so that it is always easily accessible.



Never reach into the sewing area while sewing!
Danger of injury by the needle!



Never leave objects on the table while adjusting the machine settings! Objects can become trapped or be slung away! Danger of injury!



Only operate the machine with cover 1 closed!
Danger of injury from the rotating take-up lever!



Do not operate the machine without the finger guard 2!
Danger of injury by the needle!



Do not operate the machine without start inhibitor 3!
Danger of injury if the machine is started accidentally!



Do not operate the machine without cover 4!
Danger of injury from moving parts!

2

Proper use

The PFAFF 1114 is a high-speed, zigzag sewing machine with bottom feed and a large hook.

The machine is used for producing zigzag lockstitch seams in the clothing and linen industry.



Any and all uses of this machine which have not been approved of by the manufacturer are considered to be inappropriate! The manufacturer cannot be held liable for any damage caused by the inappropriate use of the machine!
The appropriate use of the machine includes the observance of all operational, adjustment, maintenance and repair measures required by the manufacturer!

Specifications

3 Specifications

3.01 General specifications ▲

Stitch type: 301 / 304 (zigzag lockstitch)

Needle system: DP x 5

Needle size in 1/100 mm

Version A: 60 - 70

Version B: 80 - 100

Presser foot clearance

with hand lever: 5.5 mm

with automatic presser foot lift: 6.0 mm

with knee lever: 10.0 mm

Clearance width: 300 mm

Clearance height: 125 mm

Bedplate dimensions: 517 x 178 mm

Sewing head dimensions:

Length: ca. 595 mm

Width: ca. 230 mm

Height (above table): ca. 335 mm

Max. stitch length: 5.0 mm

Max. speed: 5000 spm♦

Max. zigzag stitch width: 8.0 mm

Connection data:

Operating voltage: 230 V, ± 10%, 50/60 Hz

Max. power consumption: 1.3 kVA

Fuse protection: 1 x 16 A, inert

Noise data:

Noise emission level at workplace with a sewing speed of 4000 spm: $L_{pA} < 81,0 \text{ dB(A)}^{\blacksquare}$

(Noise measurement in accordance with DIN 45 635-48-A-1, ISO 11204, ISO 3744, ISO 4871)

Net weight of sewing head: ca. 53 kg

Gross weight of sewing head: ca. 62 kg

▲ Subject to alterations

♦ Depending on the zigzag stitch, the maximum speed is reduced automatically within the pre-set maximum range.

■ $K_{pA} = 2,5 \text{ dB}$

3.02 Versions and subclasses

Versions

A:for sewing fine materials

B: for sewing medium-weight materials

Subclasses

-900/93: Thread trimmer

-909/93: Thread wiper

-910/93:Automatic presser foot lift

-911/93: Backtacking device

4

Disposal of Machine

- Proper disposal of the machine is the responsibility of the customer.
- The materials used for the machine are steel, aluminium, brass and various plastic materials. The electrical equipment comprises plastic materials and copper.
- The machine is to be disposed of according to the locally valid pollution control regulations; if necessary, a specialist is to be commissioned.



Care must be taken that parts soiled with lubricants are disposed of separately according to the locally valid pollution control regulations!

5 Transportation, packing and storage

5.01 Transportation to customer's premises

The machines are delivered completely packed.

5.02 Transportation inside the customer's premises

The manufacturer cannot be made liable for transportation inside the customer's premises nor to other operating locations. It must be ensured that the machines are only transported in an upright position.

5.03 Disposal of packing materials

The packing materials of this machine comprise paper, cardboard and VCE fibre. Proper disposal of the packing material is the responsibility of the customer.

5.04 Storage

If the machine is not in use, it can be stored as it is for a period of up to six months, but it should be protected against dust and moisture.

If the machine is stored for longer periods, the individual parts, especially the surfaces of moving parts, must be protected against corrosion, e.g. by a film of oil.

6 Explanation of symbols

In this instruction manual, work to be carried out or important information is accentuated by symbols. These symbols have the following meanings:



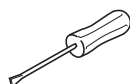
Note, information



Cleaning, care



Lubrication



Maintenance, repairs, adjustment, service work
(only to be carried out by technical staff)

7 Controls

7.01 On/off switch

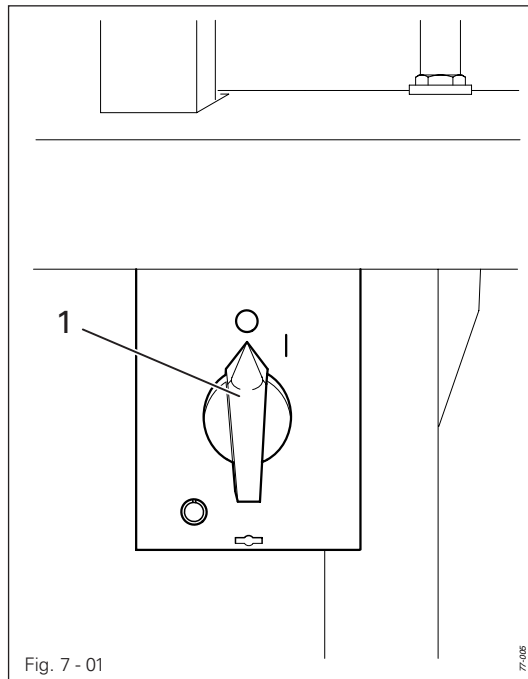


Fig. 7 - 01

77-008

- Switch the machine on or off by turning main switch 1.

7.02 Key on the machine head

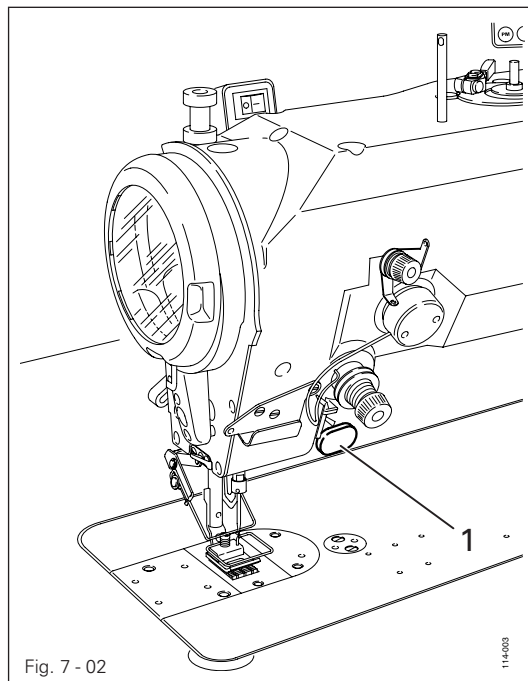
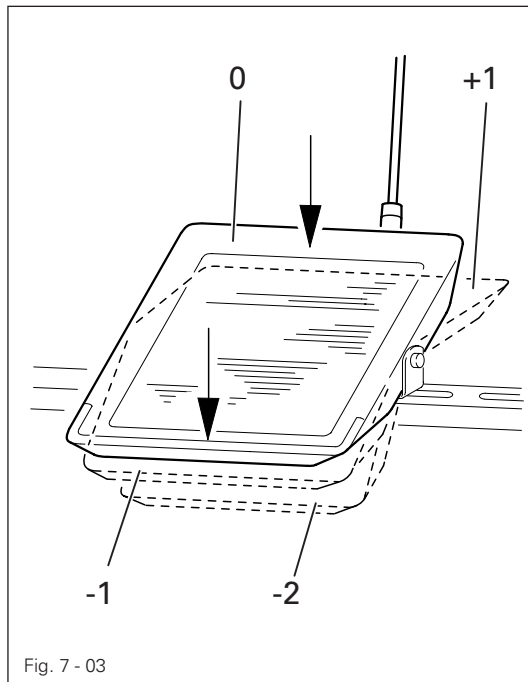


Fig. 7 - 02

114-003

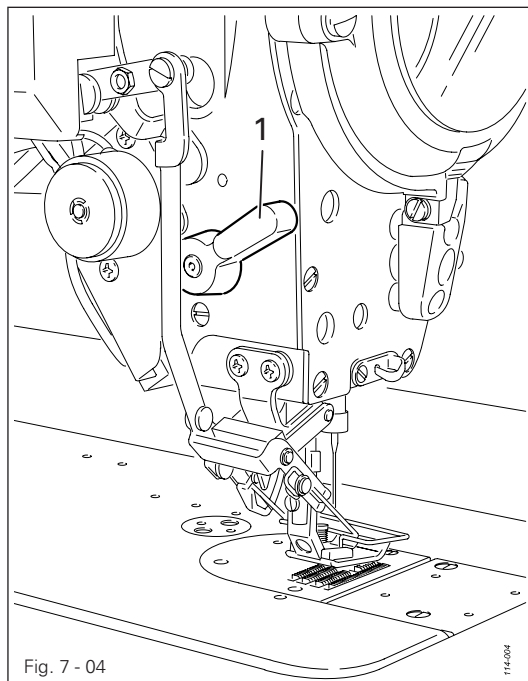
- As long as key 1 is pressed during the sewing operation, the machine sews in reverse.
- When sewing shell stitches or programmed patterns, by pressing key 1 after a machine stop, the pattern is sewn in reverse, see Chapter 10.04 Mirror imaging shell stitches and programmed seam patterns.

7.03 Pedal



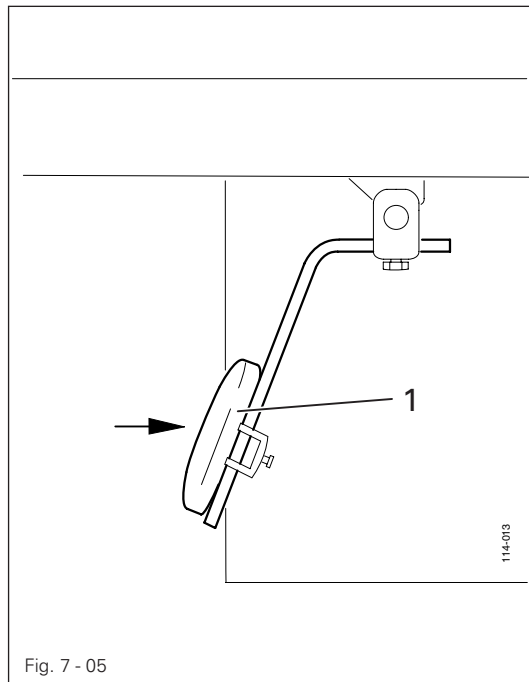
- +1 = Sew
- 0 = Machine stop
- 1 = Raise presser foot (for machines with -910/93)
- 2 = Trim thread (for machines with -900/24)

7.04 Lever for lifting the presser foot



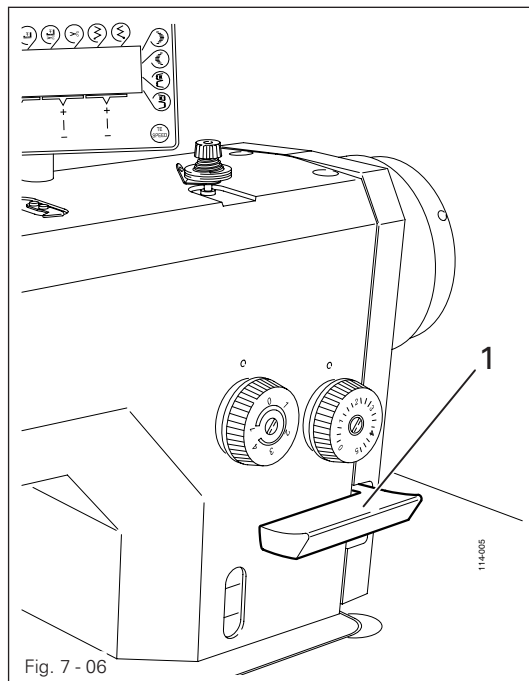
- The presser foot is raised by turning lever 1..

7.05 Knee lever



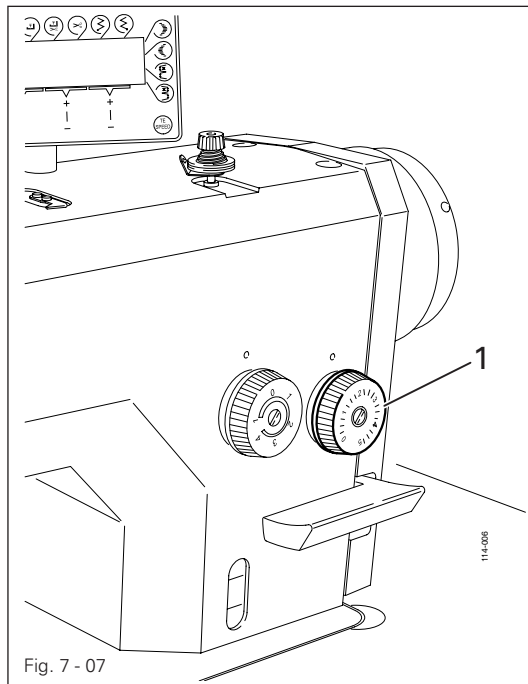
- By pressing the knee lever 1 in the direction of the arrow, the presser foot is raised.

7.06 Reverse feed key



- As long as key 1 is pressed during the sewing operation, the machine sews in reverse.

7.07 Stitch length adjustment wheel

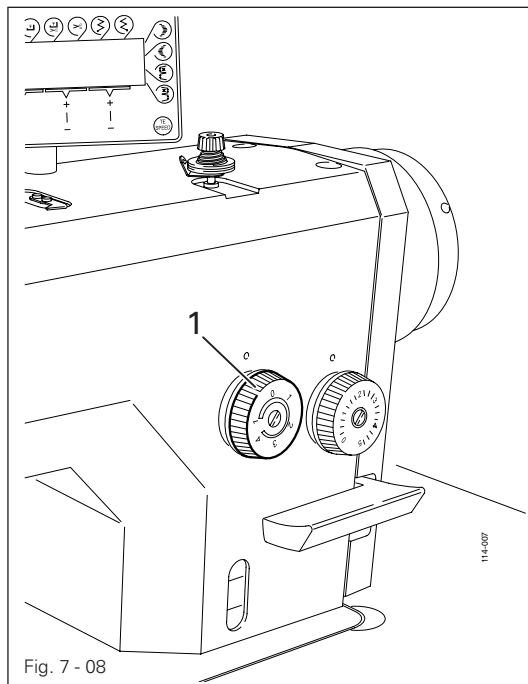


- Set the required stitch length by turning adjustment wheel 1.



