

PFAFF

1163

Adjustment Manual

This Adjustment Manual is valid for machines from the following serial numbers onwards:

6 001 000 →

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13 Adjustment



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

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

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 accessories

- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of wrenches with jaw widths from 7 to 14 mm
- 1 set of Allan keys from 1.5 to 6 mm
- 1 metal ruler, part no. 08-880 218-00

13.03 Abbreviations

t.d.c. = top dead centre

b.d.c. = bottom dead centre

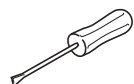
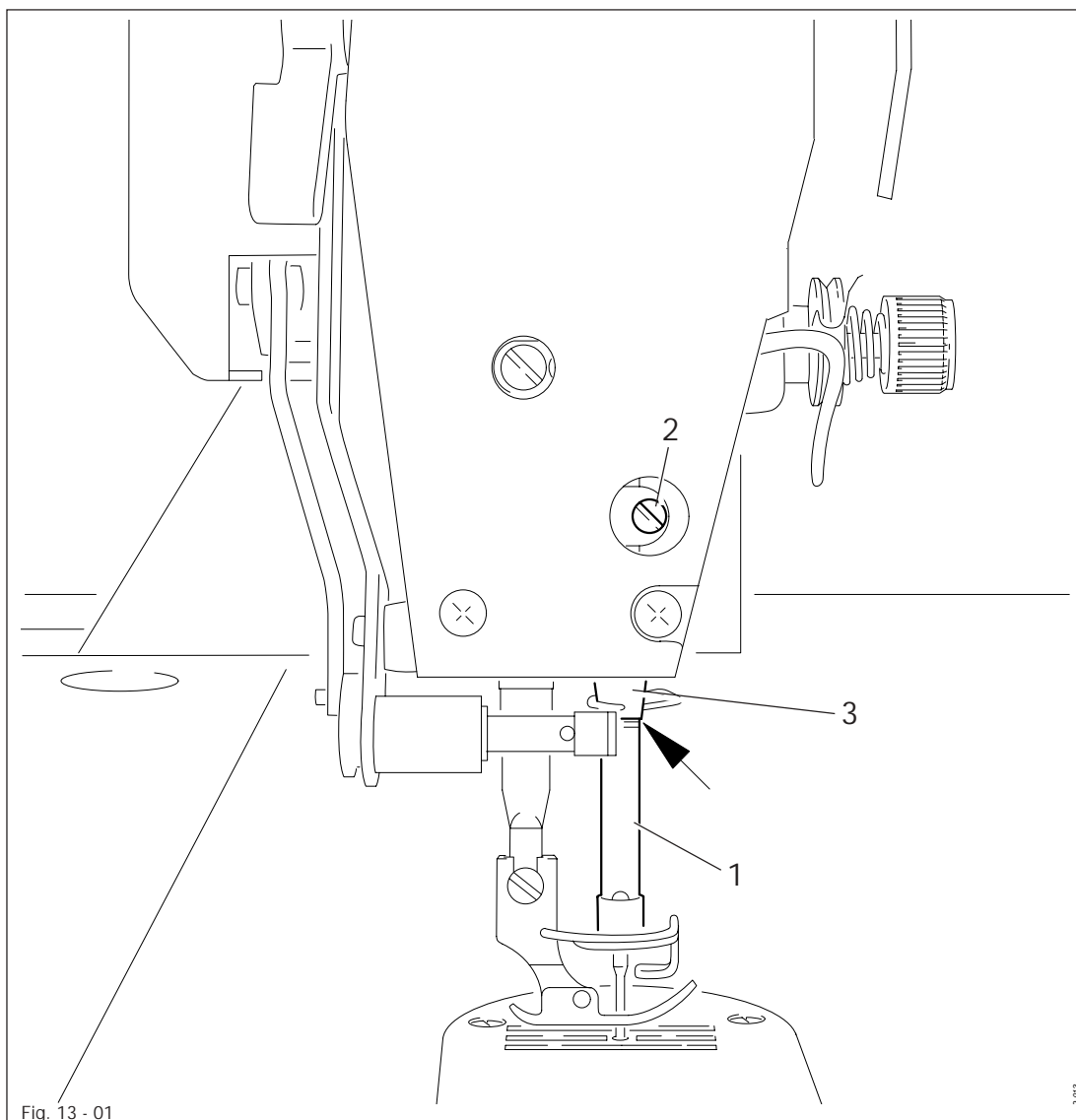
Adjustment

13.04 Adjusting the basic machine

13.04.01 Pre-adjusting the needle height

Requirement

With the needle bar at b.d.c., the top marking on needle bar 1 should be level with the bottom edge of bushing 3.



- By turning the balance wheel, bring the needle bar to its b.d.c.
- Without twisting it, adjust needle bar 1 (screw 2) in accordance with the requirement.

13.04.02 Setting the bottom feed dog at its neutral position

Requirement

With the stitch length set at "0", cranks 1 and 3 should be in alignment, and there should be no feeding motion of the bottom feed dog when the balance wheel is turned.

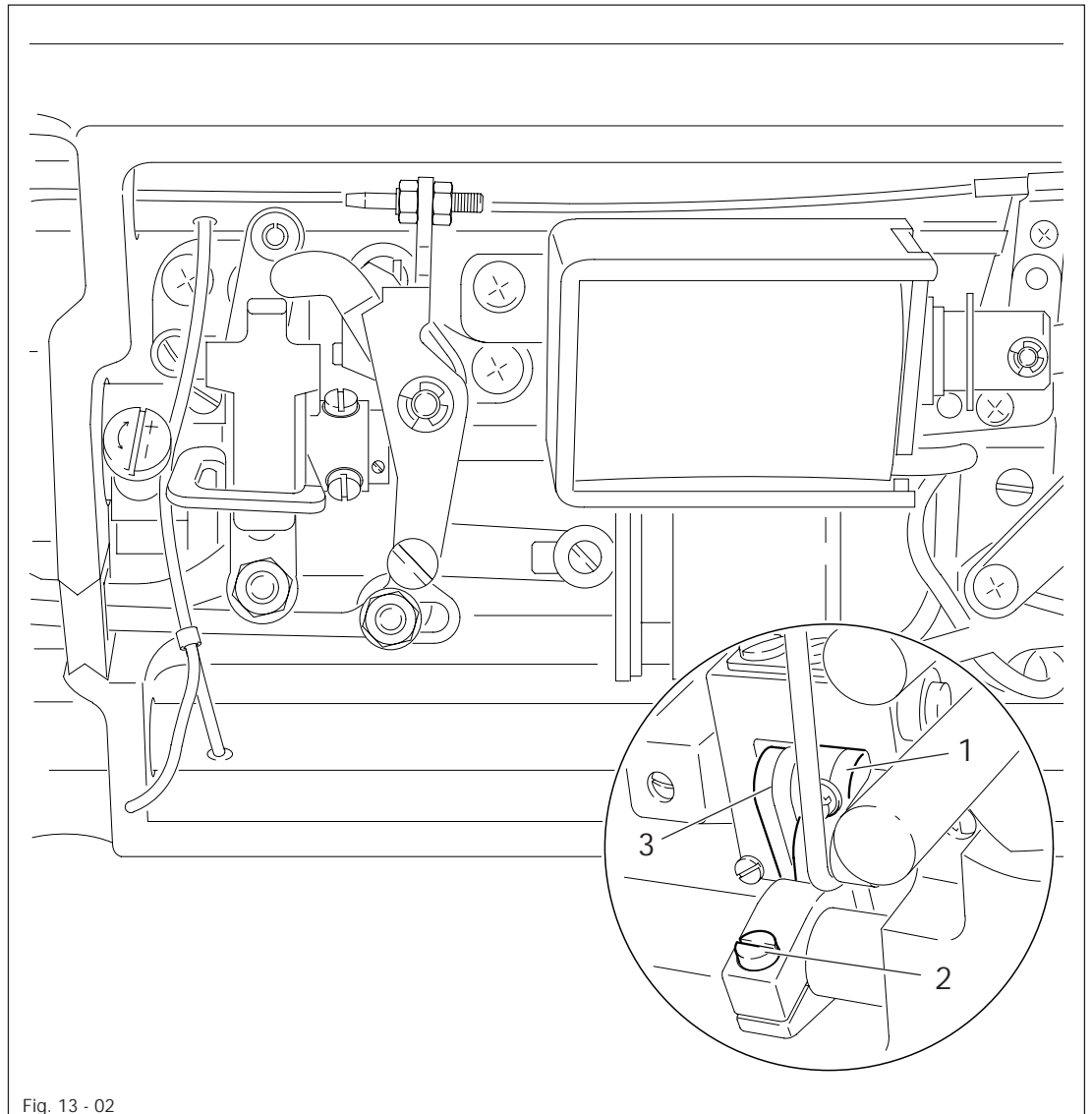
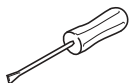


Fig. 13 - 02



- Raise the presser foot and set the stitch length at "0".
- Adjust crank 1 (screw 2) in accordance with the requirement.

