

PFAFF

3811 -2/55

3811 -11/55; /65

Instruction Manual

3811 -14/55; /65



This instruction manual applies to all versions and subclasses listed under "Specifications".

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**G.M. PFAFF
Aktiengesellschaft**

Postfach 3020
D-67653 Kaiserslautern
Königstr. 154
D-67655 Kaiserslautern

Editing/illustrations
HAAS-Publikationen GmbH
D-53840 Troisdorf

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1 Safety

1.01 Regulations

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

In addition to this instruction manual, please also observe all generally accepted, statutory and other legal requirements, including those of the user's country, and the applicable pollution control regulations!

The valid regulations of the regional social insurance society for occupational accidents or other supervisory authorities are to be strictly adhered to!

1.02 General notes on safety

- The machine must only be operated by adequately trained operators and only when the instruction manual has been fully read and understood!
- All notices on safety and the instruction manual of the motor manufacturer are to be read before the machine is put into operation!
- All notes on the machine concerning danger and safety must be observed!
- The machine must be used for the purpose for which it is intended and must not be operated without its safety devices; all regulations relevant to safety must be adhered to.
- When part sets are changed (e.g. needle, presser foot, needle plate, feed dog or bobbin), during threading, when the workplace is left unattended and during maintenance work, the machine must be disconnected from the power supply by turning off the on/off switch or removing the plug from the mains!
- Daily maintenance work must only be carried out by appropriately trained persons!
- Repairs and special maintenance work must only be carried out by qualified technical staff or persons with appropriate training!
- During maintenance or repairs on the pneumatic system the machine must be disconnected from the compressed air supply! The only exception to this is when adjustments or function checks are carried out by appropriately trained technical staff!
- Work on the electrical equipment must only be carried out by technical staff who are qualified to do so!
- Work on parts or equipment connected to the power supply is not permitted! The only exceptions to this are specified in regulations EN 50110.
- Conversion or modification of the machine must only be carried out under observation of all relevant safety regulations!

- Only spare parts which have been approved by us are to be used for repairs! We draw special attention to the fact that spare parts and accessories not supplied by us have not been subjected to testing nor approval by us. Fitting and/or use of any such parts may cause negative changes to the design characteristics of the machine. We shall not accept any liability for damage caused by the use of non-original parts.

1.03 Safety symbols



Danger!
Special points to observe.



Danger of injury to operating or technical staff!

1.04 Important notes for the user

- This instruction manual belongs to the equipment of the machine and must be available to the operating staff at all times.
This instruction manual must be read before the machine is operated for the first time.
- Both operating and technical staff must be instructed on the safety devices of the machine and on safe working methods.
- It is the duty of the user to operate the machine in perfect running order only.
- The user must ensure that none of the safety devices are removed nor put out of working order.
- The user must ensure that only authorized persons operate and work on the machine.

For further information please refer to your PFAFF agency.

1.05 Notes for operating and technical staff

1.05.01 Operating staff

Operating staff are the persons responsible for setting up, operating and cleaning the machine and for removing any disturbances in the sewing area.

The operating staff are obliged to observe the following points, and must:

- always observe the notes on safety in this instruction manual!
- avoid using any working methods which adversely effect the safety of the machine!
- avoid wearing loose-fitting clothing or jewelry such as necklaces or rings!
- also ensure that only authorized persons are allowed near the danger area of the machine!
- immediately report to the user any changes to the machine that may affect its safety!

1.05.02 Technical staff

Technical staff are persons who have been trained in electrical engineering, electronics, pneumatics and mechanical engineering. They are responsible for lubricating, servicing, repairing and adjusting the machine.

The technical staff are obliged to observe the following points, and must:

- always observe the notes on safety in this instruction manual!
- switch off the on/off switch before carrying out adjustment and repair work and ensure it cannot be switched on again unintentionally!
- never work on parts or equipment still connected to the power supply! Exceptions to this are only permissible according to regulations EN 50110;
- disconnected the machine from the compressed air supply when carrying out maintenance or repair work on pneumatic equipment!
Exceptions to this are only permissible for function checks;
- replace all safety covers after carrying out maintenance or repair work!

1.06

Danger warnings



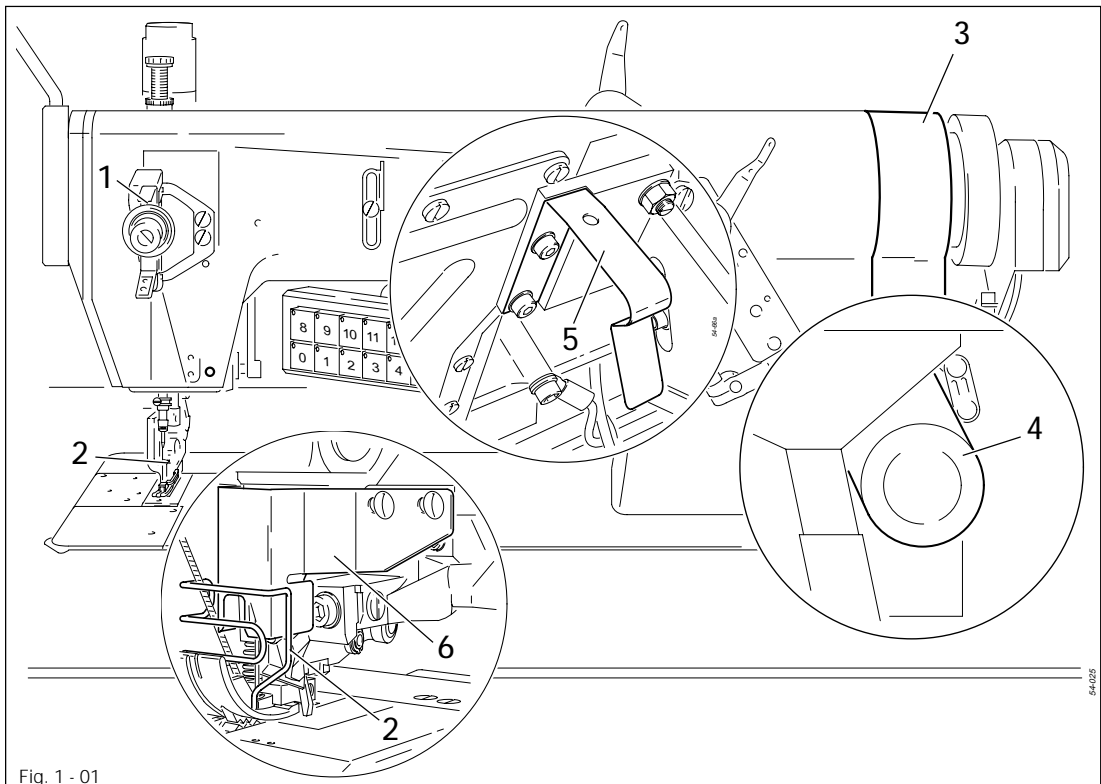
A working area of 1 m must be kept free both in front of and behind the machine, so that easy access is possible at all times.



Never put your hands in the sewing area during sewing!
Danger of injury by the needle!



While setting or adjusting the machine do not leave any objects on the table nor in the needle plate area! Objects may be trapped or slung out of the machine!



Do not operate the machine without take-up lever guard 1!
Danger of injury from the movement of the take-up lever!



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



Do not operate the machine without belt guard 3 and 4!
Danger of injury by running drive belts!



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



Do not operate machines with edge trimming device without finger guard 6!
Do not place fingers in the cutting area between needle plate and knife!
Danger of injury from the cutting motion of the knife!

2 Proper use

The

PFAFF 3811-11/55,

PFAFF 3811-2/55,

PFAFF 3811-11/65,

PFAFF 3811-14/55 and

PFAFF 3811-14/65

are integrated workplaces used in the upholstery and shoe industry for applying fullness in one material ply.

Machine model	Equipment
PFAFF 3811-11/55	
PFAFF 3811-2/55	with edge guide (used in the shoe industry)
PFAFF 3811-11/65	with graphics operating panel
PFAFF 3811-14/55	with edge trimmer
PFAFF 3811-14/65	with graphics operating panel and edge trimmer



Any use of these machines which is not approved by the manufacturer shall be considered as improper use! The manufacturer shall not be liable for any damage arising out of improper use! Proper use shall also be considered to include compliance with the operation, adjustment, service and repair measures specified by the manufacturer!

3

Specifications[▲]

Sewing machine head

3811-2/55: 5487/5489-814/01

3811-11/55; -11/65: 5487/5489-814/01

3811-14/55; -14/65: 5487/5489-814/01

Stitch type: 401

Max. speed: 3200 stitches/min.♦

Standard stitch length (value for 3811-2/55 in brackets) 4 mm (2.2 mm)

Second stitch length: 3 mm

Differential feed motion (value for 3811-2/55 in brackets): 4 – 8 mm (2.2 – 6.5 mm)

Needle system (system for 3811-2/55 in brackets) 4463-35 (4463-KKD)

Needle (Nm) size in 1/100 mm: dependent on material 80 – 110

Thread: 40/3

Eff. balance wheel diameter: 65 mm

Presser foot clearance:

3811-2/55 7 mm

3811-11/55; -11/65, -14/55; -14/65 11 mm

Sewing motor: see Motor Service Manual

Input power rating: 0.8 kW

Input voltage: E 230 V, 50/60 Hz

Working air pressure: 6 bar

Air consumption: 0.3 - 0.5 l/work cycle

Noise emission:

(Noise level at workplace at a speed of 2600 spm: 79 dB(A)

(Noise measurement according to DIN 45 635-48-A-1)

Machine dimensions:

Length: approx. 1250 mm

Width: approx. 600 mm

Height (with reel stand): approx. 1700 mm

Weight (net). Approx. 140 kg

▲ Subject to alterations

♦ Dependent on material, work cycle and stitch length

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!

Transportation, packing and storage

5 Transportation, packing and storage

5.01 Transportation to customer's premises

All 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:



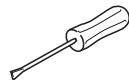
Note, information



Cleaning, care



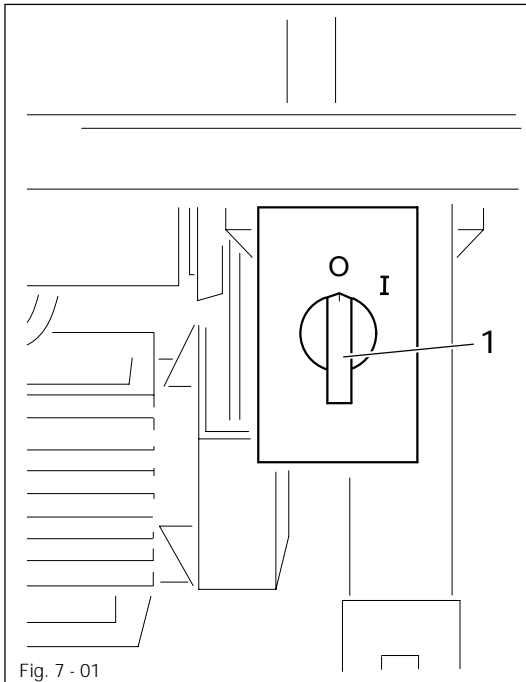
Lubrication



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

7 Controls

7.01 Main switch

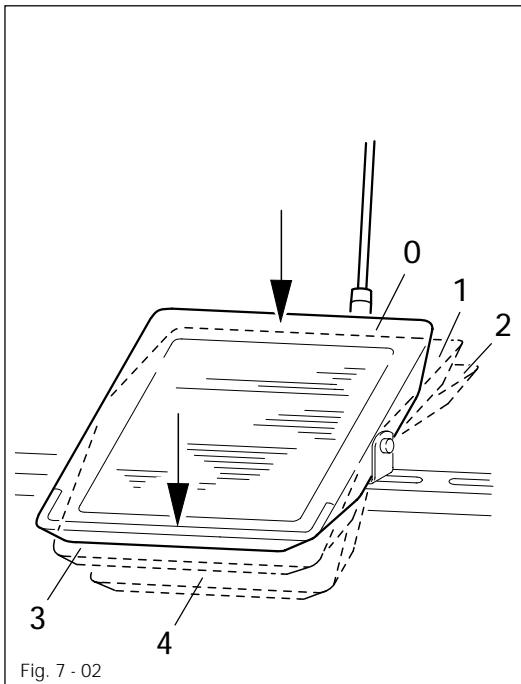


- The machine is switched on or off by turning main switch 1.



The illustrated main switch is fitted to machines with Quick motors. If other motors are used, different switches may be fitted.

7.02 Pedal



- 0 = Neutral position
- 1 = Lower presser foot
- 2 = Sewing
- 3 = Raise presser foot
- 4 = Trim threads

7.03 Presser bar lifter

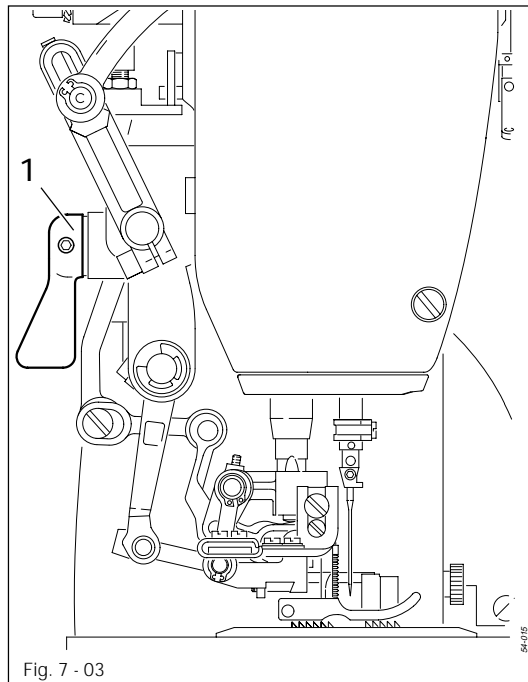


Fig. 7 - 03

- The presser foot is raised by turning lever 1.

7.04 Knee Switch

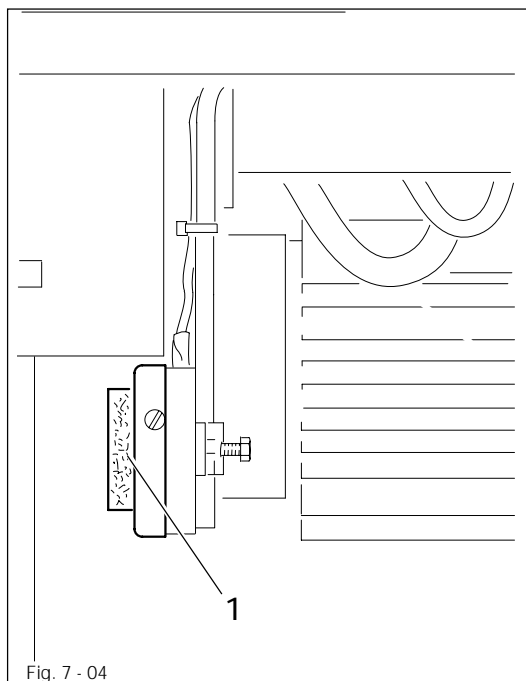


Fig. 7 - 04

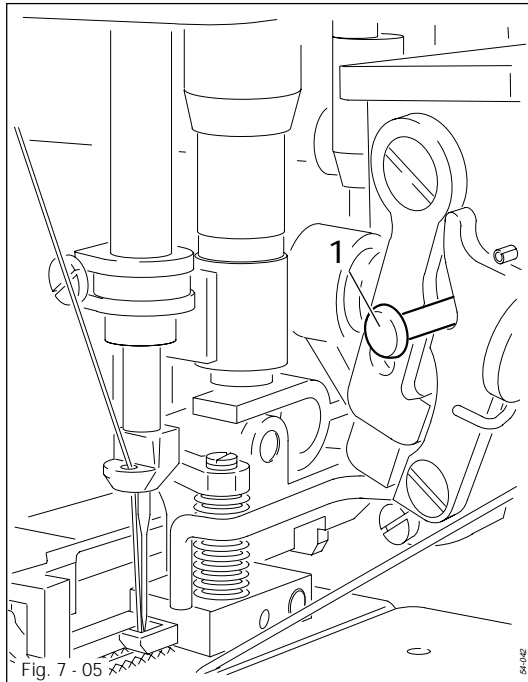
Manual sewing:

- By operating knee switch 1 it is possible to alternate between two pre-set amounts of fullness.

Programmed sewing:

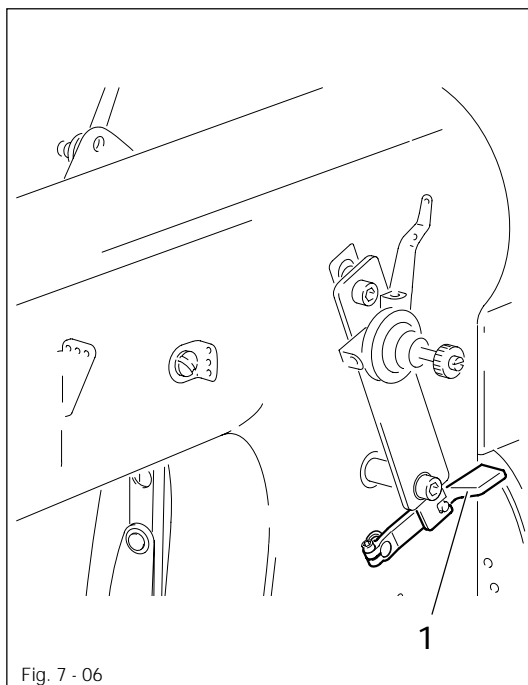
- By operating knee switch 1 the amounts of fullness are changed according to the program selected.

7.05 Edge guide (only on PFAFF 3811-2/55 model)



- By pressing down lever 1 the edge guide is engaged.
- By raising lever 1 the edge guide is disengaged.

7.06 Reverse-feed control lever



- To sew condensed stitches, press lever 1 down.

7.07 Keyboard

Keyboard **1** helps to operate the machine quickly during sewing.
 The respective diode of the 20 keys shows the activated key function.
 (Function activated = diode lights up).

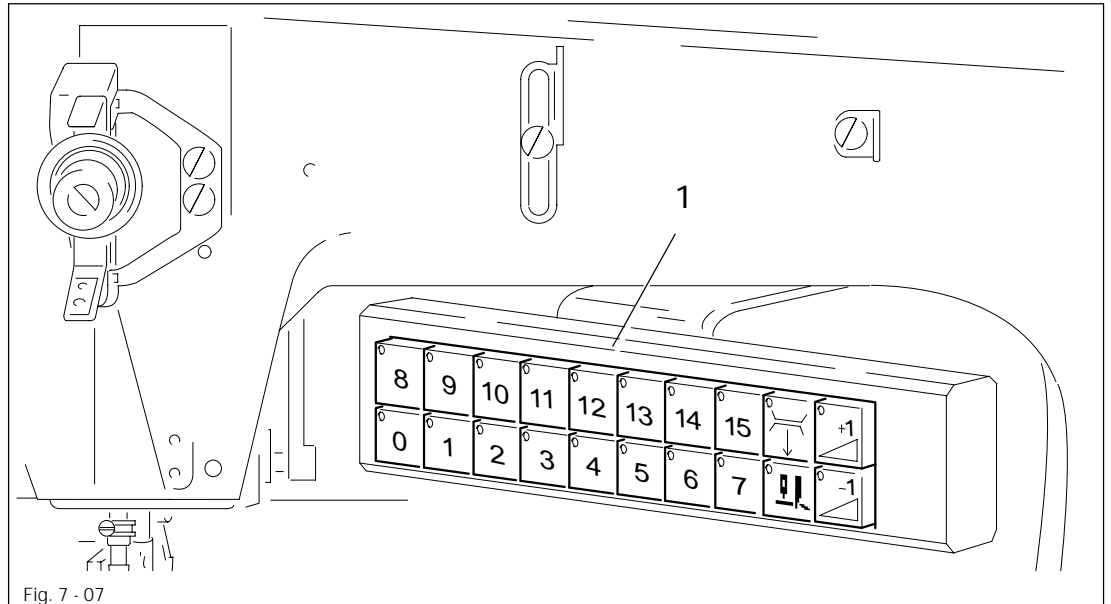


Fig. 7 - 07

Number keys (0 – 15)

- By pressing a key the fullness to be applied is called up completely or partially.
 Key 0: No fullness is applied.
 Key 15: The maximum fullness (pre-set value) is called up.
- By pressing two neighbouring number keys at the same time, the corresponding intermediate value is called up.



On machines with a graphics operating panel the partial steps 0 – 15 can be defined as required, on machines without a graphics operating panel, the partial steps are set.



Tape brake

- By pressing a key, the tape brake is engaged or disengaged.
 When the tape brake is engaged, the gathering of the material is increased.



Edge trimming mechanism

- By pressing a key the edge trimming mechanism is engaged or disengaged.



Corrective value + / corrective value –

- By pressing a key the fullness value is increased or reduced in 2 steps.

7.08 Tape dispenser

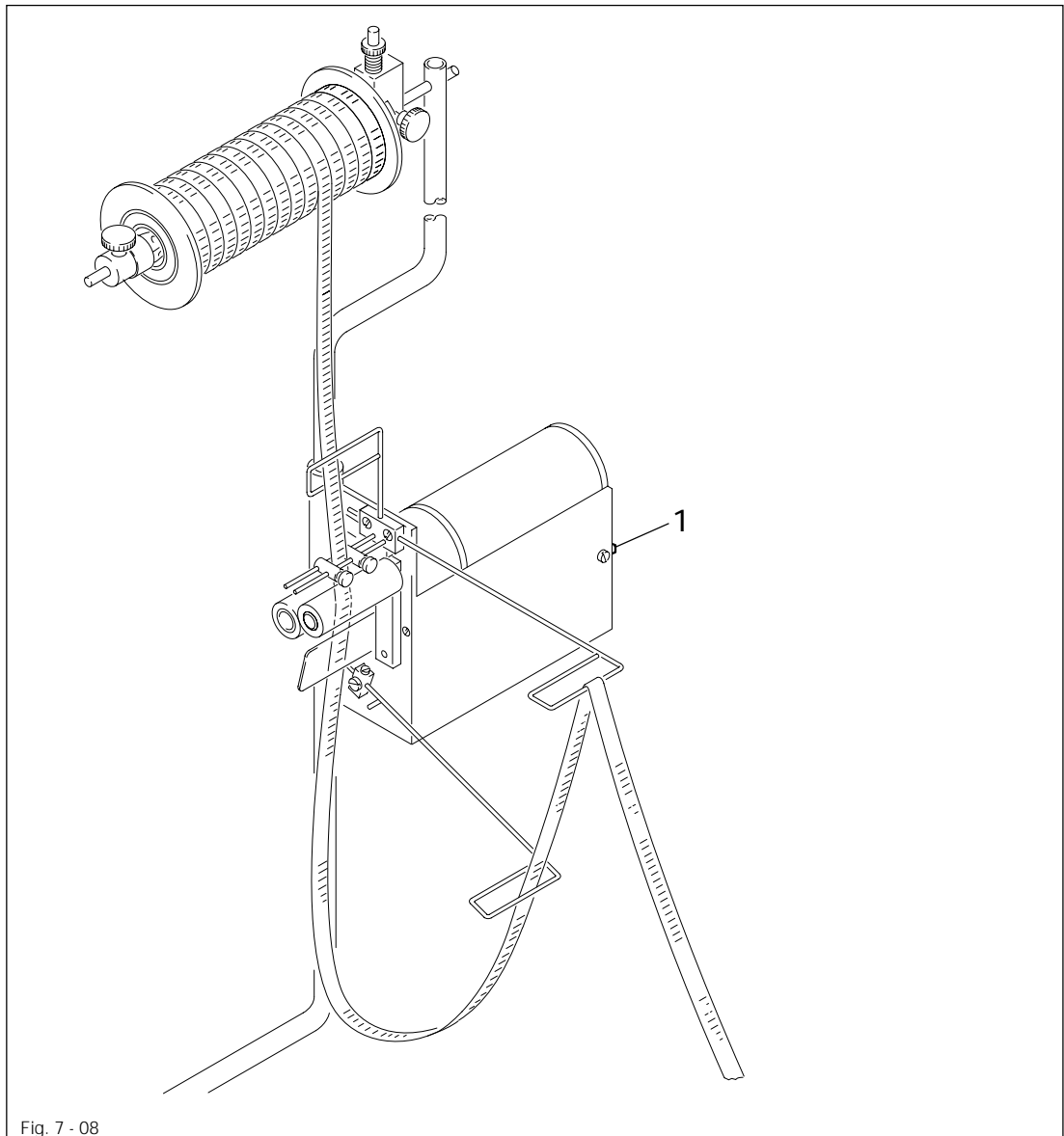


Fig. 7 - 08

- To apply fixing tape, the device is switched on with switch 1.

7.09 Graphics operating panel

The graphics operating panels consists of the display screen and 2 key zones.

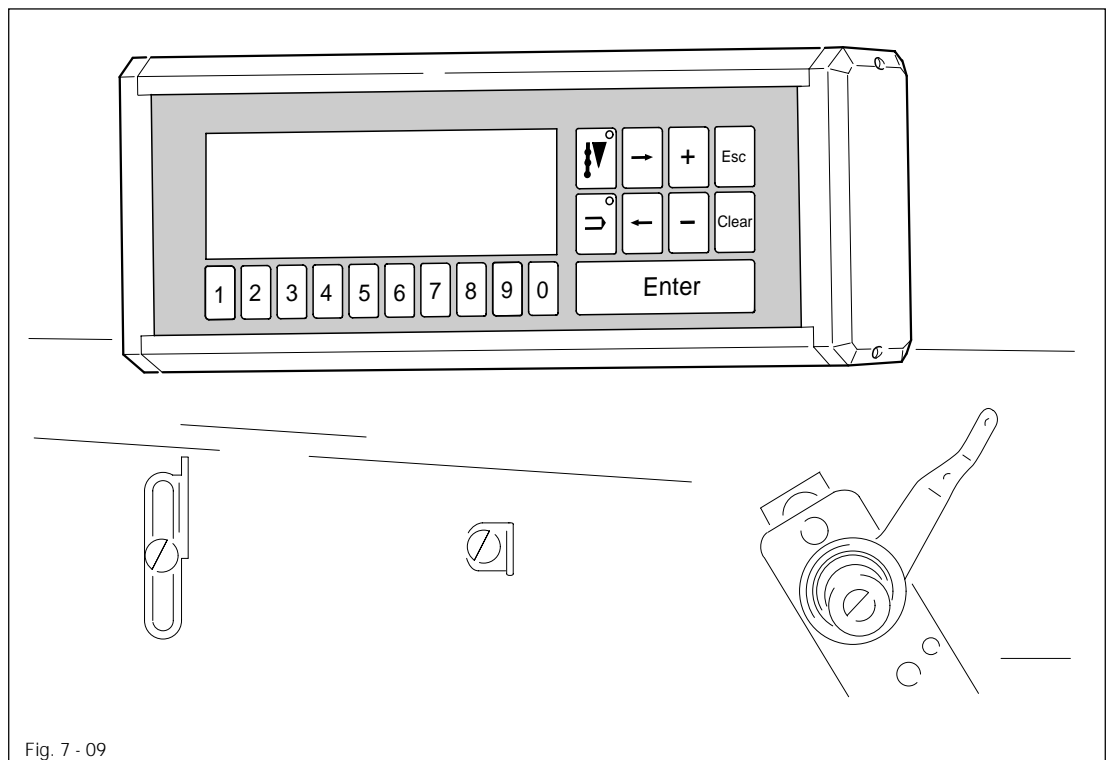


Fig. 7 - 09

7.09.01 Display

In its basic condition the displays on the screen are divided into 3 part sections:

Status line

In the top section of the display screen there is a status line, where up to 5 pictographs with their corresponding values can be displayed (e.g. program number, number of seam sections etc.).

Pictograph strip

In the bottom section there is the pictograph line. The functions of the symbols, which appear here, can be called up using the **number keys**. Activated functions are displayed by an inverse symbol.



Normal symbol (function not activated)



Inverse symbol (function activated)

7.09.02 Operational mode keys

There are two different modes of operation. The selected mode is shown by the diode of the respective key.



Operational mode **SEWING** has been selected



- Operational mode **ENTER** has been selected
- If the operational mode **ENTER** has already been selected, the standard condition is selected.

7.09.03 Function keys



Arrow keys (right/left)

- Positioning of cursor if several values are entered in one line
- Turning over menu pages
- Changing zones during programming and seam interruption



Plus/Minus keys

- Increasing or reducing input values
- Selection of sign for sign-dependent inputs
- Selection of program number



Esc-key

- Interruption of functions without taking over the input value
- Return to superior menu functions



Clear key

- Setting input values at 0

Enter

Enter key

- Confirmation of an input value / finishing an input
- Switching to another zone when programming or interrupting a seam
- Confirmation of error correction after error alarm

7.09.04 Number keys



Beneath the display there is a strip with number keys.

Depending on the operating condition, the keys have the following functions:

- Executing a function illustrated by the symbol of the corresponding key
- Input of a numerical value (if no symbol is entered with a number key)
- Selection of functions or of the next menu level

8 Installation and commissioning



The machine must only be installed and commissioned by qualified personnel!
All relevant safety regulations must be observed!
If the machine is delivered without a table, be sure to use a stand and table top that can bear the weight of the machine and the motor reliably.
It is very important to ensure that support of the machine on its stand is firm and steady, also during sewing.

8.01 Installation

The site where the machine is installed must be provided with power connections (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

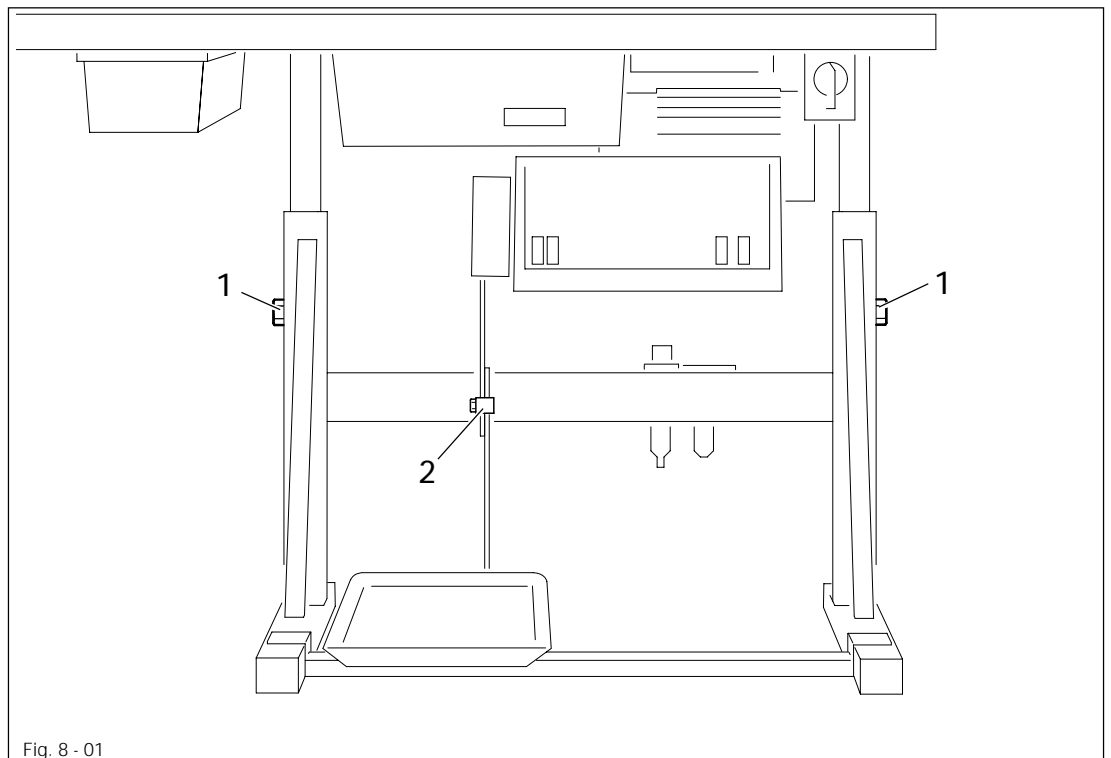
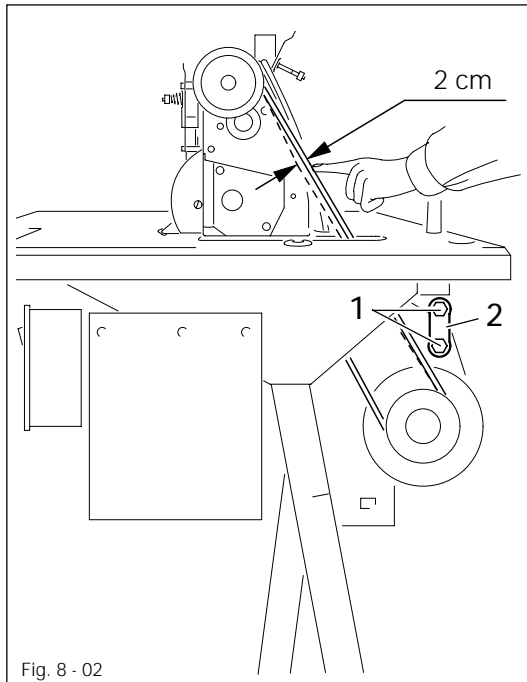


Fig. 8 - 01

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

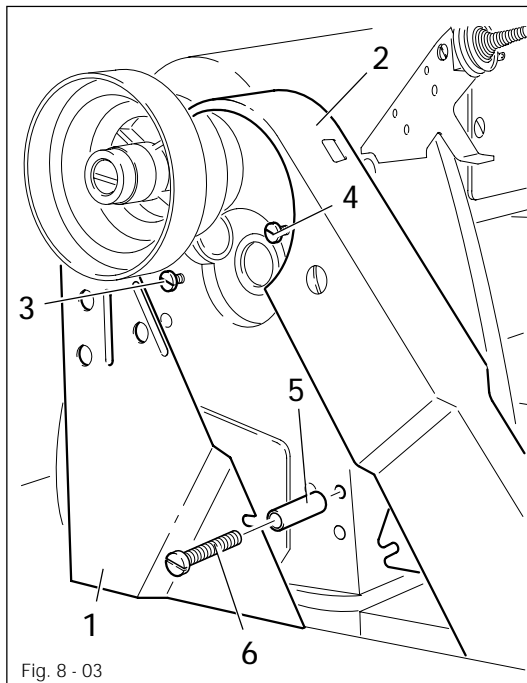
Installation and commissioning

8.01.02 Tensioning the v-belt



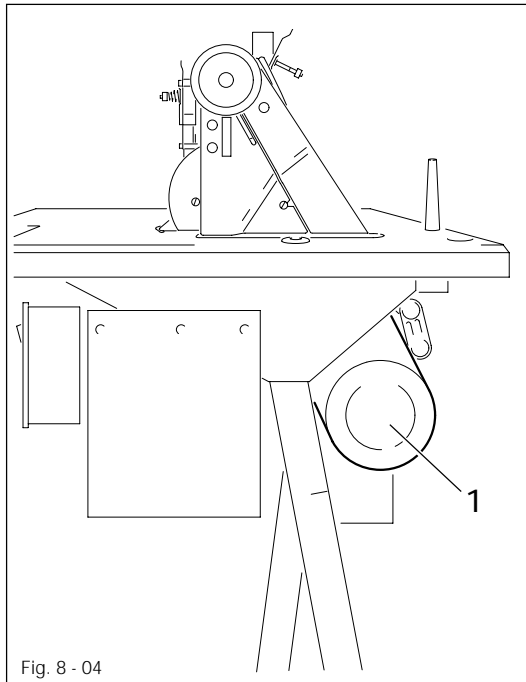
- Loosen nuts 1.
- Tension the v-belt with motor bracket 2.
- Tighten nuts 1 firmly.

8.01.03 Fitting the upper belt guard



- Push belt guard halves 1 and 2 with their slots behind the heads of screws 3 and 4.
- Fit spacing sleeve 5 on screw 6 and wind screw 6 in a few turns.
- Making sure that the lug on belt guard half 2 is between belt guard half 1 and spacing sleeve 5, position the belt guard and tighten screws 3, 4 and 6.

8.01.04 Fitting the lower belt guard

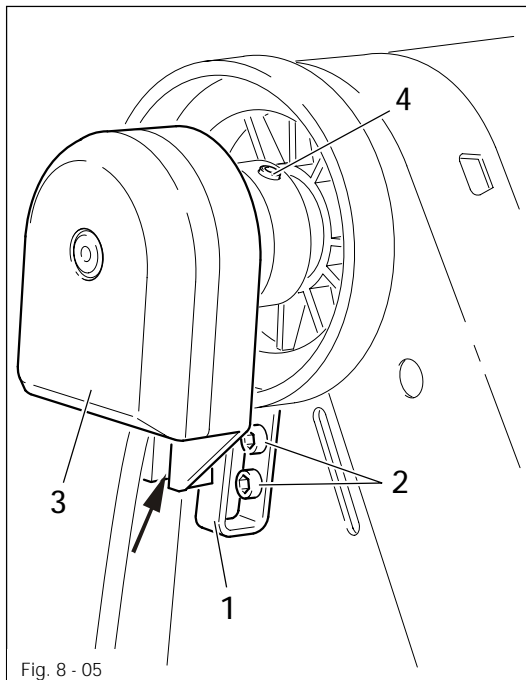


- Position belt guard 1 so that motor pulley and v-belt can run freely.



Fig. 8-04 shows a Quick motor. If a different motor is used, follow the instructions of the motor instruction manual.

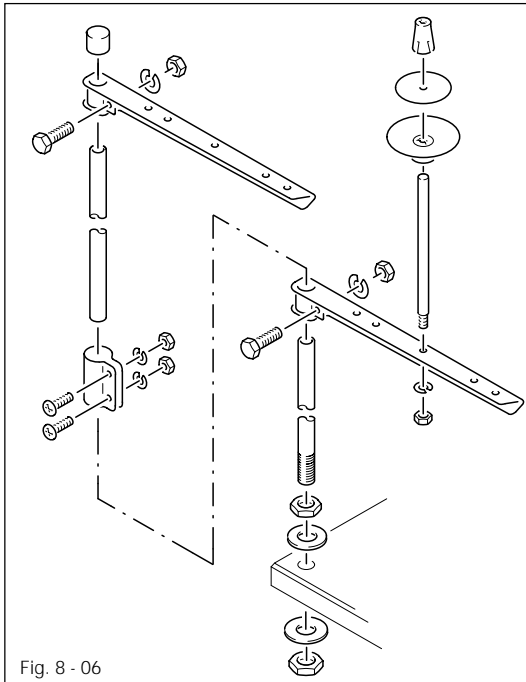
8.01.05 Fitting the synchronizer



- Screw on stop 1 with screws 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 13.05.01, Adjusting the synchronizer).

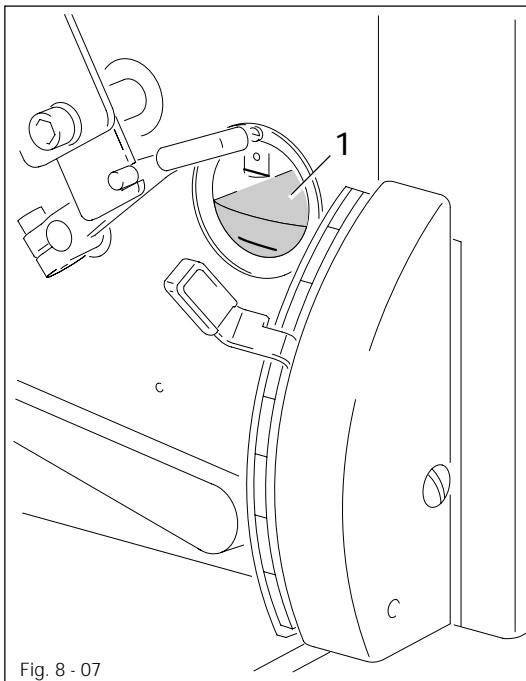
Installation and commissioning

8.01.06 Assembling and fitting the reel stand



- Assemble the reel stand as shown in Fig. 8-06.
- Fit the reel stand in the holes in the table top and secure it with the nuts provided.

