

3827^{-4/33}
^{-4/34}

INSTRUCTION MANUAL

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

2 713 253 →



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

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**PFAFF Industriesysteme
und Maschinen AG**

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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, observe also 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 organisations 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, presser foot, needle plate, feed dog or 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!
- When servicing or carrying out repairs on pneumatic devices, the machine is to be removed from the compressed air supply! The only exceptions to this are adjustments and function checks carried out by 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! Exceptions to this are in accordance with 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 constructual characteristics of the machine. We shall not be 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 a component 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 authorised persons operate and work on the machine.

Further information can be obtained at 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 taking care of faults arising in the sewing area.

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

- always observe the Notes on Safety in the Instruction Manual!
- never use any working methods which could limit the level of safety in using the machine!
- not wear loosely fitting clothing or jewellery such as chains or rings!
- also ensure that only authorised 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 of the On/Off switch before carrying out adjustments or repairs and ensure that it cannot be switched on again unintentionally!
- never work on parts which are still connected to the power supply! Exceptions are contained in the regulations EN 50110.
- when servicing or carrying out repairs on pneumatic devices, remove the machine from the compressed air supply! The only exceptions to this are function checks.
- replace the protective coverings and close the electrical control box after all repairs or maintenance work!

1.06

Danger



A working area of 1 metre 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 or in the needle plate area while adjusting the machine settings! Objects can become trapped or be slung away! Danger of injury!

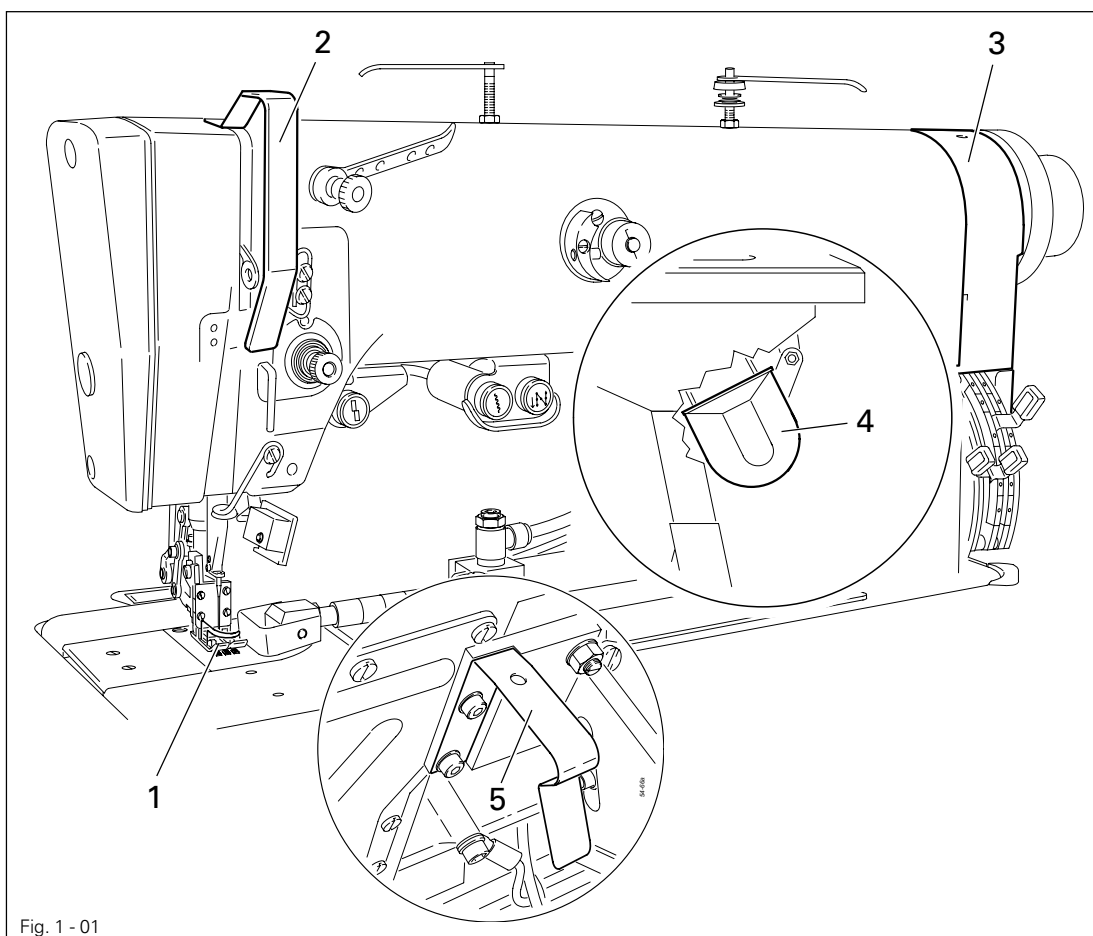


Fig. 1 - 01



Do not operate the machine without finger guard 1!
Danger of injury by the needle!



Do not operate the machine without take-up lever guard 2!
Danger of injury due to movement of the take-up lever!



Do not operate the machine without belt guards 3 and 4!
Danger of injury by the rotating v-belt!



Do not operate the machine without tilt lock 5!
Danger of crushing between sewing head and table!

2

Proper use

The **PFAFF 3827** is a sewing machine for the closing of side and shoulder seams on outerwear (e.g. suit jackets, skirt suits, overcoats). The shoulder seams, including bartacks and application of fullness are produced automatically as mirror images. On the side seams the fullness to be applied is switched on using a manual switch.



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!

3 Specifications ▲

Stitch type: 301 (lockstitch)

Model: B

Max. speed:: 4800 s.p.m. ♦

Needle system: 134 KK

Needle size in 1/100 mm: 80 - 100

Top feed stroke: 2 mm

Clearance under the presser foot: 7 mm

Max. stitch length: 4.5 mm

Connection data:

Operating voltage: 230 V $\pm$ 10%, 50/60 Hz, alternating voltage

Max. power: 400 VA

Fuse protection: 1 x 16 A, inert

Working air pressure: 6 bar

Air consumption: ~1,6 l / work cycle

Noise data:

Emission sound pressure level at the workplace with

a sewing speed of 4000 spm: $L_{pA} < 79$ dB(A) ■

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

Machine dimensions:

Length: approx. 11365 mm

Width: approx. 950 mm

Height(with reel stand): approx. 1700 mm

Net weight: approx. 108 kg

Gross weight: approx. 230 kg

▲ Subject to alteration

■ $K_{pA} = 2,5$ dB

♦ Depending on the material, work operation

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.

Explanation of symbols

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:



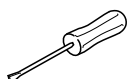
Note, information



Cleaning, care



Lubrication



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

7 Controls

7.01 On/off switch

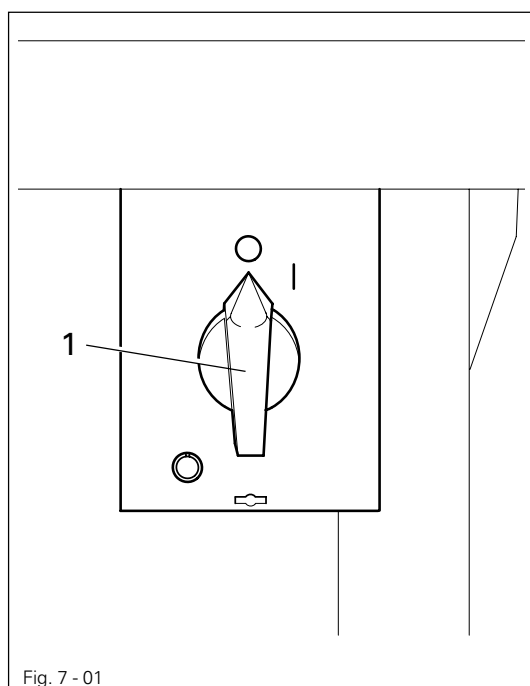


Fig. 7 - 01

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

7.02 Pedal

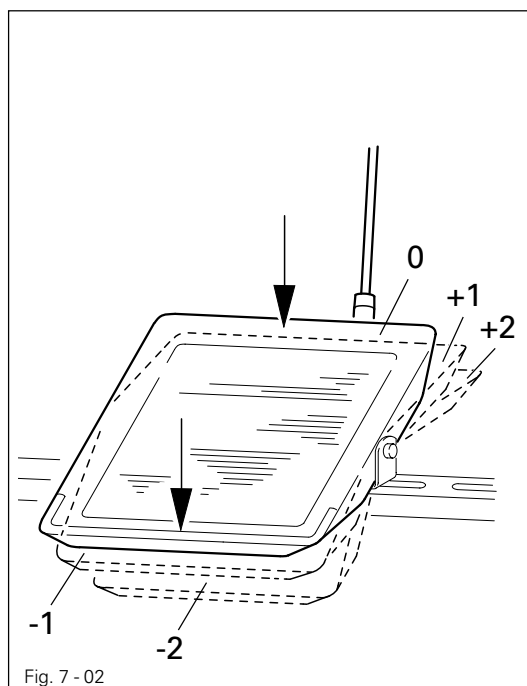


Fig. 7 - 02

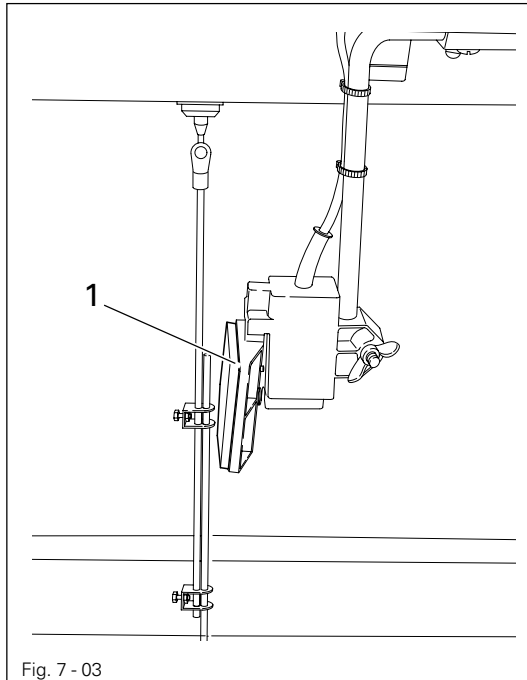


The position of the presser foot and the needle depend on the selected functions, see **Chapter 7.07 Control panel**.

- 0 = Machine stop
- +1 = Lower presser foot or sewing start
- +2 = Sew
- 1 = Raise presser foot
- 2 = End bartack and trim thread

7.03

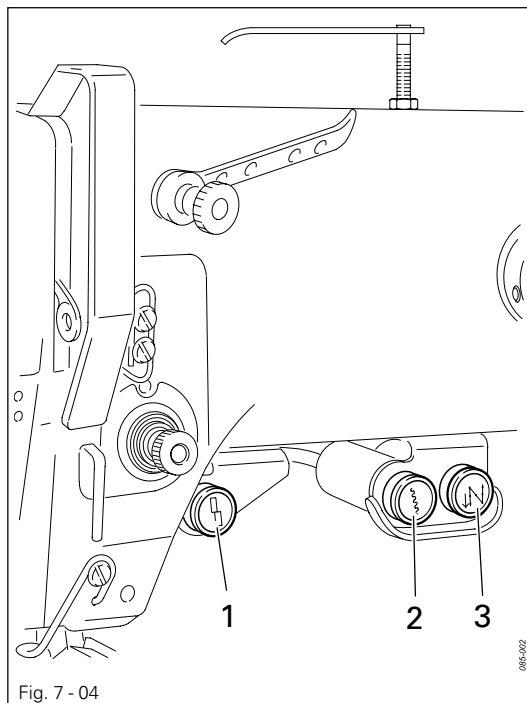
Knee switch



- Press the knee switch **1** to call up programmed sewing (shoulder seam program).

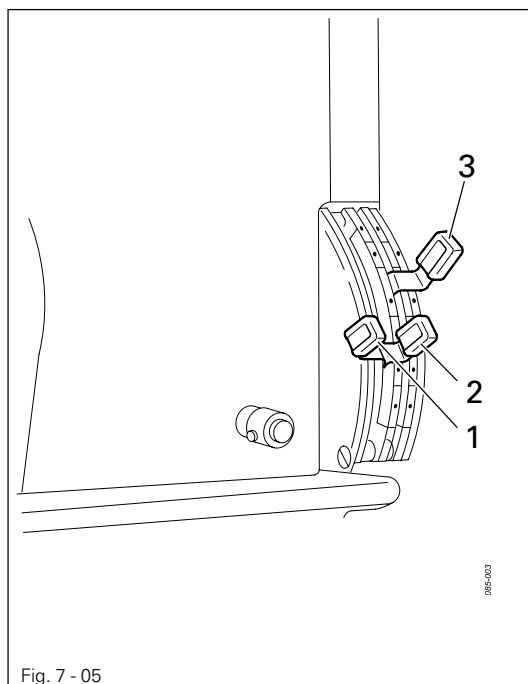
7.04

Keys on the machine head



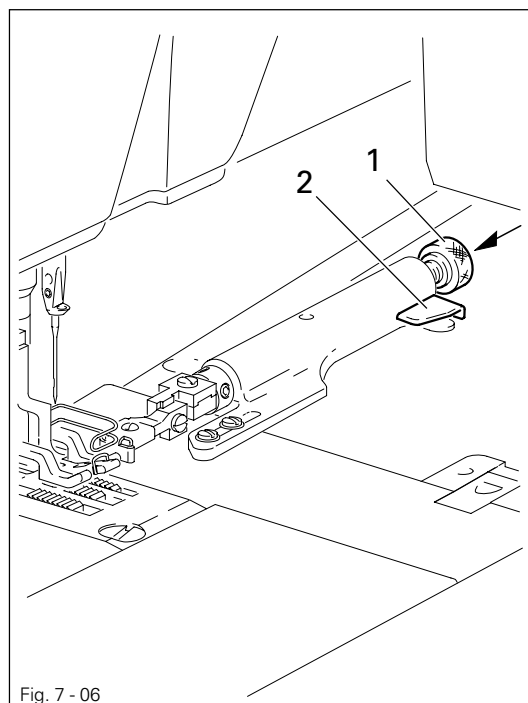
- Hand button **1** = Reset; return to semi-automatic operation.
- Hand button **2** = Turn fullness on and off.
- Hand button **2** = Intermediate seam backtacking. As long as the key is pressed, the machine sews in reverse.

7.05 Adjustment lever for stitch length and fullness



- To adjust the stitch length, move stitch length controls 1 and 2 together.
- Pre-select fullness with adjustment lever 3.

7.06 Mechanical edge guide (PFAFF 3827--4/33)



Switching on the edge guide:

- Press knob 1 in the direction of the arrow until it locks into place.

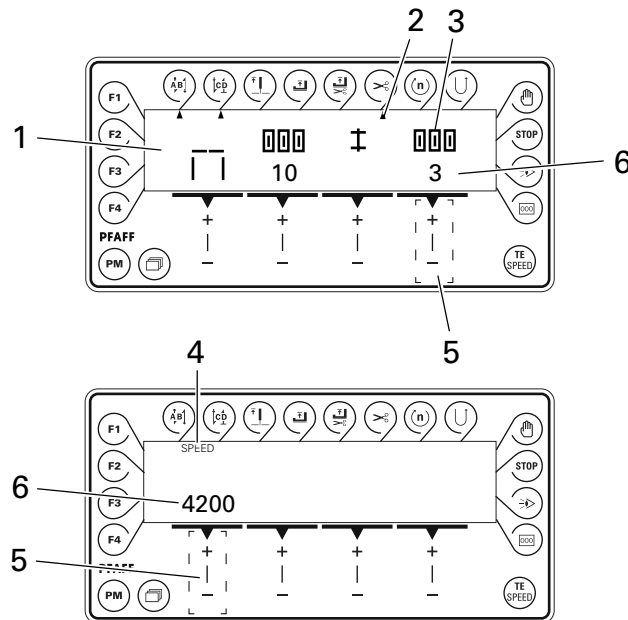
Switching off the edge guide:

- Press down key 2.

7.07

Control panel

The control panel is used to create and alter seam programs, enter parameter values and read error messages and service settings.



The control panel consists of display **1** and the function keys described below. Display **1** consists of a two-row, alpha-numerical display with 16 symbols per row. The special symbols **2**, **3** and texts **4** show the respective status of the function keys and the operating modes of the machine.

During the power-on phase the control panel automatically switches on all LCD segments and the horn.

7.07.01

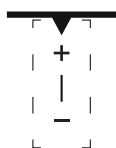
Screen displays

- 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 these 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 12.07 Parameter settings**.

7.07.02

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 5**. For example, by pressing and holding the **+/- key 5**, the numerical value **6** shown above the key is changed slowly to begin with. If the **+/- key 5** is held down longer, the numerical value **6** is changed more quickly.



Start backtacks

- If this key is pressed, the backtacks at the beginning of the seam (start backtacks) are switched on or off. The number of forward stitches (A) or reverse stitches (B) for the start backtacks can be changed by pressing the **+/- key** underneath. To convert from double backtack to single backtack set the number of stitches for the corresponding seam section at zero.



End backtacks

- If this key is pressed, the backtacks at the end of the seam (end backtacks) are switched on or off. The number of reverse stitches (C) or forward stitches (D) can be changed by pressing the **+/- key** underneath. To convert from double backtack to single backtack set the number of stitches for the corresponding seam section at zero.



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 (take-up lever t.d.c.)



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.



Speed

- If this key is pressed the corresponding function is switched on or off. When the function is switched on, the current seam section is sewn at the speed entered irrespective of the pedal position (Parameter "585", see **Chapter 12.07 Parameter settings**).



Reverse sewing

- If this key is pressed the corresponding function is switched on or off. When the function is switched during programmed sewing, the corresponding seam section is sewn in reverse.



Manual seam end

- No function



Programmed stop

- If this key is pressed the corresponding function is switched on or off. When the function is switched on, the machine stops automatically at the end of a seam section.



Sensor

- No function (in programmed sewing the sensor is activated automatically)



Stitch counting

- If this key is pressed the corresponding function is switched on or off. When the function is switched on, the machine moves to the next seam section after sewing the number of stitches entered.



TE/Speed

- If this key is pressed once while the machine is in the sewing mode, the input menu for the maximum speed is selected. If no input is made within 5 seconds, the sewing mode is selected again.
- If this key is pressed twice (within 5 seconds) while the machine is in the sewing mode, the machine switches to parameter input.
- If this key is pressed once while the machine is in the parameter input mode, the altered values are stored and the sewing mode is selected.



Scrolling

- If this key is pressed the machine scrolls among the displays (parameters), if more than 4 parameters are directly accessible in the sewing mode.



PM

- If this key is pressed, the machine switches from programmed sewing (shoulder seam) to manual sewing (side seam and shoulder seam) und vice versa. The selected mode is shown on the display with the corresponding symbol, see **Chapter 10 Sewing**. The specific program parameters are listed in the alphanumerical section of the display.



F1

- No function



F2

- No function



F3

- No function



F4

- No function

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 electric current. (see Chapter **3 Specifications**).

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



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

8.01.01 Adjusting the table height

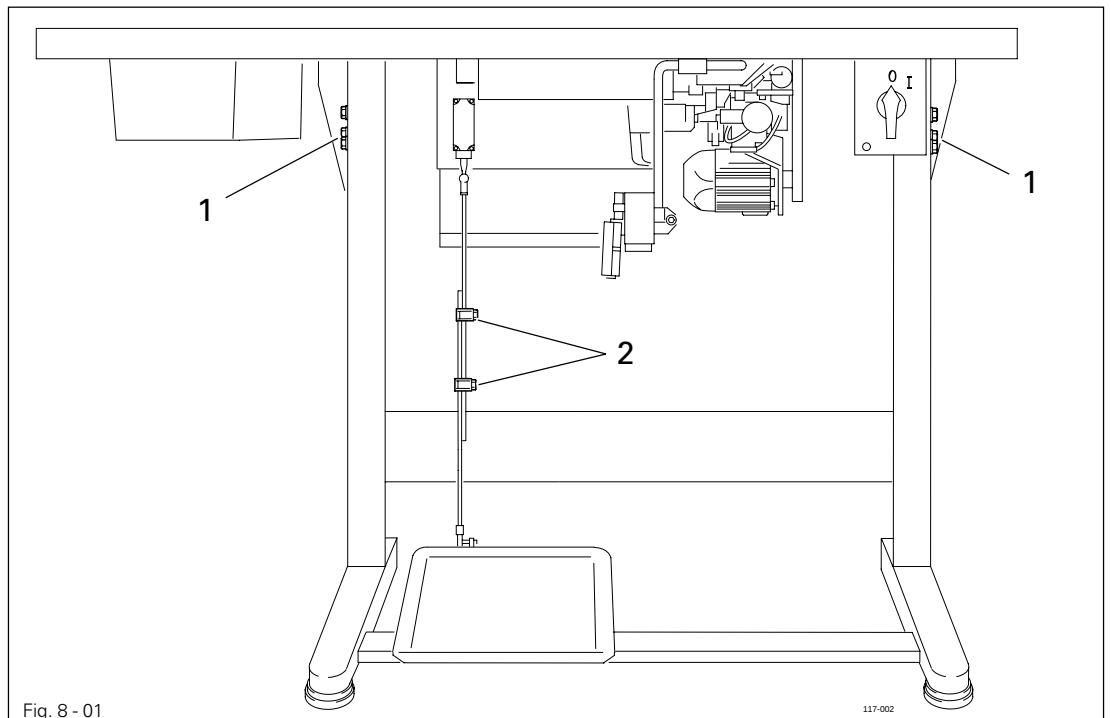
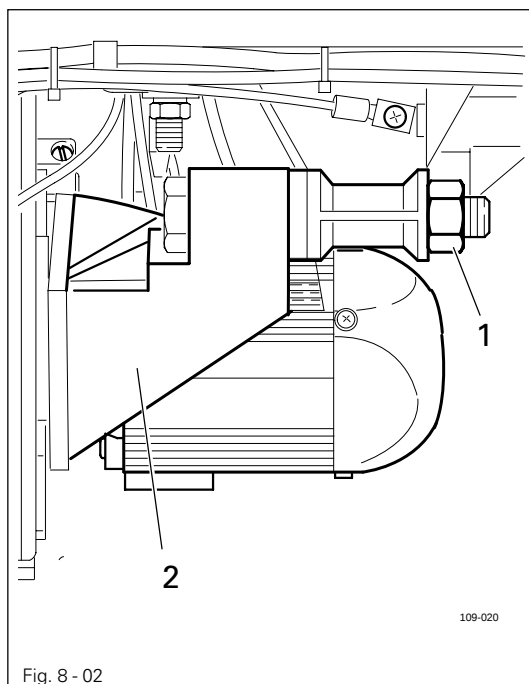


Fig. 8 - 01

117-002

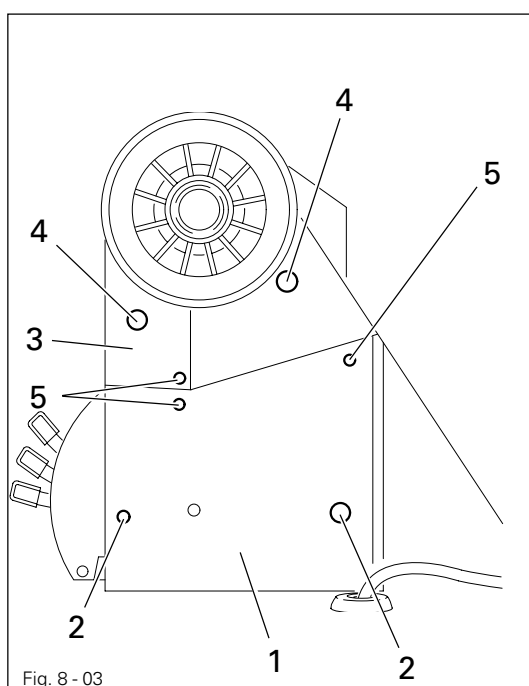
- Loosen screws **1** and **2** and set the table height as required.
- Firmly tighten screw **1**.
- Set the required pedal position and tighten screw **2**.

8.01.02 Tightening the V-belt



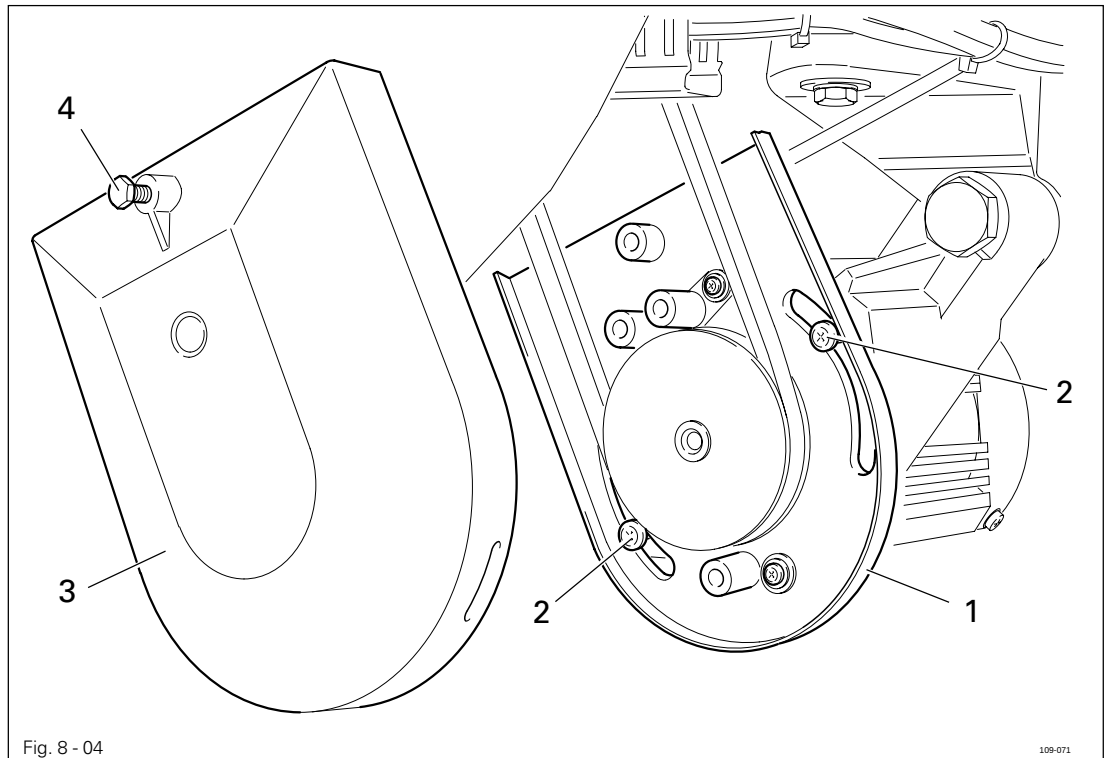
- Fit the V-belt.
- Loosen nut 1 and tighten the V-belt by turning motor mounting 2.
- Tighten nut 1.

8.01.03 Fitting the top V-belt guard



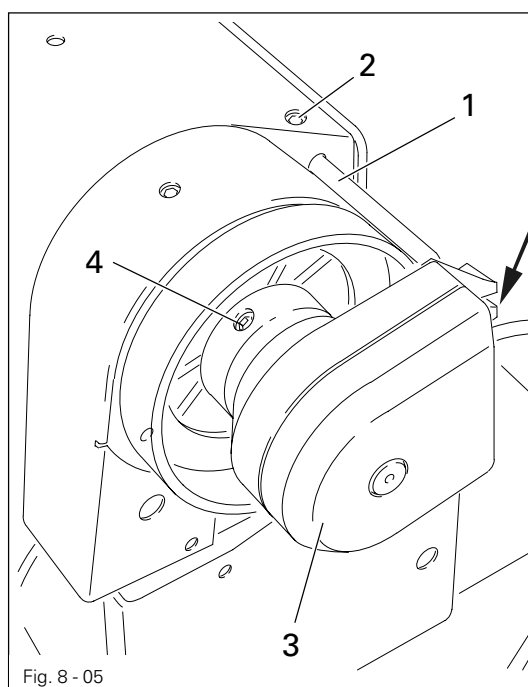
- Fasten bottom section of V-belt guard 1 with screws 2.
- Fasten top section of V-belt guard 3 with screws 4.
- Attach belt guard sections 1 and 3 with screws 5.

8.01.04 Mounting the bottom V-belt guard

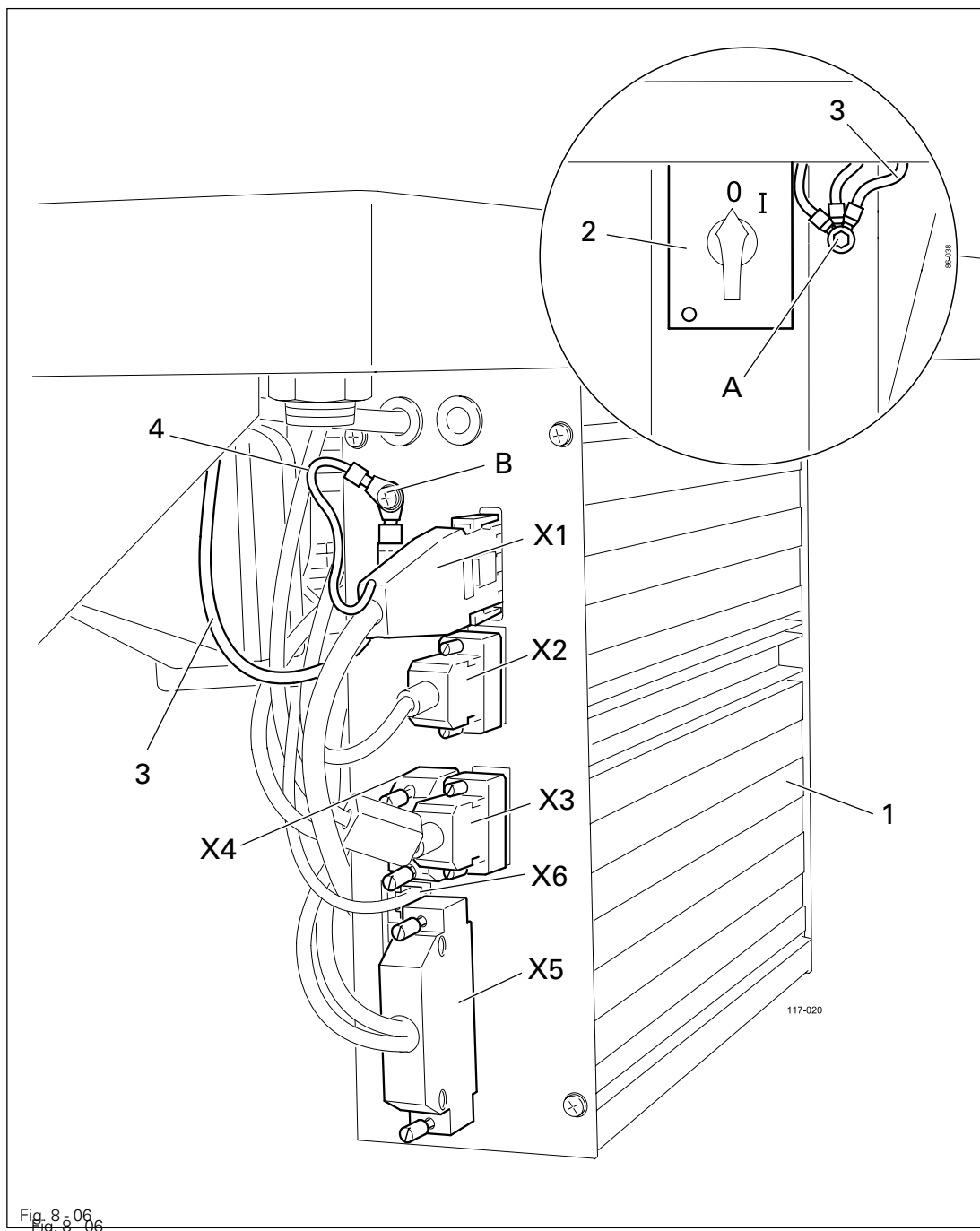


- Loosen screws 2 and adjust belt guard support 1 so that the motor pulley and V-belt run freely.
- Tighten screws 2.
- Fasten belt guard 3 with screw 4.

8.01.05 Fitting the synchronizer

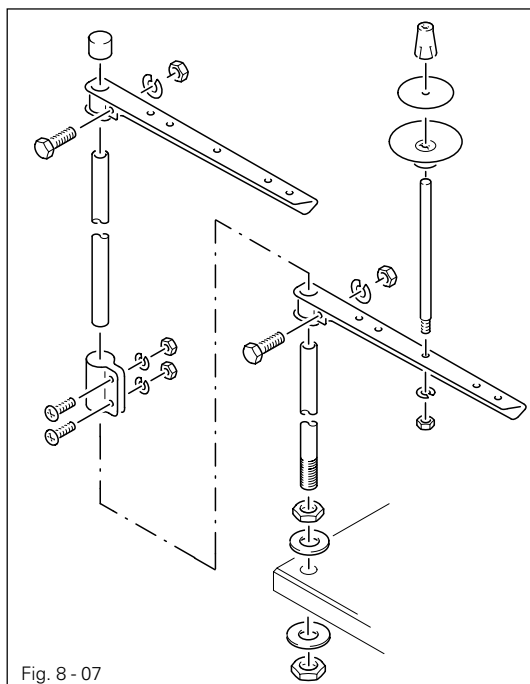


- Place the position stop 1 in the machine bed and fasten with screw 2.
- Place synchronizer 3 on the shaft so that stop 1 is in the slot of synchronizer 3, see arrow.
- Tighten screws 4 just a little.
- Insert the plug for the synchronizer in the socket on the control box.
- Adjust synchronizer 3 (see **Chapter 12.05.01, Basic position of the machine**).



- Connect all plugs as labelled in the control box 1.
- Screw the earth cable from the sewing head and from main switch 2 to earth point A.
- Connect earth point A and earth point B with earth cable 3.
- Screw the earth cable 4 from the motor to earth point B.

