

PFAFF

1183-712/02

Adjustment Manual

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

6 001 000 →

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12 Adjustment



On the PFAFF 1183-712/02 no adjustable clamp should be fastened to the needle bar! This could cause damage to the special coating of the needle bar.



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.

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.

12.01 Tools, gauges and other accessories for adjusting

- 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 rule, (Part No. 08-880 218-00)
- 1 adjustment pin (5 mm dia.), Part No. 13-033 346-05
- Adjustment gauge, part No. 61-111 639-70
- 1 adjustment gauge for tightening the hook drive belt, Part-No. 61-111 639-76
- Sewing thread and test material

12.02 Abbreviations

TDC = top dead center

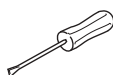
BDC = bottom dead center

12.03 Explanation of the symbols

In this adjustment manual, symbols emphasize operations to be carried out or important information. The symbols used have the following meaning:



Note, information



Service, repair, adjustment, maintenance
(work to be carried out by qualified staff only)

12.04 Checking and adjusting aids



With the aid of blocking pin 1 (part No. 13-033346-05) and if necessary adjustment gauge 3 (part No. 61-111 639-70) the machine can be blocked in the following positions for adjustment

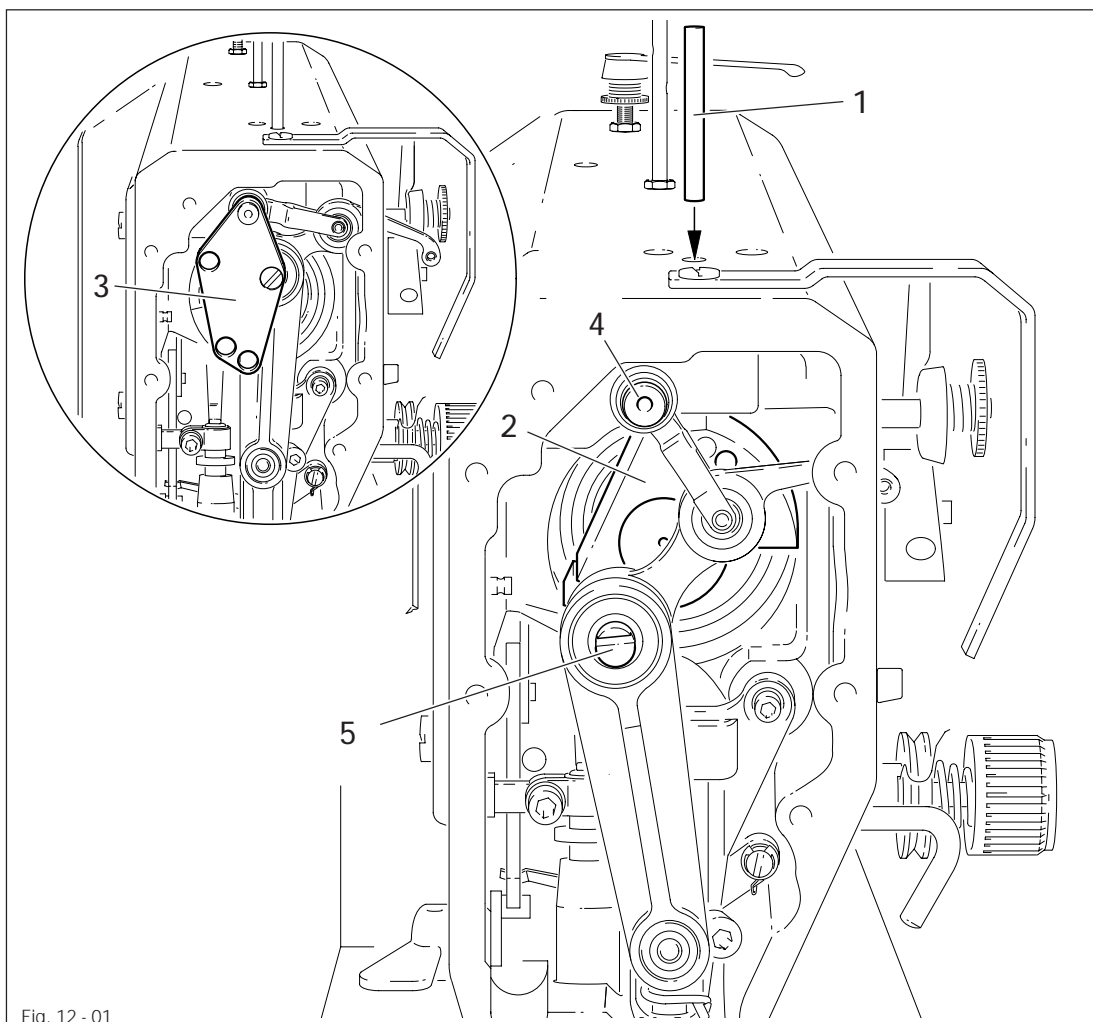
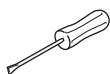


Fig. 12 - 01

**Needle bar position 1.8 mm past b.d.c.**

- Turn balance wheel until needle bar is roughly in required position
- Insert blocking pin 1 in hole
- Turn balance wheel slightly back and forth until blocking pin engages crank 2

Needle bar position 0.6 mm past t.d.c.

- Set needle bar roughly at required position
- Place adjustment gauge 3 onto pins 4 and 5, making sure right side is used (for 30 or 36 mm needle bar stroke)

Needle bar position 0.6 mm past b.d.c.

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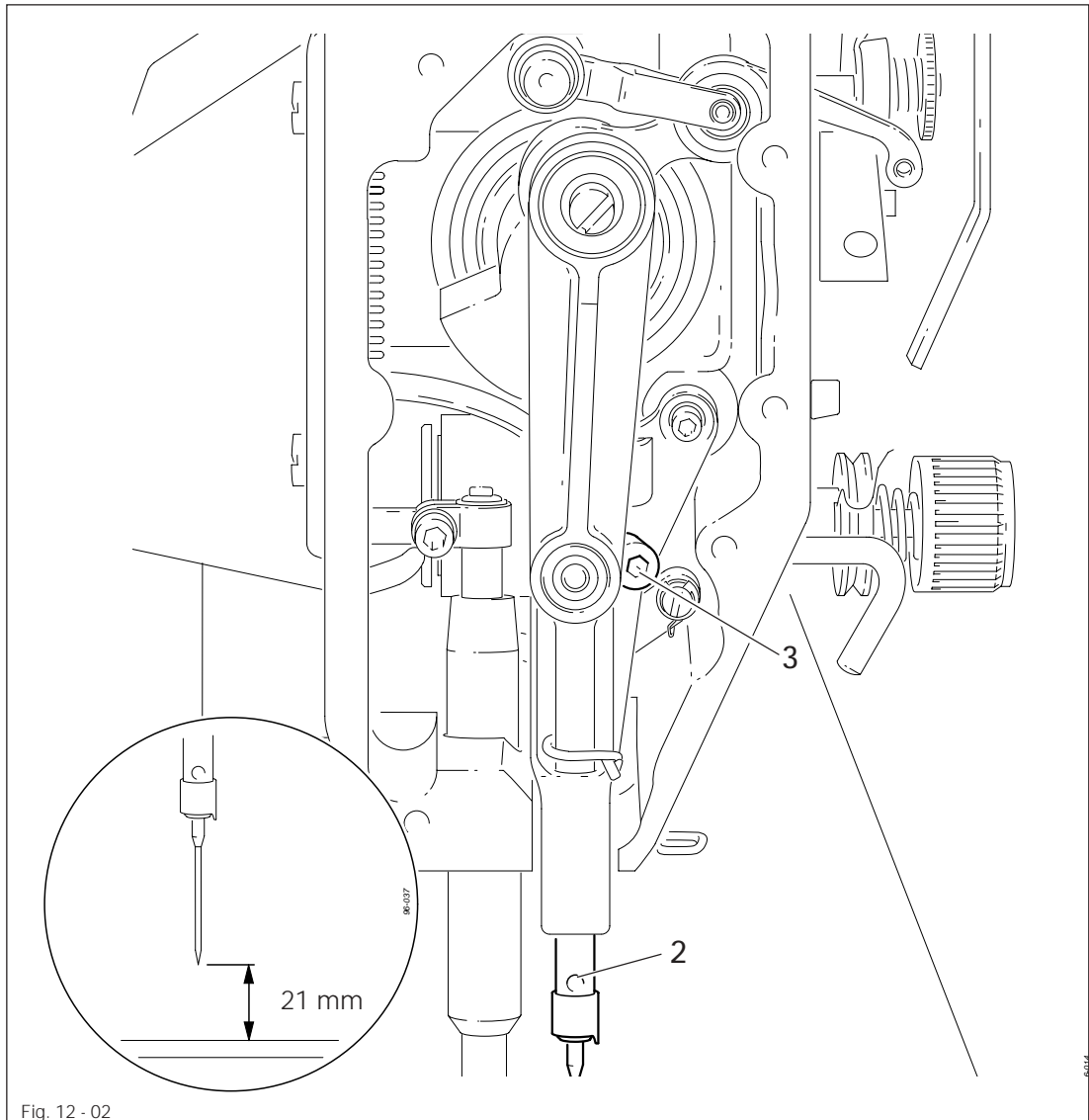
Adjustment

12.05 Adjusting the basic machine

12.05.01 Preliminary adjustment of the needle height

Requirement

When the needle bar 1 is at its t.d.c., the needle point should be 21 mm above the needle plate.

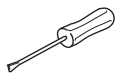
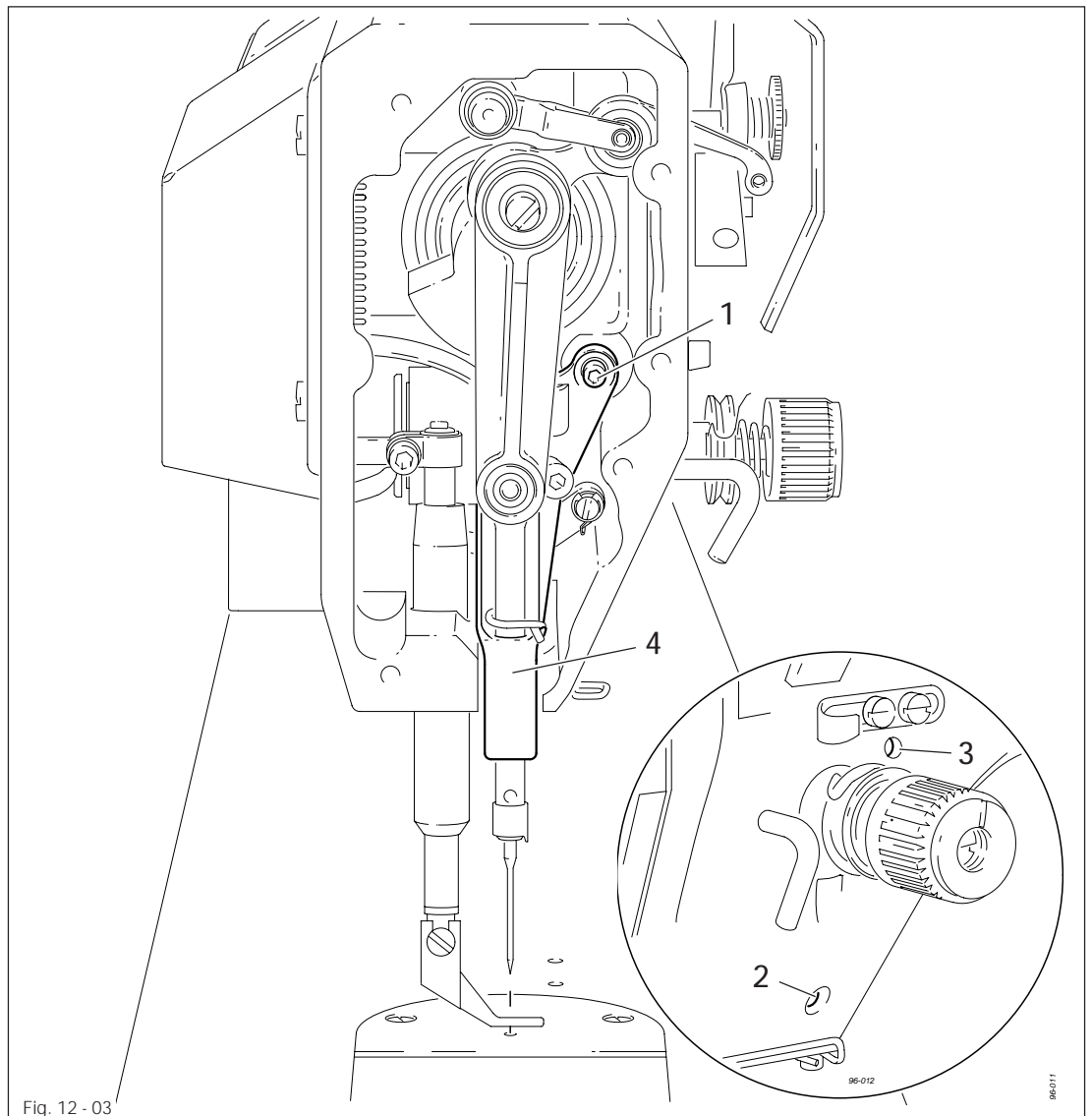


- Without twisting it, adjust needle bar 1 (screw 2) in accordance with the requirement.