8.02 Commissioning



Before setting up, remove the protective foil from oil glass 1!

- Clean the machine thoroughly and afterwards check the oil level (see **Chapter 12, Care and Maintenance**).
- Check the machine for any damage, especially the electrical leads.
- Have a qualified person check whether the motor can be driven with the existing power voltage and that it is correctly connected in the junction box.



If there are any differences, the machine must definitely not be operated!



The machine must only be connected to a suitably earthed socket!

- When the machine is running, the balance wheel must turn towards the operator; if it does not, have a qualified person change the motor connection.
- Machines with pneumatic equipment have to be connected to the compressed air supply. The pressure gauge must show a pressure of **6 bar**. If necessary have this reading adjusted (see **Chapter 12.03, Checking/adjusting the air pressure**).

8.03 Switching the machine on/off

- Switch the machine on or off, see Chapter 7.01 Main switch.
- Carry out a test run.

9

Setting up



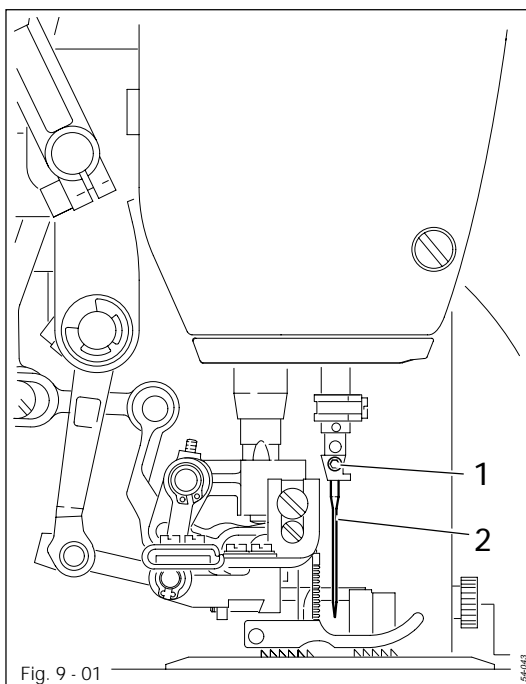
All instructions and regulations in this instruction manual must be observed. Special attention must be given to all safety regulations!



All setting-up work must only be done by personnel with the necessary training. For all setting-up work the machine must be isolated from its power supply by turning off the main switch or removing the machine plug from the electric power socket!

9.01

Inserting the needle on single-needle machines



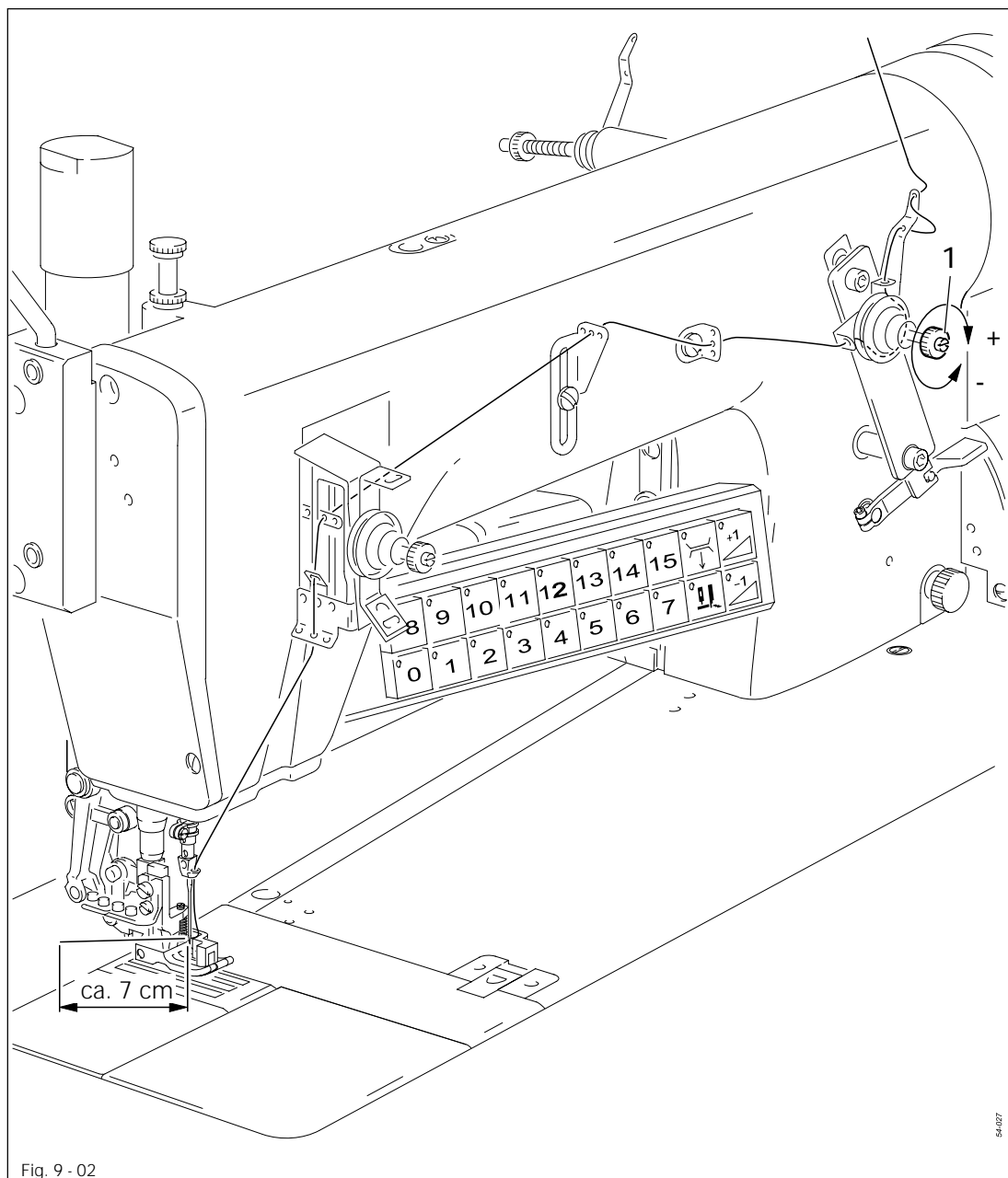
Switch off the machine!
Danger of injury by
unintentional starting of the
machine!

- Set the needle bar at its highest point.
- Loosen screw 1.
- Push needle 2 fully into the needle bar (the long needle groove must face to the front).
- Tighten screw 1.



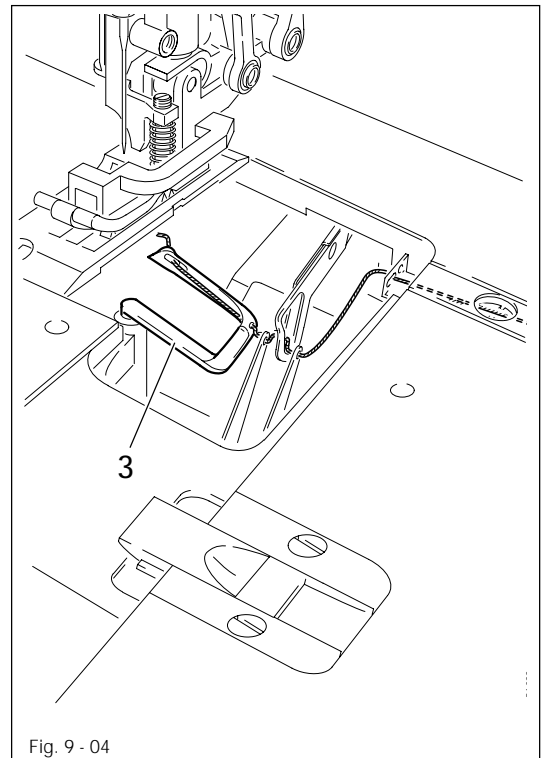
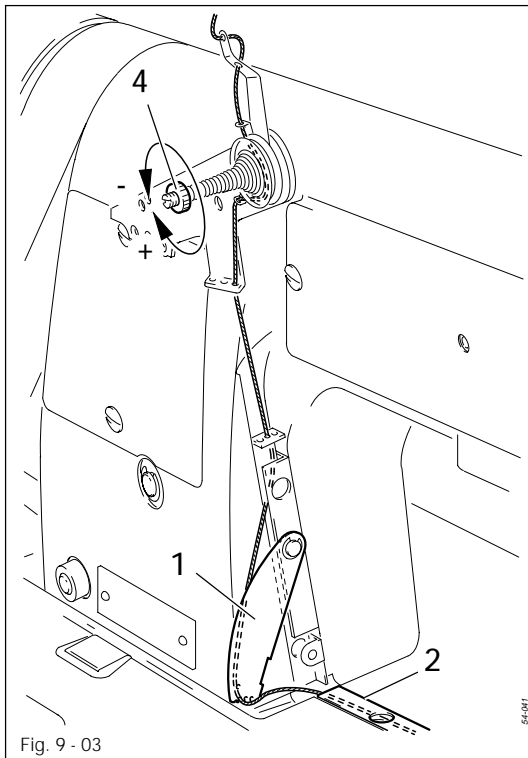
The choice of needle depends on the machine model and on the thread and material used (see **Chapter 3, Specifications**).

9.02 Threading the needle thread and regulating its tension



Switch off the machine!
 Danger of injury by unintentional starting of the machine!

- Thread the needle thread as shown in Fig. 9-02.
- Regulate the needle thread by turning knurled screw 1.



Switch off the machine!

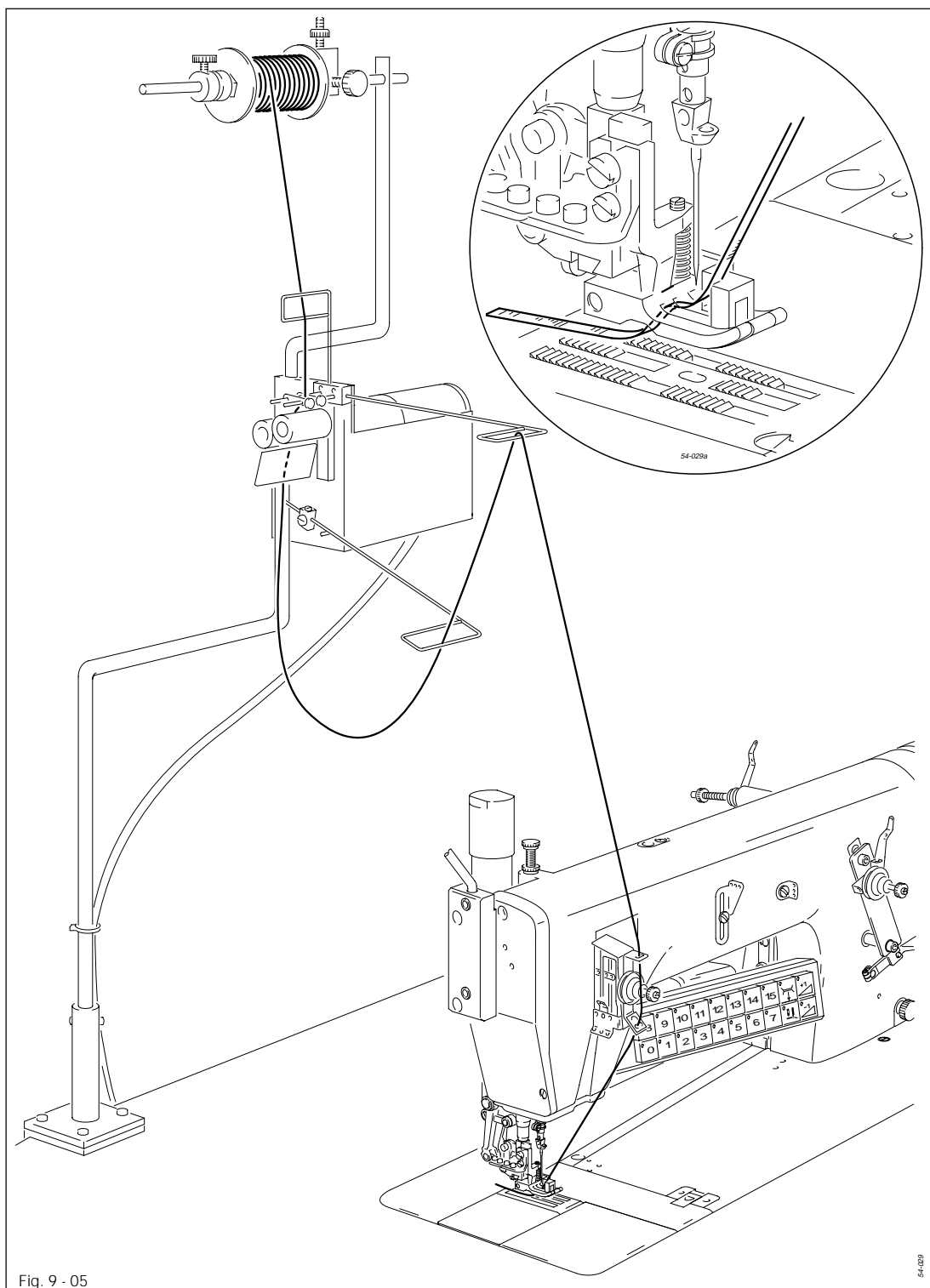
Danger of injury by unintentional starting of the machine!

- Open the looper cover and swing out thread guide plate 1.
- Thread the looper thread as shown in Figs. 9-03 and 9-04 and pull it under guide plate 2.
- Thread looper 3 using tweezers.
- Regulate the looper thread by turning knurled screw 4.



To pull the thread through, release thread tension (see Chapter 7.06)

9.04 Threading the fixing tape



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

- Thread the fixing tape as shown in the above illustration.

9.05 Fullness input

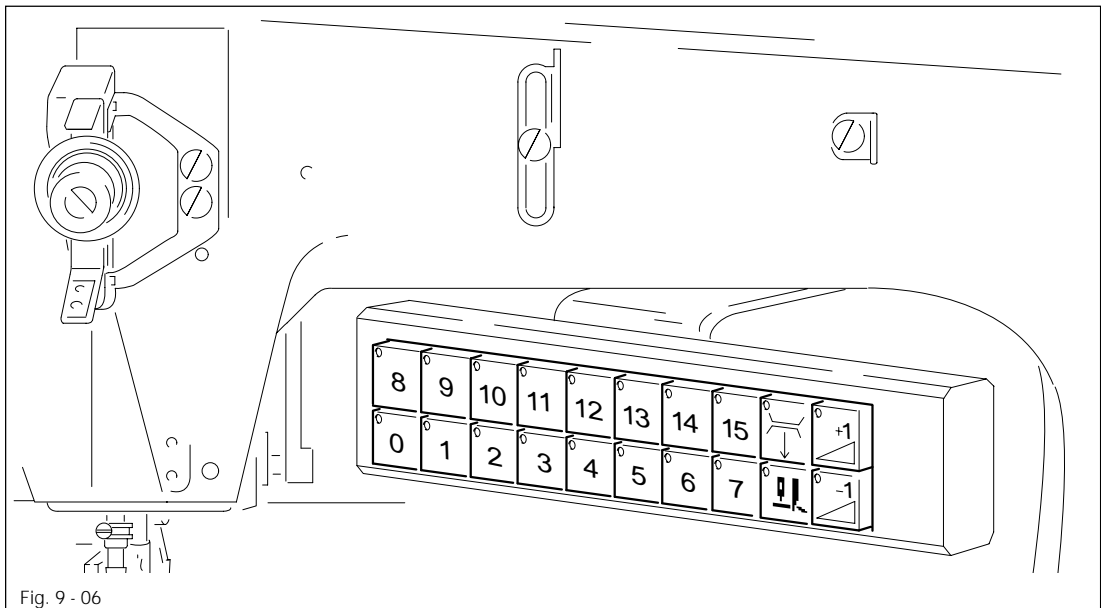


Fig. 9 - 06

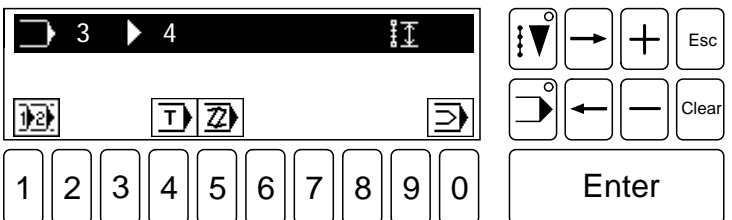
- Switch on the machine.
- Select the desired fullness using keys 0 – 15.

9.06 Selecting the language (only on machines with graphics operating panel)

- Switch on the machine.



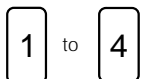
- Select mode INPUT.



- With number key 0 call up the function input menu.



- With number key 1 call up the function LANGUAGES.



- Select the desired language with the number keys:

1 = (D)

2 = (GB)

3 = (F)

4 = (E)

- After the corresponding number has been entered, the language is taken over immediately.

10 Sewing

Irrespective of how the machine is equipped, following steps must be carried out before work begins:

- Check the oil level of the machine, see **Chapter 12.02 Oil level of the machine.**
- Check the air pressure, see **Chapter 12.04 Check/adjust air pressure.**
- Switch the machine on, see **Chapter 7.01 Main switch.**

10.01 Machines without graphics operating panel (manual sewing)

On machines without a graphics operating panel 2 values are set for the fullness.

After the machine has been switched on, following functions are available:

- By operating the knee switch it is possible to change from one fullness to the other, see **Chapter 7.04 Knee switch.**
- Using the keyboard, the value for the selected amount of fullness can be changed in 30 part steps, see **Chapter 7.07 Keyboard.**

10.02 Machines with graphics operating panel

10.02.01 Manual sewing with one amount of fullness (program number 0)



- Call up mode **SEWING**.



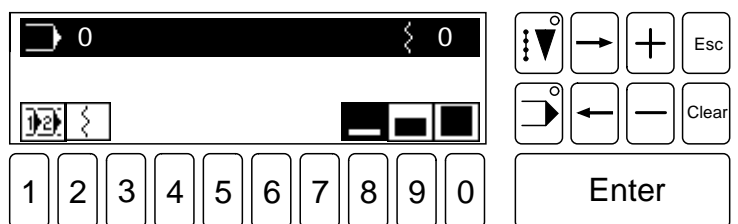
- Call up function **program selection** (number key 1).



- Enter program number 0.

Enter

- Confirm input with **Enter key**.



- Using the keyboard, the value for the amount of fullness can be changed in 30 part steps, see **Chapter 7.07 Keyboard.**

Displays in the status line:



Program number

The number of the selected seam program appears after this symbol.

"Manual sewing with one amount of fullness" is called up with program number 0.



Fullness

The current fullness value is shown after this symbol.

Functions in the pictograph strip:



Program selection

This function opens a direct menu for the selection of the desired seam program.



Fullness

This function opens a direct menu for the input/alteration of the desired fullness (see **Chapter 9.05 Entering the fullness**).

Type of material

To achieve the same results (amounts of fullness) when working with different types of materials, with this function 3 types of material can be selected directly.



Light material (here without padding)

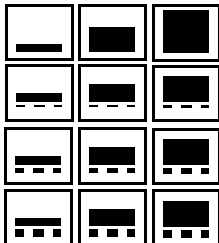


Medium weight material (here without padding)



Heavy material (here without padding)

The pictograph of the selected type of material is shown as inverse. In addition to the type of material, 4 different levels of padding can be called up. By pressing the corresponding number keys (8, 9, 0), the padding amounts are shown. The selected amount of padding is always set for all types of material and displayed accordingly.



without padding

approx. 80 g/m² padding

approx. 200 g/m² padding

approx. 400 g/m² padding

10.02.02 Manual sewing of 2 amounts of fullness alternately (program number 1)



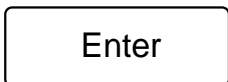
- Call up mode SEWING.



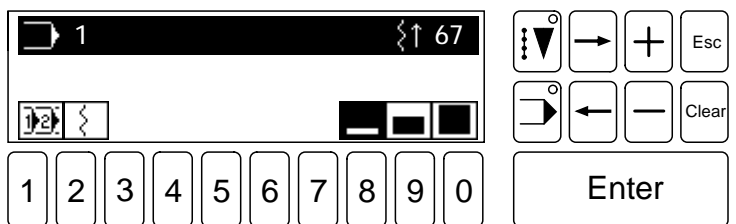
- Call up function program selection (number key 1).



- Enter program number 1.



- Confirm input with Enter key.



- Using the keyboard, the value for the amount of fullness can be changed in 30 part steps, see Chapter 7.07 Keyboard.
- Using the knee switch, it is possible to change from one amount of fullness to the other.

Displays in the status line:



Program number

The number of the selected seam program appears after this symbol.
"Manual sewing of 2 amounts of fullness" is called up with program number "1".



Top fullness/bottom fullness

The current value for the top or bottom fullness is shown after these symbols.

Functions in the pictograph strip:



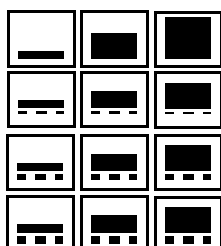
Program selection

This function opens a direct menu for the selection of the desired seam program.



Fullness

This function opens a direct menu for the input/alteration of the desired fullness (see Chapter 9.05 Entering the fullness).



Type of material

To achieve the same results (amounts of fullness) when working with different types of materials, with these functions 3 types of material can be selected directly, see Explanations in Chapter 10.02.01 Manual sewing with one amount of fullness.

10.02.03 Programmed sewing (program numbers 2 – 200)

Using the program numbers 2 – 200 programmed **beforehand** seam programs can be called up .

- Call up mode **SEWING**.
- Call up function program selection.
- Enter desired program number from 2 - 200.
- Confirm input with **Enter** key.

- The programmed amounts of fullness (seam areas) are processed consecutively dependent on the programmed number of stitches.
In seam areas, which were programmed without details of the number of stitches (number of stitches = 0), switch to the next area using the knee switch.

Displays in the status line:



Program number

The number of the selected seam program appears after this symbol.



Seam areas left/right

The number of the seam areas for left and right parts is shown after this symbol.



Number of stitches

The number of stitches for the current seam area is shown after this symbol.

If there is no value after the symbol, switch to the next seam area using the knee switch.

Displays in description field:



Beginning of seam



Seam area sewn



Current seam area (with seam area number)



End of seam



Display representation is not true to scale.

Functions in the pictograph strip:



Program selection

This function opens a direct menu for the selection of the desired seam program.



Program interruption

This function interrupts the seam program cycle (see **Chapter 10.02.04 Program interruption**).



Stitch counter on/off

With this function the stitch counter can be switched on or off.



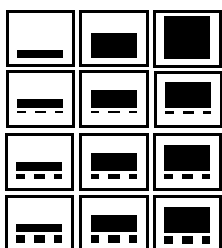
Alternate sewing

When this function is switched on, the left and right parts are processed alternately. The function is activated, when the symbol is shown inverse. If only one part is programmed, this symbol is not displayed.



Left part/right part

The inverse symbol illustrated shows which part is being worked on currently. By calling up the corresponding function, it is possible to switch over to the desired part. The symbols are only displayed, if both parts are programmed.



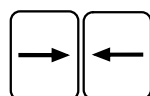
Type of material

To achieve the same results (amounts of fullness) when working with different types of materials, with these functions 3 types of material can be selected directly, see Explanations in **Chapter 10.02.01 Manual sewing with one amount of fullness**.

10.02.04 Program interruption



If the cycle of a seam program has to be interrupted (e.g. due to thread breakage), the function **Program interruption** must be called up.



- Switch over to **manual SEWING** after the first time the key is pressed.
- It is possible to continue sewing manually.
- Using the **arrow keys** it is possible to select the seam area, in which the seam program should be continued.
- After pressing the key the second time, the selected seam area is entered, **programmed SEWING** is continued.



After cutting the thread using the pedal (pedal position 4 in **Chapter 7.02 Pedal**) the interrupted seam program starts from the beginning.

10.02.05 Error alarms

In case of an error alarm, the text description and pictograph lines are written over in the display. An error alarm is caused by false settings, defective elements or seam programs as well as by overload conditions.

- Before the operation of the machine can continue, the error must be eliminated.

Enter

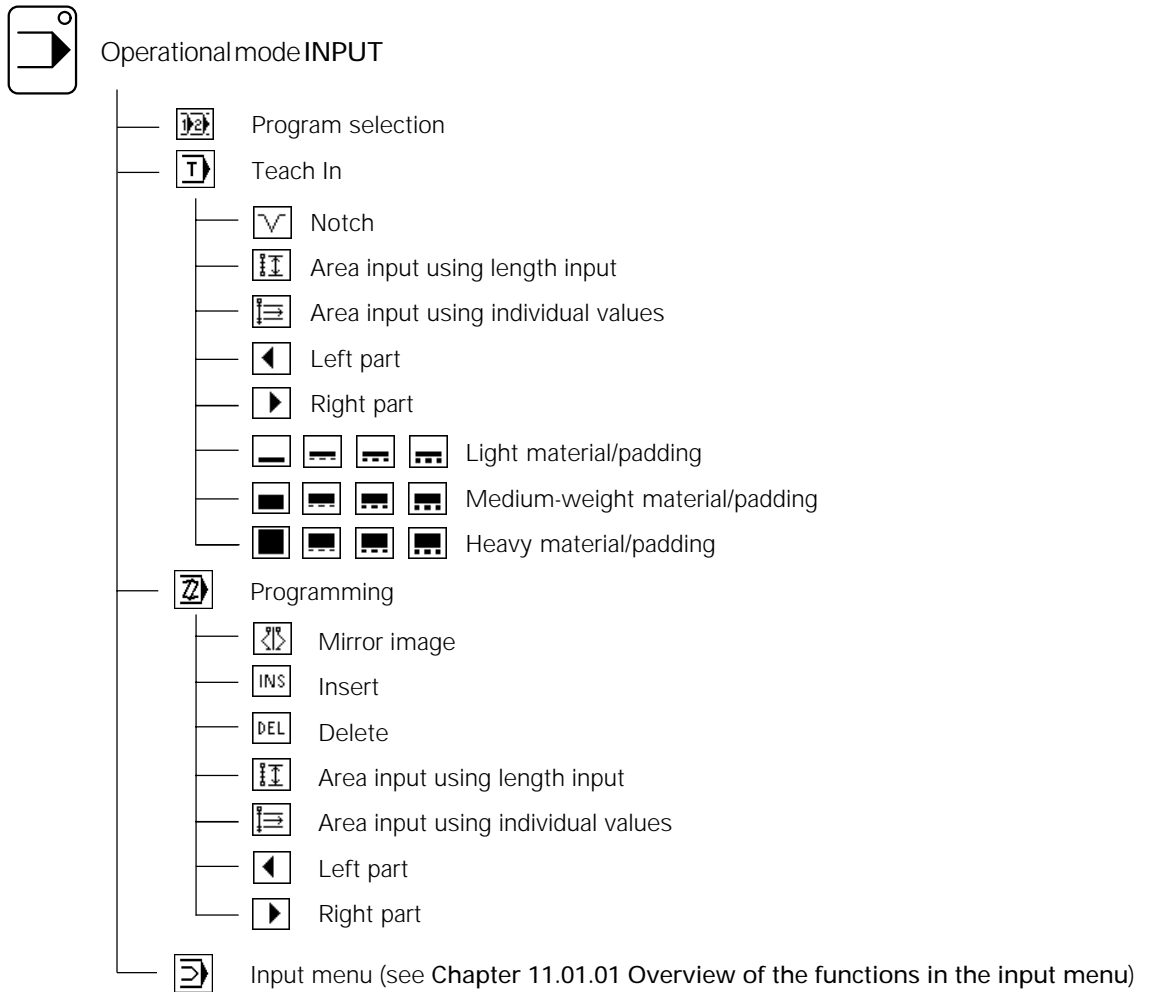
How to eliminate the error:

- Pressing the **Enter** key causes a move back to an incorrect input.
- Correct the input.

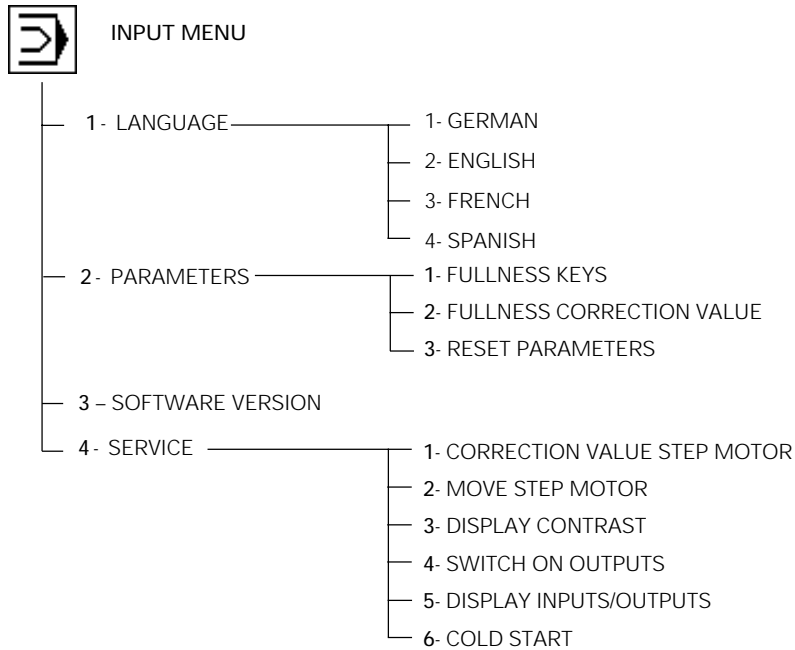
11 Input (only on machines with graphics operating panel)

The operational mode Input is used to enter parameters and programs.
 In the function **Service** help for error search is offered. Functions for direct selection and functions for selection using a menu are available.

11.01 Overview of the functions in the operational mode INPUT



11.01.01 Overview of the functions in the input menu

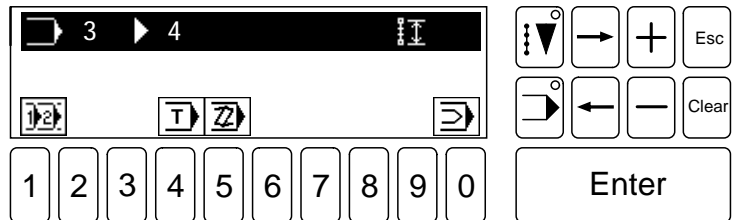


11.01.02 Selection of functions from the input menu

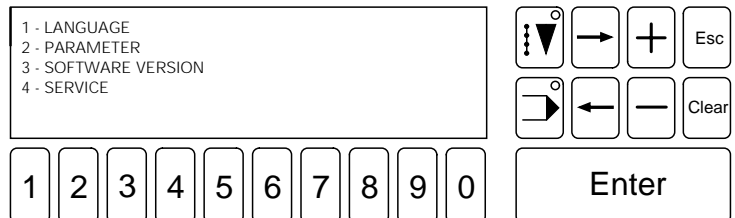
For example, the display contrast can be adjusted as follows:



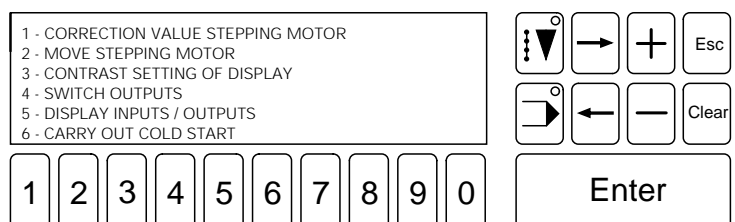
- Select operational mode **INPUT**



- Select function **Input menu** (number key 0).



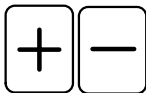
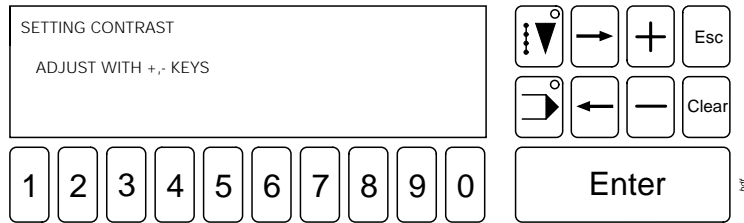
- Select function **SERVICE**:



- 3 ● Select function DISPLAY CONTRAST



On no account may the display be changed to such an extent, that it is impossible to read it!



- The desired contrast can be set using the Plus/Minus keys

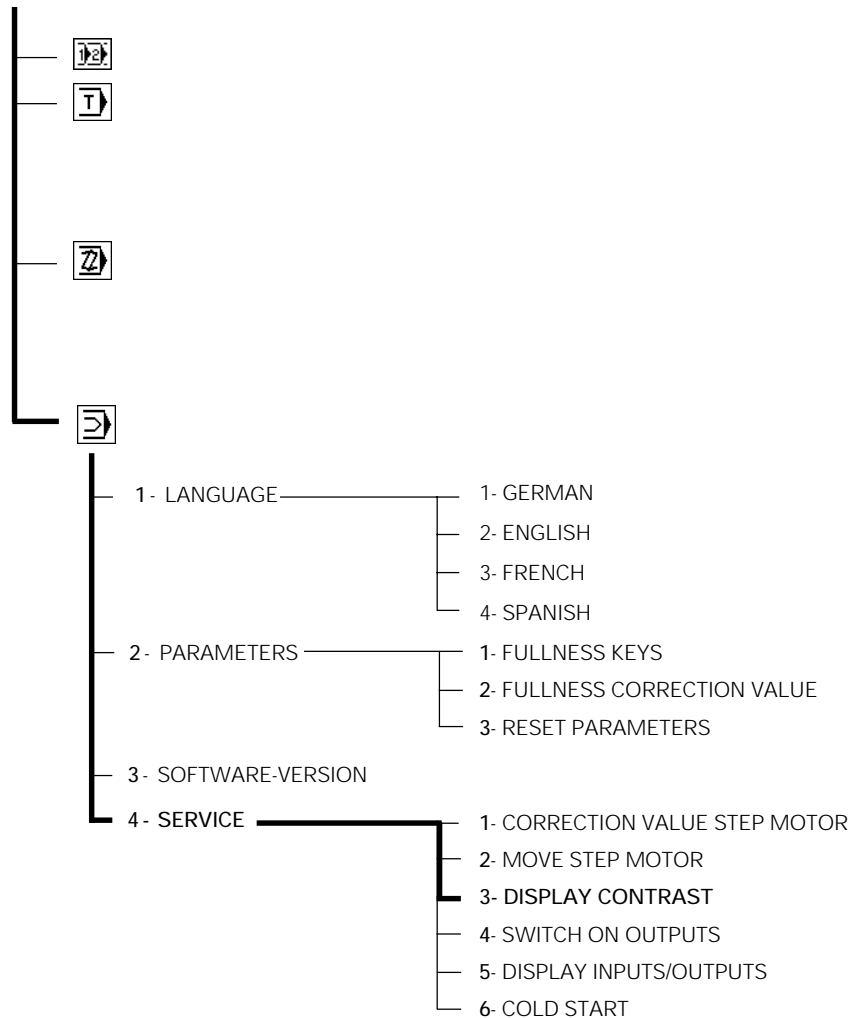


- The input is accepted by pressing the Enter key.

Overview of the input steps



Operational mode INPUT



11.01.03 Explanation of the functions in input menu



After calling up the function **Input menu**, following additional functions are available:

1 - LANGUAGE 2 - PARAMETER 3 - SOFTWARE VERSION 4 - SERVICE										⏴	→	+	Esc
										⏵	←	-	Clear
1	2	3	4	5	6	7	8	9	0	Enter			

- 1 LANGUAGE
This function opens a menu on the display for the selection of the language (see **Chapter 9.06 Select language**):

LANGUAGES : 1 - GERMAN 2 - ENGLISH 3 - FRENCH 4 - SPANISH										⏴	→	+	Esc
										⏵	←	-	Clear
1	2	3	4	5	6	7	8	9	0	Enter			

- 2 PARAMETER
This function calls up parameters, which can be altered.

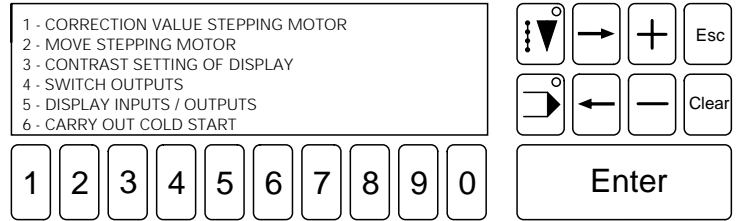
1 - FULLNESS KEYS 2 - FULLNESS CORRECTION VALUE 3 - PARAMETER RESET										⏴	→	+	Esc
										⏵	←	-	Clear
1	2	3	4	5	6	7	8	9	0	Enter			

- 1 FULLNESS KEYS
With this function a fullness amount can be allocated to each of the keys on the keyboard.
- 2 FULLNESS CORRECTION VALUE
With this function the value for the fullness correction can be set for the correction keys on the keyboard. The value is always valid for one use of the corresponding key, see **Chapter 7.07 Keyboard**.
- 3 RESET PARAMETERS
After this function has been called up, the values for FULLNESS KEYS, FULLNESS CORRECTION VALUE and type of material can be reset.
- 3 SOFTWARE VERSION
After this function has been called up, the current software versions for control and the operating panel are displayed.

4

SERVICE

This function opens a menu for the selection of service functions.



1

CORRECTION VALUE STEP MOTOR

With this function the neutral position of the step motor for adjusting the fullness can be corrected.

2

MOVE STEP MOTOR

With this function the step motor can be moved.



Clockwise direction



Anti-clockwise direction

3

DISPLAY CONTRAST



On no account may the display be changed to such an extent, that it is impossible to read it!

With this function the display contrast can be altered.

4

SWITCH ON OUTPUTS

With this function the outputs can be set or reset, See **Chapter 13.10 Table of inputs and outputs**



Output on



Output off

5

DISPLAY INPUTS/OUTPUTS

After this function has been selected, the conditions of the inputs and outputs is displayed: **1** = input operated / output switched on

0 = input not operated / output not switched on

6

COLD START

With this function all the inputs and parameters are reset and the programs deleted.

11.03 Input and alteration of seam programs

11.03.01 Teach in

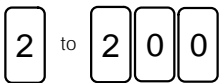
With the function **Teach in** the seam program can be entered during sewing.
The desired fullness can be selected and then, when the seam is sewn, the number of stitches to the end of this seam area is stored.



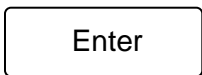
- Select mode **INPUT**.



- Call up function **program selection**.