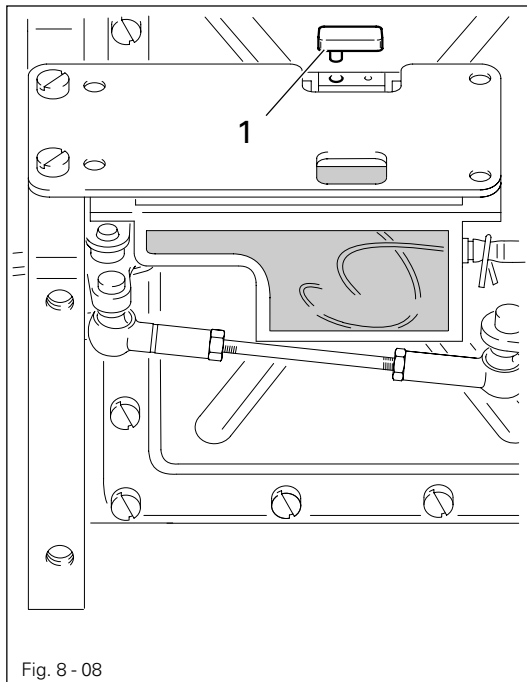
8.01.07 Fitting the reel stand



- Fit the reel stand as shown in **Fig. 8 - 07**.
- Afterwards insert the stand in the hole in the table top and secure it with nuts provided.

8.02

Commissioning



Before the machine is commissioned, stopper 1 must be removed!

- Clean the machine thoroughly and then check the oil level (see **Chapter 11 Care and Maintenance**).
- Check the machine, in particular the electrical leads, for any damage.
- Have specialists check, whether the machine can be operated with the available mains connection.



If there are any irregularities, do not operate the machine under any circumstances!



The machine may only be connected to a grounded socket.

- When the machine is running, the balance wheel must turn towards the operator. If this is not the case, have the motor adjusted by specialist staff, see **Chapter 12.07 Parameter settings**.
- Connect the machine to the compressed air system. The manometer must display a pressure of **6 bar**. If necessary, set to the correct value (see **Chapter 11.04 Checking/regulating air pressure**).

8.03

Switching the machine on/off

- Switch the machine on or off, see **Chapter 7.01 On/off switch**.

9

Preparation



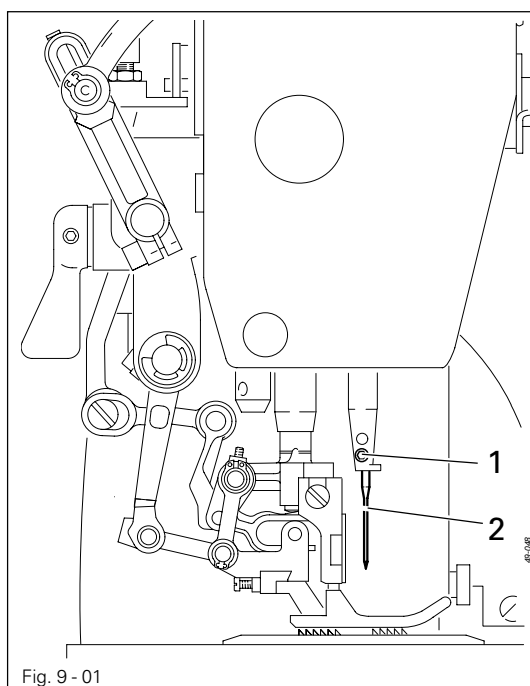
All regulations and instructions in this Instruction Manual are to be observed!
Special attention is to be paid to the safety regulations!



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

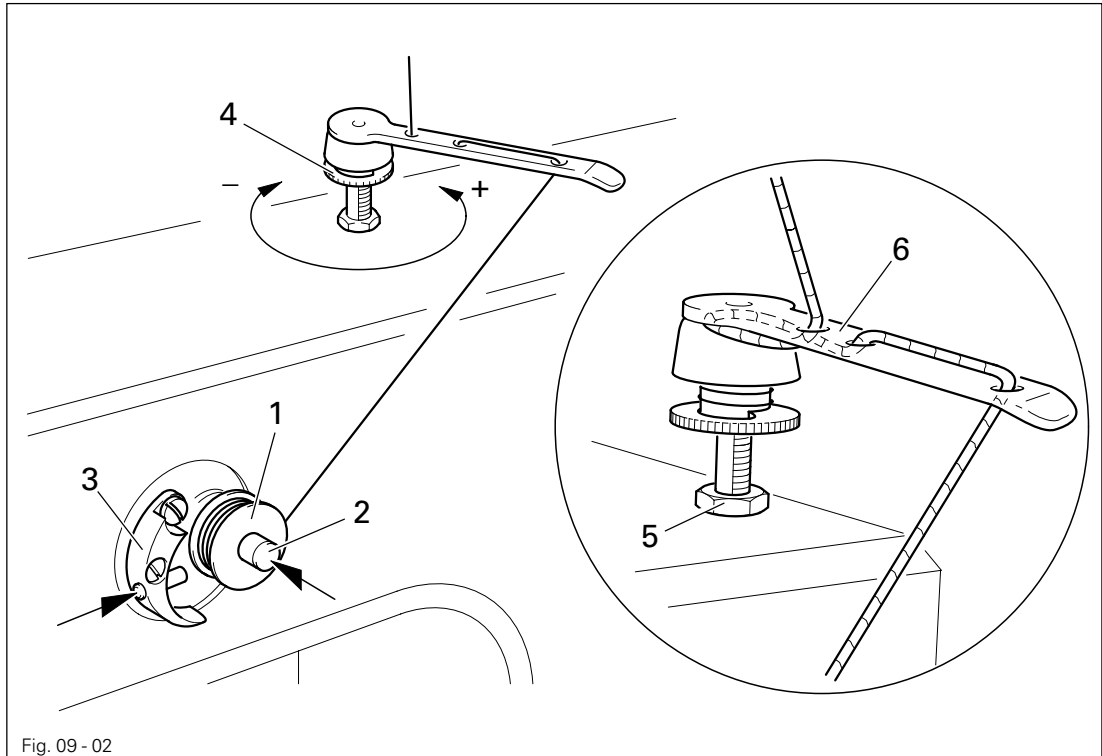


Switch off the machine!
Danger of injury due to unintentional starting of the machine!



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

- Raise needle bar.
- Loosen screw 1 .
- Insert the needle 2 as far as possible.
- The long needle-groove must be facing left when looking in the direction of sewing.
- Tighten screw 1.



- Place the empty bobbin 1 onto the bobbin winder spindle 2.
- Thread the thread in accordance with Fig. 09-02 and wind it a few times around bobbin 1 in a clockwise direction.
- Switch the bobbin winder on by pushing the bobbin winder spindle 2 and lever 3 simultaneously.



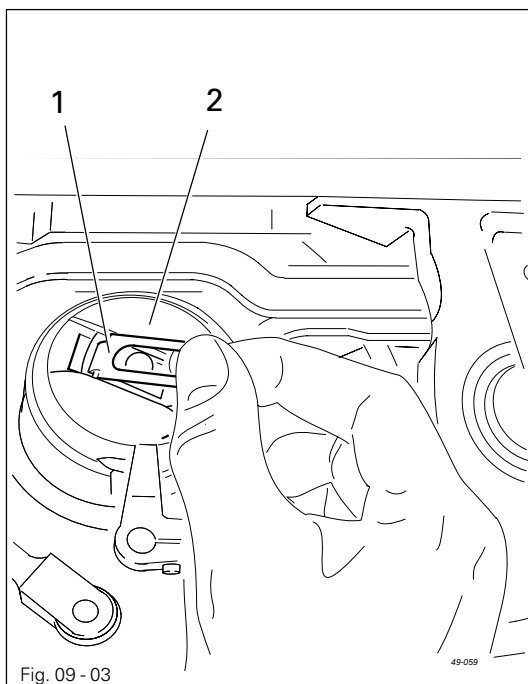
The bobbin is wound during sewing.

- The tension of the thread on bobbin 1 can be adjusted using milled screw 4.
- The bobbin winder stops automatically when bobbin 1 is full.

If the thread is wound irregularly:

- Loosen nut 5.
- Turn thread guide 6 accordingly.
- Tighten nut 5.

9.03 Removing/inserting the bobbin case



Switch off the machine!
Danger of injury if the machine is started accidentally!

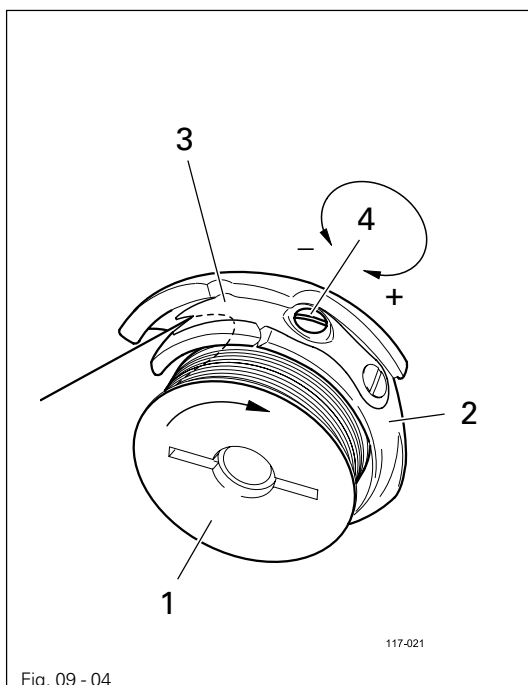
Removing the bobbin case.

- Lift clip 1 and remove bobbin case 2.

Inserting the bobbin case:

- Insert bobbin case 1 until you feel it click into place.

9.04 Threading the bobbin case, adjusting the thread tension



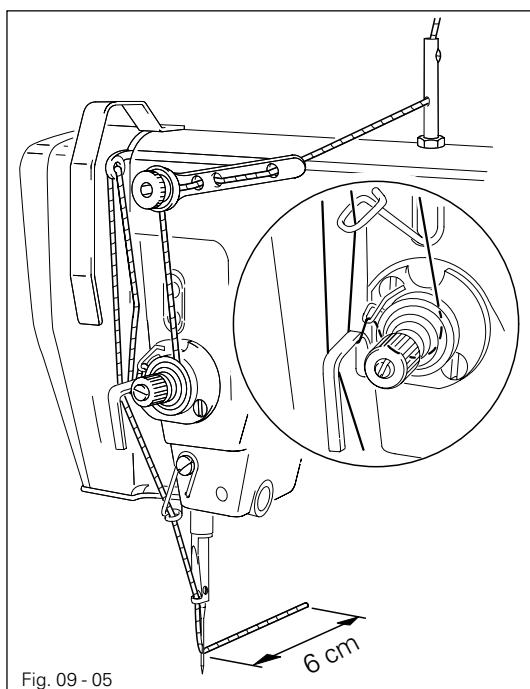
- Insert bobbin 1 into bobbin case 2.
- Guide the thread through the slot under spring 3.
- Adjust the thread tension by turning screw 4.



When the thread is pulled the bobbin 1 must rotate in the direction of the arrow.

9.05

Threading the needle thread

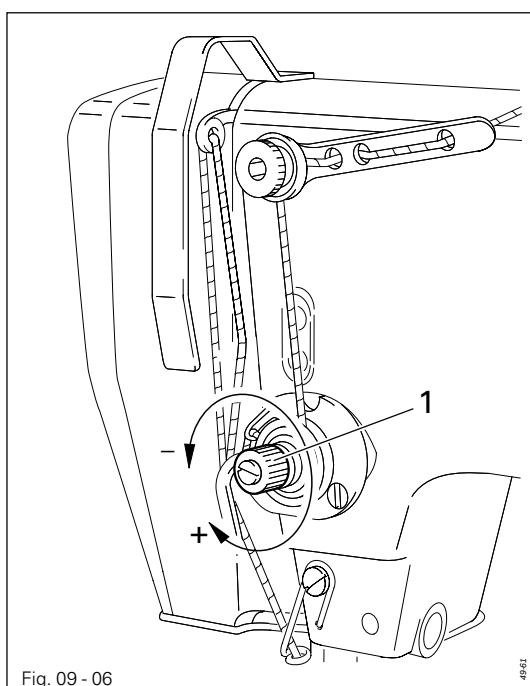


Switch off the machine!
Danger of injury if the machine
is started accidentally!

- Thread the needle thread in accordance with Fig. 09-05.

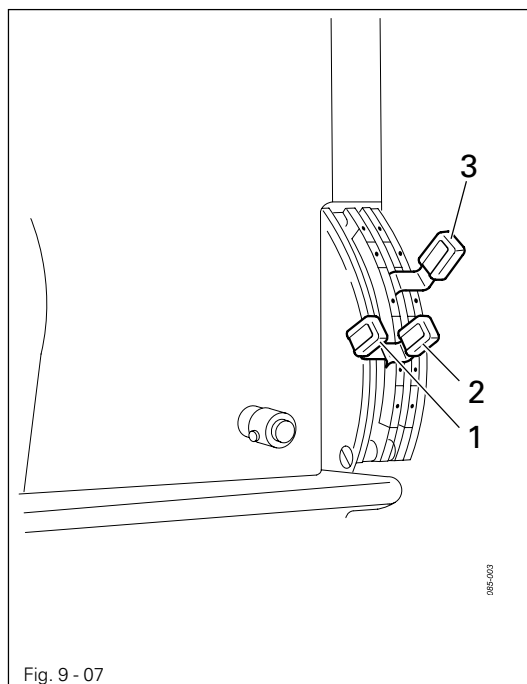
9.06

Adjusting the needle-thread tension



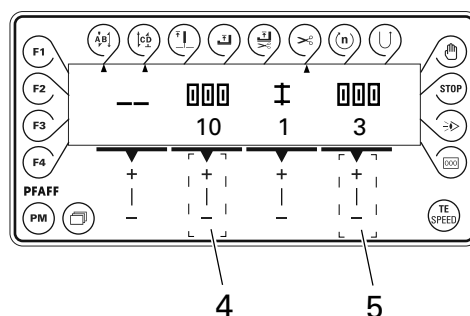
- Adjust the needle-thread tension by turning milled screw 1.

9.07 Pre-selecting the stitch length and fullnes



- To adjust the stitch length, move stitch length controls **1** and **2** together.
- Pre-select the fullness size with adjustment lever **3**.

- Switch on the machine.



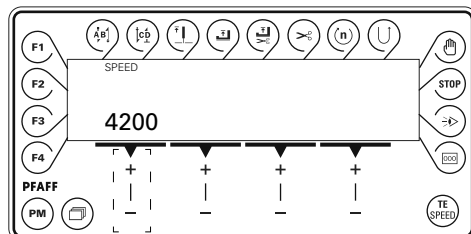
- Press +/- key **4** to set the number of stitches, after which the fullness is switched on automatically.
- Press +/- key **5** to set the number of stitches, which are still to be sewn with the pre-set amount of fullness, after the sensor has recognized the edge.

9.08 Entering the maximum speed

- Switch on the machine.



- Press the **TE/Speed** key to call up the input menu for the maximum speed. The status texts "Speed" and "TE" appear on the display.



- Set the maximum speed by pressing the corresponding **+/- key**. The maximum speed, which can be set here, is pre-set with parameter "607", see **Chapter 12.07 Parameter settings**.

9.09 Entering the start and end backtacks

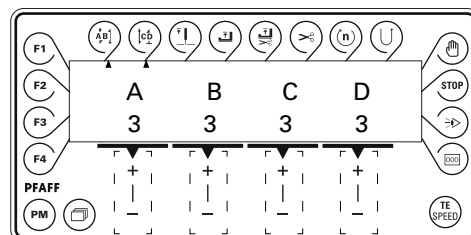
- Switch on the machine.



- Switch on the corresponding function by pressing the **start backtick** and/or **end backtick** keys. (Arrow appears under the corresponding function key.)



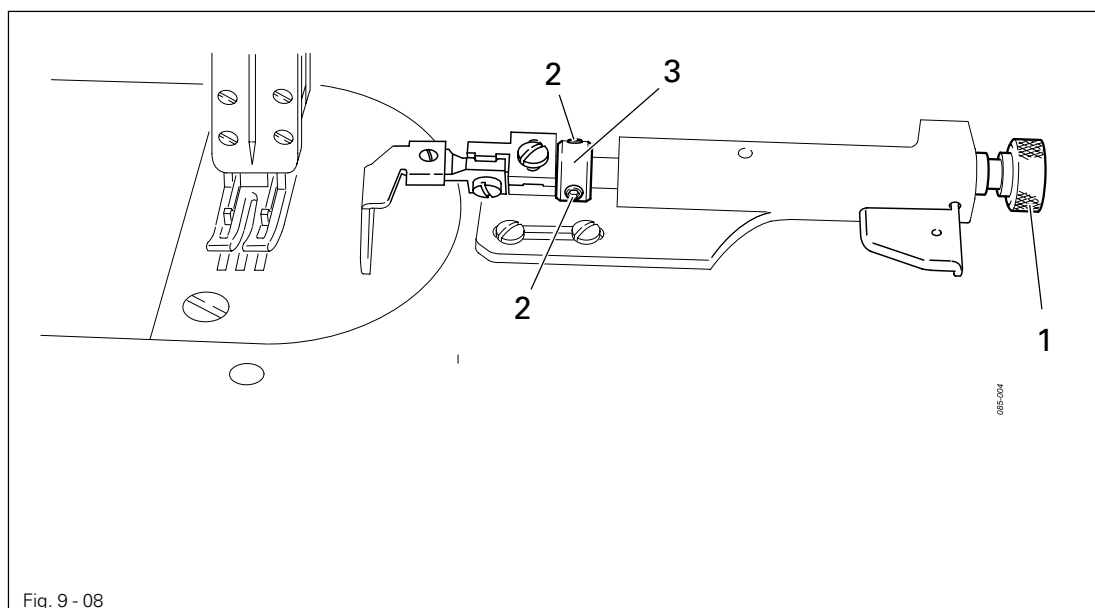
- Change to the input menu for start and end backtacks by pressing the **scroll** key.



- A** ● By pressing the corresponding **+/- key** select the desired value for the number of forward stitches (A) of the start backtick.
- B** ● By pressing the corresponding **+/- key** select the desired value for the number of reverse stitches (B) of the start backtick.
- C** ● By pressing the corresponding **+/- key** select the desired value for the number of reverse stitches (C) of the end backtick.
- D** ● By pressing the corresponding **+/- key** select the desired value for the number of forward stitches (D) of the end backtick.

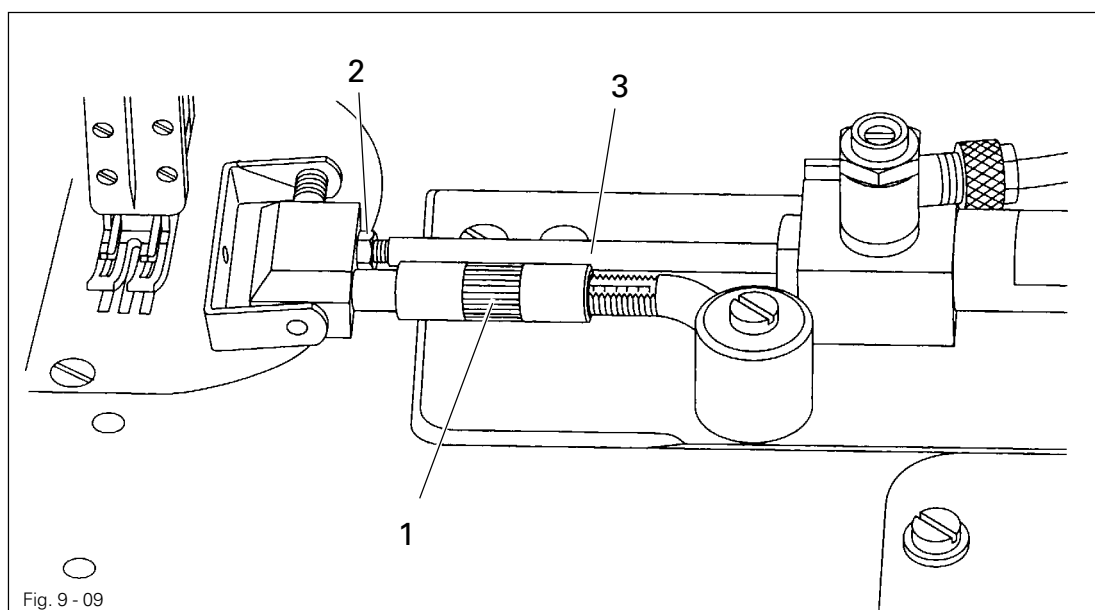
9.10 Setting the edge guide

9.10.01 Mechanical edge guide (PFAFF 3827-4/33)



- Set the small seam depth by turning milled screw 1 (edge guide switched on).
- To set the large seam depth loosen screws 2 and move stop 3 accordingly (edge guide switched off).

9.10.02 Pneumatic edge guide (PFAFF 3827-4/34)



- Set the large seam depth accordingly by turning milled screw 1.
- To set the small seam depth loosen nut 2 and turn piston rod 3 accordingly.

10 Sewing

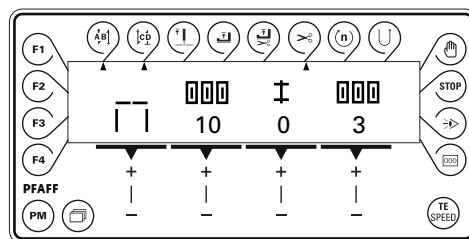
In the sewing mode all relevant settings for the sewing operation are displayed. Functions can be switched on or off by pressing a key. Values for the most important parameters can be changed directly.

PM A difference is made between manual sewing (side seams) and programmed sewing (shoulder seams). To change from manual to programmed sewing. Press the PM key.

10.01 Manual sewing (side seams)

The side seams are sewn in the manual sewing mode.

- Switch on the machine.
- PM** ● If necessary, call up manual sewing.



-  ● If necessary, change the tack value, also see **Chapter 9.09 Entering the start and end backtacks**.
- TE SPEED** ● If necessary, change the maximum speed, see **Chapter 9.08 Entering the maximum speed**.
-  ● If necessary, change the number of stitches for the fullness with the corresponding +/- keys, see **Chapter 9.07 Pre-selecting the stitch length and fullness**.

Further functions, also see **Chapter 7.07.02 Function keys**:

	Start backtacks on/off		Thread trimming on/off
	End backtacks on/off		Fixed speed on/off
	Needle position raised on/off		Reverse sewing on/off
	Presser foot raised on/off		Programmed stop on/off
	Presser foot raised after thread trimming on/off		Stitch count on/off

- Sewing is carried out with the pedal functions, see **Chapter 7.02 Pedal**.

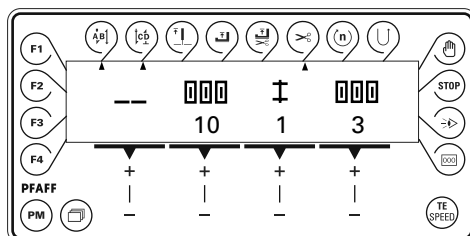
10.02 Programmed sewing (shoulder seams)

In the programmed sewing mode previously defined seam segments for the shoulder seams are sewn automatically.

- Switch on the machine.

PM

- If necessary, call up programmed sewing.



- If necessary, change the tack value, also see **Chapter 9.09 Entering the start and end backtacks**.



- If necessary, change the maximum speed, see **Chapter 9.08 Entering the maximum speed**.



- If necessary, change the number of stitches for the fullness with the corresponding +/- keys, see **Chapter 9.07 Pre-selecting the stitch length and fullness**.

Further functions, also see **Chapter 7.07.02 Function keys**:



Start backtacks on/off



Thread trimming on/off



End backtacks on/off



Fixed speed on/off



Needle position raised on/off



Reverse sewing direction on/off



Presser foot raised on/off



Programmed stop on/off



Presser foot raised after thread trimming on/off

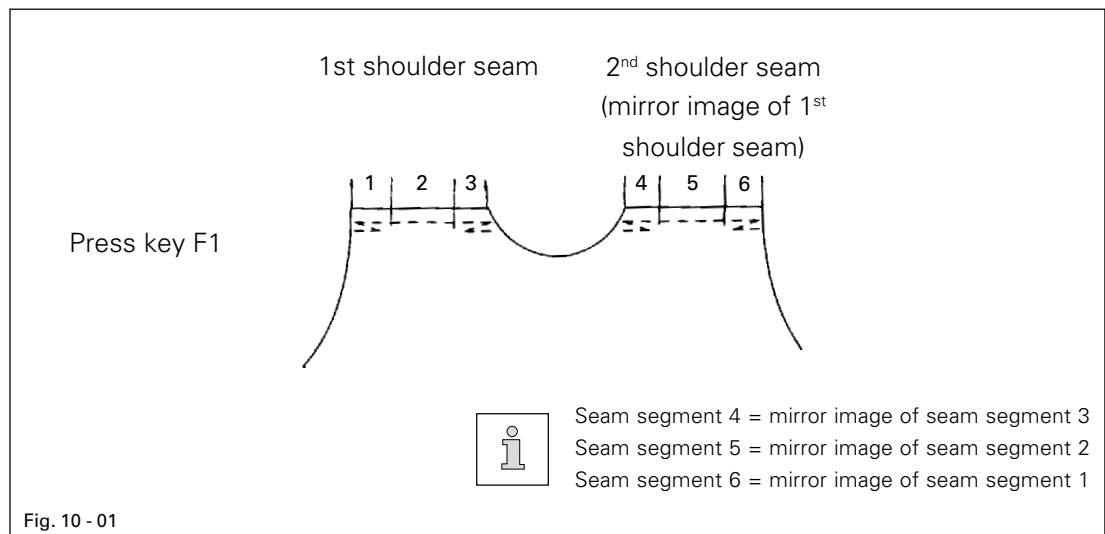


Stitch count on/off

- Sewing is carried out with the pedal functions, see **Chapter 7.02 Pedal**.

10.03 Examples of operating cycles

10.03.01 Sewing shoulder seams



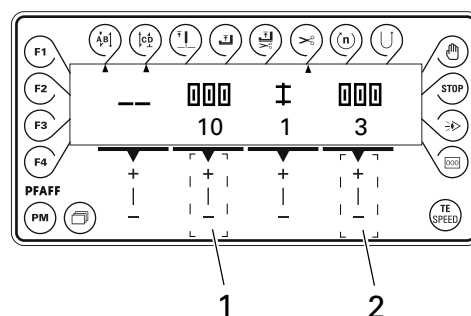
Preparation

- Carry out all steps as described in **Chapter 9 Setting up**.

- If necessary, call up programmed sewing (shoulder seams).

- Switch on the backtack function.

- Switch on the thread trimming function.



1st shoulder seam

- Press +/- **key 1** to set the number of stitches, after which the fullness is switched on automatically (seam segment 1).
- Press +/- **key 2** to set the number of stitches, which are still to be sewn with the pre-set amount of fullness, after the sensor has recognized the edge (seam segment 3).
The value for seam segment 2 is calculated automatically. The seam length depends on the size, the seam end is recognized by the sensor.

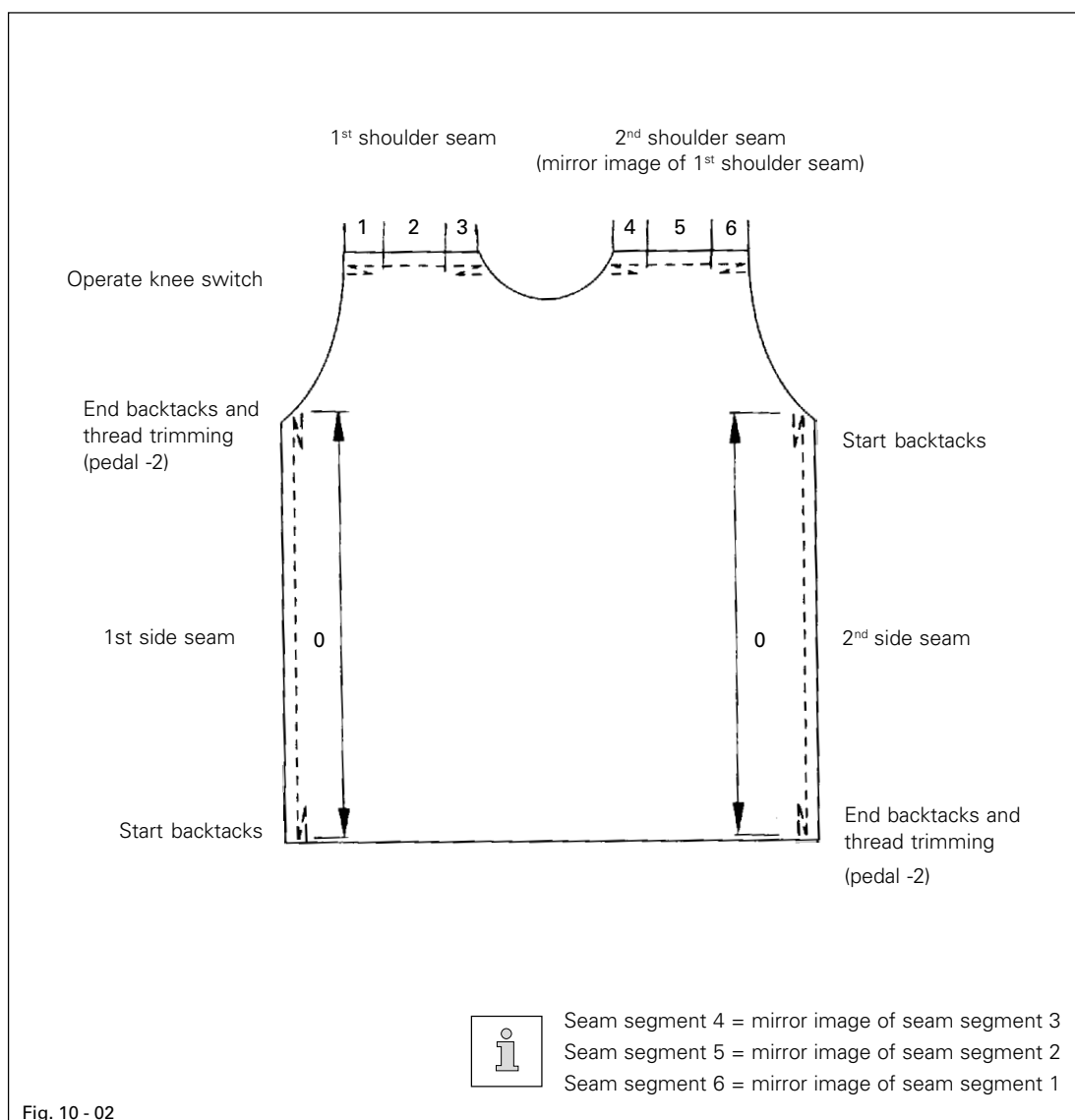
- Insert the workpiece and sew the seam using the pedal function, see **Chapter 7.02**
The seam end is recognized by the sensor, start and end backtacks and thread trimming are carried out automatically.

2nd shoulder seam

The values (seam sections) for the 2nd shoulder seam are taken over as a mirror image of the 1st shoulder seam.

- Insert the workpiece and sew the seam using the pedal function, see **Chapter 7.02 Pedal**. Start and end backtacks and thread trimming are carried out automatically

10.03.02 Sewing side and shoulder seams in combination



Preparation

- Carry out all steps as described in **Chapter 9 Setting up**.



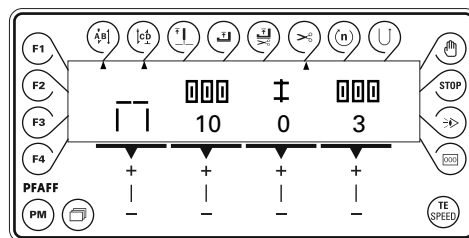
- If necessary, call up manual sewing (side seams).



- Switch on the backtack function.



- Switch on the thread trimming function.

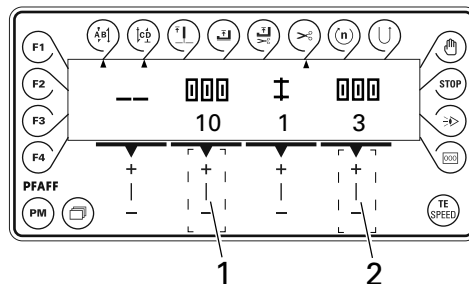


1st side seam

- Insert the workpiece and sew the seam using the pedal function, see **Chapter 7.02 Pedal**.
- At the end of the seam, start end backtacking and thread trimming using the pedal function (position "-2").

1st shoulder seam

- Switch on the programmed sewing mode (shoulder seam) using the knee switch.



- Press +/- **key 1** to set the number of stitches, after which the fullness is switched on automatically (seam segment 1).
- Press +/- **key 2** to set the number of stitches, which are still to be sewn with the pre-set amount of fullness, after the sensor has recognized the edge (seam segment 3). The value for seam segment 2 is calculated automatically. The seam length depends on the size, the seam end is recognized by the sensor.
- Insert the workpiece and sew the seam using the pedal function, see **Chapter 7.02 Pedal**. A sensor recognises the end of the seam and the end backtacks and the thread trimming function are carried out automatically.

2nd shoulder seam

The values (seam sections) for the 2nd shoulder seam are taken over as a mirror image of the 1st shoulder seam.

- Insert the workpiece and sew the seam using the pedal function, see **Chapter 7.02 Pedal**.

The start and end backtacks and thread trimming functions are carried out automatically.
The programmed sewing function is switched off automatically.

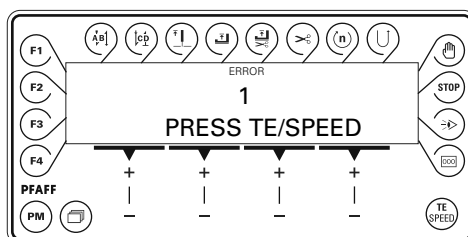
2nd side seam

- Insert the workpiece and sew the seam using the pedal function, see **Chapter 7.02 Pedal**.
- At the end of the seam trigger off the end backtack and thread trimming functions using the pedal, see **Chapter 7.02 Pedal**.