The stitch length setting can be read on the scale.

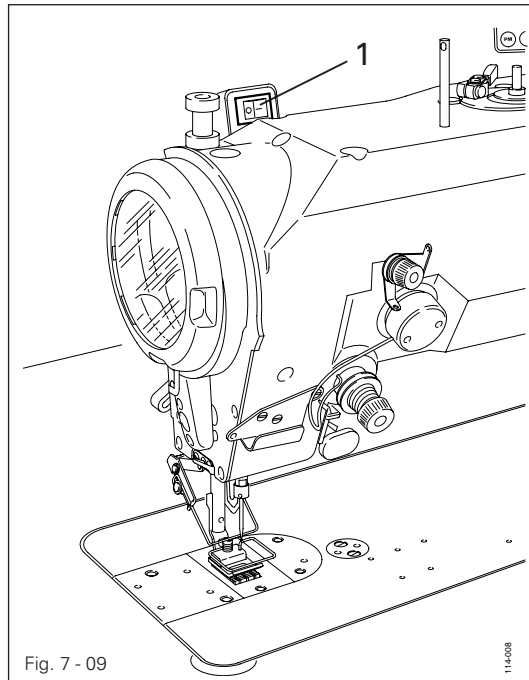
7.08 Adjustment key for limiting the reverse stitch length



- By turning adjustment wheel 1, the stitch length for reverse sewing is limited.

7.09 Thread wiper switch

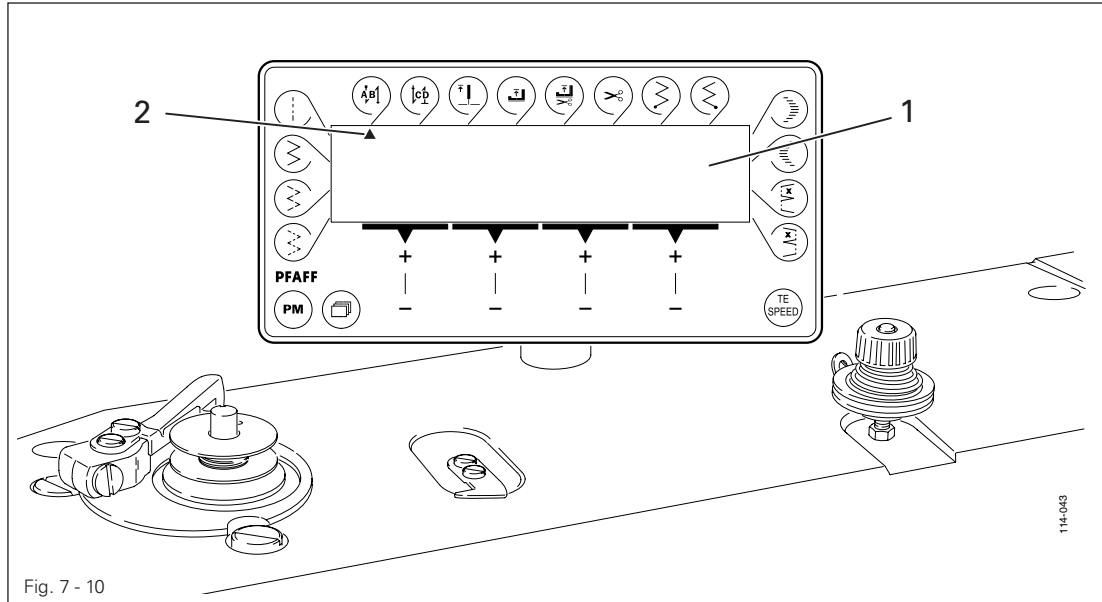
(only on machines with thread wiper -909/93)



- The thread wiper function is switched on or off by pressing switch 1.

7.10 Control panel

The control panel is used to call up machine functions for setting up the machine and for sewing operation, for entering parameter values and for reading error messages and service settings..



The control panel consists of the display **1** and the function keys described below. The display **1** consists of a two-line alphanumerical LCD display with **16** symbols per line. In addition special symbols are displayed which show the respective status of the function keys and the operating status of the machine. Each time a function key is operated, a signal tone is given to confirm the input. If the desired input is invalid, e.g. because the maximum parameter input value has been reached, a double signal tone is given.

7.10.01 Screen displays

- Activated functions are displayed with a triangular marking **2** below or next to the respective function key.
- In the sewing mode all relevant sewing data is displayed and can be changed directly, depending on the status of the machine, see also Chapter **10 Sewing**.
- During the parameter input the selected parameter number with the corresponding value is displayed, see Chapter "10.07 Parameter settings".

7.10.02 Function keys

The function keys described below are used basically to switch machine functions on and off.

If a corresponding value has to be set for the activated function, this is carried out with the corresponding **+/- key**.

By pressing and holding the corresponding **+/- key**, first the numerical value shown above the key is changed slowly to begin with. If the **+/- key** is held down longer, the value changes more quickly.





Start backtacks

- If this key is pressed, the backtack function at the beginning of the seam (start backtacks) is switched on or off. The number of forward stitches (A) or reverse stitches (B) for the start backtacks can be changed respectively by pressing the +/- key underneath. To convert from double backtack to single backtack, reset the number of stitches for the corresponding seam section. It is also possible to select 4 different special backtacks.



End backtacks

- If this key is pressed, the backtack function at the end of the seam (end backtacks) is switched on or off. The number of reverse stitches (C) or forward stitches (D) can be changed respectively by pressing the +/- key underneath. To convert from double backtack to single backtack, reset the number of stitches for the corresponding seam section. It is also possible to select 4 different special backtacks.



Needle position

- If this key is pressed the "needle raised after sewing stop" function is switched on or off. When the function is switched on, the needle positions at t.d.c. after sewing stops.



Foot position after stop

- If this key is pressed the "foot raised after sewing stop" function is switched on or off. When the function is switched on, the presser foot is raised after sewing stops.



Foot position after trimming

- If this key is pressed the "foot raised after thread trimming" function is switched on or off. When the function is switched on, the presser foot is raised after thread trimming.



Thread trimmer

- If this key is pressed the thread trimming function is switched on or off.



Stop at the left needle penetration point

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the machine always positions at the left needle penetration point of the zigzag seam. The function is only carried out when the blind stitch function is switched off.



Stop at the right needle penetration point

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the machine always positions at the right needle penetration point of the zigzag seam. The function is only carried out when the blind stitch function is switched off.



Straight stitch

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the standard "straight stitch" pattern is sewn, see Chapter 10.02.01 Straight stitch.



Single zigzag

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the standard “single zigzag” pattern is sewn, see Chapter 10.02.02 Zigzag stitches.



Two-stitch zigzag

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the standard “two-stitch zigzag” pattern is sewn, see Chapter 10.02.02 Zigzag stitches.



Three-stitch zigzag

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the standard “three-stitch zigzag” pattern is sewn, see Chapter 10.02.02 Zigzag stitches.



Right/left shell stitches

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, it is possible to choose and sew one of 4 patterns, see Chapter 10.02.03 Shell stitches.



Right/left blind stitches

- If this key is pressed, the corresponding function is switched on or off. When the function is switched on, the standard “right blind stitch” or “left blind stitch” pattern is sewn, see Chapter 10.02.04 Blind stitches.



PM

- If this key is pressed, the function for sewing programmed seam patterns is switched on or off. The parameters for the specific program are shown in the alphanumeric section of the display.



Menü

- Press this key to scroll through the input menus.



TE/Speed

- Press this key once in the sewing mode to call up the input menu for the maximum speed. If there is no input within 5 seconds, the sewing mode is called up again.
- Press this key twice (within 5 seconds) in the sewing mode to change to the parameter input function.
- By pressing this key when in the parameter input function, the altered values are stored and the sewing mode is called up.

8 Installation and commissioning

The machine must only be installed and commissioned by qualified personnel!
All relevant safety regulations must be strictly adhered to!



If the machine is delivered without a table, be sure to use a stand and table top that can hold the weight of the machine with its motor.

It is very important to ensure that the stand of the machine is firm and steady, also during sewing.

8.01 Installation

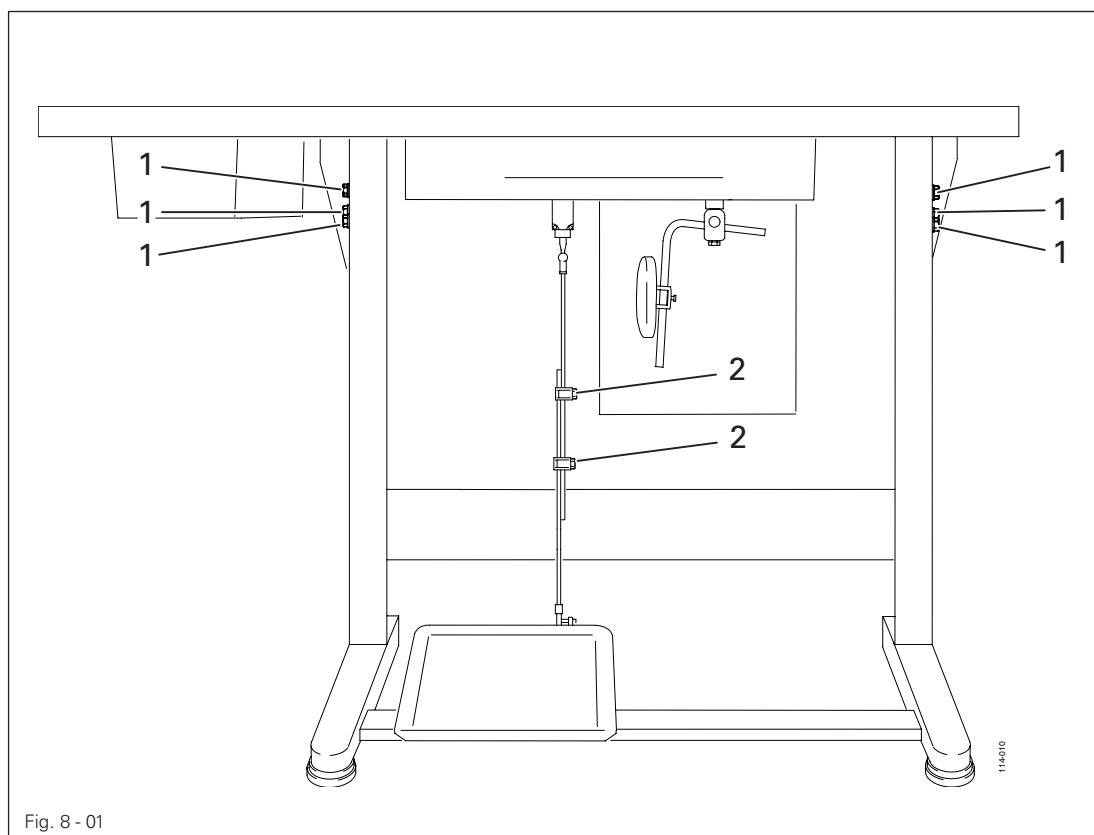
The site where the machine is installed must be provided with suitable connections for the electric current, see Chapter 3 Specifications.

It must also be ensured that the standing surface of the machine site is firm and horizontal, and that sufficient lighting is provided.



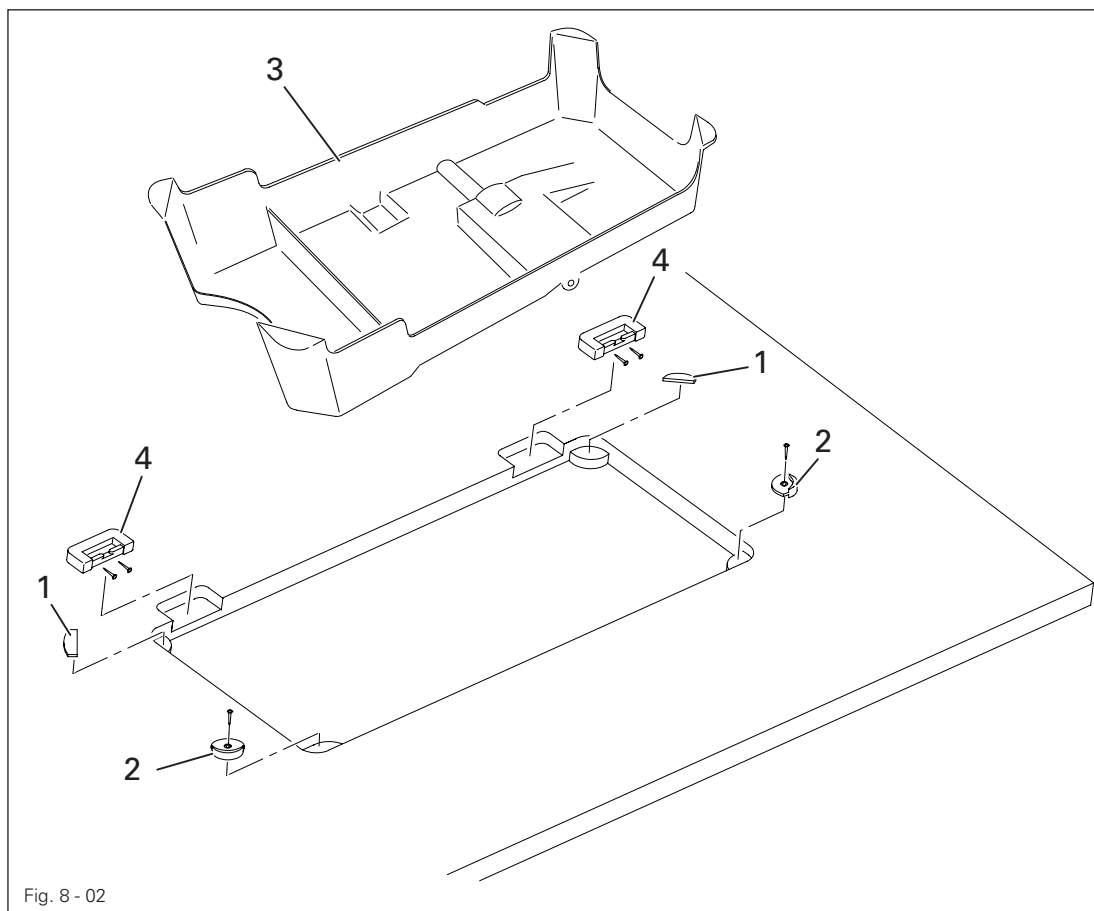
For packing reasons the table top is in the lowered position. The table height is adjusted as described below.