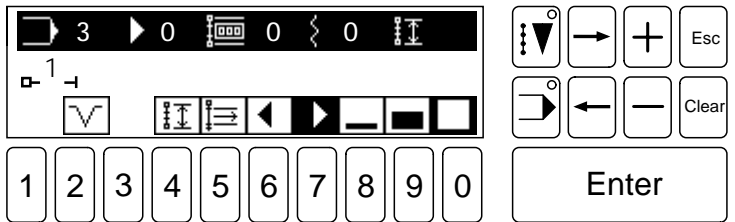
- Enter desired program number from **2 – 200**.



- Confirm input with **Enter key**.



- Call up function **Teach in**.



Display in the status line:



Program number

The number of the selected seam program appears after this symbol.



Right seam areas

The number of seam areas for right parts is displayed after this symbol.



Number of stitches

The number of stitches in the current seam area is shown after this symbol.



Fullness

The amount of fullness in the current area is shown after this symbol.



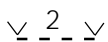
Required seam length

The required seam length of the current area is shown after this symbol.

Displays in text description field:



Beginning of seam



Seam area being inserted at present



End of seam

Explanation of the functions in the pictograph strip:



Notch

With this function the end of the seam area is determined. The number of stitches is stored and the required seam length calculated.

The same function is executed by pressing the **Enter key**.



By operating the knee switch, the stitch number = 0 is set, i.e. later, during the execution of the program, the move to the next seam area is carried out by operating the knee switch.



Seam area input using length input

By entering the starting length and the required length, with this function the required seam area values for number of stitches, fullness and required length are calculated and stored.



Area input using individual values

After this function has been called up, each individual parameter can be entered and changed.

If number of stitches = 0, the seam area is sewn without counting the stitches, and the required seam length is deleted.

If the number of stitches is 1 – 999, the number of stitches specified are sewn.

If the number of stitches = 1000, the number of stitches is calculated from the material class, gathering value and required length.



Left part/Right part

These functions are used for the selection of the part to be programmed or altered. The selection is shown by the inverse symbol.

Type of material

To achieve the same results (amounts of fullness) when working with different types of materials, with these functions 3 types of material can be selected directly.



Light material (without padding)



Medium weight material (without padding)



Heavy material (without padding)

The pictograph of the selected type of material is shown as inverse. In addition to the type of material, 4 different amounts of padding can be called up. By pressing the corresponding number keys (8, 9, 0), the padding amounts are shown. The selected padding amount is always set for all types of material and displayed accordingly.



without padding



approx. 80 g/m² padding



approx. 200 g/m² padding



approx. 400 g/m² padding



By operating a mode key (SEWING or INPUT) the values entered are taken over and the teach in is completed.

11.03.02 Programming / Alterations

With the function programming, seam programs, which have already been compiled, can be altered. However, new seam programs can also be compiled.



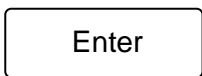
- Select mode **INPUT**.



- Call up function **program selection**.



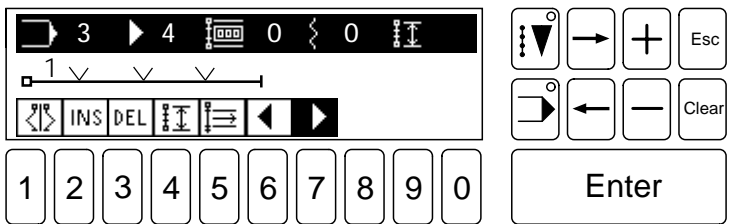
- Enter desired program number from 2 – 200.



- Confirm input with **Enter** key.



- Call up function **Programming**.



Display in the status line:



Program number

The number of the selected seam program appears after this symbol.



Right seam areas

The number of seam areas for right parts is displayed after this symbol.



Number of stitches

The number of stitches in the current seam area is shown after this symbol.



Fullness

The amount of fullness in the current area is shown after this symbol.



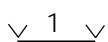
Required seam length

The required seam length of the current area is shown after this symbol.

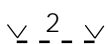
Displays in text description field:



Beginning of seam



Current seam area



Seam area being inserted at present



End of seam

Explanation of the functions in the pictograph strip:



Mirror image

With this function it is possible to see the currently entered seam program as a mirror image. After the function has been called up, programming ends.



Insert

This function inserts a seam area at the current position. The contents of the current seam area are first taken over into the inserted seam area and can be changed if required. The following seam areas are moved one step back.



Delete

This function deletes the current seam area. Following seam areas are moved forward. If all seam areas are deleted, the program is left.



Area input using length input

By entering the initial length and the required length, with this function the seam area values for number of stitches, fullness and required length are calculated and stored.



Area input using individual values

After this function has been called up, each individual parameter can be entered and changed.

If number of stitches = 0, the seam area is sewn without counting the stitches, and the required seam length is deleted.

If the number of stitches is 1 – 999, the number of stitches specified are sewn.

If the number of stitches = 1000, the number of stitches is calculated from the material class, gathering value and required length.



Left part/Right part

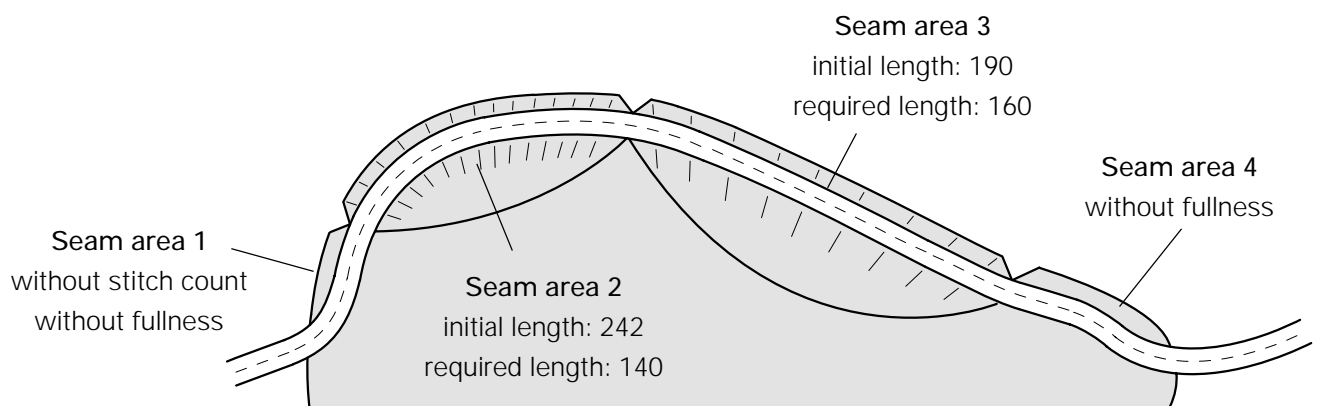
These functions are used for the selection of the part to be programmed or altered. The selection is shown by the inverse symbol.



By operating a mode key (SEWING or INPUT) the values entered are taken over and the INPUT is completed.

11.04 An example of seam programming

The seam to be programmed should consist of 4 seam areas and stored under program 4.





- Select mode **INPUT**.



- Call up function **program selection**.



- Enter program number **4**.



- Confirm input with **Enter** key.



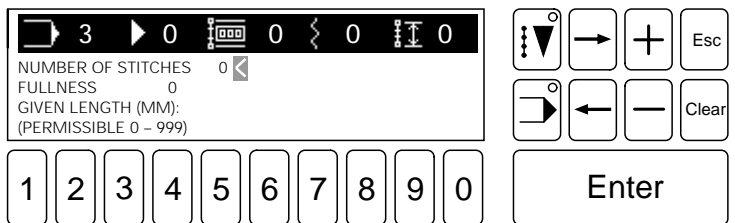
- Call up function **Programming**.

Seam area 1

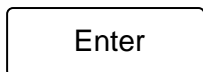
In the first seam area the stitches should not be counted, so that only the end of the seam area must be entered using the knee switch.



- Call up function **Area input using individual values**.



- Enter number of stitches
(If "0" is entered, the end of the seam area will be called up by operating the knee switch.)



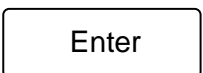
- Confirm input with **Enter** key.



- Enter fullness.



- Confirm input with **Enter** key.



- Switch to the next seam area by pressing the **Enter** or arrow key.

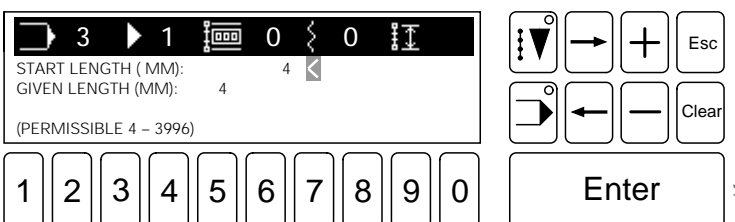
or



Seam area 2



- Call up the function **Seam area input (length input)**.



2 4 2

- Enter initial length

Enter

- Confirm input with **Enter** key.

1 4 0

- Enter required length.

Enter

- Confirm input with **Enter** key.

Enter

- Switch to the next seam area by pressing the **Enter** or **arrow** key,

or 



Seam area 3

- Call up the function **Seam area input (length input)** .

1 9 0

- Enter initial length

Enter

- Confirm input with **Enter** key.

1 6 0


- Enter required length.

Enter

- Confirm input with **Enter** key.

Enter

- Switch to the next seam area by pressing the **Enter** or **arrow** key,

or 

Seam area 4

In the fourth seam area no application of fullness is required. As described for seam area 1, the value for fullness can be set at "0".

As this is the last seam area in the seam program, automatically no stitches are counted.

The end of the seam area is called up by operating the knee switch.



or



- Press **operational mode** key.

The programming has been completed and the program is stored.

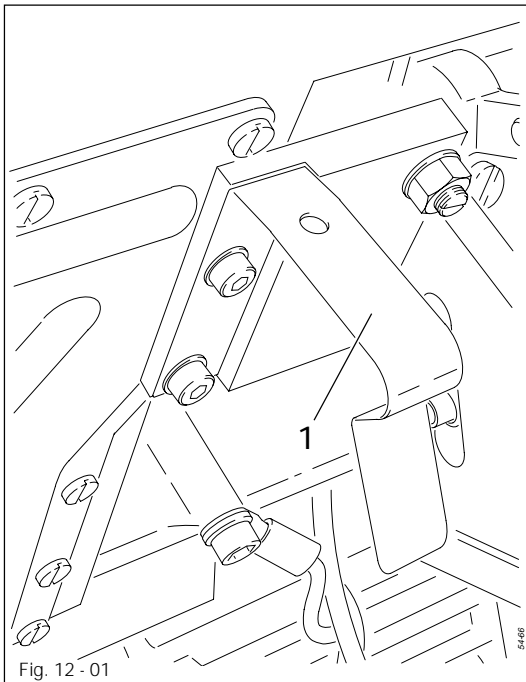
12 Care and Maintenance

Clean looper compartment	daily, several times if in continuous use
Clean the entire machine	once a week
Check the oil level	daily, before use
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 a longer period, shorter intervals are recommended.

12.01 Cleaning



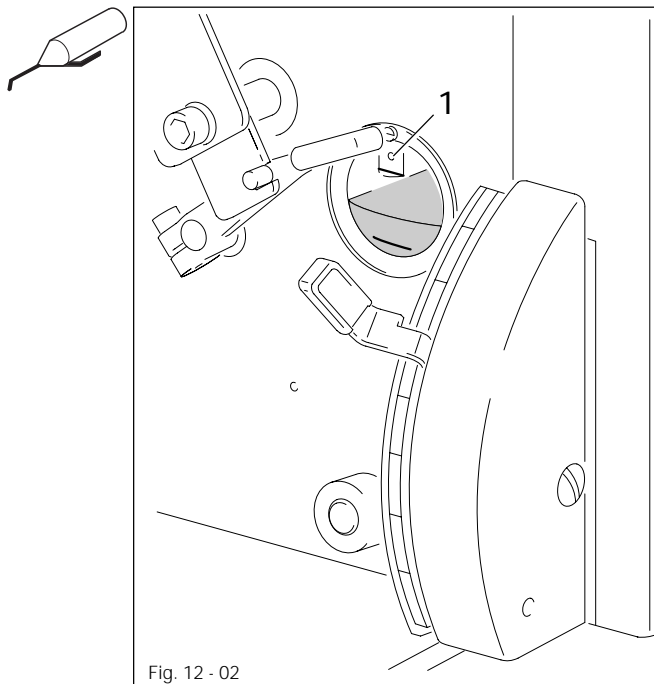
Switch the machine off!
Danger of injury if the machine is started accidentally!

- Tilt sewing head back.
- Clean looper and looper compartment daily, several times if in continuous operation.
- When returning the machine to an upright position, make sure that tilt lock 1 is pressed.



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

12.02 Machine oil level



Check oil level before each use.

- The oil level must be between the markings in the inspection glass.
- If required refill oil through hole 1.

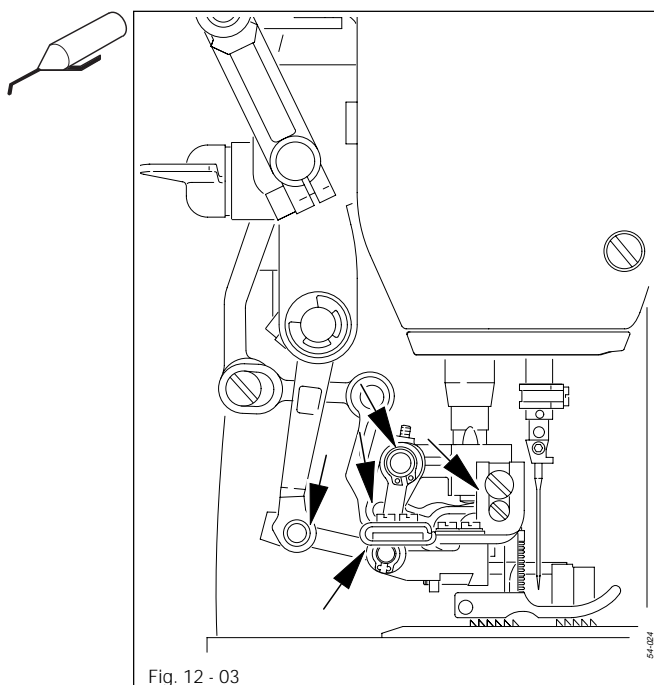


Only use oil with a mean viscosity of 22.0 mm²/s at 40° C and a density of 0.865 g/cm³ at 15° C!.



We recommend PFAFF sewing machine oil. Order-No. 280-1-120 144.

12.03 Lubricating the top feed joints



- Lubricate the points marked in the illustration with a drop of oil once a week or after the machine has stood still for longer periods.

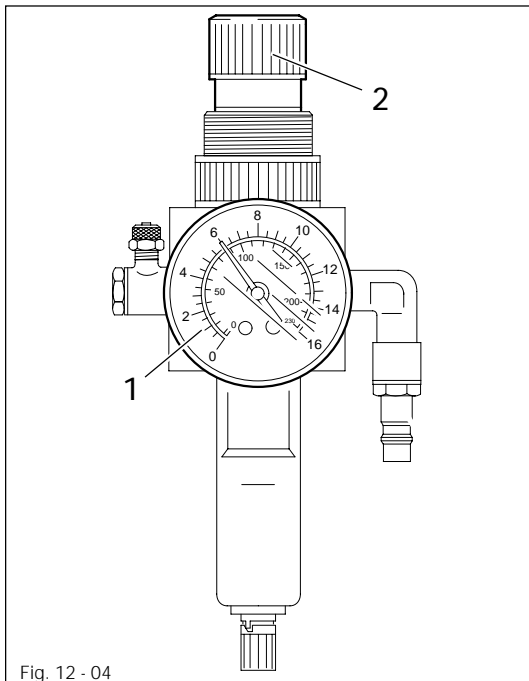


Only use oil with a medium viscosity of 10.00 mm²/s at 40°C and a density of 0.847 g/cm³ at 15°C.



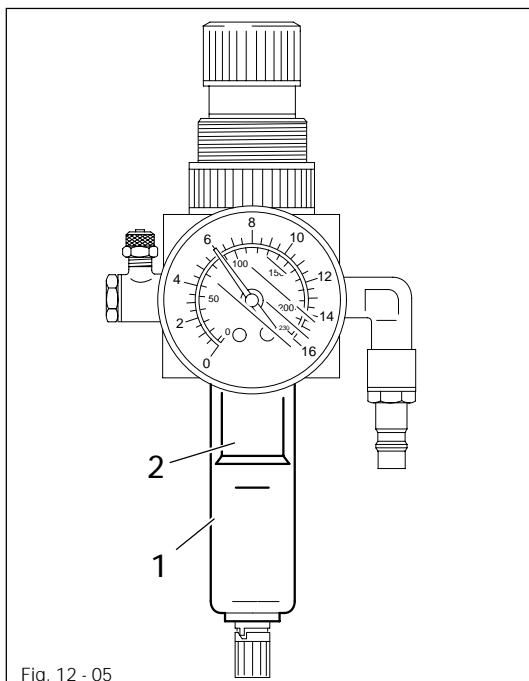
We recommend PFAFF sewing machine oil, part no. 280-1-120 105.

12.04 Checking/adjusting the air pressure



- Before operating the machine, always check the air pressure on gauge 1.
- Gauge 1 must show a pressure of 6 bar.
- If necessary adjust to this reading.
- To do so, pull knob 2 upwards and turn it so that the gauge shows a pressure of 6 bar.

12.05 Cleaning the air filter of the air-filter/lubricator



Switch the machine off!
Disconnect the air hose at the
air-filter/lubricator.

To drain water bowl 1:

- Water bowl 1 drains itself automatically when the compressed-air hose is disconnected from the air-filter/lubricator.

Cleaning filter 2:

- Unscrew water bowl 1.
- Take out filter 2.
- Clean filter 2 with compressed air or isopropyl alcohol (part No. 95-665 735-91).
- Screw in filter 2 and screw on water bowl 1.

13 Adjustment

13.01 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.

13.02 Tools, gauges and other equipment

- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of open-ended spanners/wrenches from 6 to 22 mm across flats
- 1 set of allen keys from 1.5 to 6 mm
- 1 screw clamp (part no. 61-111 600-35/001)
- 1 metal rule (part no. 08-880 218-00)
- 1 adjustment pin \varnothing 5 mm (part no. 13-030 341-05)
- 1 adjustment gauge (part no. 61-111 642-19)
- 1 adjustment gauge (part no. 91-069 375-15)
- 1 hook adjustment gauge (part no. 61-111 643-06)

13.03 Abbreviations

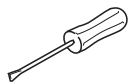
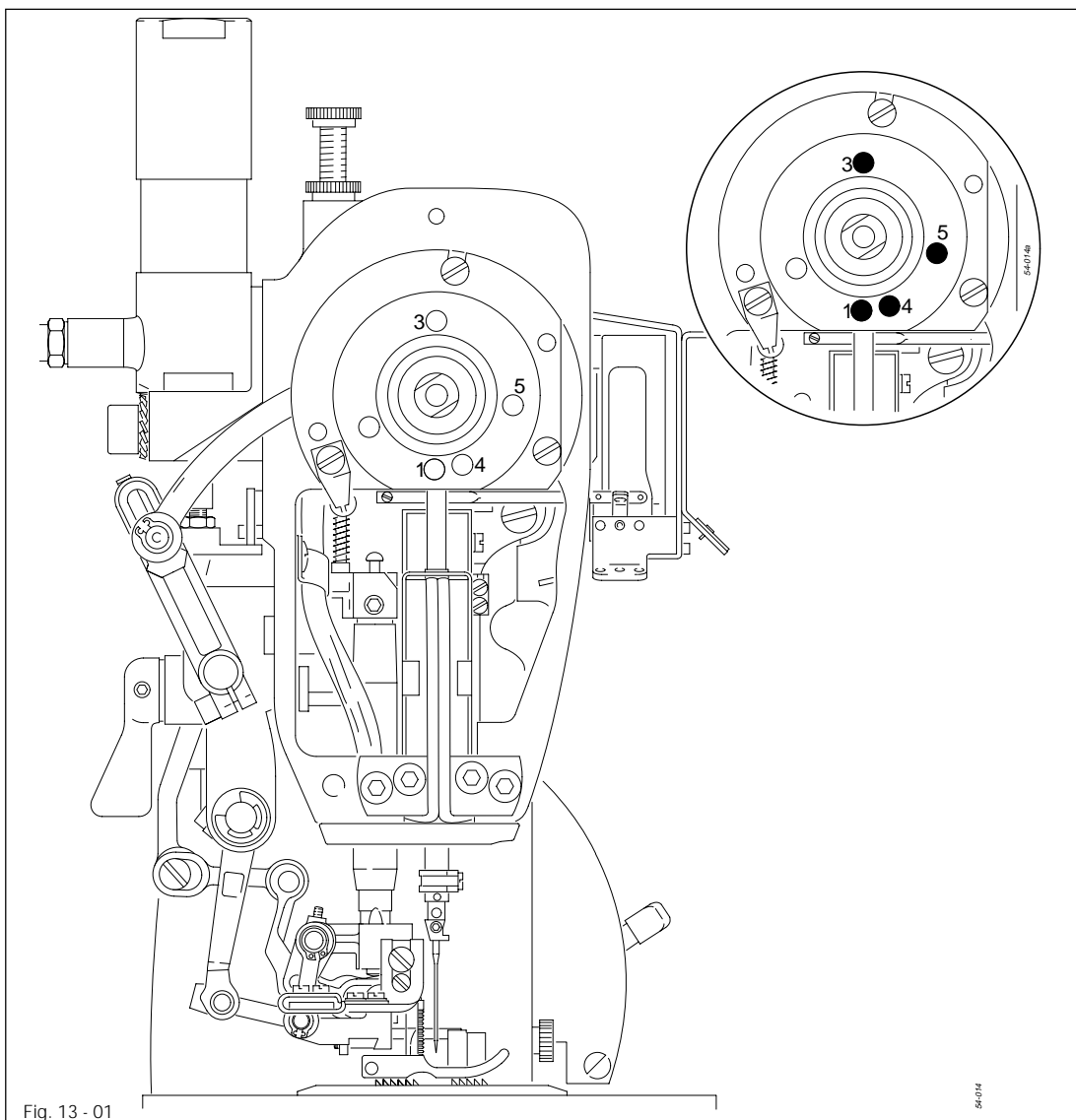
t.d.c. = top dead centre

b.d.c. = bottom dead centre

13.04 Control and adjustment aids



By marking the holes 1, 3, 4 and 5 with the adjustment pin (\varnothing 5 mm), the desired needle bar positions can be fixed exactly.



- Turn the balance wheel until the needle bar is approximately in the desired position.
- Insert the adjustment pin into the appropriate hole and apply pressure.
- Turn the balance wheel slightly backwards and forwards, until the pin locks into the rear crank recess, in this way blocking the machine.

Adjustment hole 1 = top dead centre of the needle bar (t.d.c.)

Adjustment hole 3 = bottom dead centre of the needle bar (b.d.c.)

Adjustment hole 4 = 0.8 mm before top dead centre of the needle bar (0.8 before t.d.c.)

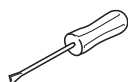
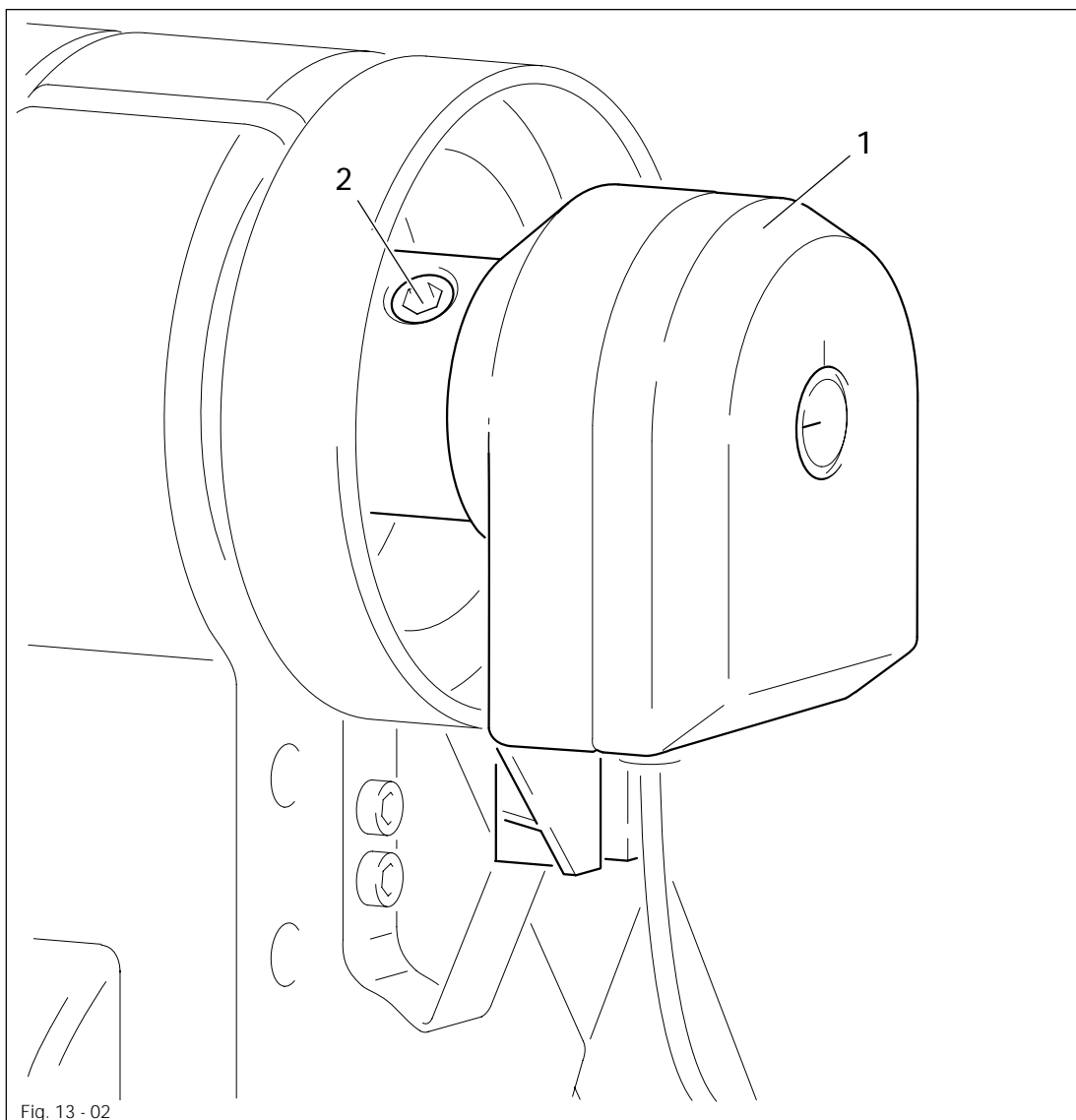
Adjustment hole 5 = 5.5 mm before top dead centre of the needle bar (5.5 before t.d.c.)

13.05 Adjusting the basic machine

13.05.01 Adjust the synchronizer (only for machines with -900/71)

Requirement

After the thread has been trimmed, the machine should be positioned 0.3 - 0.4 mm after TDC.

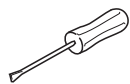
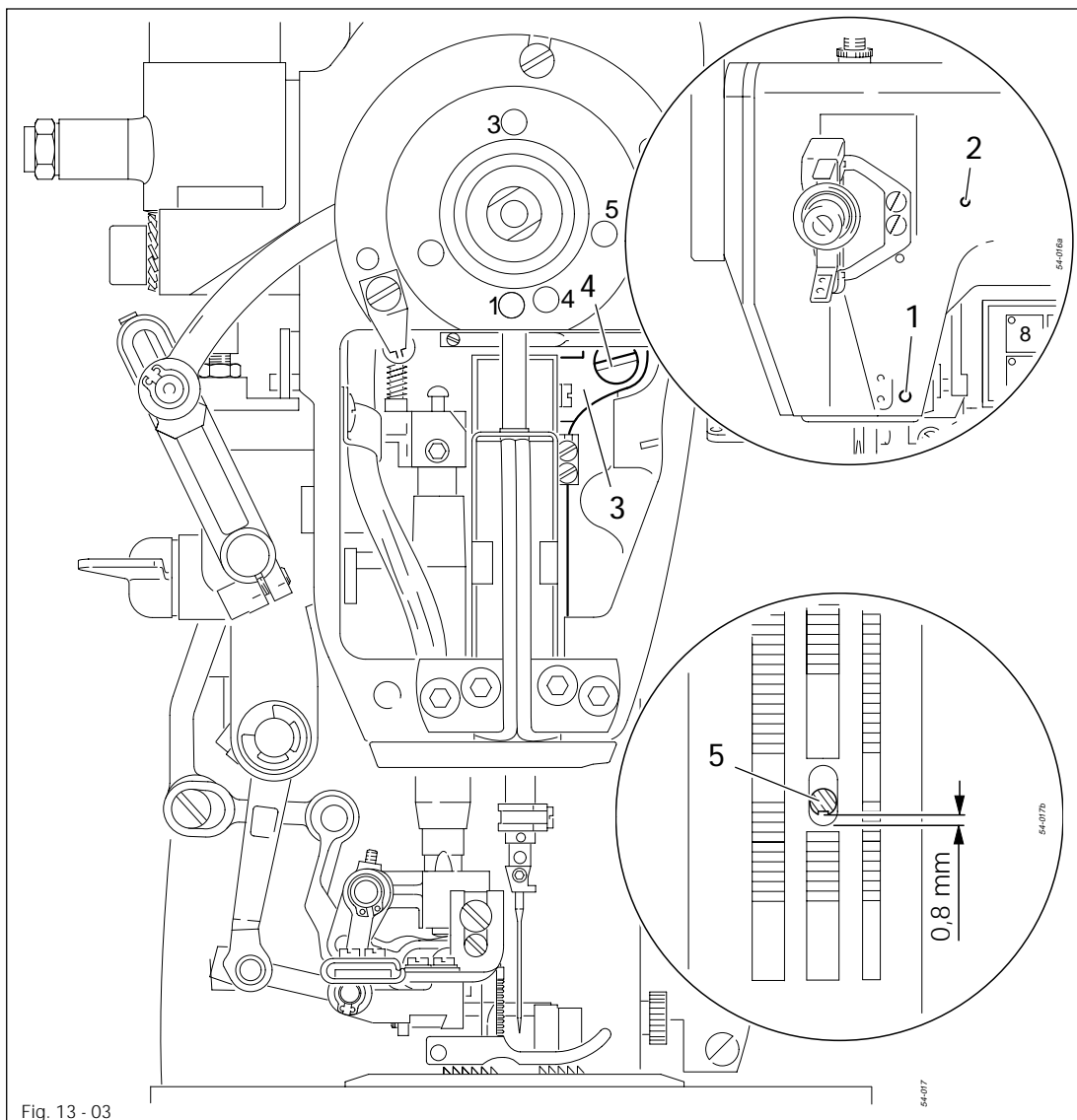


- Adjust synchronizer 1 (screw 2) according to the operating instructions for the motor. Also see **Chapter 11.09 Parameter settings**.

13.05.02 Needle to needle hole

Requirement

1. As seen crosswise to the direction of sewing, needle 5 should be in the centre of the needle hole.
2. The distance between needle 5 and the front edge of the needle hole should be approximately 0.8 mm.

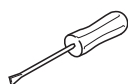
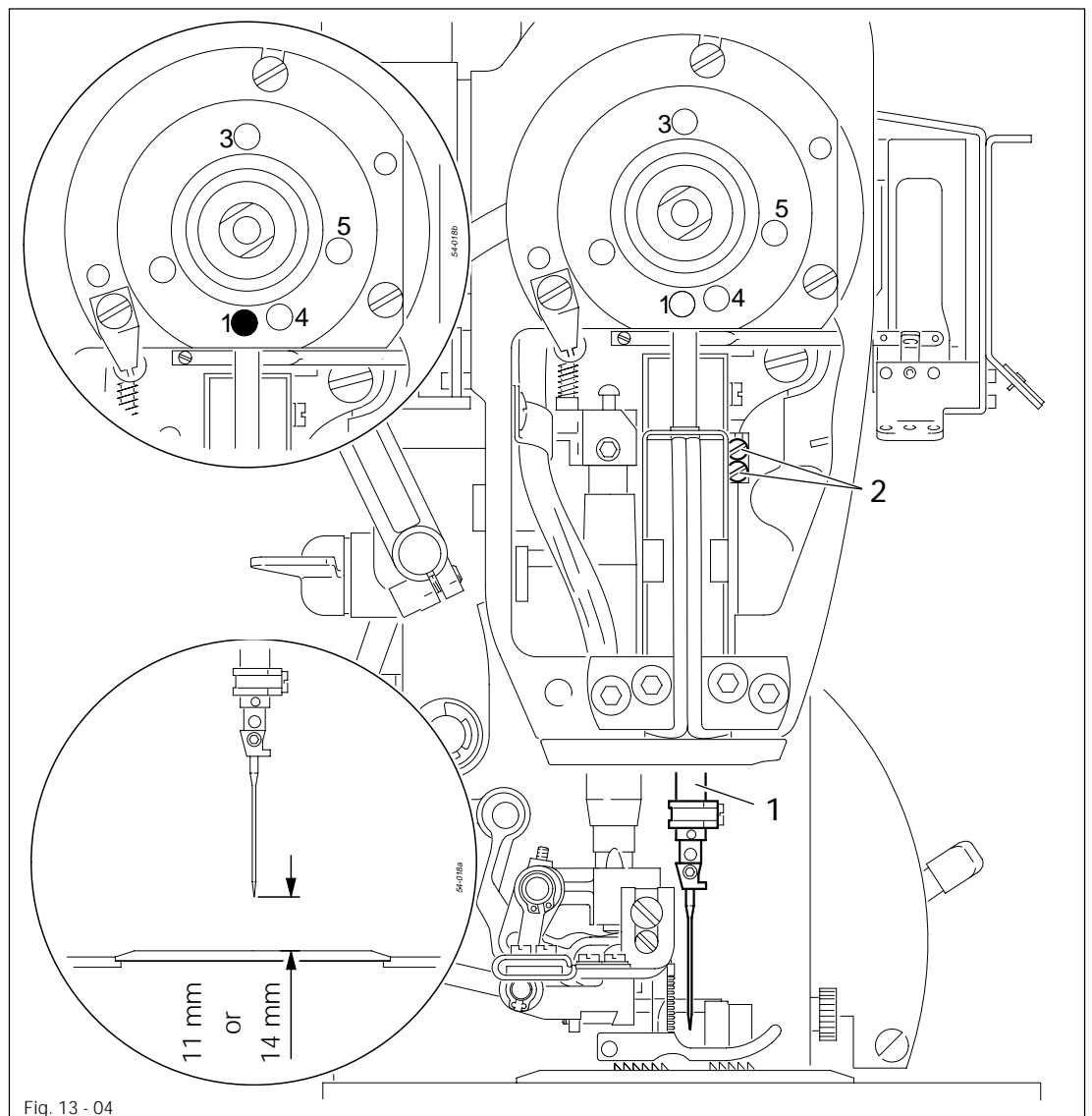


- Loosen screws 1 and 2.
- Adjust needle bar frame 3 according to requirement 1 and tighten screw 1.
- Loosen screw 4 and turn needle bar frame 3 according to requirement 2.
- Tighten screws 2 and 4.

13.05.03 Preliminary adjustment of the needle height

Requirement

With the needle bar at t.d.c. (adjustment hole 1) the distance between the needle plate and the tip of the needle should be 14 mm (or 11 mm on the model PFAFF 3811-2/55).



- Bring needle bar 1 to t.d.c.
- Adjust needle bar 1 (screws 2) according to the requirement.

13.05.04 Neutral position of the main feed dog

Requirement

When the stitch length is set at "0", there should be no feeding motion of the main feed dog 7.

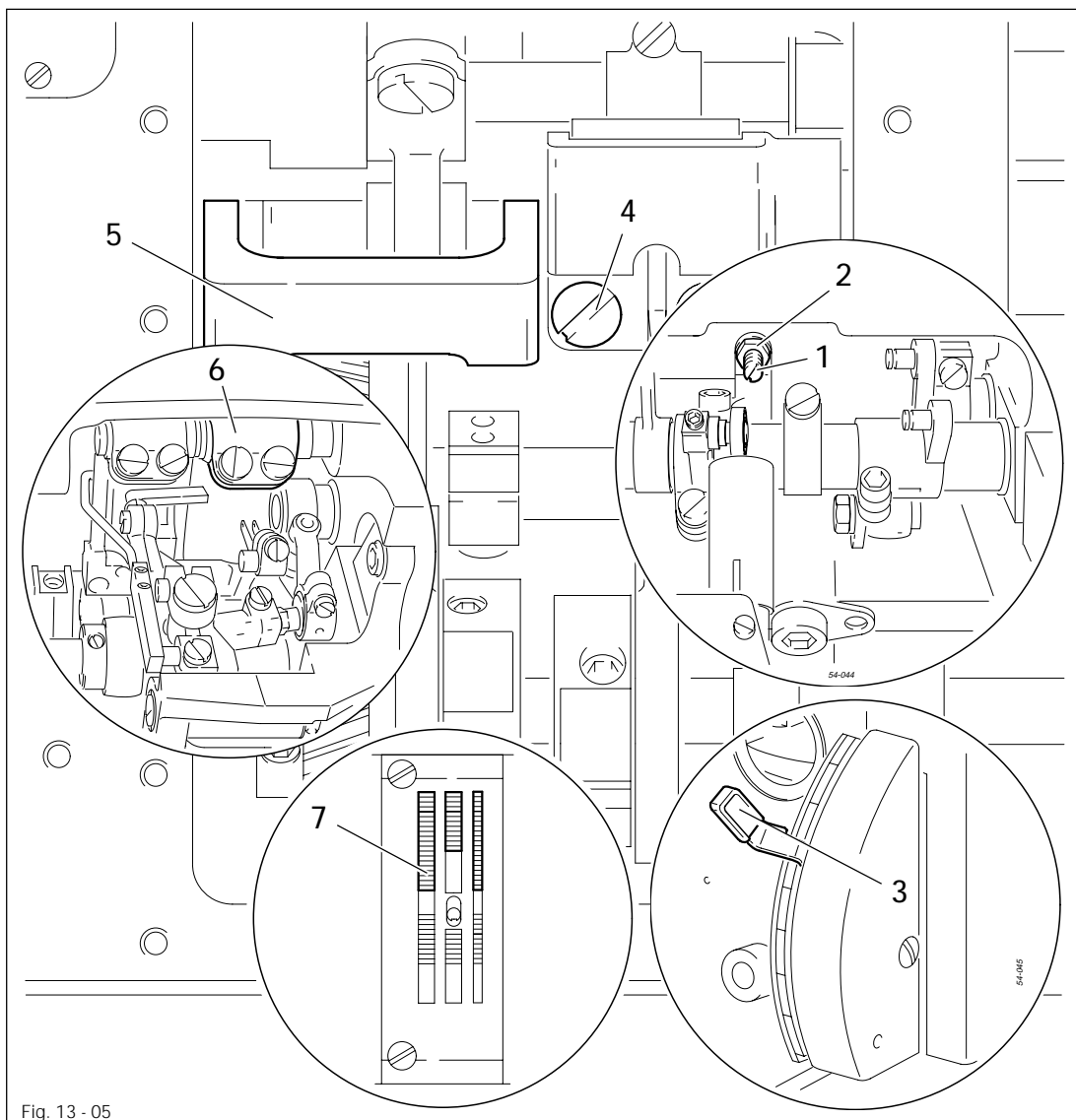
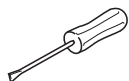


Fig. 13 - 05



- Unscrew screw 1 (nut 2) (stitch length limitation deactivated).
- With adjustment lever 3 set stitch length to "0".
- Loosen screw 4 to such an extent that crank 5 can be moved on the shaft with difficulty.
- While turning the balance wheel continuously, adjust crank 5, so that crank 6 does not move.
- Tighten screw 4.