12.05.02 Needle in needle hole centre

Requirement

The needle should penetrate in the exact centre of the needle hole.

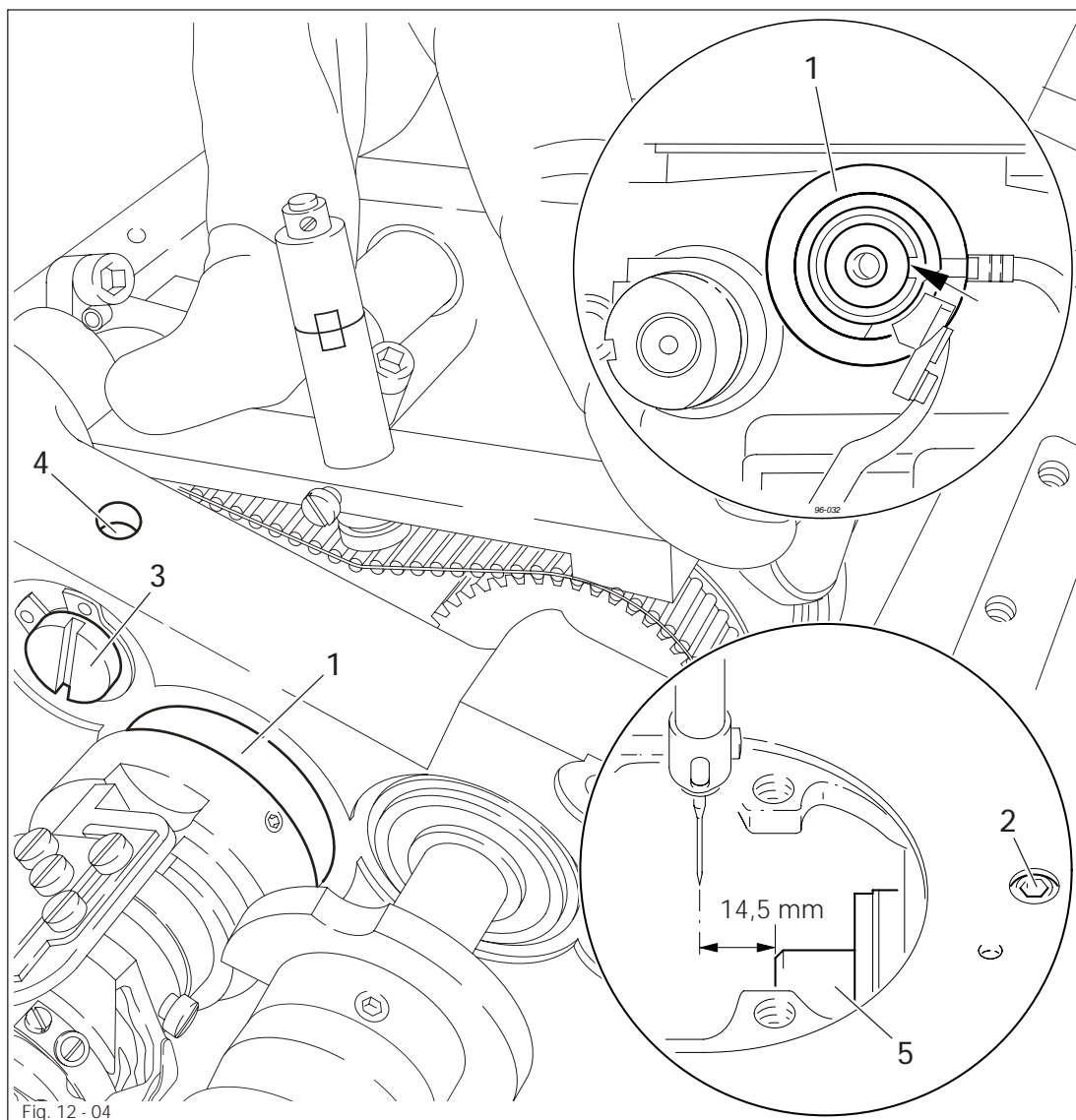


- Position the needle in the needle hole.
- Loosen screws 1, 2 and 3.
- Adjust the needle bar frame 4 in accordance with the **requirement**.
- Tighten screw 2 and slightly tighten screw 3.
- Use screw 1 to draw the internal guide pin towards the eye of the needle bar frame 4 and tighten it.
- Turn the balance wheel a few times so that the needle bar frame 4 is not under tension.
- Tighten screw 3.

12.05.03 Hook shaft bearing and toothed belt tension

Requirement

1. The front edge of the hook shaft 5 should be at a distance of **14.5 mm** from the centre of the needle, whereby the groove in the hook shaft bearing 1 (see arrow) should be parallel to the bed plate and point away from the direction of sewing.
2. The toothed belt should be tightened, so that when a gauge is pressed on it, the marking in the gauge window matches the marking on the bushing.



- Align hook shaft bearing 1 (screw 2) in accordance with requirement 1.
- Press gauge (part no. 61-111 639-76) on the toothed belt so that it is in the centre of the toothed belt and touching the bearing on the rock shaft. The gauge window must point towards the hook.
- Turn eccentric 3 (screw 4) in a clockwise direction in accordance with requirement 2, making sure that the axial position of the eccentric 3 is not altered.

12.05.04 Hook lubrication

Requirement

1. The centrifugal disk 1 must be positioned **1.5 mm** in front of the oil ring 3.
2. When the machine is running at full speed, after **approx. 10 seconds** a mark should be made by a fine stripe of oil on the strip of paper placed over the needle plate cutout.

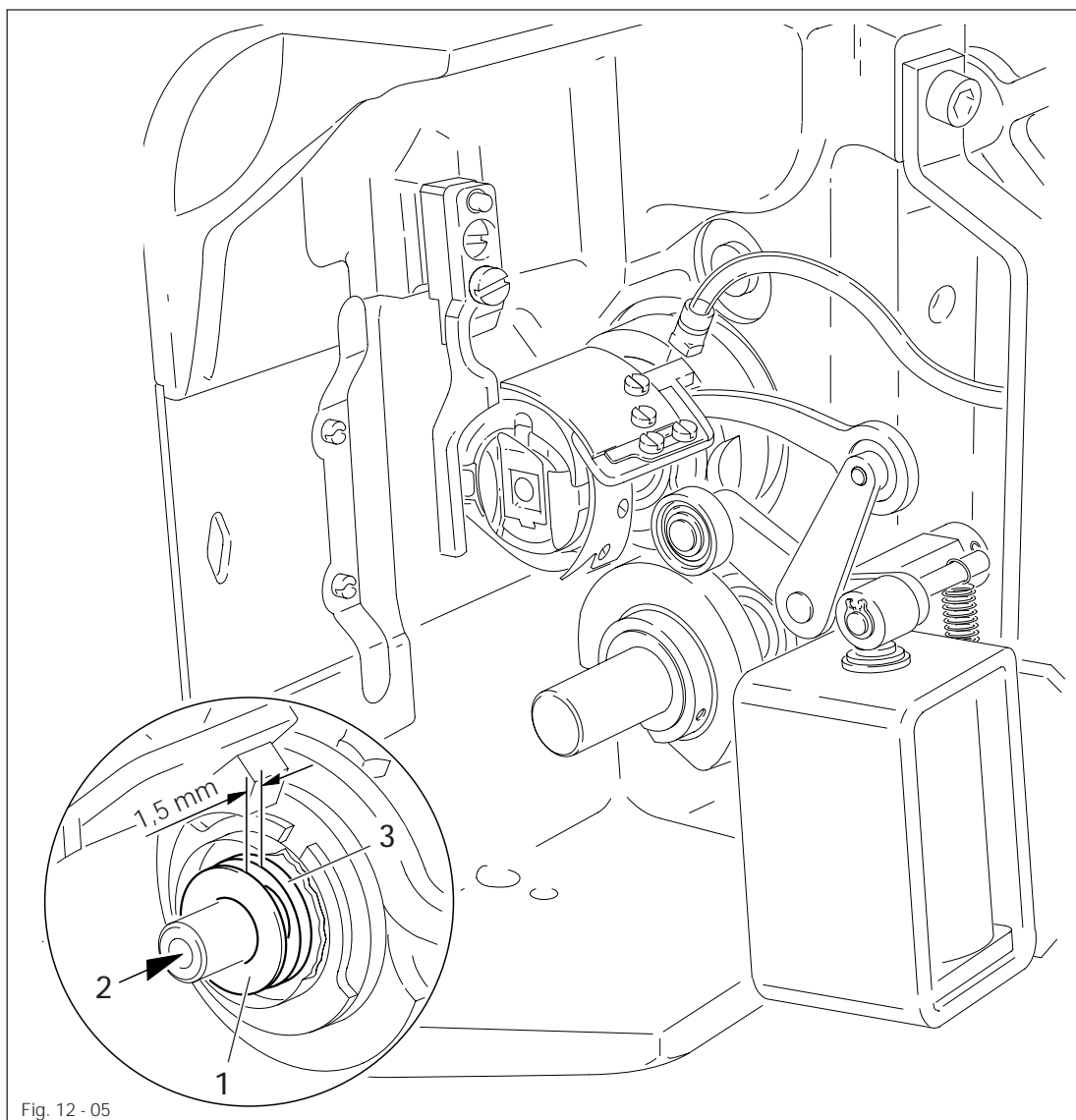
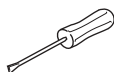


Fig. 12 - 05



The adjustment is only necessary if the wick has been replaced.
When replacing the wick, make sure that the new wick is impregnated with oil.



- Move the centrifugal disk 1 (screw 2) according to **requirement 1**.
- Check **requirement 2**. If necessary, move centrifugal disk 1.

12.05.05 Needle rise, hook-to-needle clearance, needle height and bobbin case position finger

Requirement

With the needle at 1.8 mm after BDC,

1. the hook point **6** must point to the middle of the needle and be at a distance of **0.05 mm - 0.1 mm** to the clearance cut of the needle, and
2. the top edge of the needle eye must be **0.8 mm** below the hook point.
3. Between the projection of the bobbin case position finger **4** and the bottom of the retaining groove there should be a distance of **0.5 mm**.