8.01.01 Adjusting the table height



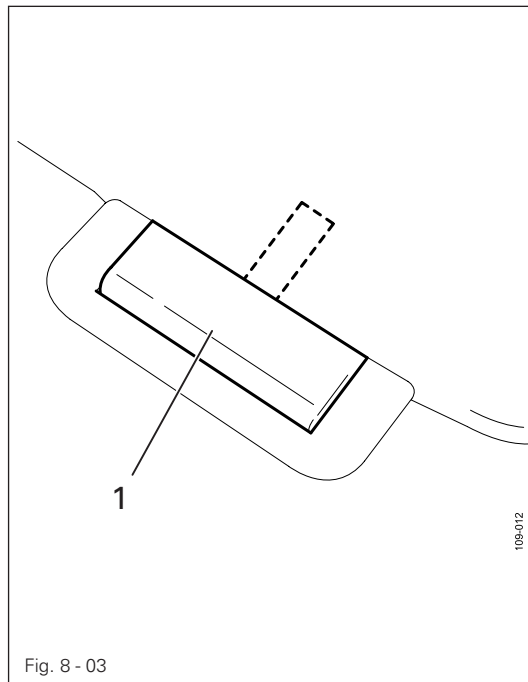
- Loosen screws 1 and 2 and set the table height as required.
- Firmly tighten screw 1.
- Set the required pedal position and tighten screws 2.

8.01.02 Assembling the oil pan



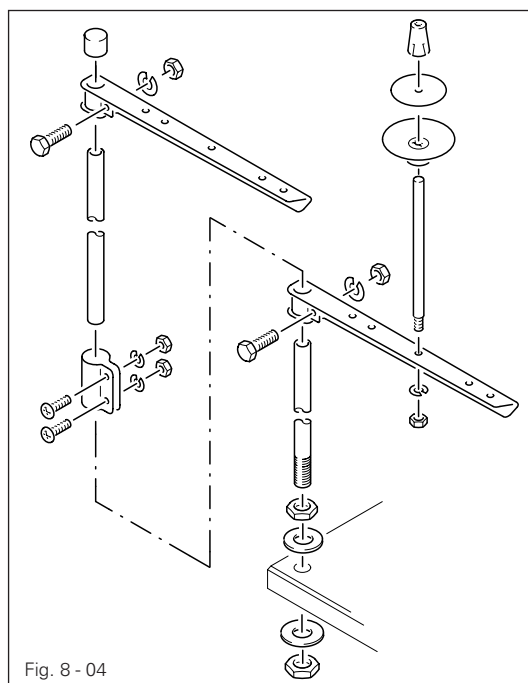
- Insert rubber support 1.
- Insert bearing bushes 2 and fasten with nails.
- Place oil pan 3 in the table-top opening.
- Insert rubber pad 4 and fasten with nails.

8.01.03 Mounting the sewing head



- Place both hinges 1 in the appropriate holes in the bedplate of the sewing head.
- Place the sewing head with hinges 1 into the back rubber pads.

8.01.04 Mounting the spool holder



- Mount the spool holder as shown in Fig. 8-05.
- Insert the spool holder into the hole in the table top and fasten it with the nuts enclosed.

8.01.05 Table top cutout

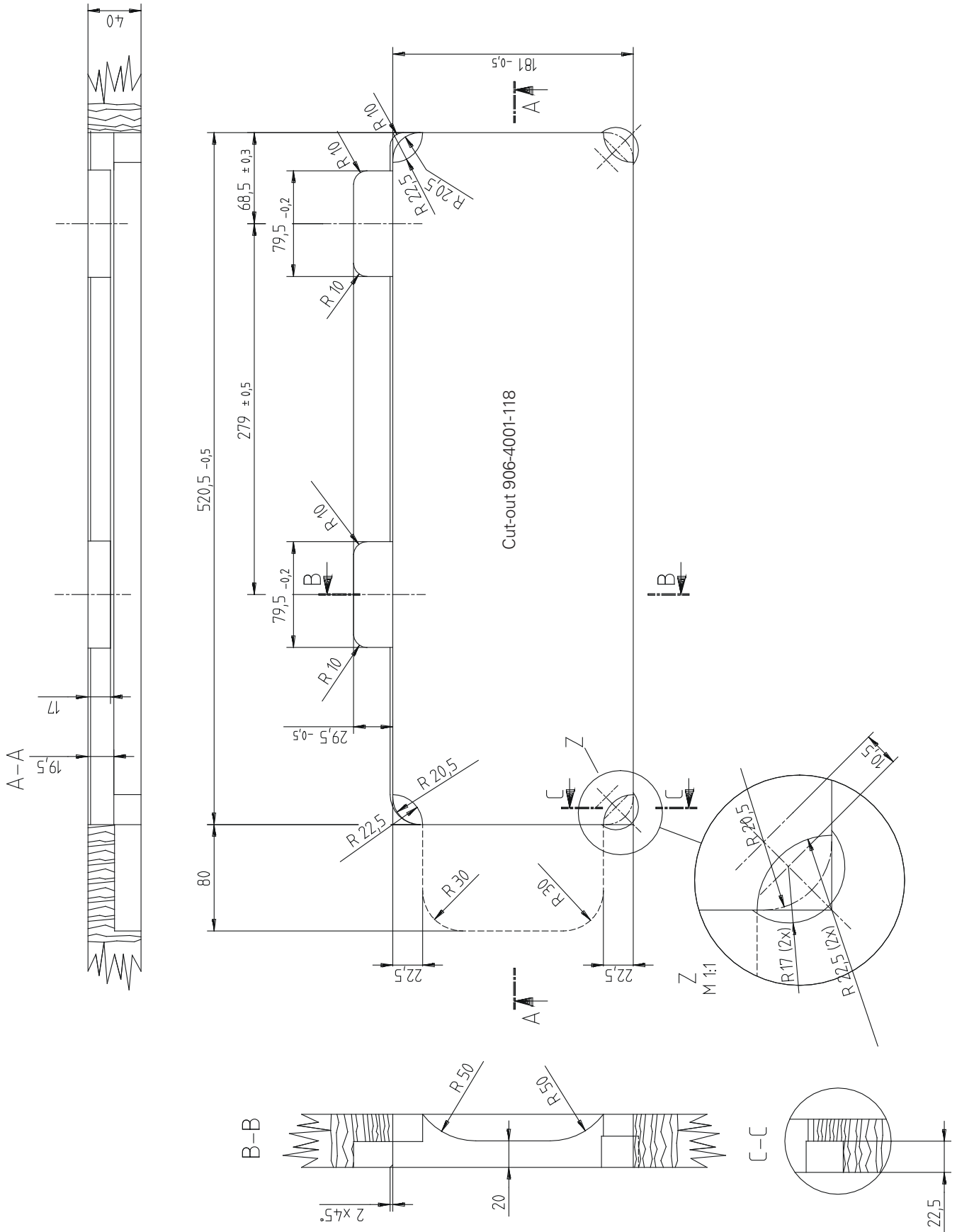


Fig. 8 - 05

8.01.06 Mounting the table top

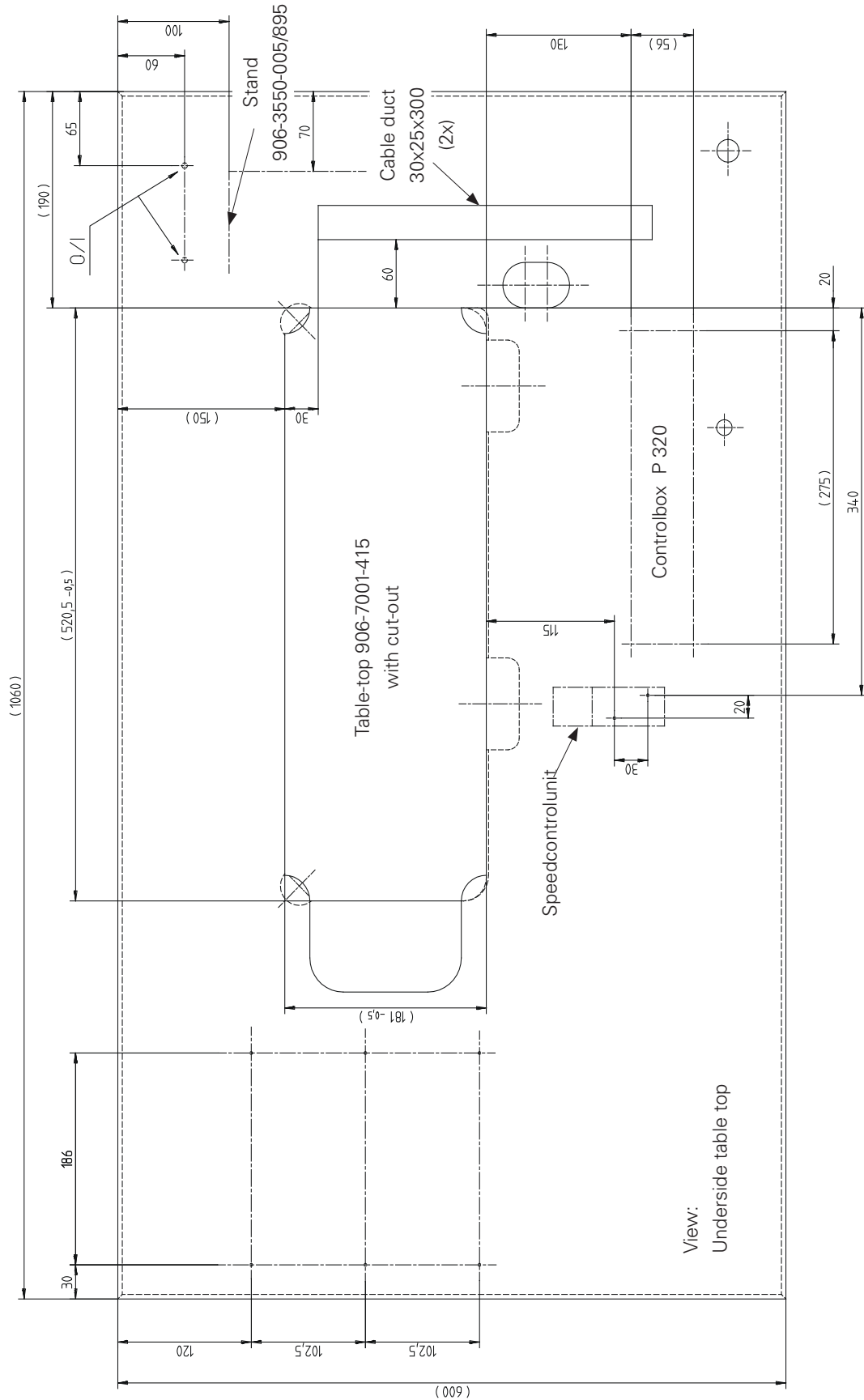


Fig. 8 - 06

8.01.07 Connecting the plug-in connections and earth cables

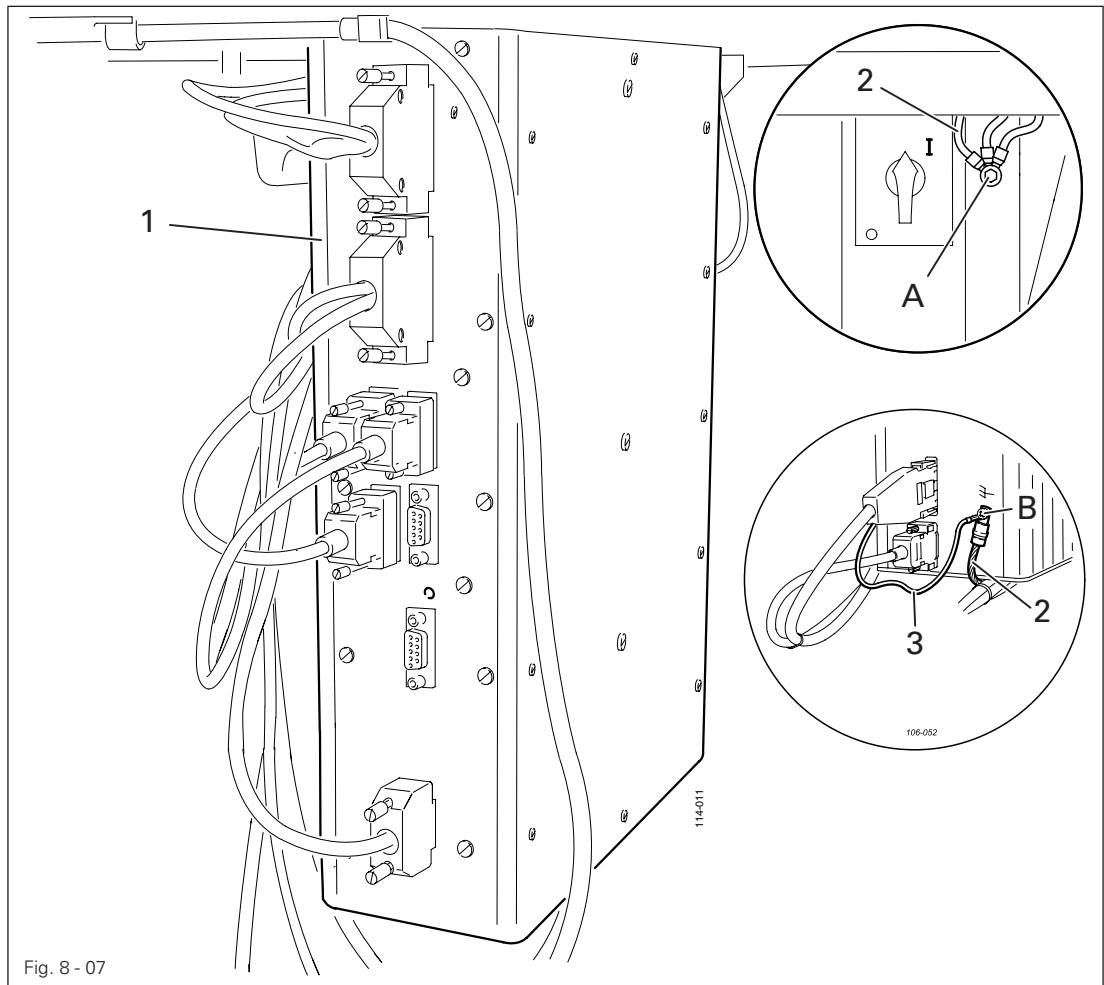
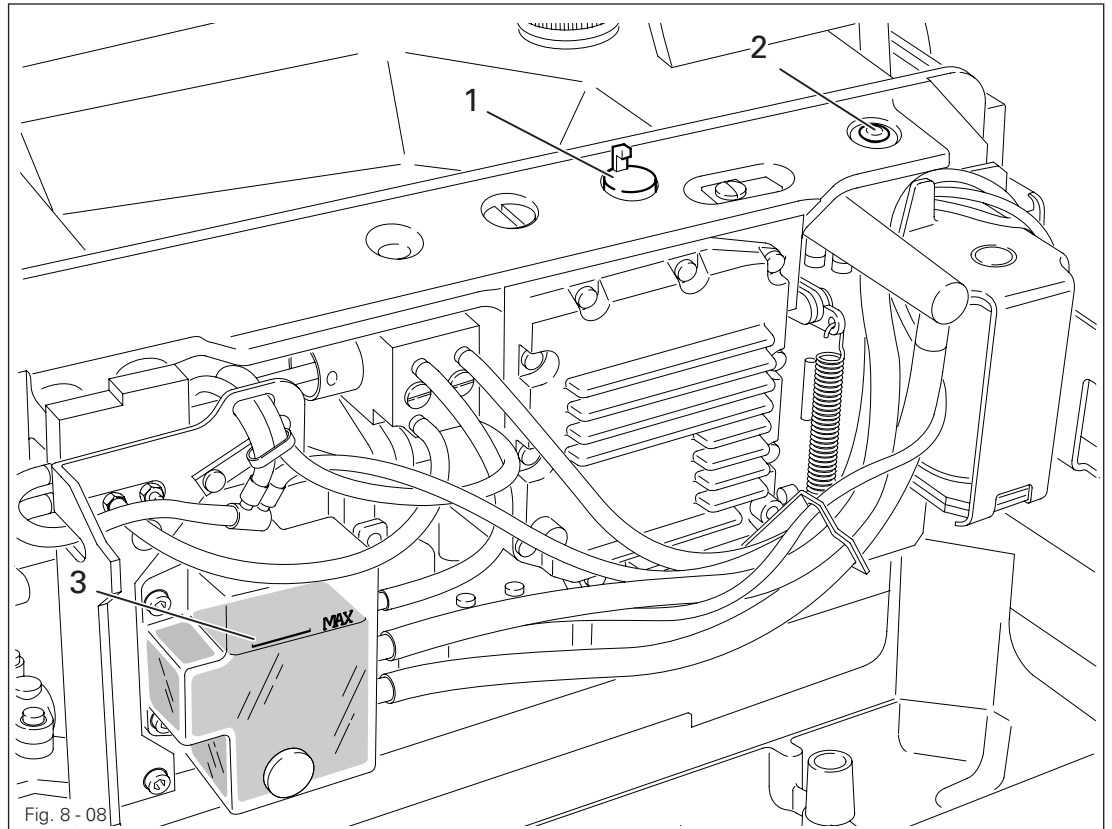