Screw 1 (nut 2) remains loosened for further adjustments.
(Stitch length limitation is still deactivated).

13.05.05 Neutral position of the differential feed dog

Requirement

With the stitch length set at "0" and the adjustment gauge 1 fitted, there should be no movement of the differential feed dog 5.

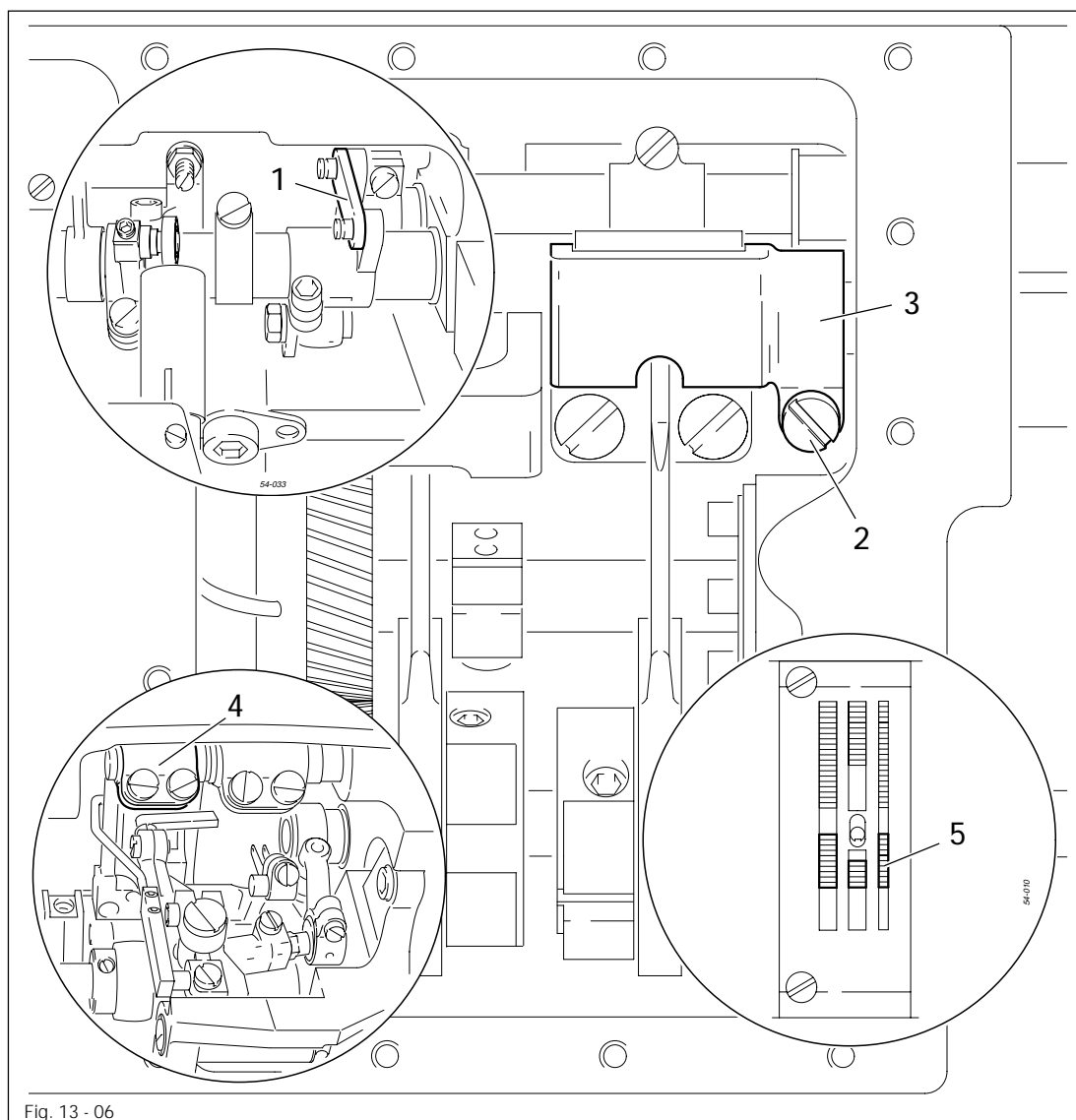
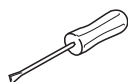


Fig. 13 - 06



- Set stitch length at "0".
- Fit adjustment gauge 1.
- Loosen screw 2 to such an extent that crank 3 can be moved on the shaft with difficulty.
- While turning the balance wheel continuously, adjust crank 3, so that crank 4 does not move.
- Tighten screw 2.

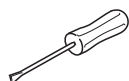
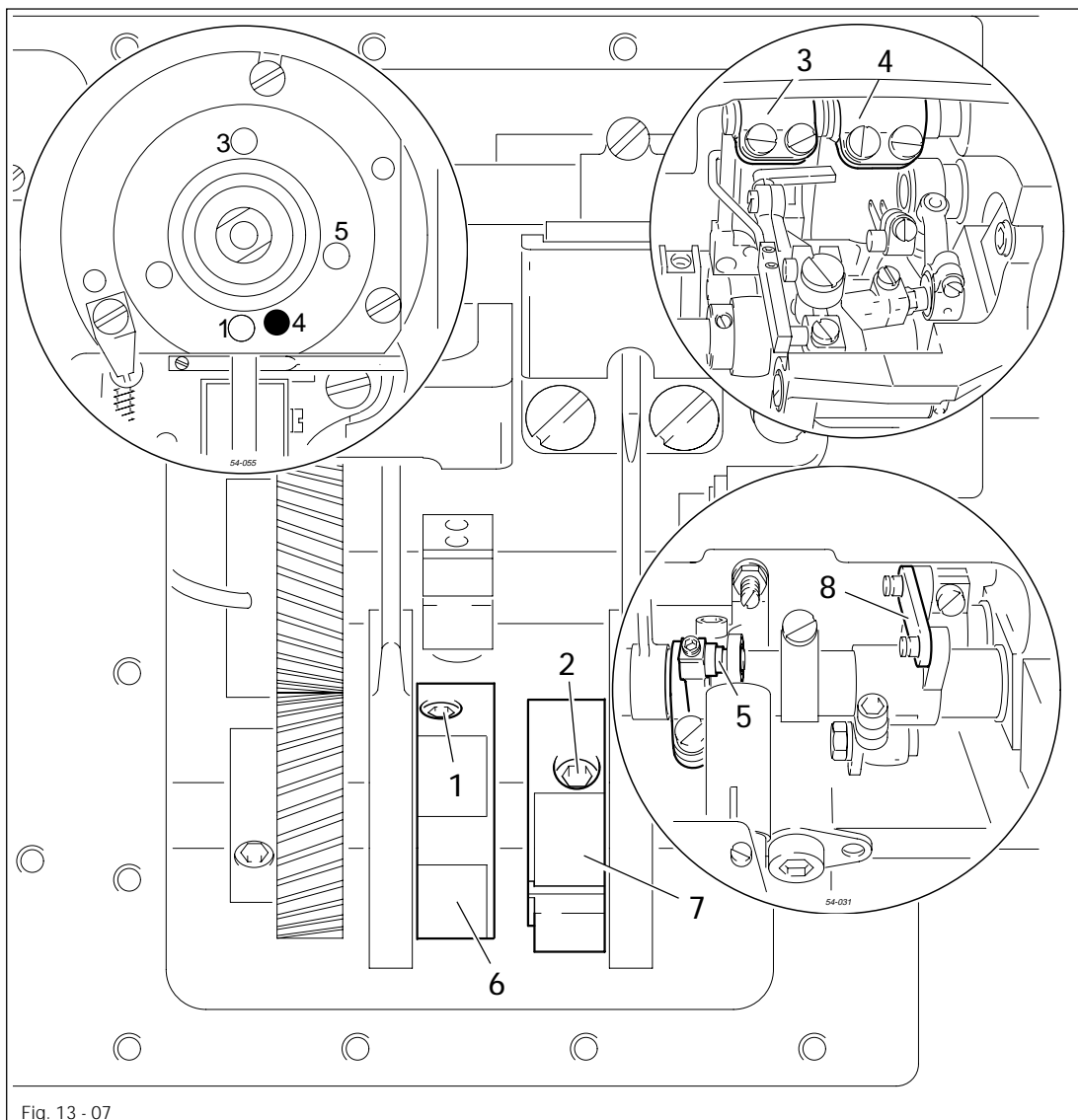


Adjustment gauge 1 remains fitted for further adjustments.

13.05.06 Feeding motion of the main feed dog and the differential feed dog

Requirement

When the stitch length is set at "4", the needle bar is positioned 0.8 before t.d.c. (adjustment hole 4) and the adjustment gauge 8 is fitted, the main feed dog and the differential feed dog should not move when roller 5 is operated.



- Slightly loosen screws 1 and 2 (4 screws).
- Bring needle bar to 0.8 before t.d.c. and adjust stitch length to "4".
- While moving roller 5 up and down continuously, turn eccentrics 6 and 7 so that the cutout is visible and the cranks 3 and 4 do not move.
- Tighten screws 1 and 2.

13.05.07 Lifting motion of the main feed dog and differential feed dog (only on the PFAFF 3811-2/55 model)

Requirement

When the needle bar is at t.d.c. (adjustment hole 1), the cutouts of eccentrics 3 and 4 should point straight down.

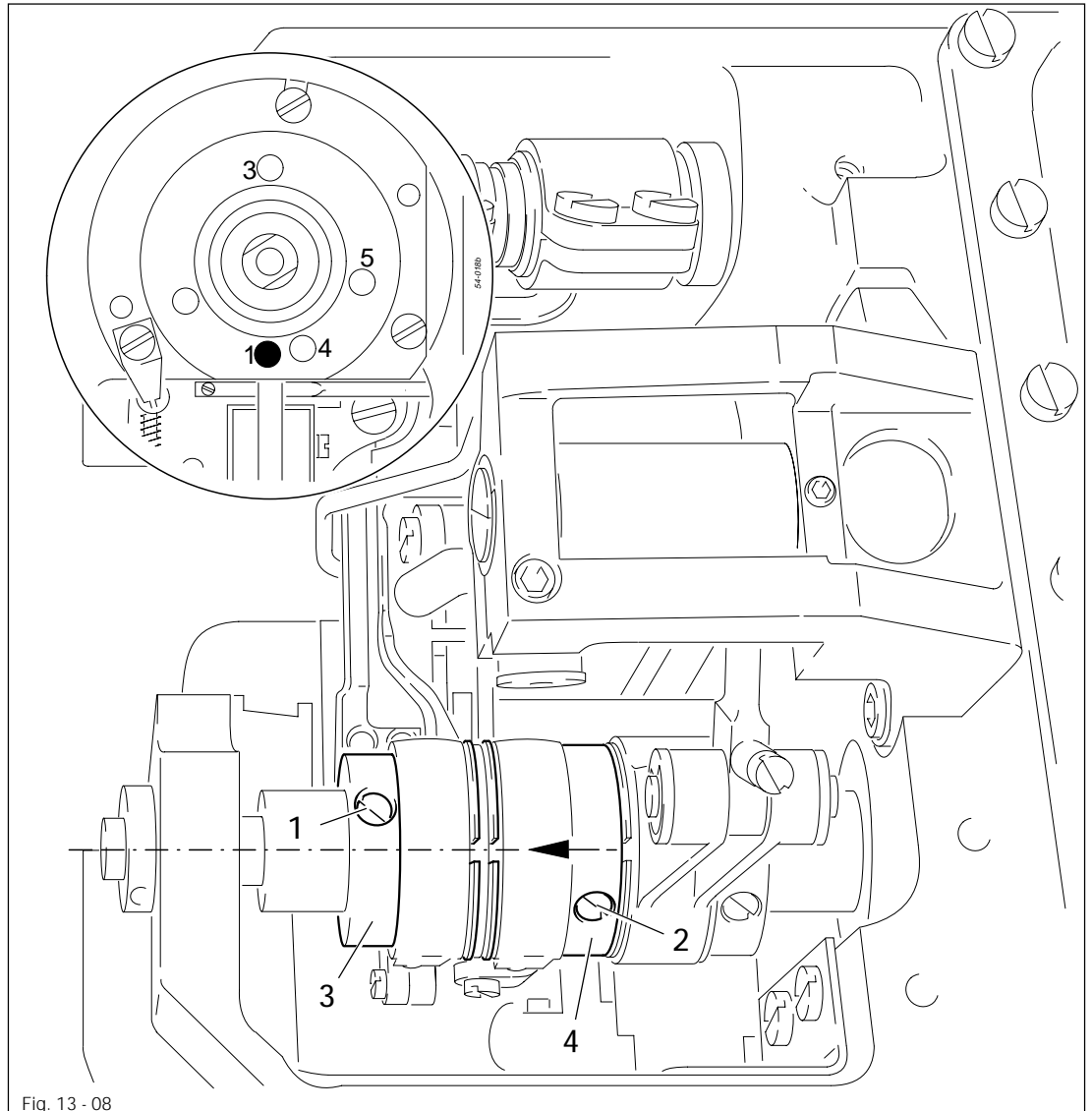
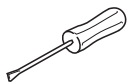


Fig. 13 - 08



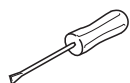
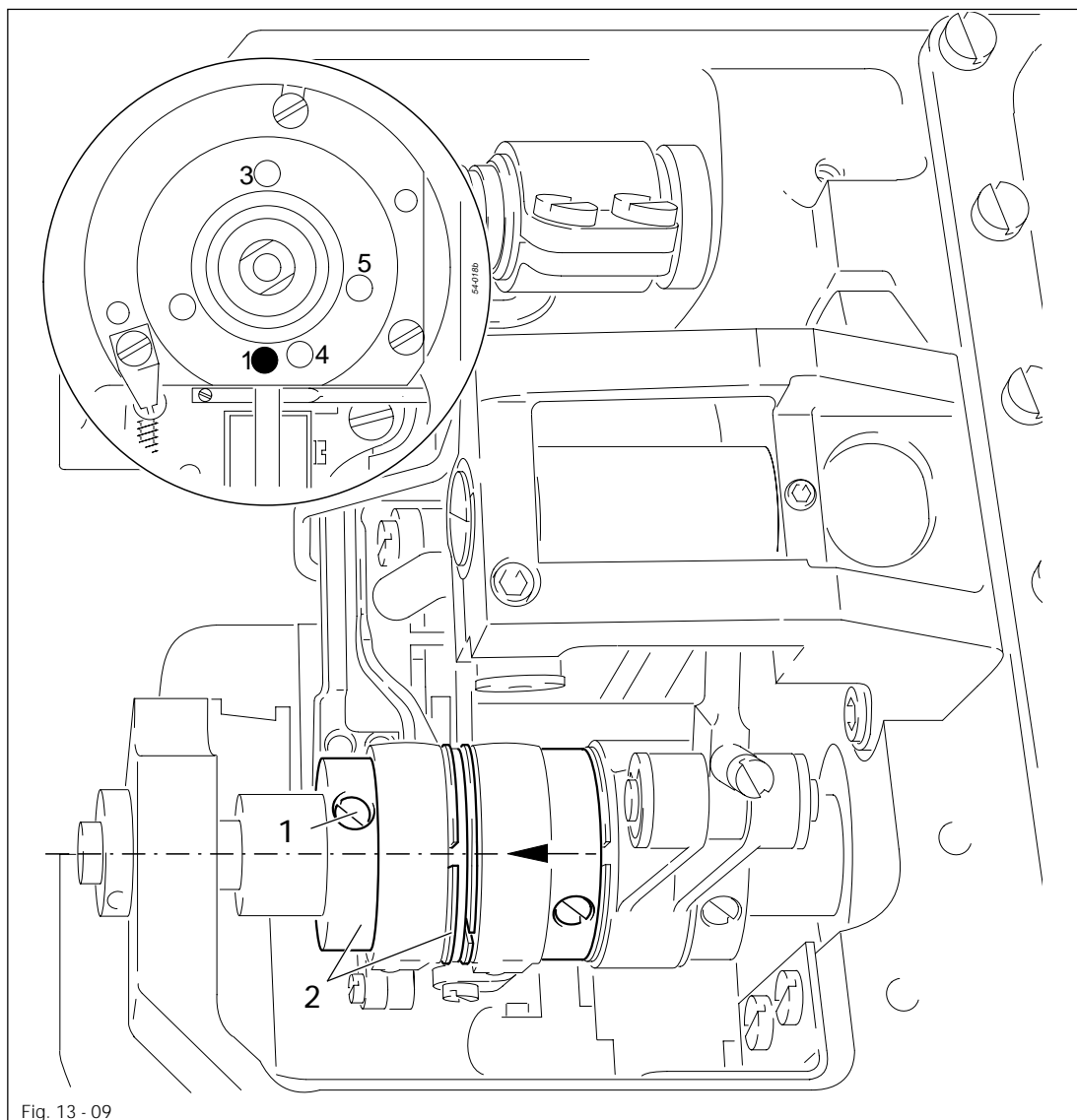
- Loosen screws 1 and 2 (4 screws).
- Bring needle bar to t.d.c.
- Turn eccentrics 3 and 4 according to the **requirement** and tighten accessible screws 1 and 2.
- By turning the balance wheel, provide access to the remaining screws 1 and 2 and tighten them.

Adjustment

13.05.08 Lifting motion of the main feed dog

Requirement

When the needle bar is at t.d.c. (adjustment hole 1), the cutout of eccentric 2 should point straight down.



- Loosen both screws 1.
- Bring needle bar to t.d.c.
- Turn eccentric 2 according to the **requirement** and tighten accessible screw 1.
- By turning the balance wheel, provide access to the other screw 1 and tighten it.

13.05.09 Lifting motion of the differential feed dog

Requirement

With the needle bar positioned 5.5 mm before t.d.c. (adjustment hole 5), the cutout of eccentric 2 should point straight down.

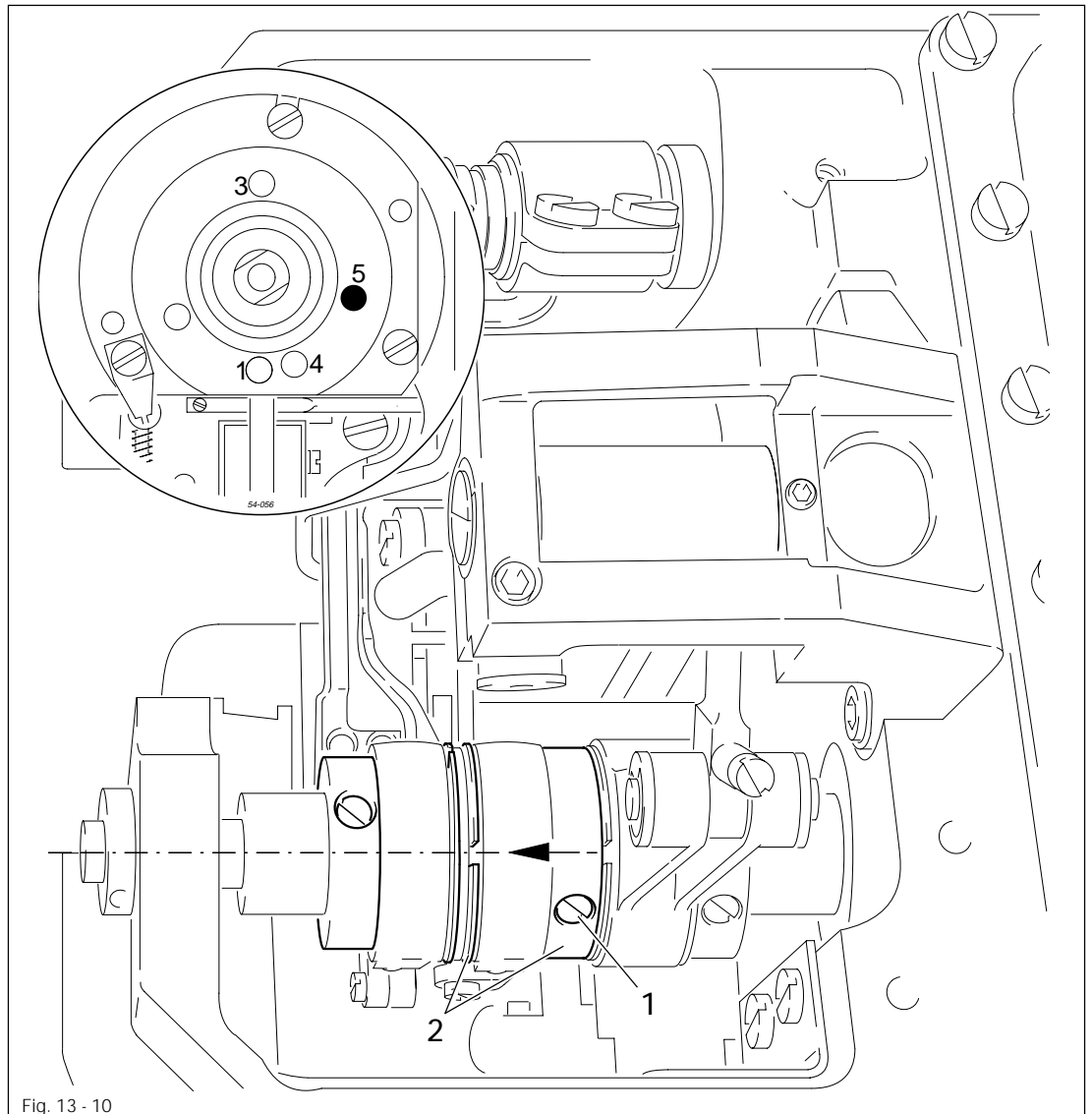
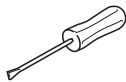


Fig. 13 - 10



- Loosen both screws 1.
- Bring needle bar to 5.5 mm before t.d.c.
- Turn eccentric 2 according to the **requirement** and tighten accessible screw 1.
- By turning the balance wheel, provide access to the other screw 1 and tighten it.

Adjustment

13.05.10 Positioning the main and the differential feed dogs (only on the PFAFF 3811-2/55 model)

Requirement

With the needle bar at t.d.c (adjustment hole 1) and the longest stitch length set

1. The main feed dog should be 1.4 mm parallel and the differential feed dog 1.9 mm parallel above the needle plate.
2. Both feed dogs should be in the centre of the needle plate cutout and
3. be 4 mm apart.

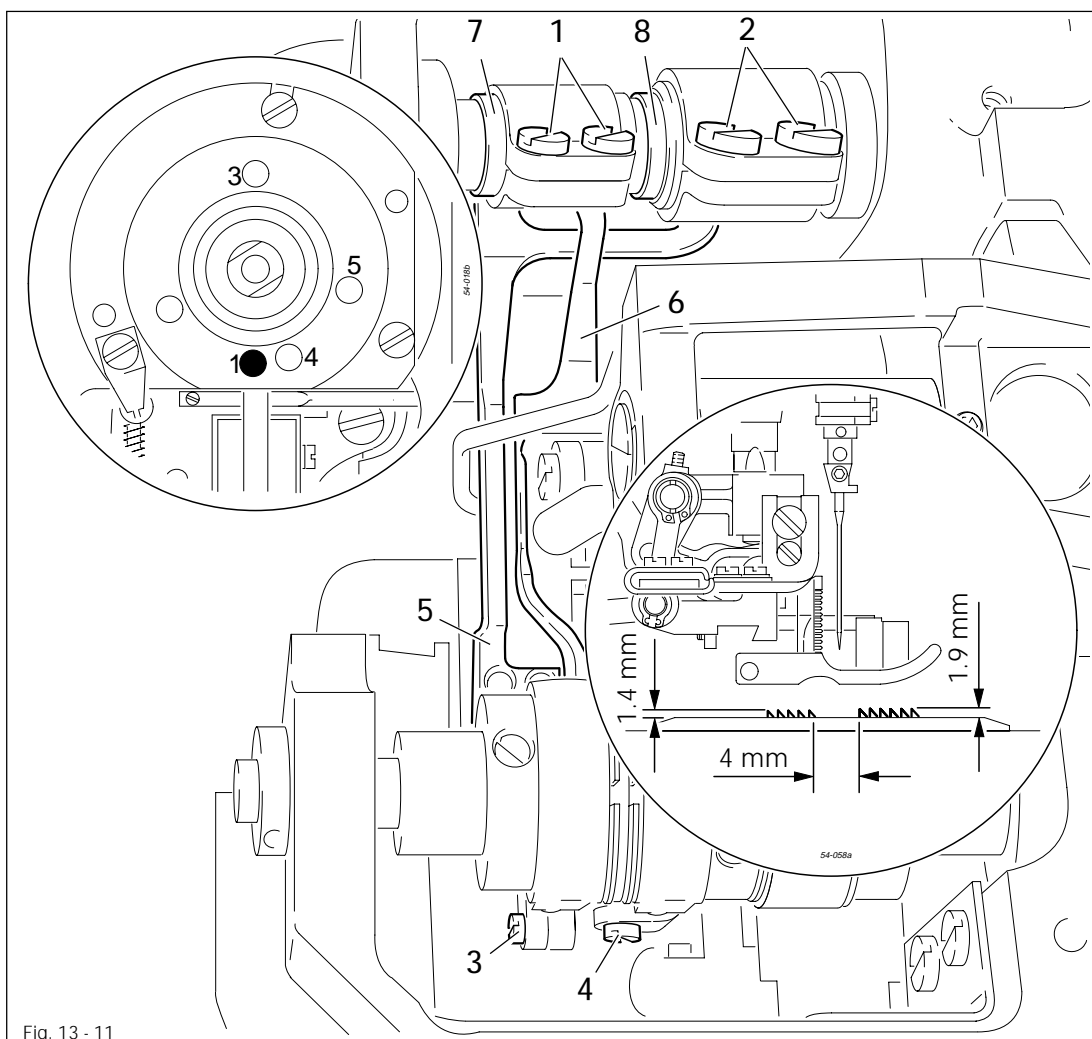
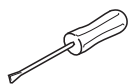


Fig. 13 - 11



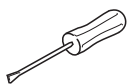
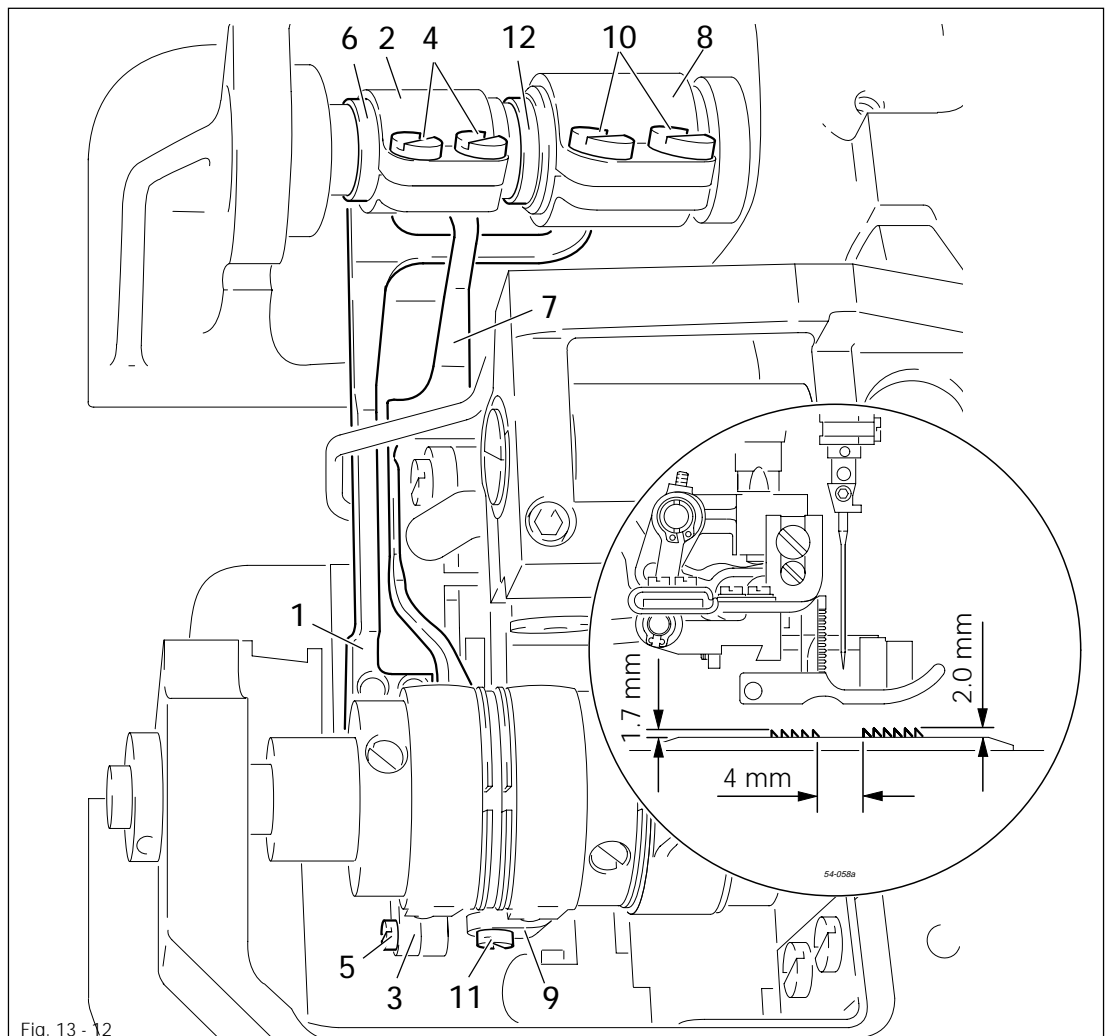
- Bring needle bar to t.d.c. and set the longest stitch length.
- Loosen screws 1, 2, 3 and 4.
- Adjust feed dog carriers 5 and 6 according to requirement 1.
- Slightly tighten screws 1 and 2.
- Turn eccentric bushes 7 and 8 according to requirement 2 and 3.
- In this position tighten screws 3 and 4.
- In compliance with requirement 1 tighten screws 1 and 2.

13.05.11 Positioning the main and differential feed dogs

Requirement

With the longest stitch length set and in their highest position

1. The main feed dog should be 1.7 mm and the differential feed dog 2.0 mm parallel above the needle plate.
2. Both feed dogs should be in the centre of the needle plate cutout and be approximately 4 mm apart.

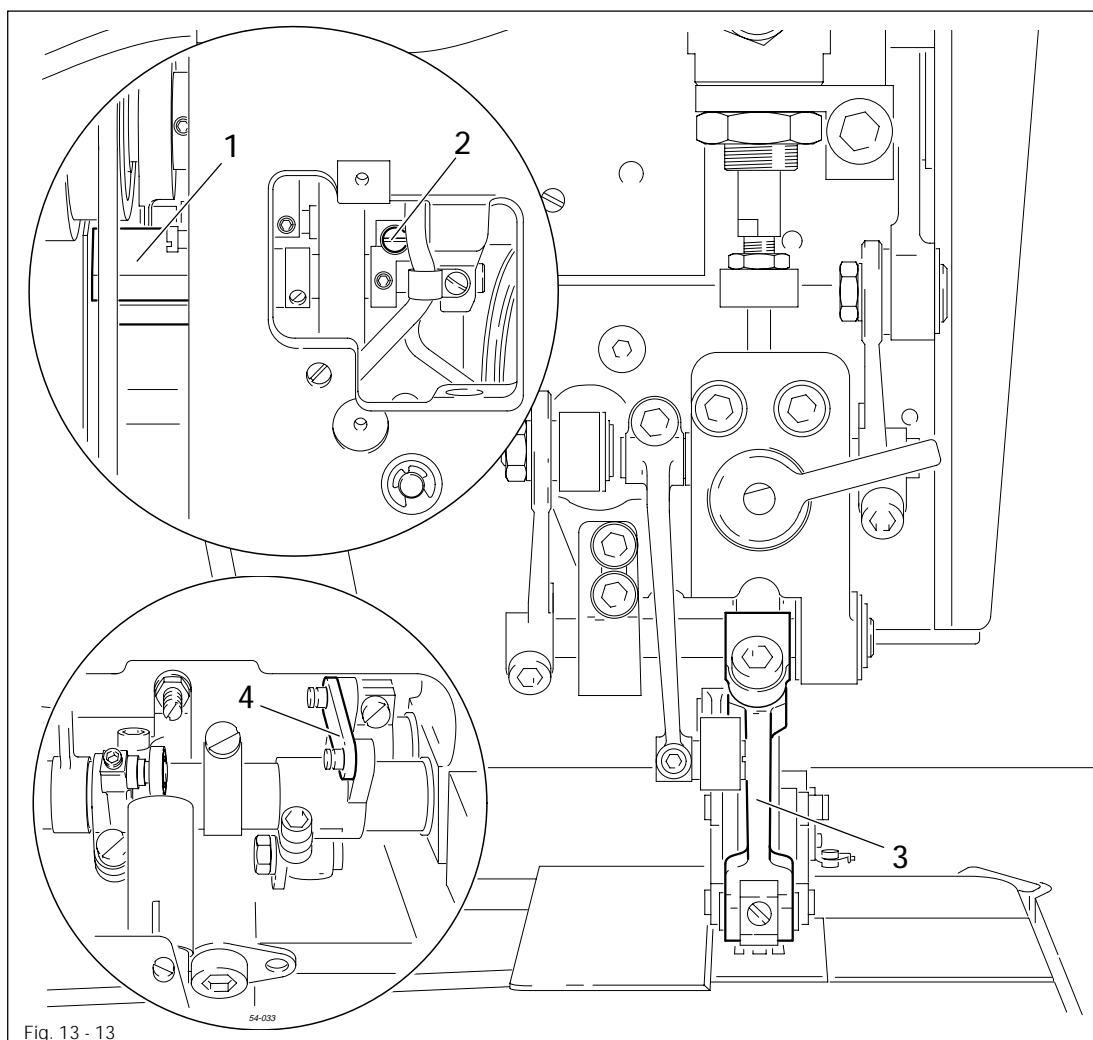


- Set the longest stitch length and bring the main feed dog into its highest position.
- According to **requirement 1** and **2**, adjust carrier **1** of the main feed dog by turning crank **2** and **3** (screws **4** and **5**) as well as the eccentric clamp bush **6**.
- Bring differential feed dog carrier **7** into its highest position.
- According to **requirement 1** and **2**, adjust differential feed dog by turning crank **8** and **9** (screws **10** and **11**) as well as the eccentric clamp bush **12**.

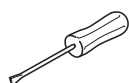
13.05.12 Neutral position of the top feed dog

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.



The stitch length limitation (screw 1 in Chapter 13.05.04 Neutral position of the main feed dog) must be deactivated.

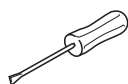
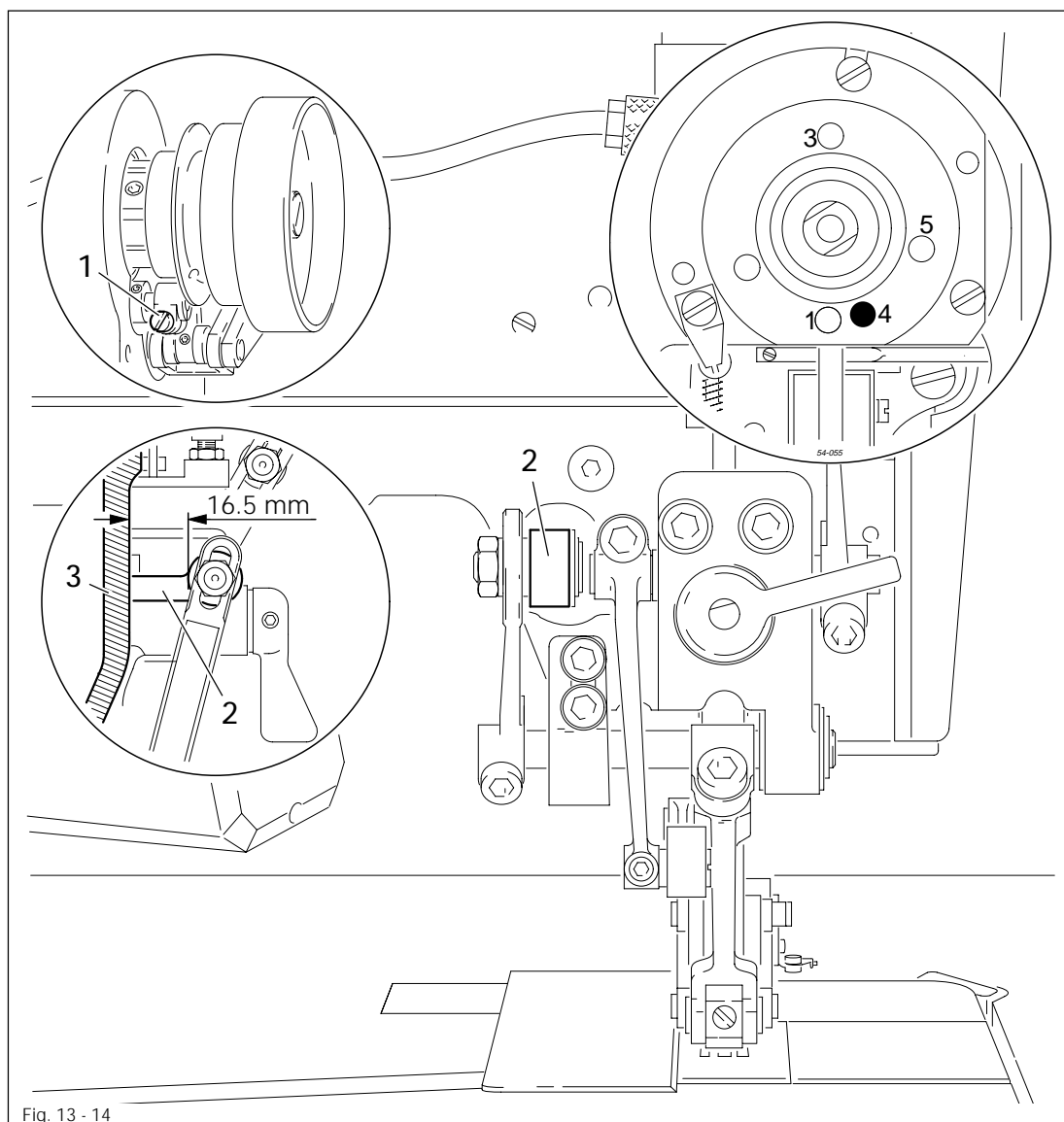


- Set stitch length at "0".
- While continuously turning the balance wheel, turn crank 1 (screw 2) so that lever 3 does not move.

13.05.13 Front linkage rod to top feed drive

Requirement

With the needle bar positioned 0.8 before t.d.c. (adjustment hole 4), there must be a distance of approx. **16.5 mm** between the eye of the linkage rod 2 and machine case 3.