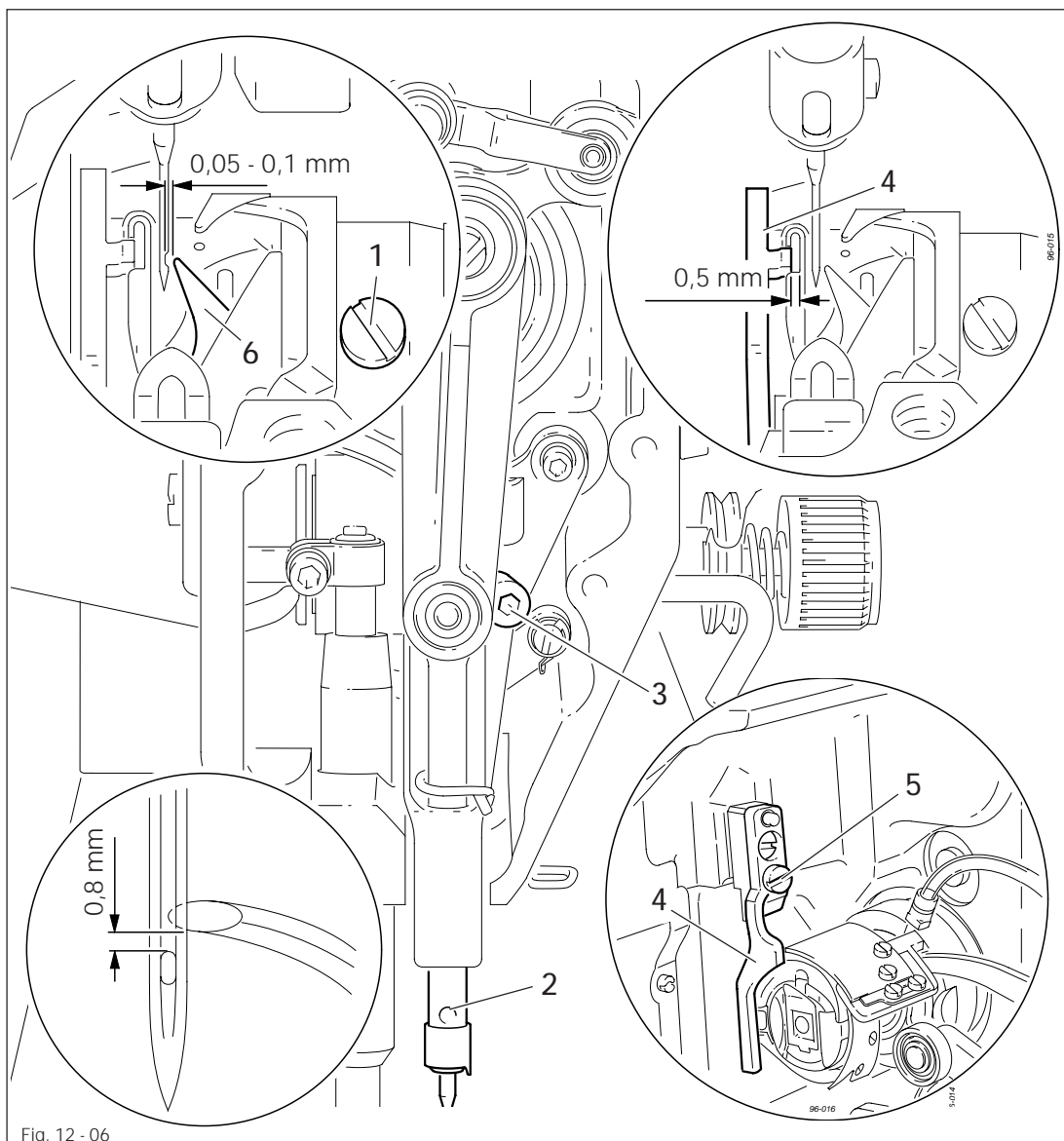
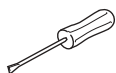


Fig. 12 - 06

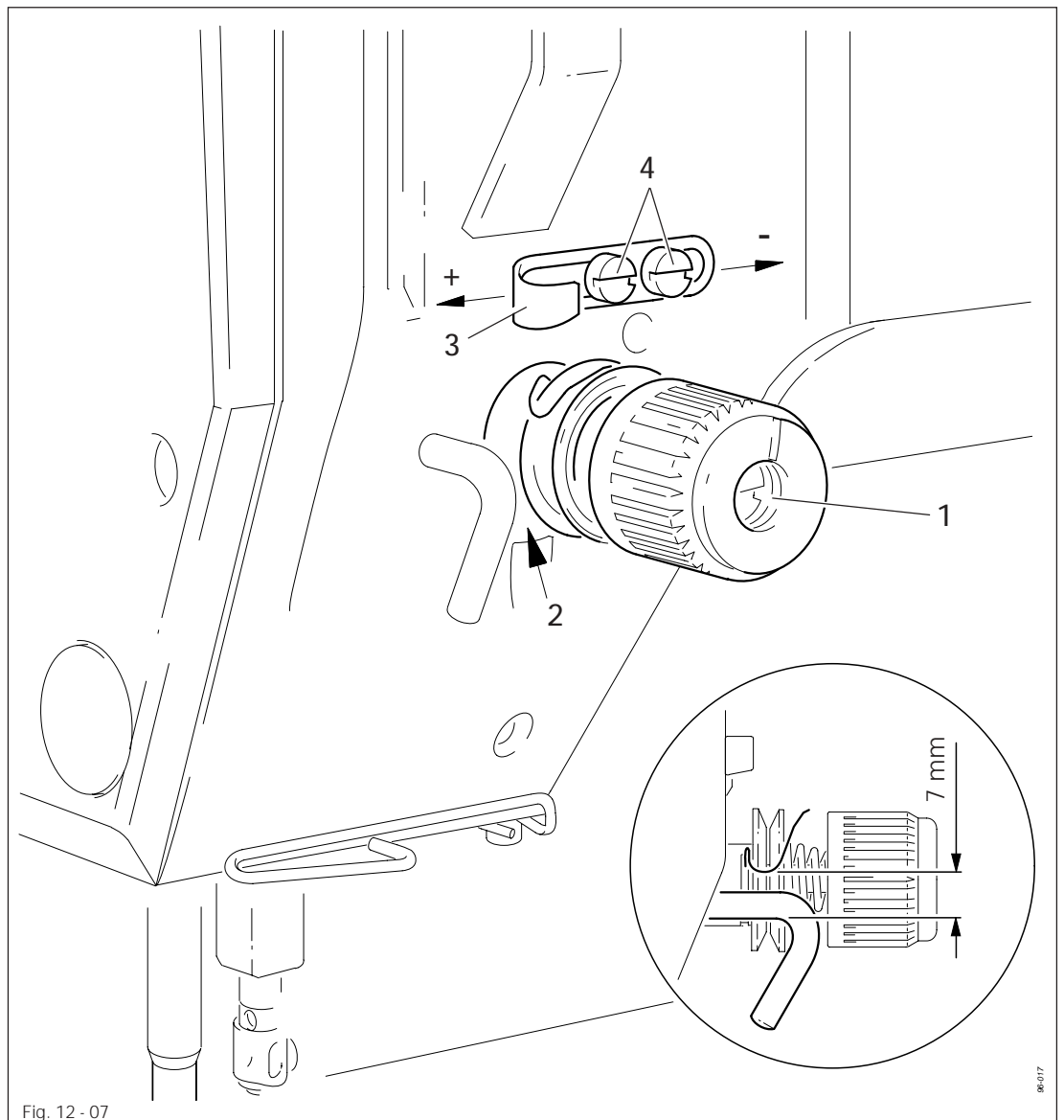


- Using the adjustment pin, position the needle bar at 1.8 mm after BDC.
- Adjust the hook according to **requirement 1**.
- Tighten screw **1**.
- Move needle bar **2** (screw **3**) without turning it according to **requirement 2**.
- Align bobbin case position finger **4** (screw **5**) according to **requirement 3**.

12.05.06 Thread check spring and slack thread regulator

Requirement

1. The motion of the thread check spring must be completed when the needle point enters the material (spring stroke approx. **7 mm**).
2. When the thread loop is at its largest when going around the hook, the thread check spring must have moved by approx. **1 mm**.



- Turn thread tension 1 (screw 2) according to requirement 1.
- Turn thread tension 3 (screw 4) according to requirement 2.

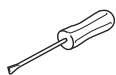
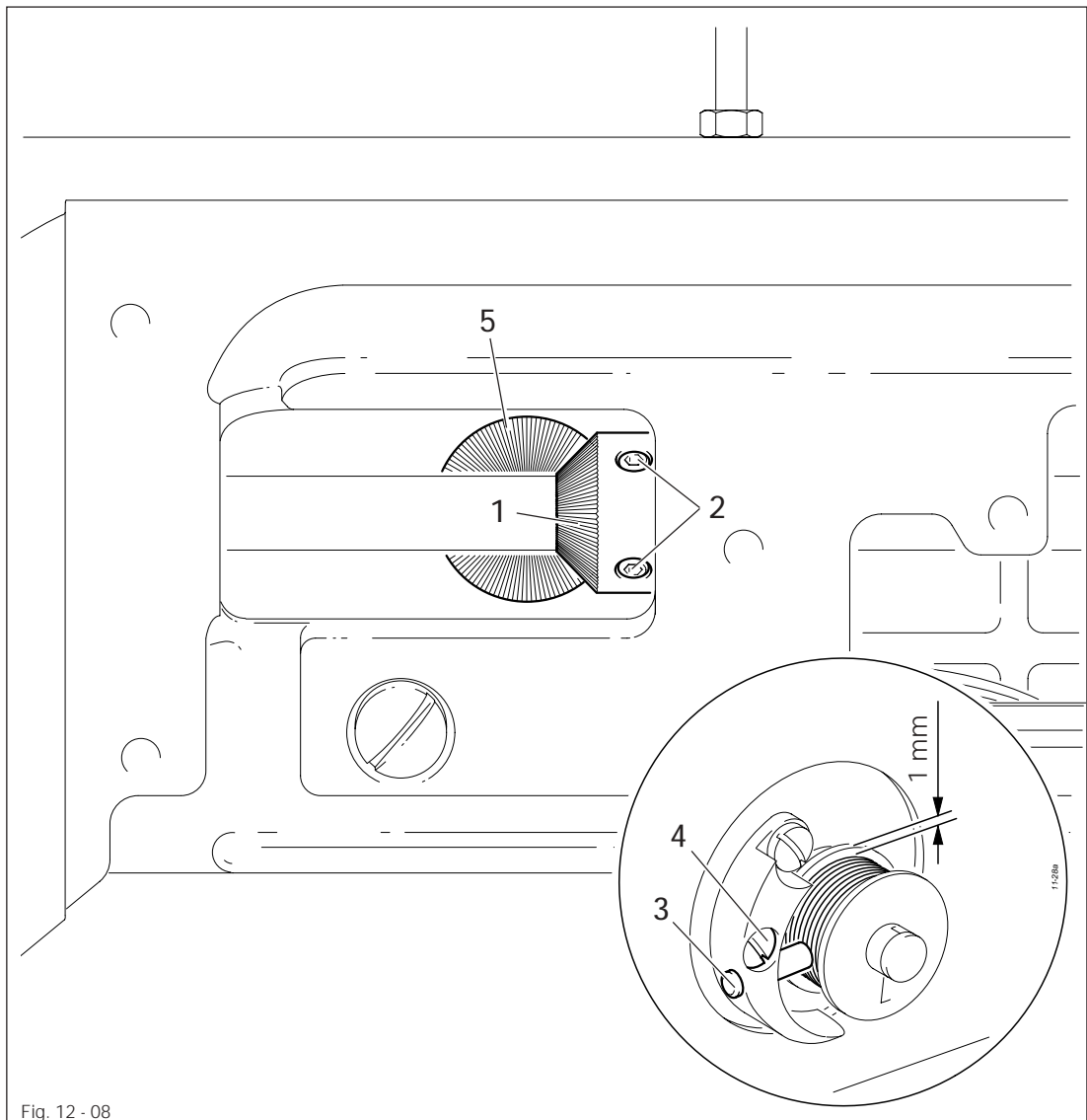


Due to technical sewing reasons it may be necessary to deviate from the spring stroke indicated above.

Move the slack thread regulator 3 (screw 4) toward the "+" (= more thread) or toward the "-" (= less thread)

Requirement

1. With the bobbin winder on, the drive wheel 1 must engage reliably.
2. With the bobbin winder off, the friction wheel 5 must not be driven by the drive wheel 1.
3. The bobbin winder must turn off automatically when the thread level is approx. 1 mm from the edge of the bobbin.