13.04.03 Bottom feed dog motion

Requirement

1. When the needle bar is at its t.d.c., the bottom feed dog should be in its top point of reversal when the stitch length is set at "0".
2. When the needle bar is positioned 0.6 after t.d.c. and the largest stitch length is set, the bottom feed dog should not move when the reverse feed switch 3 is operated.

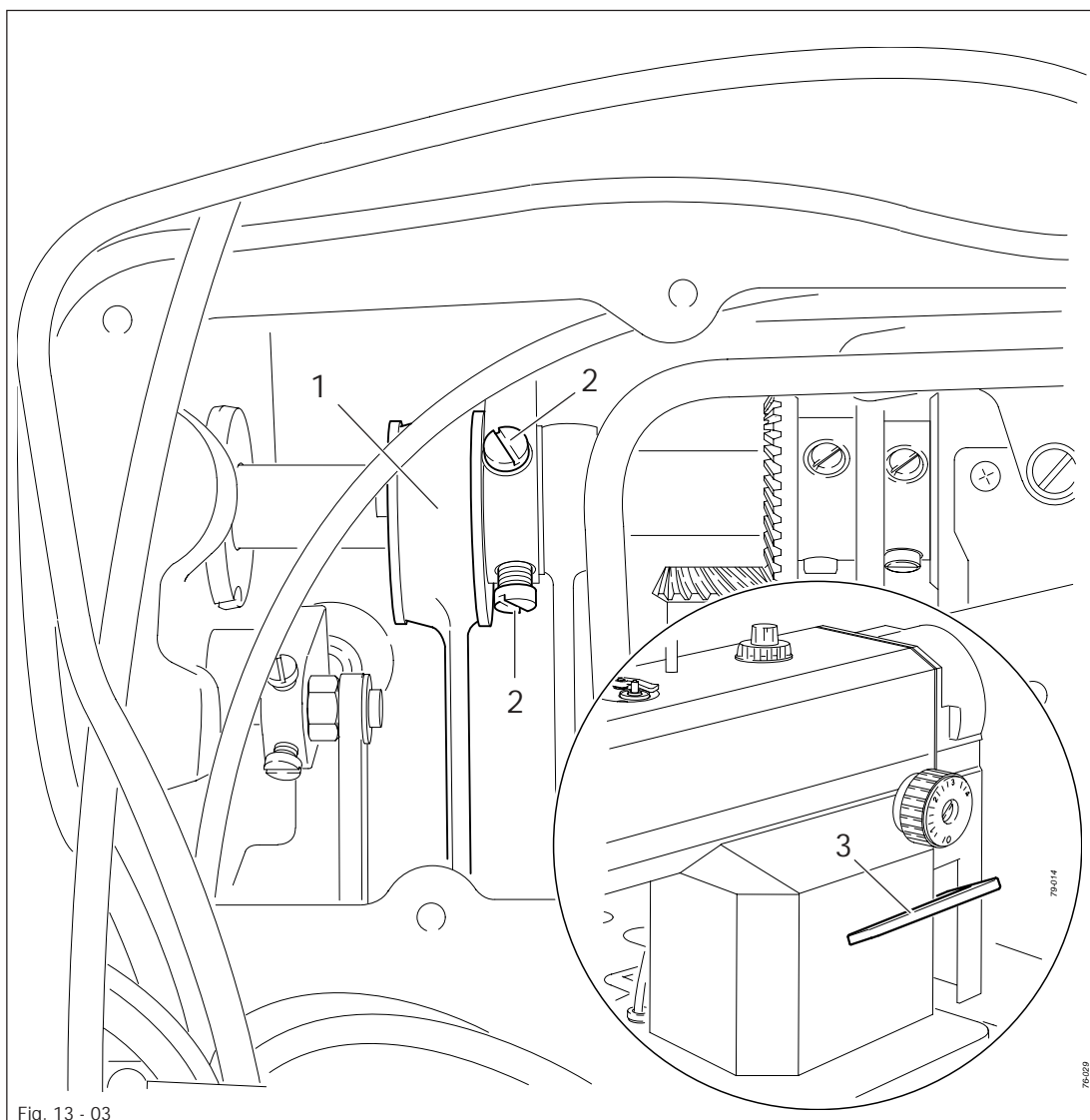
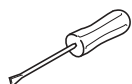


Fig. 13 - 03



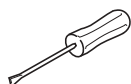
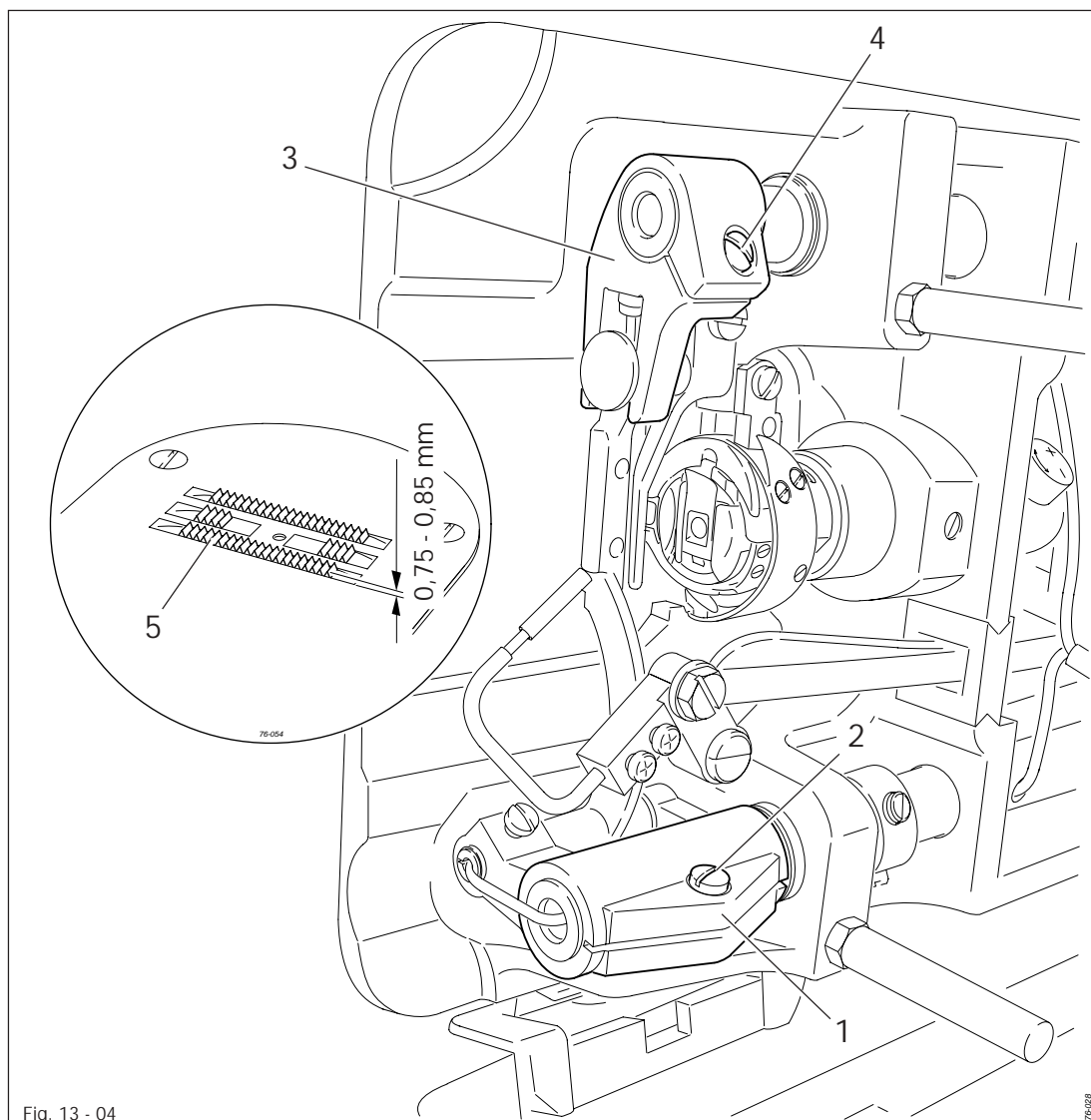
- Without moving it sideways, adjust eccentric 1 (screws 2) in accordance with the requirements.