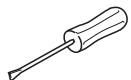
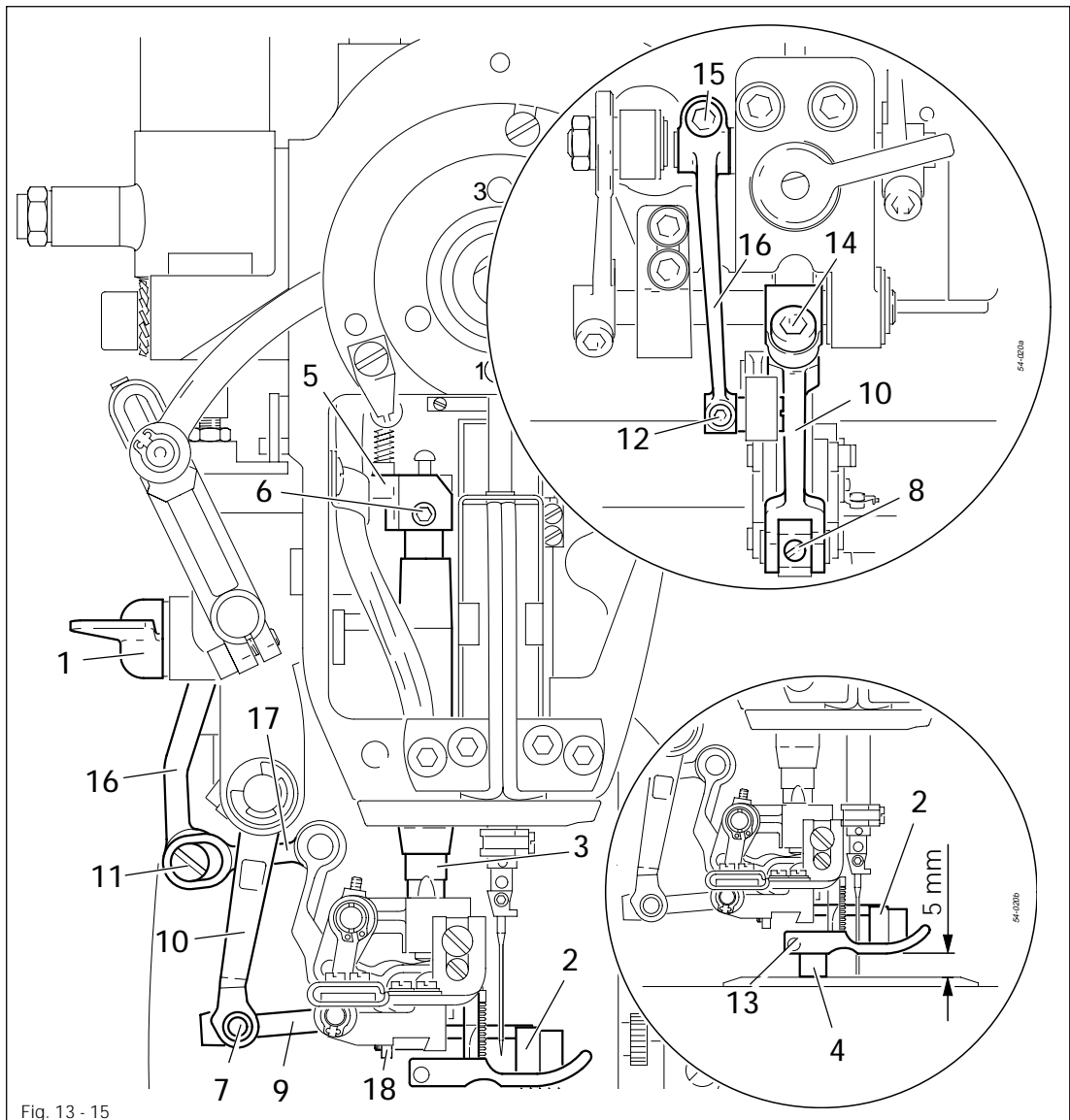


- Bring needle bar to 0.8 before t.d.c..
- Loosen screw 1.
- Adjust linkage rod 2 according to the **requirement**.
- Tighten screw 1.
- Check the setting.

13.05.14 Aligning the presser foot

Requirement

1. With the hand lever 1 raised, there should be a clearance of 5 mm between the presser foot 13 and the needle plate.
2. The needle should penetrate the presser foot 13 in the centre of the needle hole.
3. The presser foot edge should be parallel to the bottom feed dog.



- Raise hand lever 1.
- By turning the balance wheel, bring top feed dog 2 to its t.d.c.
- Raise presser rod 3 and from the rear insert the 5 mm thick part of adjustment gauge 4 (part no. 61-111 642-19) under the presser foot.
- Lower presser rod lifter 5 (screw 6) as far as possible.
- Remove pin 7 (screw 8).
- Disengage lever 9 from lever bracket 10.
- Remove eccentric pin 11 (screw 12).
- Align presser foot 13 according to the requirements.

- Tighten screw 6.
- Remove adjustment gauge 4 and let presser foot 13 rest on the needle plate.
- Loosen screw 14.
- Engage lever 9 in lever bracket 10.
(Lever 9 must move smoothly. If not, adjust lever 10).
- Insert pin 7 (screw 8), paying attention to smooth running.
- If necessary adjust lever 10.
- Bring needle bar to 0.8 before t.d.c.
- Bring top feed dog 2 in sewing direction into the centre of the presser foot cutout and tighten screw 14.
- Loosen screw 15.
- Connect lever 16 to the linkage rod 17 with eccentric pin 11 (screw 12), placing eccentric pin 11 with its greatest eccentricity pointing downwards.
- Bring lever 16 into contact with eccentric pin 11 and tighten screw 15.
- Align top feed dog 2 (screw 18) so that its side does not touch presser foot 13.



All moving parts of the top feed drive must run smoothly and without any backlash.

Lubricate the joints at regular intervals, see **Chapter 12.03 Lubricating the top feed joints**.

13.05.15 Lifting height of presser foot with automatic presser foot lift

Requirement

When piston rod **1** is retracted, the distance between presser foot **3** and the needle plate should be **11 mm** (or **7 mm** on the model PFAFF 3811-2/55)

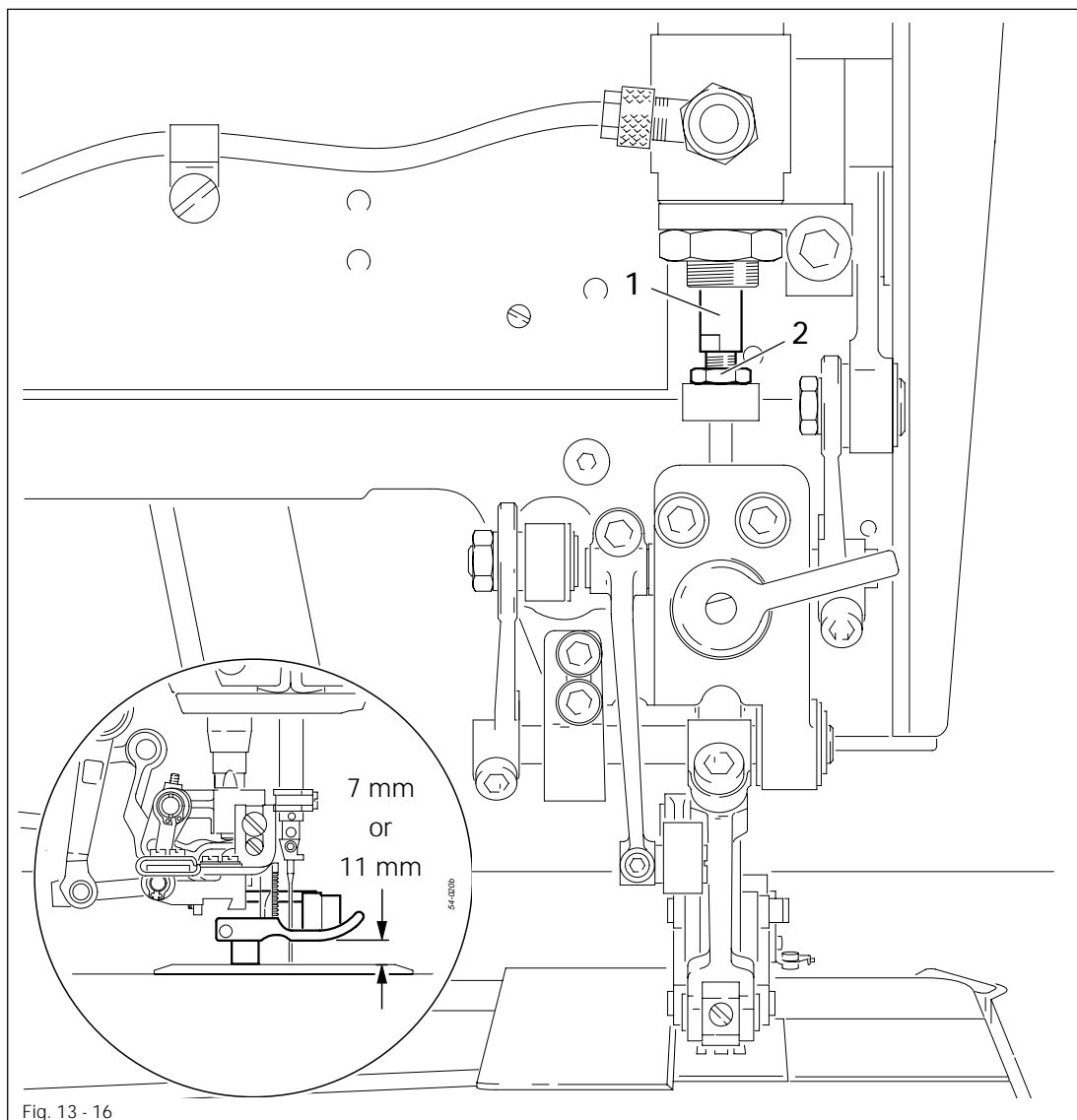
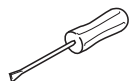


Fig. 13 - 16



- Adjust piston rod **1** (nut **2**) according to the requirement.

13.05.16 Feeding motion of the top feed dog

Requirement

With the stitch length set at "4", the needle bar positioned 0.8 mm before t.d.c. (adjustment hole 4), lever 4 should not move when lever 2 is operated.

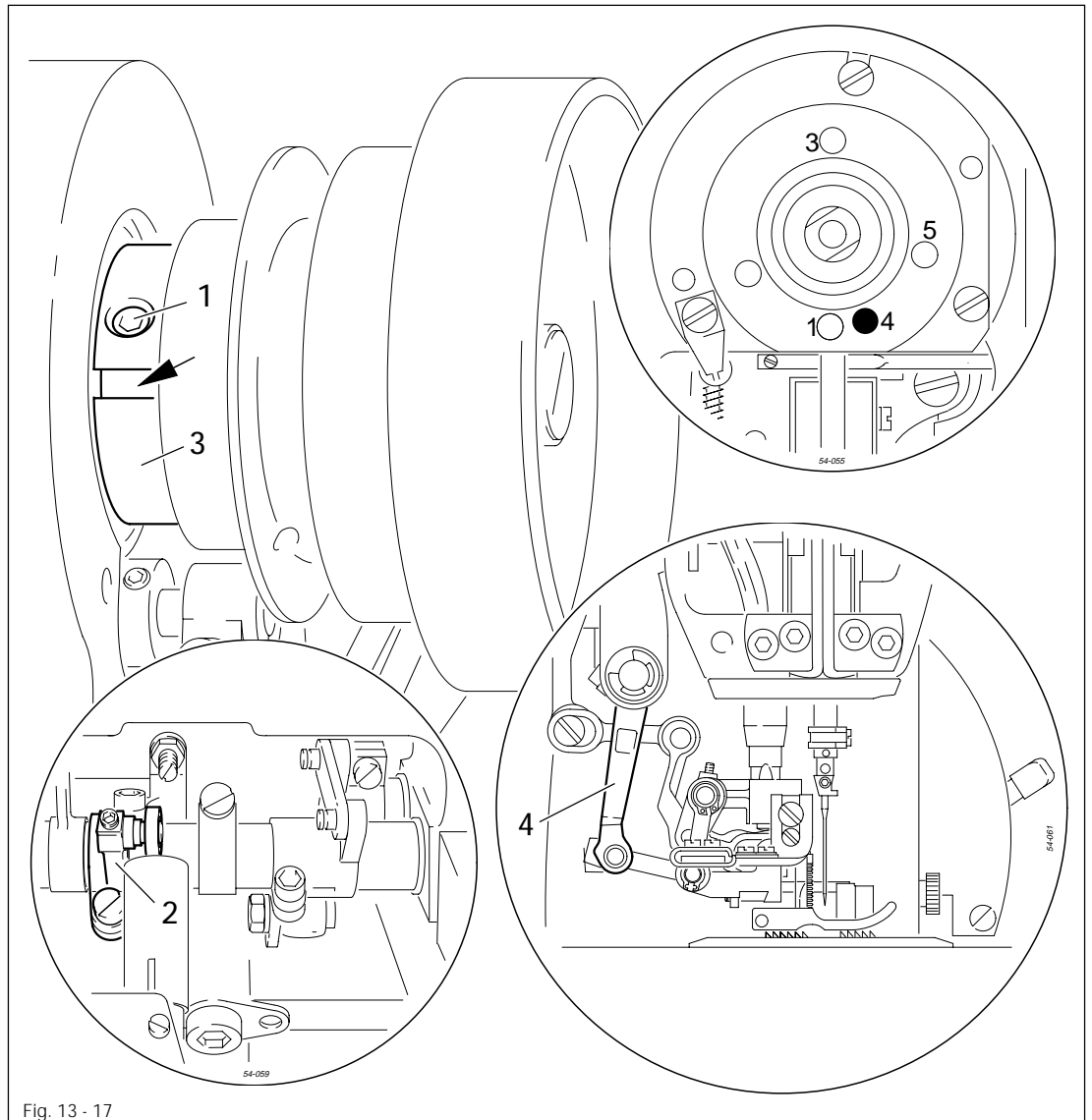
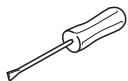


Fig. 13 - 17

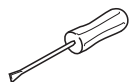
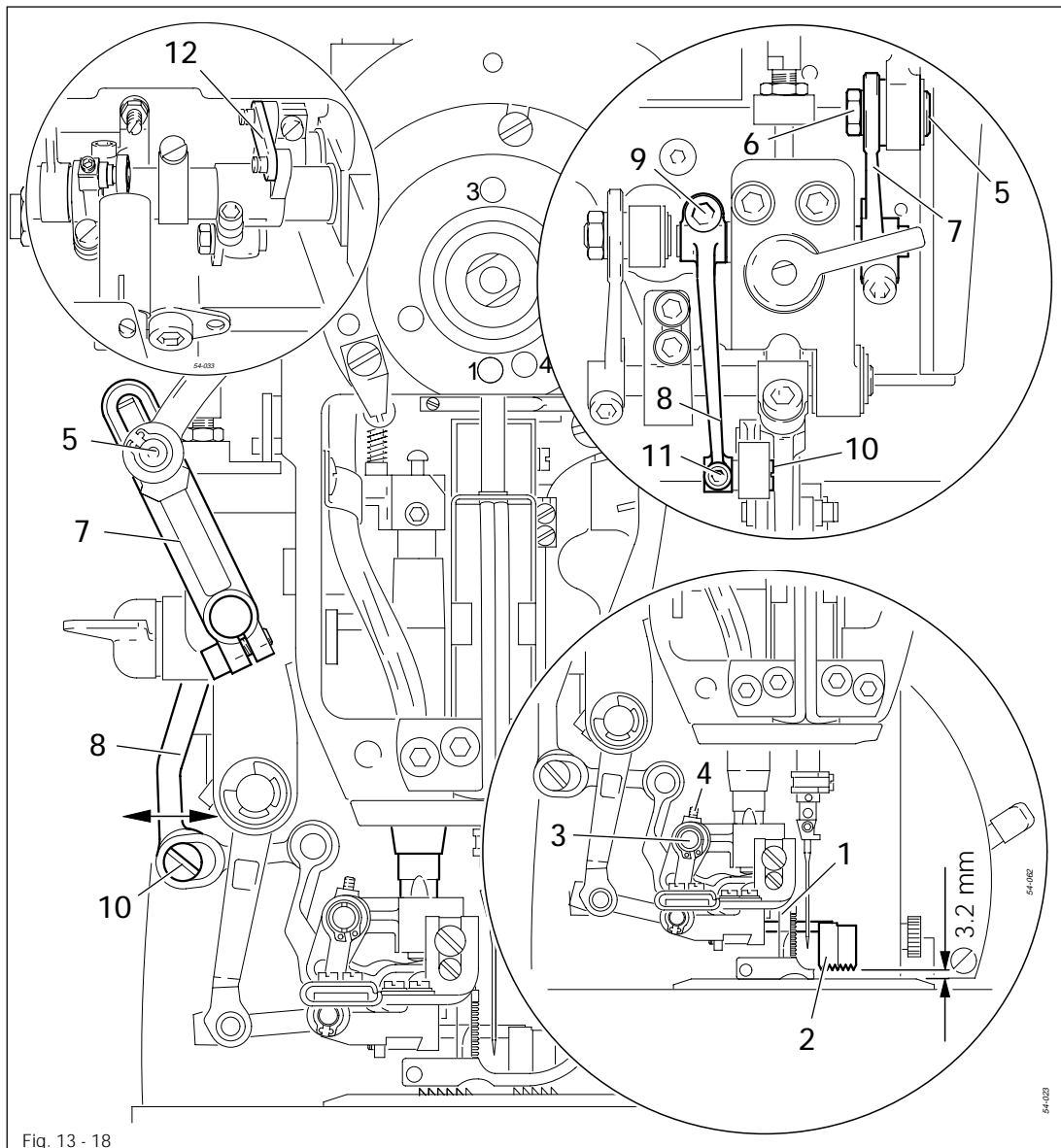


- Loosen both screws 1.
- While continuously moving lever 2 up and down, adjust eccentric 3, so that the slot is pointing towards the operator and lever 4 does not move.
- Tighten screws 1.

13.05.17 Top feed stroke

Requirement

With the stitch length set at "4" and the adjustment gauge 12 fitted, at t.d.c. the top feed dog 2 should be 3.2 mm from the needle plate.



- Lower the presser foot 1 onto the needle plate.
- Set stitch length at "4".
- 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.

13.05.18 Lifting motion of the top feed dog

Requirement

When the stitch length is set at "4" 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.

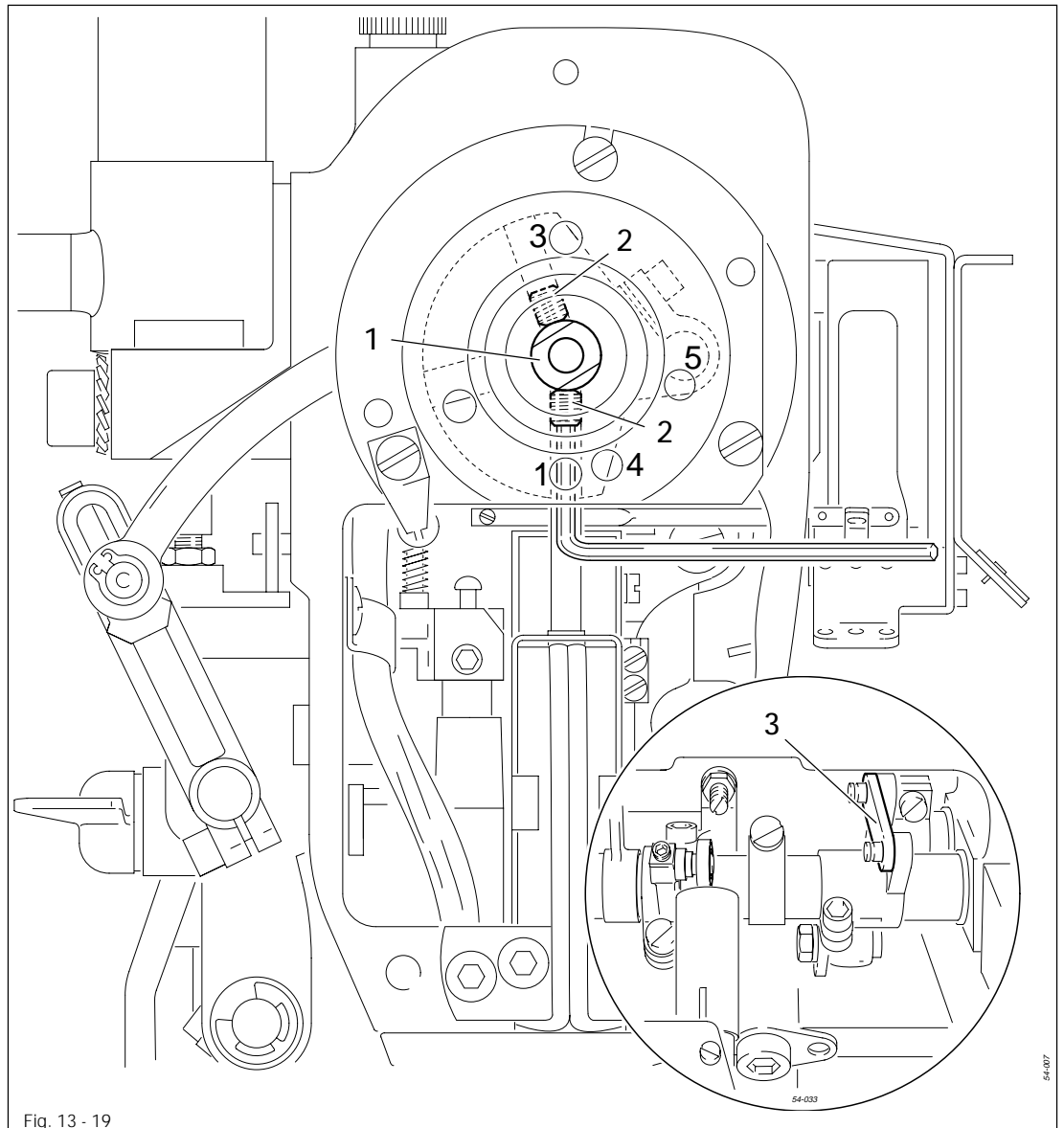
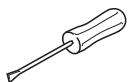


Fig. 13 - 19



- Set stitch length to "4".
- Adjust eccentric **1** (screws **2**) according to the requirement.

13.05.19 Stitch length limitation

Requirement	
3811 -2/55	<ol style="list-style-type: none"> 1. The bottom stroke of rocking bar 6 should be set so that the stitch length is 2.2 mm. 2. With the same stitch length set, screw 4 should rest lightly on the casting. (It should no longer be possible to move rocking bar 6).
3811 -11/55 -11/65 -14/55 -14/65	<ol style="list-style-type: none"> 1. The bottom stroke of rocking bar 6 should be set so that the stitch length is 4.2 mm. 2. The top stroke of rocking bar 6 should be set so that the stitch length is 3.1 mm.

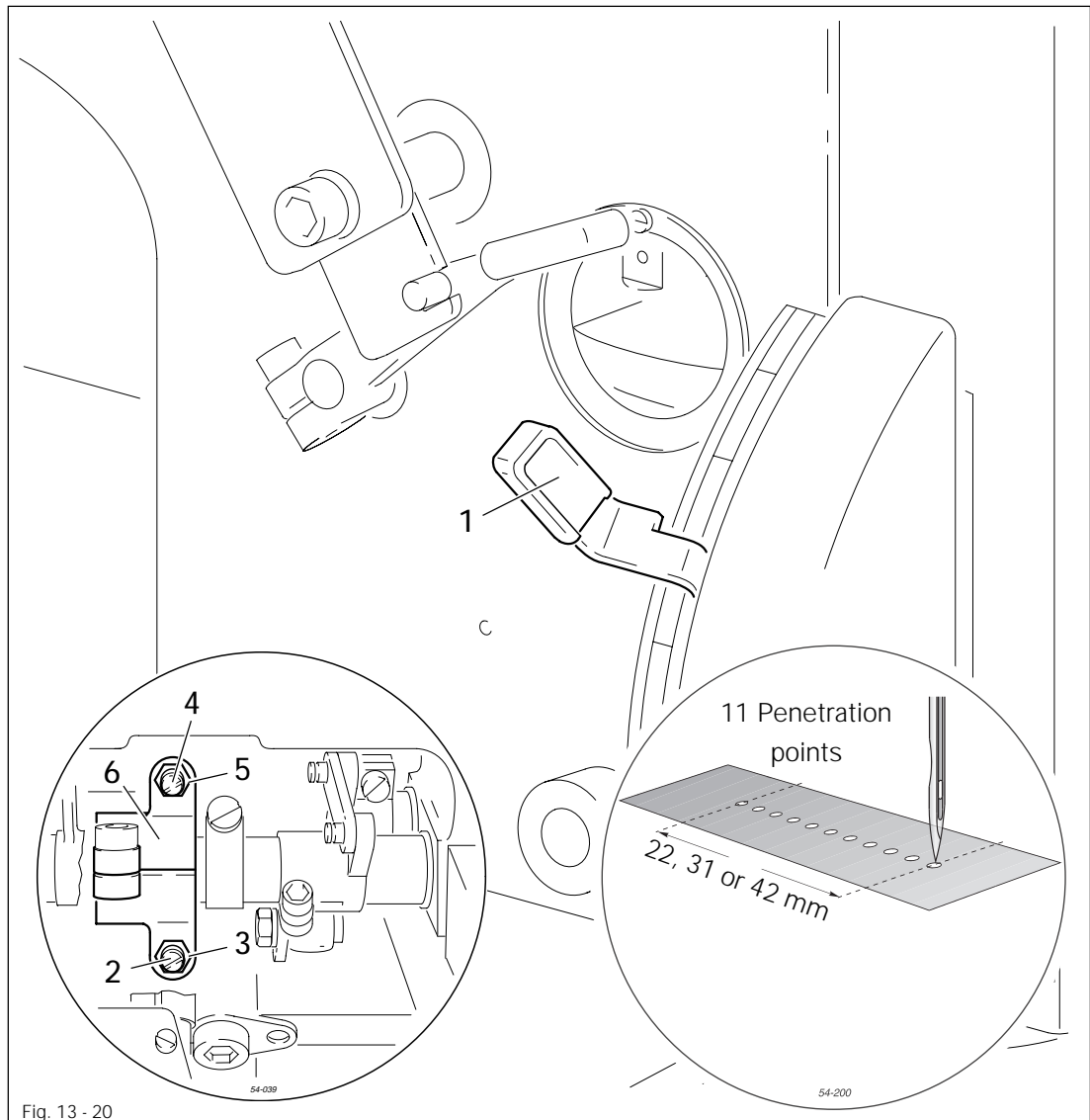
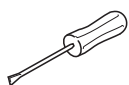


Fig. 13 - 20



- Set the stitch length on lever 1 according to requirement 1.
- Adjust screw 2 (nut 3) according to requirement 1.
- Set the stitch length on lever 1 according to requirement 2.
- Adjust screw 4 (nut 5) according to requirement 2

13.05.20 Basic setting of the differential adjustment mechanism

Requirement	
3811 -2/55	With the fullness set at "0", the stitch length at "2.2" and the adjustment gauge 5 fitted, the roller 2 should be touching pressure sleeve 4.
3811 -11/55 -11/65 -14/55 -14/65	With the fullness set at its highest level "key 15", the stitch length set at "4" and the adjustment gauge 5 fitted, the roller 2 should be 6.1 mm from pressure sleeve 4.

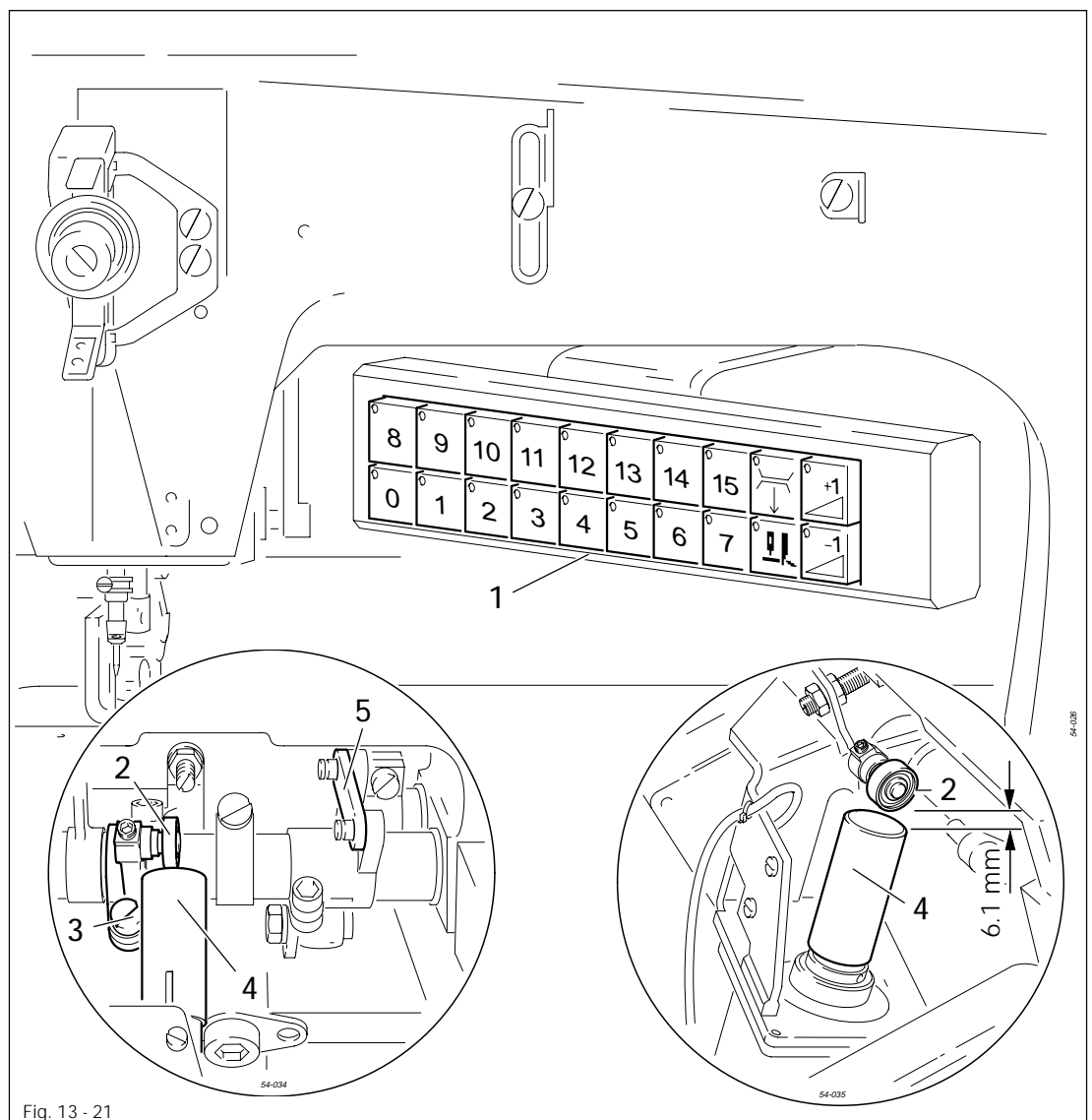
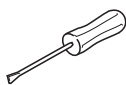


Fig. 13 - 21



- Switch on the machine.
- Press key "15" on keyboard 1 (diode must light up).
- Switch off the machine.
- Adjust roller 2 (screw 3) according to the requirement.

Adjustment

13.05.21 Setting the standard stitch length

Requirement

When the stitch length is set at "3" and key "15" is activated (cylinder 4 completely extended), the stitch length should be 3 mm.

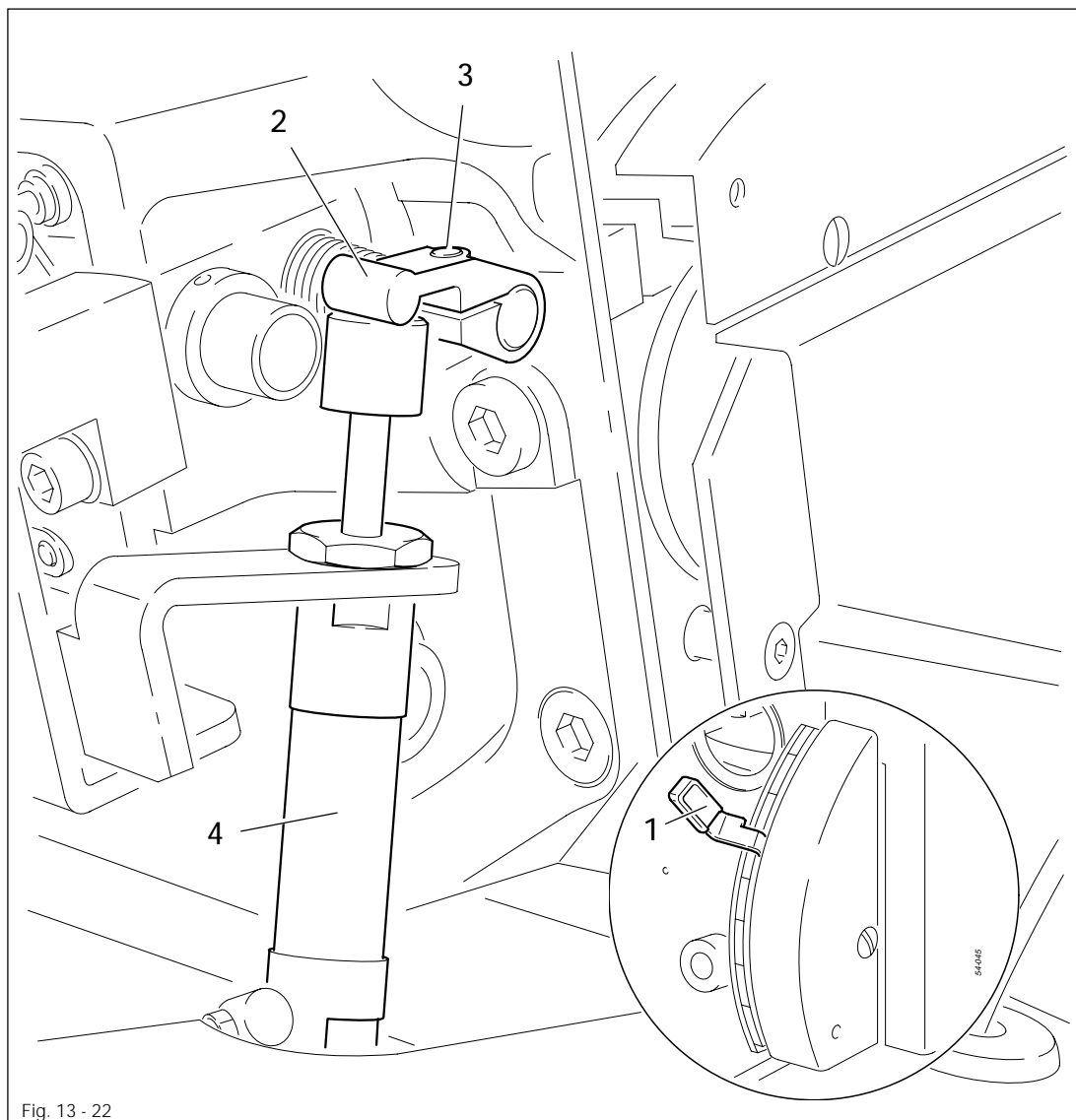
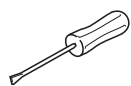


Fig. 13 - 22



- Set stitch length "3" (lever 1).
- Switch on the machine and press key "15" on the keyboard.
- Adjust crank 2 (screw 3) according to the requirement.

13.05.22 Looper avoiding motion

Requirement

With the needle bar at t.d.c. (adjustment hole 1) the cutout of eccentric 2 should be positioned vertically below the centre of the axis.

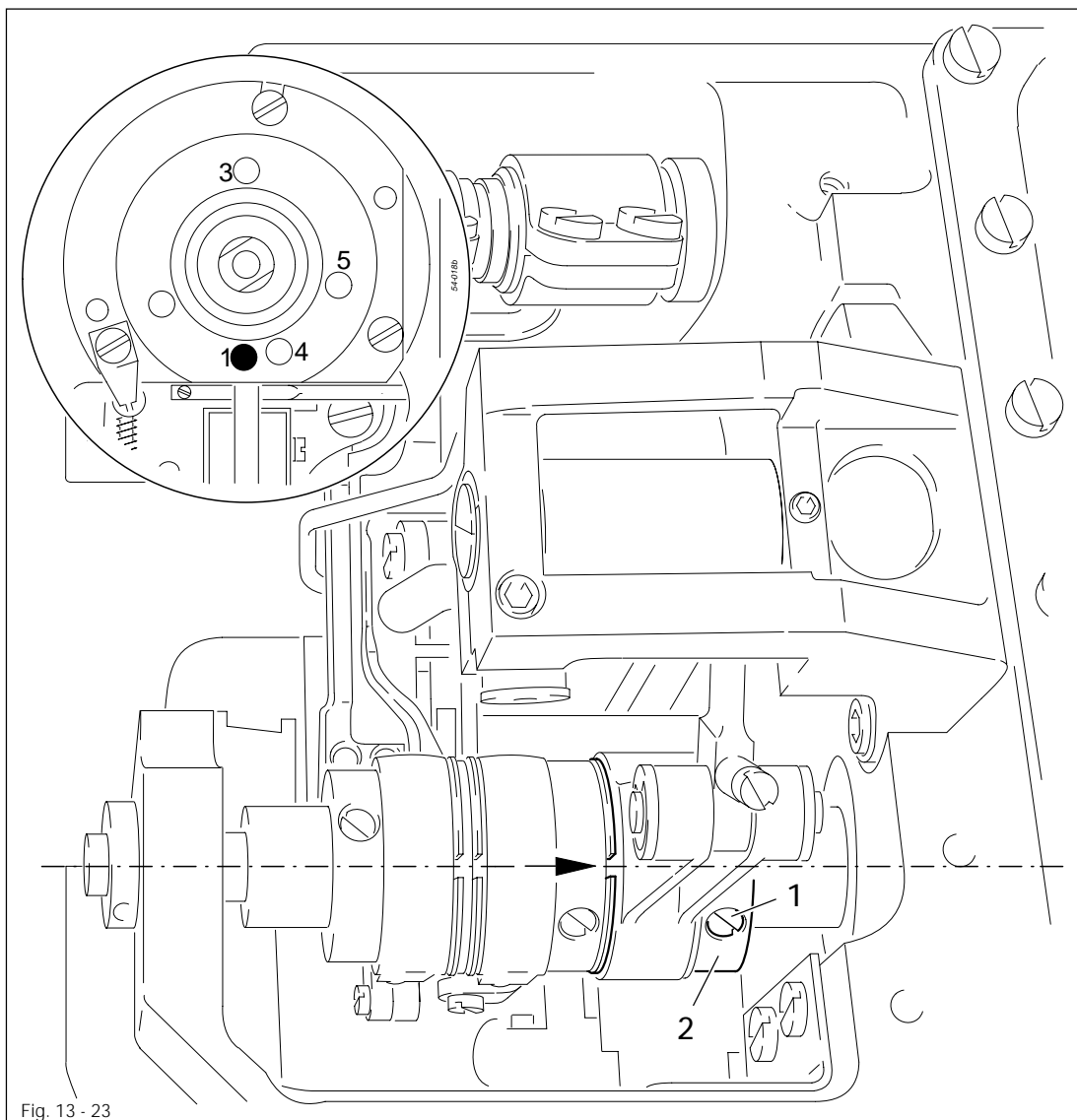
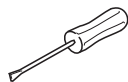


Fig. 13 - 23



- Loosen both screws 1.
- Bring needle bar to t.d.c.
- Adjust eccentric 2 according to the requirement.
- Tighten screws 1.

13.05.23 Looper motion

Requirement

In the following positions the looper point should be positioned at the same height:

- When, after turning the balance wheel in the sewing direction, the looper point is on the left side of the needle.
- When, after turning the balance wheel back from position a), the looper point is on the right side of the needle.