10.04 Error messages

If a fault occurs, the text "ERROR" appears on the display, together with an error code and short instructions. An error message is caused by incorrect settings, faulty elements or seam programs as well as by overload conditions.

For an explanation of the error codes see **Chapter 12.08 Explanation of the error messages**.



- Correct the error.
- Acknowledge error correction by pressing the **TE/Speed** key.



11 Care and Maintenance

Clean hook compartment	daily, several times if in continuous use
Clean the entire machine	once a week
Check the oil level	once a month
Lubricate the articulated joints of the top feed	once a week
Check/adjust the air pressure	daily, before use
Clean air filter of air filter/regulator	as required



These maintenance intervals are calculated for the average running time of a single shift operation. If the machine is operated for longer periods, shorter maintenance intervals are recommended.

11.01 Cleaning the machine

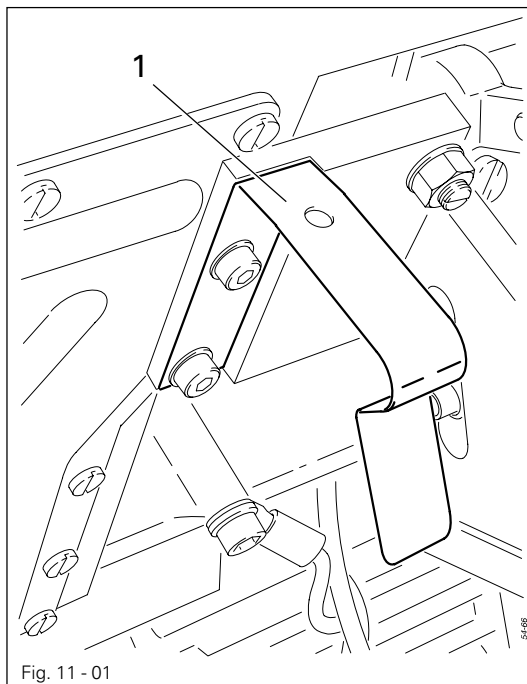


Fig. 11 - 01



Switch off the machine!
Danger of injury if the machine is started accidentally!

- Tilt sewing head backwards.
- Clean the entire hook and hook compartment daily, more often if the machine is in continuous use.
- When returning the machine to an upright position, make sure that tilt lock 1 is pressed.



Use both hands to set the machine upright!
Danger of crushing between the sewing head and table top!

11.02 Oil level of the machine

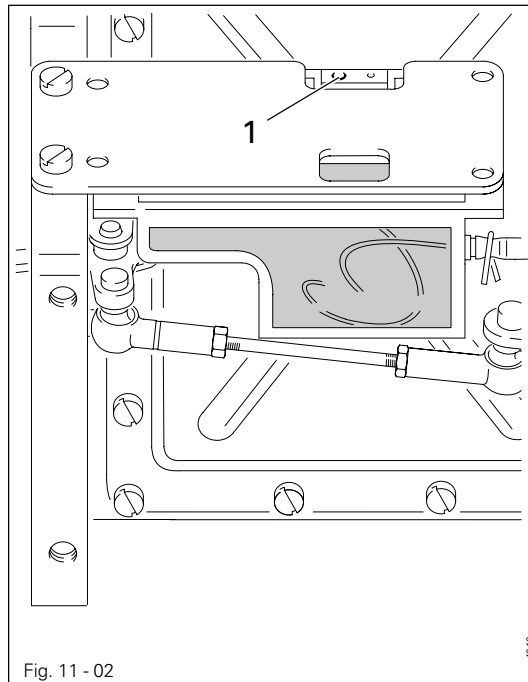


Fig. 11 - 02

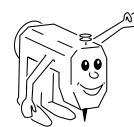


Check the oil level once a month!

- If necessary fill oil into hole 1 up to the marking.



Only use oil with a medium viscosity of 10.00 mm²/s at 40°C and a density of 0.847 g/cm³ at 15°C.



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

11.03 Cleaning/lubricating the top feed joints

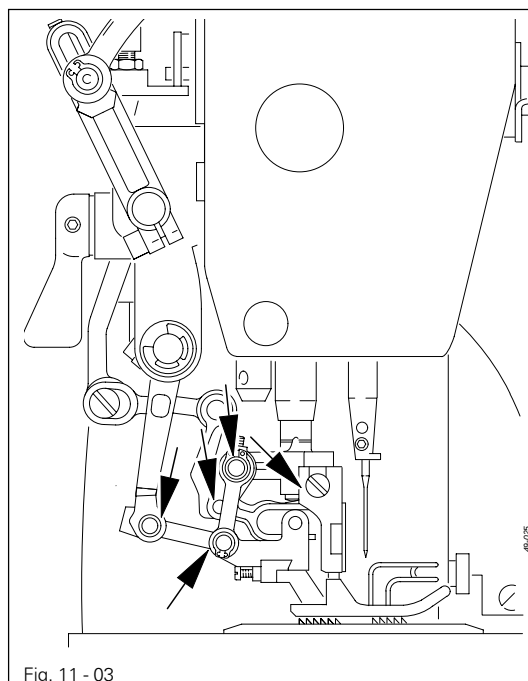
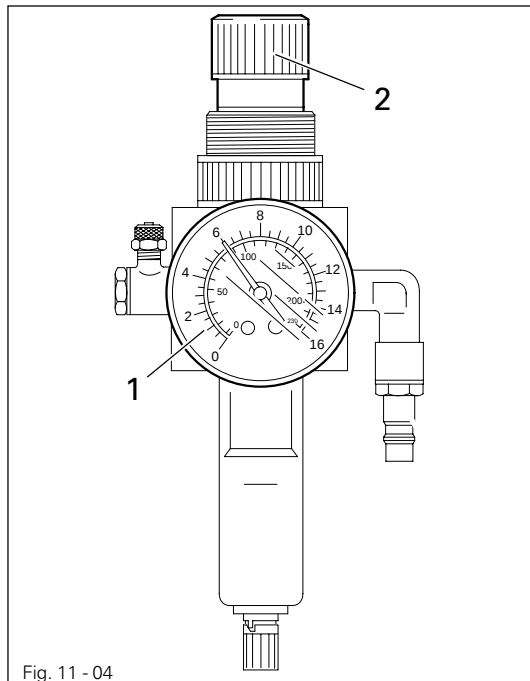


Fig. 11 - 03

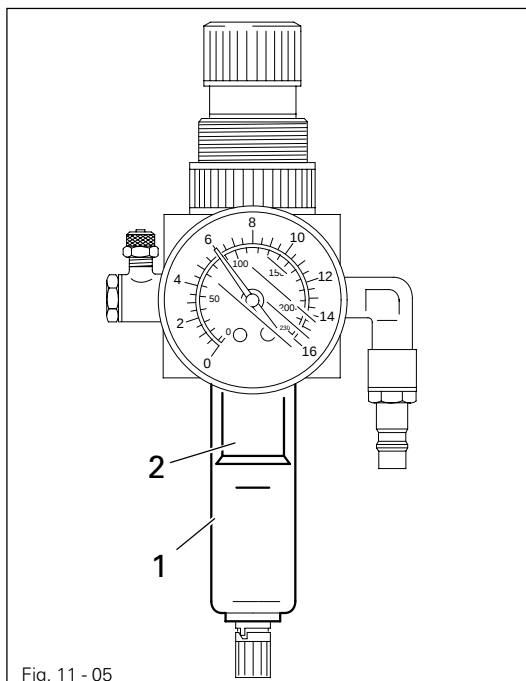
- Once a week or after the machine has stood still for longer periods, clean the points marked in the illustration with the special cleaner, part no. **99-137 468-91**.
- Afterwards lubricate these points with the special lubricant, part no. **99-137 467-91** (wipe off surplus lubricant with a cloth).

11.04 Checking the air pressure



- Check the air pressure on the gauge **1** before every use of the machine.
- The gauge **1** must show a pressure of approx. **6 bar**.
- Adjust to this value if necessary.
- To do so lift button **2** and turn it until the gauge shows approx. **6 bar**.

11.05 Emptying/cleaning the water container of the air filter/regulator



Turn the machine off!
Disconnect the compressed
air hose from the air filter/
regulator.

Emptying water container 1

- Water container **1** empties itself automatically when the compressed air hose is removed from the air filter/regulator.
- Unscrew water container **1**.
- Screw out filter **2**.
- Clean filter **2** with compressed air or isopropyl alcohol (Part No. 95-665 735-91)
- Screw filter **2** back in and screw on water trap **1**.

12 Adjustment



Please observe all notes from **Chapter 1 Safety** of the instruction manual! In particular care must be taken to see that all protective devices are refitted properly after adjustment, see **Chapter 1.06 Danger warnings** of the instruction manual!



If not otherwise stated, the machine must be disconnected from the electrical power supply.

12.01 Notes on adjustment

All following adjustments are based on a fully assembled machine and may only be carried out by expert staff trained for this purpose.

Machine covers, which have to be removed and replaced to carry out checks and adjustments, are not mentioned in the text.

The order of the following chapters corresponds to the most logical work sequence for machines which have to be completely adjusted. If only specific individual work steps are carried out, both the preceding and following chapters must be observed.

Screws, nuts indicated in brackets () are fastenings for machine parts, which must be loosened before adjustment and tightened again afterwards.



Do not use a screw-clamp on the needle bar of the **PFAFF 3827**, because this will damage the special coating of the needle bar.

12.02 Tools, gauges and other accessories for adjusting

- Screwdrivers with blade width from 2 to 10 mm
- Screwdrivers with blade width from 7 to 14 mm
- Allan keys from 1.5 to 6 mm
- Metal rule, Part No. 08-880 218-00
- Rig pin 5 mm diameter, Part No. 13-030 341-05
- Adjustment gauge, Part No. 61-111 639-49
- Alignment gauge, Part No. 91-069 375-15
- Gauge foot, Part No. 61-111 639-20

12.03 Abbreviations

TDC = top dead center

BDC = bottom dead center

12.04

Check and adjustment aid



By placing pegs in holes 1 and 3 - 6 the required needle bar positions can be exactly fixed.

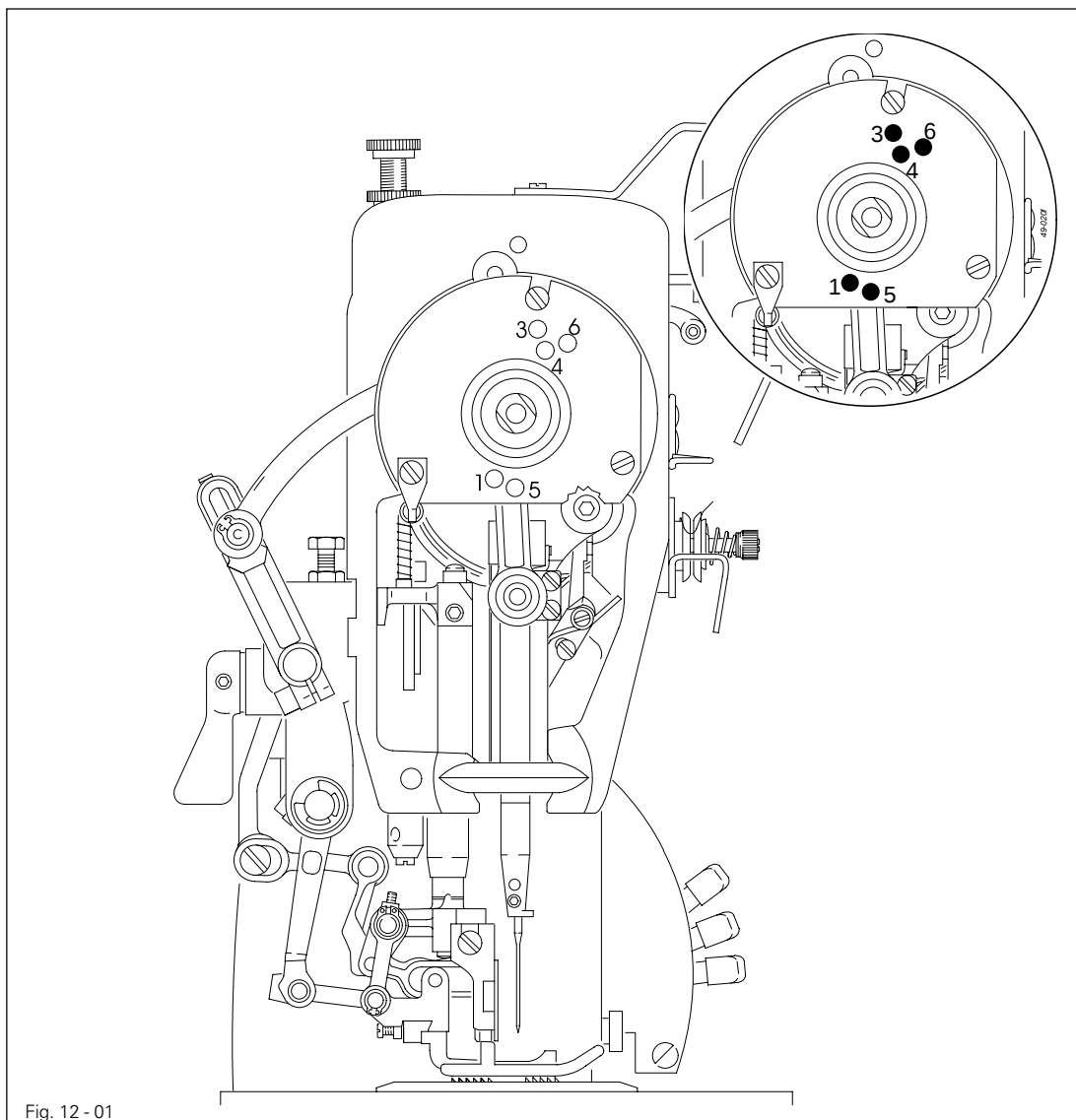
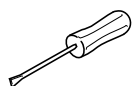


Fig. 12 - 01



- Turn the handwheel until the needle bar has approximately reached the required position.
- Place the 5 mm rig pin in the appropriate hole and put pressure on it.
- Turn the handwheel forwards and backwards a little until the rig pin moves into the slot in the crank behind the bearing plate, thus blocking the machine.

Hole 1	=	0.6 mm after the top dead center of the needle bar (0.6 a. TDC)
Hole 3	=	0.6 mm after the bottom dead center of the needle bar (0.6 a. BDC)
Hole 4	=	1.8 mm after the bottom dead center of the needle bar (needle rise)
Hole 5	=	Top dead center of the needle bar (TDC)
Hole 6	=	4 mm after the bottom dead center of the needle bar (4 a. BDC)

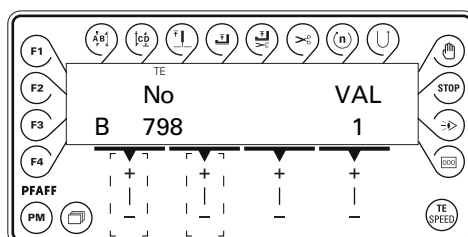
12.05 Adjusting the basic machine

12.05.01 Basic position of the machine

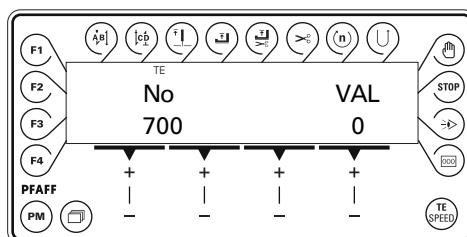
- Switch on the machine.

2 x 

- Press the **TE/Speed** key twice to enter the parameter input function.
The status text "TE" appears on the display and the pedal functions are blocked, to avoid the machine starting accidentally.
- Select mechanic level „B“, see Chapter 12.07.02 Selecting the user level.



- No ● By pressing the corresponding +/- key, call up parameter "700".



- Turn the balance wheel in the direction of sewing until the tip of the needle is level with the top edge of the needle plate.



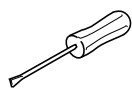
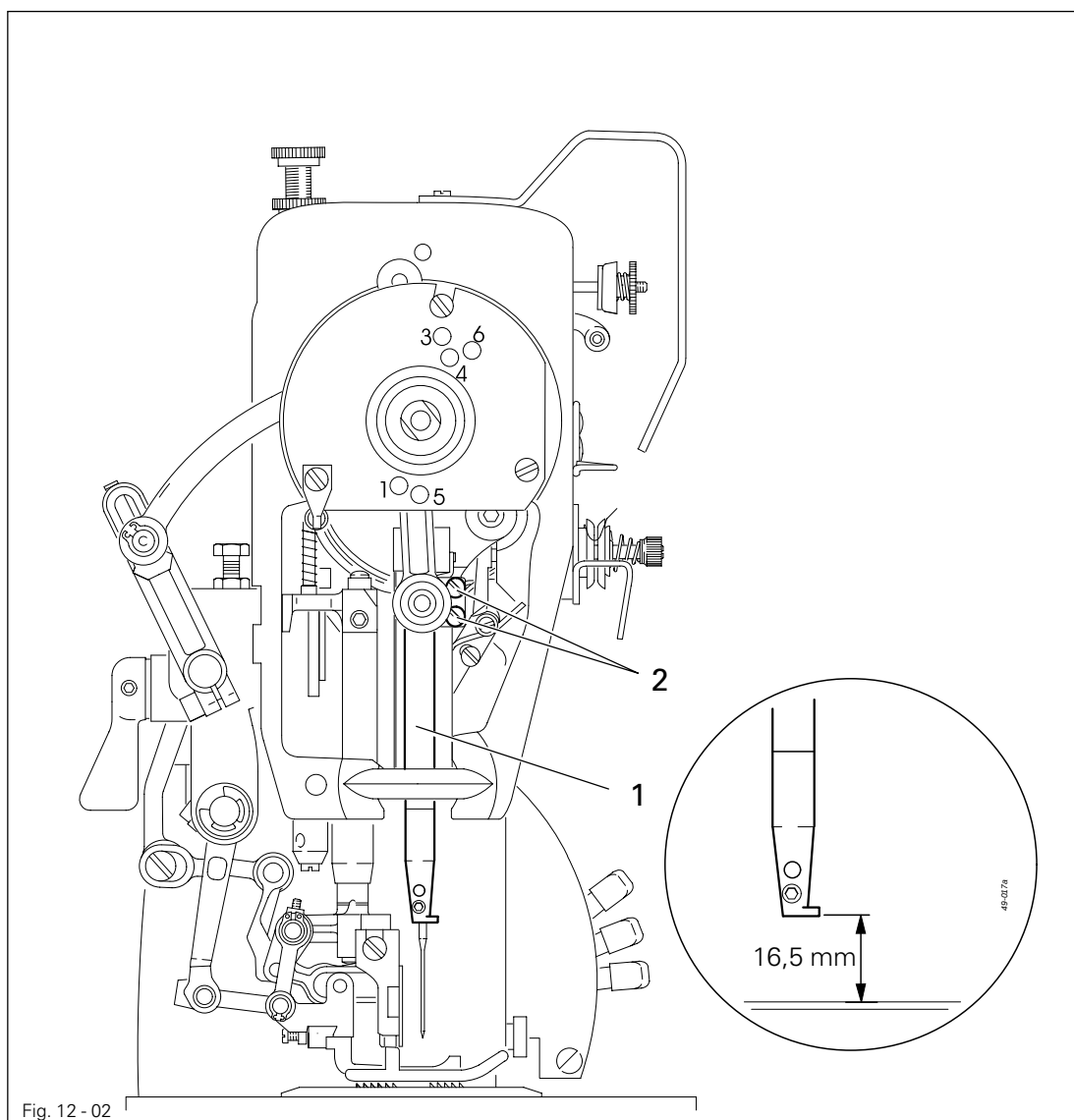
- Conclude the input.
- Switch off the machine.

Adjustment

12.05.02 Preliminary adjustment of the needle height

Requirement

With the needle bar at b.d.c. the distance between bottom edge of the needle bar and the needle plate must be **16.5 mm**.

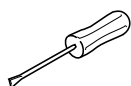
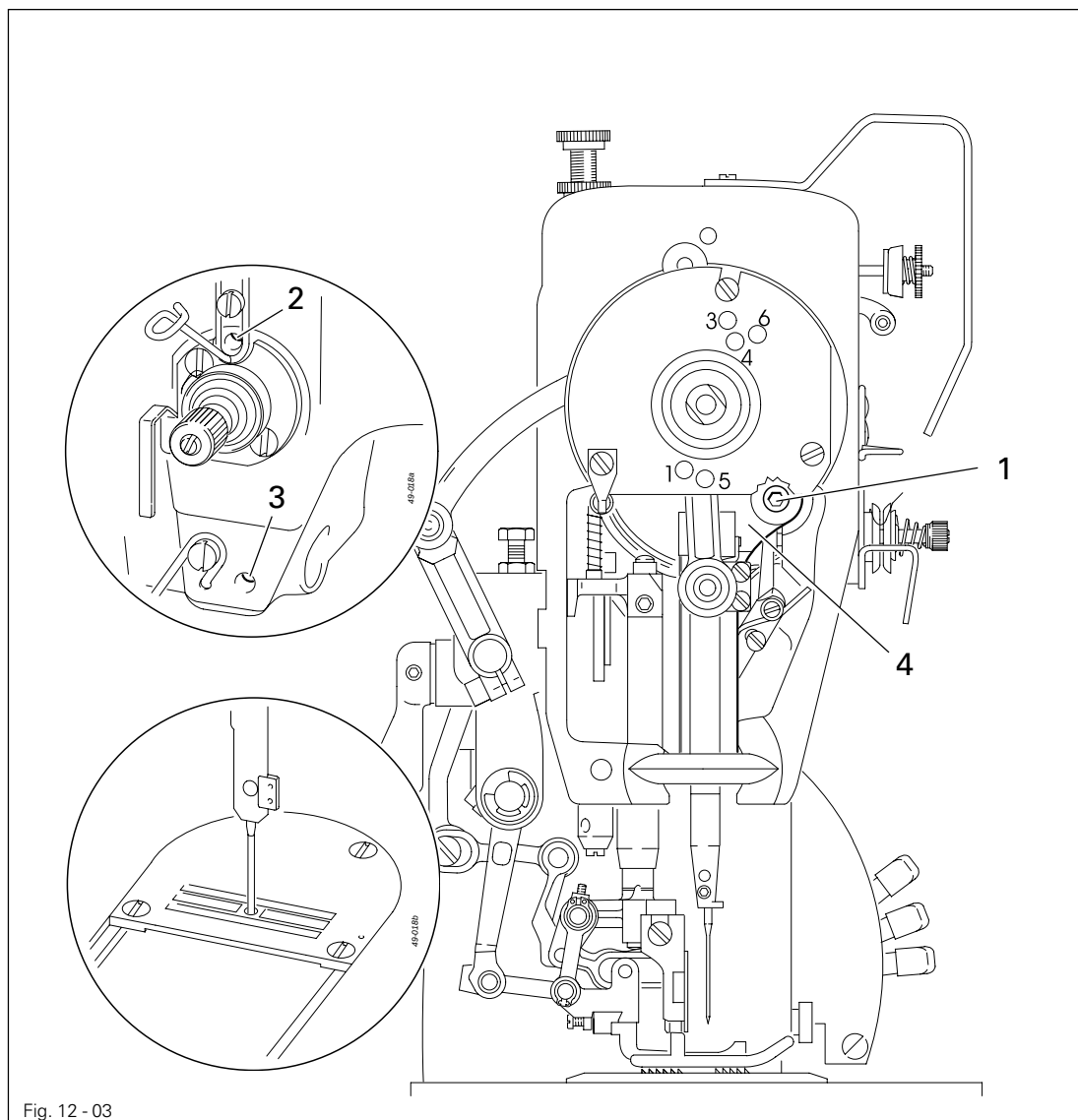


- Adjust needle bar 1 (screws 2) according to the requirement.

12.05.03 Needle in needle-hole centre

Requirement

The needle should enter the needle hole exactly in the centre.

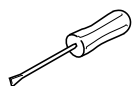
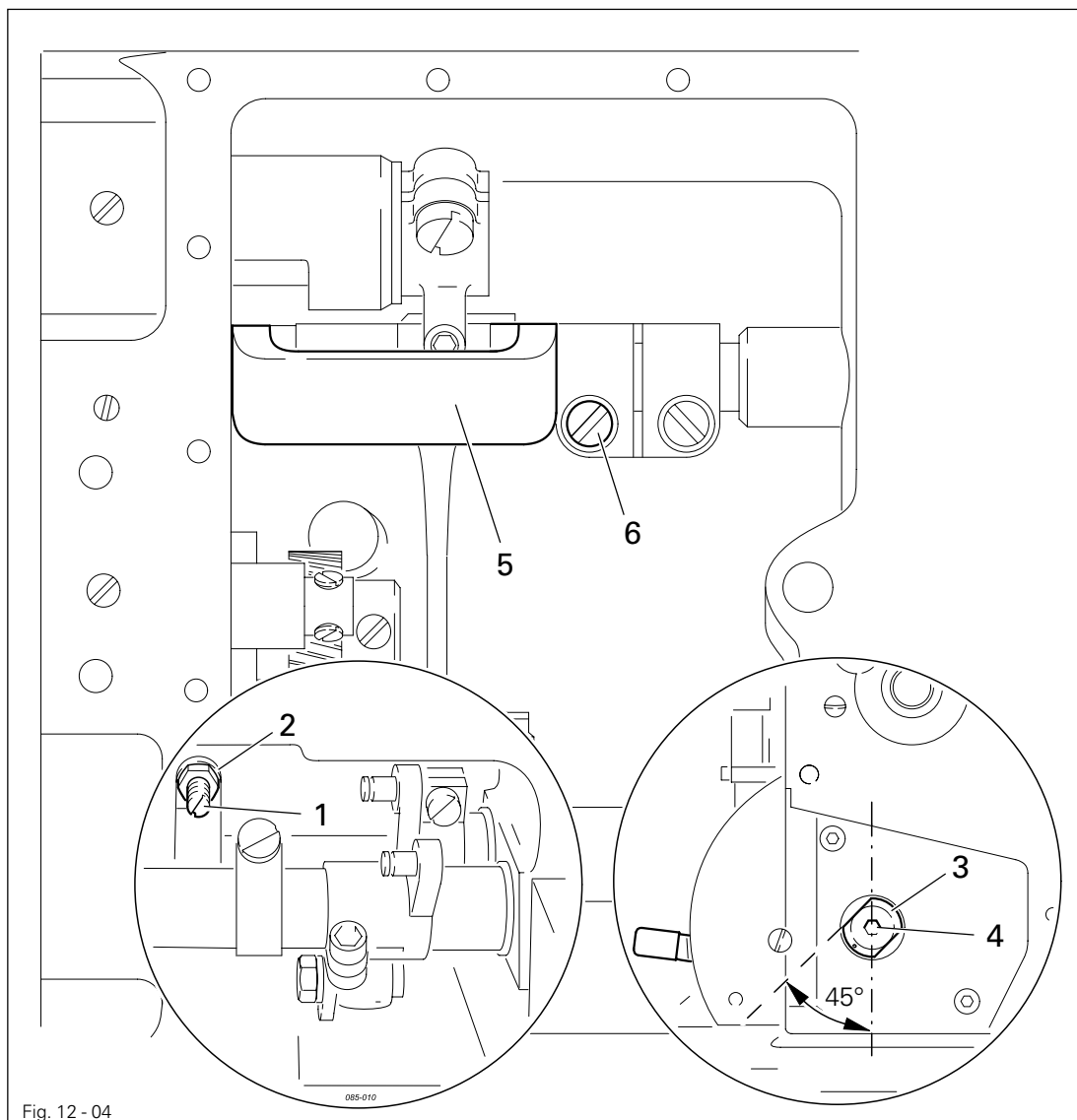


- Position the needle directly over the needle hole.
- Loosen screws 1, 2 and 3.
- Adjust the needle bar frame 4 both crosswise and in the direction of sewing according to the **requirement** and tighten screw 2 slightly and screw 3.
- With screw 1 draw the guide stud located behind it towards the eye of the needle bar frame and tighten it.
- Turn the balance wheel round a few times to avoid any distortion of the needle bar frame and tighten screw 2.

12.05.04 Neutral position of the bottom feed dog

Requirement

With the stitch length set at "0" there should be no feeding motion of the bottom feed dog when the balance wheel is turned.



- Loosen screw 1 (nut 2).
- Set stitch length at "0".
- Turn eccentric bush 3 (screw 4) so that the marking is pointing downwards and the surface of eccentric bush 3 is at an angle of 45° to the front edge of the machine.
- While turning the balance wheel continuously, adjust crank 5 (screw 6) according to the requirement.



Screw 1 remains loosened for further adjustments.

12.05.05 Feeding motion of the bottom feed dog

Requirement

With the maximum stitch length set and the needle bar positioned 0.6 mm past t.d.c. (adjustment hole 1), the bottom feed dog should not move when the reverse feed key is operated.

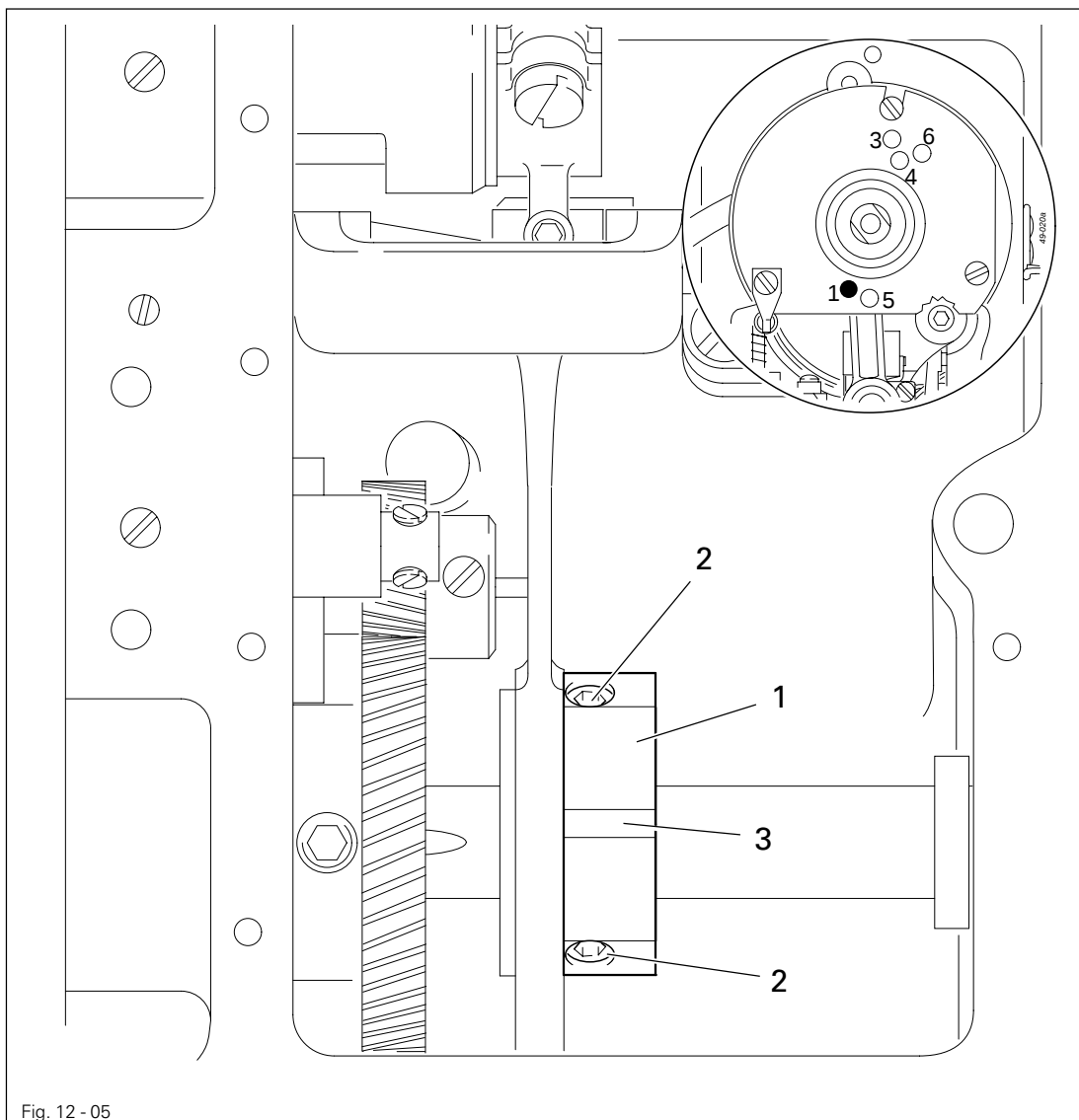
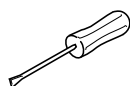


Fig. 12 - 05

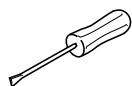
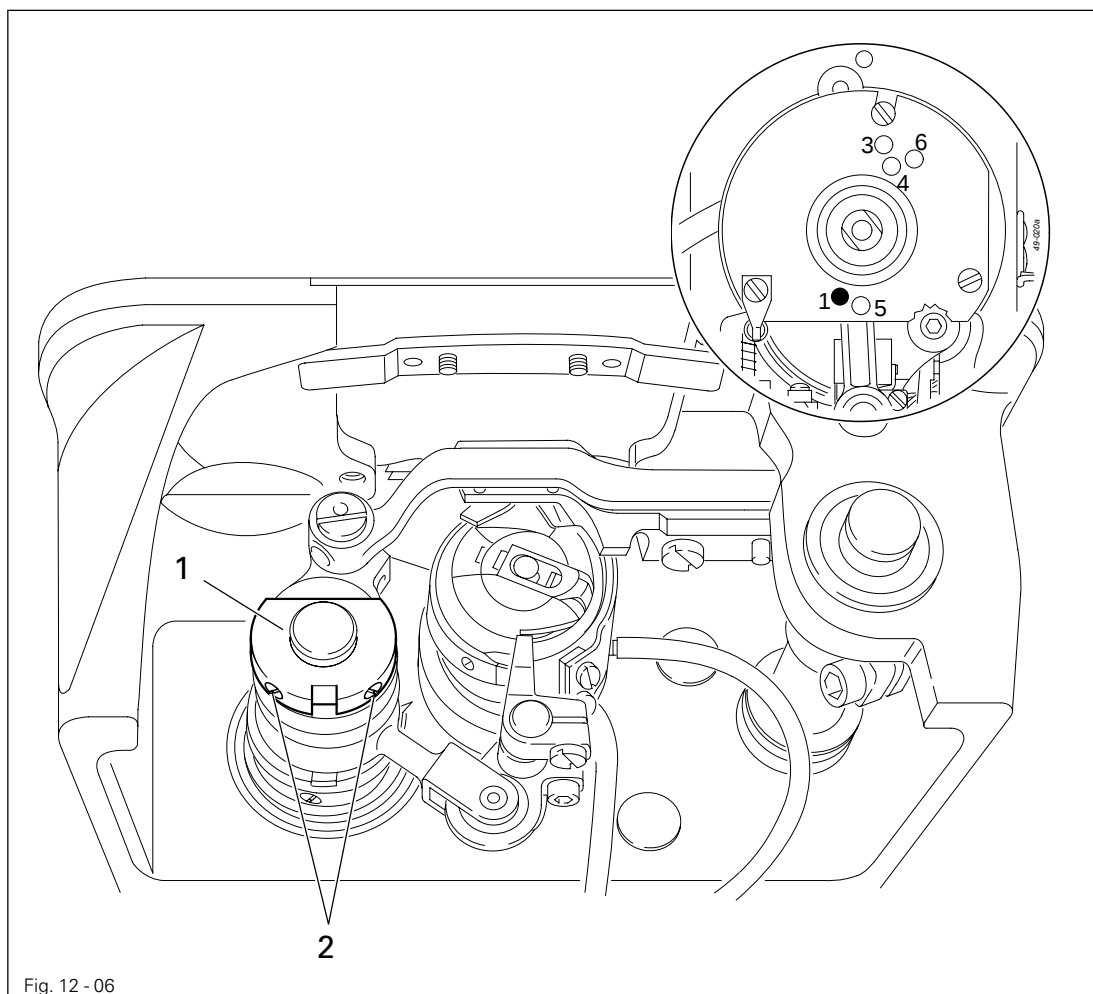


- Bring needle bar to 0.6 past t.d.c.
- Adjust eccentric 1 (screw 2) according to the **requirement**, making sure that the cutout 3 is visible.