13.04.04 Bottom feed dog position

Requirement

When the stitch length is set at "0" and the bottom feed dog 5 is at t.d.c., it should

1. Be positioned in the centre of the needle plate cutout in the feeding direction.
2. Its teeth should be 0.75 – 0.85 mm parallel over the needle plate.



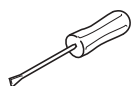
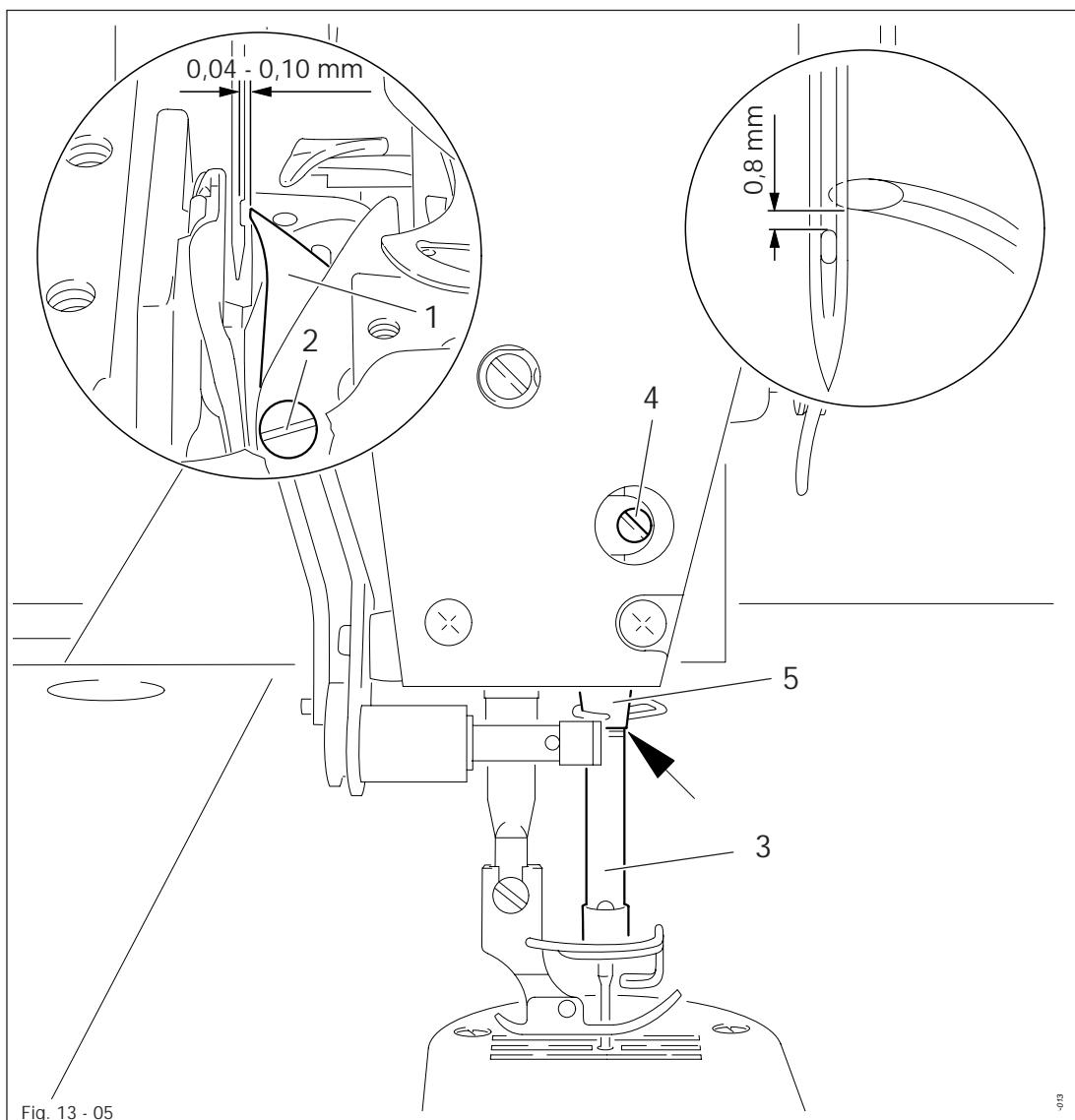
- Shift or turn crank 1 (screw 2) in accordance with requirement 1.
- Turn crank 3 (screw 4) in accordance with requirement 2.

13.04.05 Needle rise, hook clearance, needle height and bobbin case position finger

Requirement

When the bottom marking on needle bar 3 is level with the bottom edge of bushing 5

1. The point of hook 1 should be centred to the needle and at a distance of 0.04 – 0.10 mm from the groove of the needle, and
2. The top edge of the needle eye should be 0.8 mm below the hook point.

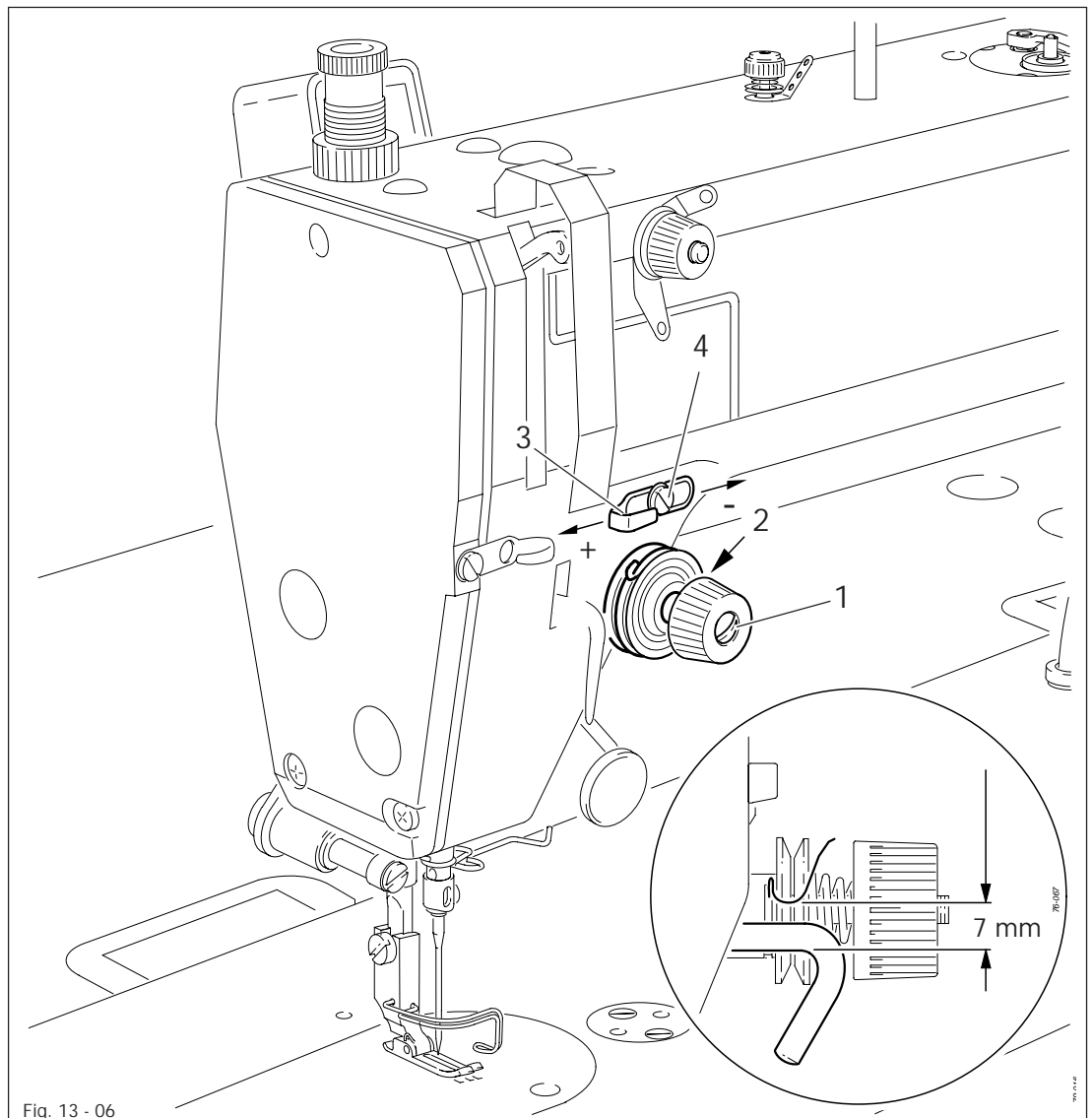


- Adjust the hook 1 (screws 2) in accordance with requirement 1.
- Without twisting needle bar 3 (screw 4), adjust it according to requirement 2.

