

# 333-712/02

## ADJUSTMENT MANUAL

This instruction manual applies to machines from the serial number **7 262 019** and software version **0435/002** onwards.

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**PFAFF Industriesysteme  
und Maschinen GmbH**

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## Adjustment



Observe and comply with all instructions in the operating manual's **chapter 1 Safety!** In particular make sure that all safety covers are installed again correctly after making adjustments, see **chapter 1.06 Operating manual** hazard information!



Unless otherwise stated, the machine must be disconnected from the electric supplies before all adjustment work!  
Risk of injury due to accidental machine start-up!

## Notes on adjustment

All adjustments in this manual are based on a fully assembled machine and may only be carried out by technical 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 that have to be completely adjusted. Both the preceding and following chapters must be observed if only specific individual work steps are carried out. Screws and nuts indicated in brackets ( ) are fastenings for machine parts, which must be loosened before any adjustment and tightened again afterwards.

13.01

## 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 Allen keys from 2 to 6 mm
- 1 metal ruler (order no. 08-880 218-00)
- Needle rise gauge (order no. 61-111 600-01)
- Screw clamp (order no. 61-111 600-35)

13.02

## Abbreviations

t.d.c. = top dead centre  
b.d.c. = bottom dead centre

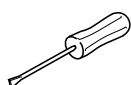
13.03

## Explanation of symbols

Activities to be performed or important information in this adjustment manual are emphasised by symbols. The symbols used have the following meaning:



Note, information



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

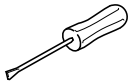
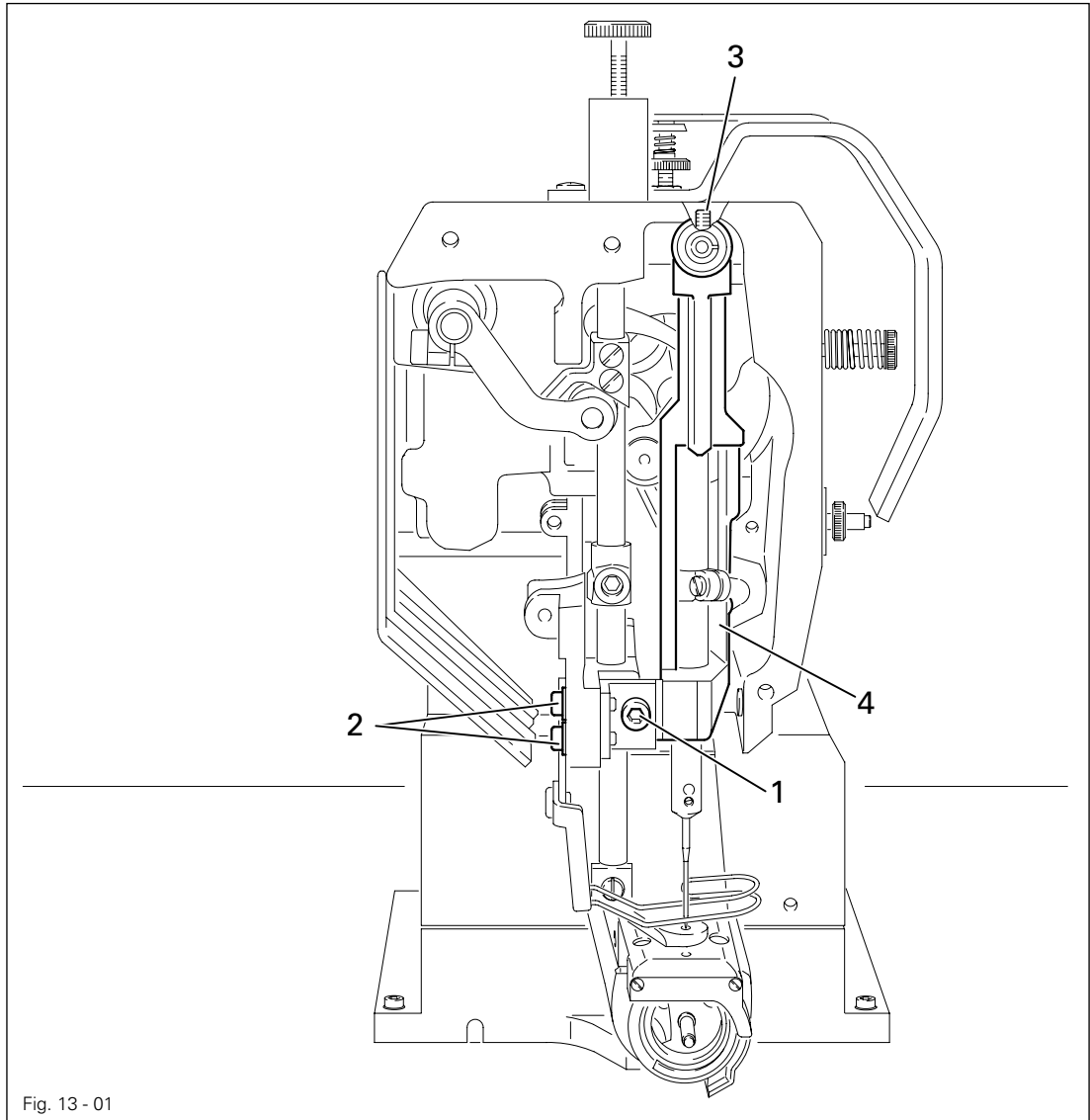
# Adjustment

## 13.04 Adjusting basic machine

### 13.04.01 Needle position to needle hole

#### Rule

The needle should pierce the centre of the needle hole exactly.