12.05.06 Lifting motion of the bottom feed dog

Requirement

1. With the needle bar set 0.6 past t.d.c. (adjustment hole 1) and the stitch length set at "0", the bottom feed dog should be at the top of its stroke.
2. The cutout of eccentric 1 should be more or less directly under the axis centre.



- Adjust eccentric 1 (screws 2) according to the **requirement**.

12.05.07 Height of the bottom feed dog

Requirement

When the needle bar is at 0.6 past t.d.c. (adjustment hole 1) and the stitch length is set at "0",

1. The bottom feed dog should be in the centre of the needle plate cutout, as seen from the side and in the direction of feed.
2. The bottom feed dog should be at the top of its stroke and its entire length should be positioned against the adjustment gauge.

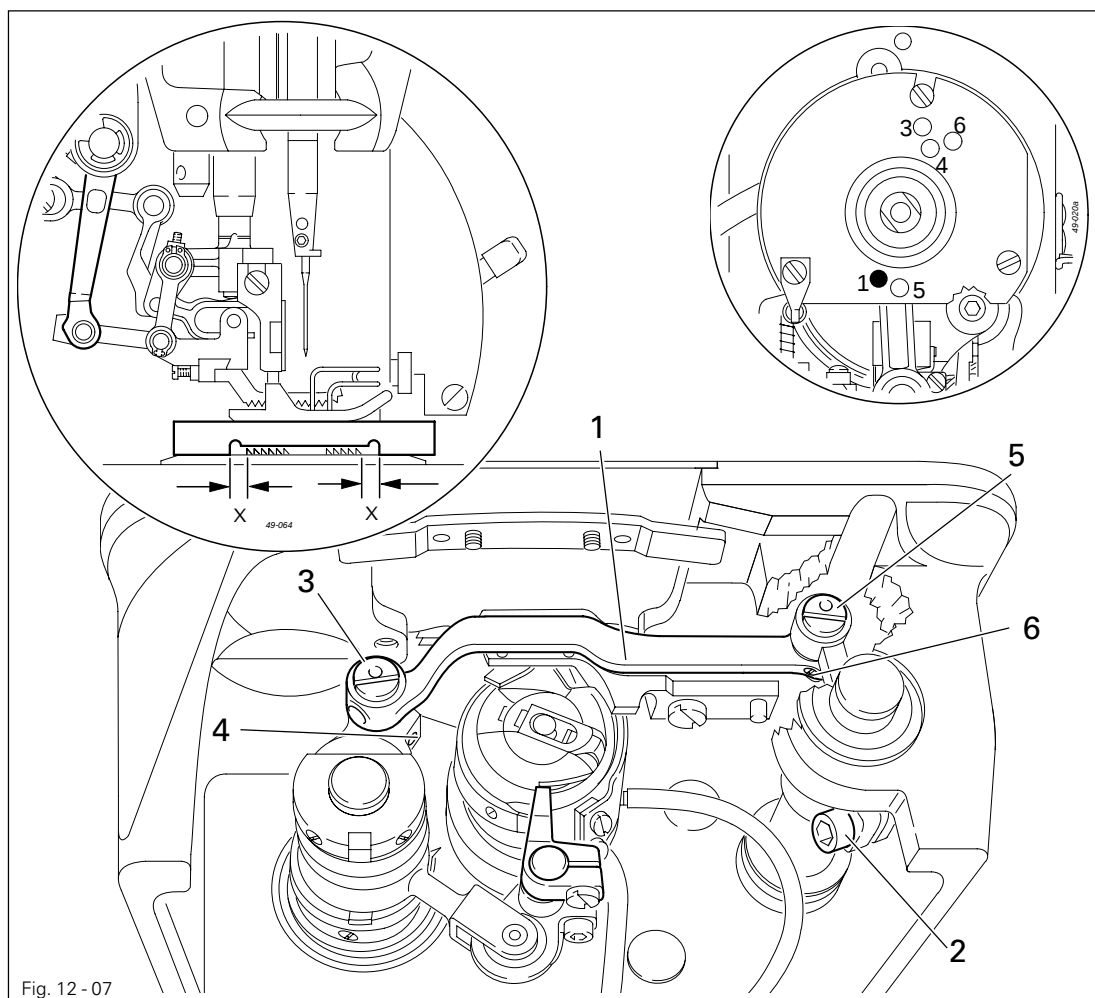
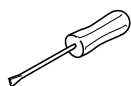


Fig. 12 - 07

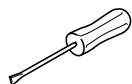
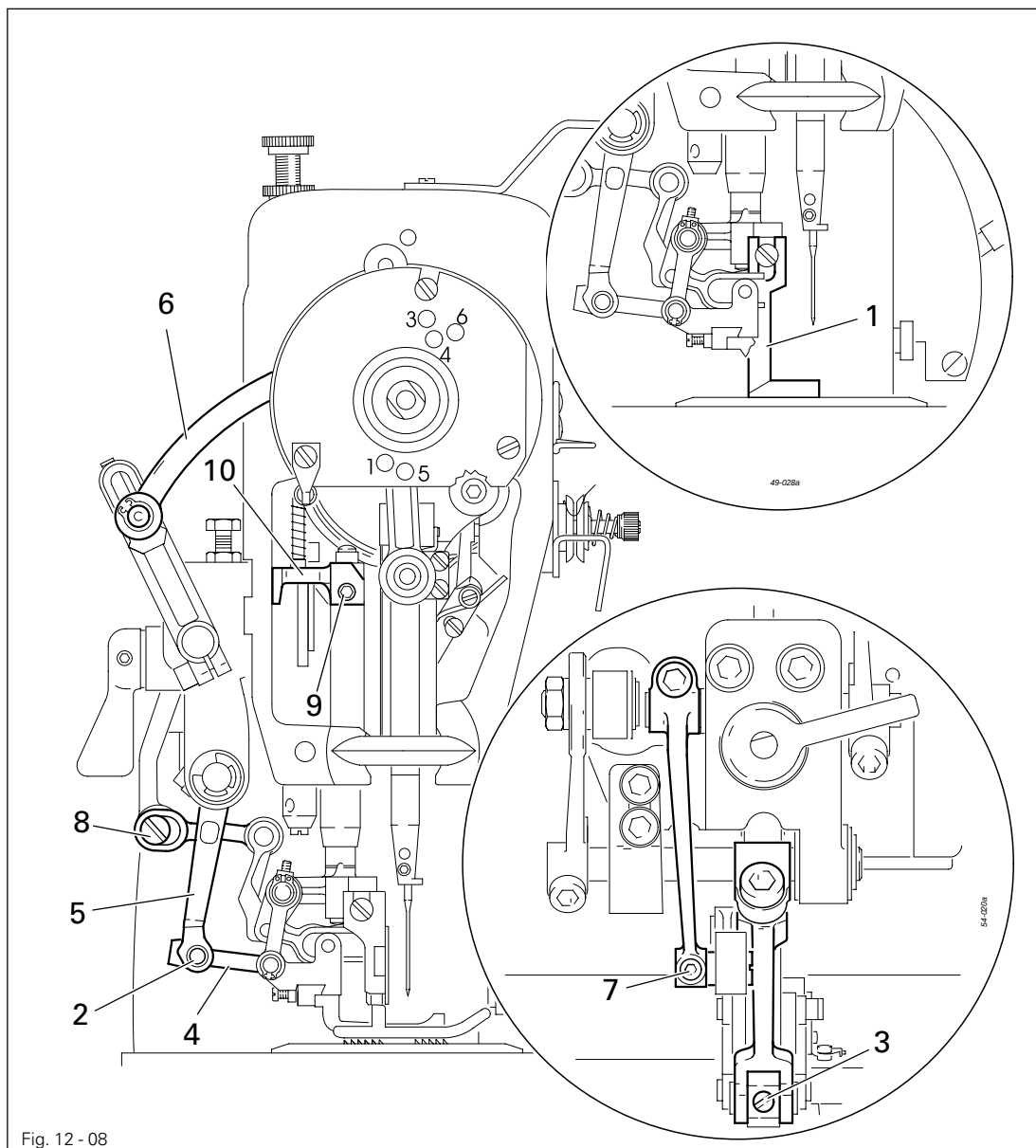


- Adjust feed dog bracket 1 (screw 2) according to **requirement 1**.
- Lower the presser foot onto the gauge (part no.61-111 639-49).
- Turn eccentric 3 (screw 4) and eccentric 5 (screw 6) according to **requirement 2**.

12.05.08 Clearance between presser foot and needle plate

Requirement

When hand lever 1 is raised there should be a clearance of **5 mm** between the presser foot and the needle plate.



- Unscrew the presser foot.
- Screw on gauge foot 1 (part no. 61-111 639-20) and lower it down to touch the needle plate.
- Push out bolt 2 (screw 3) and remove connection element 4 from the yoke of lever 5.
- By turning the balance wheel bring lever 6 to its furthest point of reversal.
- Place feed dog adjustment gauge under the presser foot with the recess facing down.
- Loosen screw 7 and push out bolt 8.
- Adjust presser foot (screw 8) at the side so that the edge of the presser foot is parallel to the bottom feed dog.

- Raise the gauge foot **1** and dismount it.
- Fit the presser foot and lower it down to touch the needle plate.
- Adjust presser foot (screw **9**) at the side so that the edge of the presser foot is parallel to the bottom feed dog.
- Lower lifting piece **10** as far as possible and tighten screw **9**.



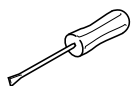
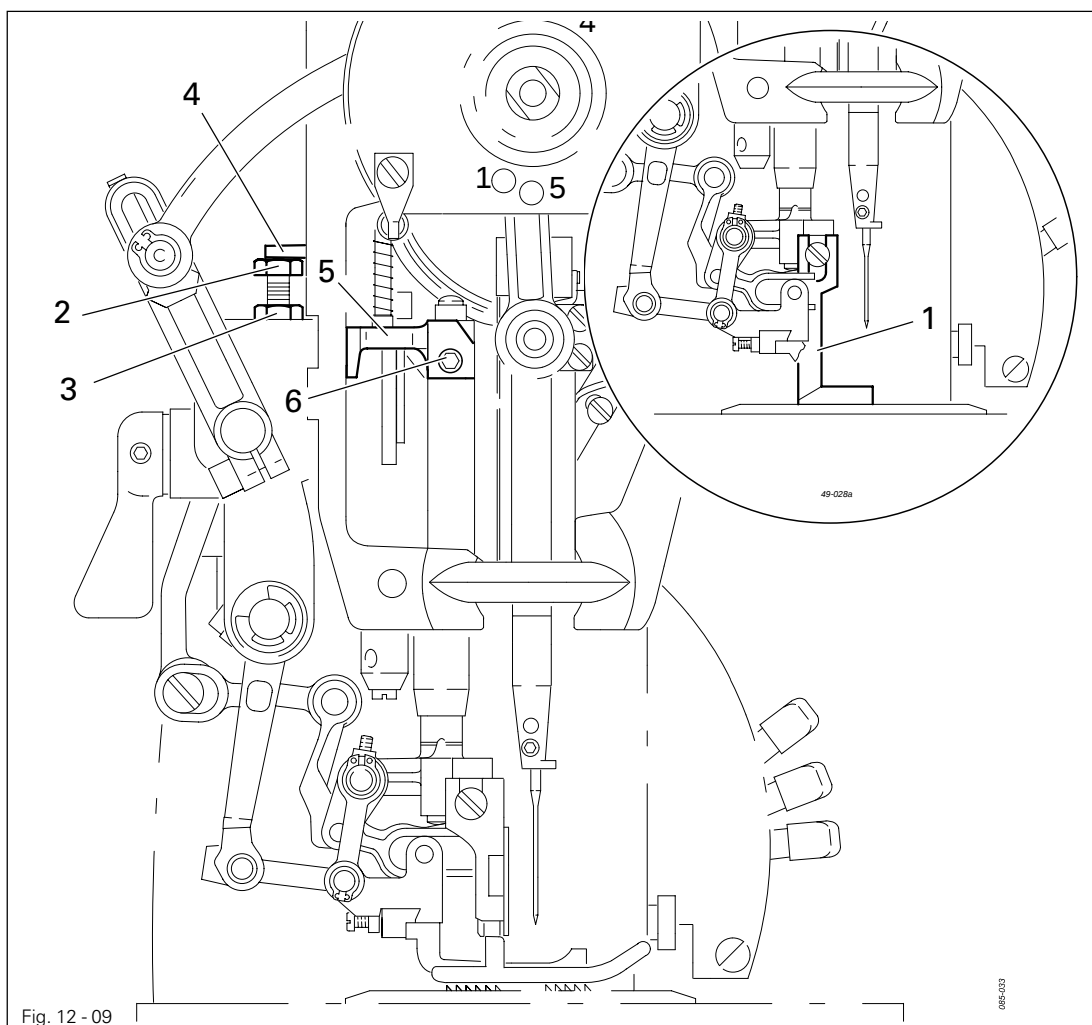
Screws **3** and **7** remain loosened for further adjustments.

Adjustment

12.05.09 Stop in relation to the presser foot

Requirement

When adjustment foot 1 (part no. 61-111 639-20) is resting on the needle plate, stop 4 should be touching screw 2



- Remove presser foot.
- Attach adjustment foot 1 (part no. 61-111 639-20) and lower it onto the needle plate.
- Adjust screw 2 (nut 3) according to the **requirement**.
- Remove adjustment foot 1 and replace presser foot.

12.05.10 Top feed driving and connecting lever

Requirement

1. All moving parts of the top feed should move freely without play.
2. The top feed must not touch the presser foot.

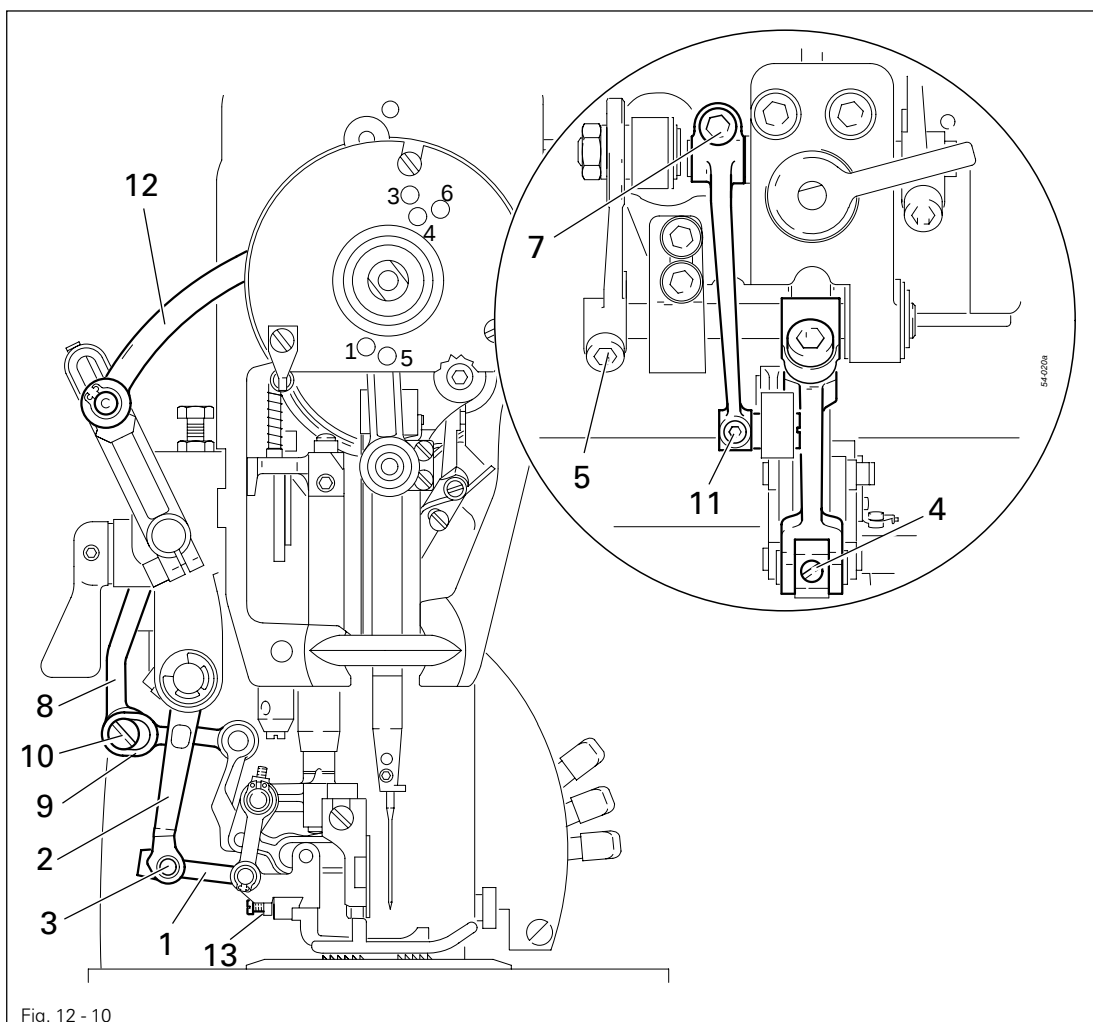
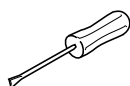


Fig. 12 - 10



- Lower the presser foot with the hand lever.
- Swing connection element 1 into the yoke of lever 2, insert bolt 3 and tighten screw 4 (make sure that the parts move freely, if necessary adjust lever 2).
- Align top feed dog in the centre of the presser foot cutout in the direction of sewing (screw 5).
- Loosen screw 7.
- Align the hole of lever 8 with the elongated hole of lever 9 without any lateral play, if necessary adjust or align lever 8.
- With its greatest eccentricity pointing downwards, place bolt 10 into the holes of lever 9 and 8 and tighten screw 11.
- Bring lever 12 to its furthest point of reversal.
- Press lever 8 in feed direction until a stop can be felt and tighten screw 7.
- Align the side of the top feed foot so that it is not touching the presser foot (screw 13).

Adjustment

12.05.11 Neutral position of the top feed dog

Requirement

When the stitch length is set at "0" and with the adjustment gauge **4** fitted, there should be no feeding motion of the top feed dog.

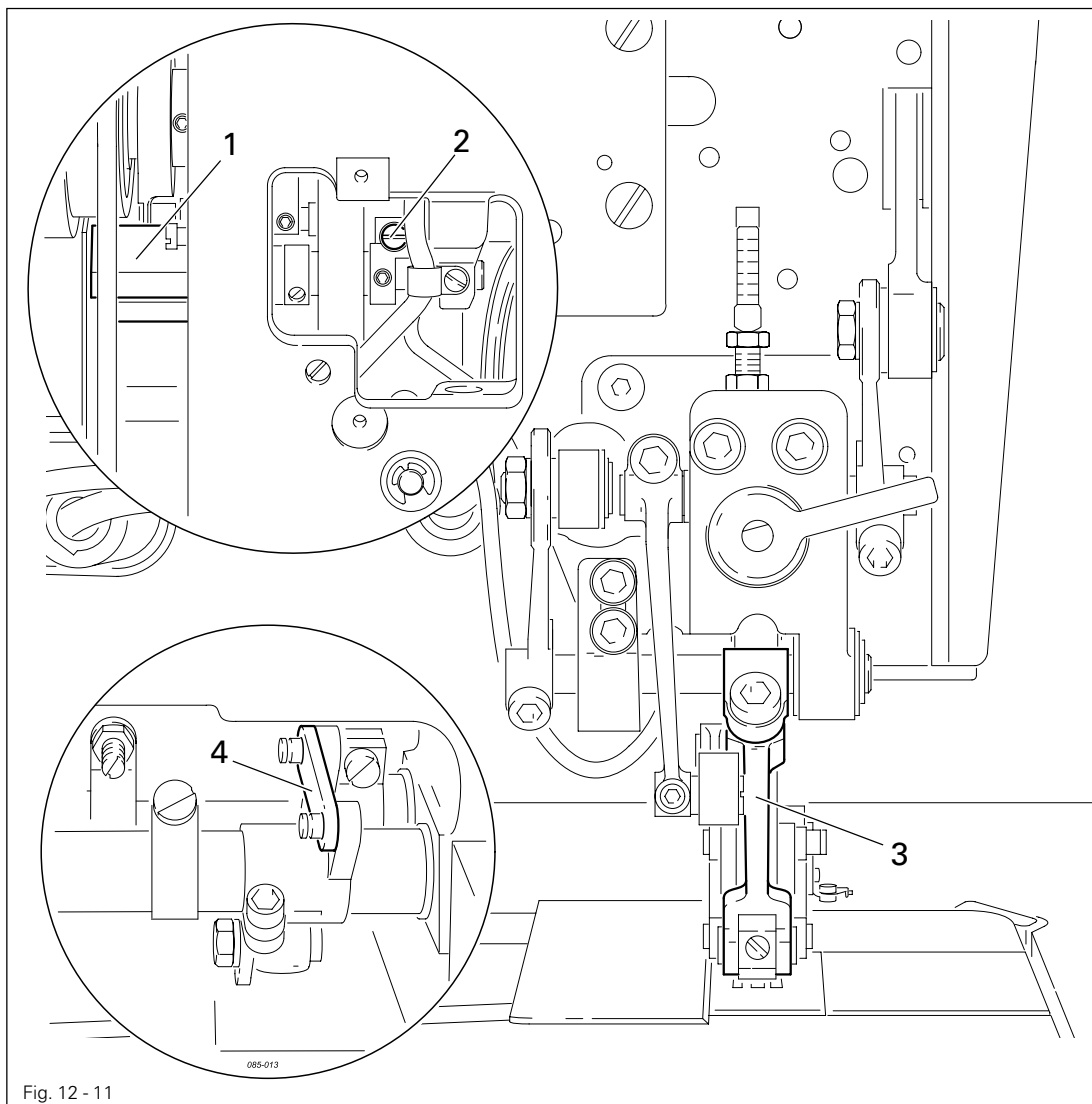
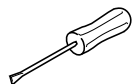


Fig. 12 - 11

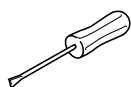
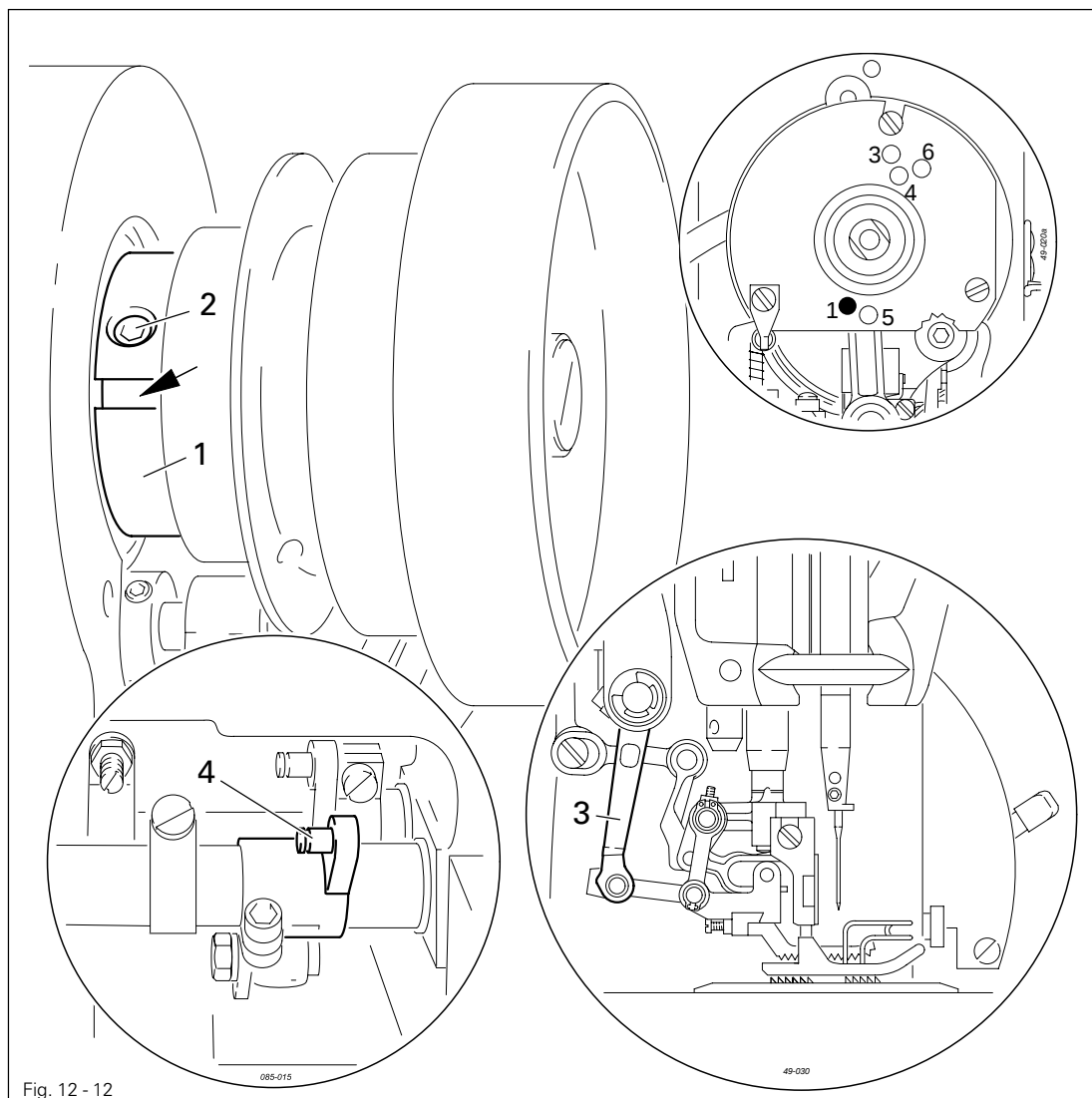


- Set stitch length at "0".
- While continuously turning the balance wheel, turn crank **1** (screw **2**) so that lever **3** does not move.

12.05.12 Feeding motion of the top feed dog

Requirement

When the needle bar is positioned 0.6 mm past t.d.c (adjustment hole 1) and the maximum stitch length is set, lever 3 should not move when the feed reverse key is operated.

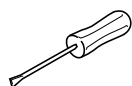
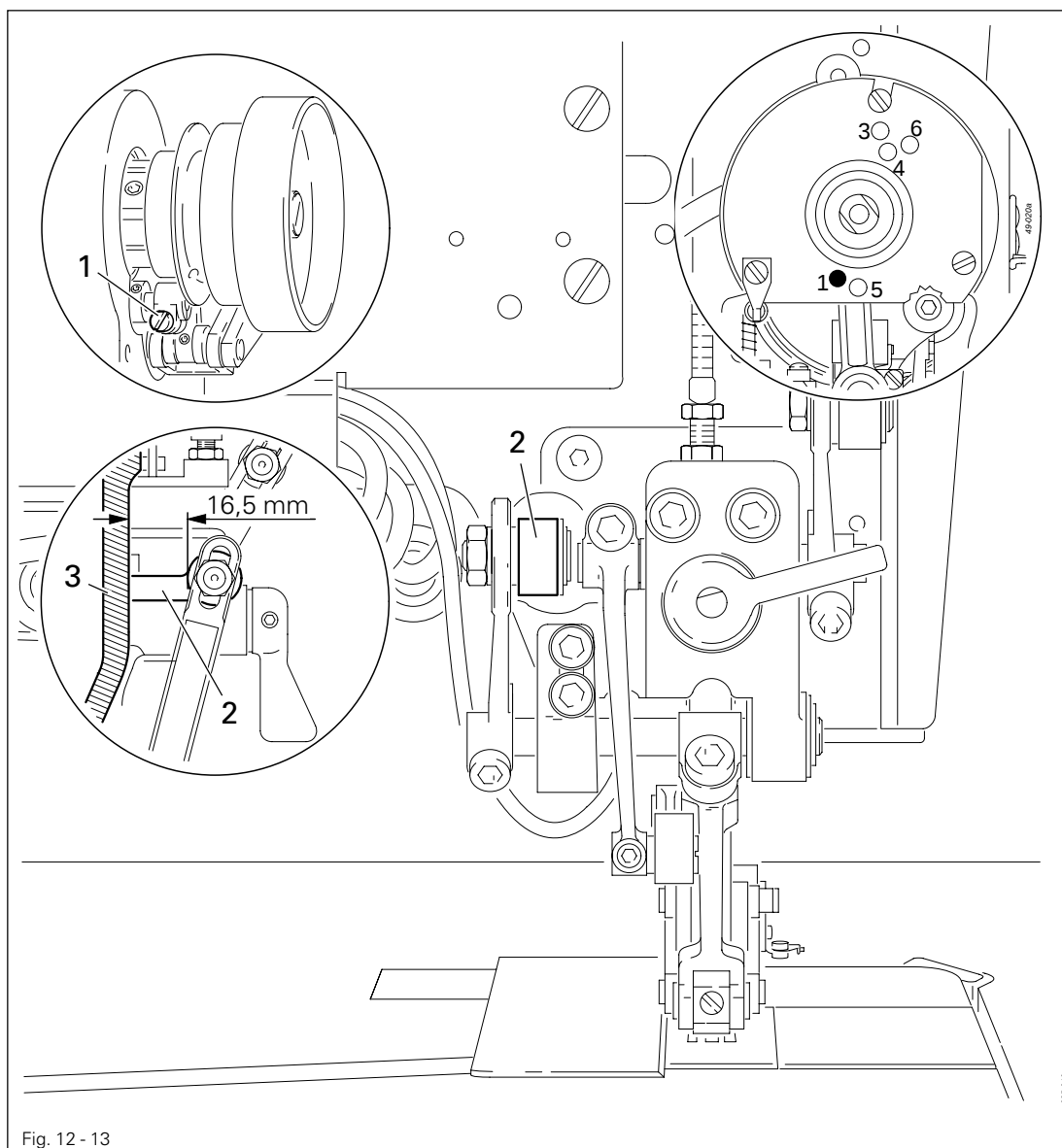


- While continuously operating the feed reverse key, adjust eccentric 1 (screws 2) so that the slot is pointing towards the operator and lever 3 does not move.

12.05.13 Front linkage rod to top feed drive

Requirement

With the needle bar positioned 0.6 past t.d.c. (adjustment hole 1), there must be a distance of approx. **16.5 mm** between the eye of the linkage rod **2** and machine case **3**.



- Bring needle bar to 0.6 past t.d.c..
- Loosen screw 1.
- Adjust linkage rod 2 according to the **requirement**.
- Tighten screw 1.
- Check the setting.

12.05.14 Top feed stroke

Requirement

With the stitch length set at "3" and the adjustment gauge 12 fitted, at its t.d.c. the top feed dog 2 should be 2 mm from the needle plate.