Fig. 8 - 07

- Connect all plugs as labelled to the control box **1**.
- Screw the earth cable from the sewing head and the main switch to earth point **A**.
- Connect earth point **A** to earth point **B** with earth cable **2**.
- Screw the earth cable **3** from the motor to earth point **B**.

8.02 Commissioning

- Check the machine, especially the electrical leads, for any damage.
- Clean the machine thoroughly (see chapter 11 Care and maintenance).
- Have specialists ensure that the machine's motor can be operated with the available electricity supply and that it is connected properly. If not, the machine must not be operated..
- When the machine is running, the balance wheel must turn towards the operator. See Chapter 8.04 Basic position of the machine drive unit.



- Before commissioning the machine, remove cap 1 and plug 2 and fill in oil up to marking 3, see Chapter 11.03 Oiling the machine.
- Close the hole again with plug 2.



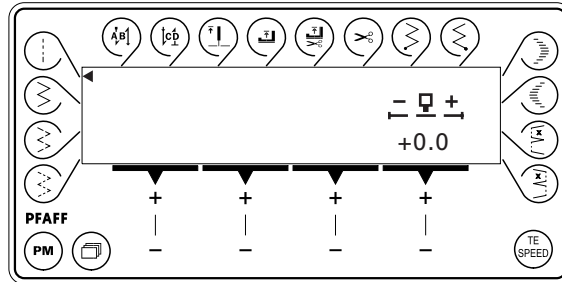
Cap 1 is used as a transport lock and must not be fitted during operation!


8.03 Switching the machine on/off

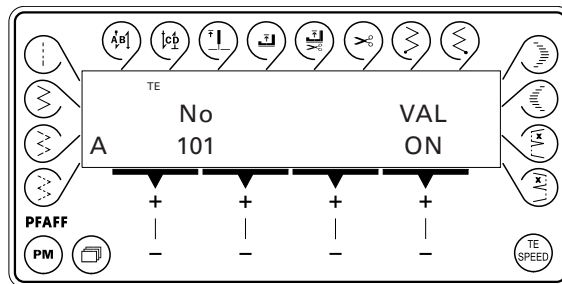
- Switch the machine on (see Chapter 7.01 On/Off switch).
- Carry out a test run.

8.04 Basic position of the machine drive unit

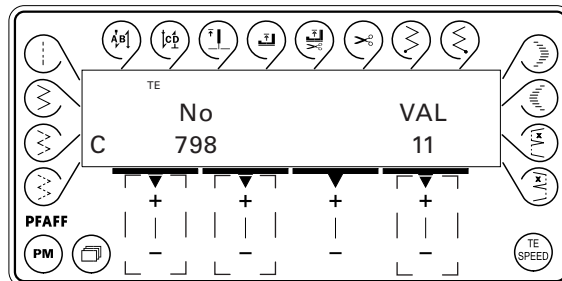
- Switch on the machine.



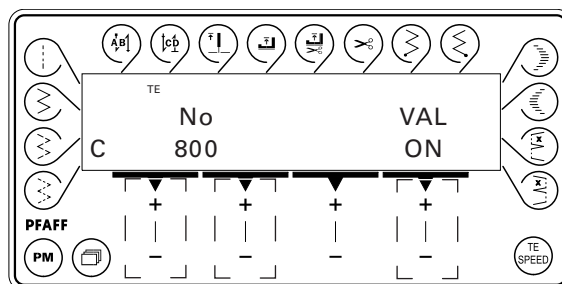
- 2x  ● Press the TE/speed key twice to select the input mode.



- Select parameter "798" by pressing the corresponding +/- key, and select service level C (value "11").

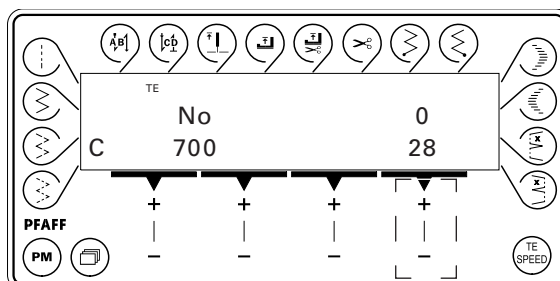


- By pressing the corresponding +/- key, select parameter "800" (rotation direction of the motor).
- By pressing the corresponding +/- key, select "ON" (reverse direction).



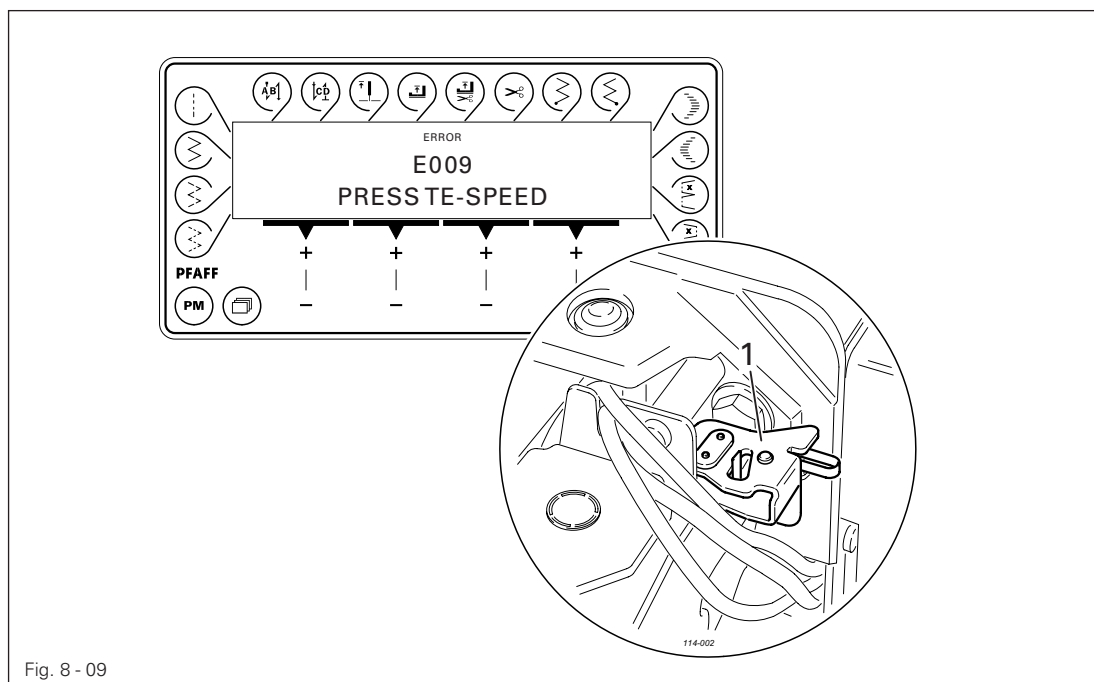


- By pressing the corresponding +/- key, select parameter "700".
- Turn the balance wheel in the sewing direction until the descending needle is level with the top edge of the needle plate.
- By pressing the corresponding ± key, set the top value at "0".



- Conclude the adjustment of the sewing motor by pressing the TE/Speed key.

8.05 Checking the function of the start inhibitor



- Switch the machine on at the main switch and tilt back the sewing head. The error message "E 009" must appear on the control panel.
- If the message does not appear, check the setting of start inhibitor 1.



- Set the sewing head in an upright position again and acknowledge the error signal by pressing the TE/Speed key. The machine is ready for operation again

9

Preparation



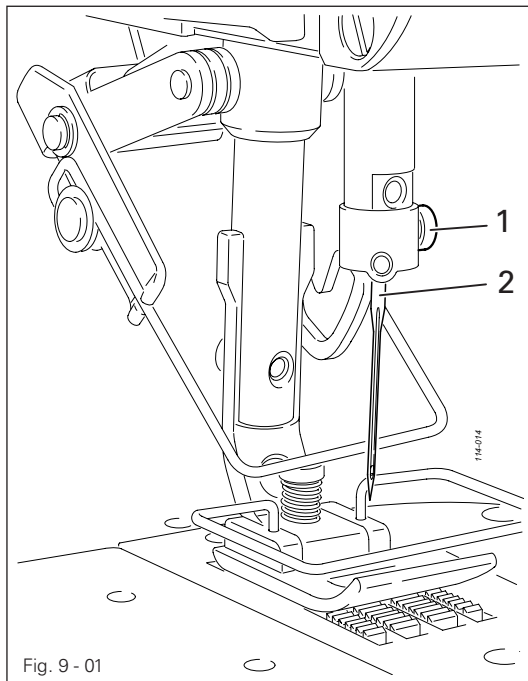
All regulations and instructions in this Instruction Manual are to be observed!
Special attention is to be paid to the safety regulations!



All preparation work is only to be carried out by appropriately trained personnel.
Before all preparation work, the machine is to be separated from the electricity supply by removing the plug from the mains or switching off the On/Off switch!

9.01

Inserting the needle



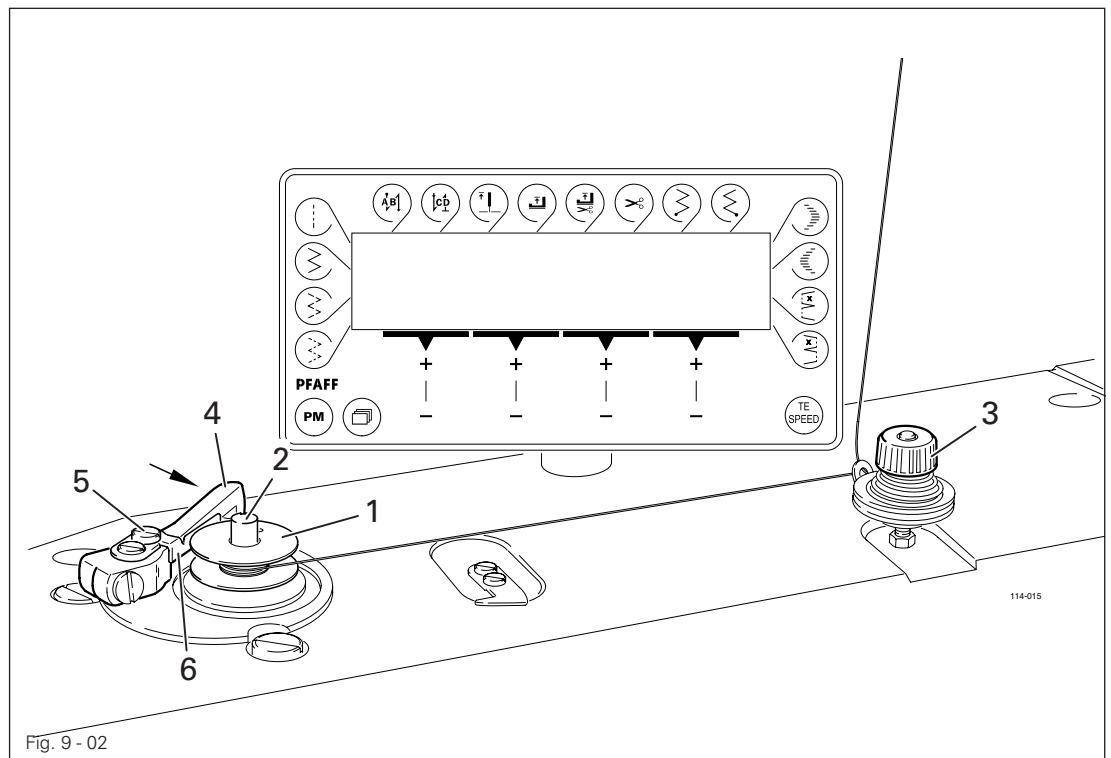
Switch off the machine!
Danger of injury due to unintentional starting of the machine!