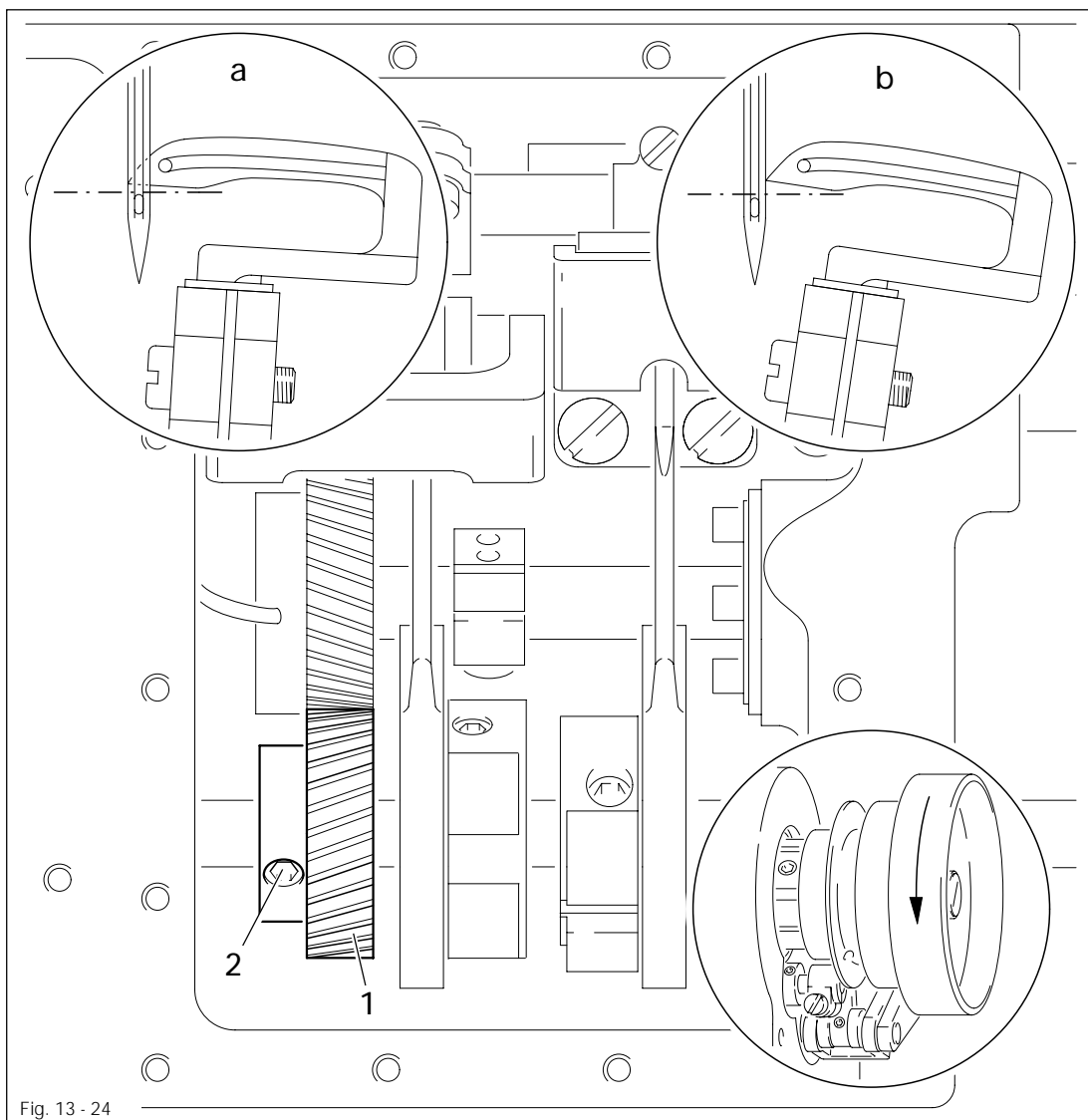
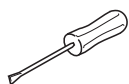


Fig. 13 - 24



- Insert a new needle.
- Turn the balance wheel until the looper point approaching from the right is positioned on the left side of the needle.
- In this position fasten the screw clamp (part no. 08-880 137-00) on the needle bar, so that the upward movement of the needle bar is blocked.
- Turn the balance wheel against the sewing direction, until the screw clamp is touching the needle bar frame again.
- Check **requirement**.
- If necessary, remove the screw clamp and adjust gear 1 (screws 2) according to the **requirement**.

13.05.24 Looper height and looper angle

Requirement

When the looper carrier 2 is in a vertical position there should be

1. a distance of **0.7 mm** between the highest point of the looper back and the needle plate rest and
2. looper 7 should be resting on looper adjustment gauge 9.

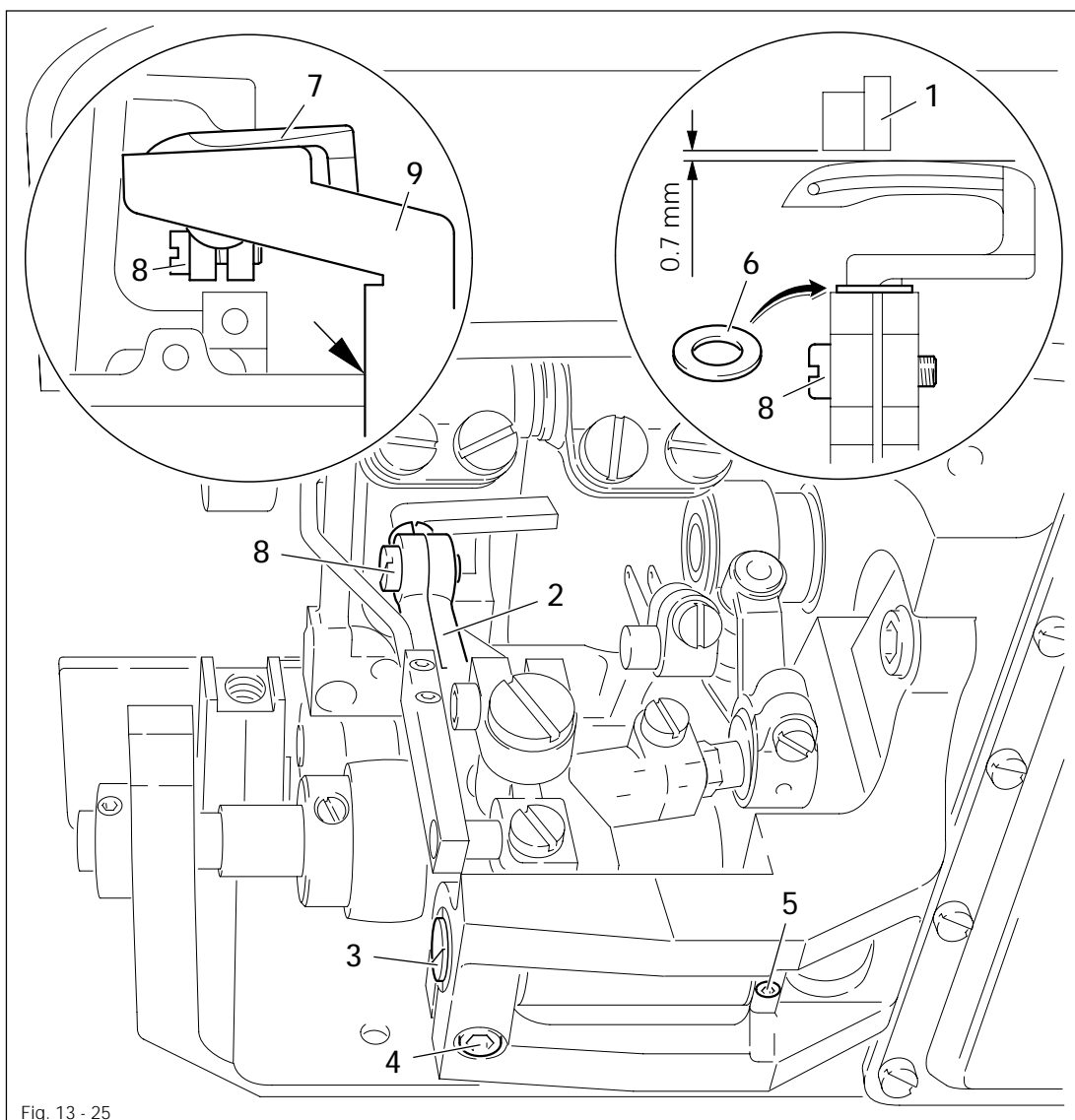
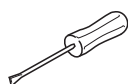


Fig. 13 - 25



- Remove needle plate and bottom feed dog.
- Place adjustment gauge 1 (part no. 61-111 642-19) on the needle plate rest.
- Set looper carrier 2 into a vertical position.

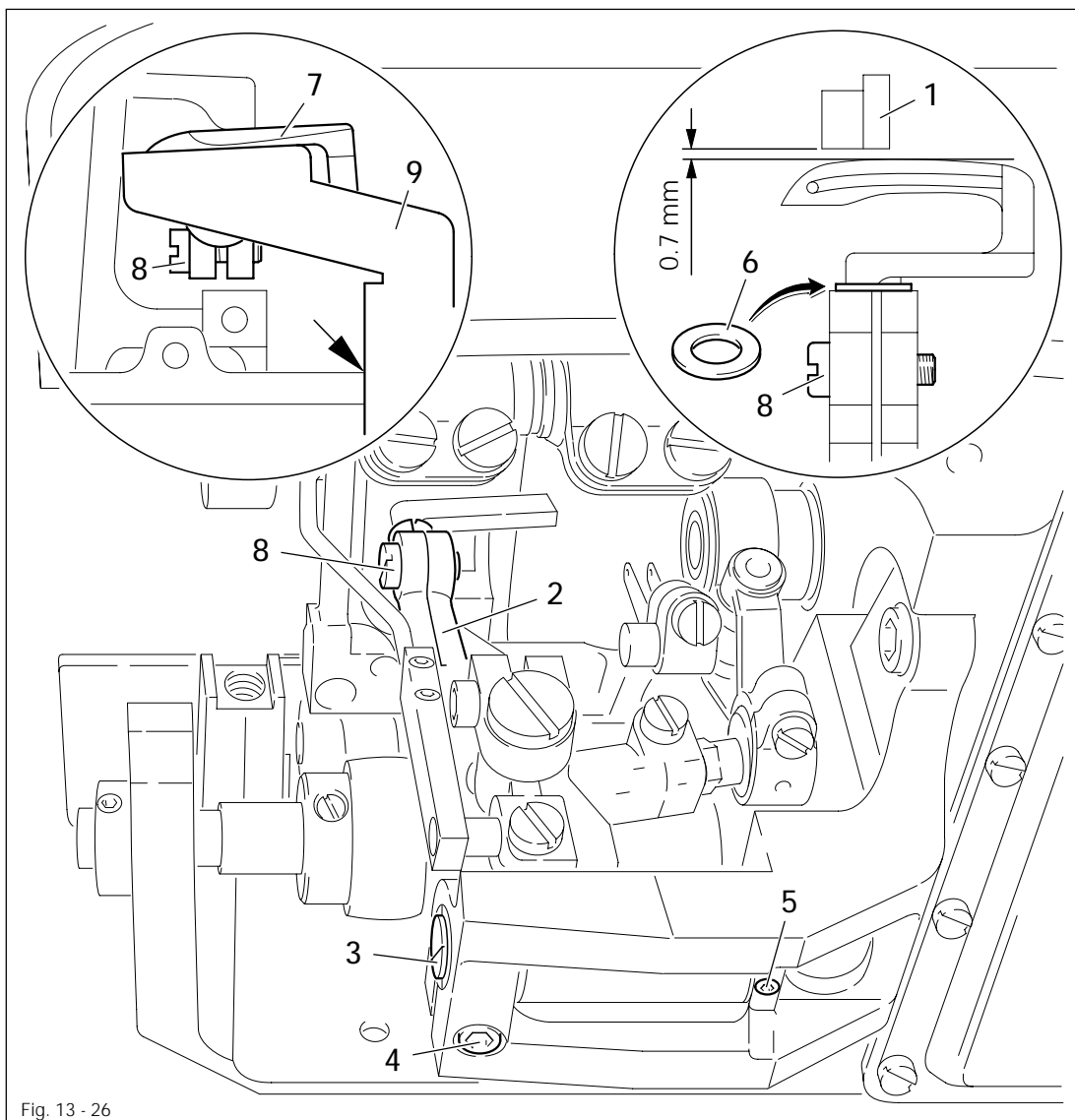
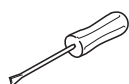


Fig. 13 - 26



- Adjust eccentric bearing pin 3 (screws 4 and 5) according to requirement 1.
- Check the setting.



If the required distance is not achieved, replace spacer 6. To do so, looper 7 (screw 8) must be removed.

- Place looper adjustment gauge 9 (part no. 61-111 643-06) on the left edge of the cover plate guide (see arrow) and push it against looper 7.
- Position looper 7 (screw 8) on the looper adjustment gauge 9 (requirement 2).

Spacer	Part No.
0.3 mm	91-170 693-05
0.5 mm	91-169 614-05
0.8 mm	91-169 615-05
1.2 mm	91-170 694-05

13.05.25 Looper-to-needle clearance in sewing direction

Requirement

In sewing direction there must be a clearance of approx. **0.1 mm** between looper point and needle.

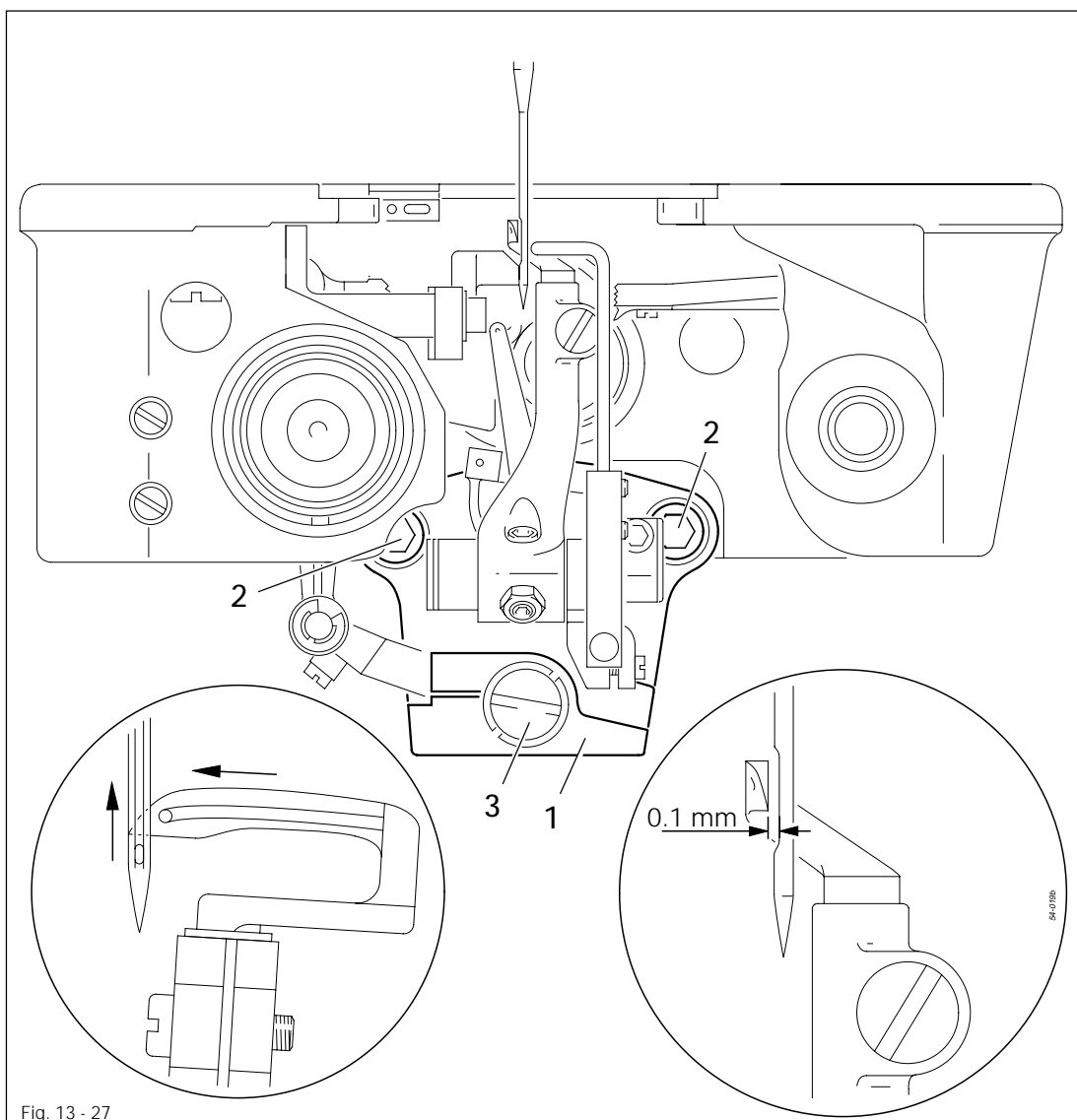
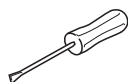


Fig. 13 - 27



- Turn the balance wheel until the looper point coming from the right reaches the left side of the needle.
- Align looper unit 1 (screw 2) according to the requirement.



If a clearance of **0.1 mm** cannot be obtained, the setting of the eccentric bearing stud 3 can be corrected. In this case the looper height and angle must be checked, see Chapter 13.05.24 Looper height and looper angle.

13.05.26 Looper-to-needle clearance crosswise to sewing direction

Requirement

When the looper 1 is at its right point of reversal, there must be a clearance between the looper point crosswise to the sewing direction and the needle center of 3.6 mm.

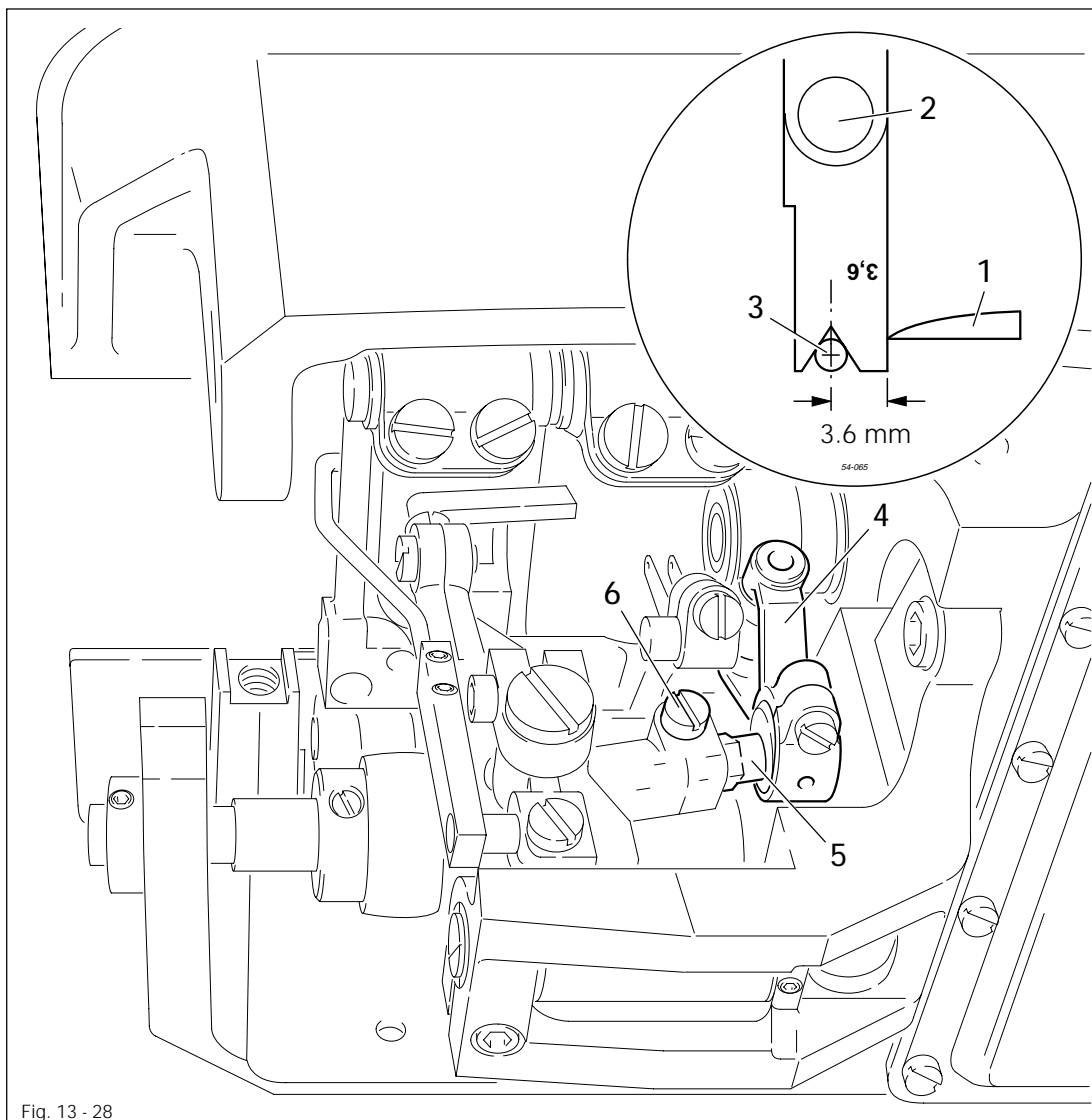
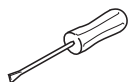


Fig. 13 - 28

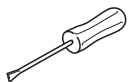
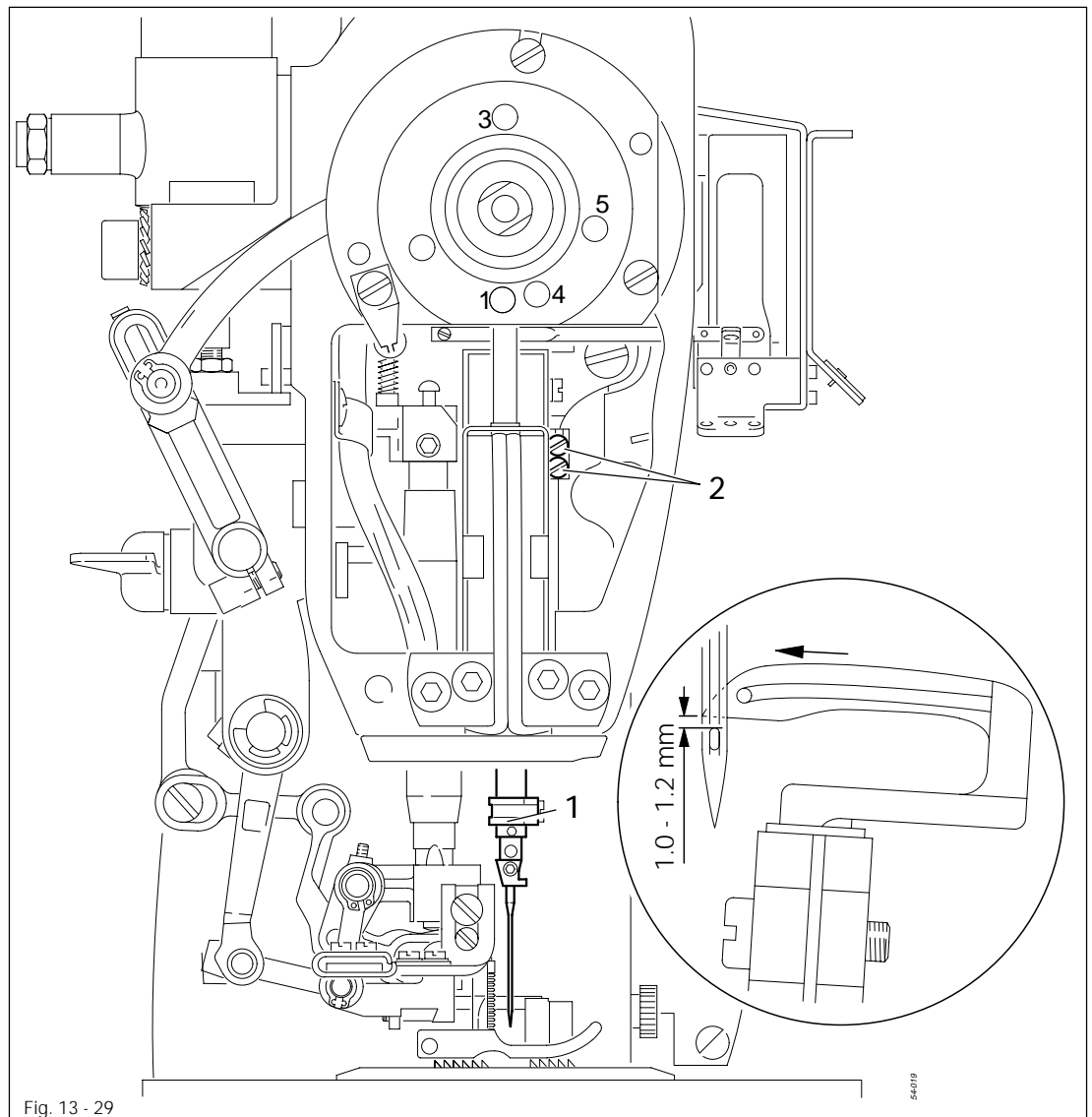


- By turning the balance wheel bring the looper 1 to its right point of reversal.
- Place the "3.6" blade of looper gauge 2 (Order No. 61-111 643-06) against the needle 3 with its notch facing the direction of feed.
- Make sure that the driving link 4 is vertical and turn the ball pin 5 (screw 6) with the aid of an open-ended spanner (size 6), until the looper point 1 contacts the blade.

13.05.27 Final adjustment of the needle height

Requirement

When the point of the looper advancing from the right reaches the left side of the needle, the top edge of the needle eye must be 1.0 - 1.2 mm below the bottom edge of the looper.



- Turn the balance wheel until the looper point, which is coming from the right, reaches the left side of the needle.
- Without turning the needle bar 1 (screw 2) adjust it according to the **requirement**.

Adjustment

13.05.28 Height of rear needle guard

Requirement

When the needle bar is at bottom dead center (pin in hole 3), the vertical surface of the needle guard 1 must cover about $\frac{2}{3}$ of the needle eye.

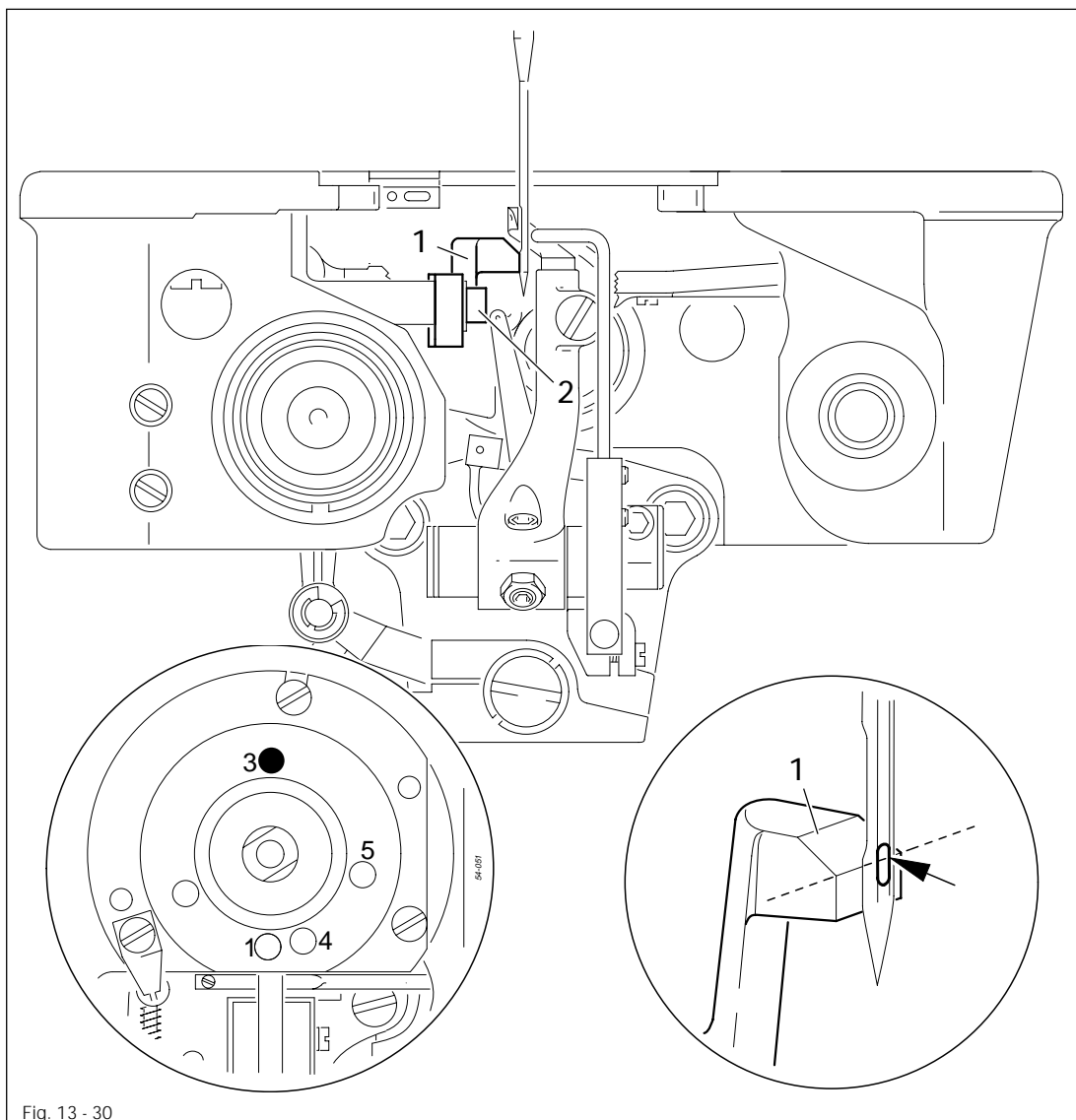
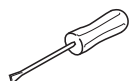


Fig. 13 - 30



- Bring the needle bar to BDC.
- Adjust needle guard 1 (screw 2) according to the requirement.

13.05.29 Clearance between rear needle guard and needle

Requirement

When the point of the looper, which is advancing from the right, reaches the right side of the needle, the needle guard 3 must still be in slight contact with the needle.

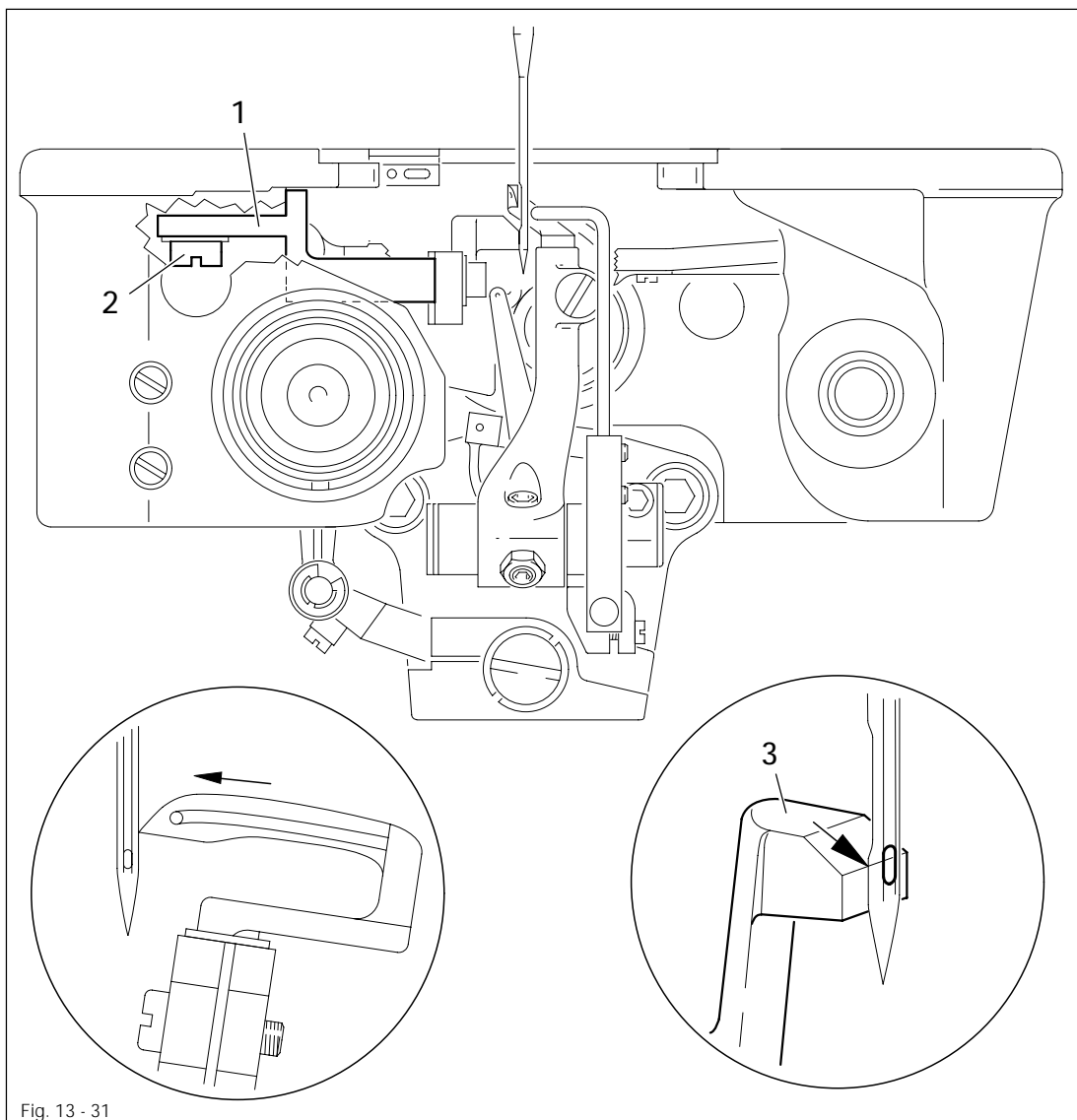
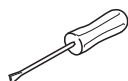


Fig. 13 - 31



- Turn the balance wheel until the looper point is located at the right side of the needle.
- Adjust bracket 1 (screw 2) according to the **requirement**.



Under no circumstances should the needle be deflected by the needle guard 3!

13.05.30 Position of the front needle guard (does not apply to all machines)

Requirement

When the point of the looper 1, which is advancing from the right, is positioned in the center of the needle, the needle guard clip 4 must

1. have a side clearance to the needle of 0.3 - 0.5 mm
2. be parallel to the looper blade
3. have its top edge at the same height as the point of looper 1.

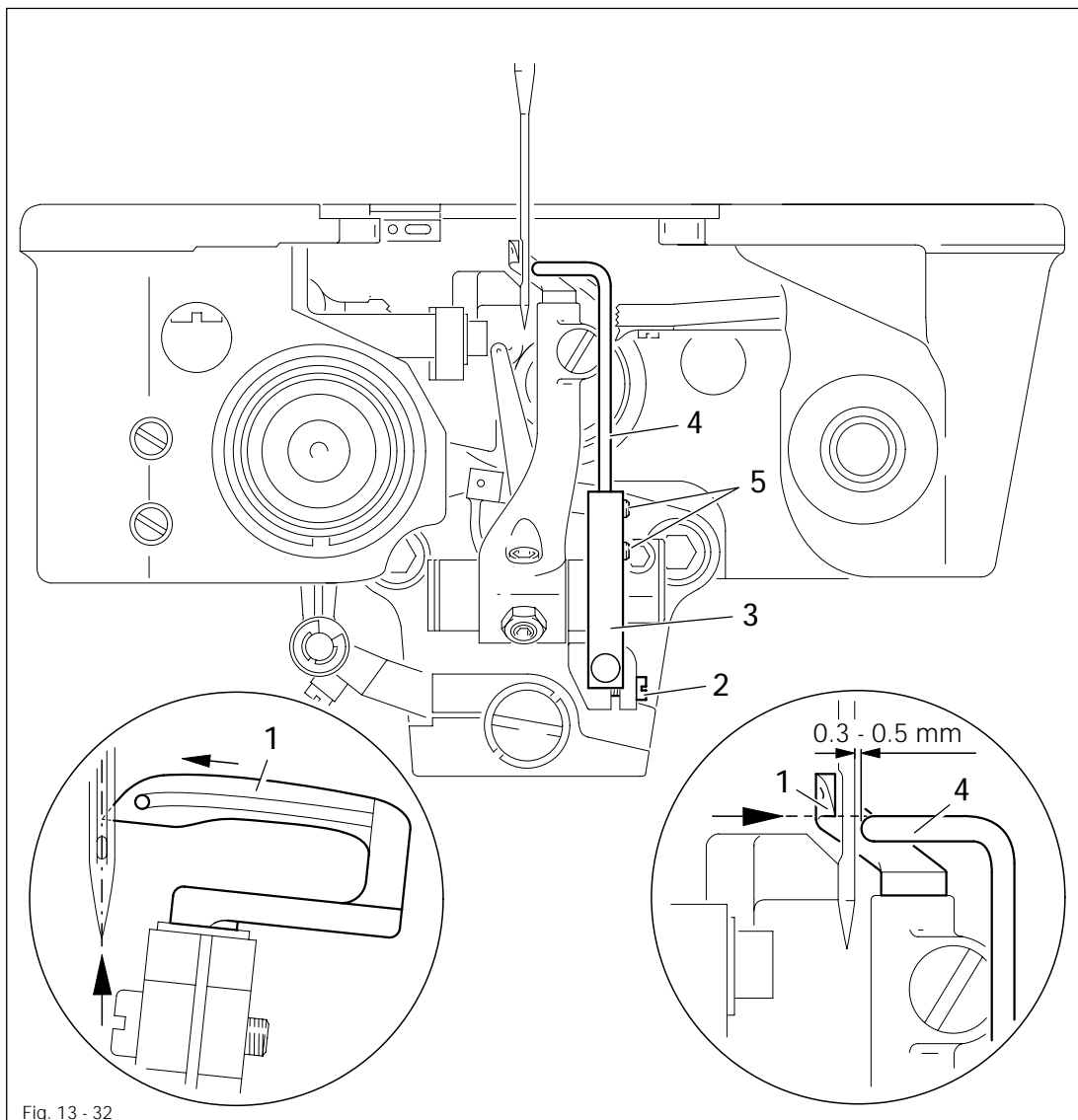
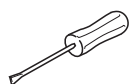


Fig. 13 - 32

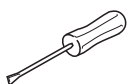
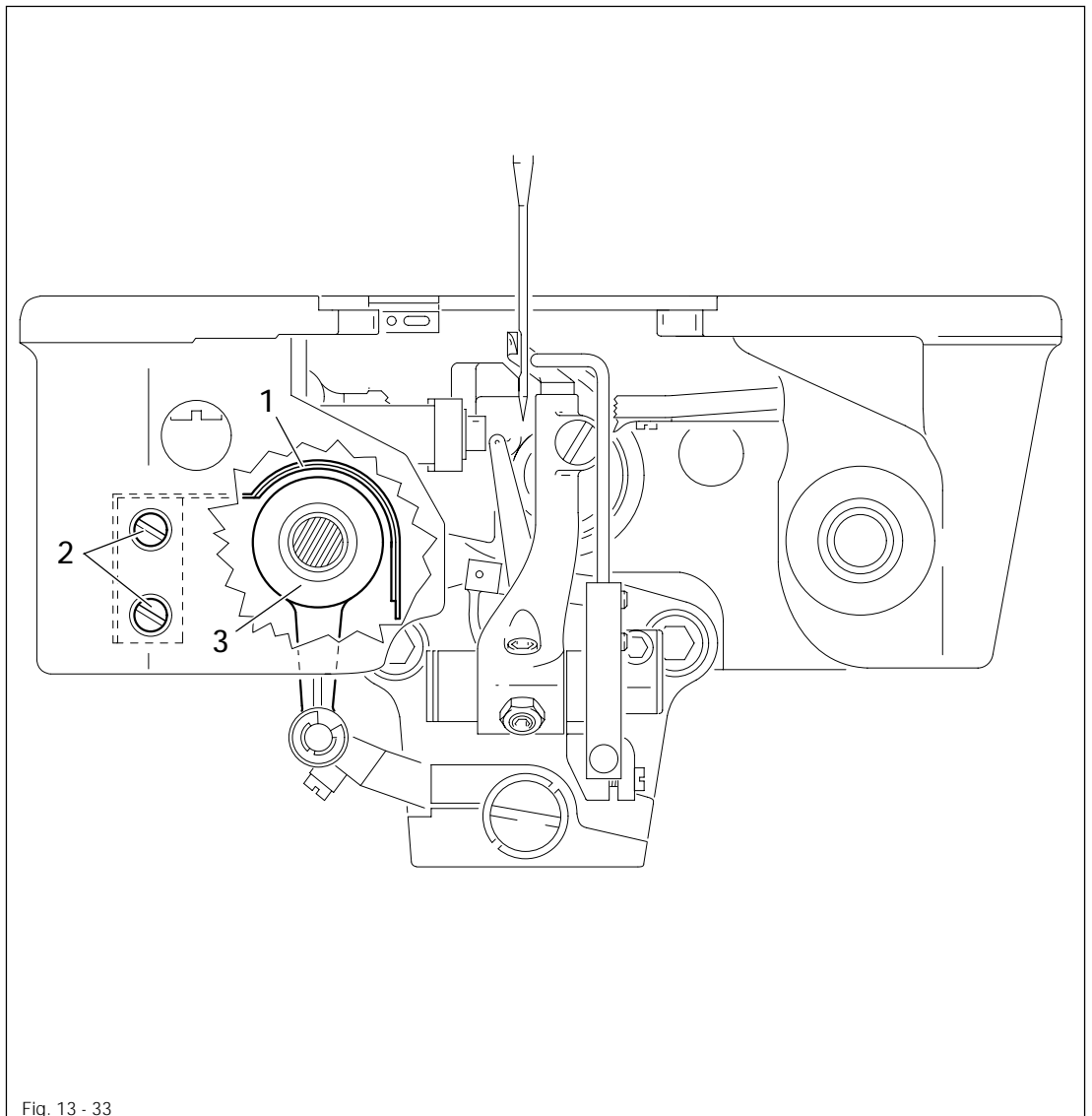


- By turning the balance wheel bring looper 1 to its left point of reversal.
- Loosen screws 2.
- Adjust needle guard bracket 3 so that in this position the needle guard clip 4 is not in contact with looper 1.
- Slightly tighten screws 2.
- Turn the balance wheel until the point of the looper 1, when coming from the right, is positioned in the center of the needle.
- Adjust needle guard bracket 3 according to requirement 1.
- Align needle guard clip 4 (screws 5) according to requirement 2 and 3.