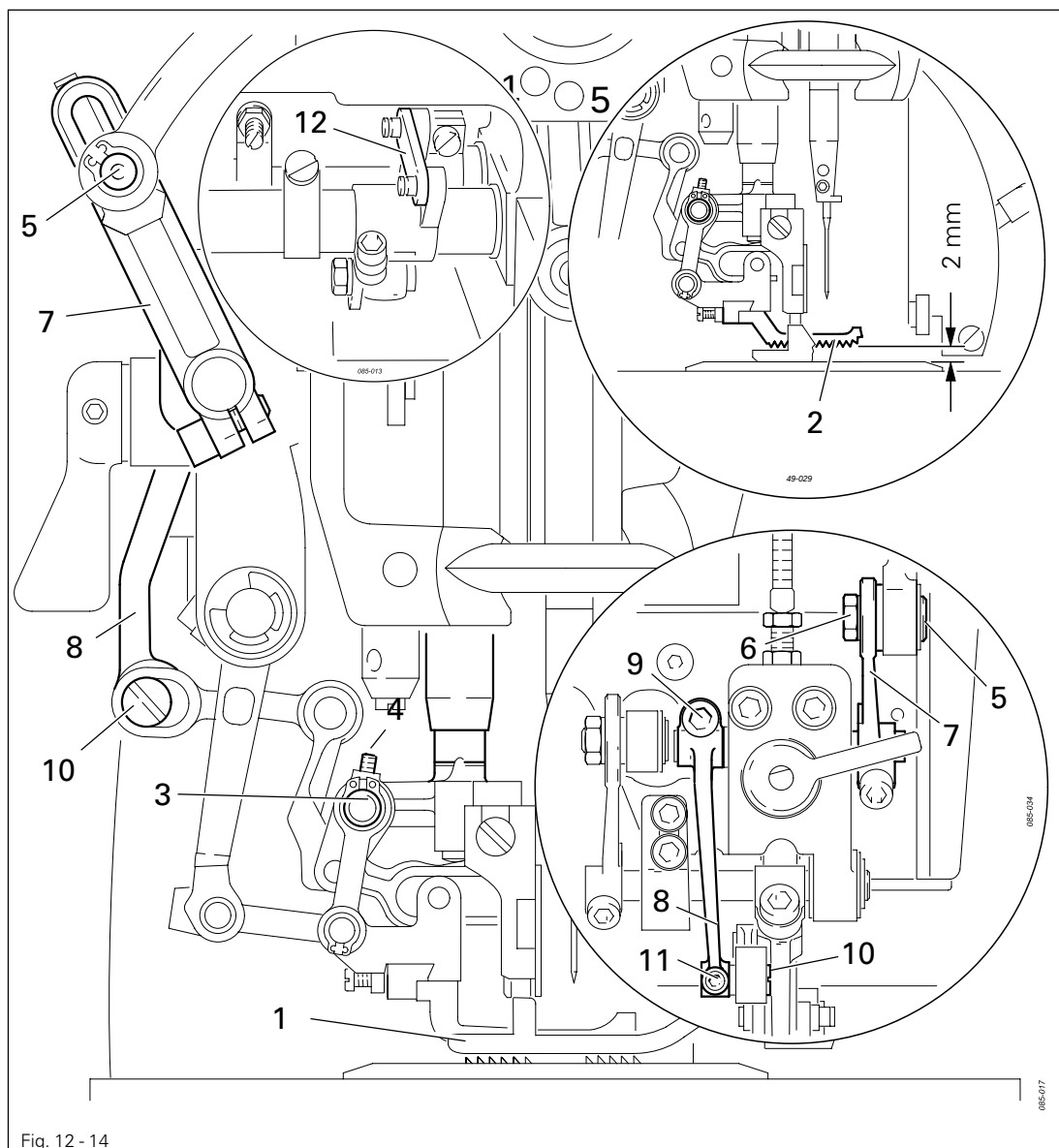
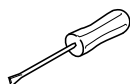


Fig. 12 - 14



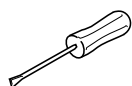
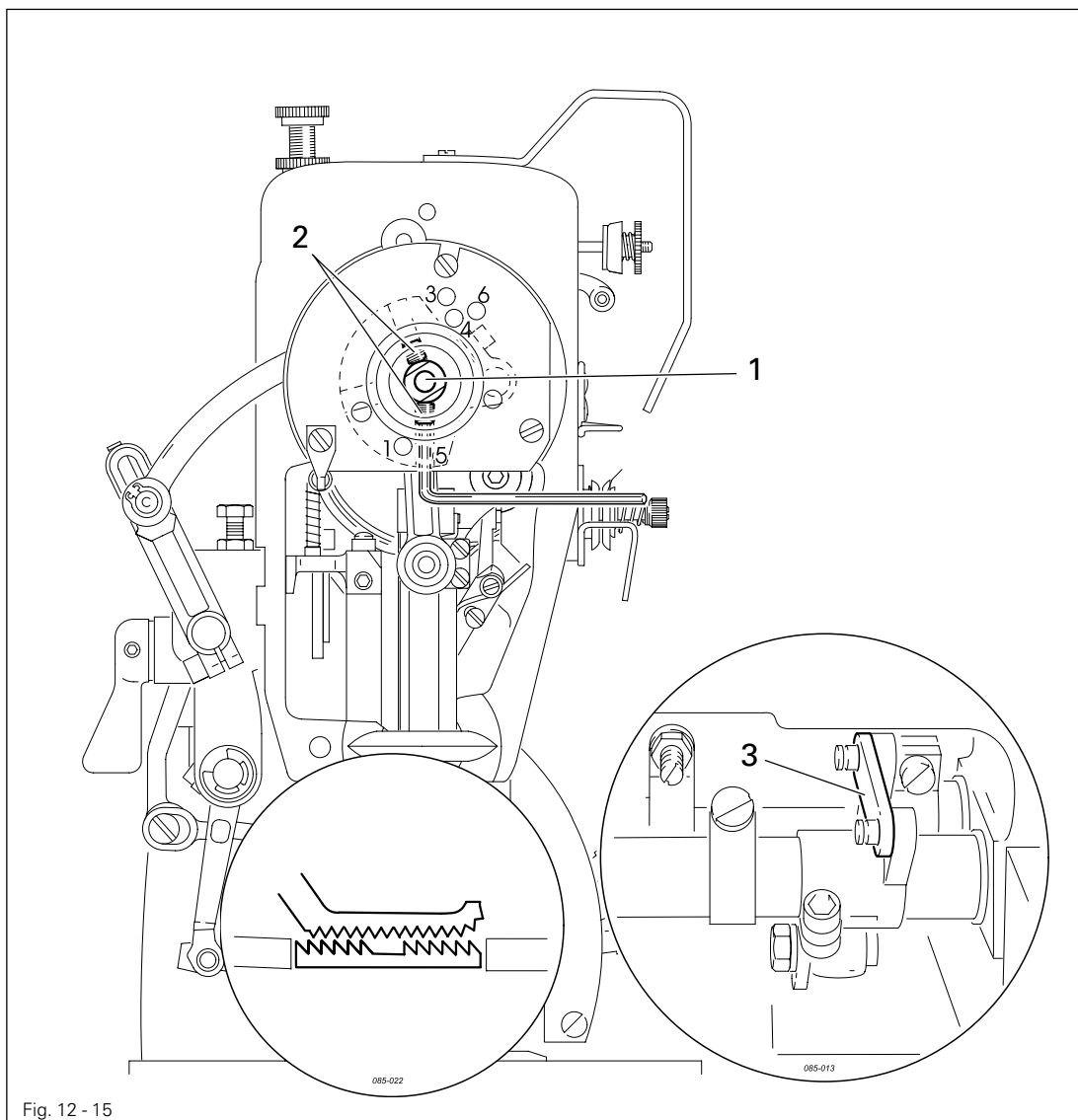
- Lower the presser foot 1 onto the needle plate.
- Set stitch length at "3".
- By turning the balance wheel bring top feed dog 2 to its t.d.c.
- Turn eccentric pin 3 (screw 4) so that its greatest eccentricity points towards the needle.
- Bring bolt 5 (nut 6) down to rest in the elongated hole of lever 7.
- Adjust lever 8 (screw 9) for the pre-adjustment of the distance between the top feed dog 2 and the needle plate.
- Adjust eccentric pin 10 (screw 11) according to the requirement.

Adjustment

12.05.15 Lifting motion of the top feed dog

Requirement

When the stitch length is set at "3" and with adjustment gauge 3 fitted, the top feed dog should rest on the ascending bottom feed dog, when this reaches the top edge of the needle plate.



- Set stitch length at "3".
- Adjust eccentric 1 (screws 2) according to the requirement.

12.05.16 Position of the top feed dog

Requirement

With the bottom feed dog at its top point of reversal the top feed dog must be parallel to the bottom feed dog.

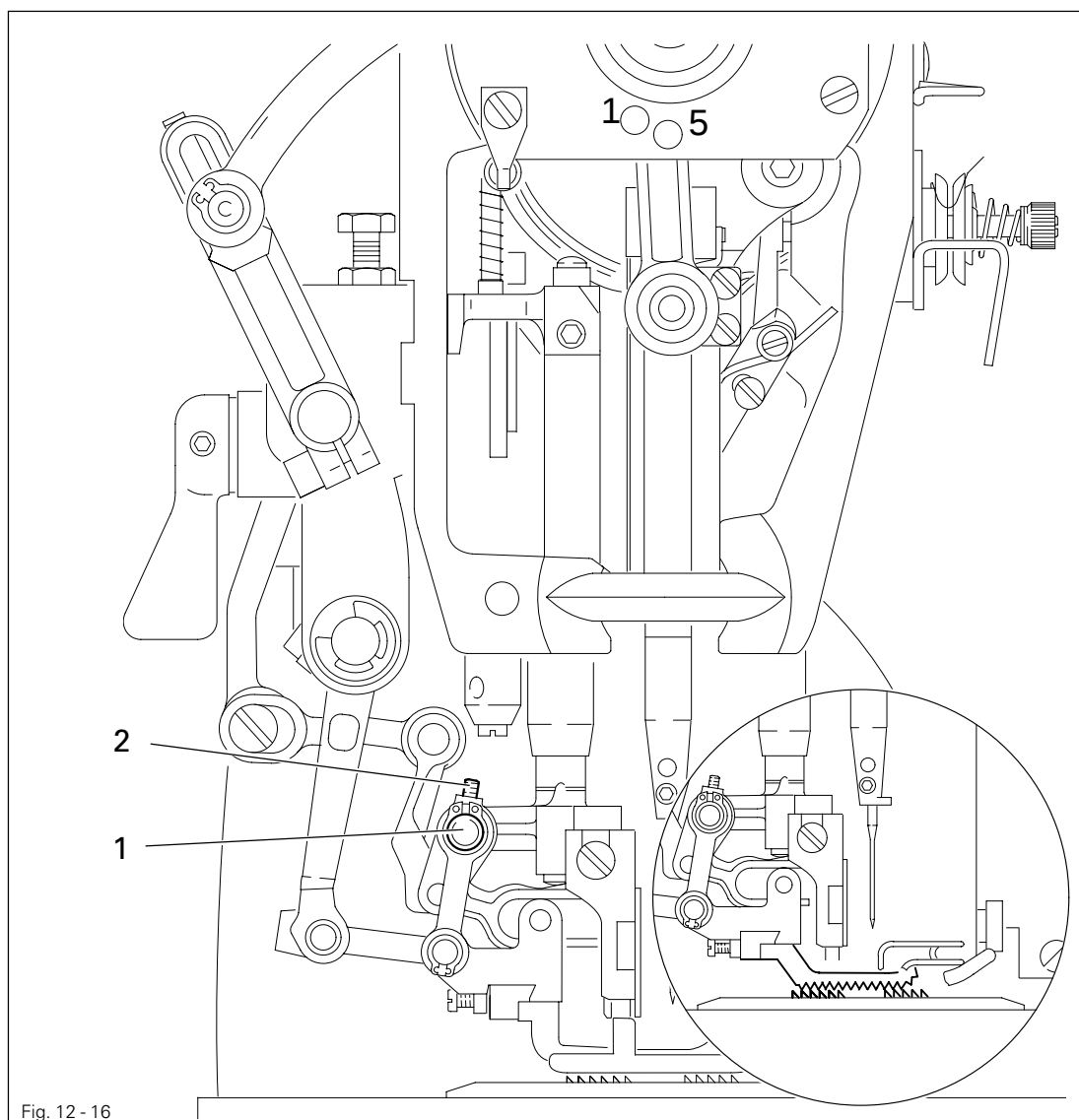
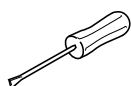


Fig. 12 - 16



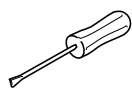
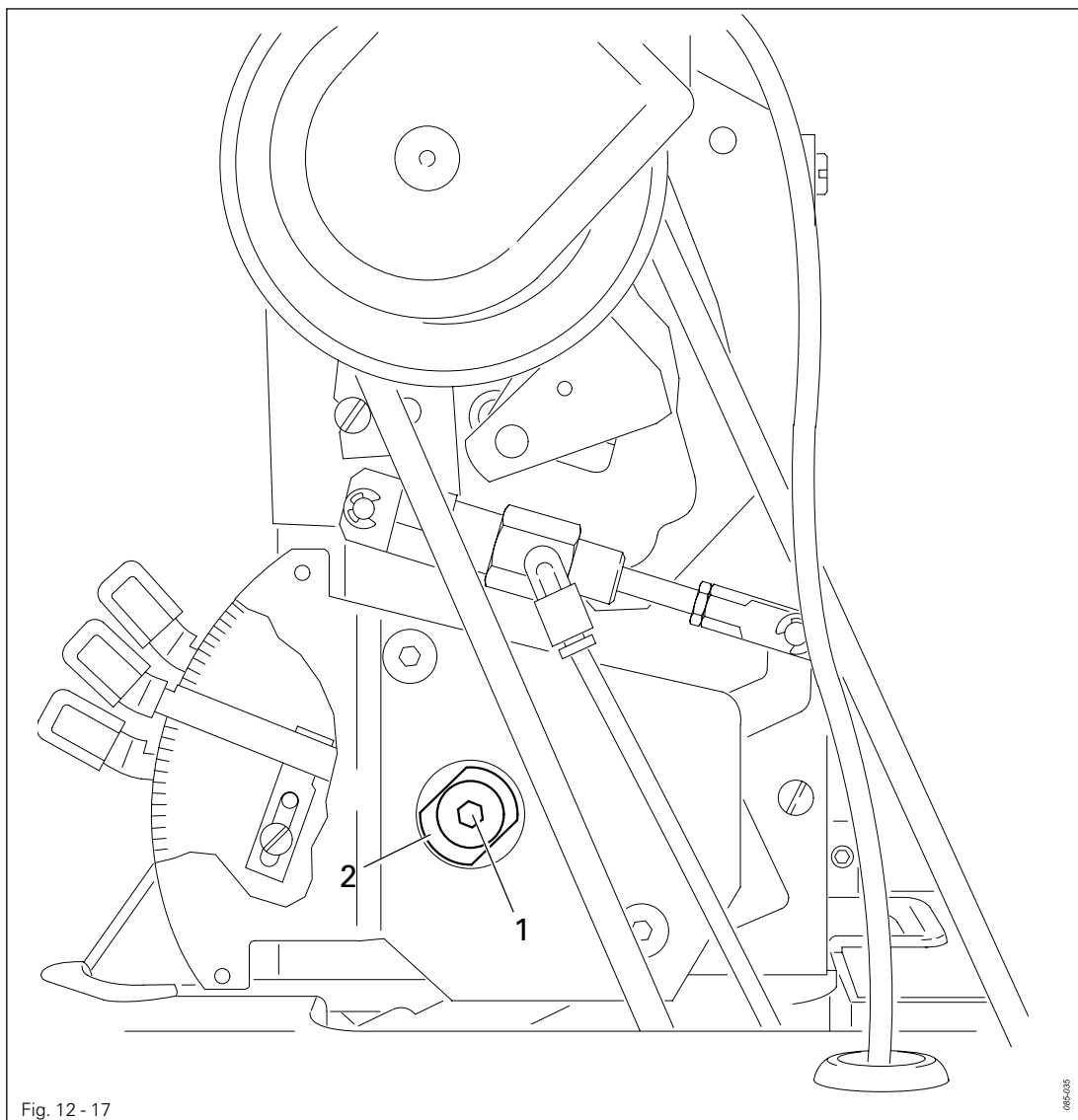
- Turn eccentric pin 1 (screw 2) in accordance with the **requirement**.

Adjustment

12.05.17 Stitch length adjustment

Requirement

When set at "3" the stitch length must be the same size when sewing forwards or in reverse.

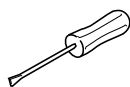
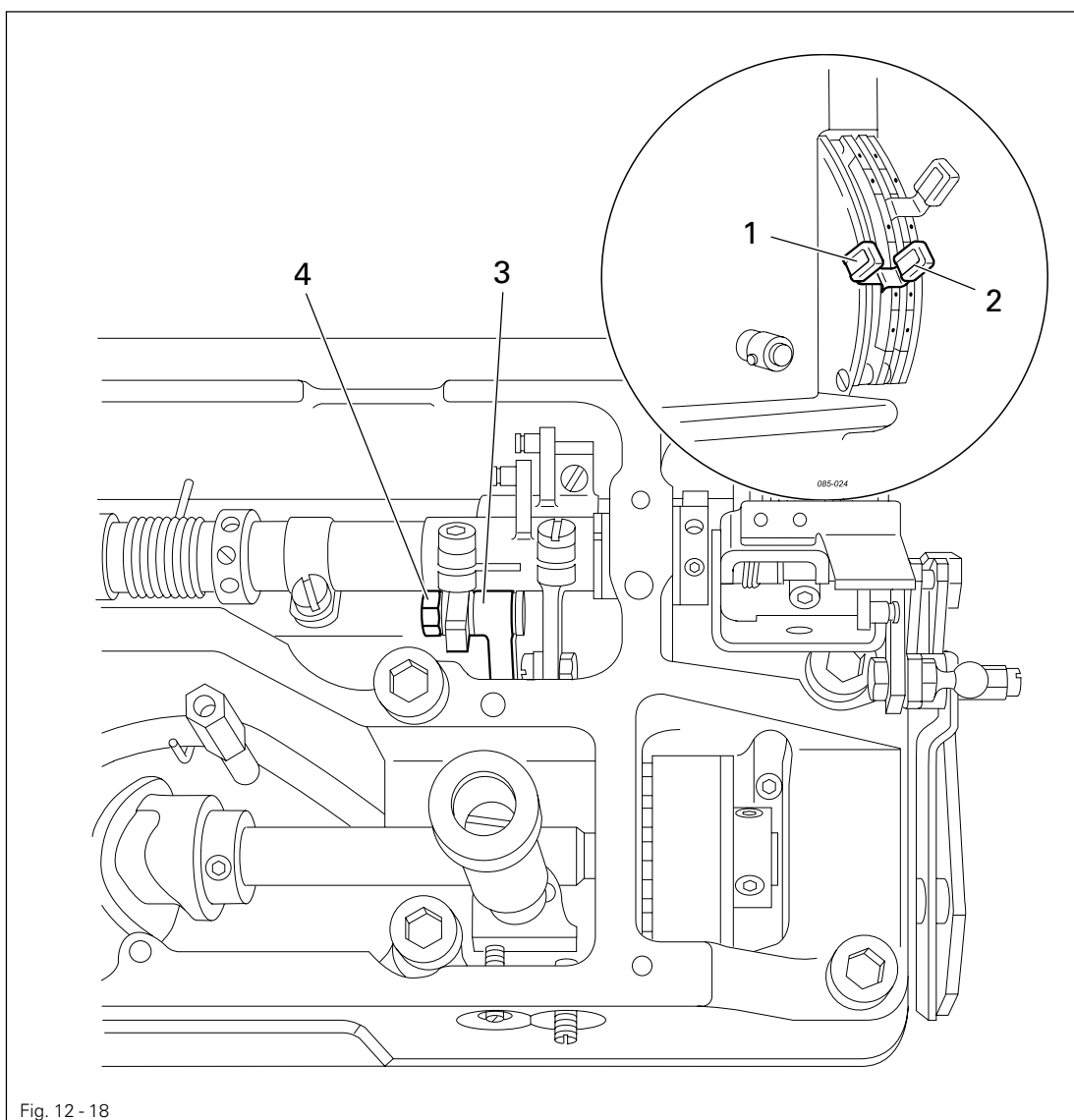


- Loosen screw 1.
- Adjust bush 2 according to the **requirement**. Take care that the eccentricity of bush 2 is in the lower range.
- Tighten screw 1.

12.05.18 Synchronizing the top feed dog

Requirement

With the stitch-length and top feed dog-stroke adjustment levers all at **3** the top feed dog and the bottom feed dog must work with the same feed motion when the handwheel is turned.



- Set adjustment lever **1** at "**3**".
- Push adjustment lever **2** down as far as possible.
- Adjust linkage rod **3** (nut **4**) in the slot in accordance with the **requirement**.

12.05.19 Eccentric hook shaft bearing and hook-to-needle clearance

Requirement

1. The slot in bearing **3** (see arrow) must be visible from below and there should be a slight but still noticeable amount of backlash between gears **5** and **7**.
2. When the hook is resting lightly on the spinning disc **4** and the point of the hook is positioned towards the centre of the needle, there must be a clearance of **0.05 – 0.1 mm** between the point of the hook and the needle groove.
3. Gear **5** should be in alignment with gear **7**.

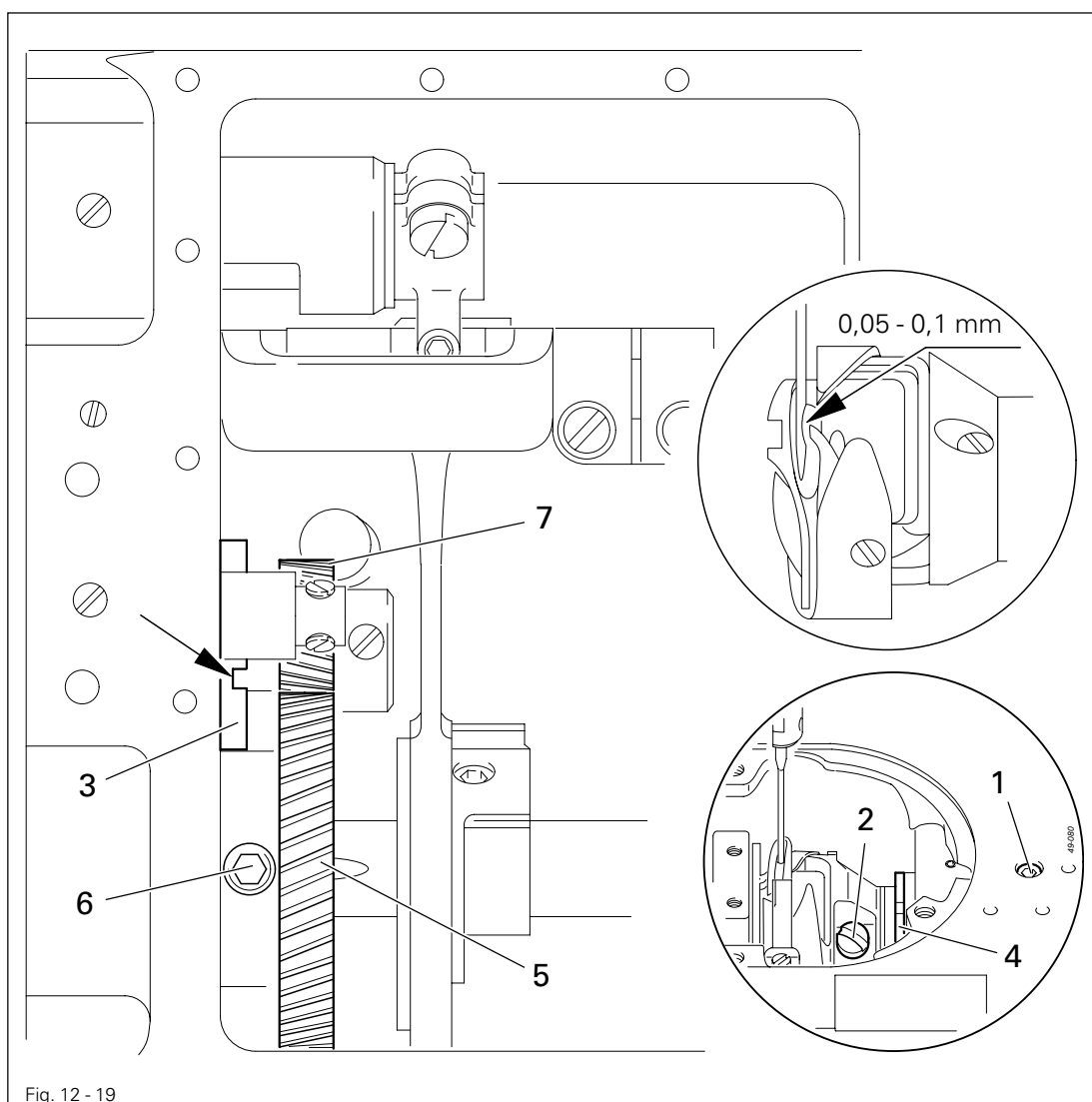
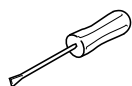


Fig. 12 - 19



- Loosen screws **1** and **2**.
- Adjust bearing **3** according to **requirement 1**.
- Bring hook into light contact with spinning disc **4**, adjust bearing **3** according to **requirement 2**, without distorting it, and tighten screw **1**.
- Adjust gear **5** (screws **6**) according to **requirement 3**.



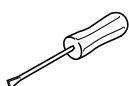
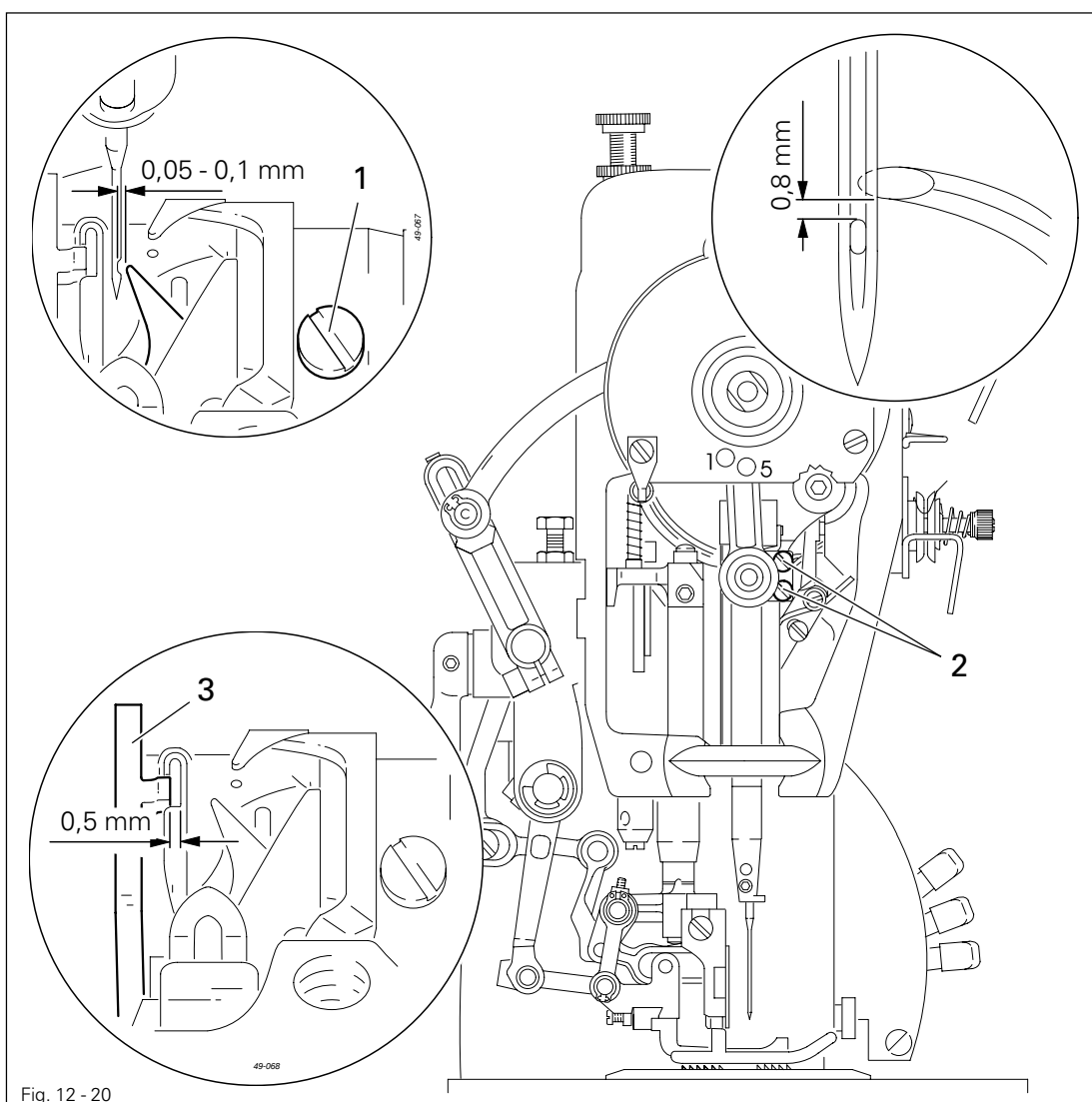
Screw **2** remains loosened for the next adjustment.

12.05.20 Needle bar rise, readjustment of the needle height and bobbin case position stop

Requirement

With the stitch length set at "0" and the needle bar positioned 1.8 mm past b.d.c. (adjustment hole 4)

1. The point of the hook should be in centre of the needle and the top edge of the needle eye should be **0.8 mm** below the hook point.
2. There should be a clearance of **0.5 mm** between the lug of position stop **3** and the bottom of the stop groove.



- Adjust the hook (screw **1**) and needle bar (screws **2**) according to **requirement 1** without twisting them.
- Position the lug of position stop **3** in the groove of the bobbin case base and adjust and fasten it according to **requirement 2**.

12.05.21 Bobbin opener height

Requirement

When bobbin opener **3** is at its left point of reversal, the top edge of its finger should be **0.5 mm** above the bottom edge of the bobbin case cam.

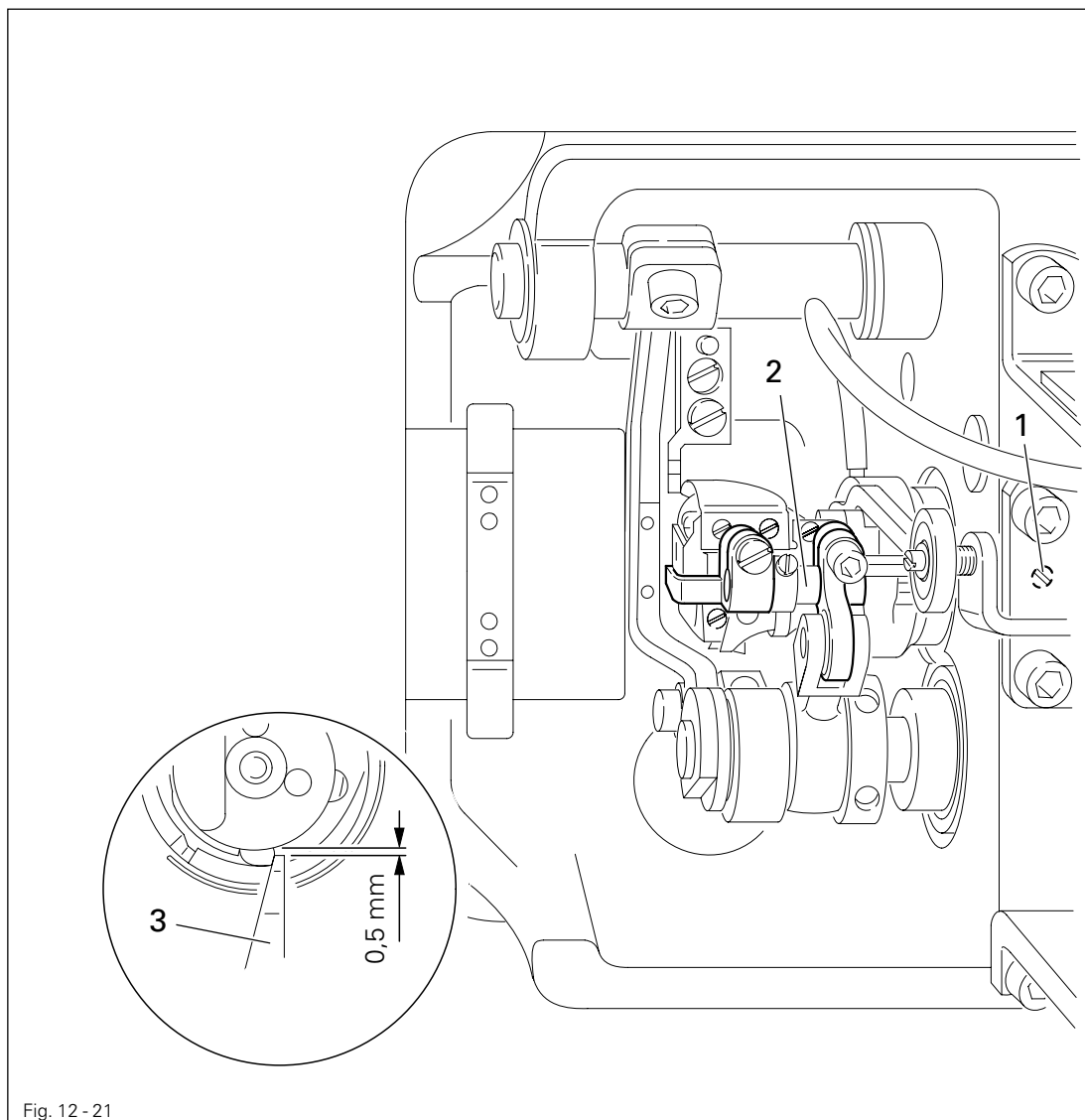
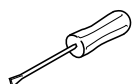


Fig. 12 - 21

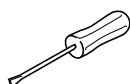
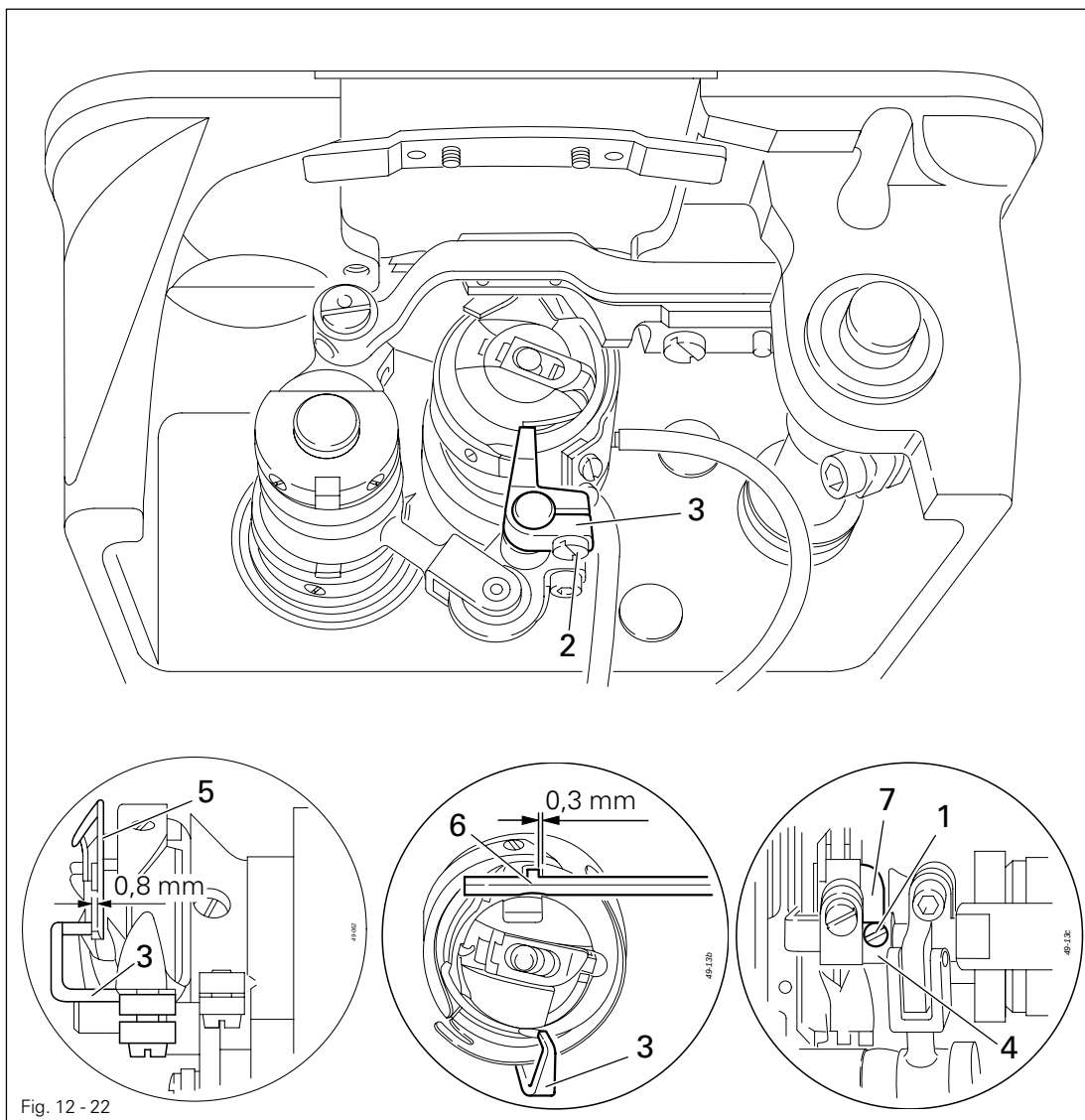


- Loosen screw **1**.
- Adjust bobbin opener bearing **2** according to the **requirement**.
- Tighten screw **1**.