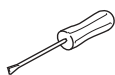
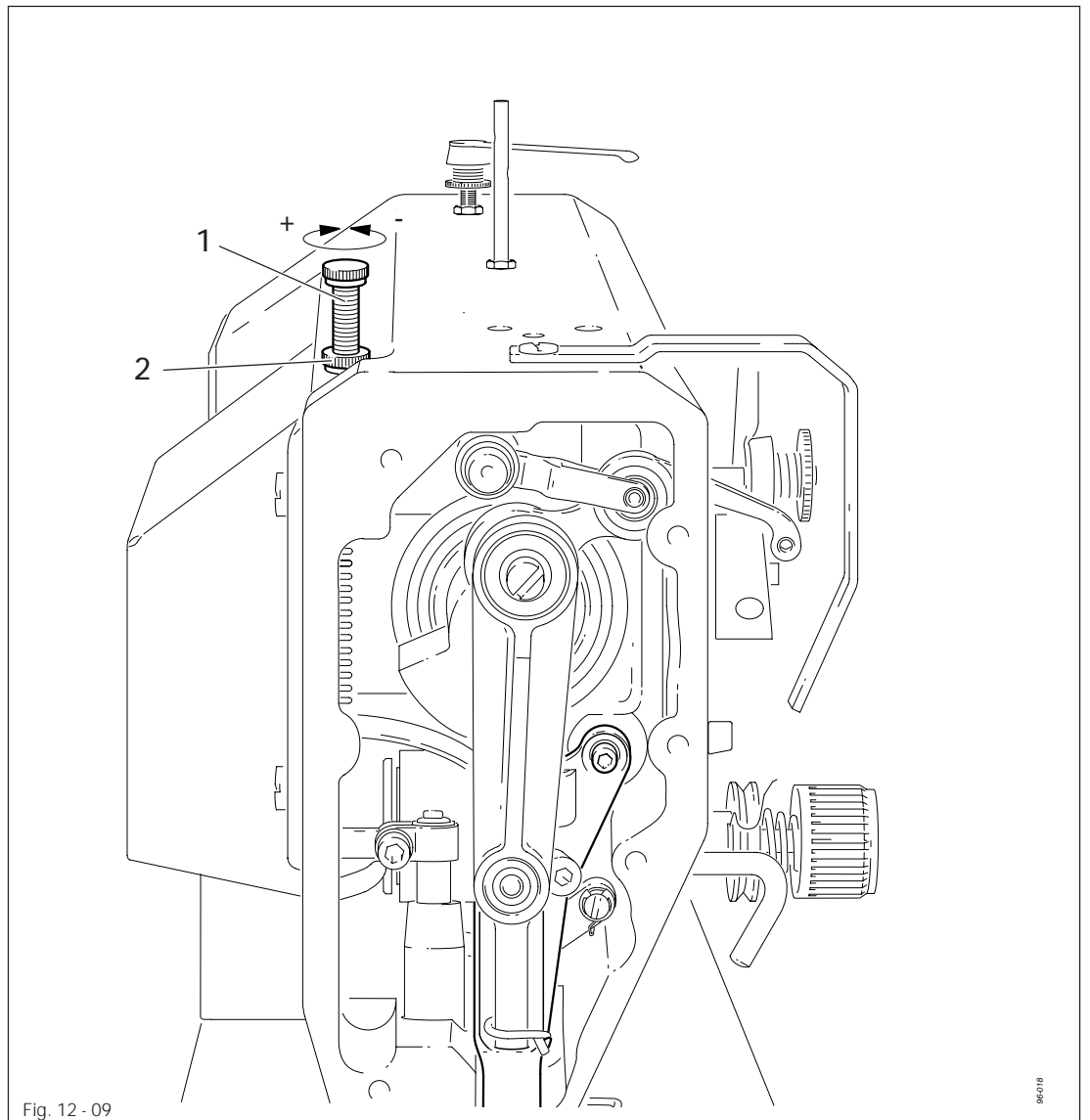


- Move drive wheel 1 (screws 2) in accordance with requirement 1 and 2.
- Move bolt 3 (screw 4) in accordance with requirement 3.

12.05.08 Presser foot pressure

Requirement

The material should be held perfectly even at top sewing speed.



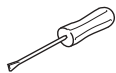
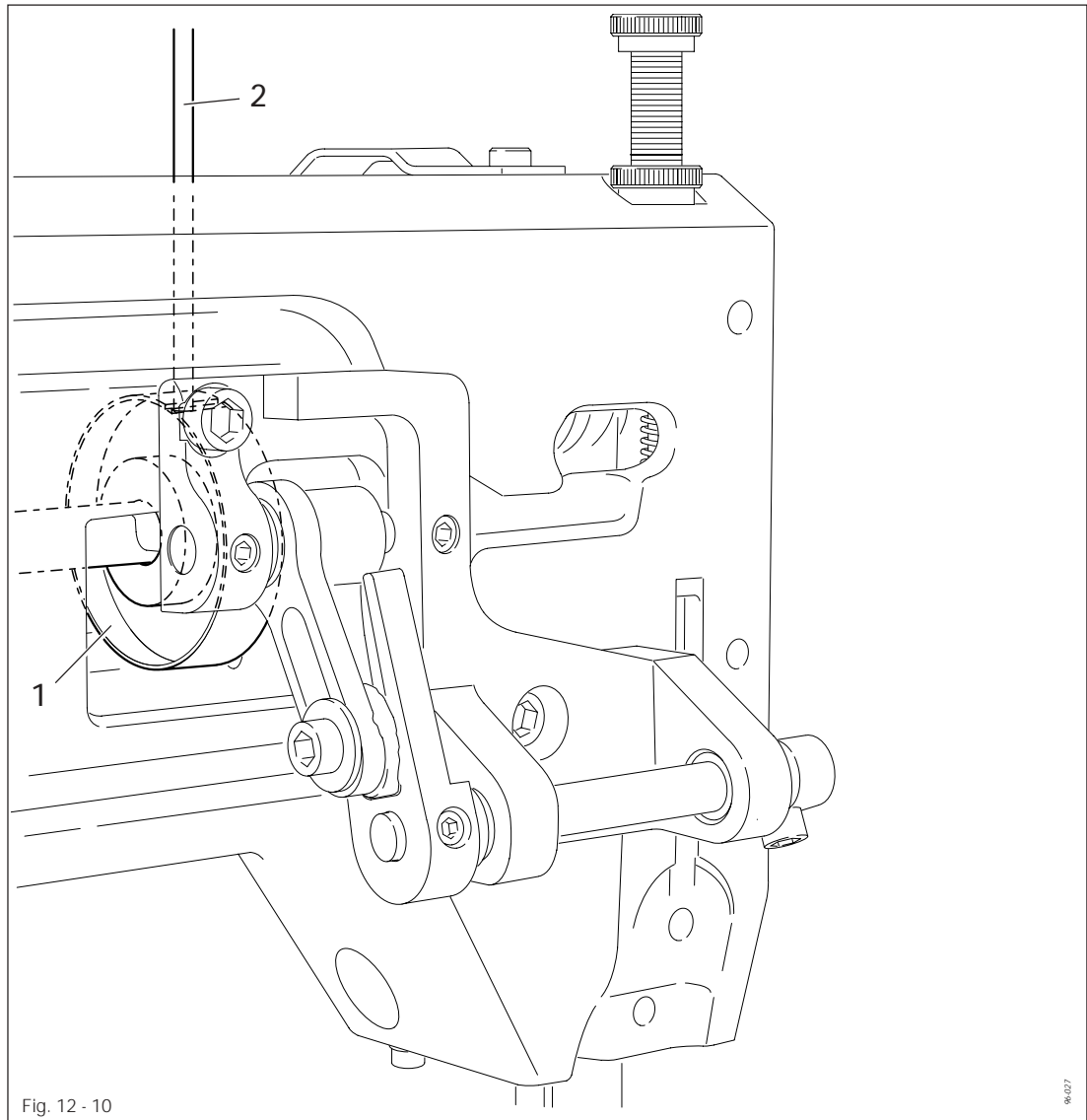
- Turn screw 1 (nut 2) in accordance with the requirement.

Adjustment

12.05.09 Presser foot control cam

Requirement

When the needle bar is at t.d.c., the adjustment pin 2 (part no. 61-111 639-70) should lock into the groove of the control cam 1.

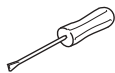
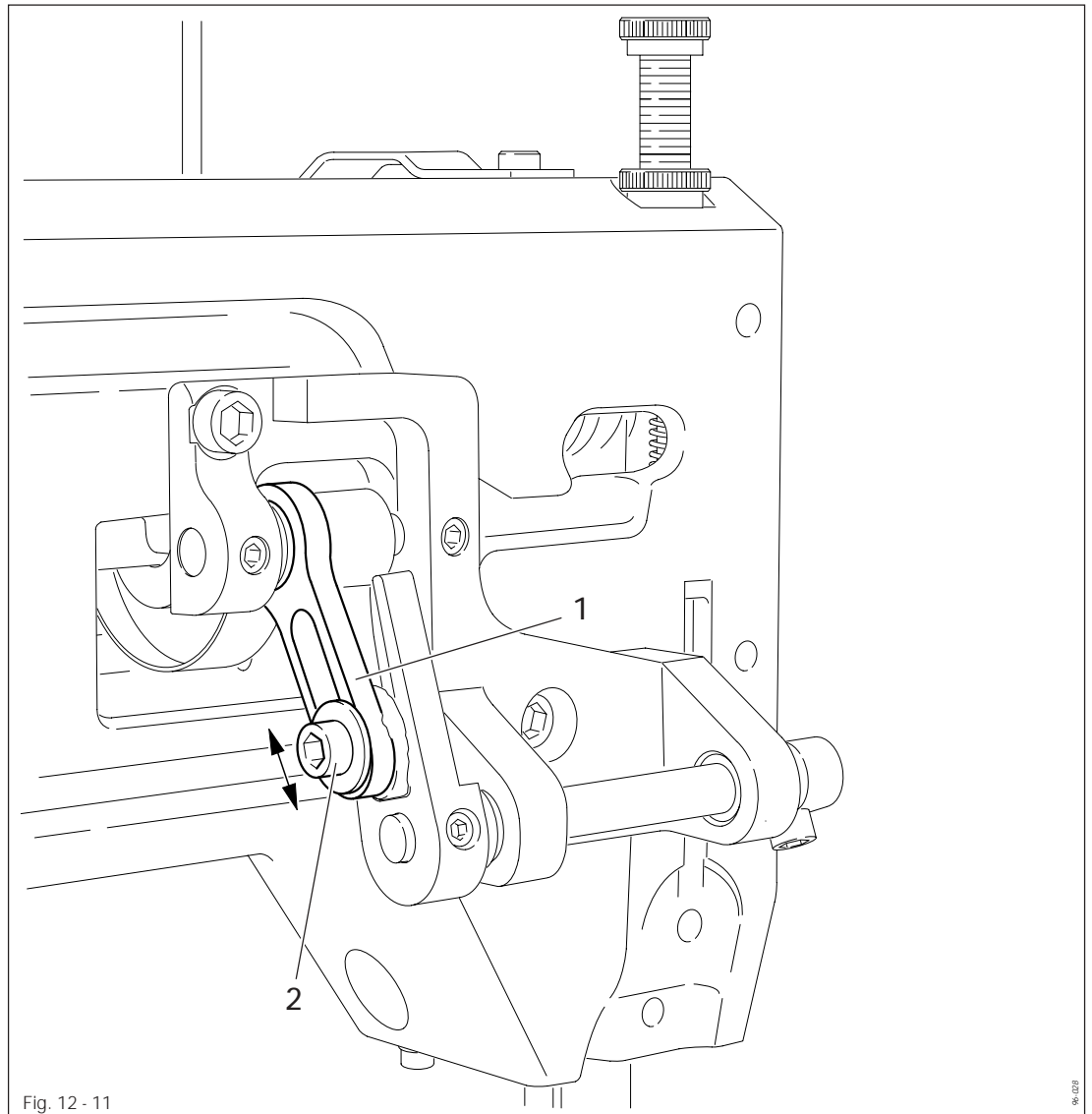


- Adjust control cam 1 (2 grub screws) in accordance with the requirement.