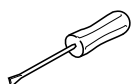
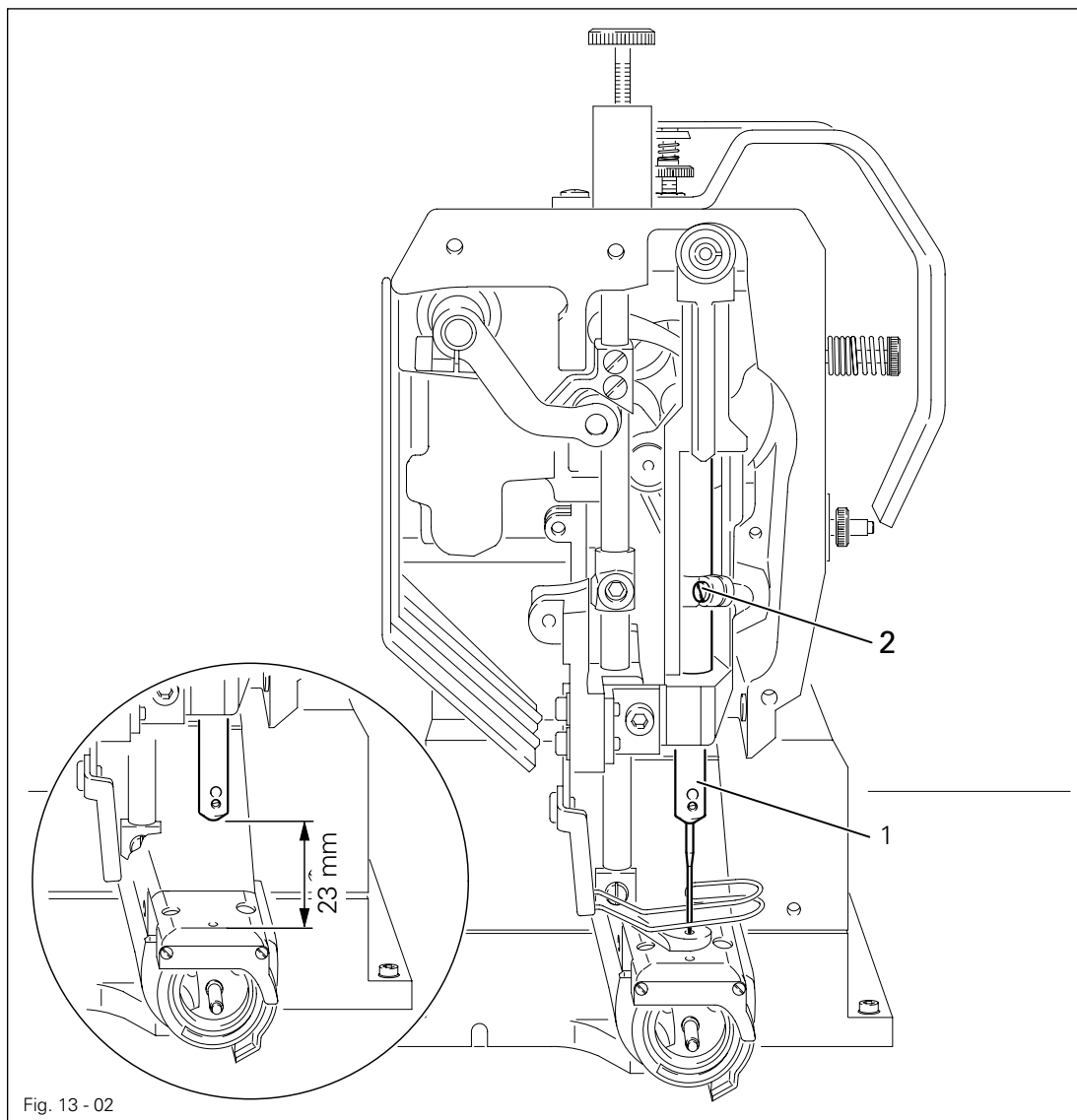


- Loosen the screws 1, 2 and 3.
- Move the needle directly over the needle hole by turning the handwheel.
- Move the needle bar frame 4 according to the rule.
- Tighten the screws 1, 2 and 3.