Only use needles from the system intended for the machine, see Chapter 3 Specifications.

- Raise needle bar.
- Loosen screw 1 and insert needle 2 until you feel it stop.
- Insert needle 2 as far as possible.
The long needle groove must be facing forwards.
- Tighten screw 1..

9.02 Winding the bobbin thread / adjusting the preliminary thread tension



- Place empty bobbin 1 on bobbin winder spindle 2.
- Thread the thread as shown in Fig. 9.02 and wind it around bobbin 1 a few times in a clockwise direction.
- Set the preliminary thread tension by turning milled screw 3.
- Press lever 4 in the direction of the arrow until it clicks into place..

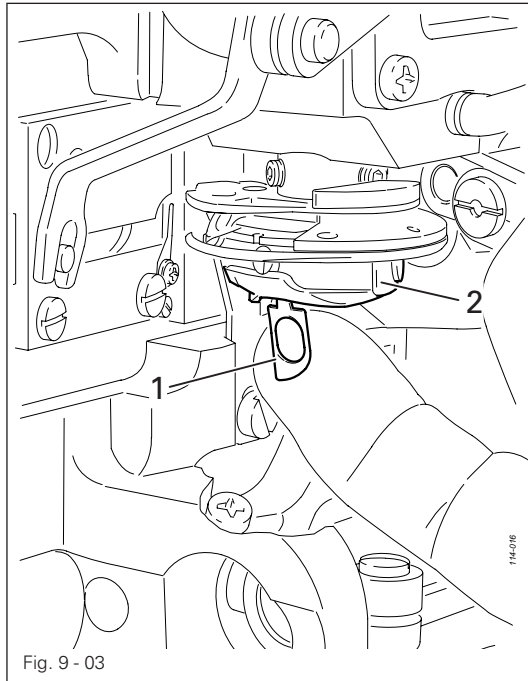


Bobbin 1 is filled during sewing.

Setting the amount of thread wound on the bobbin:

- Loosen screw 5.
- Adjust stop 6 so that the bobbin winder switches off automatically when the thread is still approx. 1 mm from the edge of the bobbin.
- Tighten screw 5.

9.03 Removing / Inserting the bobbin case



Switch off the machine!
 Danger of injury due to unintentional starting of the machine!

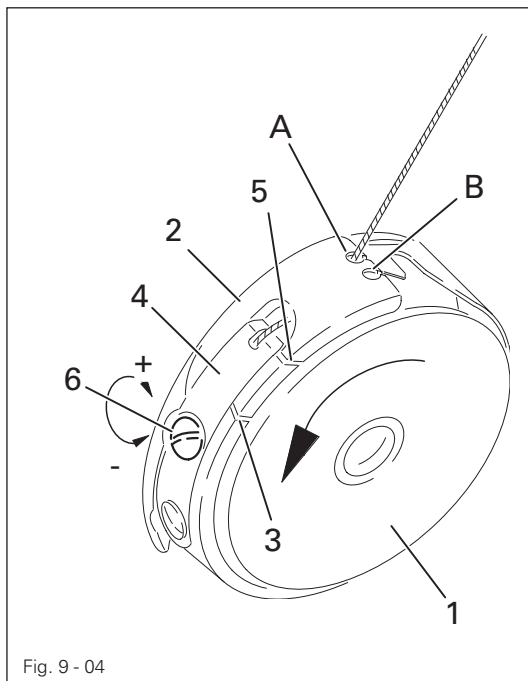
Removing the bobbin case:

- Raise latch 1 and remove bobbin case 2.

Inserting the bobbin case:

- Press bobbin case 2 until you feel it snap into the bobbin case base.

9.04 Threading the bobbin case / adjusting the bobbin thread tension



- Insert bobbin 1 in bobbin case 2.
- First pass the thread through the slit 3 under spring 4.
- Then guide the thread through the slit 5 into opening A or B.



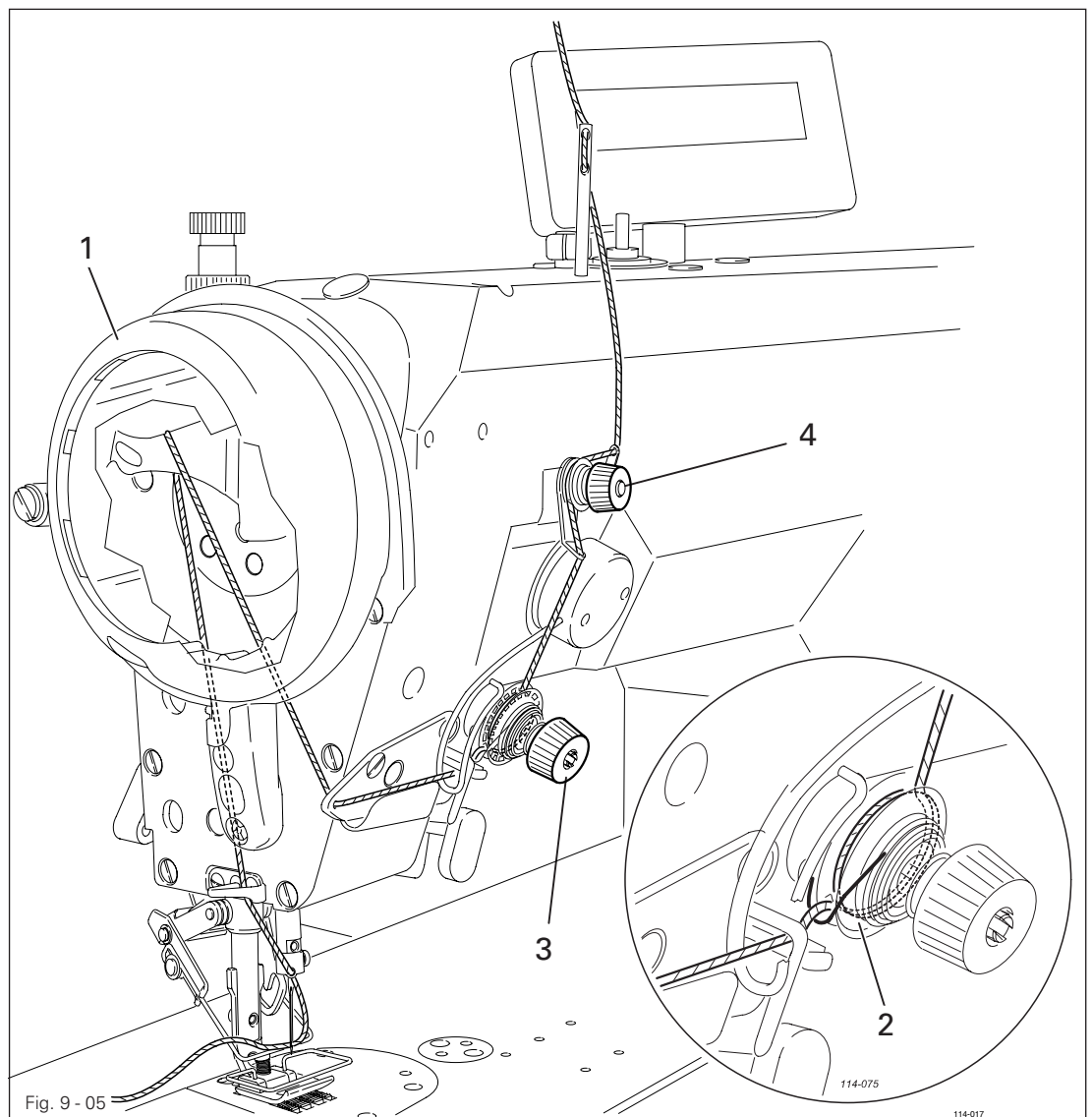
Depending on the workpiece, when threading it is possible to choose between opening A or B:

A: for fine materials

B: for normal materials

- Adjust the thread tension by turning screw 6.
 Use the tools provided.

9.05 Threading the needle thread / Adjusting the needle thread tension



Switch off the machine!
 Danger of injury due to unintentional starting of the machine!



Only operate the machine with cover 1 closed!
 Danger of injury from the rotating take-up lever!

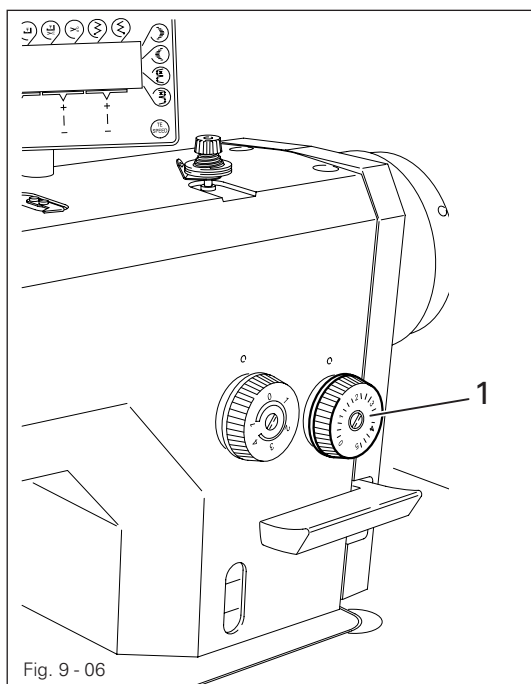
- Thread the machine as shown in Fig. 9-05.
- Wind the needle thread once round the needle thread tension unit 2.
- Adjust the needle thread tension by turning milled screw 3 and 4.



Milled screw 4 is used to adjust the thread tension during trimming.

9.06

Setting the stitch length



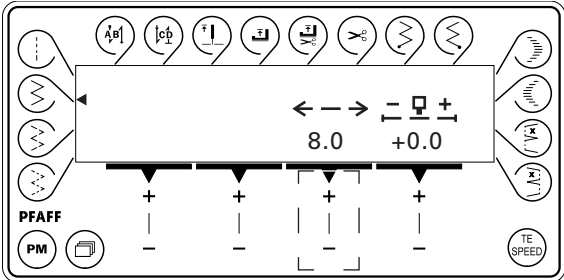
- Turn the stitch length adjustment wheel 1 according to the stitch length required..



The stitch length setting can be read on the scale.

9.07 Adjusting the width of the zigzag stitch

- Switch on the machine.



- Press the single zigzag key.

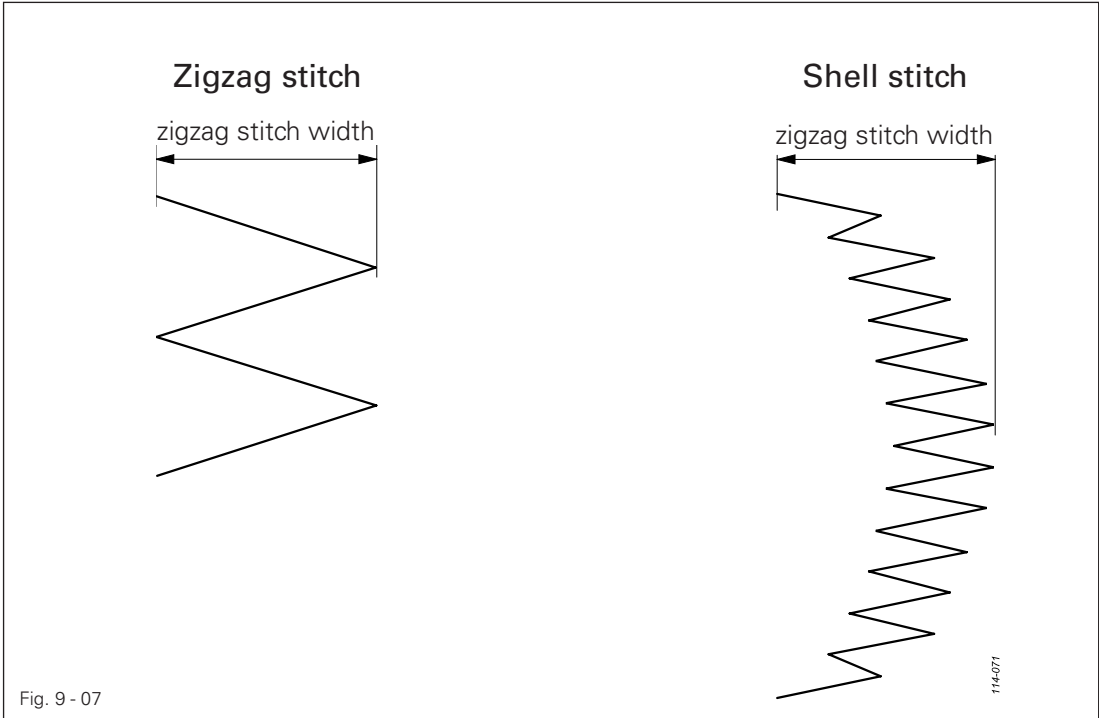


- Alter the value for the zigzag stitch width by pressing the corresponding +/- key.



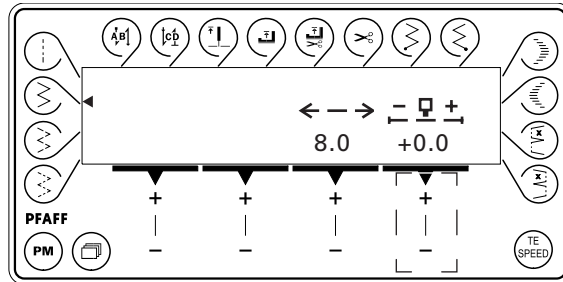
The zigzag stitch is the distance between the left and right penetration points of the zigzag pattern.

In the standard "straight stitch" pattern (no zigzag) the symbol for the zigzag stitch width does not appear on the display.



9.08 Adjusting the stitch position

- Switch on the machine.