12.05.10 Presser foot stroke

Requirement

The presser foot stroke should be adjusted to match the work material.



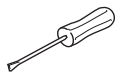
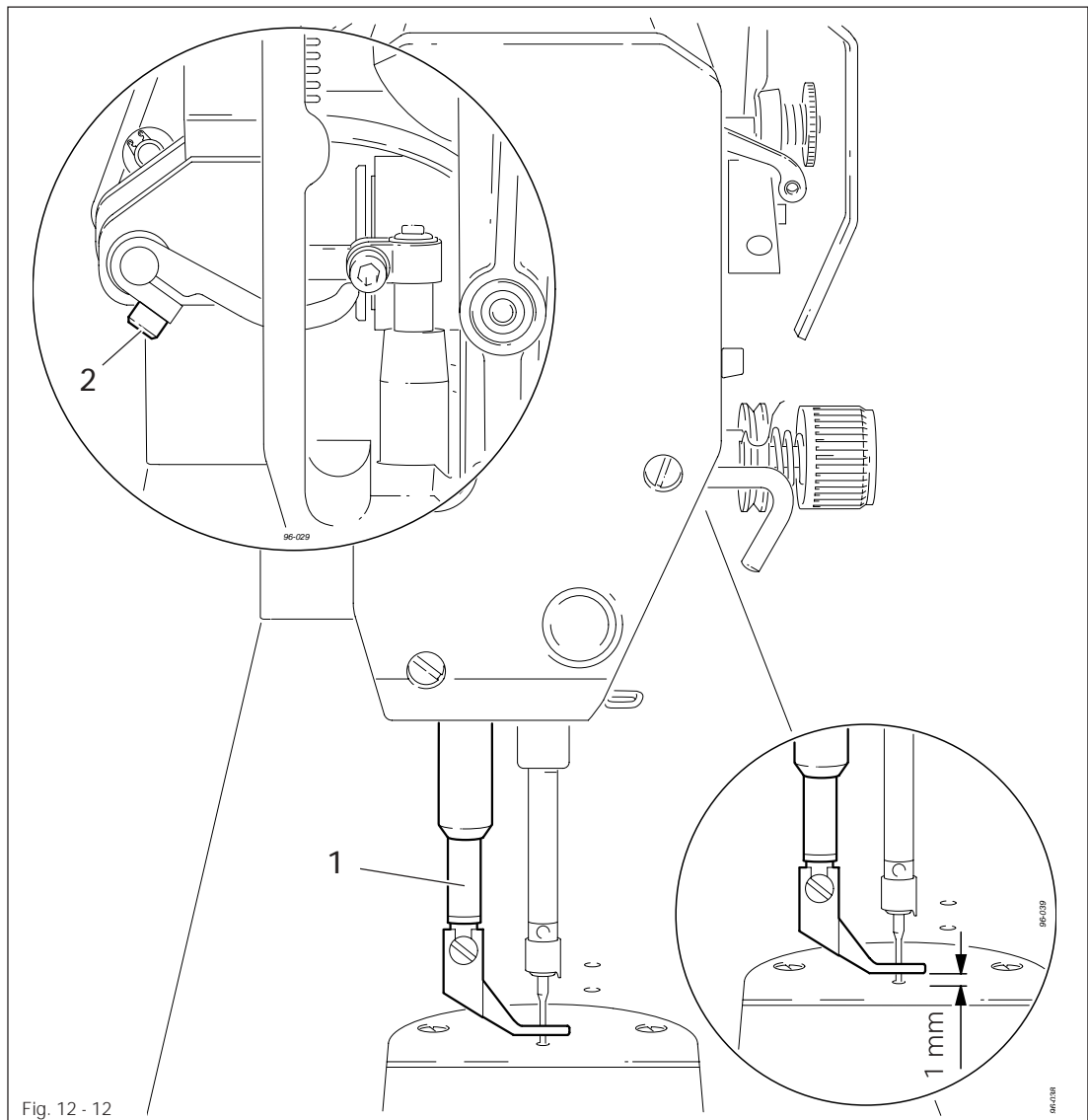
- Adjust slotted lever 1 (screw 2) in accordance with the requirement.

Adjustment

12.05.11 Presser foot height

Requirement

At the bottom of its stroke, the presser foot should be at a distance of **approx. 1 mm** from the needle plate.



- Adjust presser foot 1 (screw 2) in accordance with the **requirement**.



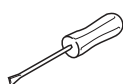
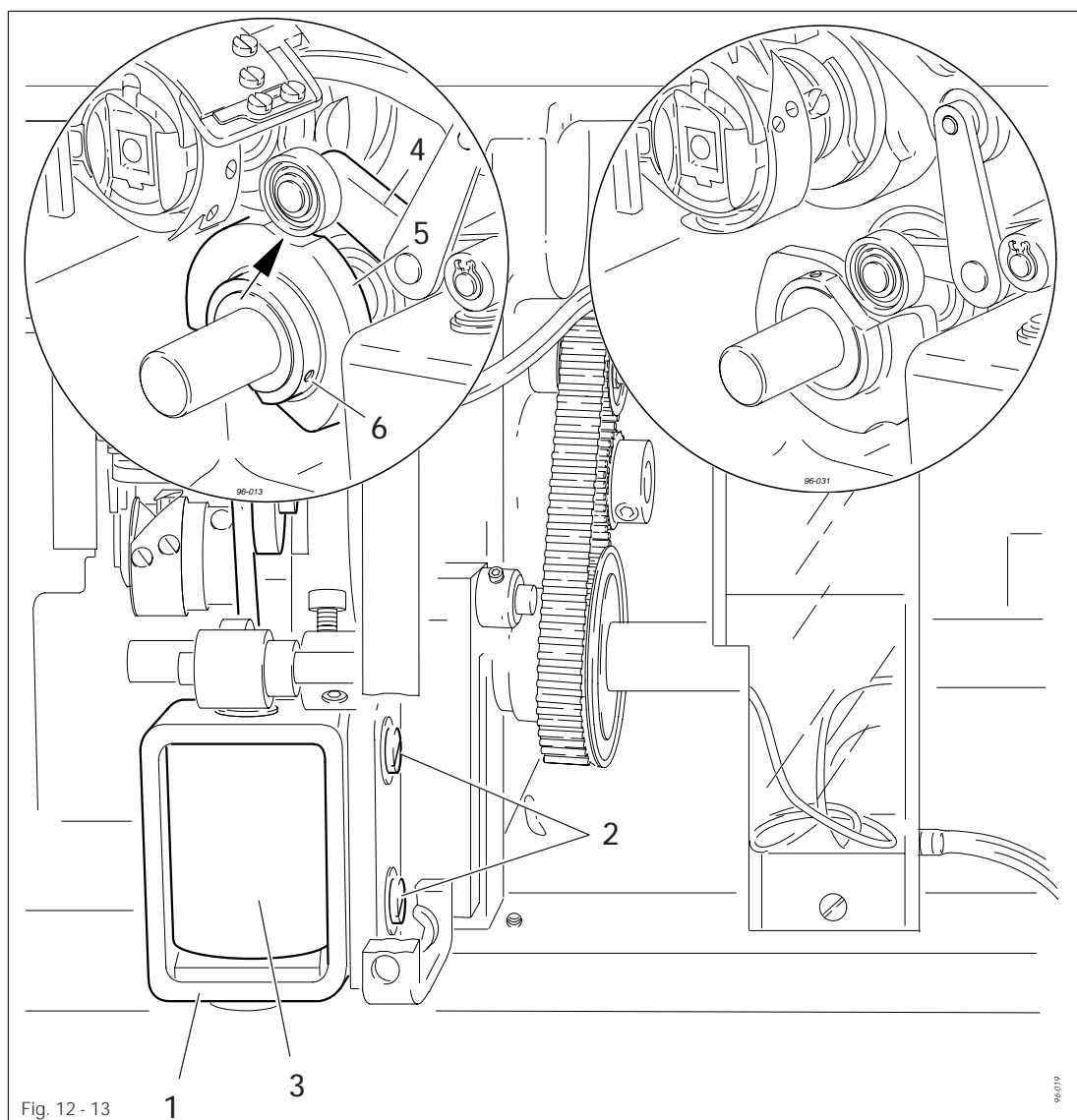
For very thick materials the distance from the needle plate can be increased to reduce the operating noise of the machine.

12.06 Adjusting the thread trimming device -900/24

12.06.01 Adjusting the solenoid / preliminary adjustment of the control cam

Requirement

1. When solenoid 3 is completely extended, roller lever 4 should be at the lowest point of the control cam.
2. When the needle bar is positioned at 1.8 mm after b.d.c. (needle rise position), roller lever 4 should engage in the appropriate recess of the control cam.



- Adjust solenoid holder 1 (screws 2) in accordance with requirement 1.
- Adjust control cam 5 (screws 6) in accordance with requirement 2.

12.06.02 Lateral alignment of the thread catcher

Requirement

1. The tip of the thread catcher 5 must point exactly to the center of the needle.
2. The thread catcher 5 must be horizontal. It must not graze anything when it is operating.

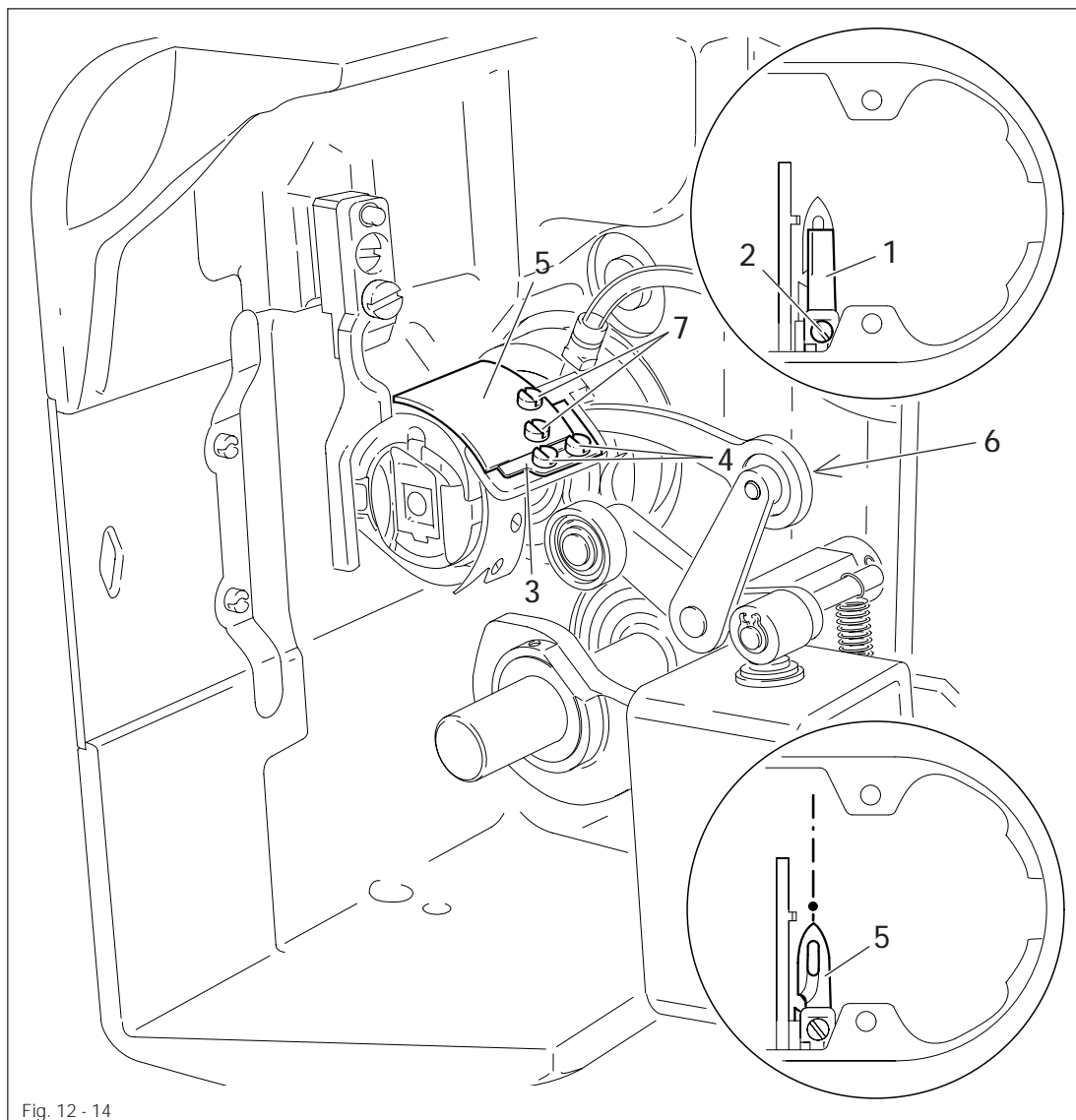
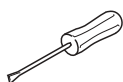


Fig. 12 - 14



- Remove knife 1 (screw 2).
- Move needle bar to its BDC.
- Loosen stop 3 (screws 4).
- Position thread catcher 5 (screw 6) manually in front of the needle.
- Align thread catcher 5 (screws 7) according to the requirements.