13.04.06 Thread check spring and thread regulator

Requirement

1. The movement of the thread check spring should be completed, when the needle point penetrates the material (spring stroke approx. 7 mm).
2. When the thread is being looped round the hook and the loop is at its largest, the thread check spring should have moved approx. 1 mm.



- Adjust thread tension 1 (screw 2) in accordance with requirement 1.
- Adjust thread regulator 3 (screw 4) in accordance with requirement 2.

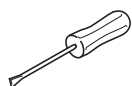
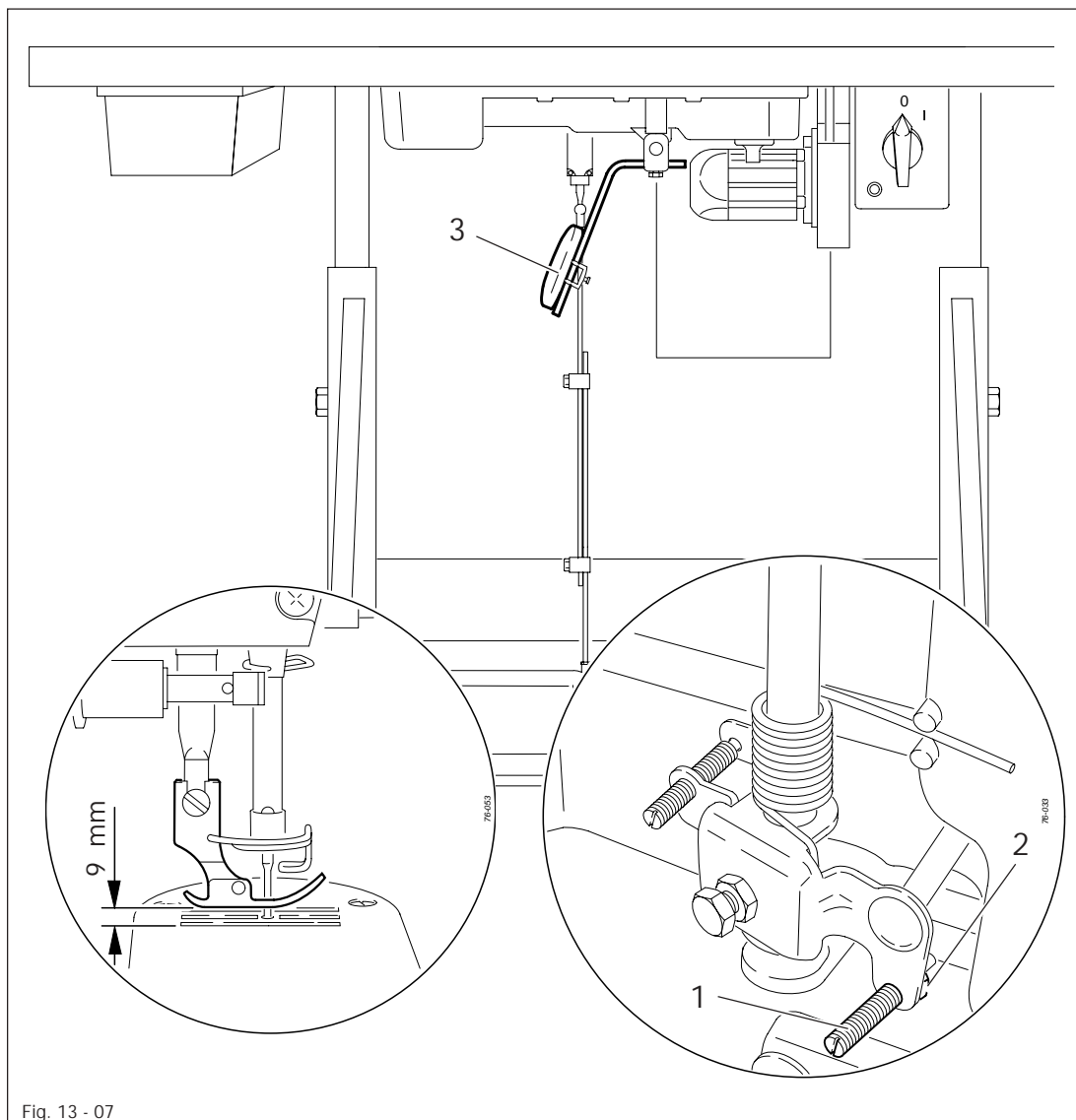


For technical reasons it may be necessary to alter the specified spring stroke:
Turn thread regulator 1 (screw 2) towards "+" (= more thread) or towards "-"
(= less thread).

13.04.07 Knee lever stop

Requirement

When knee lever 3 has been moved as far as possible, the presser foot should rise approx. 9 mm above the needle plate.

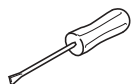
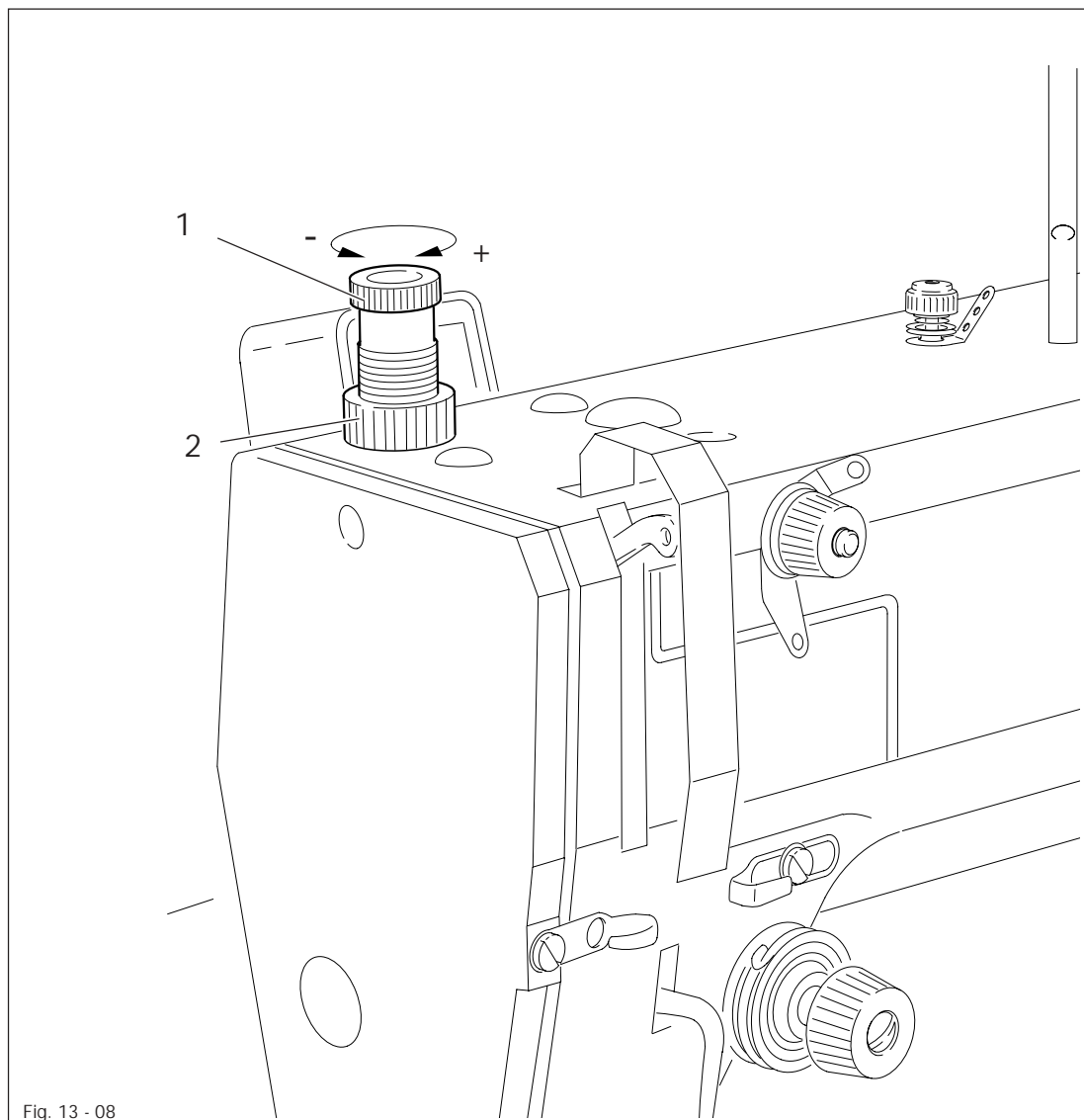


- Adjust screw 1 (nut 2) in accordance with the requirement.

