

PFAFF

-900/81

Service manual
for the PFAFF 1422

The reprinting, copying or translation of PFAFF Instruction Manuals, whether in whole or in part, is only permitted with our previous authorization and with written reference to the source.

G.M. PFAFF
Aktiengesellschaft

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

Redaktion / Illustration
PFAFF
Dept. TES

	Contents	Chapter - Page
1	Safety	1 - 1
1.01	General notes on safety	1 - 1
1.02	Safety symbols	1 - 2
1.03	Danger	1 - 2
2	Adjustment	2 - 1
2.01	Notes on adjusting	2 - 1
2.02	Tools, gauges and other accessories	2 - 1
2.03	Abbreviations	2 - 1
2.04	Explanation of the symbols	2 - 1
2.05	Resting position of the roller lever / radial position of the control cam	2 - 2
2.06	Thread catcher height	2 - 3
2.07	Thread catcher setting	2 - 4
2.08	Knife height	2 - 5
2.09	Knife pressure	2 - 6
2.10	Bobbin thread clamp spring	2 - 7
2.11	Thread catcher transmission crank	2 - 8
2.12	Transmission linkage	2 - 9
2.13	Manual trimming test	2 - 10
2.14	Synchronizer	2 - 11
2.15	Parameter settings	2 - 12

1 Safety

1.01 General notes on safety

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

1.02 Safety symbols



Danger!
Points to be observed.



Danger of injury to operating and specialist personnel!

1.03 Danger



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



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



In order to carry out adjustments on this device, the machine must be tipped backward.

When the machine is moved back to its upright position, use **both** hands!
Danger of injury by being crushed between sewing head and table top!

2 Adjustment



Please observe the safety instructions of this service manual and the notes on safety in the instruction manual before carrying out any maintenance or adjustment work.

2.01 Notes on adjusting

All adjustments in these adjustment instructions are based on a completely installed machine and must only be carried out by appropriately trained specialists. Covers on the machine which must be unscrewed for checks and adjustment work and later remounted are not mentioned here.

The screws and nuts in brackets () are for attaching machine parts. They are to be loosened before making the adjustment and tightened again when the adjustment has been completed.

2.02 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 rule (Part no. 08-880 218-00)
- Sewing thread and test material

2.03 Abbreviations

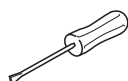
TDC = top dead center

BDC = bottom dead center

2.04 Explanation of the symbols



Note, information



Servicing, repairing, adjustment, maintenance
(only to be carried out by specialist personnel)

2.05 Resting position of roller lever/radial position of control cam

Requirement

1. When cylinder plunger 1 is retracted there must be a clearance of 0.1 mm between outer edge of control cam 6 and the roller of lever 5.
2. When cylinder plunger 1 is retracted and the take-up lever is at t.d.c., control cam 6 must just move roller lever 5 to its resting position

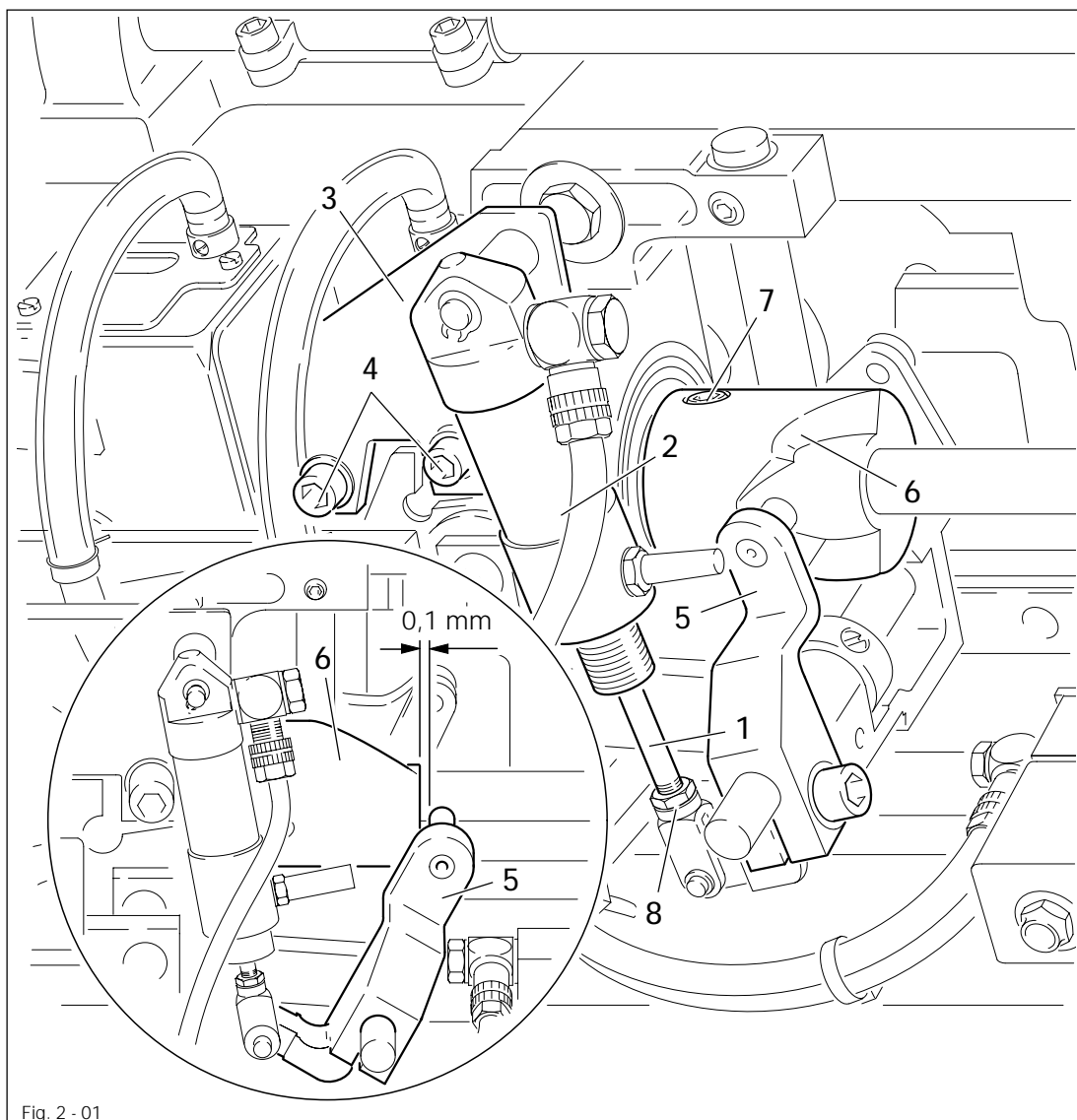
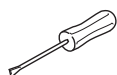