For further adjustments, leave knife 1 removed and stop 3 loosened.

12.06.03 Knife position

Requirement

1. There must be a distance of **4 mm** between the cutting edge of the knife and the needle.
2. The right edge of the knife **1** must not extend beyond the right edge of the thread catcher (see arrow).

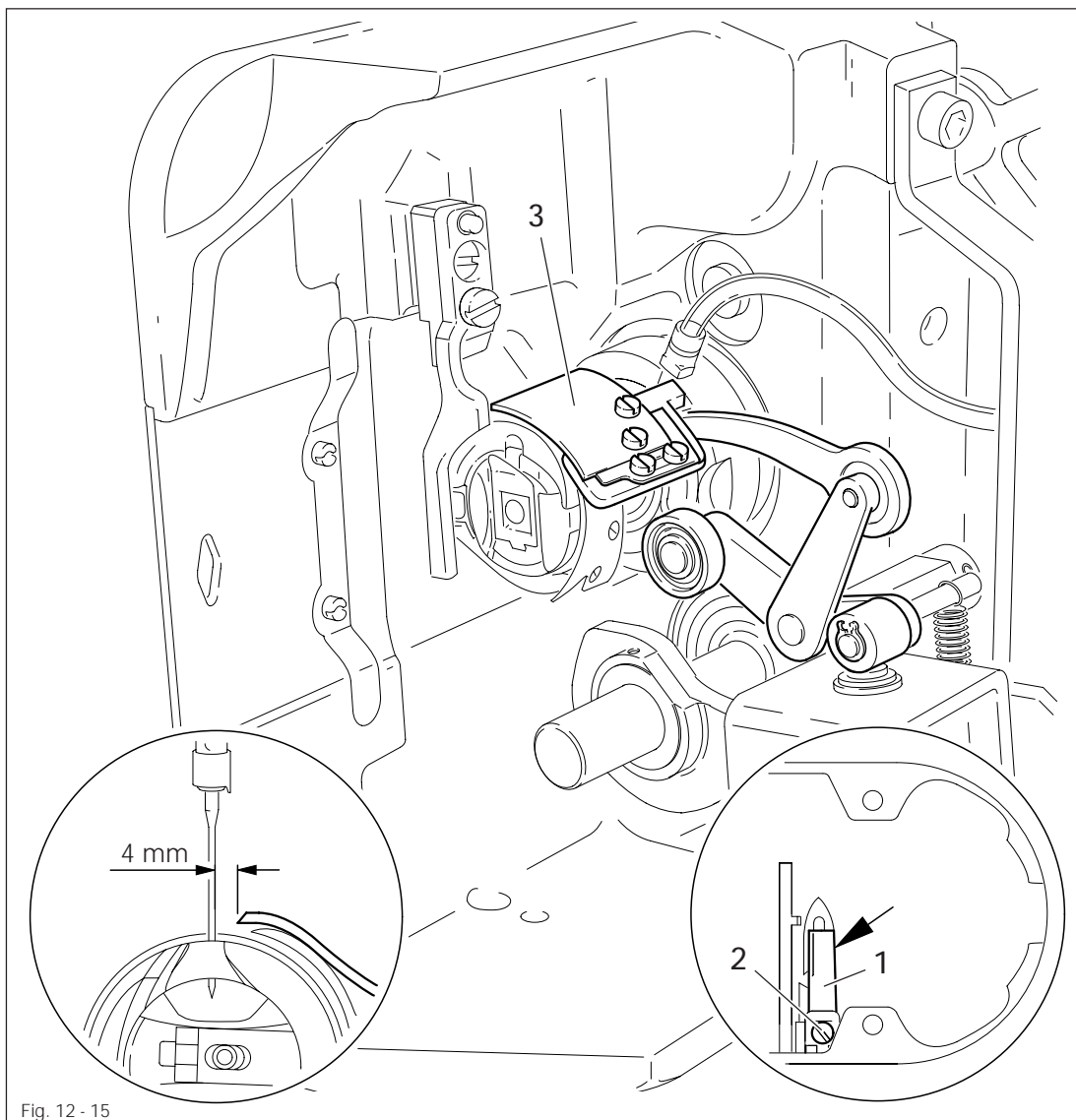
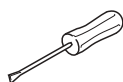


Fig. 12 - 15

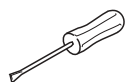
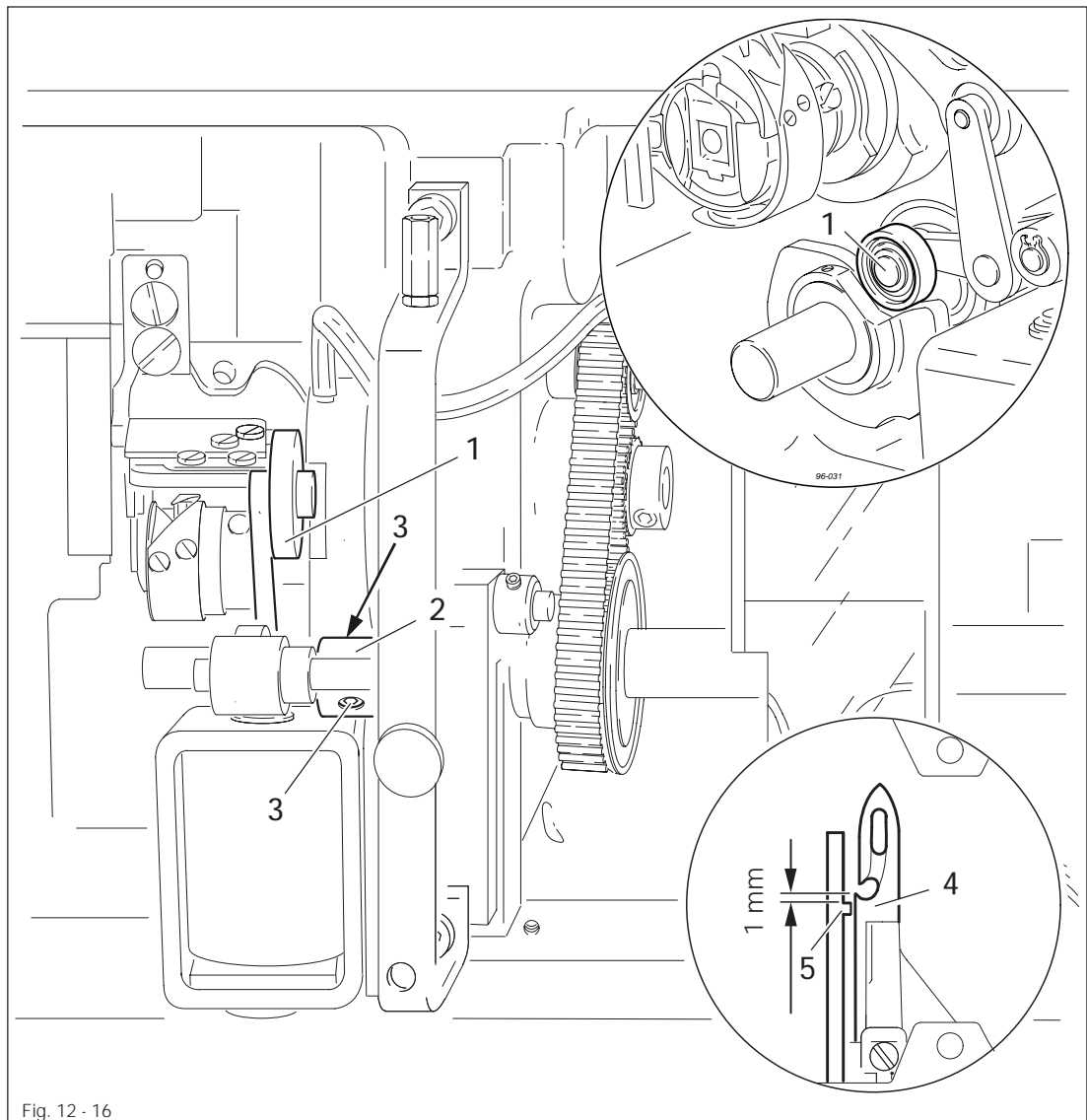


- Bring the needle bar to BDC.
- Slide knife **1** under the locking tab and align according to **requirement 1**.
- Tighten screw **2** lightly.
- Adjust thread catcher carrier **3** by hand until the wedge point in the thread catcher is positioned just in front of the cutting edge of the knife.
- Align knife **1** according to **requirement 2** and tighten screw **2**.

12.06.04 Front point of reversal of the thread catcher

Requirement

At the front point of reversal of thread catcher 4, the tip of the thread catcher cutout should be 1 mm in front of the bobbin case position finger 5.



- Swing roller lever 1 to the deepest point of the control cam.
- Adjust lever 2 (screws 3) in accordance with the requirement.

12.06.05 Manual trimming check

Requirement

Two threads must be cut perfectly both left and right in the cutout of thread catcher 1.

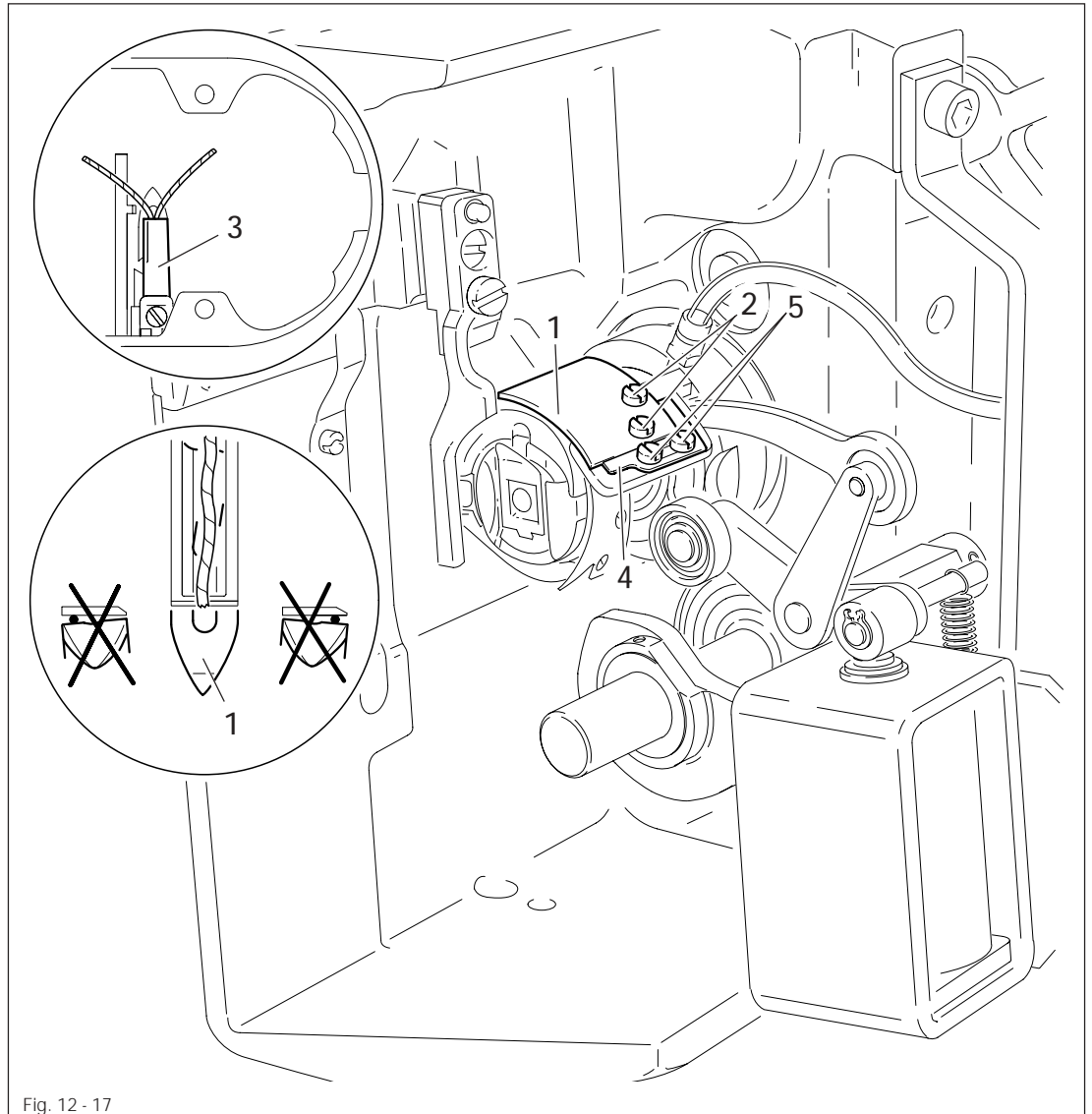
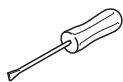