12.05.22 Adjustment of the bobbin opener

Requirement

1. The distance between the finger of the bobbin opener **3** and the edge of the bobbin case base **5** must be **0.8 mm**.
2. When the bobbin opener **3** is at its left point of reversal, the bobbin case base **5** should be deflected by approx. **0.3 mm** by the retaining finger and screw **1** should be resting on stop pin **7**.

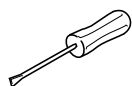
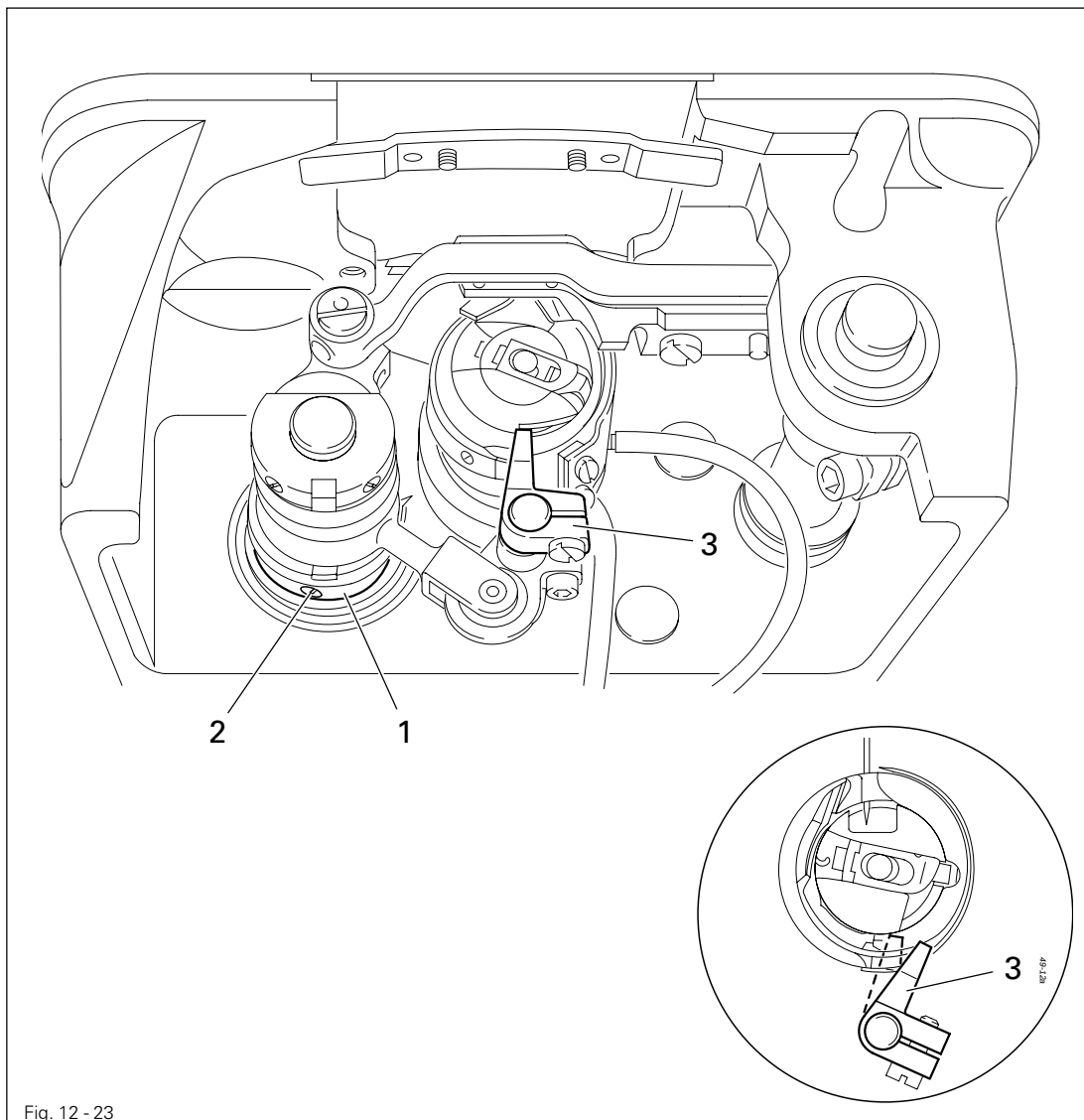


- Loosen screw **1** and loosen screw **2** so that the bobbin opener **3** is still held slightly.
- Adjust bobbin opener **3** according to **requirement 1**.
- Tighten screw **2**.
- Adjust retaining collar **4** according to **requirement 2**.
- Tighten screw **1**.

12.05.23 Bobbin case opener

Requirement

When the needle bar is positioned 1.8 mm past b.d.c., the bobbin opener **3** should be at its right point of reversal.



- Adjust bobbin opener eccentric **1** (screws **2**) according to the **requirement**.

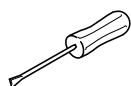
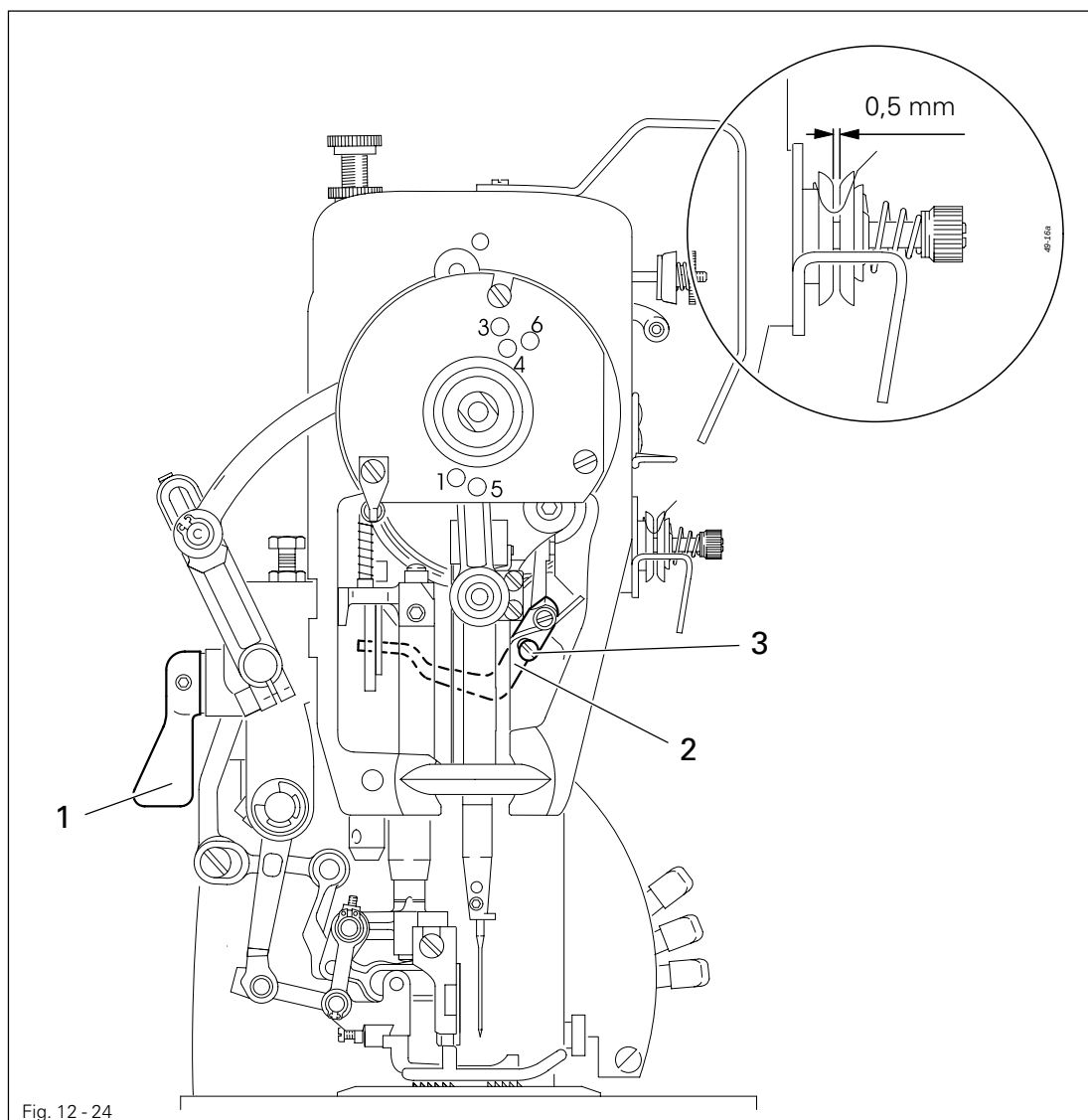


For better recognition a screwdriver can be inserted in the slit of bobbin opener **3**.

12.05.24 Needle thread tension release

Requirement

When the hand lever **1** is raised, the tension discs should be at least **0.5 mm** apart.

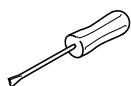
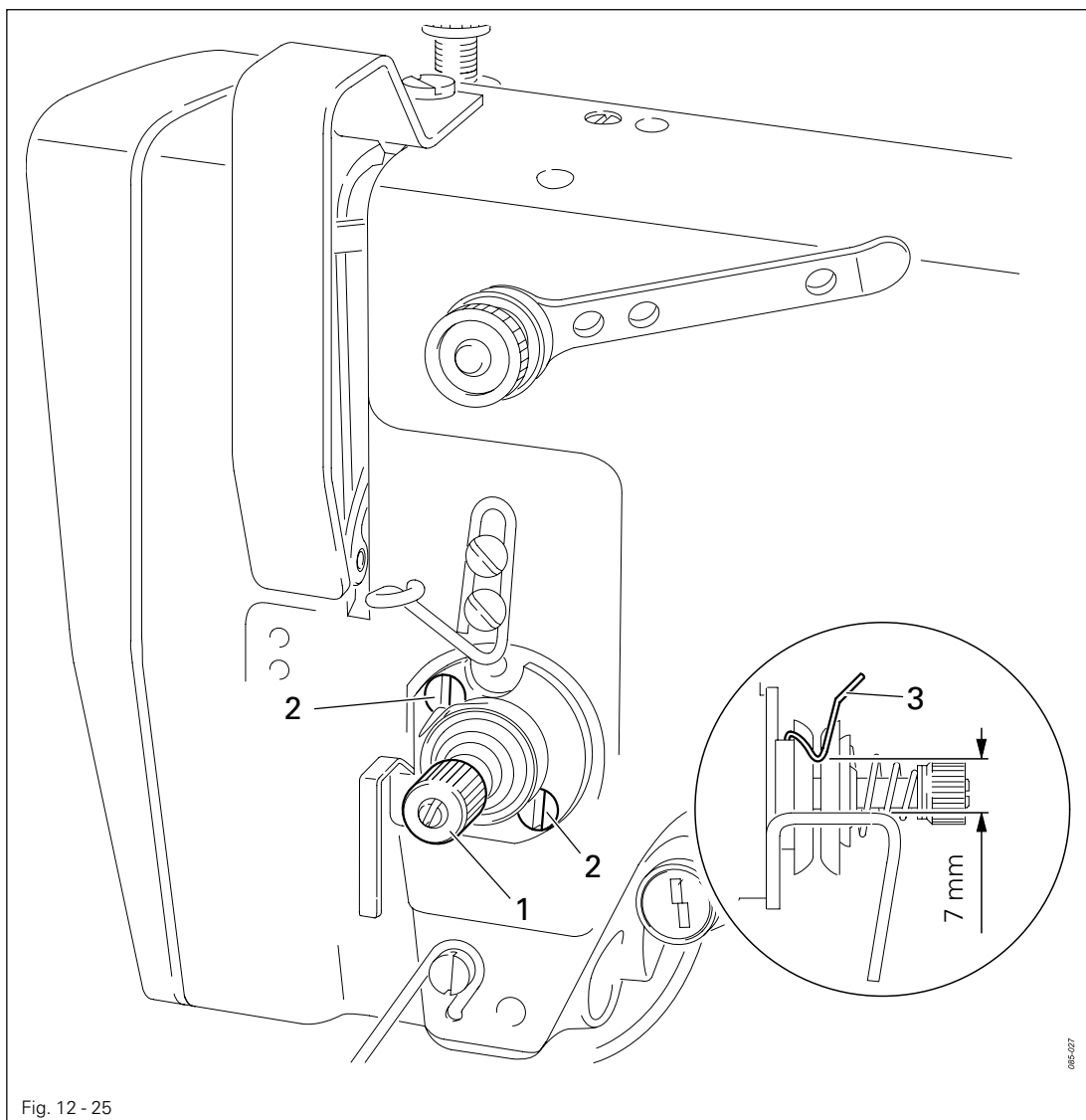


- Adjust tension release clip **2** (screw **3**) according to the **requirement**.
- Lower the presser foot onto the needle plate. The tension must now be fully effective.

12.05.25 Thread check spring

Requirement

The movement of the thread check spring **3** must be finished when the needle point enters the material (spring path approx. 7 mm).



- Adjust thread tension **1** (screws **2**) according to the **requirement**.



The path of thread check spring **3** is dependent on the material and thread and must be corrected in accordance with the sewing results.

12.05.26 Bobbin winder

Requirement

1. When the bobbin winder is engaged, the winding spindle must be driven reliably. When it is disengaged, friction wheel **3** must not rest on drive wheel **1**.
2. The bobbin winder should switch itself off, when the thread is **approx. 1 mm** from the edge of the bobbin.

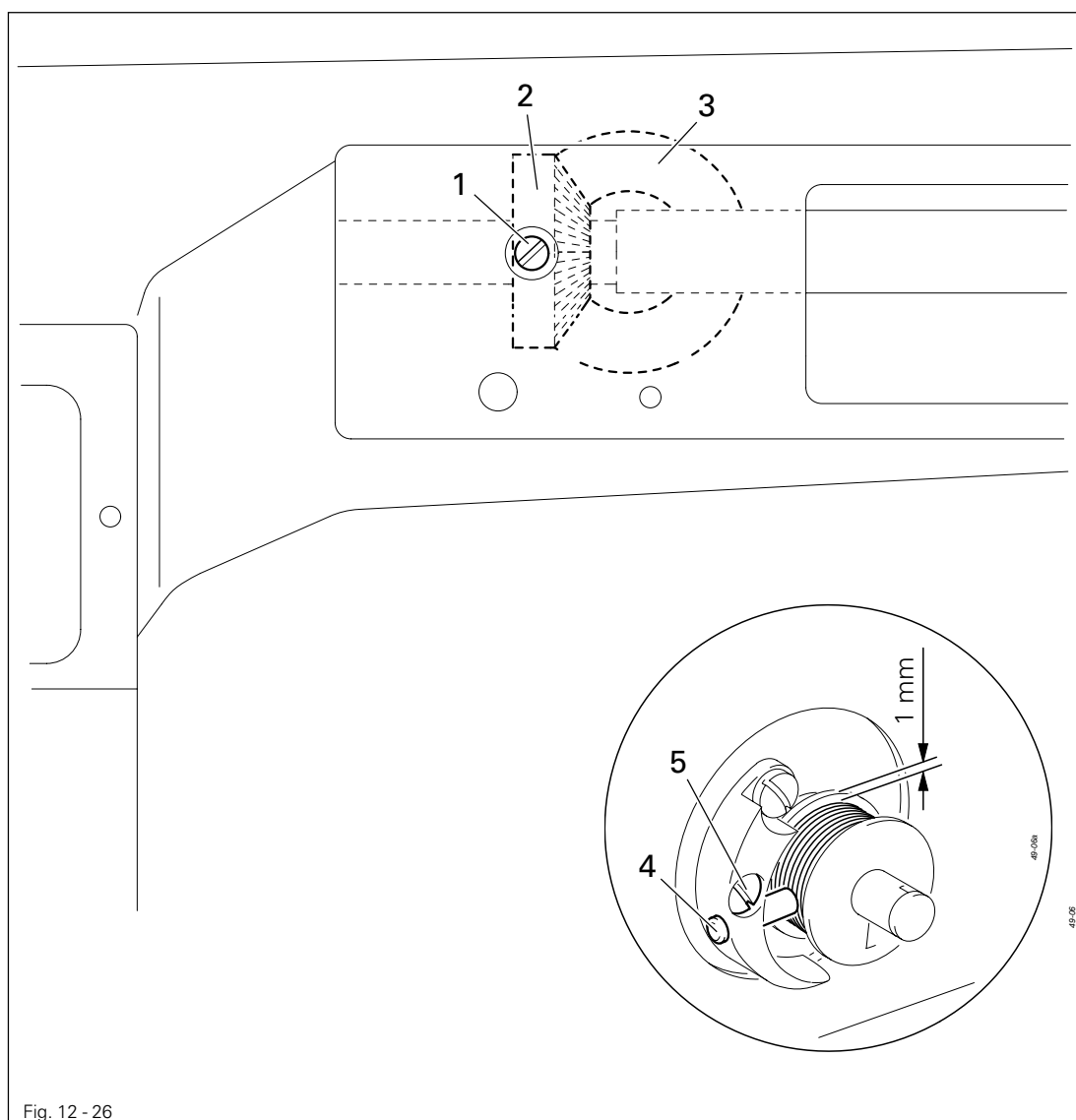
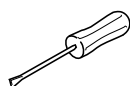


Fig. 12 - 26



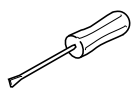
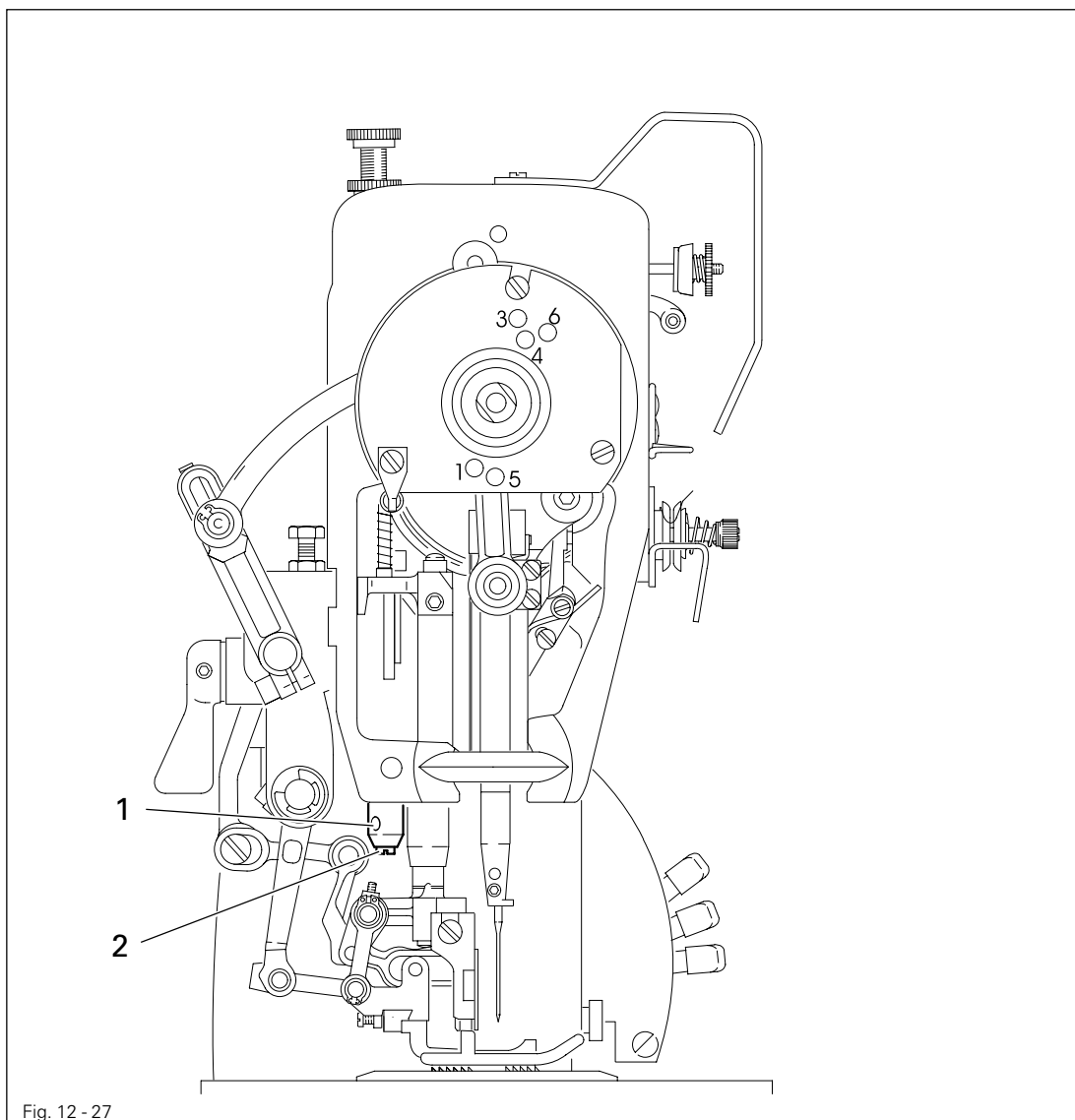
- Raise hand lever and switch on bobbin winder.
- By turning screw **1** position drive wheel **2** on friction wheel **3** according to **requirement 1**.
- Loosen screw **5** and adjust adjusting pin **4** according to **requirement 2**.
- Tighten screw **5** again.

Adjustment

12.05.27 Position of the top feed dog in relation to the sewing foot

Requirement

When the take-up lever is at its t.d.c., the teeth of the top feed dog should not be below the presser foot shoe, when the presser foot is raised.

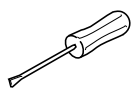
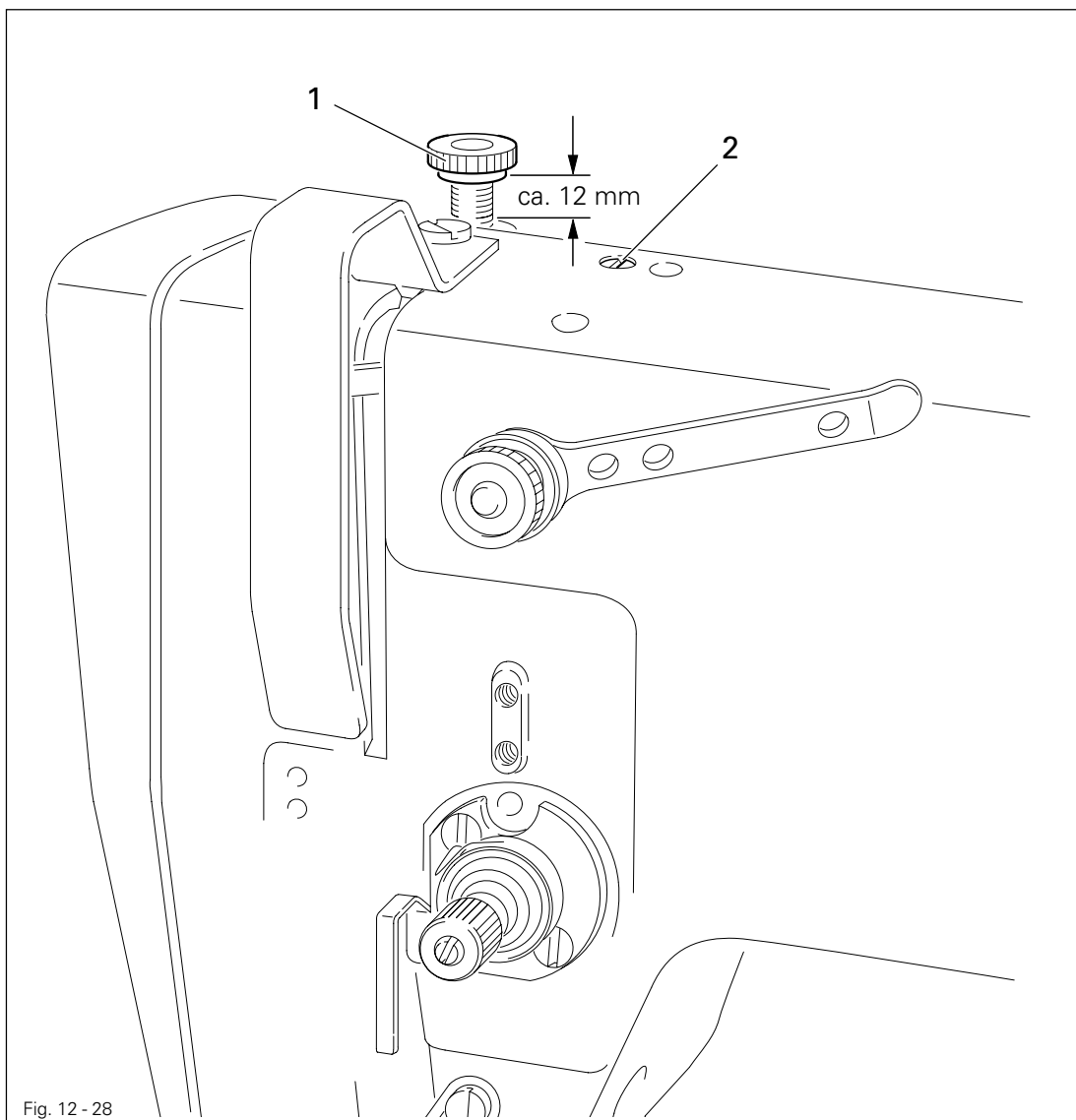


- Adjust eccentric sleeve 1 (screw 2) according to the **requirement**.

12.05.28 Top feed dog and sewing foot pressure

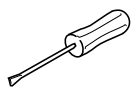
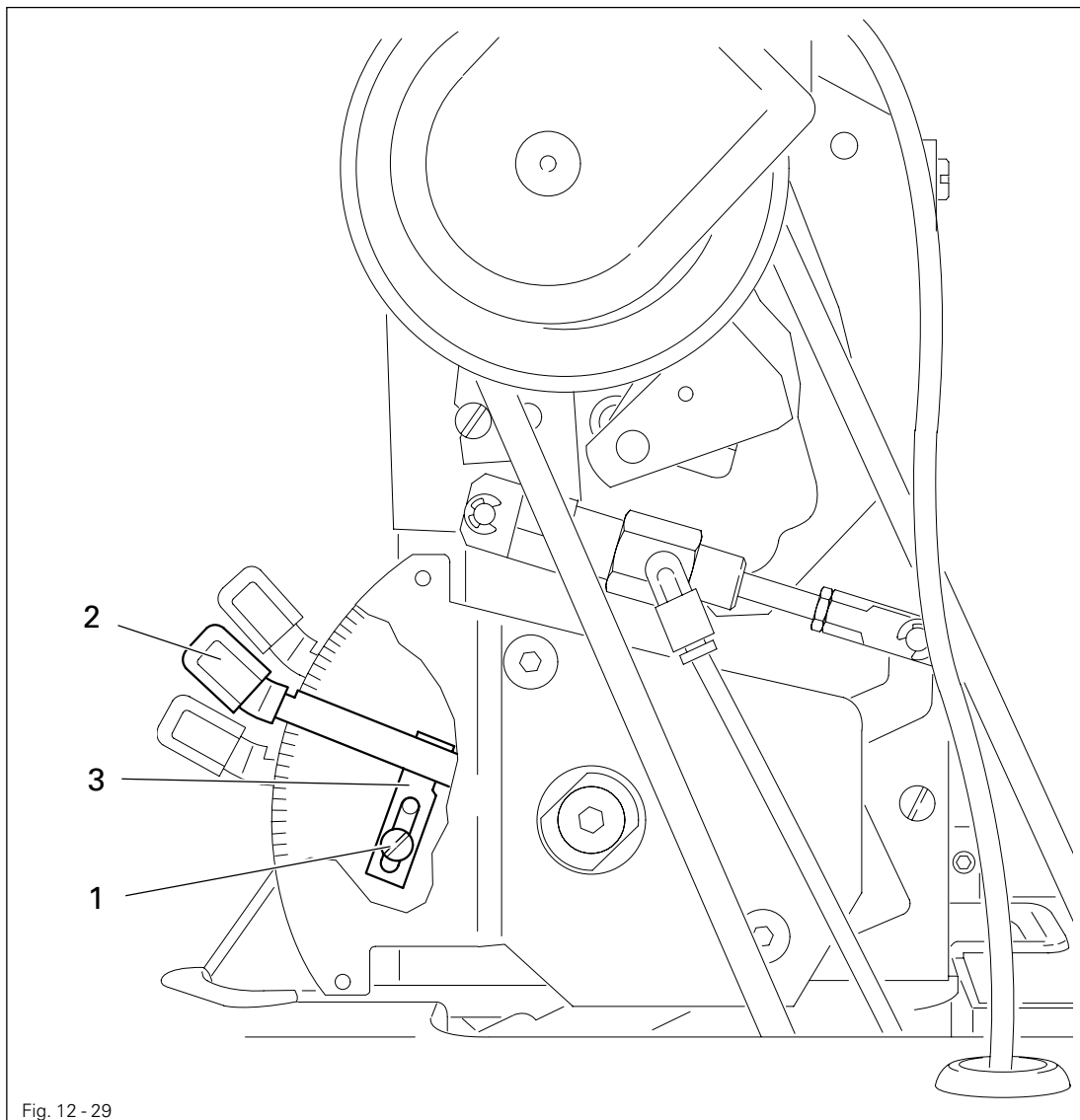
Requirement

Even at top speed, the material must be fed perfectly. No pressure marks should appear on the material.



- Adjust screws 1 and 2 according to the **requirement**.

12.05.29 Limiting the stitch length



- Loosen screw 1 (accessible through the assembly hole) or screw it out according to the limit to be set.
- Set the stitch length control lever 2 at the desired maximum stitch length.
- Set the limiting angle 3 from above so that it touches the control lever 2 and secure it (in the desired position) by tightening screw 1 in either the lower or upper hole.

12.06 Adjusting the thread trimmer -900/99

12.06.01 Lateral adjustment of the thread catcher

Requirement

1. The tip of the thread catcher **3** must point exactly to the centre of the needle.
2. The thread catcher **3** should not touch anywhere when in motion.