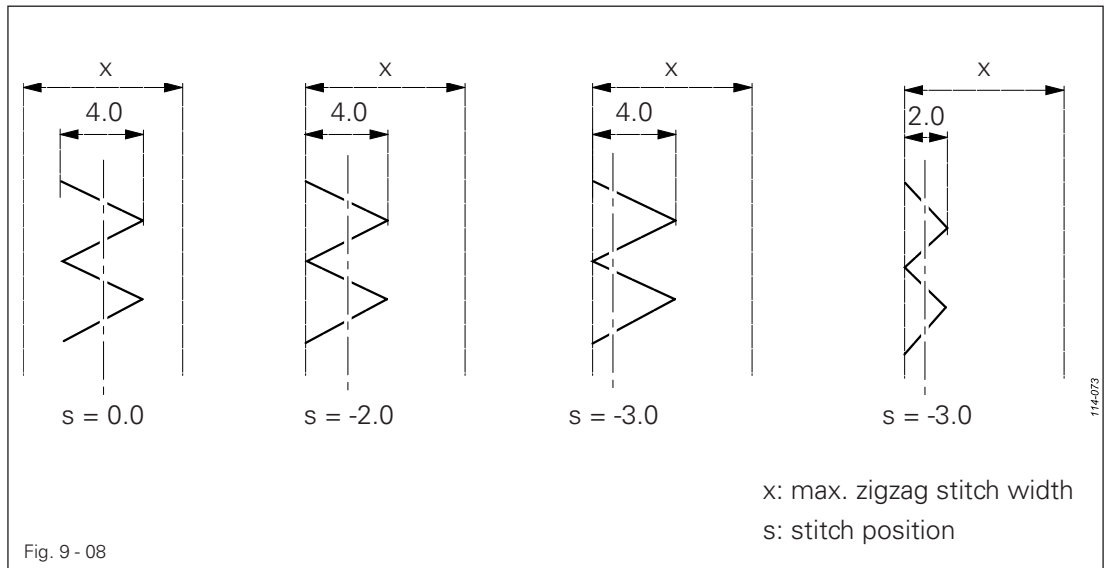
- Change the value for the stitch position by pressing the corresponding +/- key.



The zero position of the stitch position is in the centre of the zigzag stitch. The stitch position can be moved to the left (negative value) or to the right (positive value), in relation to the stitch position reference point, see Chapter 9.09 Changing the stitch position reference point.



If, after the stitch position has been entered, the seam pattern is outside the valid seam area, the stitch position will be ignored during sewing.



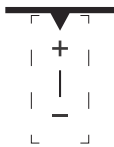
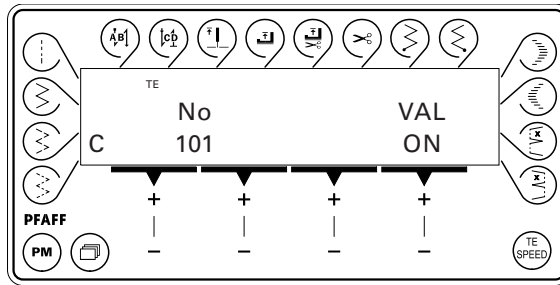
9.09 Changing the stitch position reference point



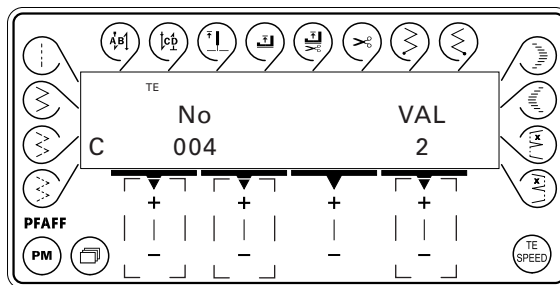
It is only possible to change the stitch position reference point in service level "C", see Chapter "10.07.01 Selecting the user level".



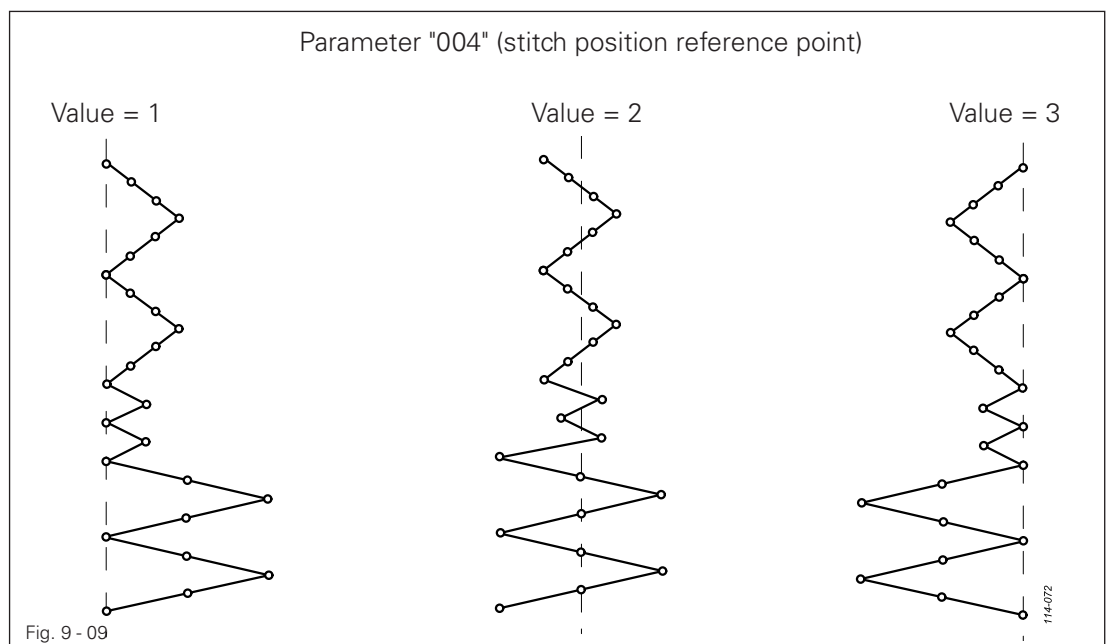
- Press the **TE/Speed** key twice to call up the input mode. The status text "TE" appears on the display and the pedal functions are locked to prevent the machine starting up accidentally.



- Select the desired parameter "004" by pressing the corresponding +/- keys and change the value accordingly.

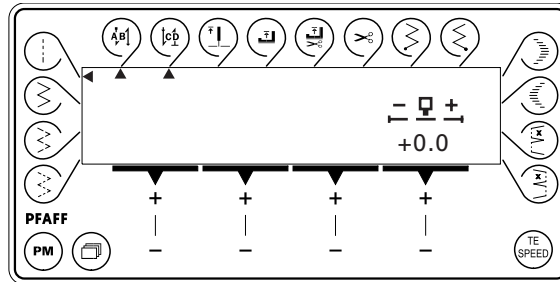


- By pressing the corresponding **TE/Speed** key the value is taken over and the sewing mode is called up.

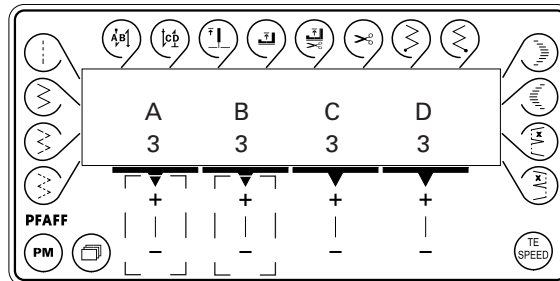


9.10 Entering the start and end backtacks

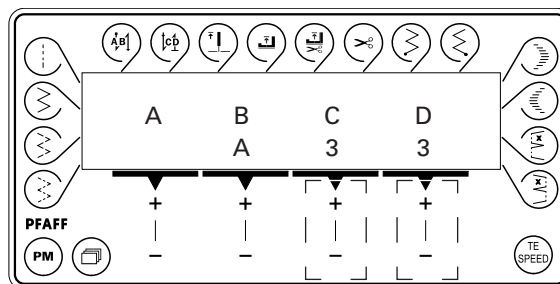
- Switch on the machine.



- Activate the corresponding function by pressing the keys **Start backtacks** and/or **End backtacks** (arrow appears below the corresponding function key).
- Change to the input menu for start and end backtacks by pressing the **Menu key**.



- By pressing the corresponding +/- key select the desired value for the number of forward stitches (A) of the start backtacks.
- By pressing the corresponding +/- key select the desired value for the number of reverse stitches (B) of the start backtacks, or the programmed special backtacks "A", "B", "C" or "D" for the seam start.



- By pressing the corresponding +/- key select the desired value for the number of reverse stitches (C) of the end backtacks.
- By pressing the corresponding +/- key select the desired value for the number of forward stitches (D) of the end backtacks, or the programmed special backtacks "E", "F", "G" or "H" for the seam end.

- By pressing the **Menu key** the standard pattern input menu is called up again.

10 Sewing

In the sewing mode all the relevant settings for the sewing operation are shown on the display. Functions can be switched on and off by pressing a key. Values for the most important parameters can be changed directly.


PM The **PM key** is used to switch between manual sewing of standard patterns and individually programmed patterns.

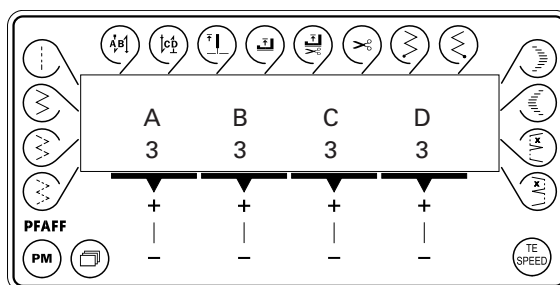
The program numbers 1 – 99 can each be allocated to a pattern. In addition the special backtacks A – D for the seam start and E - H for the seam end are also available.

10.01 Manual sewing








PM After the machine has been switched on and the manual sewing mode has been selected with the **PM key**, the desired standard pattern can be selected with the corresponding function keys, see Chapter 10.02 **Standard patterns**. The parameters of the selected standard pattern appear on the display and can be changed directly with the corresponding **+/- key**.

When the menu key is pressed, the display for entering the backtack values appears, see Chapter 9.10 **Entering start and end backtacks**.

 To change from one input menu to another, press the **Menu key**.



Further functions in the manual sewing mode, also see Chapter 7.10.02 **Function keys**:

- | | | | |
|---|--|---|-------------------------------------|
|  | Start backtacks on/off |  | "Foot raised after trimming" on/off |
|  | End backtacks on/off |  | Thread trimming on/off |
|  | "Needle raised after sewing stop" on/off |  | Stop in left penetration point |
|  | "Foot raised after sewing stop" on/off |  | Stop in right penetration point |
|  | TE/Speed | | |

Sewing is carried out with the pedal functions, see Chapter 7.03 **Pedals**.

10.02 Standard patterns

After the manual sewing mode has been called up, the standard patterns listed below are available. Press the corresponding function key to select the desired standard pattern. The standard pattern selected is marked with a triangular marking opposite the respective function key. The values of the most important parameters are shown on the display and can be changed directly with the +/- keys.

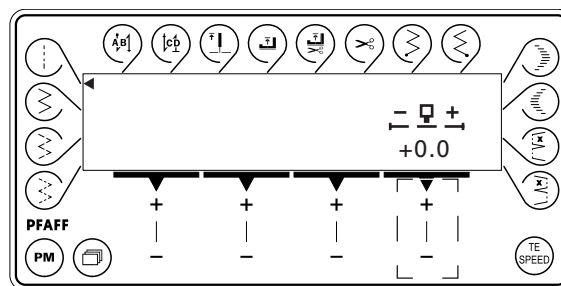
The following standard patterns are available:

	Straight stitch		Right shell stitches
	Single zigzag		Left shell stitches
	Two-stitch zigzag		Right blind stitch
	Three-stitch zigzag		Left blind stitch

10.02.01 Straight stitch

- Switch on the machine.

-  ● Call up the standard pattern for "straight stitch".



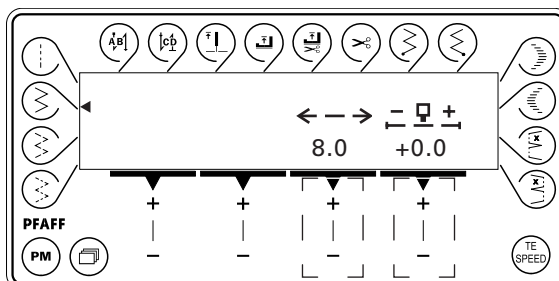
-  ● Change the stitch position value by pressing the corresponding +/- key.

10.02.02 Zigzag stitches

- Switch on the machine.



- Call up the standard pattern for "single zigzag", two-stitch zigzag" or "three-stitch zigzag."

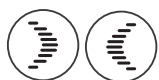


- ← → ● Change the value for the zigzag stitch width by pressing the corresponding +/- key.

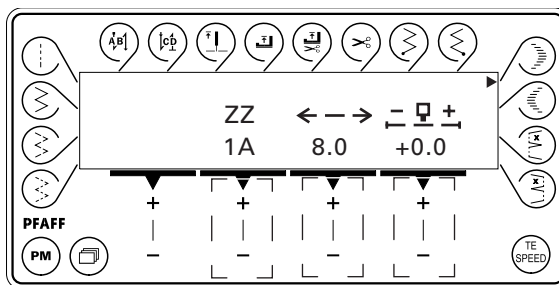
- ± ● Change the stitch position value by pressing the corresponding +/- key.

10.02.03 Shell stitches

- Switch on the machine.



- Call up the standard pattern for "right shell stitches" or "left shell stitches".



- ZZ ● Call up the desired seam pattern by pressing the corresponding +/- key:
 - Value "1": 24-stitch standard shell stitch
 - Value "2": 24-stitch crescent-shaped shell stitch
 - Value "3": 24-stitch constant width shell stitch
 - Value "4": 12-stitch constant width shell stitch



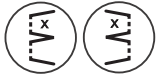
If there is an "A" after the value, the selected seam pattern being sewn is then sewn in reverse, see Chapter 10.04 Mirror imaging shell stitches and programmed seam patterns.

- ← → ● Change the value for the zigzag stitch width by pressing the corresponding +/- key.