Fig. 2 - 01



- Fully retract plunger 1 into cylinder 2.
- Re-position cylinder mounting 3 (screws 4) according to Requirement 1.
- Push roller lever 5 into control cam 6.
- Set take-up lever at t.d.c. and turn control 6 (screws 7) according to Requirement 2.



On cylinder plunger 1, about 1 mm of thread must protrude above locknut 8.

Requirement

The lower edge of thread catcher 3 must clear bobbin case 4 by about 0.8 mm.

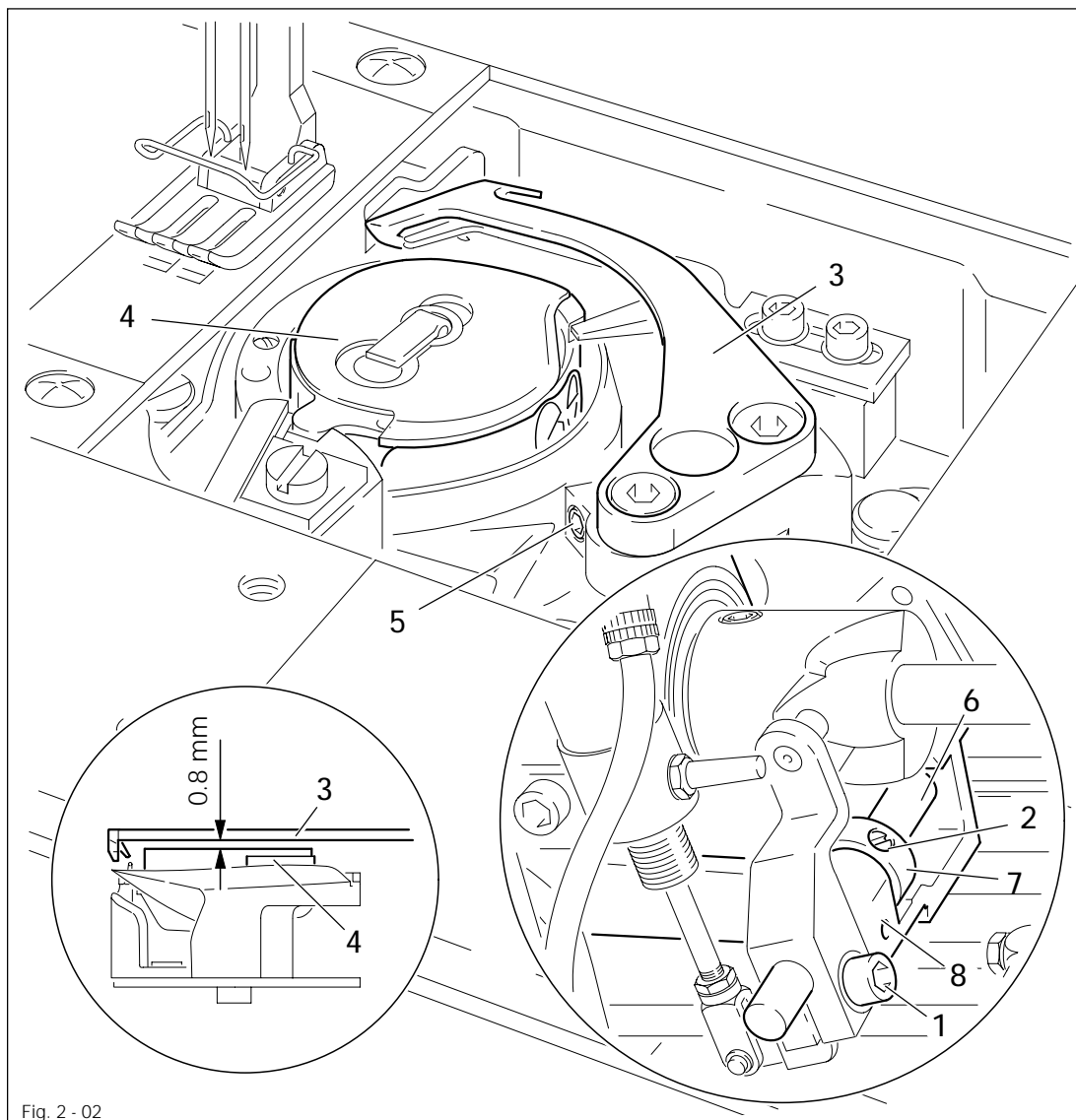
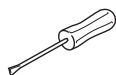


Fig. 2 - 02



- Loosen screws 1 and 2.
- Set thread catcher 3 above bobbin case 4.
- Re-position thread catcher 3 (screw 5) according to **Requirement**.
- Balance out the vertical play of shaft 6, set fixing collar 7 against bearing housing 8 and tighten screw 2.