13.05.31 Guard of looper-avoiding-motion eccentric

Requirement

During motion the eccentric 3 must not touch guard 1.

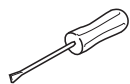
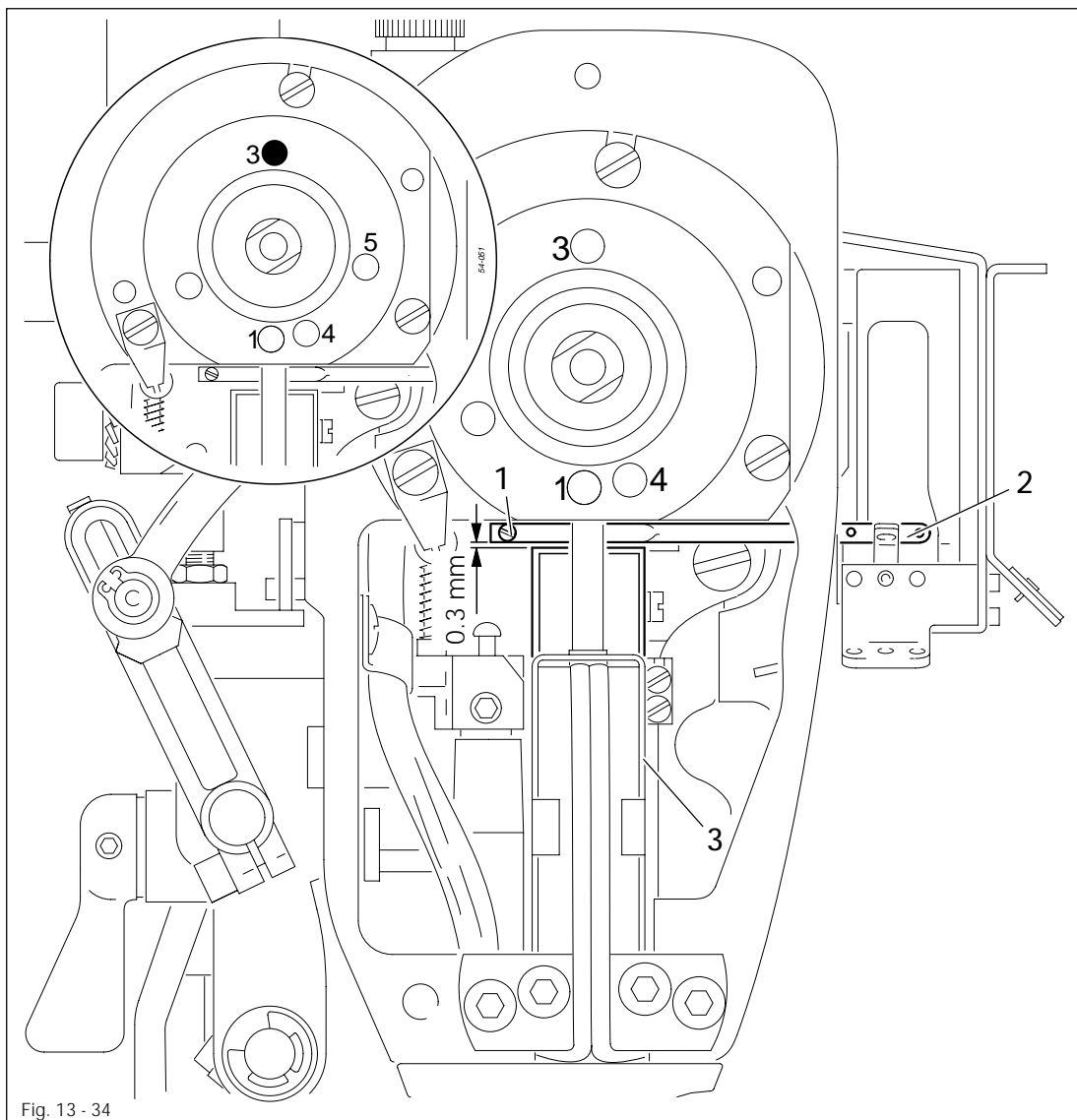


- Adjust guard 1 (screws 2, accessible through adjustment holes) according to the requirement.

13.05.32 Take- up lever

Requirement

1. When the needle bar is at BDC (pin in hole 3) there must be a clearance of about 0.3 mm between the take-up lever 2 and the needle bar frame 3.
2. The take-up lever 2 must be able to move freely in the center of the needle head slot, and must not have any contact either at TDC or BDC.



- By turning the handwheel make screw 1 accessible and loosen it slightly.
- Bring needle bar to BDC.
- Adjust take-up lever 2 according to requirement 1.
- Tighten screw 1 in compliance with requirement 2.

13.05.33 Basic setting of the needle thread regulator and the thread guide

Requirement

1. With the needle bar at BDC (pin in hole 3) the eye of the needle thread regulator 1 and the adjustment hole of the take-up lever 4 must be in line.
2. The thread guide 2 must be vertical and attached with a screw in the center of the elongated hole.

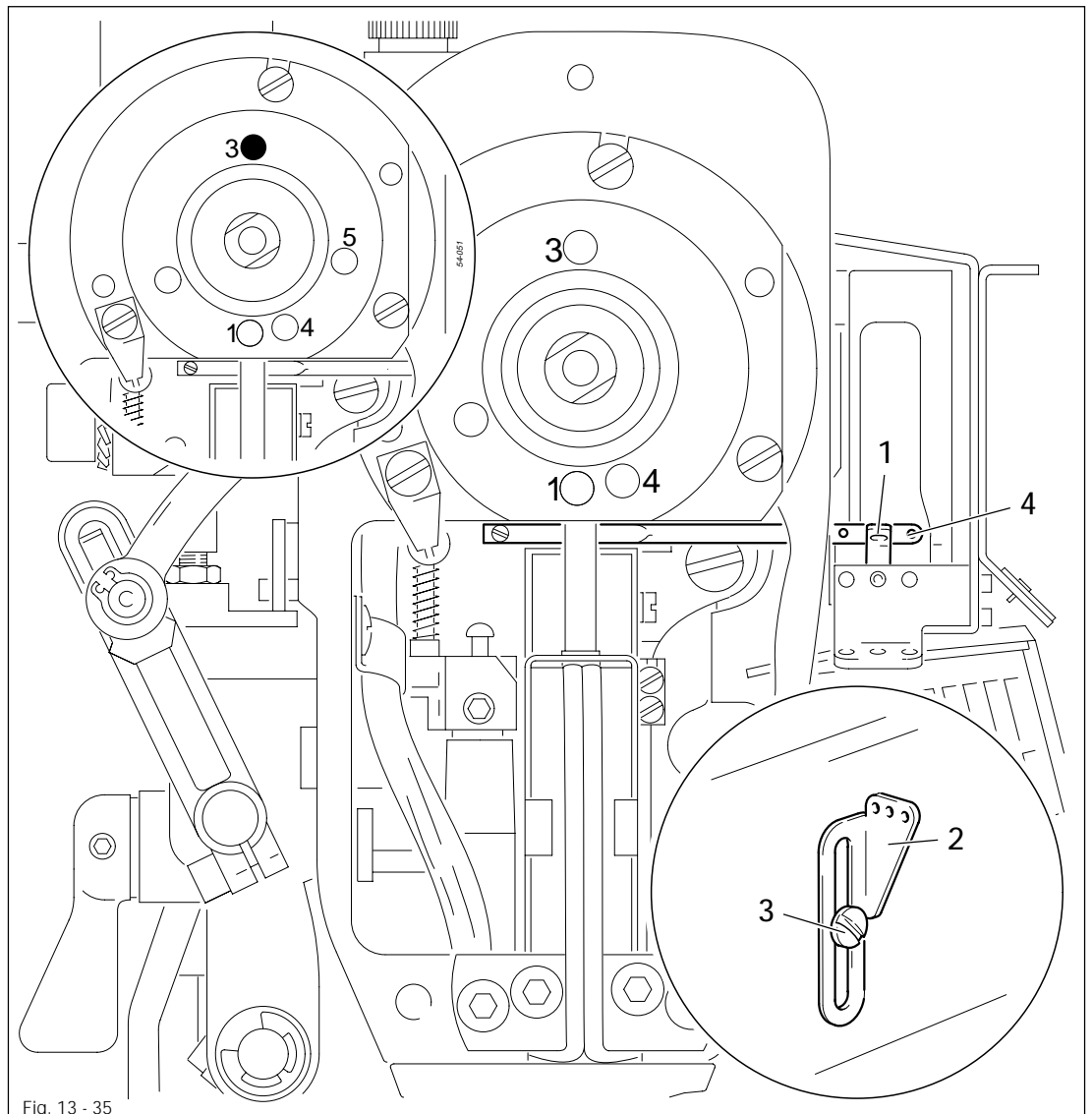
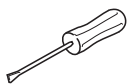


Fig. 13 - 35



- Bring the needle bar to bottom dead center.
- After loosening the screw, adjust the needle thread regulator 1 according to requirement 1.
- Tighten the screw of the needle thread regulator.
- Align thread guide 2 (screw 3) according to requirement 2.

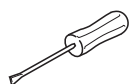
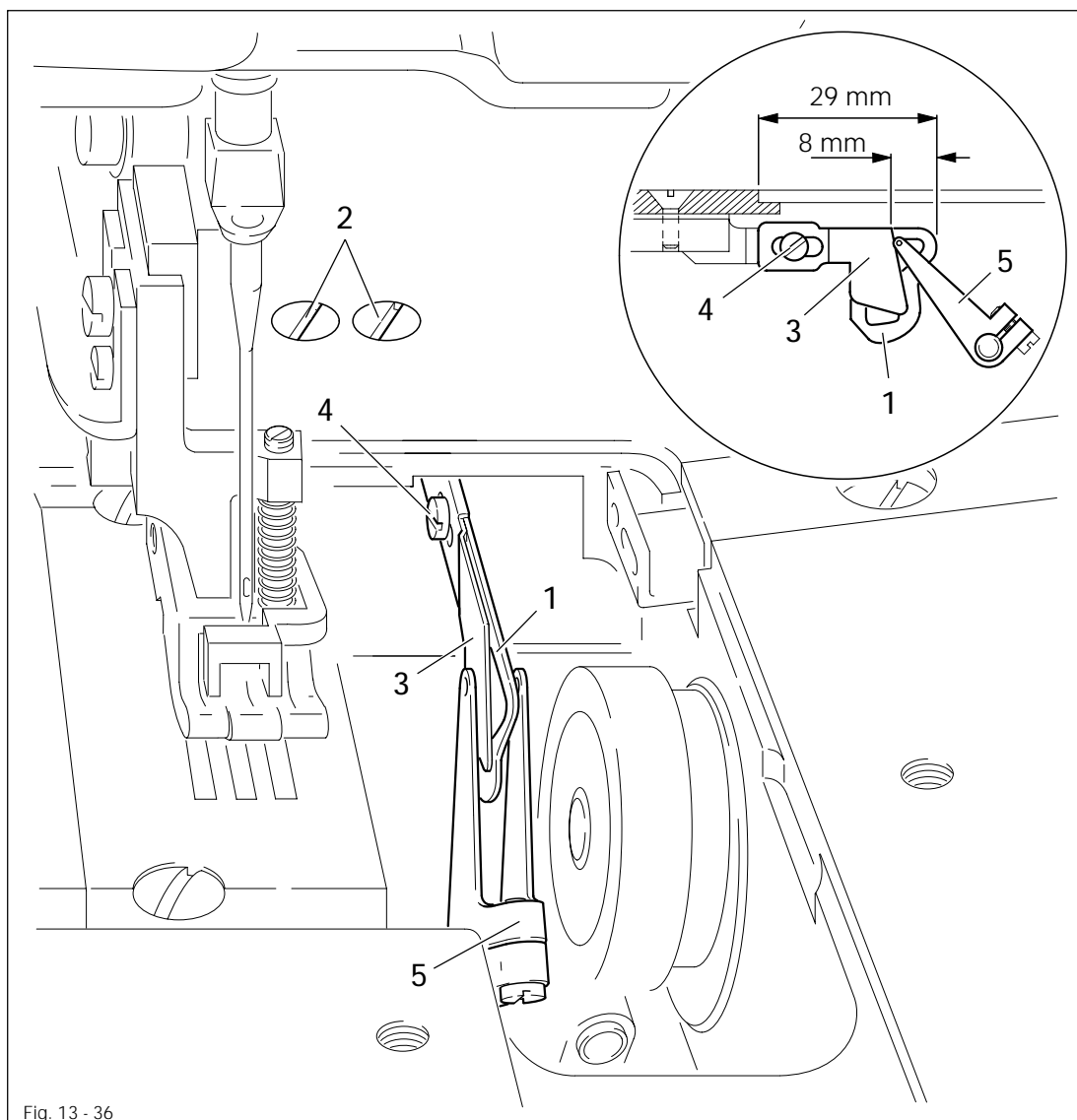


Depending on the type of material and thread used, the basic setting may have to be modified.

13.05.34 Looper thread regulator and looper thread take-up

Requirement

1. The distance between the front edge of looper thread regulator 1 and the rear needle plate edge guide must be **29 mm**.
2. The front edges of the thread take-up device 3 and the thread regulator 1 must be about **8 mm** apart.



- Adjust thread regulator 1 (screws 2) according to **requirement 1**.
- Adjust thread take-up device 3 (screw 4) according to **requirement 2**.

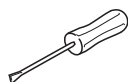
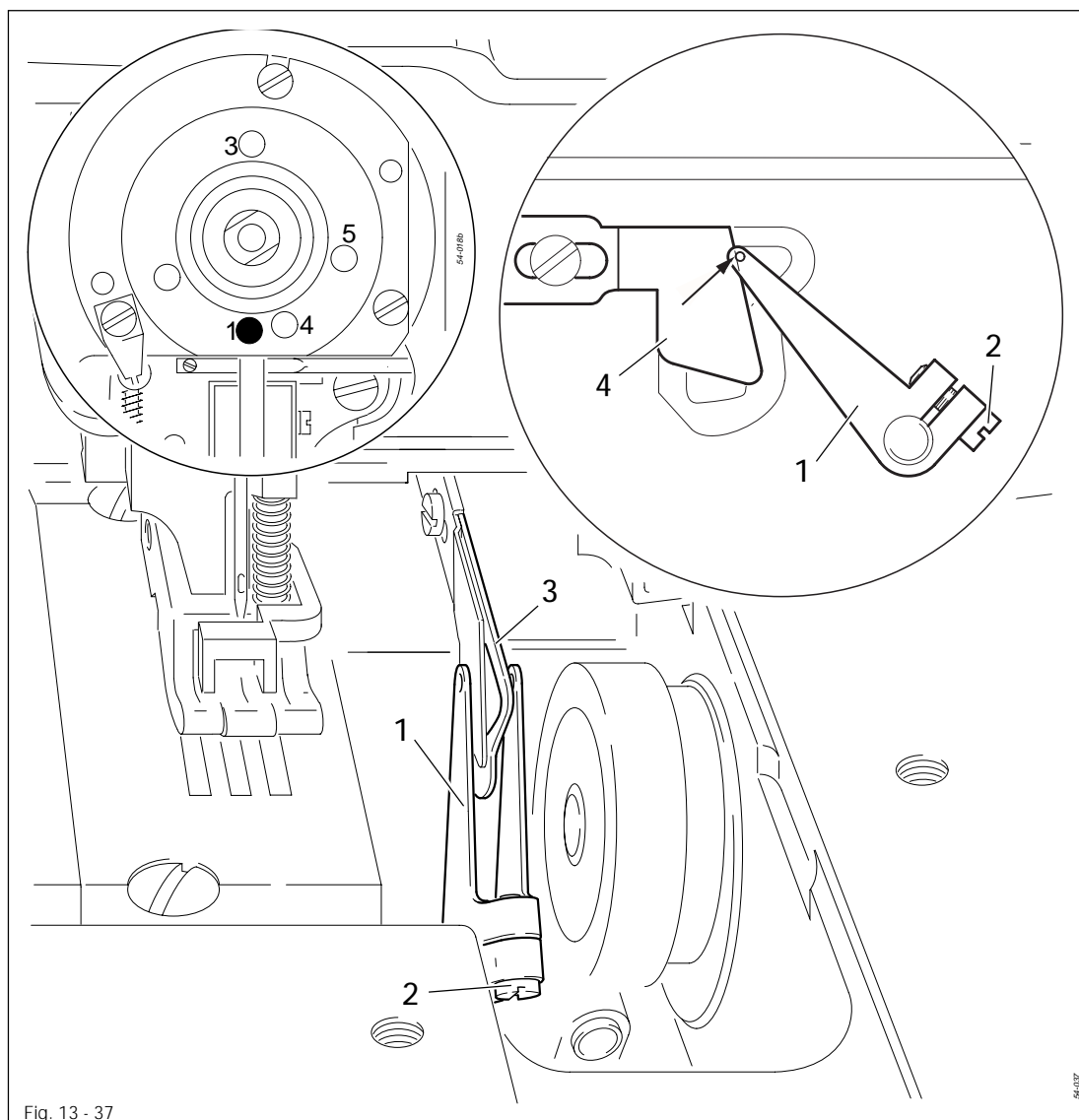


Depending on the type of material and thread used, the basic setting may have to be modified.

13.05.35 Looper thread puller

Requirement

With the needle bar in top dead center (pin in hole 1) both eyes of looper thread puller 1 must be at the front edge of the thread take-up device 4.



- Bring needle bar to top dead center.
- Turn thread puller 1 (screw 2) according to the **requirement**, making sure that the prongs of thread puller 1 are in the middle of the thread regulator 3.



Depending on the type of material and thread used, the basic setting may have to be modified.

Adjustment

13.05.36 Top feed dog and sewing foot pressure

Requirement

The pressure of the top feed dog and the sewing foot should be set, so that the best possible feeding of the workpiece is achieved at every speed.

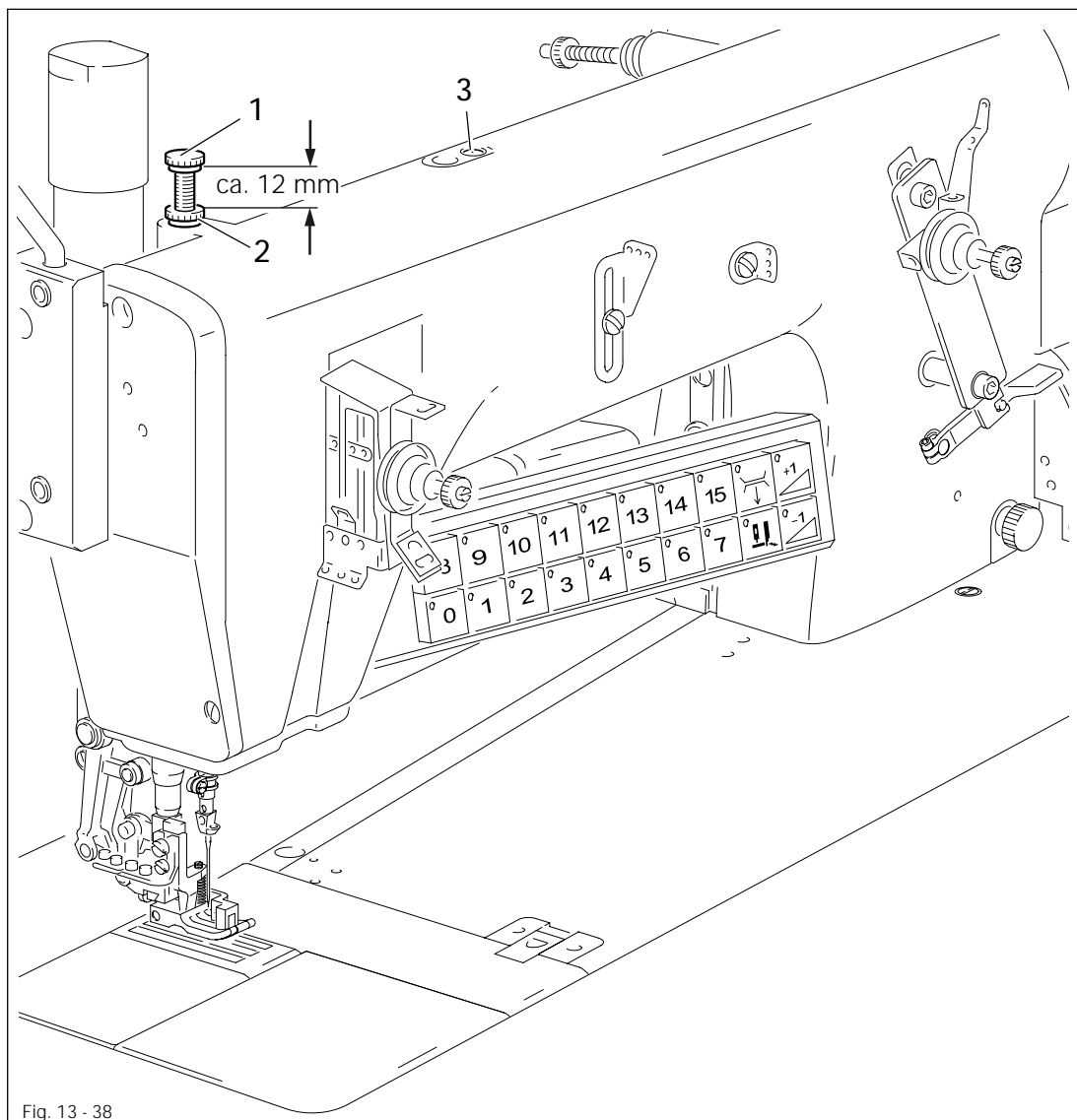
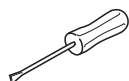


Fig. 13 - 38



- Adjust sewing foot pressure with screw 1 (nut 2) according to the requirement.
- With screw 3 adjust the pressure of the top feed dog according to the requirement.

13.06 Adjusting the thread-trimming device -900/71

13.06.01 Pre-adjust the thread catcher

Requirement

1. Between the point of the thread catcher 4 and the front edge of the mounting plate 1 there must be a clearance of 32.5 - 33 mm.
2. The guide plates 5 must be parallel to the mounting plate 1.
3. The thread catcher 4 should move freely and with little play.

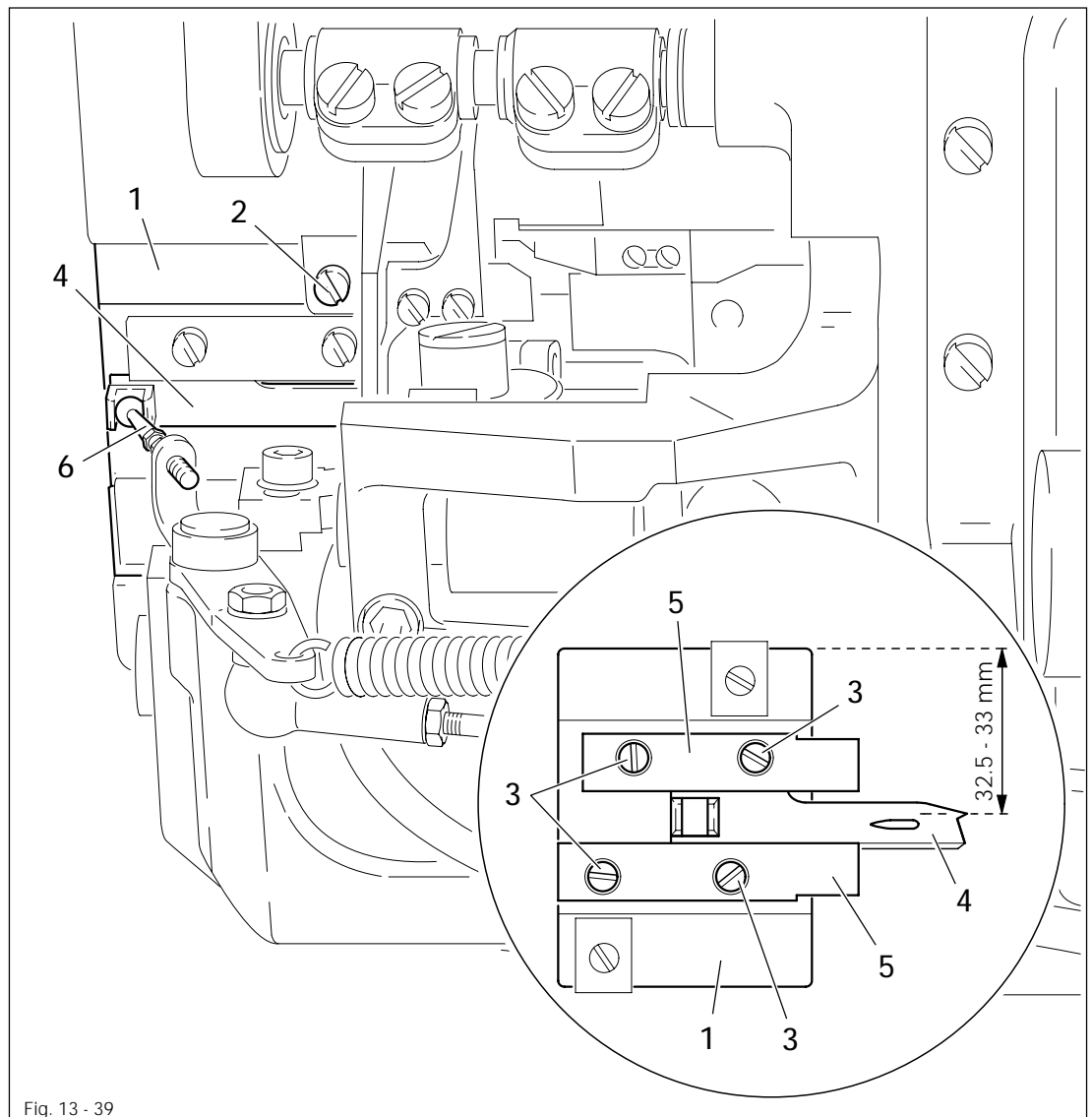
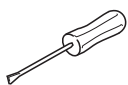


Fig. 13 - 39



- Remove mounting plate 1 (screws 2).
- Loosen screws 3.
- Adjust thread catcher 4 according to requirement 1.
- Align guide plates 5 according to requirements 2 and 3 and tighten screws 3.
- Making sure that the ball stud 6 engages in the actuator of thread catcher 4, unscrew the mounting plate 1.

13.06.02 Positioning the ball stud

Requirement

In a vertical position the ball stud 1 must

1. be located in the middle of actuator 5 and
2. have a clearance of 0.5 mm to the bottom of actuator 5.

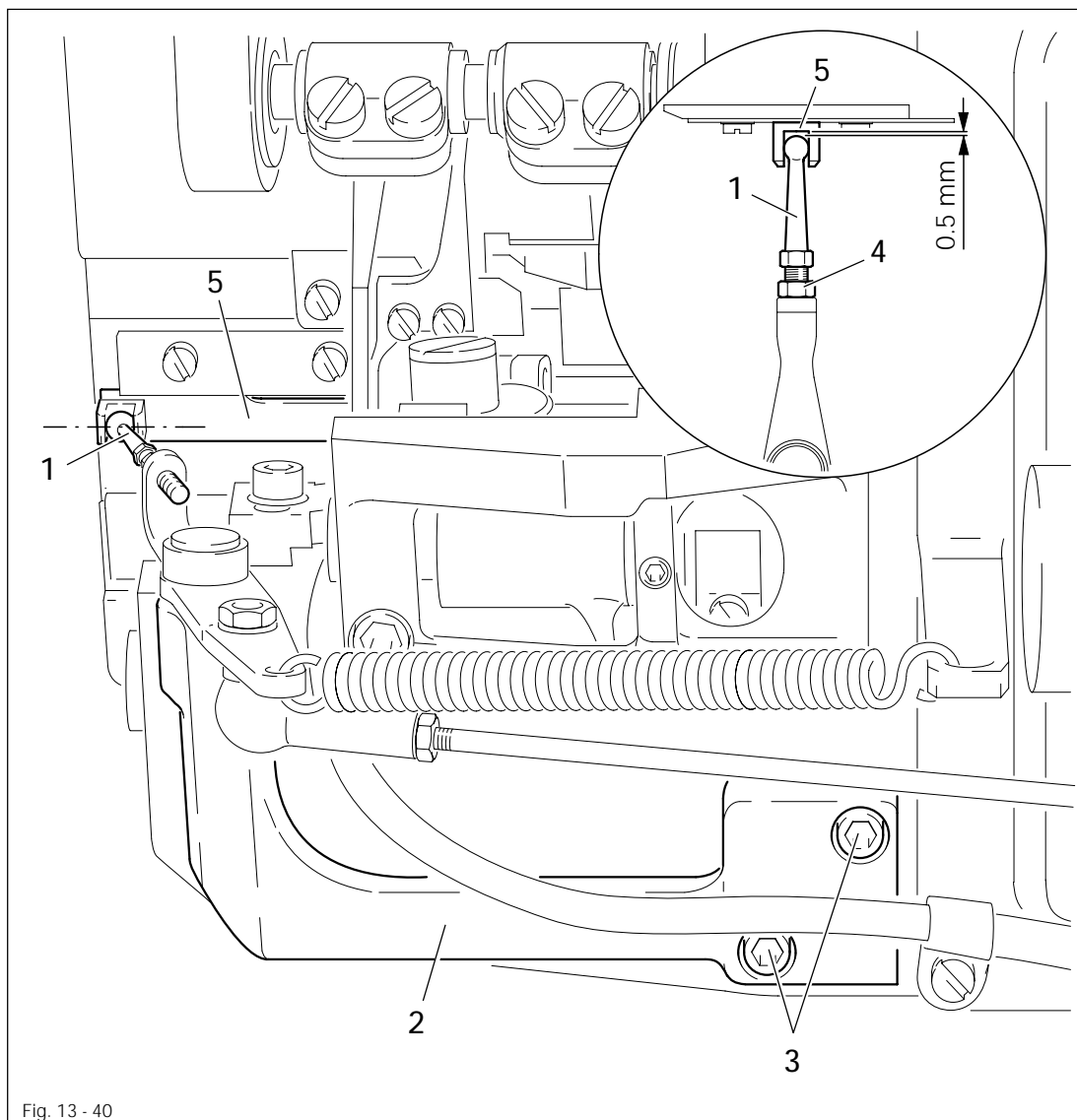
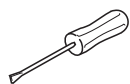


Fig. 13 - 40



- Set ball stud 1 in a vertical position.
- Adjust bracket 2 (screws 3) according to requirement 1.
- Turn ball stud 1 (nut 4) according to requirement 2.

13.06.03 Position of thread catcher to needle

Requirement

When the thread-trimming device is in a neutral position, there must be a clearance of **7 mm** between the point of the thread catcher **4** and the needle center.

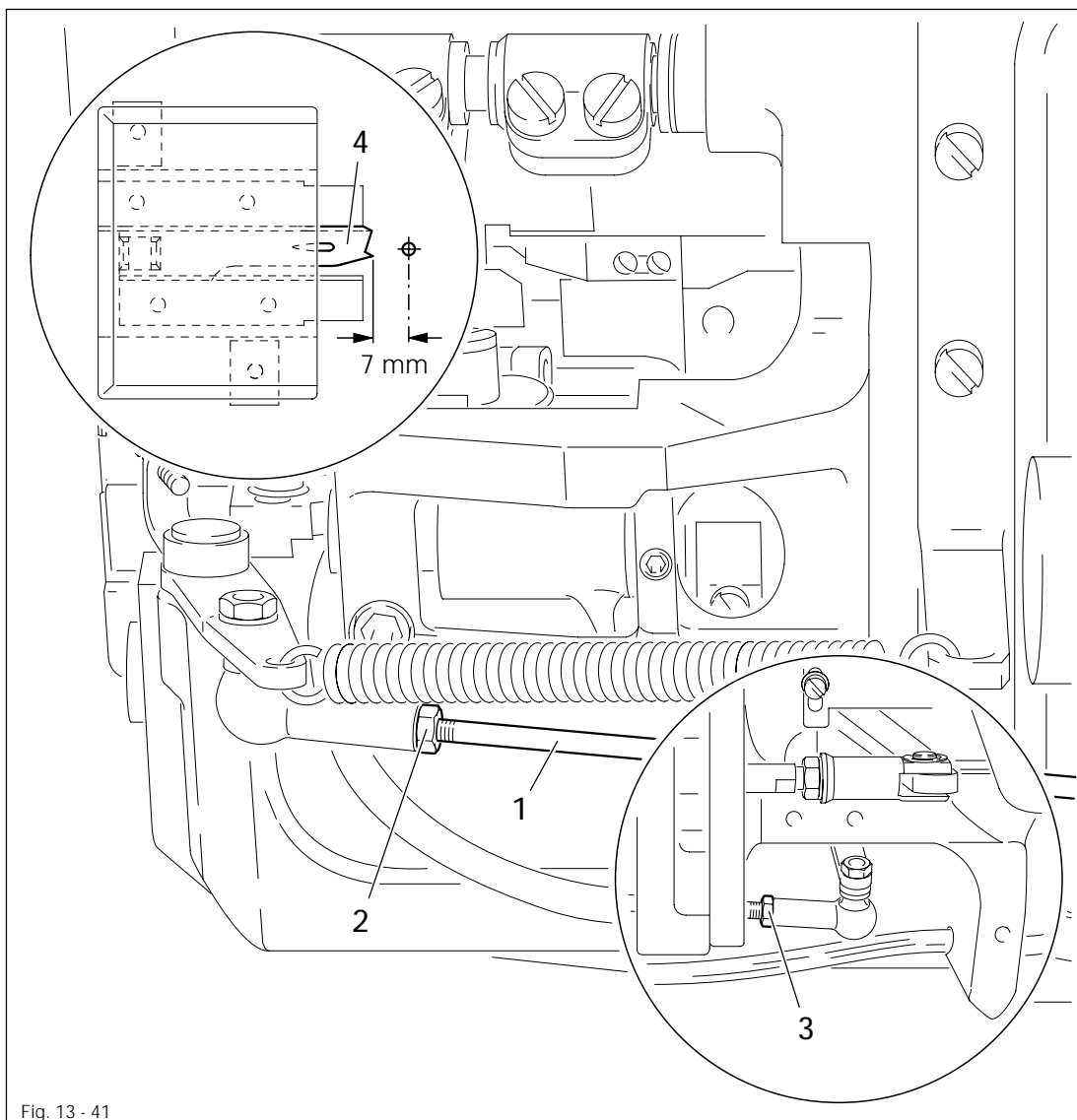
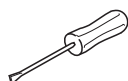


Fig. 13 - 41



- Bring the thread-trimming device into its neutral position.
- Turn linkage rod 1 (nut 2, nut 3 with left-handed thread) according to the **requirement**.

13.06.04 Thread catcher interlock

Requirement

1. When the needle bar is at TDC, the roller 3 must be located in the center of the cutout of the interlocking cam 2.
2. When the thread-trimming device is in a neutral position and the needle bar is at BDC, there must be a clearance of 0.5 - 1 mm between the interlocking cam 2 and the roller 3.