13.04.08 Presser foot pressure

Requirement

The material should be fed without difficulty at all times and there should be no sign of pressure marks on the material.



- Adjust milled screw 1 (milled nut 2) in accordance with the requirement.

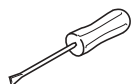
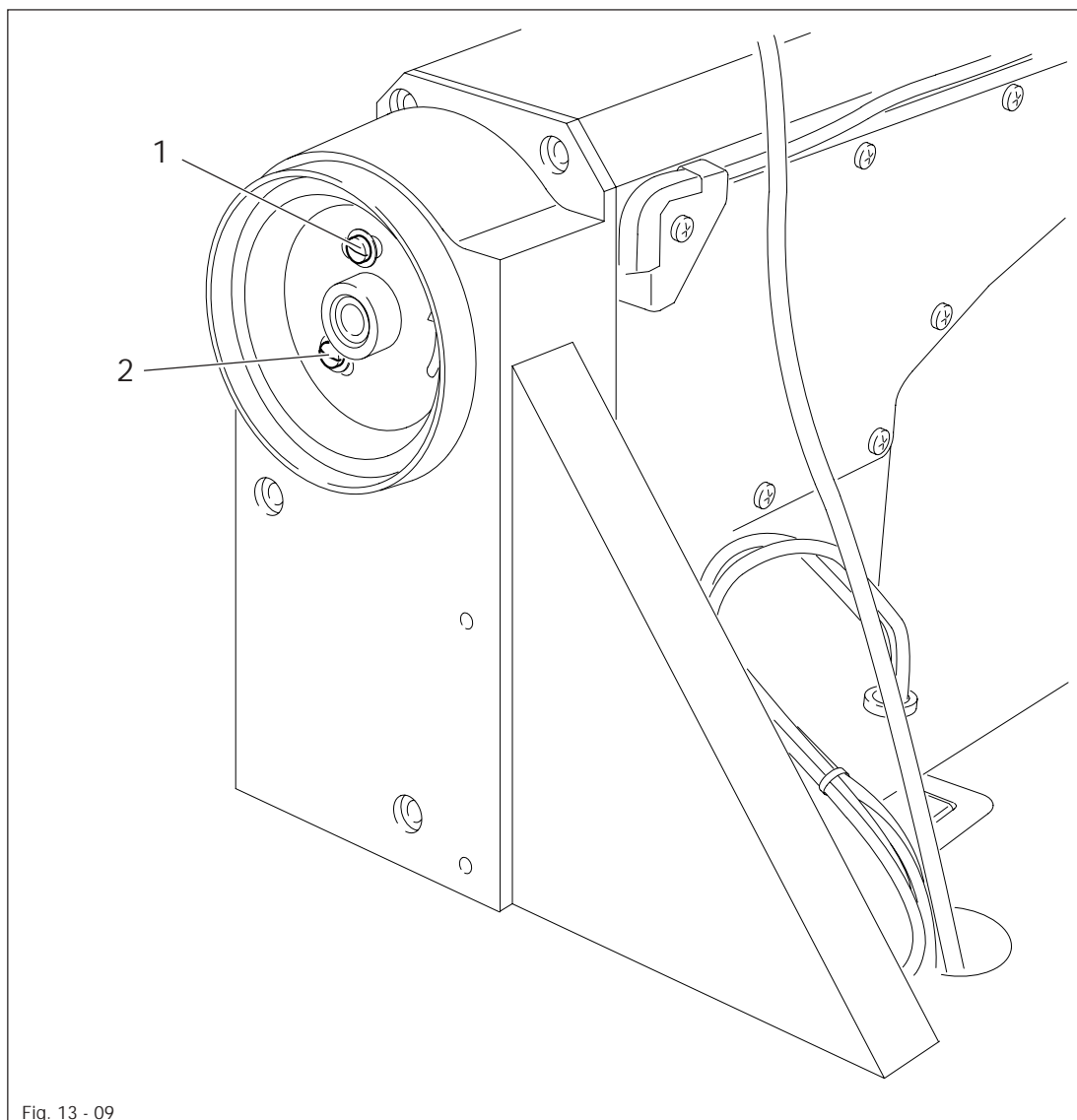
Adjustment

13.05 Adjusting the thread trimmer -900/93

13.05.01 Adjusting the synchronizer

Requirement

1. When the machine has stopped it should be positioned in b.d.c. needle bar.
2. After thread trimming the machine should be positioned in t.d.c. take-up lever.



- Slightly loosen screw 1 and adjust it in accordance with requirement 1.
- Slightly loosen screw 2 and adjust it in accordance with requirement 2.

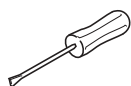
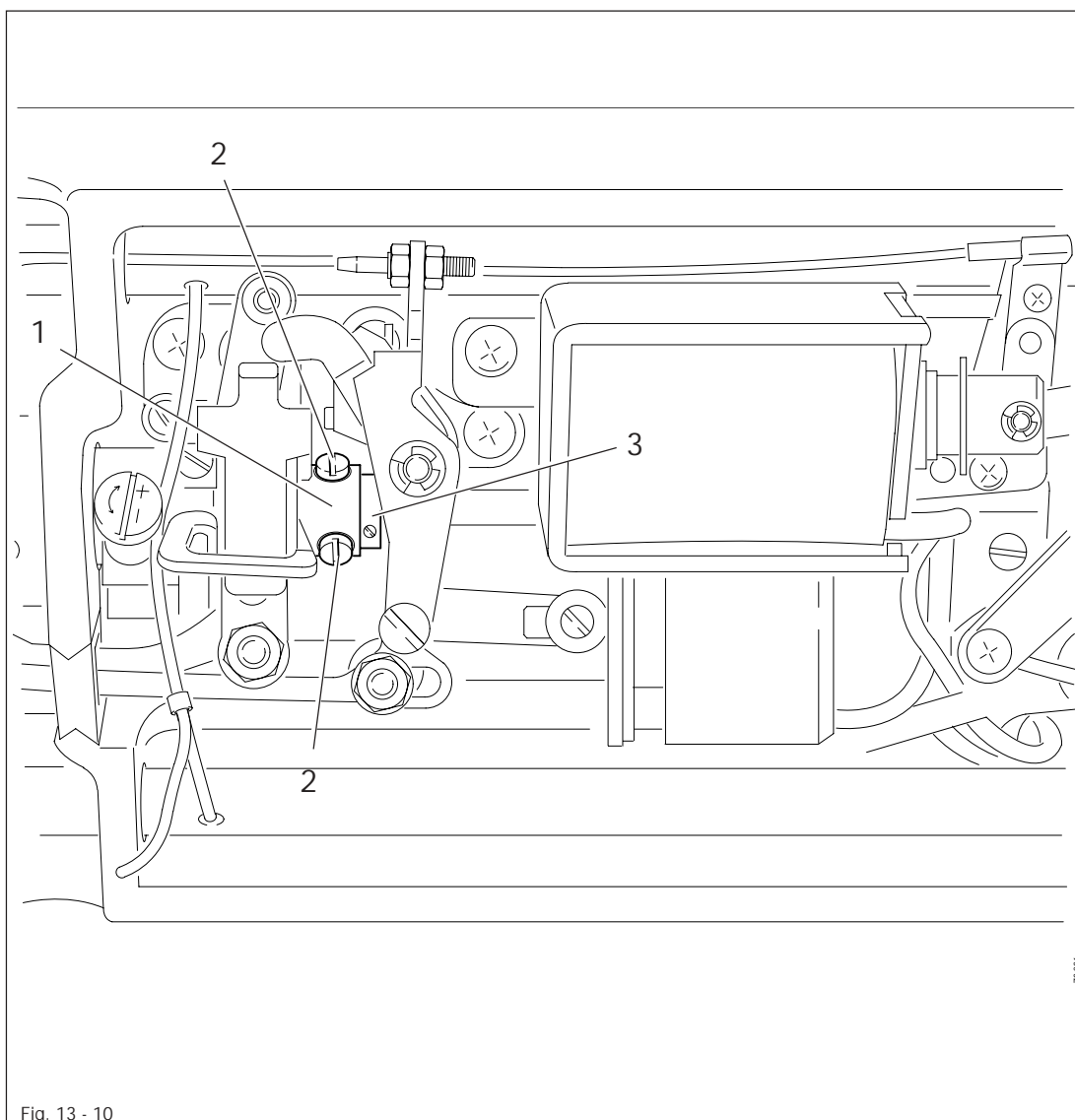


Only loosen screws 1 and 2, do not remove them completely!

13.05.02 Adjusting the control cam

Requirement

When the take-up lever is at its t.d.c., the cutting operation should have been concluded (roller lever is pushed out of the control cam).