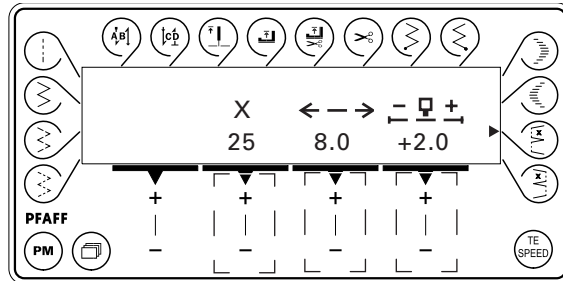
- ± ● Change the value for the stitch position by pressing the corresponding +/- key.

10.02.04 Blind stitches

- Switch on the machine.



- Call up the standard pattern for "right blind stitch" or "left blind stitch".

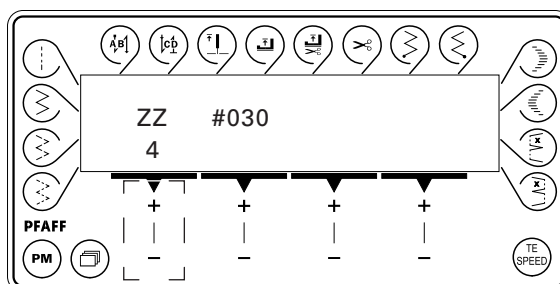


- X ● Change the number of straight stitches required by pressing the corresponding +/- key.
- ← → ● Change the value for the zigzag stitch width by pressing the corresponding +/- key.
- ┌ ┐ ± ● Change the value for the stitch position by pressing the corresponding +/- key.

10.03 Sewing programmed seam patterns










After the machine has been switched on and the sewing of programmed seam patterns has been selected with the **PM key**, the display for the selection of the program number is shown. The program number of the selected seam pattern (zigzag pattern or special back-tacks) appears on the display together with the number of the programmed penetration points. The desired seam pattern is selected with the corresponding **+/- key**.



Further functions in the programmed seam pattern sewing mode, also see Chapter 7.10.02

Function keys:



- | | | | |
|---|--|---|--|
|  | Start backtacks on/off |  | TE/Speed |
|  | End backtacks on/off |  | "Foot raised after thread trimming" on/off |
|  | "Needle raised after sewing stop" on/off |  | Thread trimming on/off |
|  | "Foot raised after sewing stop" on/off | | |

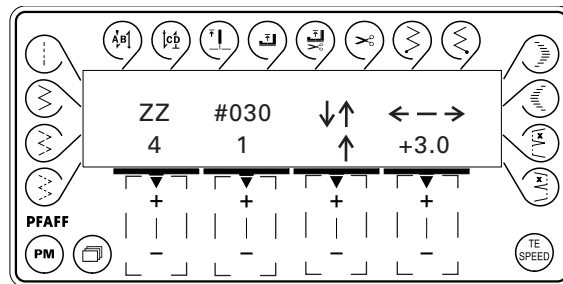
Sewing is carried out with the pedal functions, see Chapter 7.03 Pedals..



After the **Menu key** is pressed, the machine switches to the seam pattern input mode. The selected seam pattern is adapted or a new seam pattern is created, see Chapter 10.03.01 Altering/creating seam patterns.

10.03.01 Altering/creating seam patterns

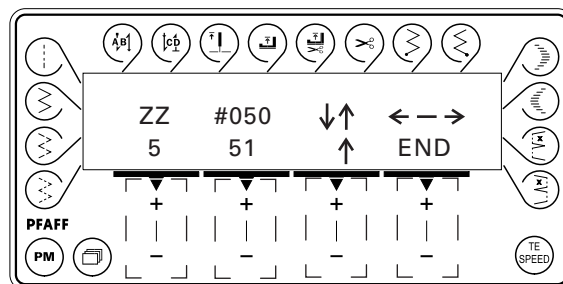
-  ● Switch on the machine and call up the sewing mode for programmed patterns.
- ZZ** ● Select the desired program number by pressing the corresponding +/- key.
-  ● Call up the seam pattern input function by pressing the **Menu** key.




Caution!

Raise the needle to its top position before beginning with the seam pattern input.

- #030** ● Select the number of desired penetration points by pressing the corresponding +/- key.
- ↓↑** ● Select the sewing direction for the selected penetration point by pressing the corresponding +/- key.
- ← - - →** ● Enter the value for the needle penetration position (zigzag stitch) by pressing the corresponding +/- key.



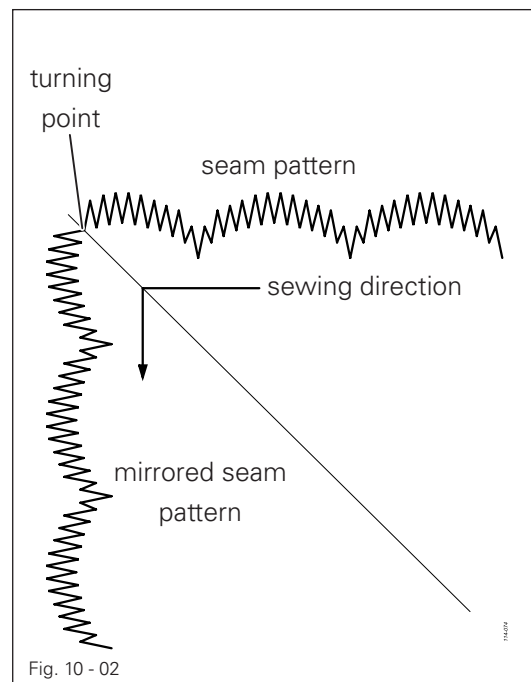
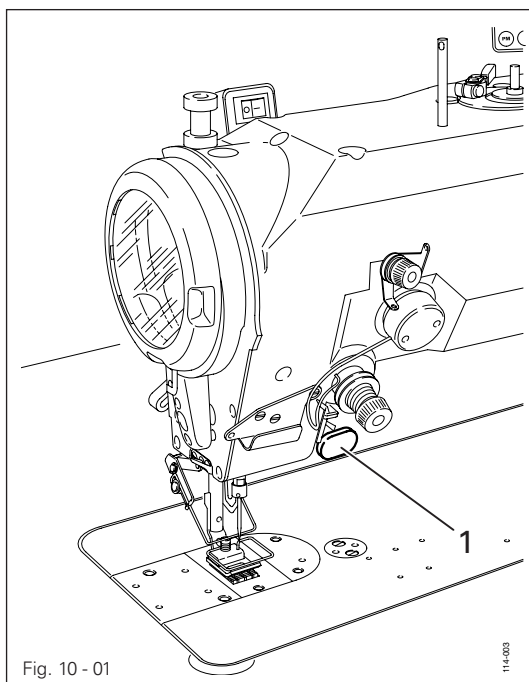
-  When entering the seam pattern, the last stitch is defined with the **thread trimming key**. On the display the letters "END" appear instead of the value for the penetration position. The last penetration point of the seam pattern is the one before the penetration point defined with "END". If the seam pattern end has been defined, it is not possible to enter any further penetration points.
In empty programs, the first penetration point is always defined with "END". In order to create the seam pattern, this definition must first be switched off with the Thread trimming key.

- The seam pattern must not have more reverse stitches than forward stitches.
- At least 2 stitches in one direction must be entered.
- Seam patterns with reverse stitches only are not permitted.

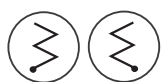


If one of the above conditions is not fulfilled, the error message "ERROR 41" appears on the display, and one straight stitch is sewn.

10.04 Mirror imaging shell stitches and programmed seam patterns



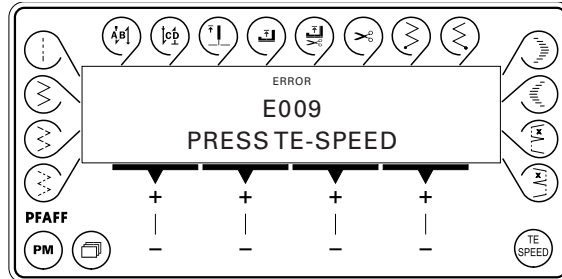
When the machine stops during sewing shell stitches and programmed seam patterns, the mirror imaging function is called up by pressing key 1. In this function the seam pattern is sewn in reverse (mirrored). If key 1 is pressed again, the mirror imaging function is switched off again.



Depending in which direction the workpiece is turned, the position of the needle must be altered accordingly, see Chapter 7.10.02 **Function keys**.

10.05 Error messages

In case of a malfunction, the text "ERROR" appears on the display together with an error code and short instructions. An error message may be caused by incorrect settings, defective elements or seam patterns, as well as by overload conditions. For the explanation of the error code, see Chapter "10.06 Explanation of error messages".



- Eliminate the error.



- Acknowledge the elimination of the error by pressing the TE/Speed key.

10.06 Explanation of the error messages

Display	Description
Error 1	Pedal operated when machine turned on
Error 4	Reference point of zigzag drive not found
Error 5	Control panel
Error 6	Sewing head recognition system
Error 9	Start inhibitor at standstill (sewing head tilted)
Error 34	Brake path too short
Error 35	Communication with sewing drive unit (parameter limit)
Error 36	Init not ready
Error 41	Incorrect number of reverse stitches in program
Error 60	Power supply 24V too low
Error 61	Power supply 24V too high
Error 63	Power supply unit overload (24V)
Error 64	Mains voltage
Error 69	No stepping motor start signal
Error 70	Motor blocked
Error 71	Incremental transmitter plug
Error 92	Start inhibitor when motor running (sewing head tilted)
Error 151	System
Error 155	Sewing motor
Error 156	Timeout sewing motor
Error 157	Ramp end
Error 158	Stepping frequency of steppingmotor too high
Error 170	Incorrect transmission
Error 171	Invalid zero mark
Error 175	Interior starting error
Error 222	Dead man's control (communication with sewing drive unit)

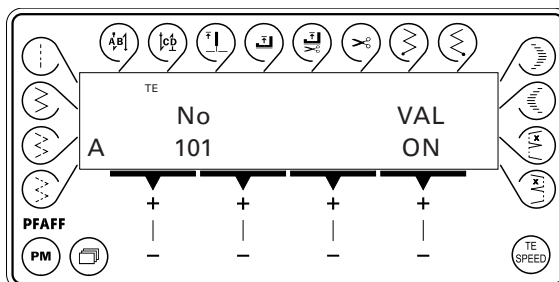
10.07 Parameter settings

10.07.01 Selecting the user level

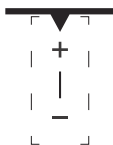
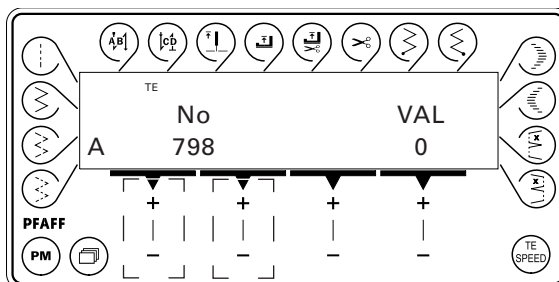
- Switch on the machine

2x 

- Press the **TE/Speed** key twice to call up the input mode.



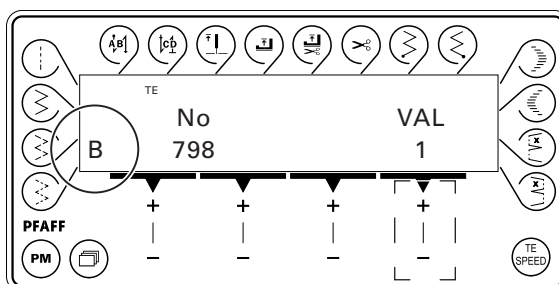
- Select parameter "798" by pressing the corresponding +/- keys.



Select the desired user level by pressing the corresponding +/- keys:

- "0" = operator level A
- "1" = mechanic level B
- "11" = service level C

The selected user level is shown on the display (see circle).





- By pressing the **TE/Speed** key, the value is taken over and the sewing mode is called up.



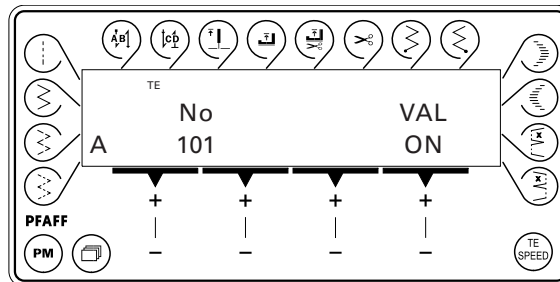
After the main switch has been switched off, the machine changes automatically to user level A.

10.07.02 Example of a parameter input

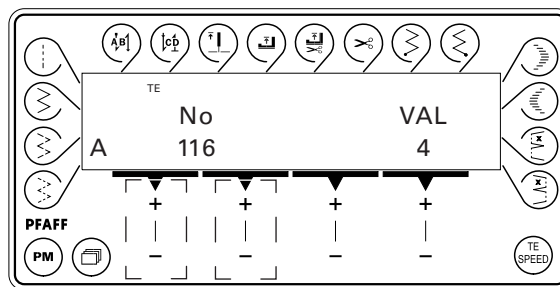
- Switch on the machine.



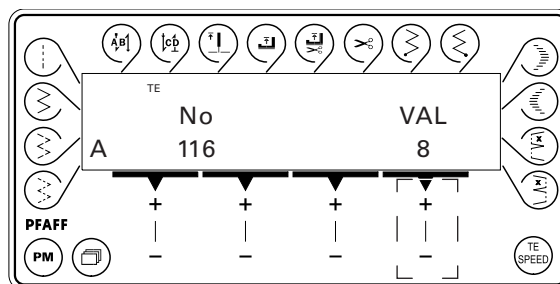
- Press the TE/Speed key twice to call up the input mode. The status text "TE" appears on the display and the pedal functions are locked to avoid the machine starting up accidentally.



- Select the desired parameter, e.g. parameter "116" (soft start stitches) by pressing the corresponding +/- keys.



- Select the desired parameter value, e.g. "8" (number of soft start stitches) by pressing the corresponding +/- keys.



- By pressing the TE/Speed key, the value is taken over and the sewing mode is called up.

10.07.03 List of parameters



Only appropriately trained staff may change the set values in the parameters of user levels "B" and "C".