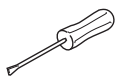
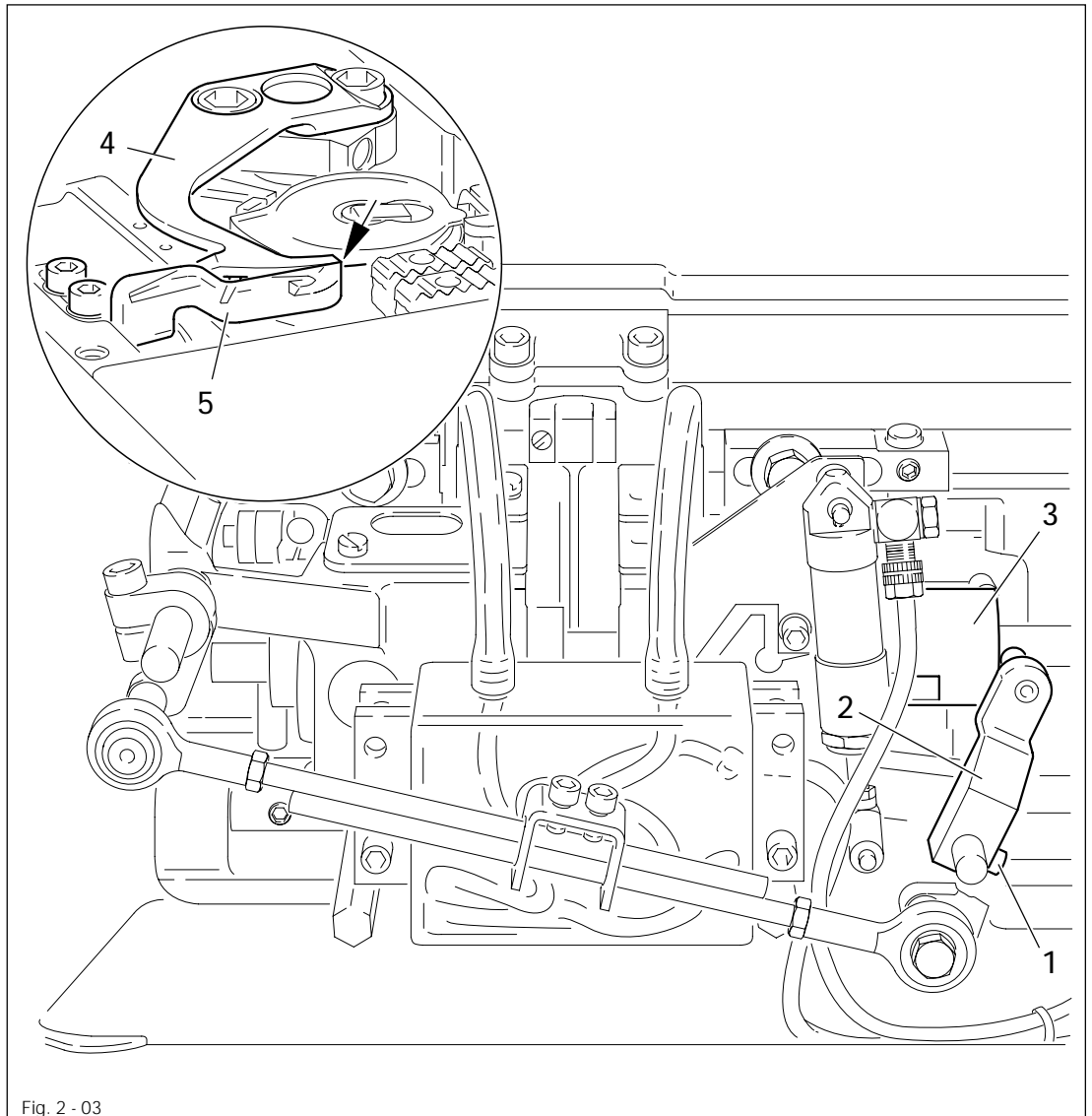


For further adjustments leave screw 1 untightened.

2.07 Thread catcher position

Requirement

When the thread catcher is in its resting position, the edges of thread catcher 4 and knife 5 must be flush (see arrow).



- Set needle bar at b.d.c. and push roller lever 2 against control cam 3.
- Turn thread catcher 4 according to **Requirement**.
- Tighten screw 1.

Requirement

With the thread trimmer in its resting position the edges of thread catcher 3 and knife 5 must be flush (see arrow).