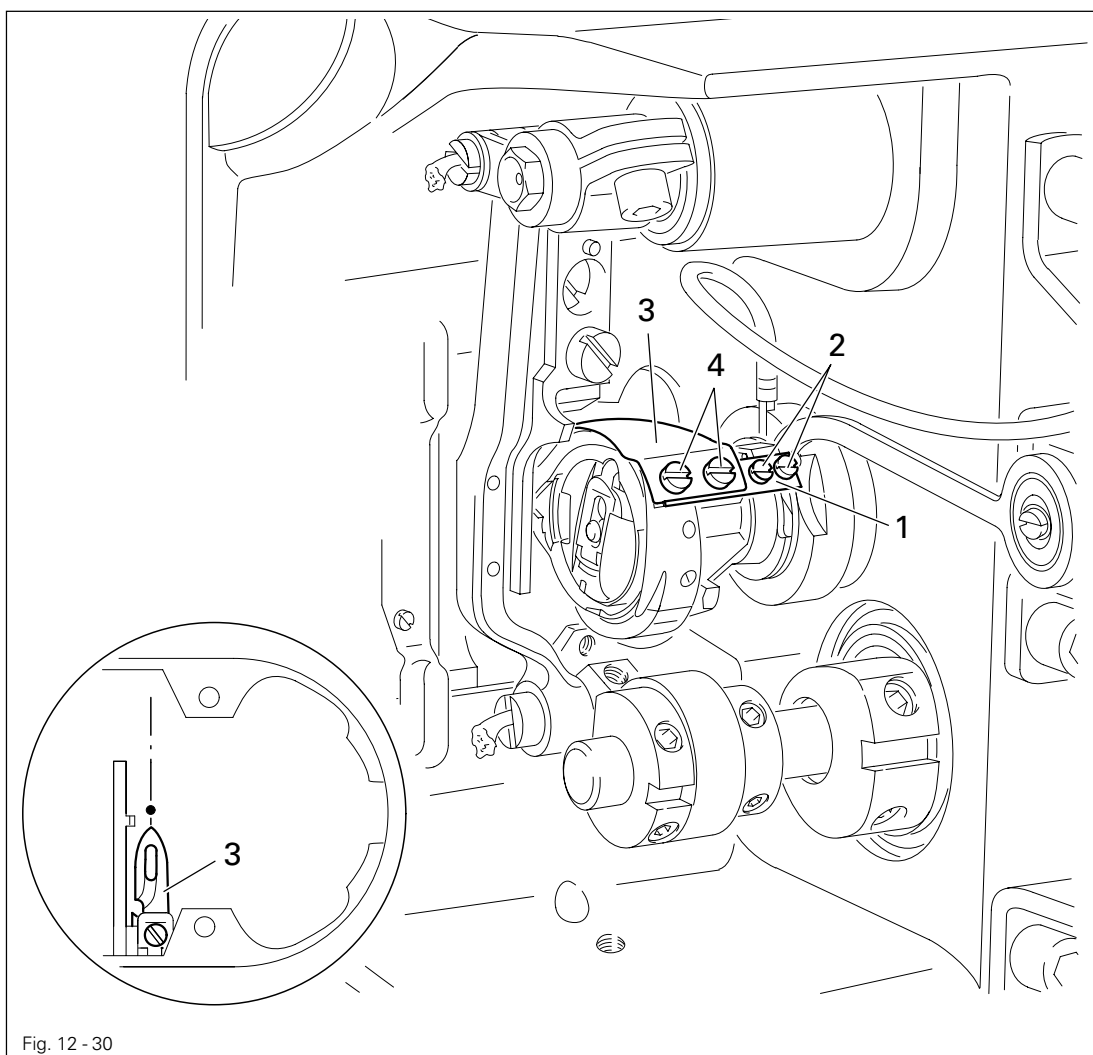
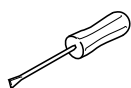


Fig. 12 - 30



- Disconnect the thread trimmer from the pneumatic network and dismantle the needle plate and feed dog.
- Position the needle bar at BDC.
- Push aside catcher stop **1** (screws **2**).
- Position the tip of thread catcher **1** in front of the needle by shifting the thread catcher carrier.
- Adjust thread catcher **3** (screws **4**) laterally in accordance with **requirement 1**, ensuring that the back of the thread catcher is horizontal.

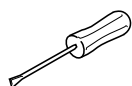
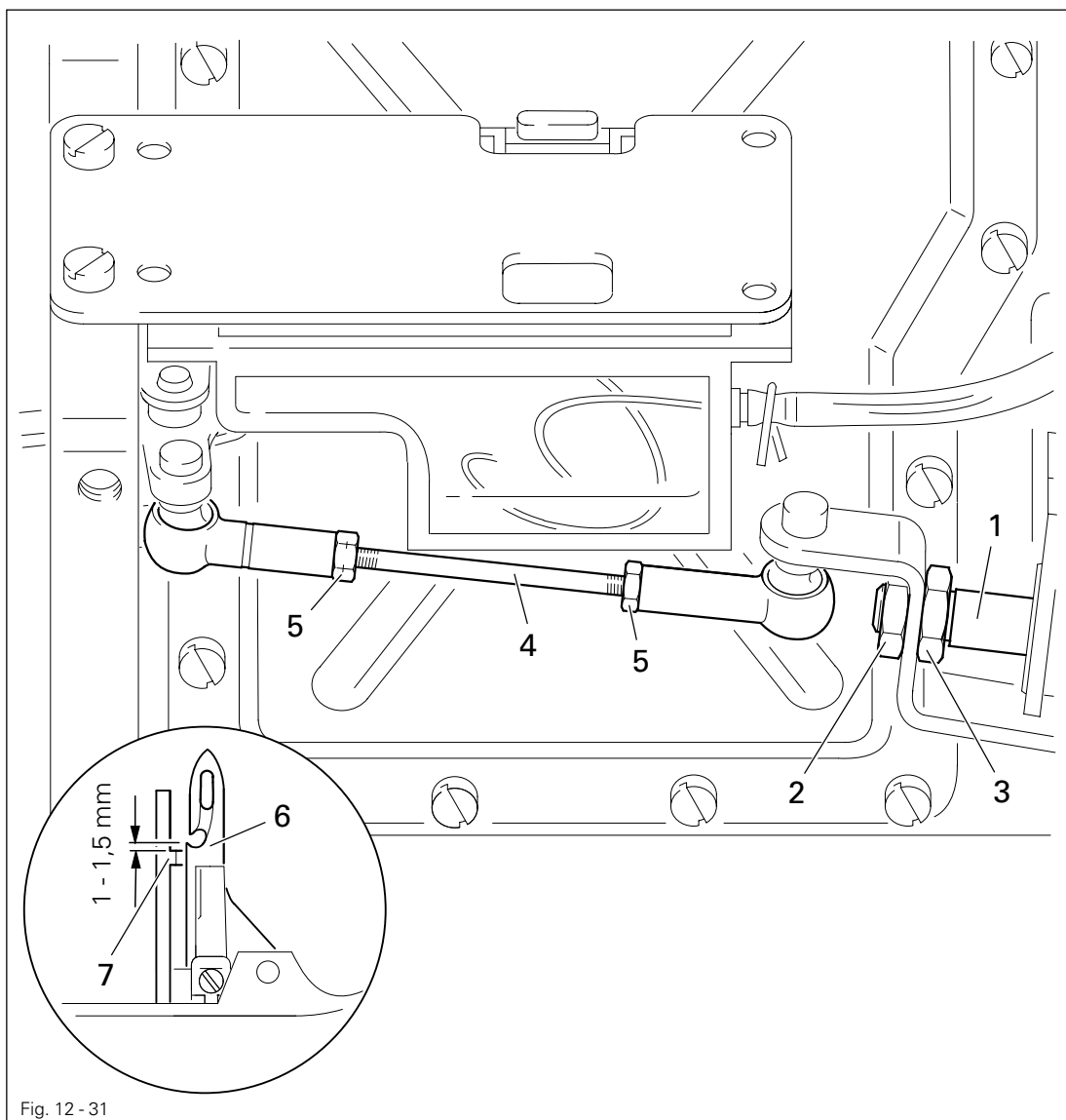


Needle plate, feed dog and catcher stop **1** stay dismantled for the following adjustments.

12.06.02 Front reversal point of the thread catcher

Requirement

At the front reversal point of the thread catcher **6**, the rear edge of the thread catcher cutout should be positioned **1 to 1.5 mm** in front of the front edge of the bobbin case position finger **7**.



- Position needle bar at TDC.
- Position end faces of piston rod **1** and nut **2** (nut **3**) so that they are flush.
- Pull out piston rod **1** manually as far as possible.
- Turn connecting rod **4** (nuts **5**, right-hand and left-hand thread) in accordance with the requirement.

12.06.03 Knife to needle clearance

Requirement

The distance between the front edge of the knife 1 and the needle should be 4 mm.

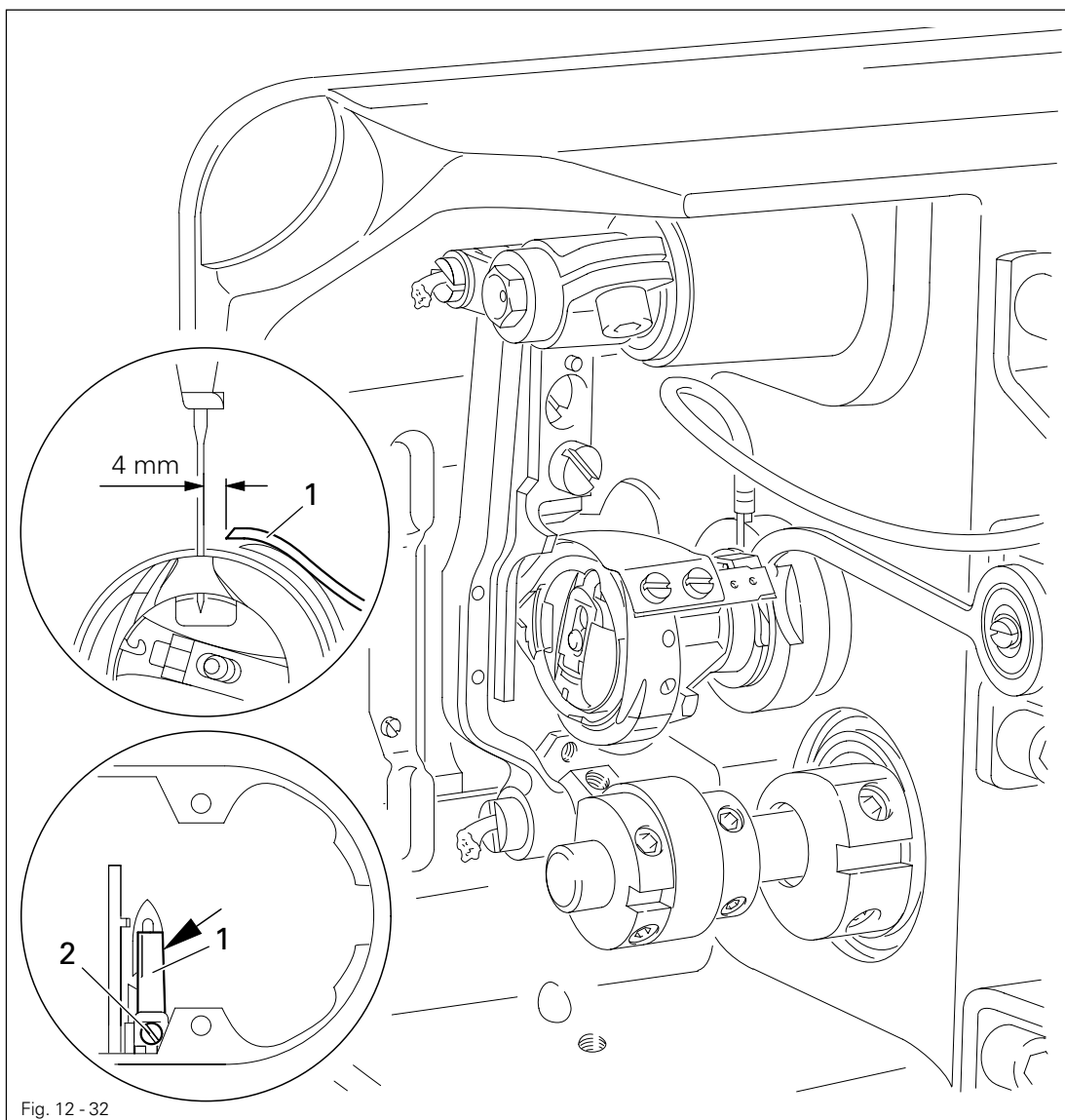
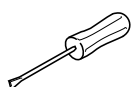


Fig. 12 - 32



- On needle-feed machines set the stitch length to $\bar{N}O\bar{i}$.
- Position the needle bar at BDC.
- Align knife 1 (screw 2) in accordance with the **requirement** making sure that the right edge of the knife does not protrude over the right edge of the thread catcher.

12.06.04 Manual trimming control

Requirement

Both threads must be cut perfectly in the catcher cutout on both the right and left-hand sides.

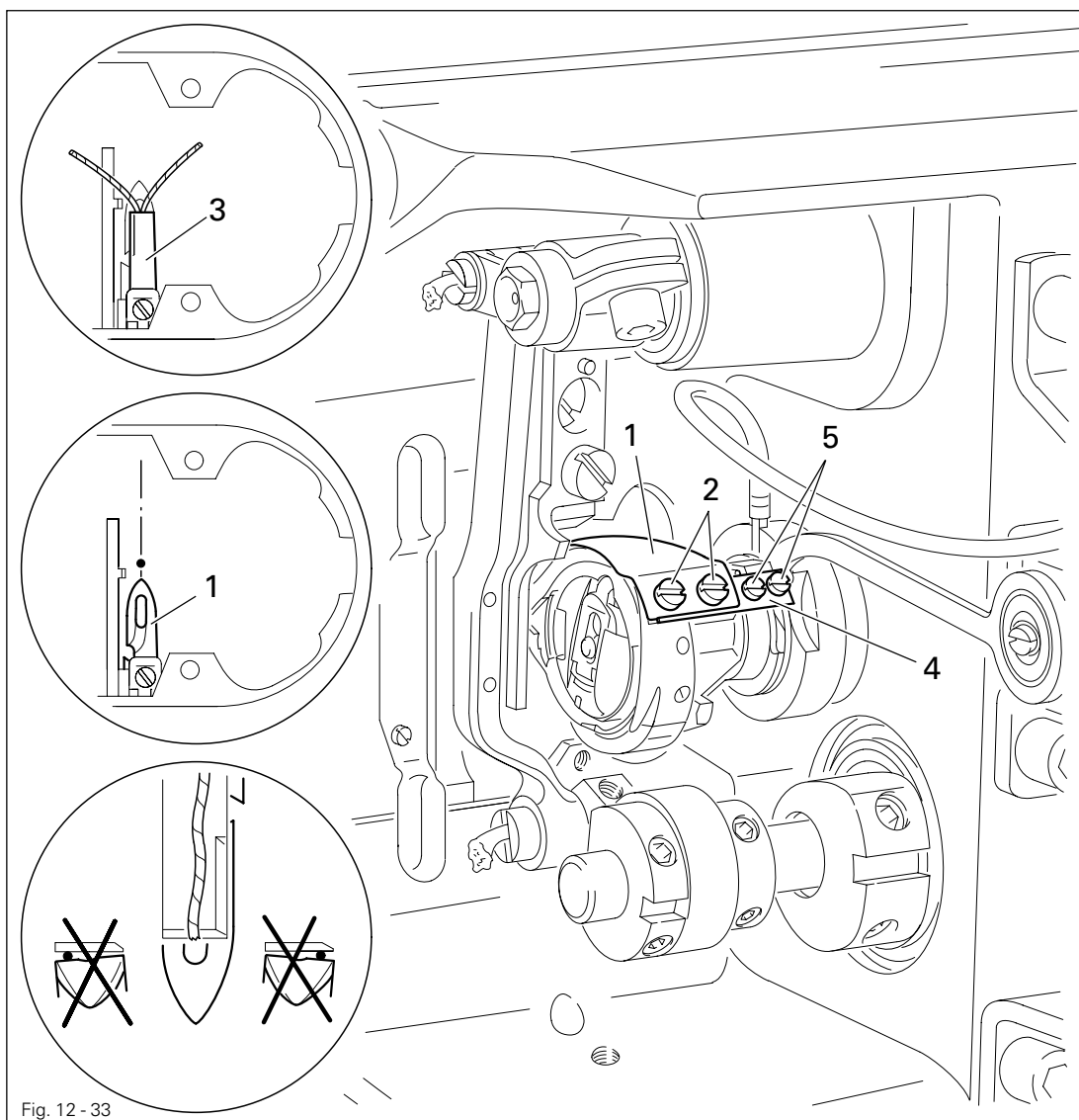
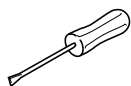


Fig. 12 - 33

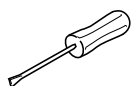
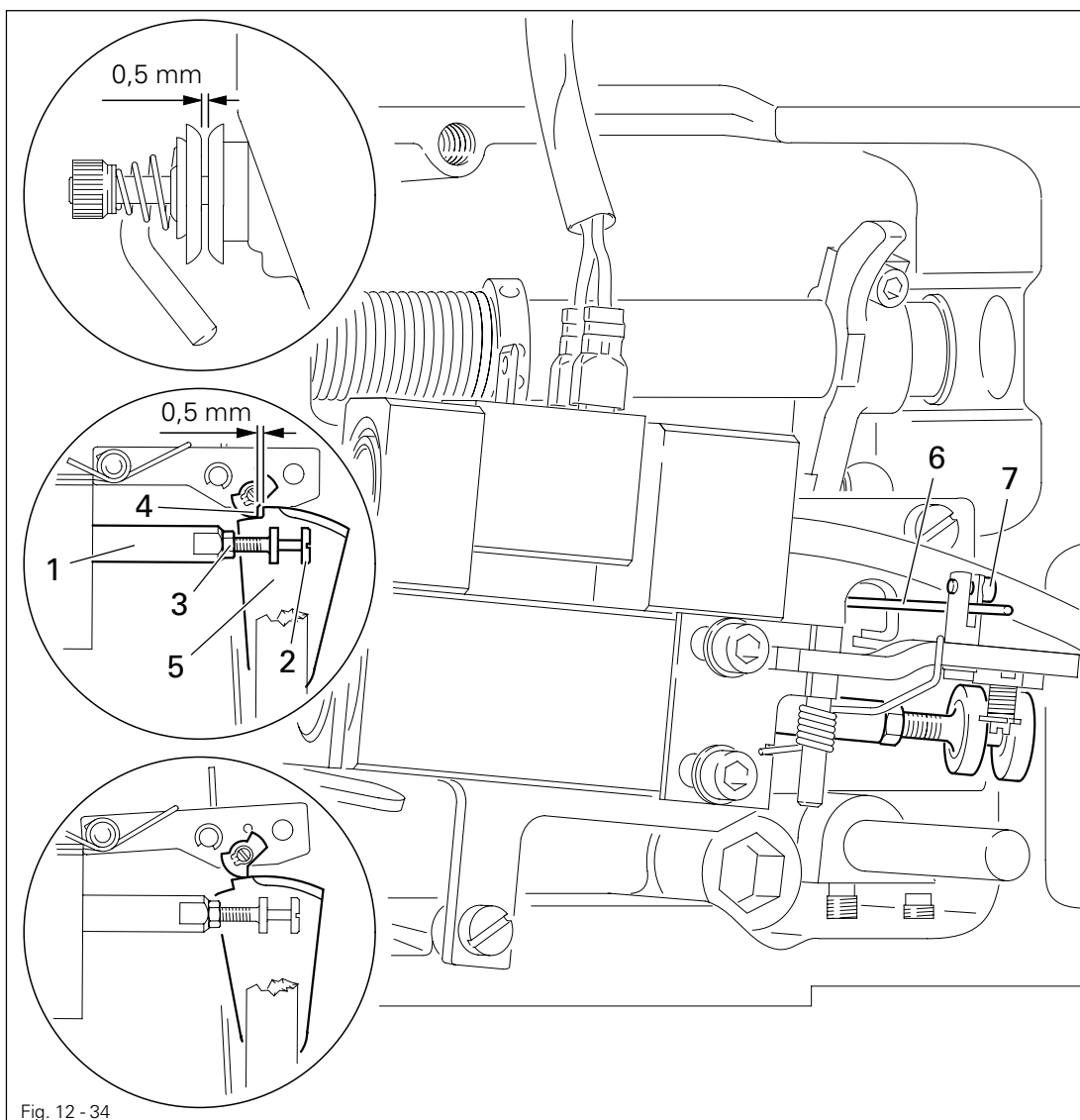


- Position needle bar at TDC and thread catcher 1 at its front reversal point.
- Double a thread and insert it into the cutout of thread catcher 1.
- Carry out the trimming process manually.
- If both threads are not trimmed in accordance with the **requirement**, loosen screws 2 and adjust thread catcher 1 (screws 2) with respect to the knife.
- Tighten screws 2 firmly, making sure that the thread catcher tip is pointing to the middle of the needle.
- Move catcher stop 4 onto thread catcher 1 and tighten screws 5 firmly.
- Mount feed dog and needle plate, making sure that the movement of the feed dog in the needle plate cutout is not restricted.

12.06.05 Needle thread tension release

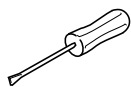
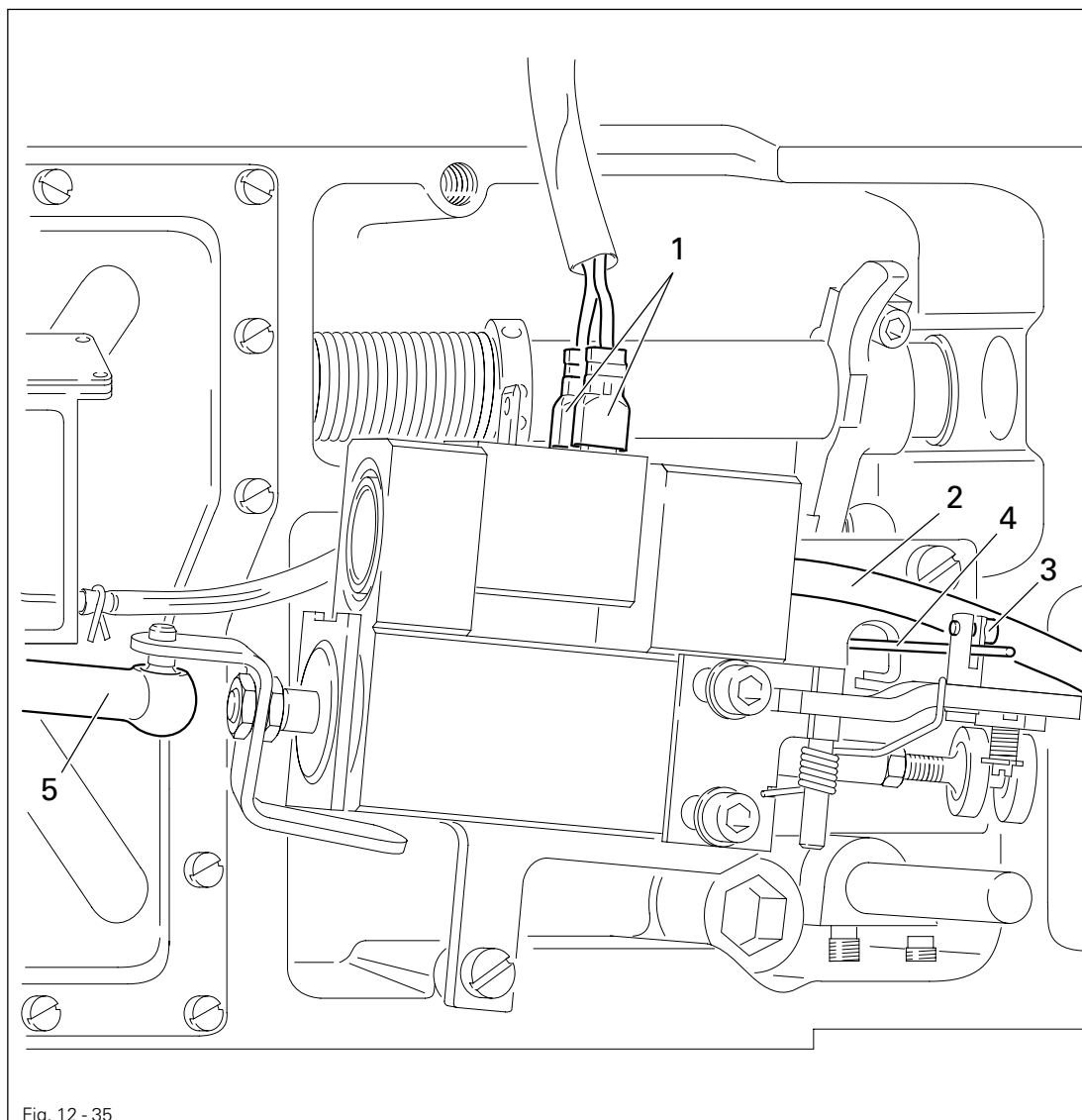
Requirement

1. At the rear reversal point of the thread catcher, trip **4** must be engaged and at a distance of **0.5 mm** from control cam **5**.
2. When the tip of trip **4** is at the highest point of the control cam **5**, the tension disks must be a minimum of **0.5 mm** from each other.



- Push in piston rod **1** manually as far as possible.
- Adjust the distance between trip **4** and control cam **5** in accordance with **requirement 1** by turning screw **2** (nut **3**).
- Lower the sewing foot onto the needle plate.
- Pull down linkage **6** (screw **7**) until you feel it stop (**requirement 2**).
- Connect the thread trimmer to the pneumatic network.

12.06.06 Mounting and dismantling the control unit

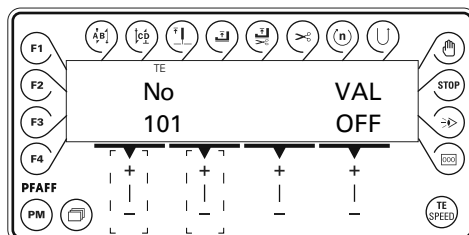


- In order to **dismount** the control unit, pull out plugs 1.
- Push in the mounting of the pneumatic connection and pull off hose 2.
- Loosen screw 3 and remove linkage 4 from the slot.
- Pull the ball heads of connecting rod 5 off the ball pins on the trimming and control units and remove connecting rod 5.
- Unscrew the three retaining screws of the control unit and lift off the complete unit.
- To **remount**, put the control back on and tighten the retaining screws firmly.
- Push the ball heads of the connecting rod 5 onto the ball pins on the trimming and control units.
- Return linkage 4 to its slot and tighten screw 3 firmly.
- Connect plugs 1.
- Check adjustment and carry out function check.

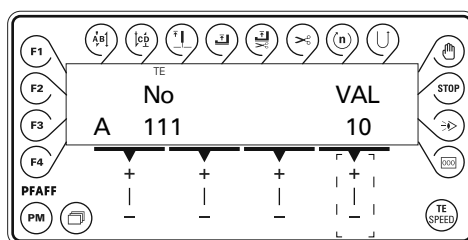
12.07 Parameter settings

12.07.01 Example of a parameter input

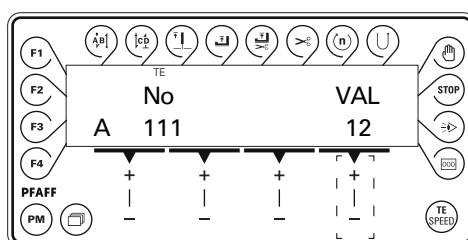
- Switch on the machine.
- 2 x  ● Press the **TE/Speed** key twice to enter the parameter input function.
The status text "TE" appears on the display and the pedal functions are blocked, to avoid the machine starting accidentally.



- No** ● Select the desired parameter, e.g. "111" light barrier compensation stitches, by pressing the corresponding **plus/minus** key.



- VAL** ● With the corresponding **plus/minus** key, set the desired value for the parameter, e.g. "12"



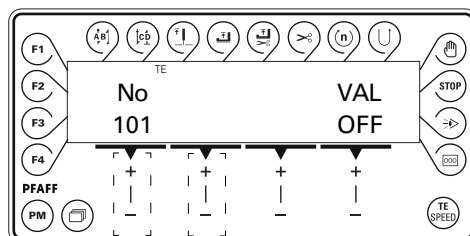
-  ● By pressing the **TE/Speed** key the value is taken over and the machine switches to the sewing mode.

Adjustment

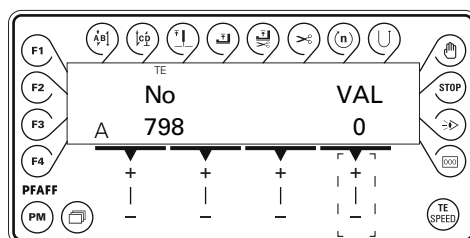
12.07.02 Selecting the user level

- Switch on the machine.

- 2 x  ● Press the **TE/Speed** key twice to call up the parameter input function.



- No** ● Call up parameter "798" by pressing the corresponding +/- key.



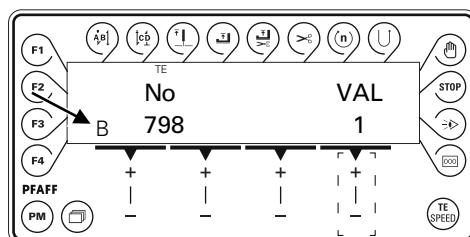
- VAL** ● By pressing the corresponding +/- key select the desired user level.

"0" = Operator level **A**

"1" = Mechanic level **B**

"11" = Service level **C**

The respective level is displayed on the screen (see arrow).



-  ● Press the **TE/Speed** key to take over the value and change to the sewing mode.



When the main switch is switched off, the machine changes automatically to user level **A**.

12.07.03 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
1	101	Audible signal of the control panel key	A,B,C	OFF - ON	OFF
	105	Speed for seam start	B,C	300 - 2000	1200
	106	Speed for seam start ON = variable (pedal-controlled) <107> OFF = constant (<105>)	B,C	OFF - ON	OFF
	107	Speed for seam start with <106> = ON ON = limited by <105> OFF = limited by <607>	B,C	OFF - ON	OFF
	110	Speed for seam end	B,C	300 - 2000	1200
	111	Light barrier compensation stitches stitches from light barrier light to seam end	A,B,C	2 - 50	10
	112	Number of stitches for light barrier fade-out on knitted fabrics (according to stitch size)	A,B,C	0 - 100	0
	113	Start with light barrier ON = only when light barrier is dark OFF = also when light barrier is light	B,C	OFF - ON	OFF
	116	Number of soft start stitches (soft start)	A,B,C	0 - 30	0
	117	Speed for soft start stitches	B,C	30 - 640	400
	199	Speed for light barrier compensation stitches	B,C	300 - 2000	1200
3	301	Switch-on voltage of the magnet for feed reverse ON = 24V, OFF = 32V	C	OFF - ON	OFF
	364	Meaning of feed change-over for ON = backtack, OFF = stitch condensation	B,C	OFF - ON	ON
	382	Switching threshold of the analogue input for the thread monitor	B,C	0 - 100	15

Adjustment

Group	Parameter	Description	User lever	Setting range	Set value
3	387	Output Ax (motor running) is active ON = with pedal = 1D (motor running) OFF = with pedal = 1 (lower presser foot)	B,C	OFF - ON	ON
4	407	Disconnect cable break detection unit of	B,C	OFF - ON	ON
5	522	Needle position when stop occurs, during decorative backtack ON = position 2 (raised) OFF = position 1 (lowered)	B,C	OFF - ON	OFF
	523	Backtack ON = decorative backtack (stitch-in-stitch) OFF = standard backtack	A,B,C	OFF - ON	OFF
	530	Speed (max.) for decorative backtack	B,C	300 - 2000	1000
	538	Timing of output Ax (thread tension release) (0 = 100% power)	B,C	10 - 90	40
	584	Backtack ON = four times, OFF = double	B,C	OFF - ON	OFF
	585	Speed limitation	B,C	300 - 4800	1200
6	605	Actual value on display (<725>) ON = yes, OFF = no	B,C	OFF - ON	OFF
	606	Speed: Level 1 (min.)	B,C	30 - 300	180
	607	Speed: Level 12 (max.)	B,C	300 - 6000	1500
	608	Speed level curve (pedal characteristic) ON = linear, OFF = not-linear	B,C	OFF - ON	ON
	609	Trimming speed 1	B,C	60 - 300	180
	615	End recognition when light barrier goes ON = from light to dark OFF = from dark to light	B,C	OFF - ON	OFF
	618	Inverse rotation after seam end ON = yes, OFF = no	B,C	OFF - ON	OFF
	623	Start delay (ms) for inverse rotation	B,C	0 - 2000	30
	642	Presser foot – time from switch-on to voltage reduction (cycle)	B,C	10 - 150	100

Group	Parameter	Description	User lever	Setting range	Set value
6	643	Feed reverse time from switch-on to voltage reduction (cycle)	B,C	10 - 150	100
	651	Automatic lowering of presser foot when the machine stops ON = yes, OFF = no	B,C	OFF - ON	ON
	653	Target stitch before sewing ON = yes, OFF = no	B,C	OFF - ON	OFF
	660	Bobbin thread monitoring 0 = without (= II) 1 = by sensor (= I) 2 = by stitch counting	A,B,C	0 - 2	0
7	700	Needle position 0 (needle reference position)	B,C	0 - 255	0
	702	Needle position 1 (needle lowered)	B,C	0 - 255	80
	703	Needle position 2 (thread take-up lever raised)	B,C	0 - 255	227
	706	Needle position 6 (start trimming signal 2) (pneumatic thread trimmer)	B,C	0 - 255	127
	707	Needle position 9 (start thread tension release / start thread catcher)	B,C	0 - 255	140
	710	Needle position 3 (needle raised)	B,C	0 - 255	227
	718	Stop brake timing (0 = brake off)	B,C	0 - 100	0
	719	Timing output A4 (presser foot)	B,C	10 - 60	40
	721	Timing output A5 (feed reverse) (0 = 100% power on)	B,C	10 - 90	40
	722	Acceleration ramp 1 = gradual, 50 = steep	B,C	1 - 60	50
	723	Brake ramp 1 = gradual, 50 = steep	B,C	1 - 60	40
	729	Start delay after lowering the presser foot	B,C	10 - 2000	120
	730	Lift delay for presser foot after seam end	B,C	0 - 2000	60

Adjustment

Group	Parameter	Description	User lever	Setting range	Set value
7	760	Number of stitches for remaining thread after response of the bobbin thread monitor with direct bobbin thread monitoring Multiplier for the fixed value (200) for determining the start value of the stitch counter with indirect bobbin thread monitoring	A,B,C	0 - 250	5
	761	Prolongation thread tension release/thread puller	B,C	0 - 80	0
	770	Lifting delay for presser foot pedal position "-1"	B,C	10 - 250	80
	775	Stoppzeit (ms) bei Stich-in-Stich-Riegel (Zierriegel)	B,C	10 - 1000	100
	789	Needle position 10 (target stitch)	B,C	0 - 255	240
	797	Hardware test, ON = yes, OFF = no	C	OFF - ON	OFF
	798	Programming level: 0 = operator level "A" 1 = mechanic level "B" 11 = service level "C"	A, B, C	0 - 20	0
	799	Selected machine class	C	1	1
8	800	Direction of motor rotation viewed from V-belt pulley, 0 = left-hand rotation, 1 = right-hand rotation	C	0 - 1	1
	801	Reverse rotation angle after seam end	B,C	10 - 200	30
	880	Starting current max. [A]	C	1 - 20	5
	884	Proportional amplification of the speed control (in general)	B,C	3 - 24	10
	885	Proportional-Verstärkung speed control	C	10 - 80	50
	886	Proportional amplification of the positioning controller	C	1 - 15	8
	887	Differential amplification of the positioning controller	C	1 - 15	8
	889	Time required for positioning controlling (0 = always)	C	0 - 2500	200
	890	Proportional amplification of the superior positioning controller for the stop brake	C	1 - 25	15

Group	Parameter	Description	User lever	Setting range	Set value
8	897	MINI motor version 0 = long, 1 = short	C	0 - 1	0
9	900	Additional P-amplification of the speed control	B,C	1 - 24	10
	901	Trimming release speed	B,C	30 - 500	400
	933	Display change-over ON = diagnosis, OFF = normal display	C	OFF - ON	OFF
	939	Rate time (premature change-over) for the feed reset	B,C	10 - 200	30



Weitere Parameter sind in der **Betriebsanleitung des Motors** aufgeführt.