Group	Parameter	Description	User level	Setting range	Set value
0	003	Pattern-No	C	0 - 199	1
	004	Stitch position reference point (1 = left; 2 = centre; 3 = right)	C	1 - 3	2
	005	Start position (1 = left; 2 = right)	C	1 - 2	1
	006	Stop position (0 = optional; 1 = left; 2 = right)	C	0 - 2	0
	007	Shell pattern right	C	1 - 4	1
	008	Shell pattern left	C	1 - 4	1
	020	Max.value left needle position [1/10 mm]	C	-50 - 50	-40
	021	Max.value right needle position [1/10 mm]	C	-50 - 50	40
1	101	Control panel key signal (OFF = tone off; ON = tone on)	A	OFF - ON	ON
	102	Start backtacks forwards	C	0 - 9	3
	103	Start backtacks backwards (10 – 13 refer to special backtacks A – D)	C	1 - 13	3
	105	Speed start backtacks	B	200 - 1500	900
	106	Speed start backtacks (ON = using pedal; OFF = constant)	C	OFF - ON	OFF
	108	End backtacks backwards (10 – 13 refer to special backtacks E – H)	C	1 - 13	3
	109	End backtacks forwards	C	0 - 9	3
	110	Speed end backtacks	B	200 - 1500	1000
	116	Soft start stiches (soft start)	A	0 - 10	4
	117	Speed soft start stiches	B	180 - 1200	400
2	220	Speed limit level 12 [min ⁻¹]	A	300 - 5000	4600
	221	Speed limit for seam program [min ⁻¹]	B	300 - 5000	4600
	222	Constant speed for seam program [min ⁻¹]	B	300 - 5000	3000
6	601	Trimming (ON = yes; OFF = no)	B	OFF - ON	ON

Group	Parameter	Description	User level	Setting range	Set value
6	602	ON = trimming with pedal position -1 OFF = trimming with pedal position -2	C	OFF - ON	OFF
	603	ON = pedal rest after trimming OFF = immed. start after seam end	C	OFF - ON	ON
	604	Trimming ON = forwards after half end backtack OFF = backwards too	C	OFF - ON	ON
	605	Speed display (ON = yes; OFF = no)	B	OFF - ON	OFF
	606	Speed level 1 (min.)	B	30 - 550	180
	607	Speed level 12 (max.)	B	300 - 5000	4700
	609	Trimming speed [min ⁻¹]	B	60 - 500	180
	624	Start inhibitor (ON = on; OFF = off)	C	OFF - ON	ON
	642	Presser foot switch-on time (tacting) [ms]	C	10 - 200	120
	643	Feed conversion switch-on time (tacting) [ms]	C	10 - 200	100
	651	Automatic lowering of the presser foot (ON = yes; OFF = no)	C	OFF - ON	ON
	660	Bobbin thread count-down counter on (ON = switched on OFF = switched off)	A	OFF - ON	OFF
	665	Start inhibitor ON = when contact closed OFF = when contact open	C	OFF - ON	ON
	668	Thread wiper (ON = on; OFF = off)	B	OFF - ON	ON
7	700	Logical zero mark [increments]	B	0 - 127	45
	702	Needle position [increments] (needle lowered)	B	0 - 63	45
	703	Needle position [increments] (take-up lever raised)	B	100 - 127	117
	705	Needle position [increments] (end of trimming signal)	B	80 - 127	117
	706	Needle position [increments] (start of trimming signal)	B	0 - 80	45

Group	Parameter	Description	User level	Setting range	Set value
7	707	Needle position [increments] (start thread tension release)	B	0 - 80	66
	710	Needle position [increments] (needle raised without trimming)	B	80 - 127	115
	715	On period thread wiper [ms]	B	0 - 2550	120
	718	Standstill brake moment	B	0 - 100	0
	719	Presser foot holding current	B	0 - 100	40
	720	Trimming holding current	B	0 - 100	50
	721	Feed converter holding current	C	0 - 100	40
	722	Acceleration ramp (1 = flat; 20 = steep)	C	1 - 20	20
	723	Brake ramp (1 = flat; 30 = steep)	C	4 - 30	30
	729	Start delay after lowering the presser foot [ms]	B	0 - 2550	120
	730	Lifting delay for presser foot after seam end [ms]	B	0 - 2550	0
	760	No. of stitches to bobbin thread monitor (machine stop at b.d.c. needle bar)	A	0 - 50000	50000
	761	Extension thread tension release/ thread pulling [ms]	B	0 - 2550	0
	797	Hardware test (ON = yes; OFF = no)	B	OFF - ON	OFF
	8	798	Access level (0 = Level A; 1 = level B; 11 = level C)	A	0 - 255
799		Machine class (1 = 1114)	C	1	1
800		Rotation direction of motor, as seen on motor shaft (ON = anti-clockwise / OFF = clockwise)	C	OFF - ON	ON
	805	Rotation direction of stepping motor 2	C	OFF - ON	OFF

Group	Parameter	Description	User level	Setting range	Set value
8	832	Needle position NIS [increments] (needle in material)	C	0 - 127	0
	833	Needle position NAS [increments] (needle out of material)	C	0 - 127	50
	834	Reference point zigzag drive [1/10mm]	C	-50 - 50	0
	880	Starting current main drive	C	1 - 10	8
	881	Filter parameter for positioning control unit	C	0 - 12	5
	884	Proportional amplification of speed control unit (general)	C	1 - 50	35
	885	Integral amplification of speed control unit	C	0 - 50	35
	886	Proportional amplification of positioning control unit	C	1 - 50	30
	887	Differential amplification of positioning control unit	C	1 - 50	30
	889	Time for positioning control (0 = always)	C	0 - 2550	200
	890	Proportional amplification of superordinate speed control unit for the standstill brake	C	1 - 50	25
	891	Proportional amplification of the subordinate speed control unit for the standstill brake	C	1 - 50	20
9	901	Trimming release speed	C	30 - 500	300
	956	Current of stepping motor axis 2	C	31 - 63	48
	957	Current for current reduction of stepping motor axis 2	C	15 - 31	24
	958	Current reduction time stepping motor axis 2	C	0 - 1000	500
	978	Stepping motor 2: Current relief time	C	0 - 990	350

11 Care and maintenance

11.01 Maintenance intervals

Cleaning	daily, several times if in continuous use
Checking the oil level	daily, before operation



During all cleaning work the machine must be disconnected from the power supply by switching off the main switch or pulling out the plug!

Danger of injury if the machine is started accidentally!

11.02 Cleaning the machine

The cleaning cycle required for the machine depends on following factors:

- Single or several shift operation
- Amount of dust resulting from the workpiece

It is therefore only possible to stipulate the best possible cleaning instructions for each individual case.



For all cleaning work the machine must be disconnected from the mains by switching off the on/off switch or by removing the mains plug!

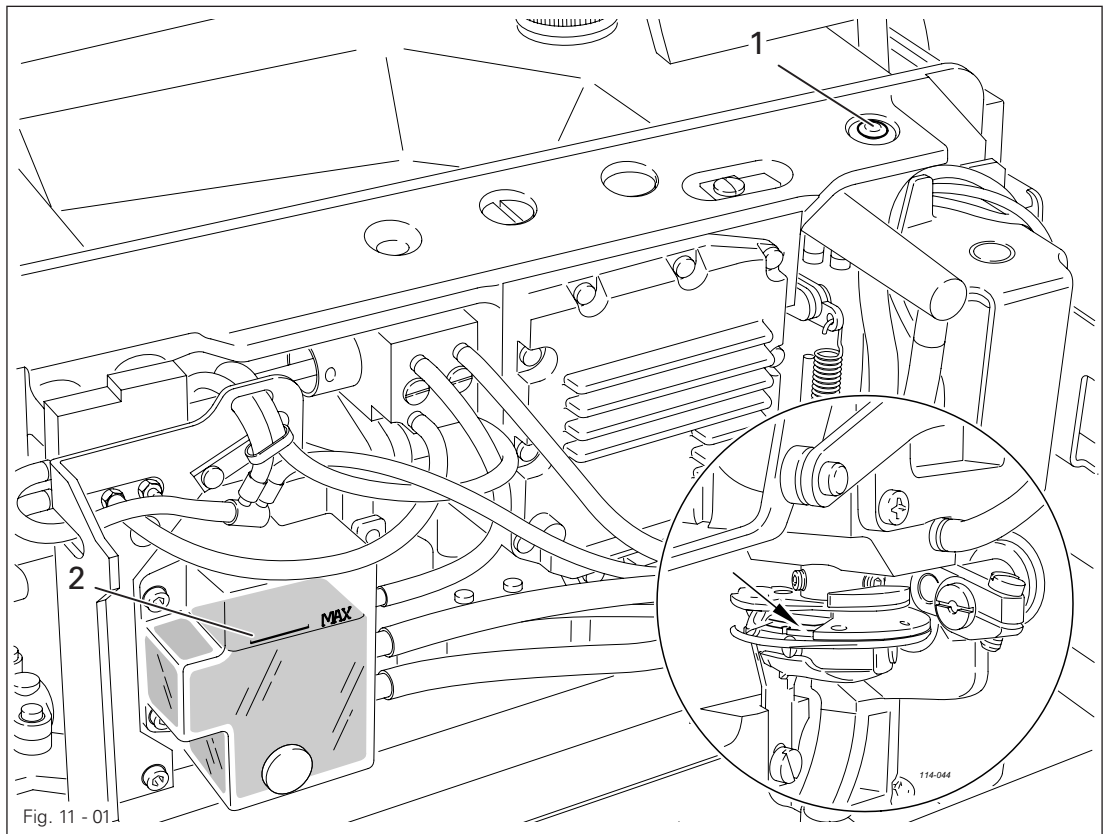
Danger of injury if the machine suddenly starts up .



To avoid breakdowns, the following cleaning work is recommended for single shift operation:

- Clean hook compartment and needle area of sewing head several times daily.
- Clean the entire machine at least once a week.

11.03 Oiling the machine



Switch off the machine!

Danger of injury if the machine is started accidentally!



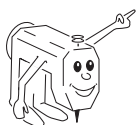
Only use oil with a mean viscosity of **10.0 mm²/s** at **40°C** and a density of **0.847 g/cm³** at **15°C**.

- Tilt the machine back.
- Remove plug **1** and pour oil into the hole until it reaches marking **2**.
- Before commissioning the machine and after long down periods, pour a few extra drops of oil into the hook race, see arrow in enlarged illustration.



Use both hands to set the sewing head upright!

Danger of crushing between the sewing head and the table top!



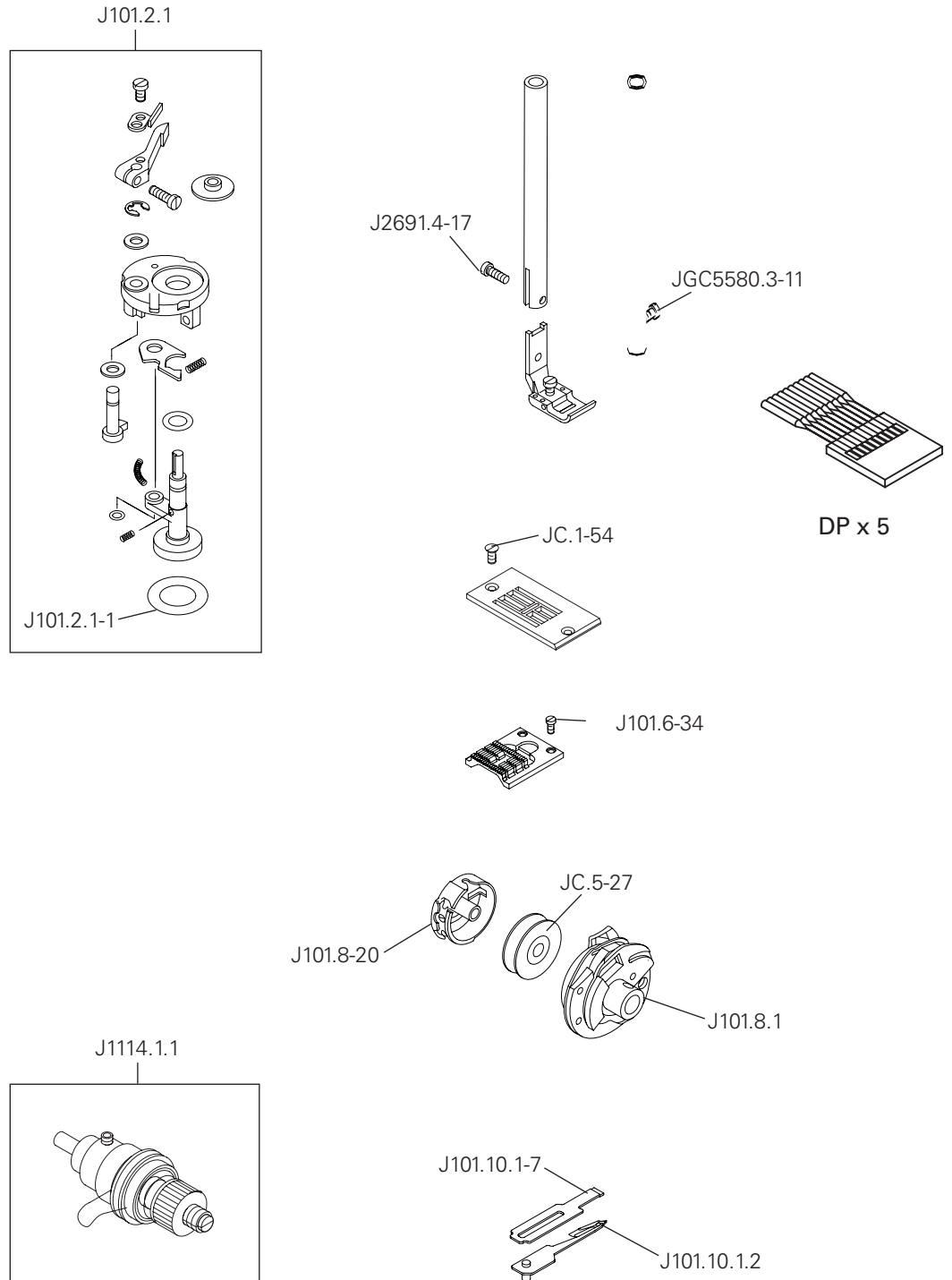
We recommend PFAFF sewing machine oil, part no. **280-1-120 105**.

Wearing parts

This is a list of the most important wearing parts.



A detailed parts list for the complete machine is included with the accessories. In case of loss the parts list can be downloaded from the internet address www.pfaff-industrial.com/de/service/download/index.php3. As an alternative to the internet download the parts lists can also be ordered in book form under part no. 296-12-18 816.



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