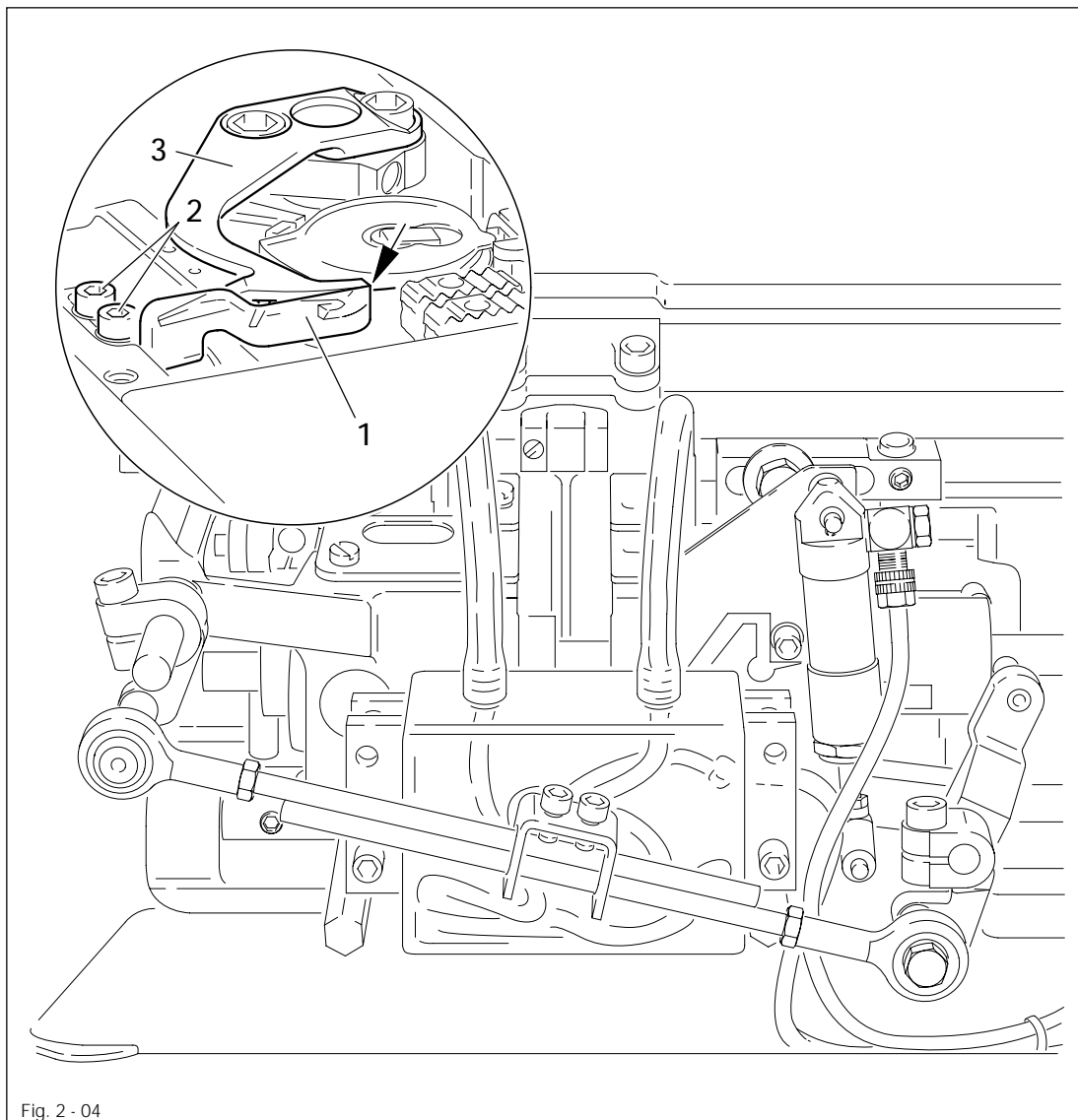
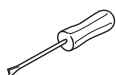


Fig. 2 - 04



- Check knife height according to Requirement.