12.08 Explanation of the error signals

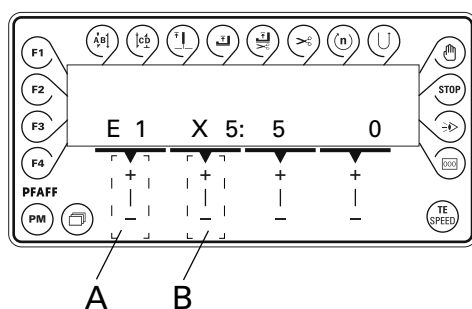
Signal	Description
E001	Pedal not in neutral position
E009	Start inhibitor during standstill
E010	Incorrect machine class
E062	Short circuit 24V
E063	Overload mains supply circuit
E064	Network monitoring
E065	Extint low in operation
E066	Short circuit
E067	Network off
E068	Extint low in operation
E069	No increments
E070	Motor blocking
E071	No incremental connector
E074	External transmitter for synchronisation marker missing
E088	RAM defective
E092	Start inhibitor when motor running
E173	Start error

12.09 Hardware-test

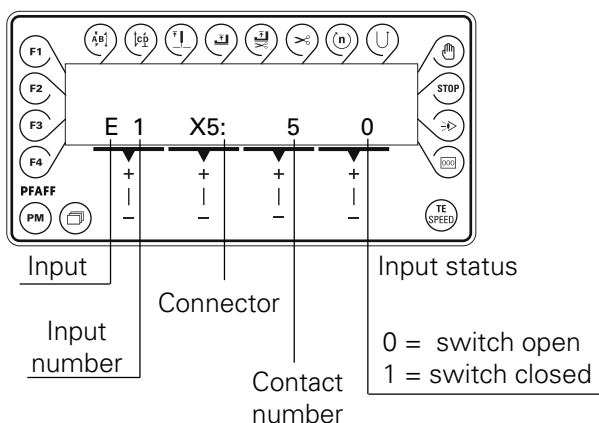
The hardware test is a test program, which makes it possible, with the aid of the control panel, to check various components of the control system and the machine installation. The test consists of seven test blocks.

12.09.01 Carrying out the hardware test

- Switch on the machine.
- Select service level "C" (see Chapter 12.07.02 **Selecting the user level**).
- Select parameter **797** and set it at "ON" by pressing the appropriate +/- key.
- The first test block appears on the display.
- The next test blocks can be selected by pressing the +/- "A" key.
- The individual inputs and outputs can be selected by pressing the +/- "B" key.

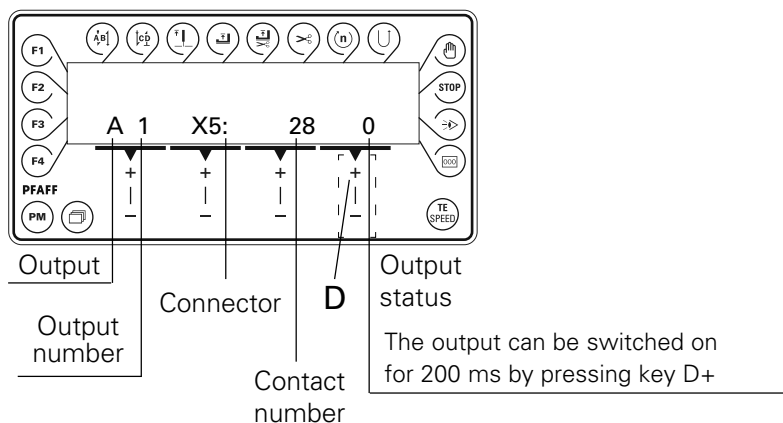


12.09.02 Test block 1 - inputs



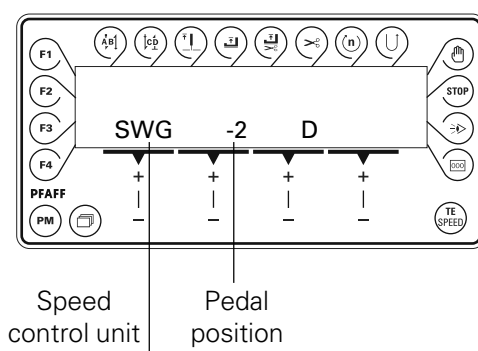
- The functions allocated to the inputs displayed can be found in **Chapter 12.10 Connection plan for the X5 plug**.

12.09.03 Test block 2 - outputs



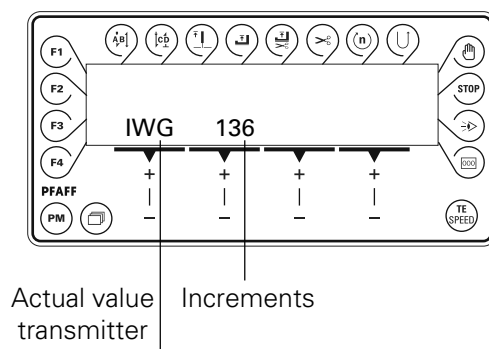
- The functions allocated to the inputs displayed can be found in **Chapter 12.10 Connection plan for the X5 plug.**

12.09.04 Test block 3 - speed control unit



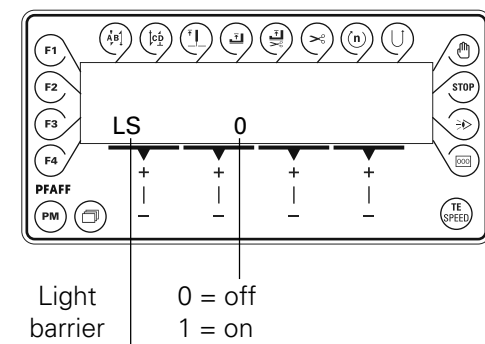
- It is possible to move to all 16 switch levels by operating the pedal.
- If all the displays from -2, -1, 0, 1, 1D to 12D appear, the speed control unit is in order.

12.09.05 Test block 4 - actual value transmitters



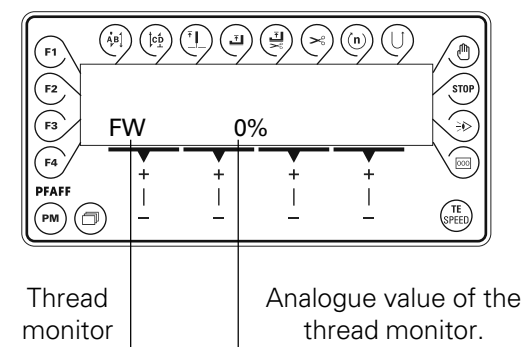
- The actual value transmitter can be checked by turning the balance wheel.
- If the increments from 0 – 255 appear on the display, the actual value transmitter is in order.

12.09.06 Test block 5 - light barrier



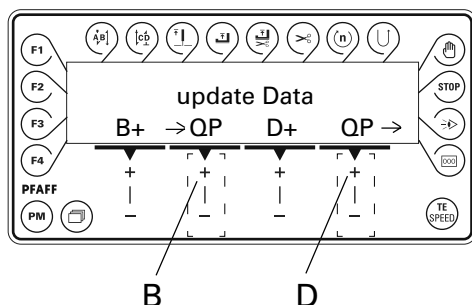
- The status of the light barrier can be checked here.

12.09.07 Test block 6 - thread monitor (only on subclass -926/06)



- The analogue value of the thread monitor is shown here in %.

12.09.08 Test block 7 - data transfer

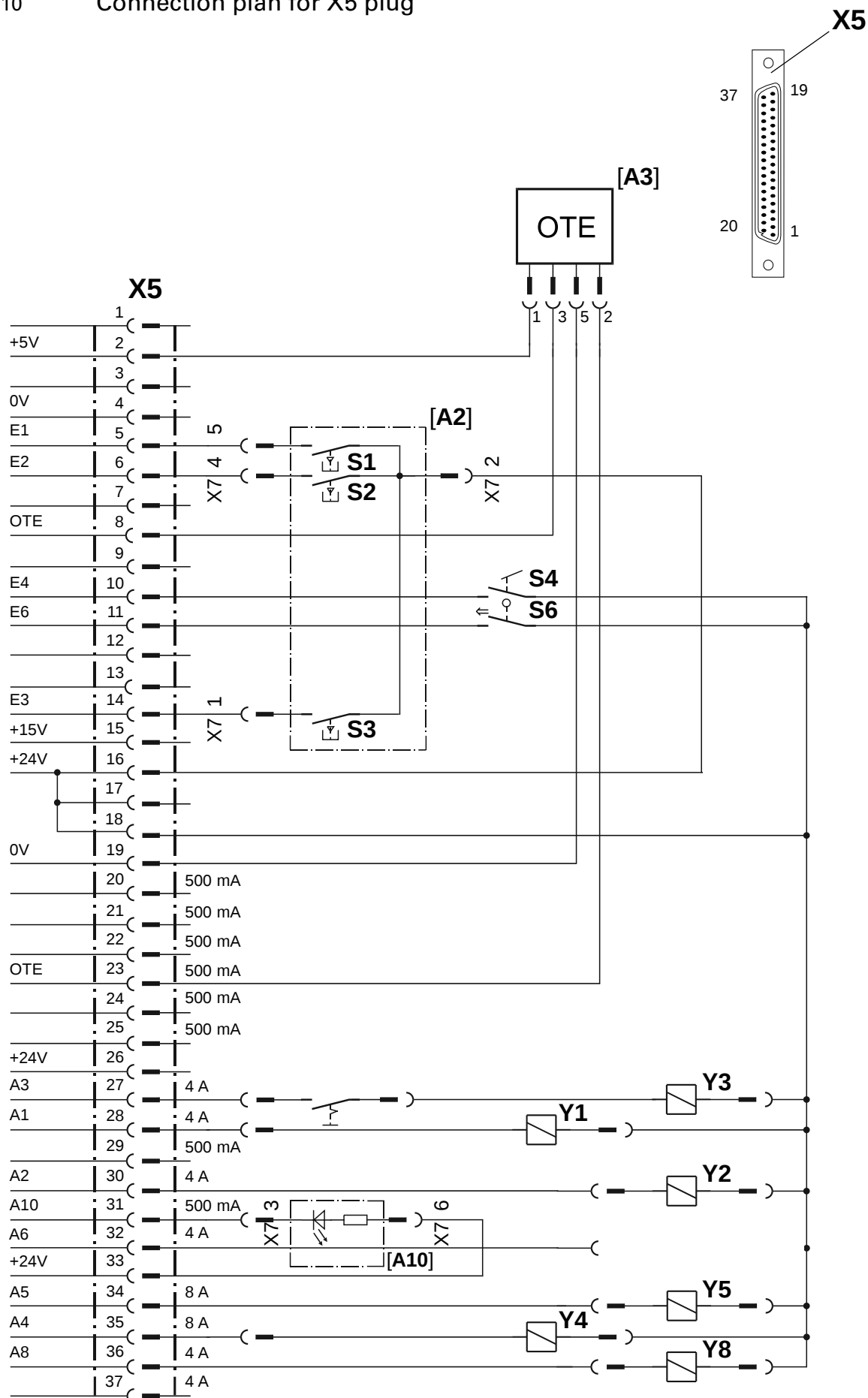


- With the **B+** key all data is transferred from the control unit to the "Quick-Prog.-Device".
- With the **D+** key all data is transferred from the "Quick-Prog.-Device" to the control unit.



Before transferring data please observe the "Quick-Prog.-Device" instruction manual.

12.10 Connection plan for X5 plug

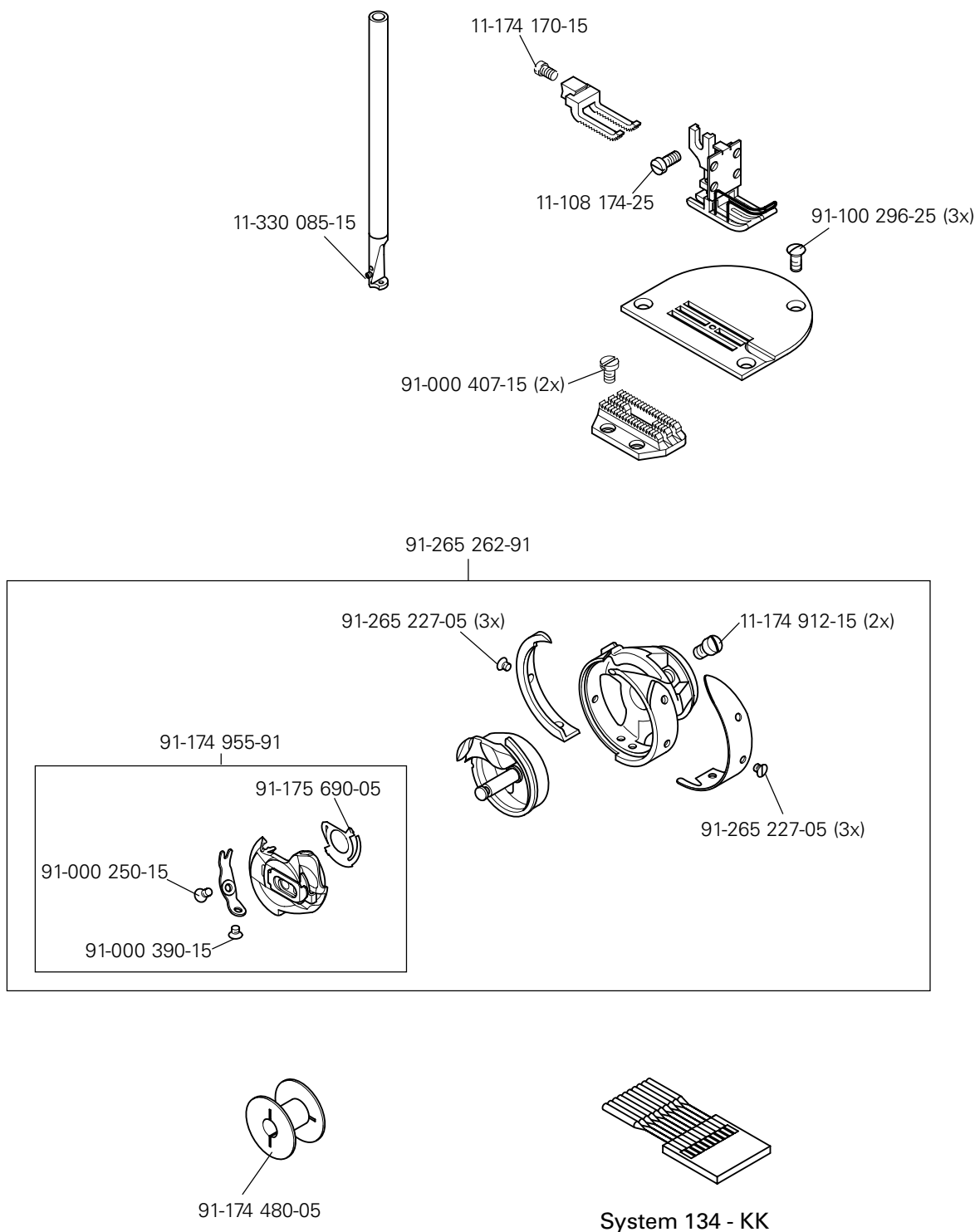


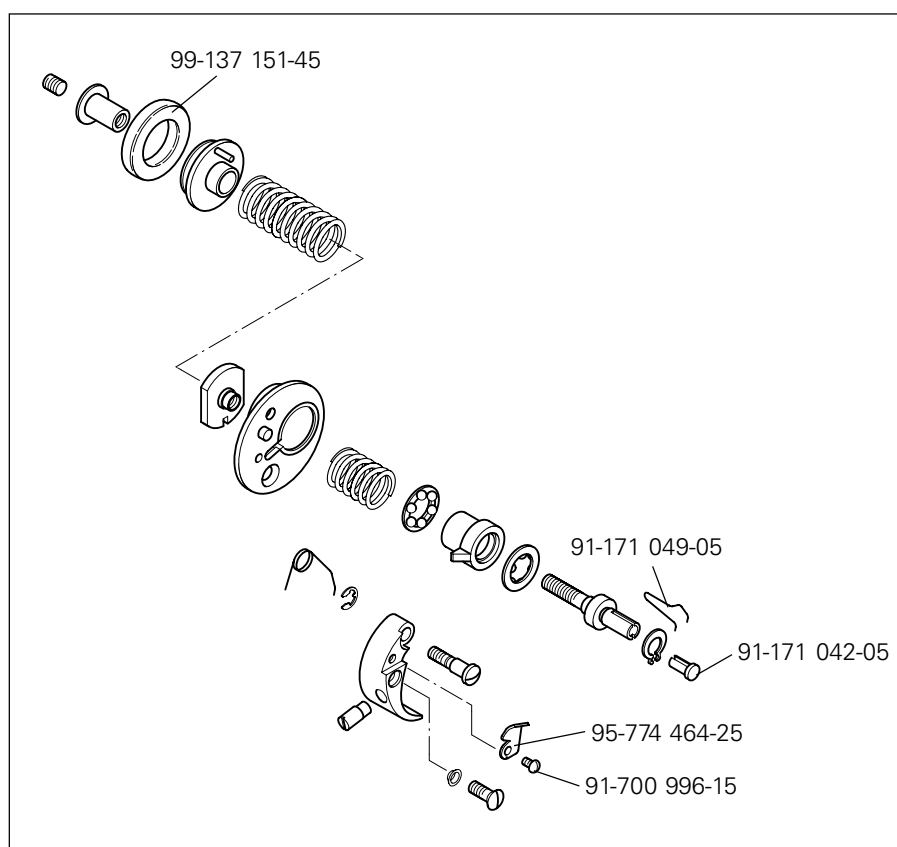
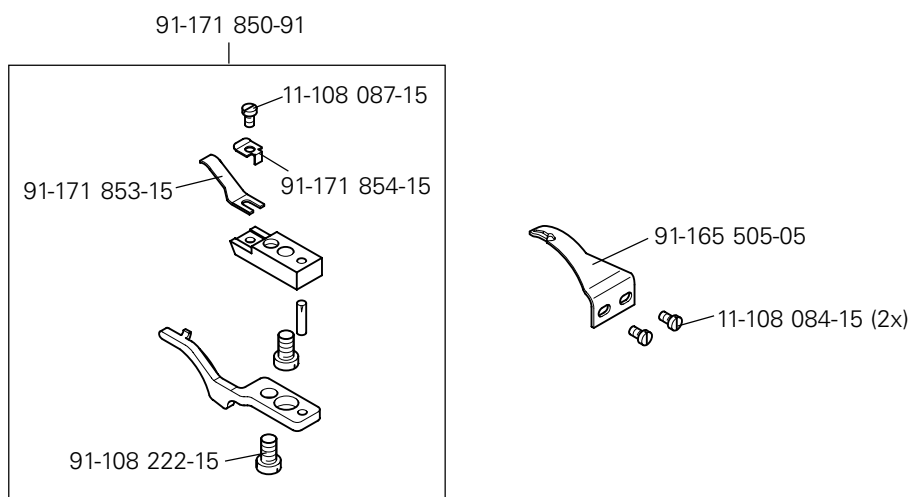


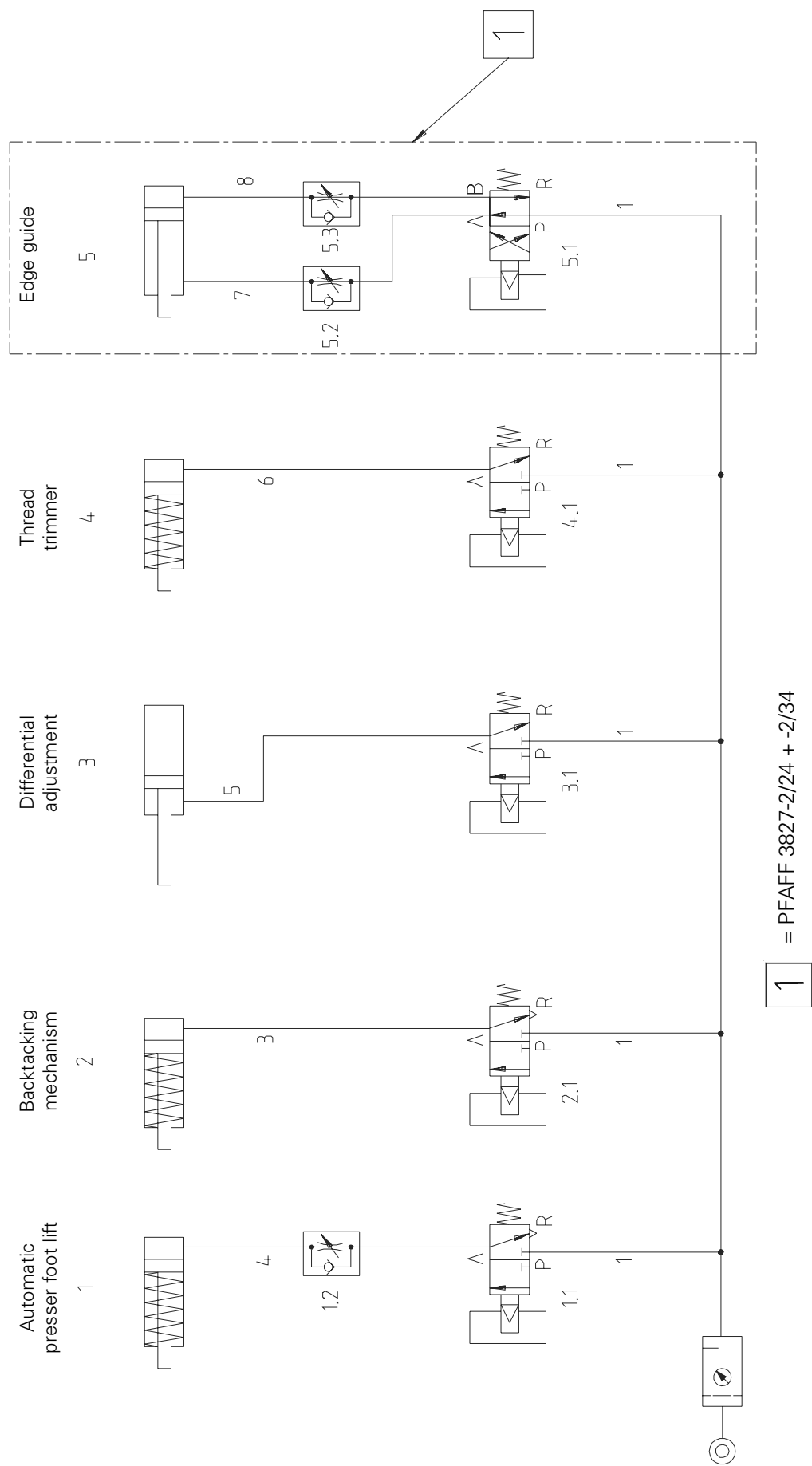
This is a list of the most important wearing parts.

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/pfaff/en/service/downloads As an alternative to the internet download the parts lists can also be ordered in book form under part no. 296-12-18 593.

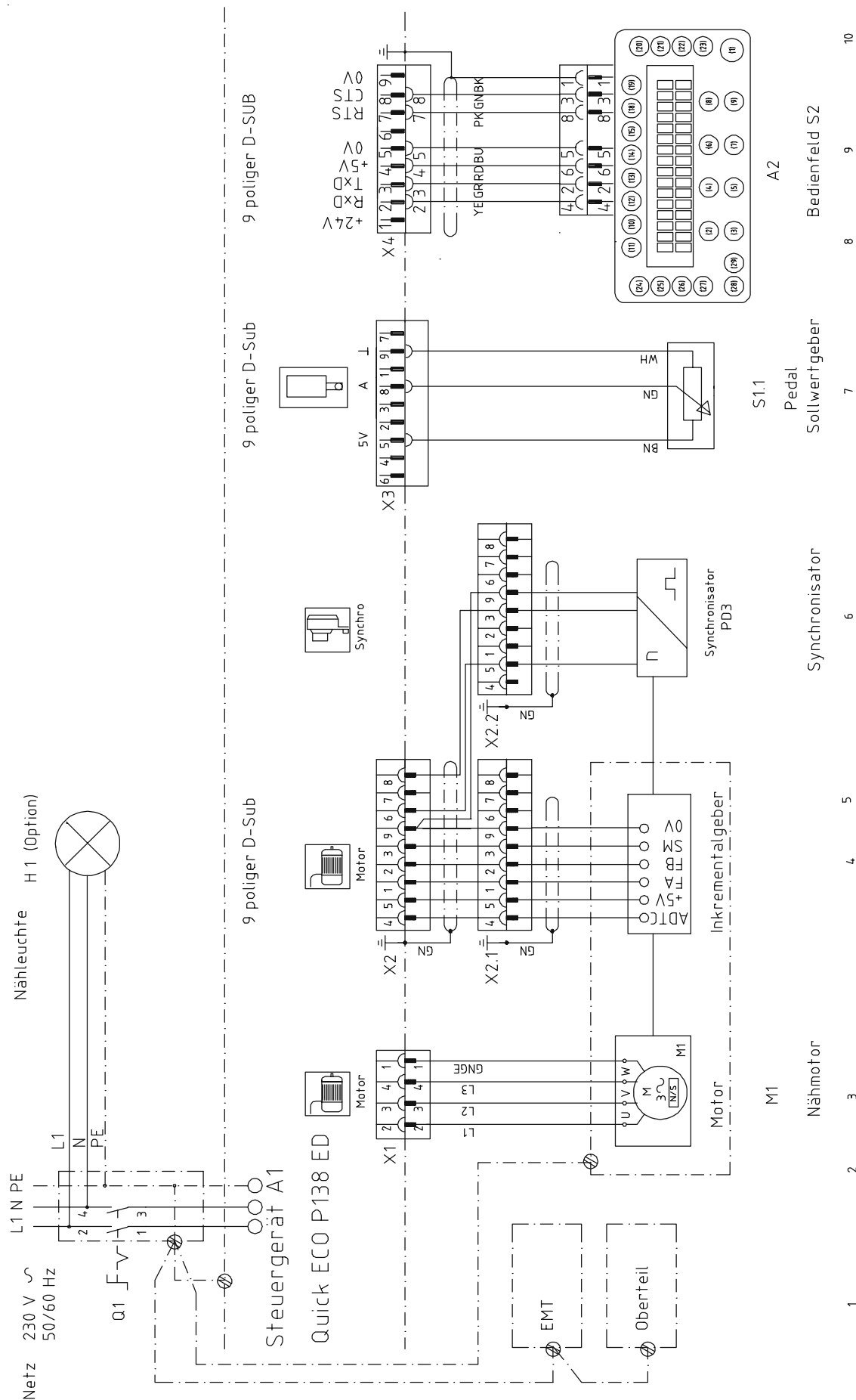


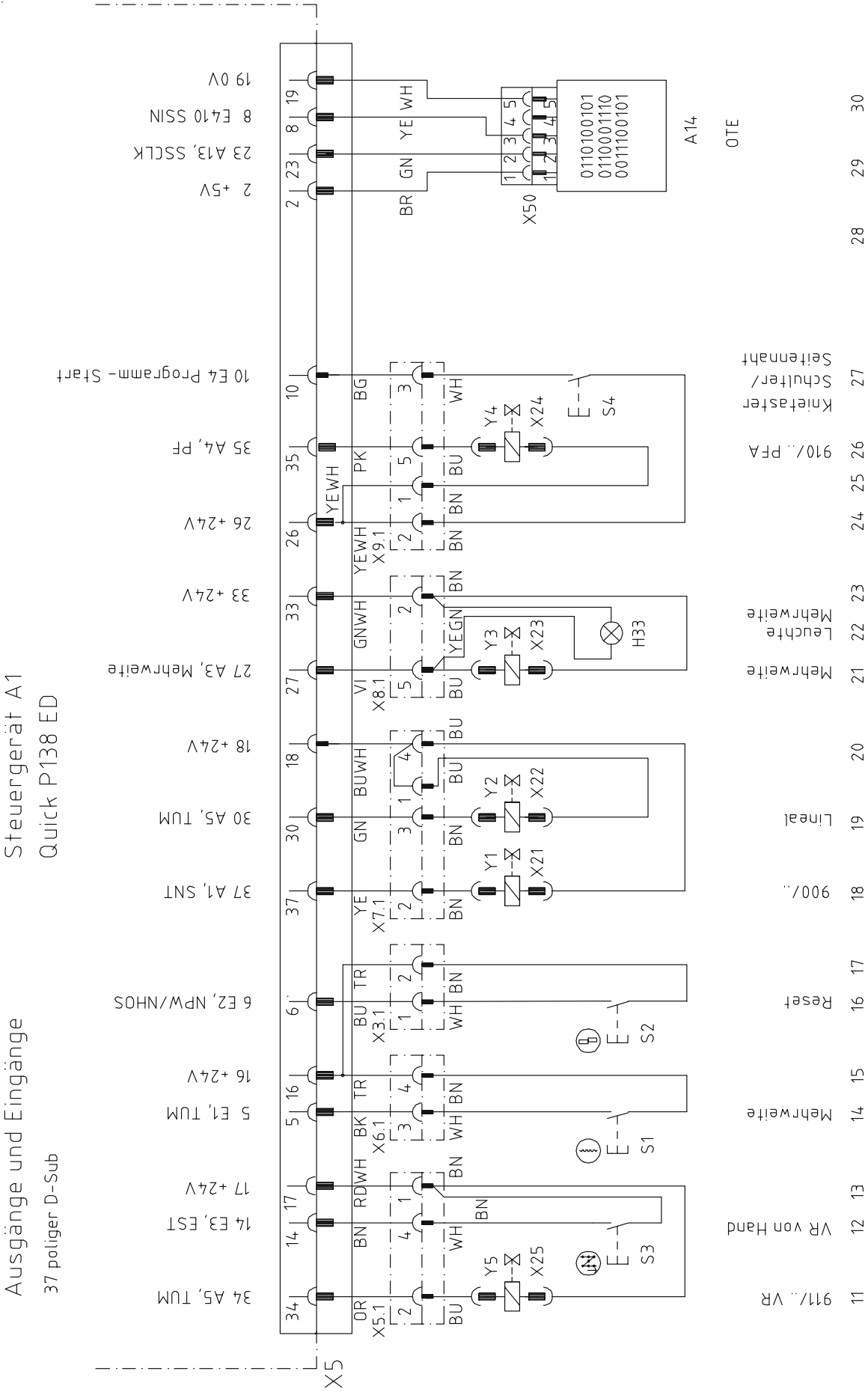




14 Circuit diagrams**Reference list for circuit diagrams**

A1	Controller Quick ECO P 138ED
A2	Control panel BDF S2
A14	Sewing head identification (OTE)
B7	Light barrier
H1	Sewing lamp
H33	Lamp fullness
M1	Sewing motor
Q1	Main switch
S1	Key fullness
S1.1	Pedal speed control unit
S2	Reset
S3	Key manual locking
S4	Knee switch (program)
X0	RS232 – interface
X1	Sewing motor
X2	Incremental transmitter + Synchronizer PD3
X2.1	Incremental transmitter (sewing motor)
X2.2	Synchronizer PD3
X3	Pedal speed control unit
X3.1	S2 Reset
X4	Control panel (BDF S2)
X5	Outputs + Inputs
X5.1	Y5 Backtacking mechanism (-911/..) + S3 key manual locking
X6	Bobbin thread monitor (optional)
X6.1	S1 key fullness
X7	B7 Light barrier
X7.1	Y1 Thread trimmer (-900/..) + Y2 edge guide
X8.1	Y3 fullness & H33 lamp fullness
X9.1	Y4 Automatic presser foot lift (-910/..) + S4 Knee switch (program)
X21	Thread trimmer (-900/..)
X22	Edge guide
X23	Fullness
X24	Automatic presser foot lift (-910/..)
X25	Backtacking mechanism (-911/..)







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