- Adjust control cam 1 (screws 2) in accordance with the requirement.



Make sure that the control cam 1 is touching retaining collar 3, when the screws 2 are tightened!

13.05.03 Position of the stationary knife

Requirement

The centre of the stationary knife 1 should be at needle hights and should have a distance of 3.5 mm .

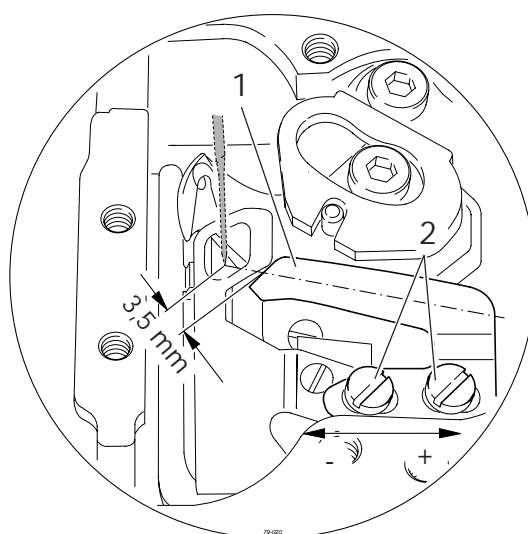
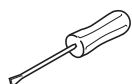


Fig. 13 - 11



- Adjust stationary knife 1 (screws 2) in accordance with the requirement.

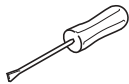
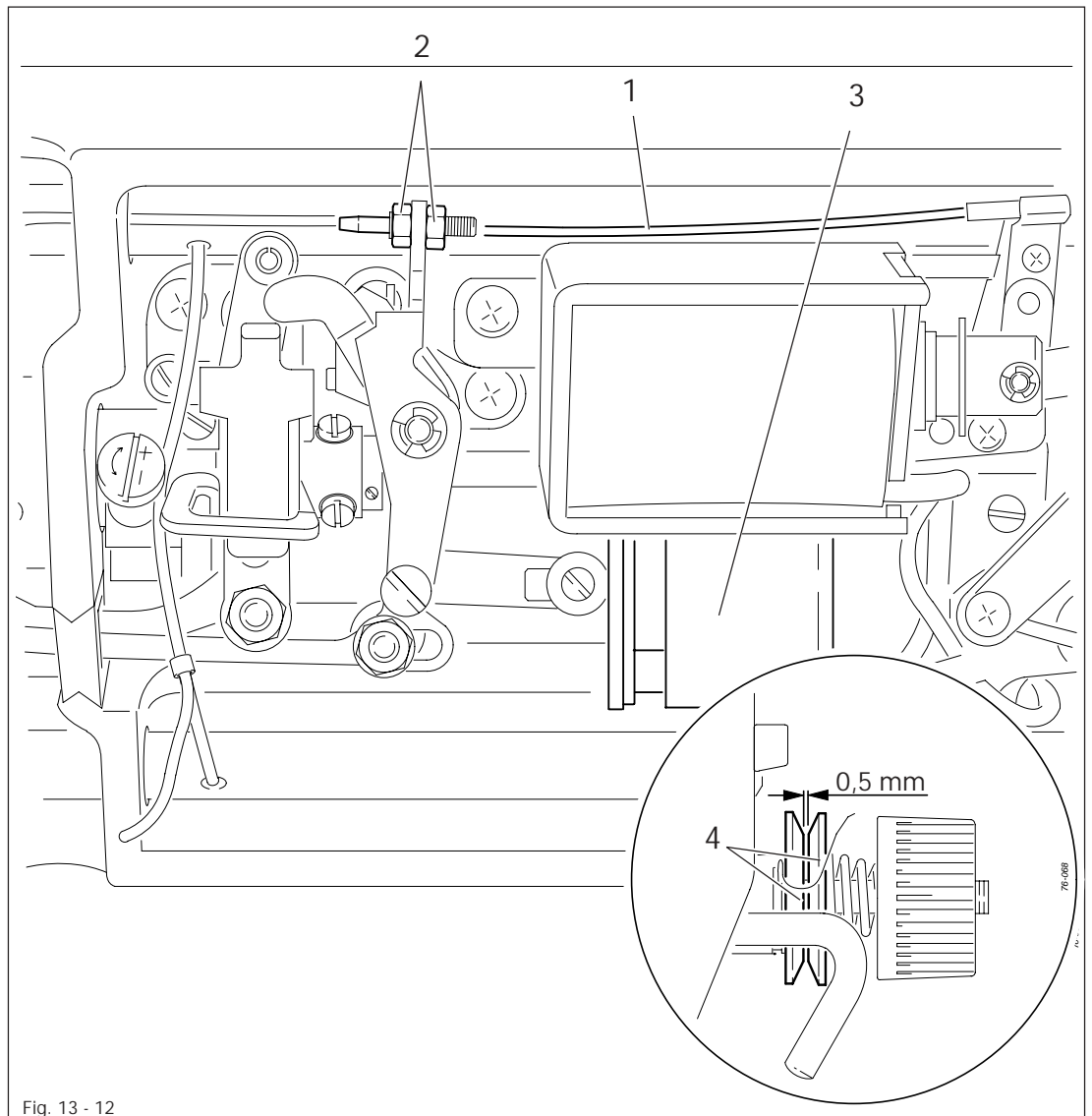


For technical reasons it may be necessary to alter the specified basic position:
Move stationary knife 1 towards "+" (= more thread) or towards "-" (= less thread).

13.05.04 Needle thread tension release

Requirement

When magnets 3 are attracted, there should be a distance between the tension disks 4 of at least 0.5 mm.

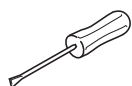
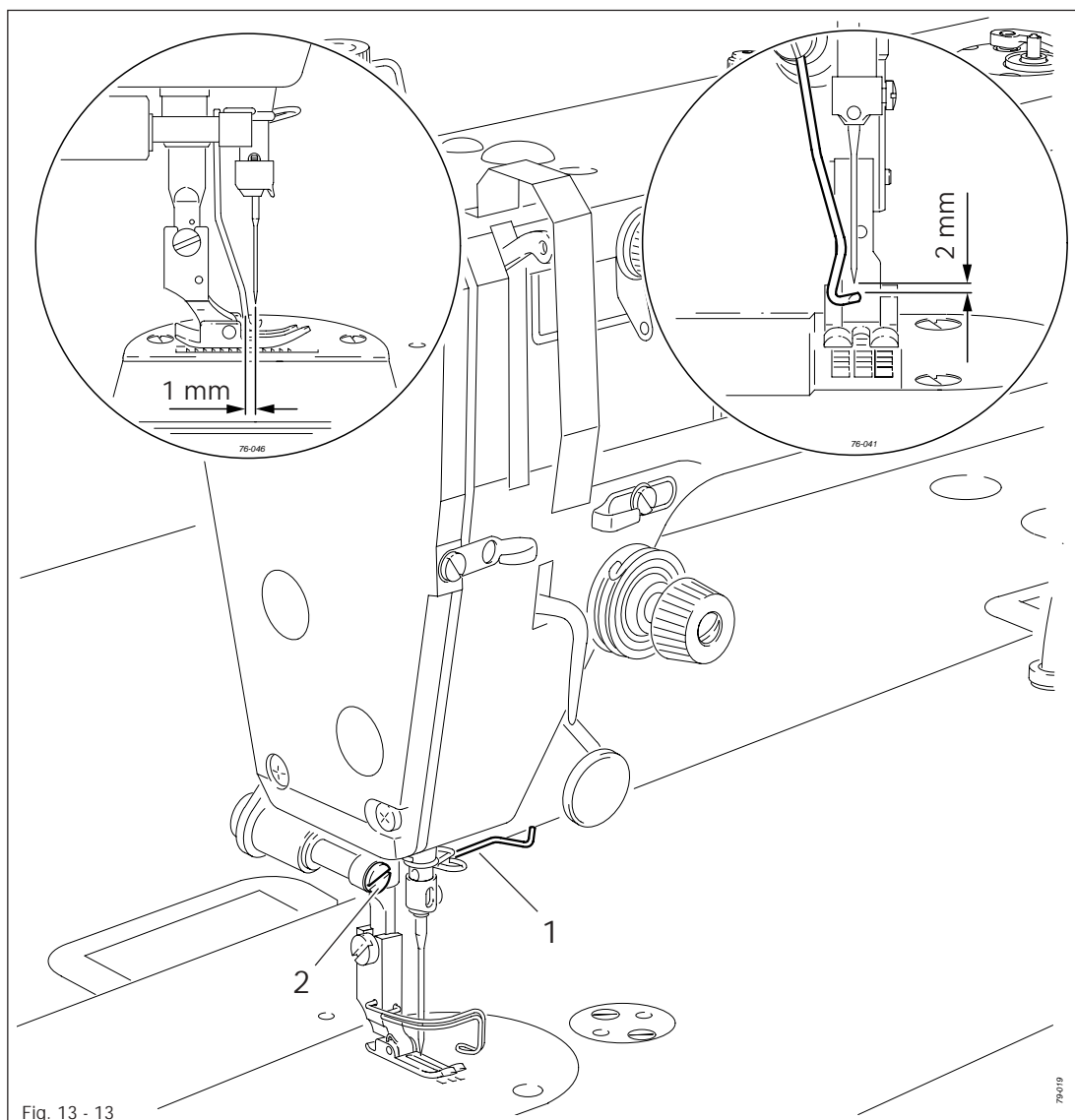


- Adjust tension cable 1 (nuts 2) in accordance with the requirement.