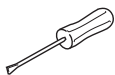
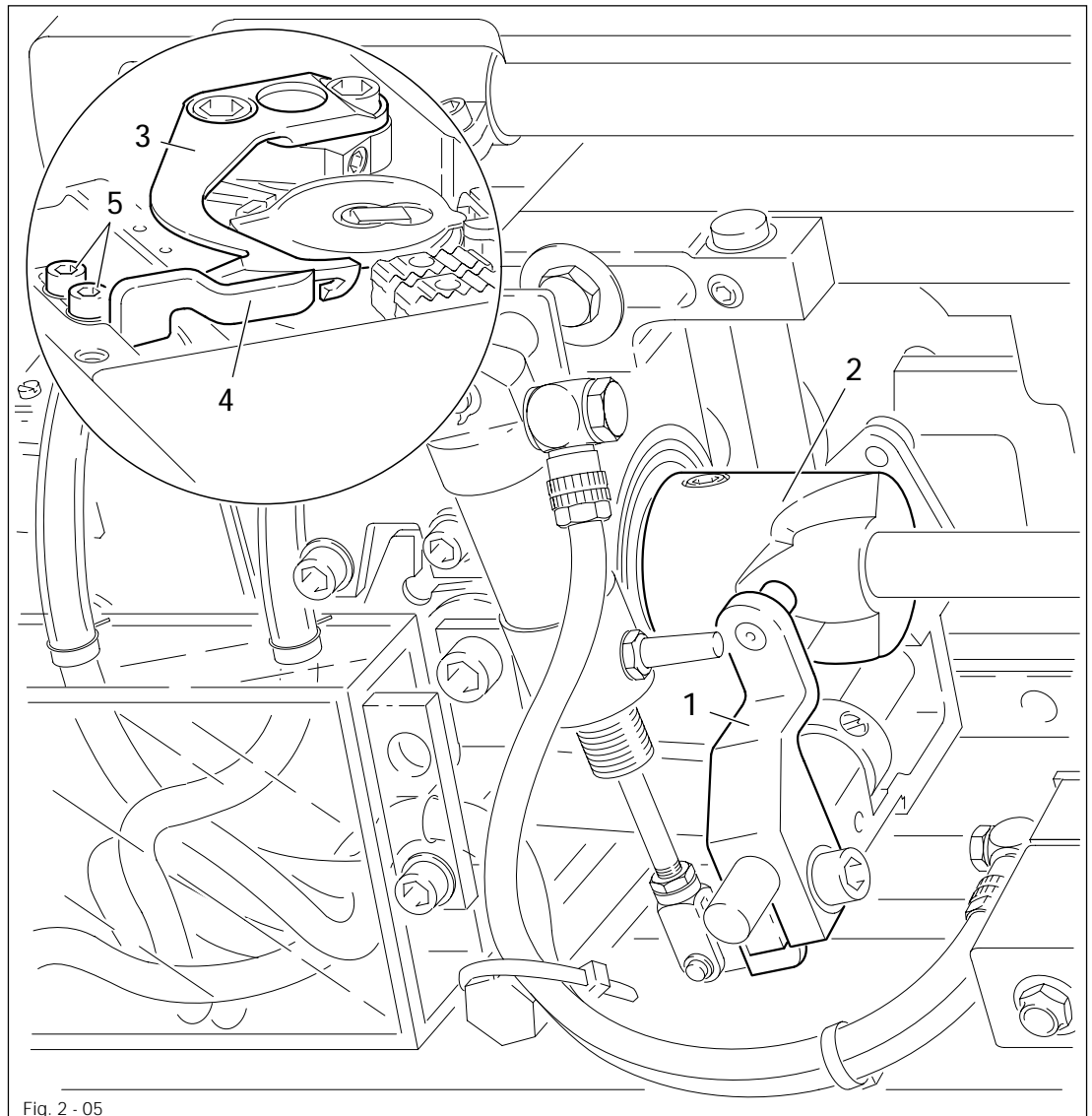


To adapt the height of knife 1, remove it (screws 2) and fit shims (part No. 91-141 402-05) according to Requirement .

2.09 Knife pressure

Requirement

When the front edge of thread catcher 3 has passed the cutting edge by half, knife 4 must rest with light pressure on the edge of the catcher.



- Set take-up lever at b.d.c. and push roller lever 1 into control cam 2.
- Turn balance wheel until front edge of catcher 3 has passed cutting edge of knife 4 by half.
- Re-position knife 4 (screws 5) according to Requirement.



After adjustment, check again according to Chapter 2.07

2.10 Bobbin-thread retaining spring

Requirement

Retaining spring 1 must

1. not be deflected during the thread catcher movement,
2. reliably retain bobbin thread 4 after cutting, and
3. not hinder removal and replacment of the bobbin case.

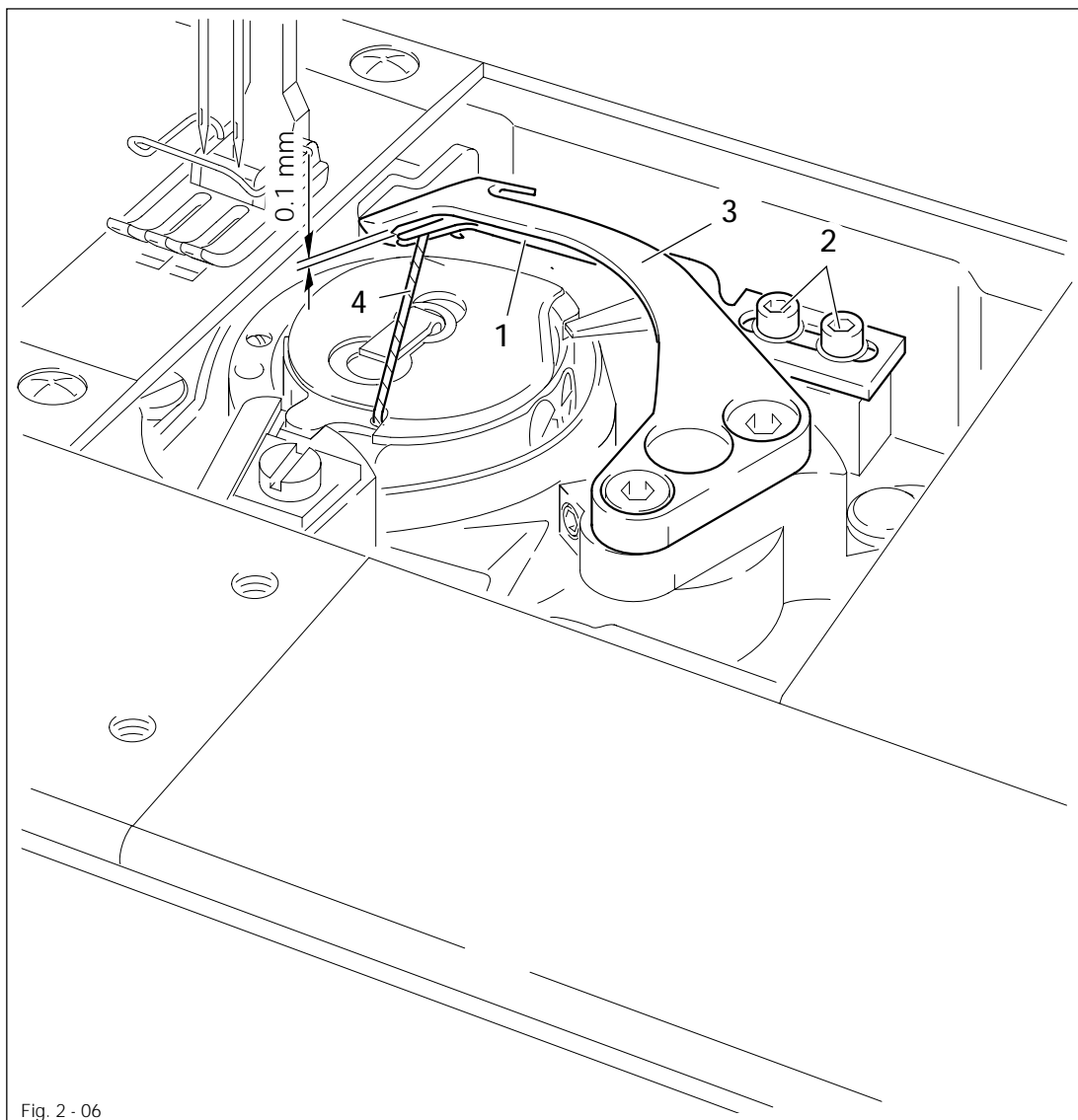
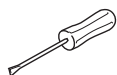