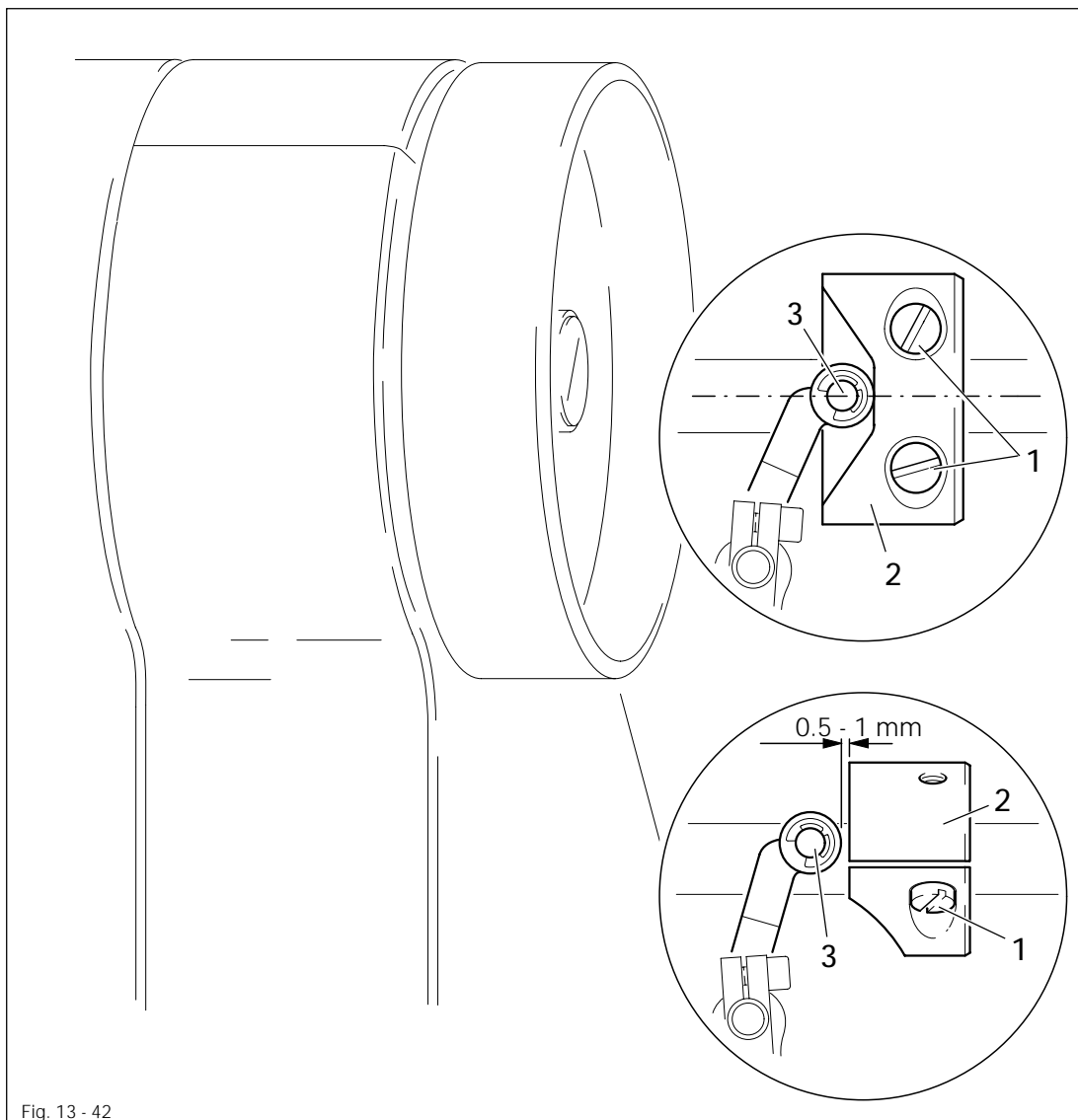
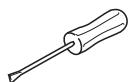


Fig. 13 - 42

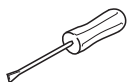
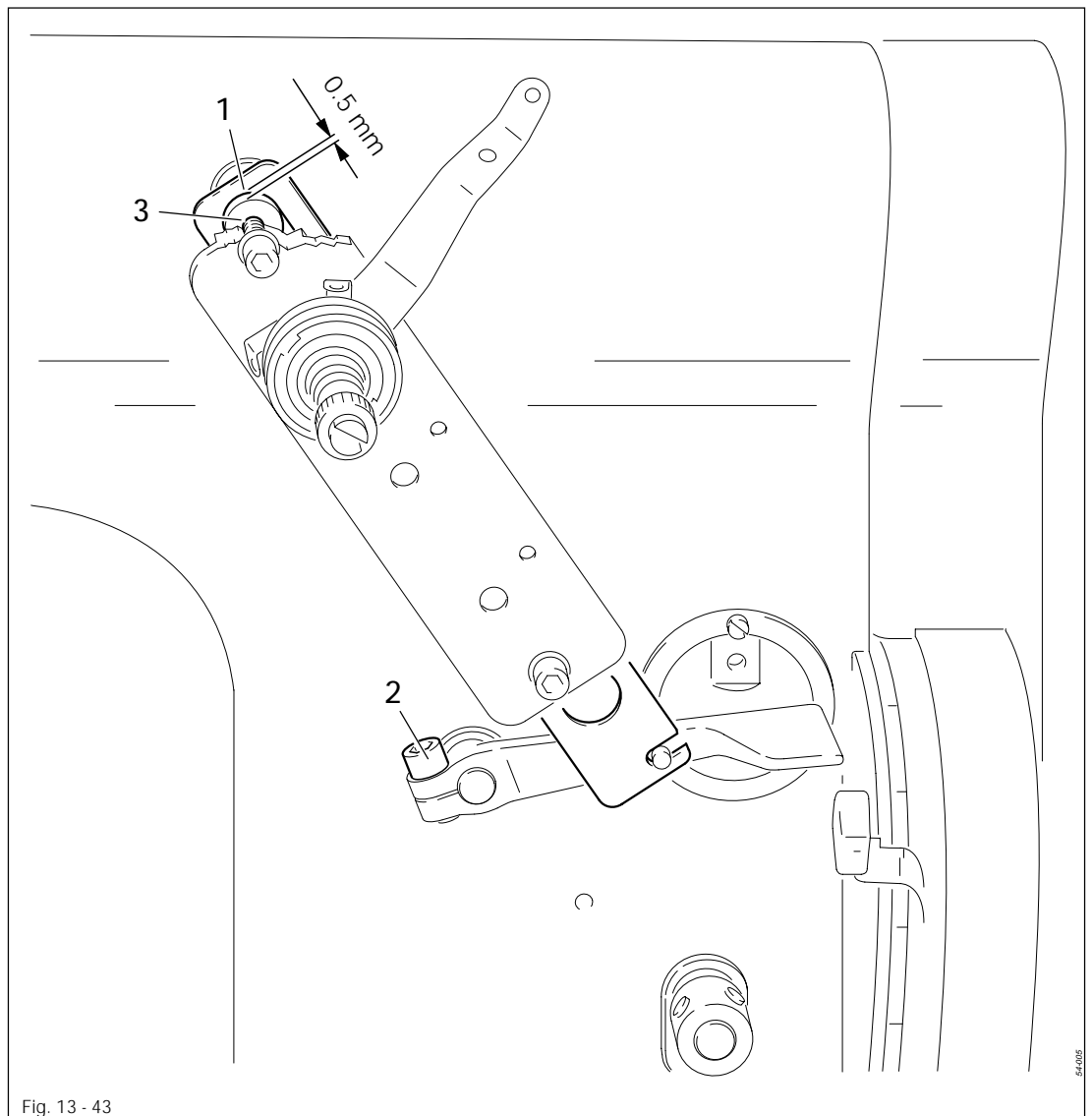


- Loosen screws 1 so that the interlocking cam can be turned on its shaft with resistance.
- Bring the needle bar to TDC.
- In this position turn the interlocking cam 2 according to requirement 1.
- Bring the thread-trimming device to its neutral position and the needle bar to BDC.
- Adjust interlocking cam 2 according to requirement 2 and tighten screws 1.

13.06.05 Tension release

Requirement

When the cylinder is fully actuated, there must be a clearance of about 0.5 mm between the top end of the elongated hole in plate 1 and the guide pin 3.

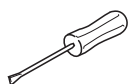
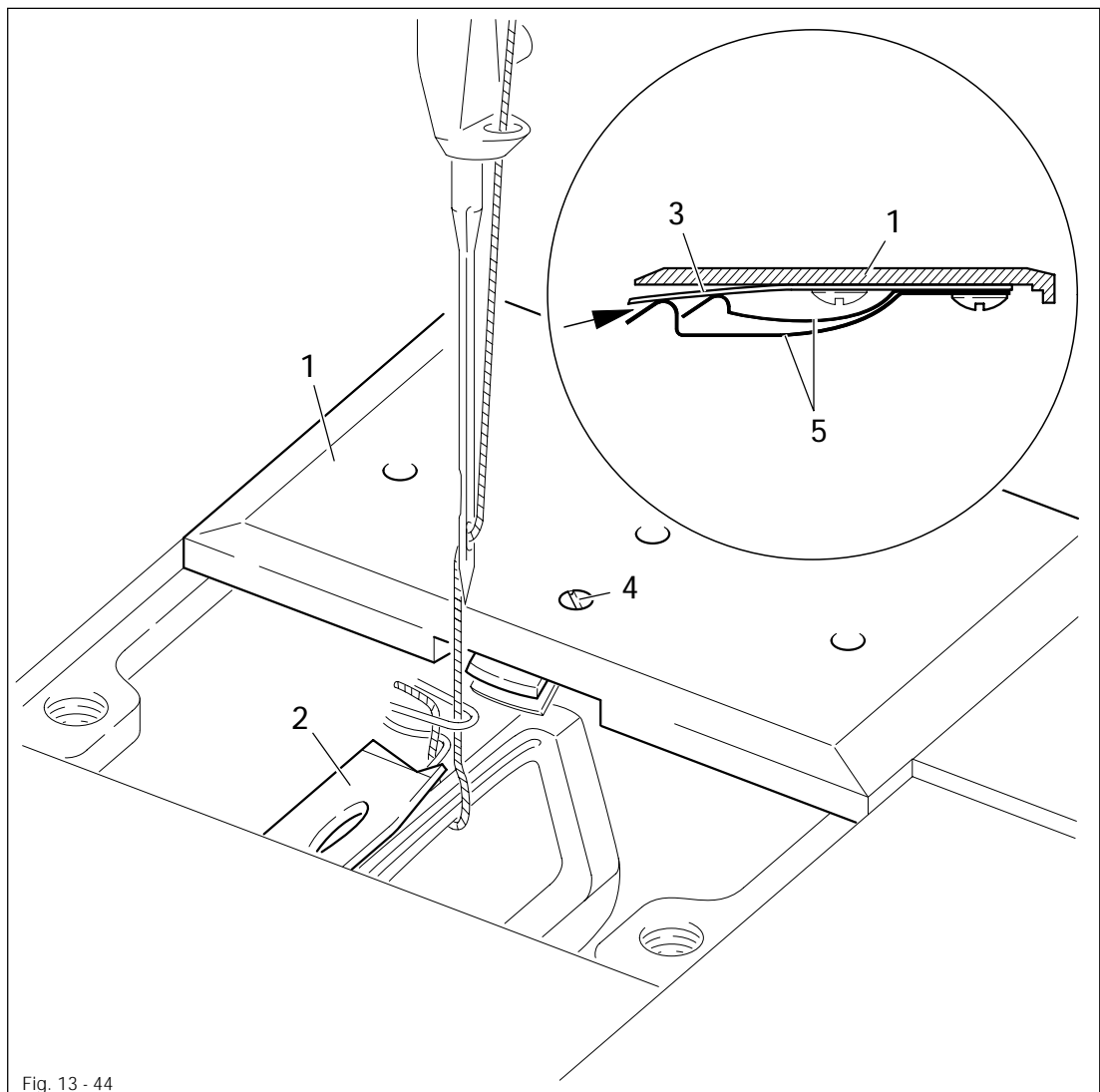


- Fully actuate the cylinder of the thread-trimming device.
- Adjust plate 1 (screw 2) according to the requirement.

13.06.06 Cutting test

Requirement

1. The point of the thread catcher 2 must pick up the looper thread and the rear part of the needle thread loop reliably.
2. When the cover plate 1 is removed, the threads must remain undamaged.
3. When the cover plate 1 is in position, the thread catcher 2 must move between the knife 3 and the clamp springs 5, during which the threads are properly cut and bound.



- Place material under the presser foot and sew a few stitches.
- Remove cover plate 1.
- Position the needle as in **Chapter 11.06.04 Thread catcher interlock**.
- Operate the cutting cylinder manually, checking **requirements 1 and 2**.
- If necessary, readjust thread catcher 2 accordingly.
- Screw on cover plate 1.
- Operate cutting cylinder again, checking **requirement 3**.
- If necessary, carefully turn screw 4 according to **requirement 3**.

13.07 Adjusting the tape dispenser

Requirement

When the switch bar **3** is raised by approx. 3 cm, the motor should start running.

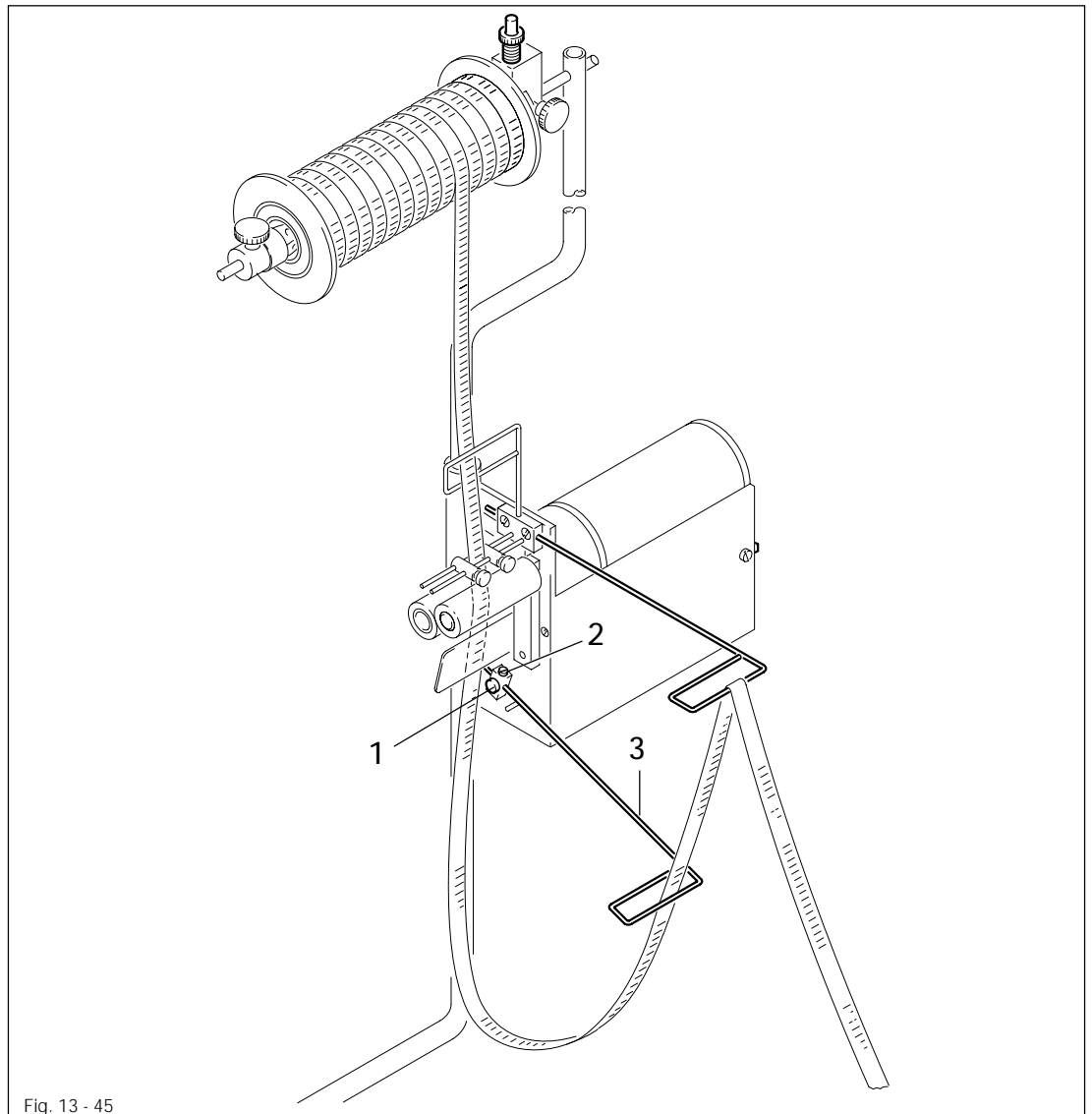
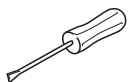


Fig. 13 - 45



- Adjust shaft 1 (screw 2) according to the requirement.

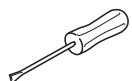
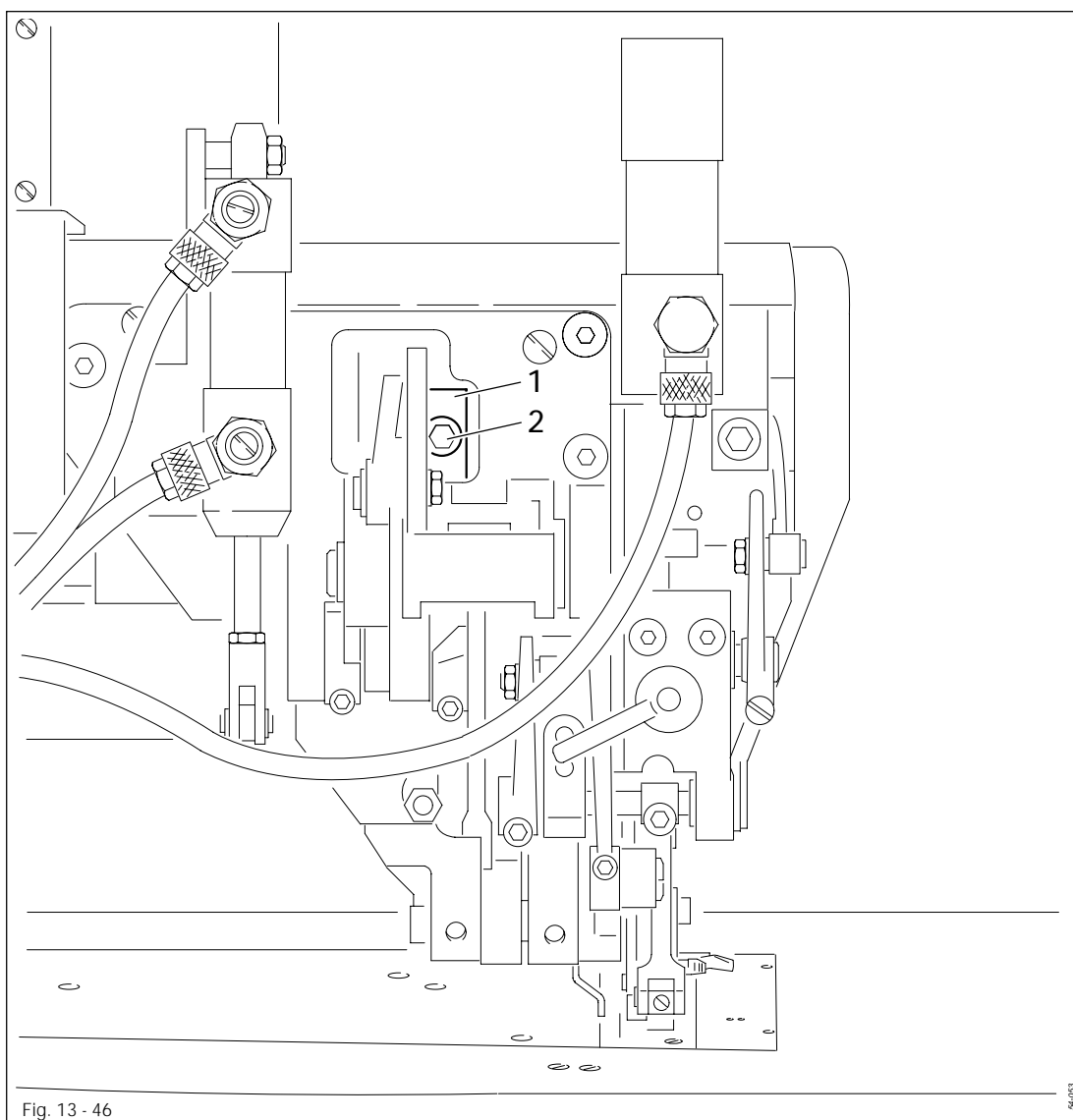
Adjustment

13.08 Adjusting the edge trimming mechanism -731/11

13.08.01 Knife stroke

Requirement

When the needle bar is at t.d.c., the knife should be at the top of its stroke.

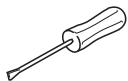
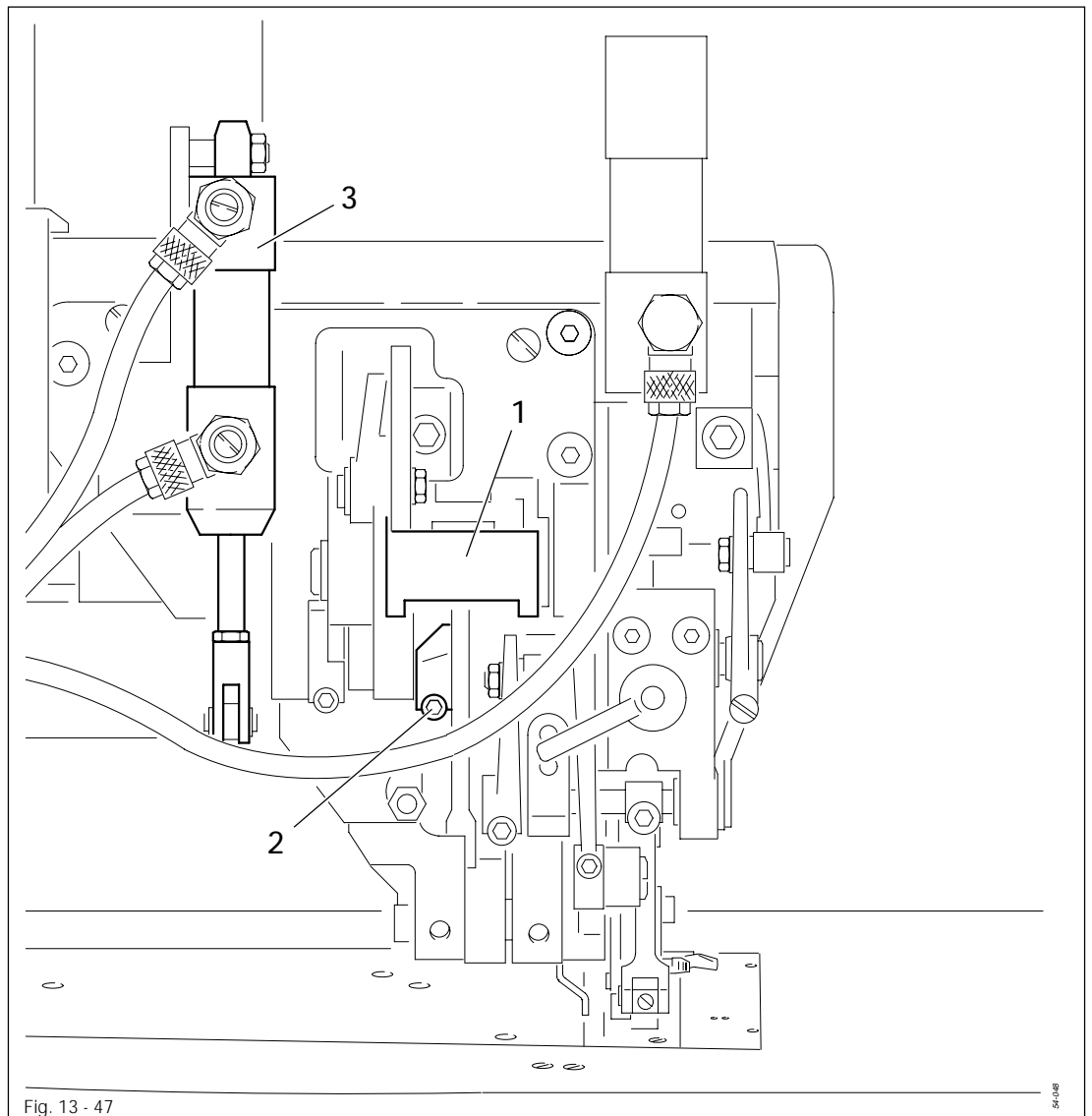


- Adjust eccentric 1 (screw 2) according to the requirement.

13.08.02 Neutral position

Requirement

When cylinder 3 is fully extended, the knife should not move when the balance wheel is turned.



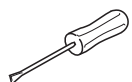
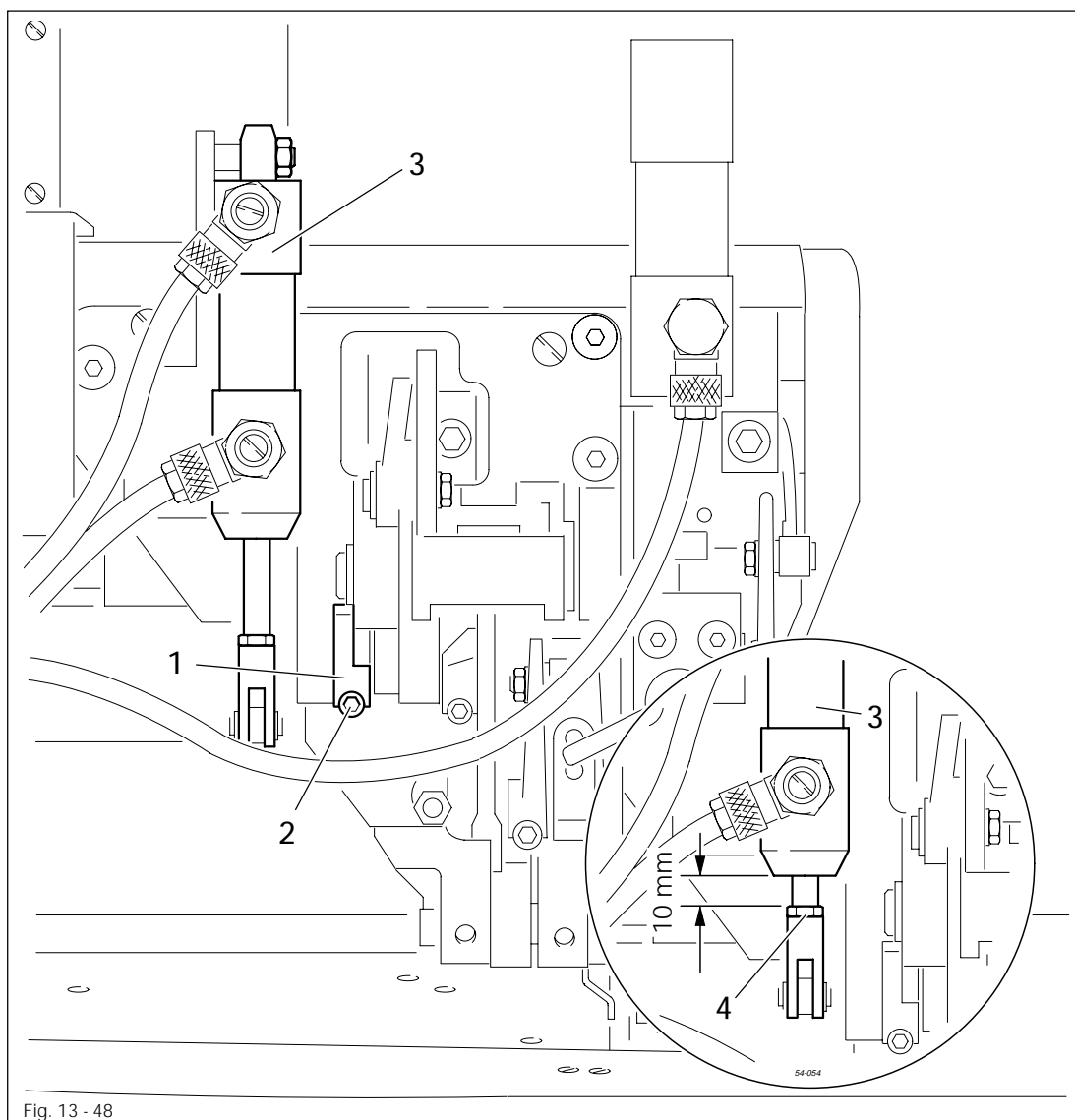
- Turn crank 1 (screws 2) according to the requirement.

Adjustment

13.08.03 Starting position of the cylinder

Requirement

When cylinder 3 is engaged, nut 4 should be 10 mm from the bottom edge of cylinder 3.

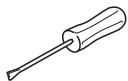
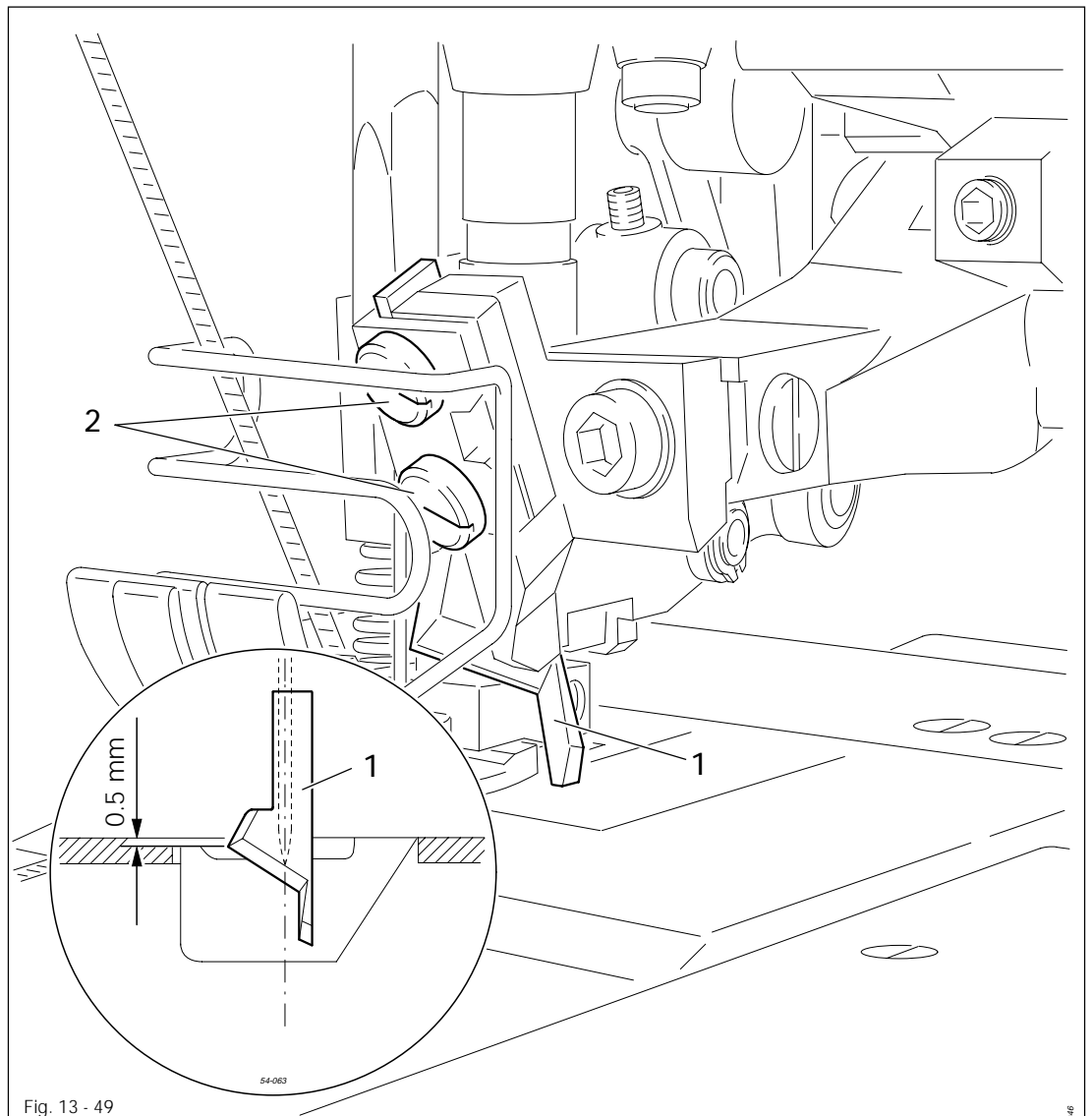


- Adjust stop 1 (screw 2) according to the requirement.

13.08.04 Knife height

Requirement

When the knife 1 is at b.d.c., the front edge of knife 1 should be approx. 0.5 mm below the top edge of the needle plate.



- Adjust knife 1 (screw 2) according to the requirement.

Adjustment

13.08.05 Knife position crosswise to sewing direction

Requirement

1. The knife 3 must rest with light pressure against the stationary knife.
2. The knife 3 should, however, not strike the needle plate.

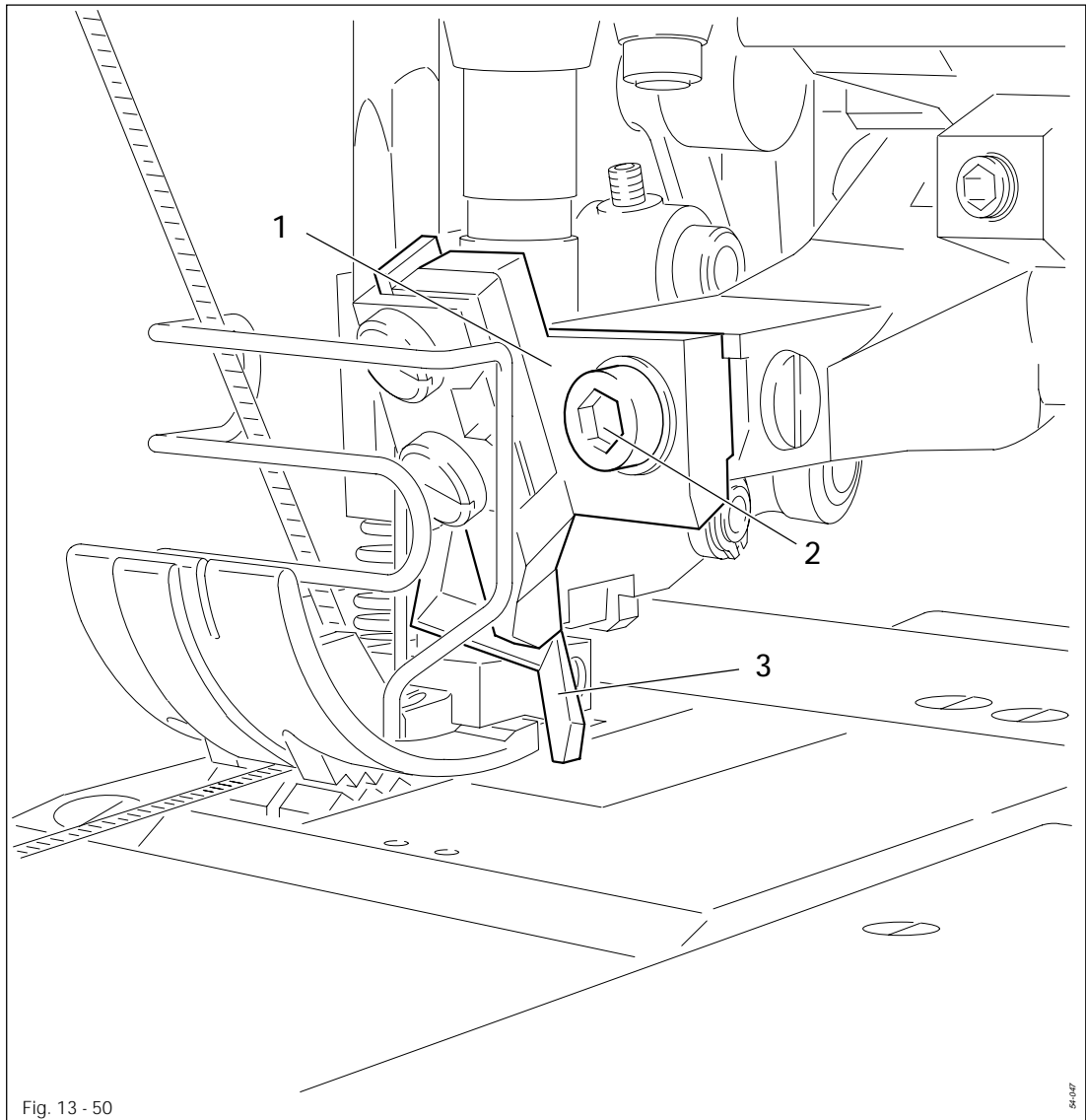
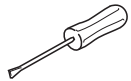


Fig. 13 - 50



- Bring the knife into its lowest position and adjust knife mounting 1 (screw 2) according to the requirements.

13.09 Parameter settings

Group	Parameter	Description	Adjustment range	Standard value
5	585	Speed limiter N1	300 – 6400	3800
	586	Speed limiter N2	300 - 6400	3200
	587	Speed limiter N3	300 – 6400	1200
	591	Speed limiter I = yes II = no		I
6	601	Cut I = yes II = no		I
	607	Max. speed	100 – 10000	4200
	609	Cutting speed 1	30 – 500	180
7	700	Needle position 0 Needle reference position	0 – 239	0
	701	Angle setting I = Synchronizer setting with balance wheel (teach-in) II = Synchronizer setting		I
	702	Needle position 1 (needle lowered)	0 – 239	
	703	Needle position 2 (take-up lever raised)	0 – 239	
	705	Needle position 5 (end cutting signal 1)	0 – 239	
	799	Machine class Chainstitch	5	



For more information see the motor instruction manual.

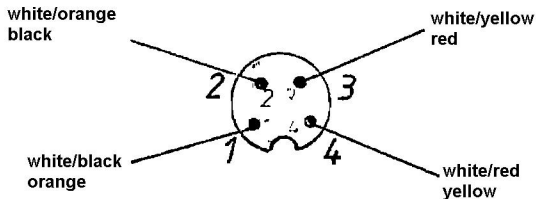
13.10 Table of inputs and outputs

Inputs				
Input	Signal	M-DX-6	Connection	Terminal
E1	Counting signal	1	Quick-motor A16	X1/21
E2	Switch to next area	2	Knee switch S102	
GND	Switch to next area	3	Knee switch S102	
E3	Thread wiper	4	Quick-Motor A3	X1/7
E4	GST-step motor	5	Initiator B200	
GND		6	Initiator B200	
E5	Motor running	7	Quick-Motor A8	X1/4
E6	Tape control	8	Tape control A4	18
GND		9	Tape control GND	3
GND			Without tape control Bridge from terminal 8 to 9	
E7	Error tape control	10	Tape control A6	21
E8	free	11		
GND		12	Quick-Motor 0V	X1/24

Outputs					
Output	Code number	Signal	Terminal MD-DX-6	Connection	Terminal
+ 24 V			13	Initiator B200	
A1	1	Start inhibitor	14	Quick-Motor E6	X1/6
A2	2	Speed limiter	15	Quick-Motor E13	X1/24
+ 24 V			16	Valve/stitch length	
A3	3	Speed limiter	17	Quick-Motor E1	X1/3
A4	4		18		
+ 24 V			19	Valve Y17	
A5	5	Stitch length 3 mm	20	Valve Y11	
A6	6	Cut tape	21	Tape control E2	2
+ 24 V			22	Valve Y13	
A7	7	Tape brake or adjust tape	23	Valve Y17 Tape control E1	1
A8	8	Edge trimmer	24	Valve Y13	

Typ: HY 200 - 2232-160 B8

Firma: MAE



Stepper motor for 3811-11/35 is #91-093 059-91

Stepper motor for 3811-11/55 or 11/65 is # 71-52 00-0056

Anschlußbild

(Auf Anschlüsse gesehen)

PFAFF

**G.M. PFAFF
Aktiengesellschaft**

Postfach 3020
D-67653 Kaiserslautern

Königstr. 154
D-67655 Kaiserslautern

Telefon: (0631) 200-0
Telefax: (0631) 17202
Internet: www.PFAFF.de

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