13.06 Adjusting the thread wiper -909/93

Requirement

1. During its movement thread wiper 1 should not have any contact.
2. When the take-up lever is at its t.d.c., and the thread wiping device is switched on, the thread wiper 1 should pass behind the needle point with a clearance of approx. 1 mm and under it with a clearance of approx. 2 mm.



- Adjust the thread wiper 1 (screw 2) in accordance with the requirements.

13.07

Adjusting the automatic presser foot lift -910/93

Requirement

When the automatic presser foot lift is operated, the presser foot should be 9 mm above the needle plate.

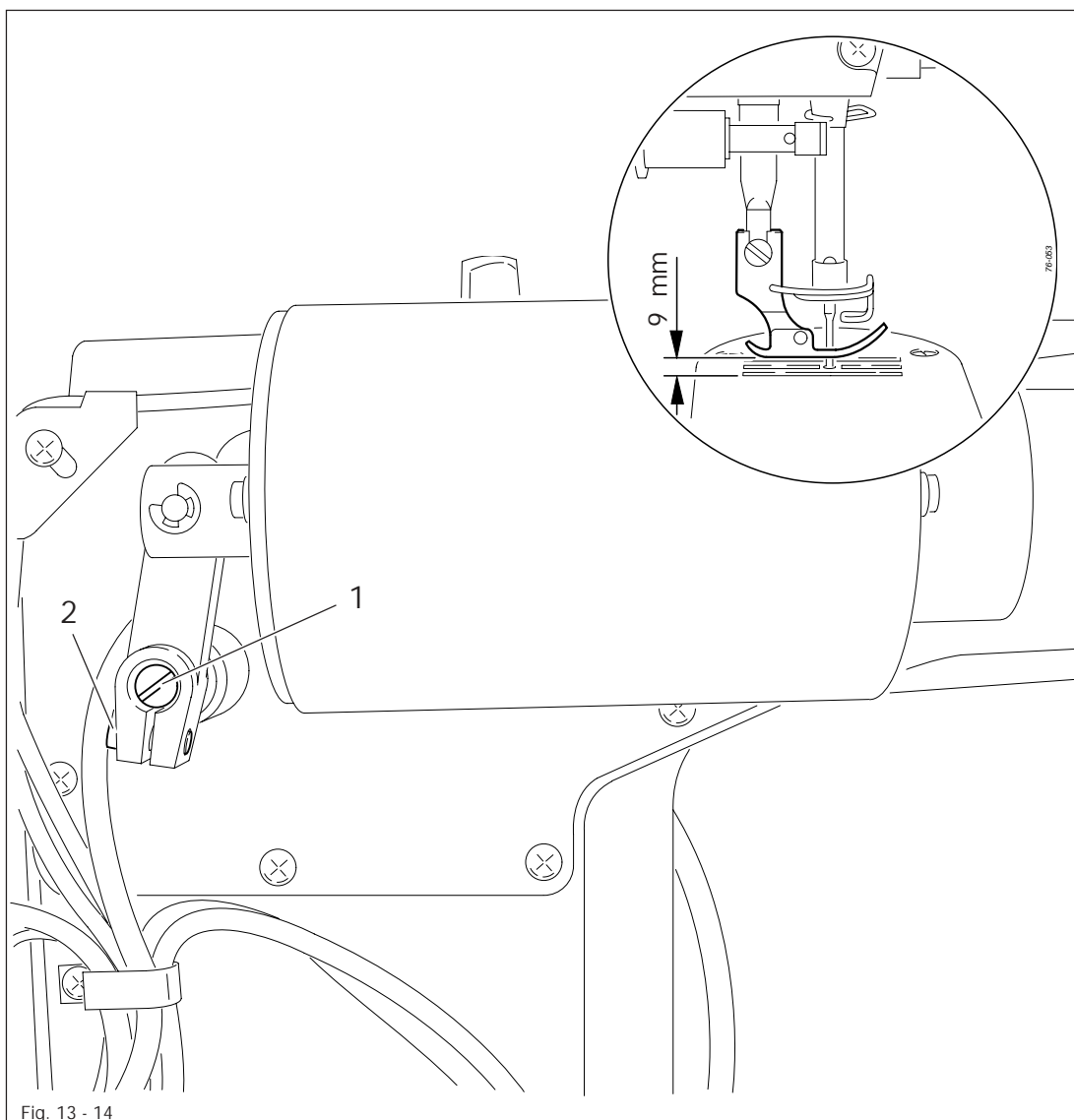
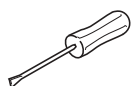


Fig. 13 - 14



- Adjust shaft 1 (screw 2) in accordance with the requirement.

13.08 Adjusting the backtacking mechanism -911/93

Requirement

When the reverse feed switch 3 (reverse sewing) is operated, the stitch length should be the same as during sewing.

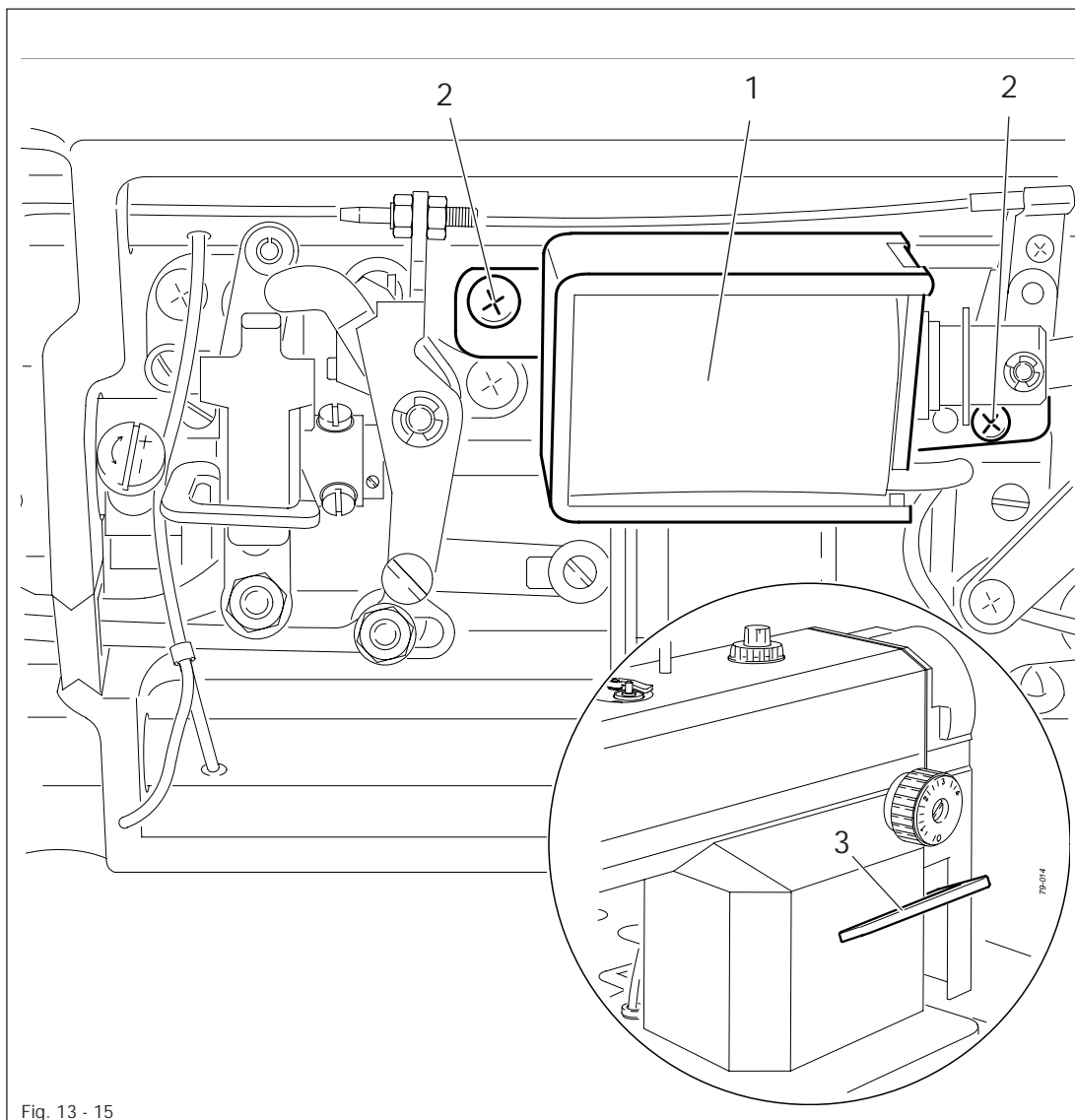
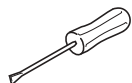