Fig. 2 - 06

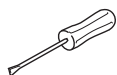
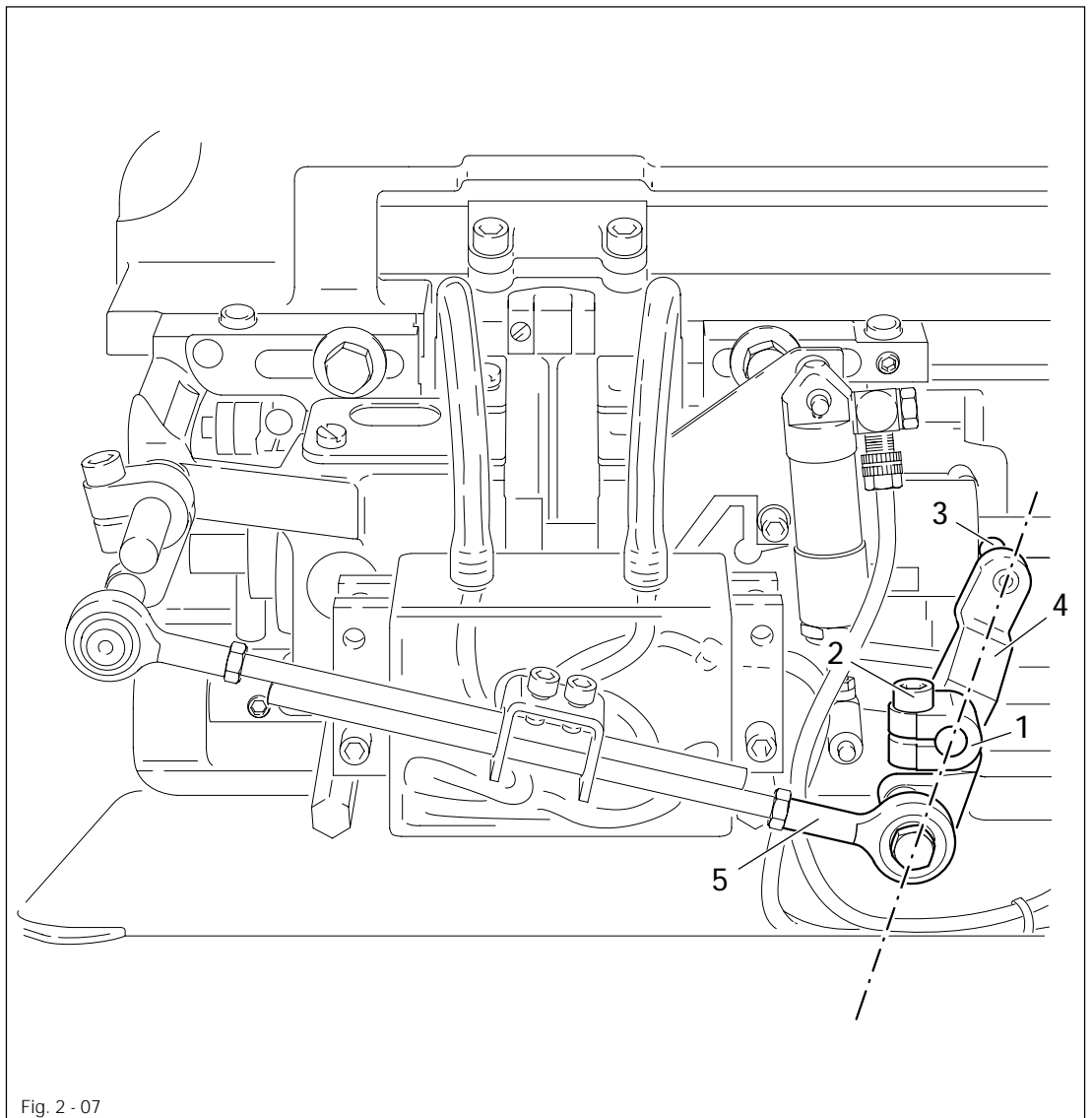


- Set thread trimmer at its resting position.
- Position retaining spring 1 (screws 2) so that the retaining lips are as close as possible to the inside wall and to the front edge of thread catcher 3.
- Bend retaining spring 1 to set its height so that there is a clearance of about 0.1 mm between top side of retaining spring 1 and thread catcher 3.