Fig. 12 - 17



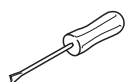
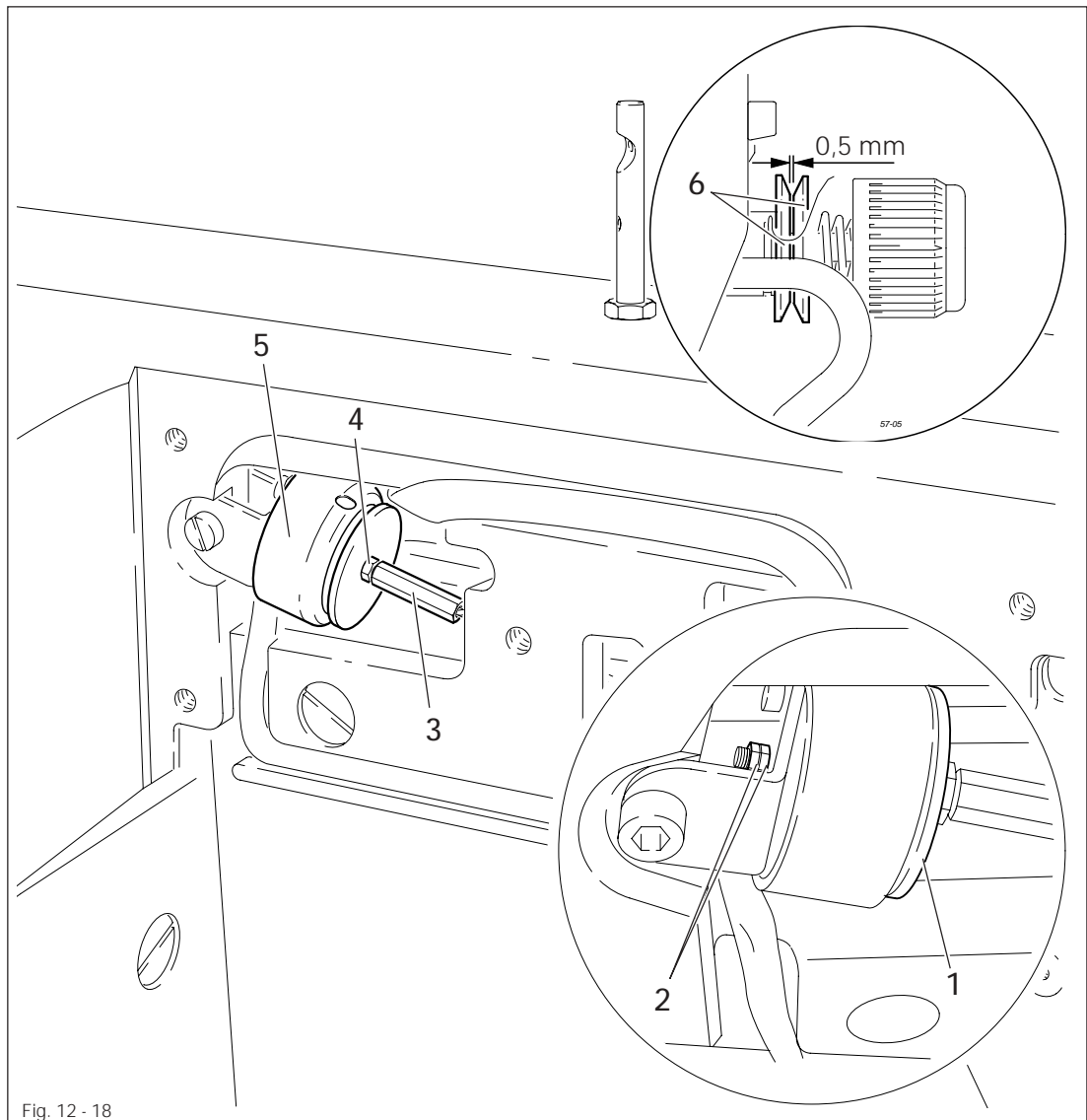
- Move thread catcher 1 by hand to its front point of reversal.
- Double the thread and insert into catcher cutout.
- Carry out trimming operation manually.
- If the threads are not cut according to the **requirement**, align thread catcher 1 (screws 2) with knife 3 accordingly.
- Move stop 4 against thread catcher 1 and tighten screws 5.
- Check chapter 12.06.02 **Lateral alignment of the thread catcher**, and readjust if necessary.

Adjustment

12.06.06 Needle thread tension release

Requirement

1. The magnet lift should be 1.5 mm.
2. When the magnet 5 is operated by hand, there should be a distance of at least 0.5 mm between the tension discs 6.



- Adjust disc 1 (nuts 2) according to the requirement.
- Adjust screw 3 (nut 4) according to the requirement.

12.06.07 Readjusting the control cam

Requirement

When the take-up lever is in its t.d.c., control cam 1 should have moved thread catcher 3.

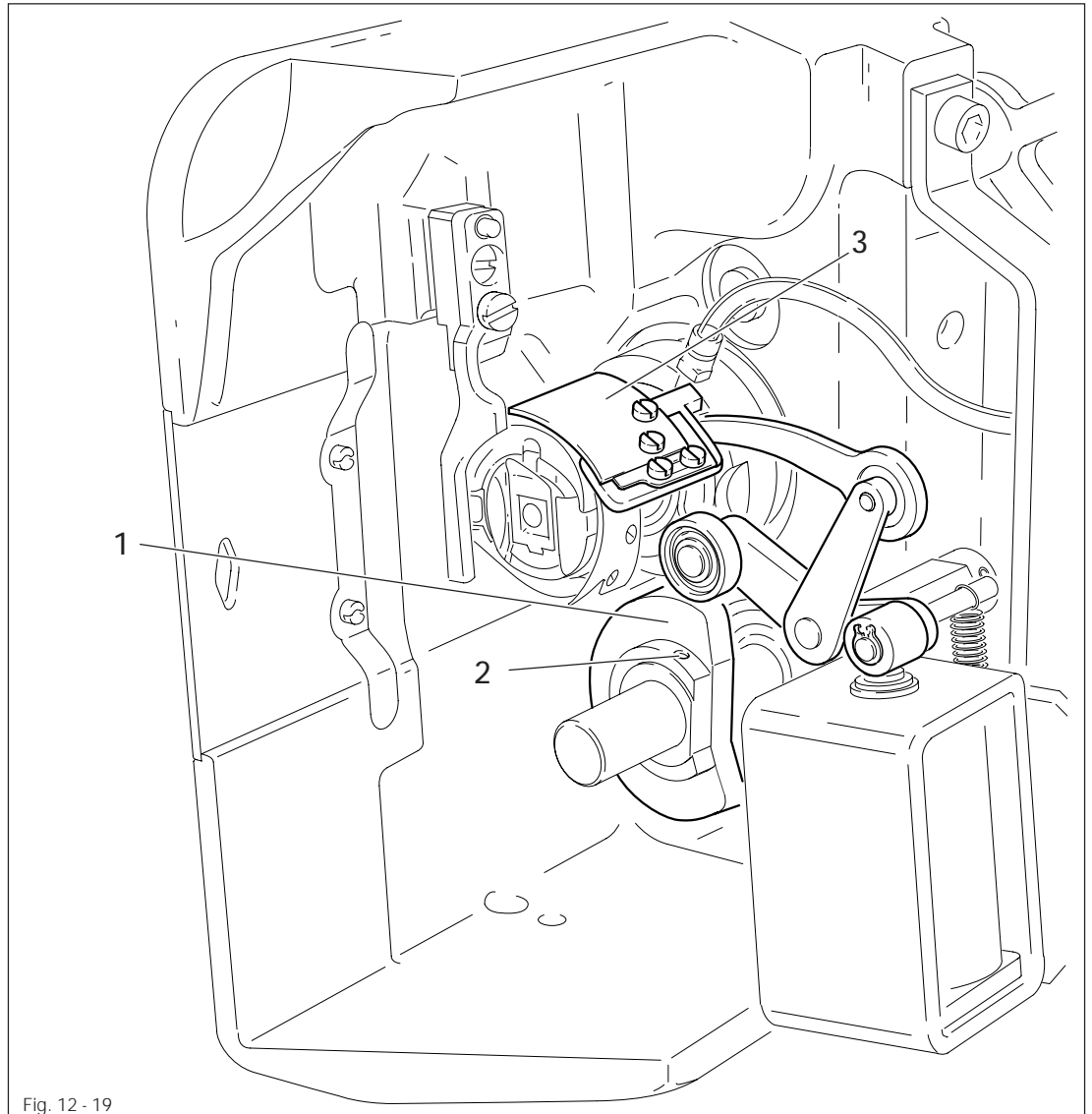
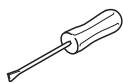


Fig. 12 - 19



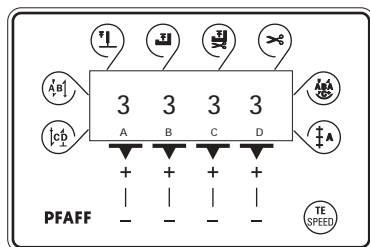
- Adjust control cam 1 (screws 2) in accordance with the requirement.

Adjustment

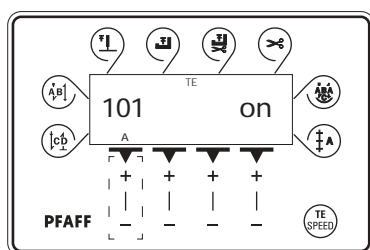
12.07 Parameter settings

12.07.01 Selecting the user level

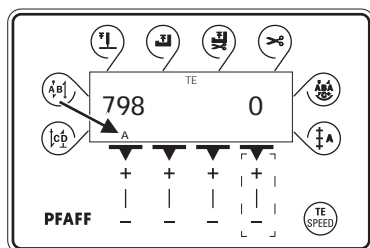
- Switch on the machine.