Fig. 13 - 15

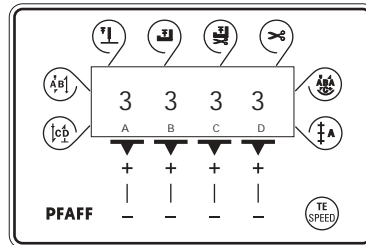


- Adjust solenoid 1 (screws 2) in accordance with the requirement.

13.09 Parameter settings

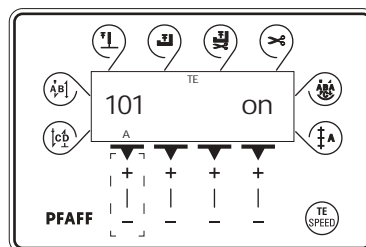
13.09.01 Selecting the user level

- Switch on the machine.

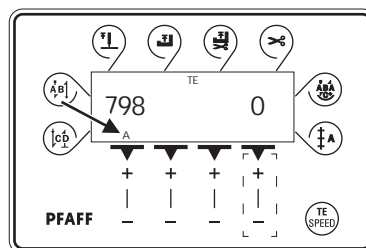


2 x 

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



- By pressing the corresponding +/- key select the parameter group "798".



- By pressing the corresponding +/- key select the desired user level:

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

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

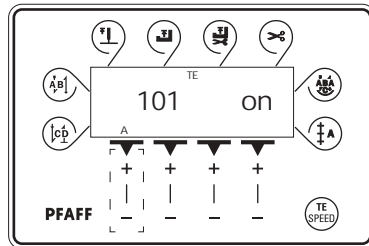
Adjustment

13.09.02 Example of a parameter input

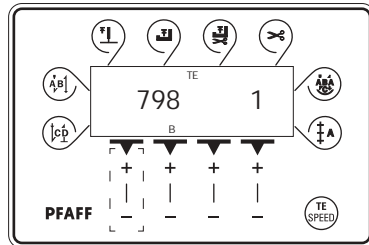
- Switch on the machine.



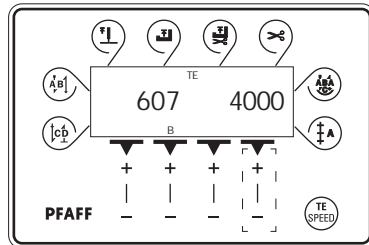
- Press the TE/Speed key twice to select the input mode.



- By pressing the corresponding plus/minus key select parameter "798" and the user level "B", see Chapter 13.09.01 Selecting the user level.



- Select parameter "607" by pressing the corresponding +/- key.



- Select the required value for the maximum speed by pressing the corresponding +/- key.
- By pressing the TE/Speed key the selected value is taken over and the machine switches to the sewing mode.



13.09.03 Liste der Parameter

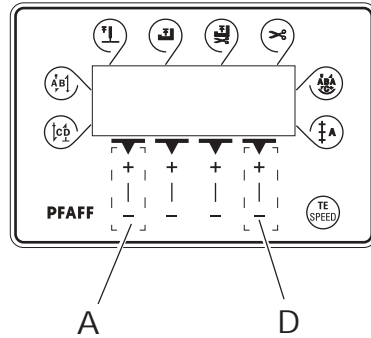
Gruppe	Parameter	Bedeutung	Nutzer- ebene	Einstell- bereich	Einstell- wert
1	101	Control panel beep tone	A, B, C		on
6	605	Speed display	B, C		off
	607	Speed max.	B, C	300 - 6000	4000
	609	Cutting speed	B, C	60 - 500	180
	660	Bobbin thread control 0 = off 1 = thread monitor 2 = reverse counter	A,B,C	0 - 2	0
7	700	Needle position 0 (needle reference position)	B,C	0 - 255	
	702	Needle position 1 (needle lowered)	B,C	0 - 255	70
	703	Needle position 2 (take-up lever raised)	B, C	0 - 255	222
	705	Needle position 5 (end of cutting signal 1)	B, C	0 - 255	196
	706	Needle position 6 (start of cutting signal 2)	B, C	0 - 255	136
	707	Needle position 9 (start thread tension release)	B,C	0 - 255	150
	797	Hardwaretest	B, C		off
	798	User level 0 = User level 1 = Technician level 11 = Service level	A,B,C	0,1,11	0
	799	Selected machine class	C	1 - 3	3
8	800	Rotating direction of the motor	C	0 - 1	1



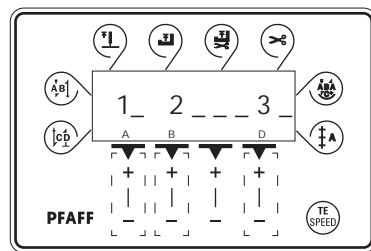
Further parameters are listed in the Motor Instruction Manual.

13.10 Reset / Cold start

After selecting the reset menu, by pressing the corresponding key it is possible to delete seam parameters, delete seam programs and to carry out a cold start.



- Press and hold "+" on keys A and D and switch on the machine, see Chapter 7.01 Main switch.



A Resetting the seam parameters

- Press "+" on key "A".
All parameters are deleted, the display "—rE—" appears for a short time on the screen.



B Resetting the seam programs

- Press "+" on key "B".
All seam programs are deleted, the display "—rE—nA" appears for a short time on the screen.



D Cold start

- Press "+" on key "D".
With the exception of the value for the machine class, the values of the machine control unit are set back to their basic values, the display "—COLd—" appears for a short time on the screen.



After the cold start all programmed values are set back to their status at the time of delivery. For this reason after a cold start it is necessary to re-enter first the parameter "799" and then the parameter "700".

13.11 Explanation of the error signals

Signal	Description
E001	Pedal not in neutral position
E009	Start inhibitor during standstill
E010	Incorrect machine class
E062	Short circuit 24V
E063	Overload mains supply circuit
E064	Network monitoring
E065	Extint low in operation
E066	Short circuit
E067	Network off
E068	Extint low in operation
E069	No increments
E070	Motor blocking
E071	No incremental connector
E074	External transmitter for synchronisation marker missing
E088	RAM defective
E092	Start inhibitor when motor running
E173	Start error
E175	Start error

13.12 Internet update of the machine software

The machine software can be updated with PFAFF flash programming. For this purpose the PFP boot program and the appropriate control software for the machine type must be installed on a PC. To transfer the data to the machine, the PC and the machine control unit must be connected with an appropriate null modem cable (part no. 91-291 998-91).



The PFP boot program and the control software of the machine type can be downloaded from the PFAFF-homepage using the following path:
www.pfaff-industrial.com/de/service/download/steuerungssoftware.html

To update the machine software carry out the following steps:



While the machine software is being updated, no setting up, maintenance or adjustment work may be carried out on the machine!

- Switch off the machine.
- Connect the PC (serial interface or appropriate USB-adapter) and the machine control unit (RS232).
- Switch on the PC and start the PFP boot program.
- Select the machine type.
- Press the "programming" button.
- An extra program (quick loader) is started.
- Switch on the machine within 60 seconds.
- The software update is carried out, the update progress is shown on the bar display.
- When the update has been completed, the message "software update successfully completed" appears.

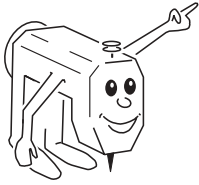


If this message does not appear, the entire procedure must be repeated!
The machine is not safe for operation until the programming has been completed successfully and without faults.

- Switch off the machine and end the quick loader and PFP boot program.
- End the connection between the PC and the machine control unit.
- Switch on the machine.
- A plausibility control is carried out and, if necessary, a cold start.



More information and assistance is at your disposal in the file "PFPHILFE.TXT", which can be called up from the PFP boot program by pressing the "help" button.



Notice

PFAFF

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