2.11 Thread catcher transmission crank

Requirement

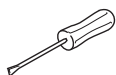
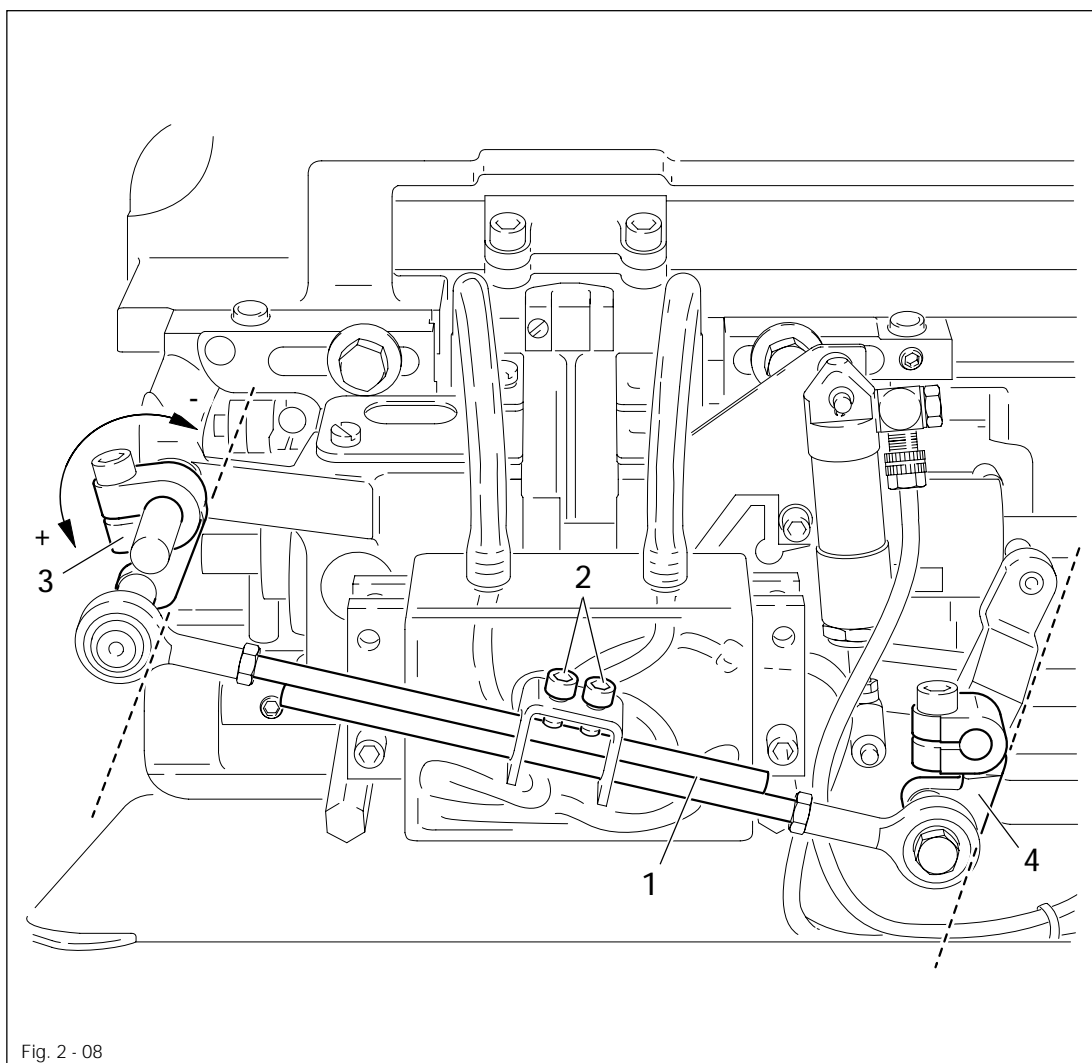
With the thread trimmer in its resting position the bearing points of roller 3, roller lever 4 and ball-joint 5 must be aligned.



- Set thread trimmer at resting position.
- Turn transmission crank 1 (screw 2) according to Requirement.

Requirement

With the thread trimmer in its resting position, transmission cranks 3 and 4 must stand parallel with each other.



- Set the thread trimmer at its resting position.
- Adjust transmission linkage 1 (screws 2) according to Requirement.