- 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

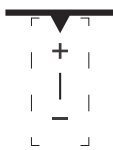
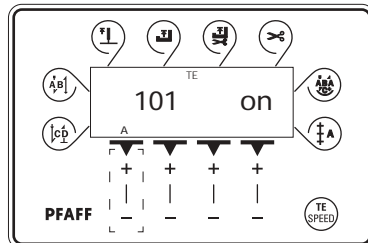
The selected user level is displayed on the screen. (see arrow)

12.07.02 Example of a parameter input

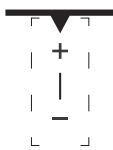
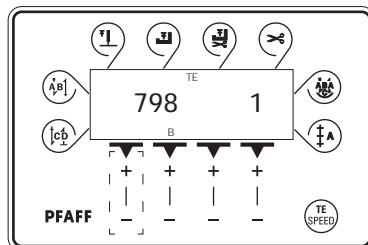
- Switch on the machine.

2 x 

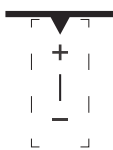
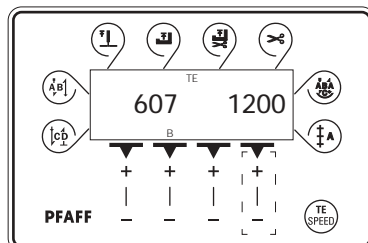
- Press the TE/Speed key twice to select the input mode.



- By pressing the corresponding plus/minus key select parameter "798" and the user level "B", see Chapter 12.07.01 Selecting the user level.



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



- Select the required value for the 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.

12.07.03 List of parameters

Group	Parameter	Description	User level	Setting range	Set value
1	101	Control panel key tone (on = EIN , off = AUS)	A		on
6	605	Speed display (on = EIN , off = AUS)	B, C		off
	607	Speed	B, C	300 - 3200	1200
	609	Cutting speed 1	B, C	60 - 300	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	80
	703	Needle position 2 (take-up lever raised)	B, C	0 - 255	226
	705	Needle position 5 (end of cutting signal 1)	B, C	0 - 255	100
	706	Needle position 6 (start of cutting signal 2)	B, C	0 - 255	80
	707	Needle position 9 (start thread tension release)	B, C	0 - 255	164
	798	User level 0 = User level 1 = Mechanic level 11 = Service level	A, B, C	0, 1, 11	0
	799	Selected machine class	C	1 - 4	4
8	800	Rotating direction 1 = 1183-712/...	C	0 - 1	1



Further parameters are listed in the **Motor instruction manual**.

12.08 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.

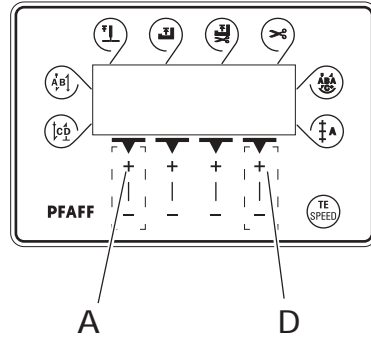
- Switch off the machine and end the quick loader and PFP boot program.
- End the connection between the PC and the machine control unit.
- Switch on the machine.
- A plausibility control is carried out and, if necessary, a cold start.



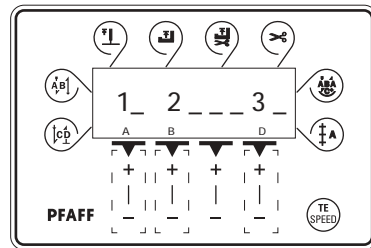
More information and assistance is at your disposal in the file "PFPHILFE.TXT", which can be called up from the PFP boot program by pressing the "help" button.

12.09 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.



Resetting the seam parameters

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



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.



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 "800" and then the parameters "700" to "799".

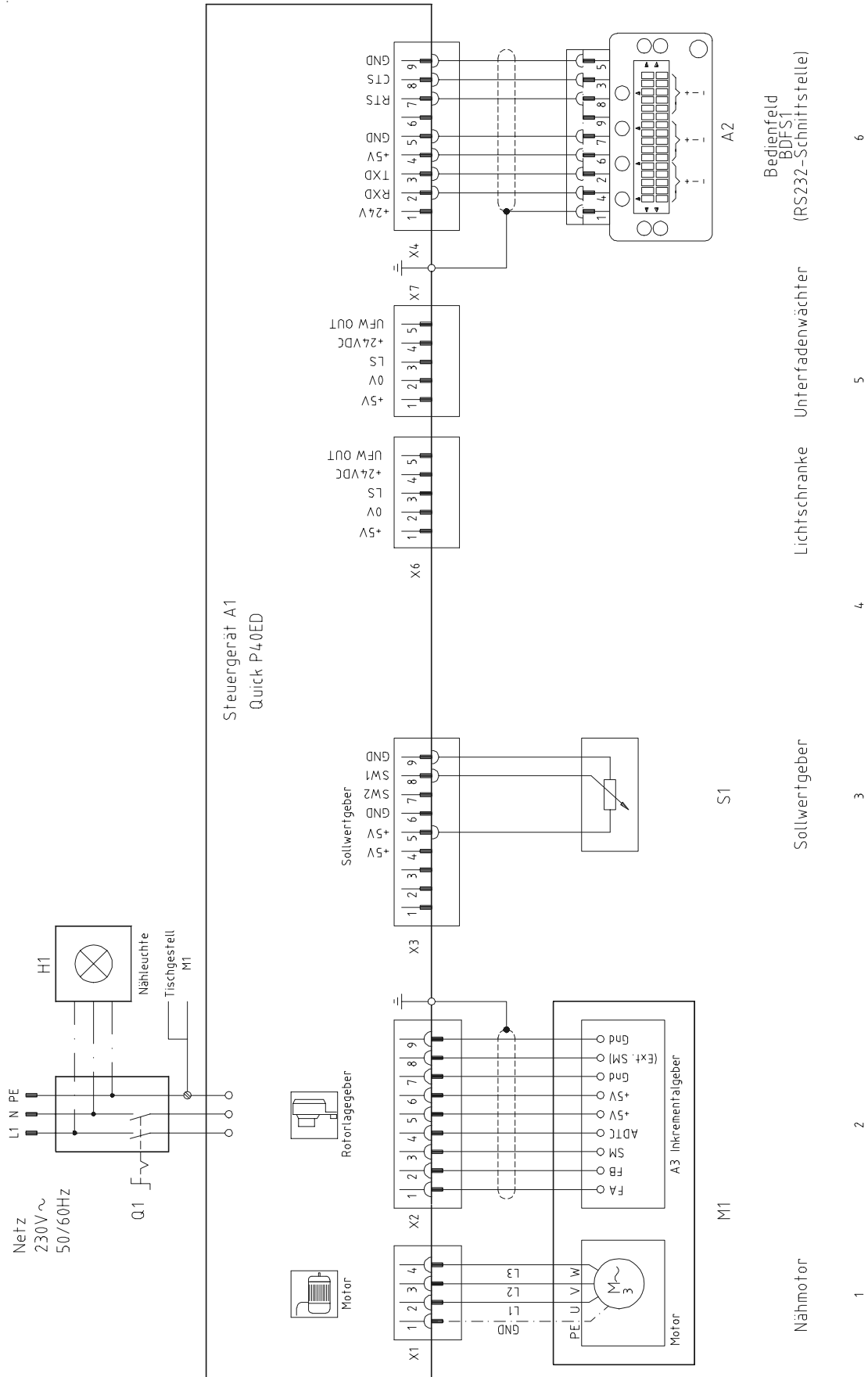
12.10 Explanation of the error signals

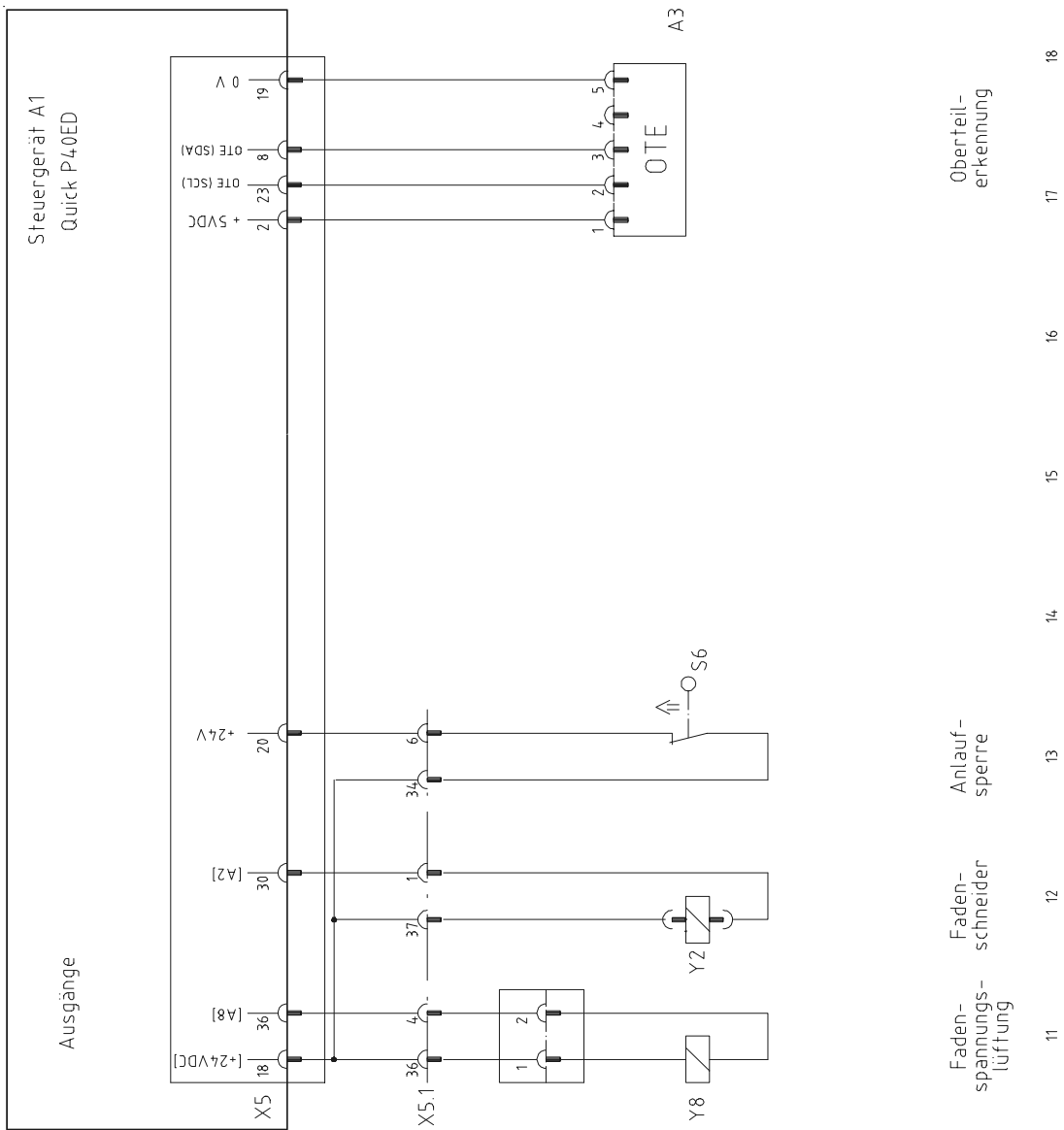
Signal	Description
E001	Pedal not in neutral position
E009	Start inhibitor during standstill
E010	Incorrect machine class
E062	Short circuit 24V
E063	Overload mains supply circuit
E064	Network monitoring
E065	Extint low in operation
E066	Short circuit
E067	Network off
E068	Extint low in operation
E069	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

13 **Circuit diagram**

Reference list for circuit diagram 95-791 227-95

A1	Controller (Quick P40 ED)
A2	Control panel S1
A3	Sewing head identification
H1	Sewing lamp
M1	Sewing motor (Quick MIN STOP)
Q1	Main switch
S1	Pedal (Quick set value transmitter)
S6	Start inhibitor
X1	Motor
X2	Incremental transmitter
X3	Set value transmitter
X4	Control panel
X5	Inputs/outputs (sewing head)
X5.1	Adapter (Quick controller – sewing head)
X6	Light barrier (optional)
X7	Bobbin thread monitor (optional)
Y2	Thread trimmer (-900/..)
Y8	Thread tension release





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