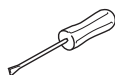
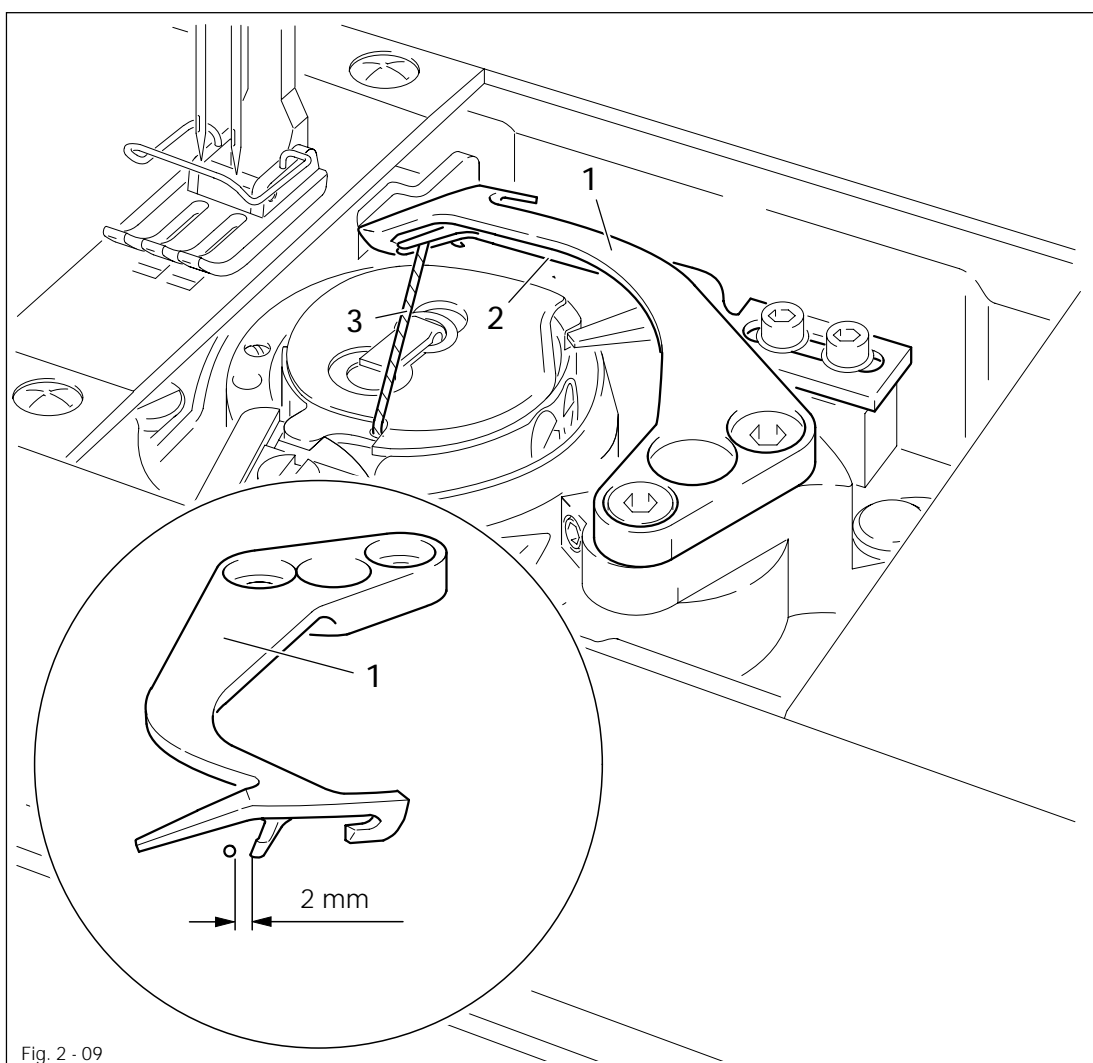


If problems occur in thread catching on the left sewing hook, the catcher stroke can be increased (+) or decreased (-) by turning transmission crank 3.

2.13 Manual cutting test

Requirement

1. When thread catcher 1 is on its forward stroke, it must not carry bobbin thread 3 forward too.
2. When thread catcher 1 is in its front position, bobbin thread 3 must be approx. 2 mm behind the prong of thread catcher 1.
3. After the trimming action, both needle- and bobbin thread must be perfectly cut, and bobbin thread 3 retained.



- Sew a few stitches.
- Turn off the on/off switch.
- Carry out cutting test manually.
- Check **Requirement 1** and readjust thread catcher 1 according to **Chapter 2.05 Thread-catcher height** if necessary.
- Check **Requirement 2** and readjust thread catcher 1 according to **Chapter 2.06 Thread-catcher position** if necessary.
- Check **Requirement 3** and readjust bobbin-thread retaining spring 2 according to **Chapter 2.09 Bobbin-thread retaining spring** if necessary.

2.14 Synchronizer

Requirement

1. When sewing is interrupted, the machine must stop at a position that is 4 mm above the BDC of the needle bar.
2. After thread trimming is completed, the machine must position itself at the TDC of the take-up lever.

- To set the stop positions refer to the Instruction Manual for the motor and **chapter 2.15 Parameter settings**.

2.15 Parameter adjustments

On the control panel the parameters can be adjusted on the display.

Group	Parameter	Meaning	Adjustm. range	Standard setting
6	601	Trimming I = yes II = no		I
	609	Trimming speed 1	30 - 300	180
7	700	Needle position 0 Reference position of needle	0 - 239	
	701	Angle position I = Adjusting synchroniser with balance wheel II = Adjusting synchroniser with keys " + " und " - "		I
	702	Needle position 1 (needle down)	0 - 239	75
	703	Needle position 2 (take-up lever up)	0 - 239	213
	705	Needle position 5 (end of trimming signal 1)	0 - 239	175
	707	Needle position 9 (start of tension-release signal 2)	0 - 239	180



For further displays and information please see instruction manual of motor manufacturer.

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

Gedruckt in der BRD
Printed in Germany
Imprimé en R.F.A.
Impreso en la R.F.A.