## 13.04.02 Needle height (pre-calibrating)

### Rule

When the needle bar is in b.d.c., the clearance between the needle bar and stitch platen should be **23 mm**.



- Adjust the needle bar 1 (screw 2) without twisting according to the rule.

## 13.04.03 Hook-to-needle clearance, needle bar rise, needle height and needle guard

### Rule

With the needle rise positioned **1.8 mm** after b.d.c. of the needle bar:

1. the hook point should be at the needle midpoint and have a clearance of **0.05 to 0.1 mm** to the needle.
2. the upper edge of the eye of the needle should be **0.8 mm** under the tip of the hook.

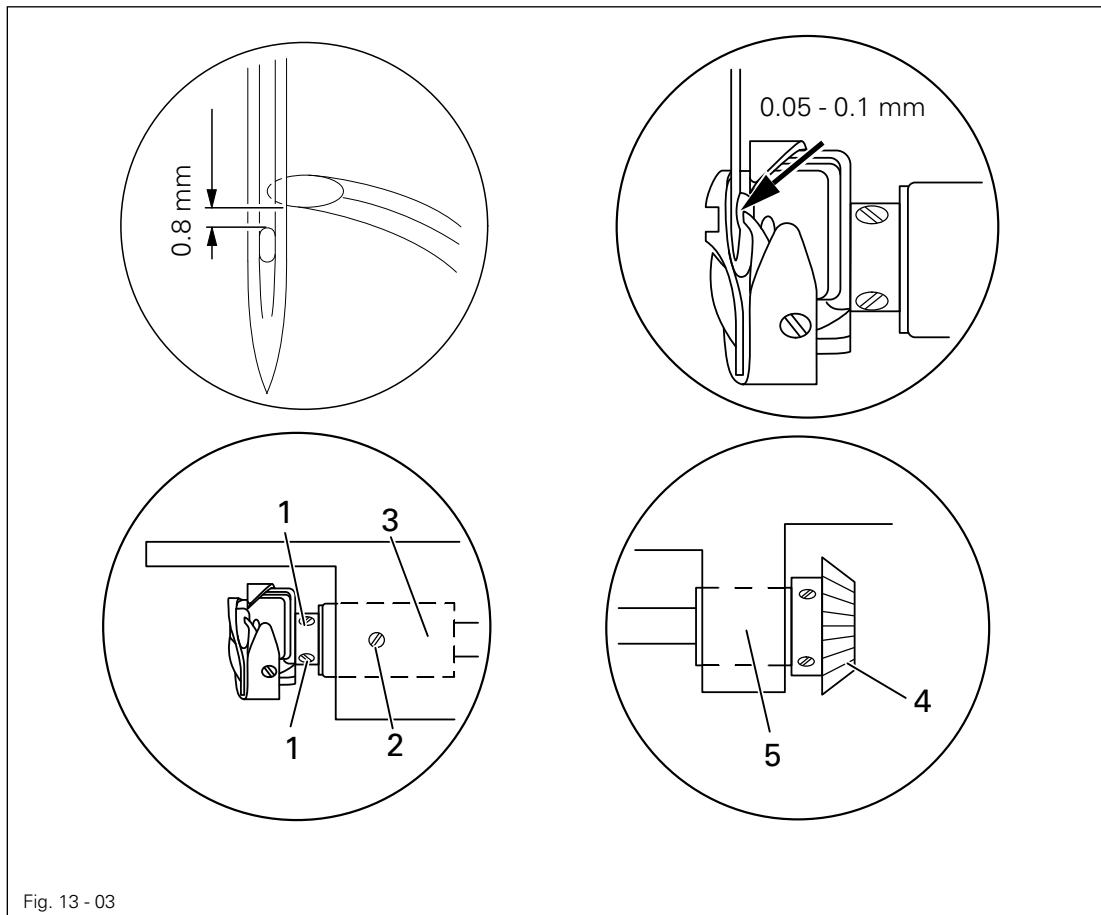
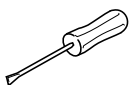


Fig. 13 - 03



- Loosen screws **1** and **2** (screw **2** is located on the back of the machine).
- Move the needle bar to b.d.c. and slide the **1.8 mm** thick feeler gauge with its cutout tightly under the lower needle bar bearing. Move the screw clamp so that it touches the feeler gauge and tighten it.
- Remove the feeler gauge and turn the handwheel in the direction of rotation until the screw clamp rests on the needle bar bearing
- Adjust the hook on the hook shaft according to **rule 1**
- Turn the hook according to **rule 2** (readjust the needle height if necessary), see chapter **13.04.02 Needle height (pre-calibrating)**.
- Move the hook shaft bearing **3** until it abuts the hook and tighten the screw **2**.
- Move the bevel gear **4** until it abuts the bearing **5** and tighten the screws **1**.



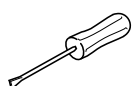
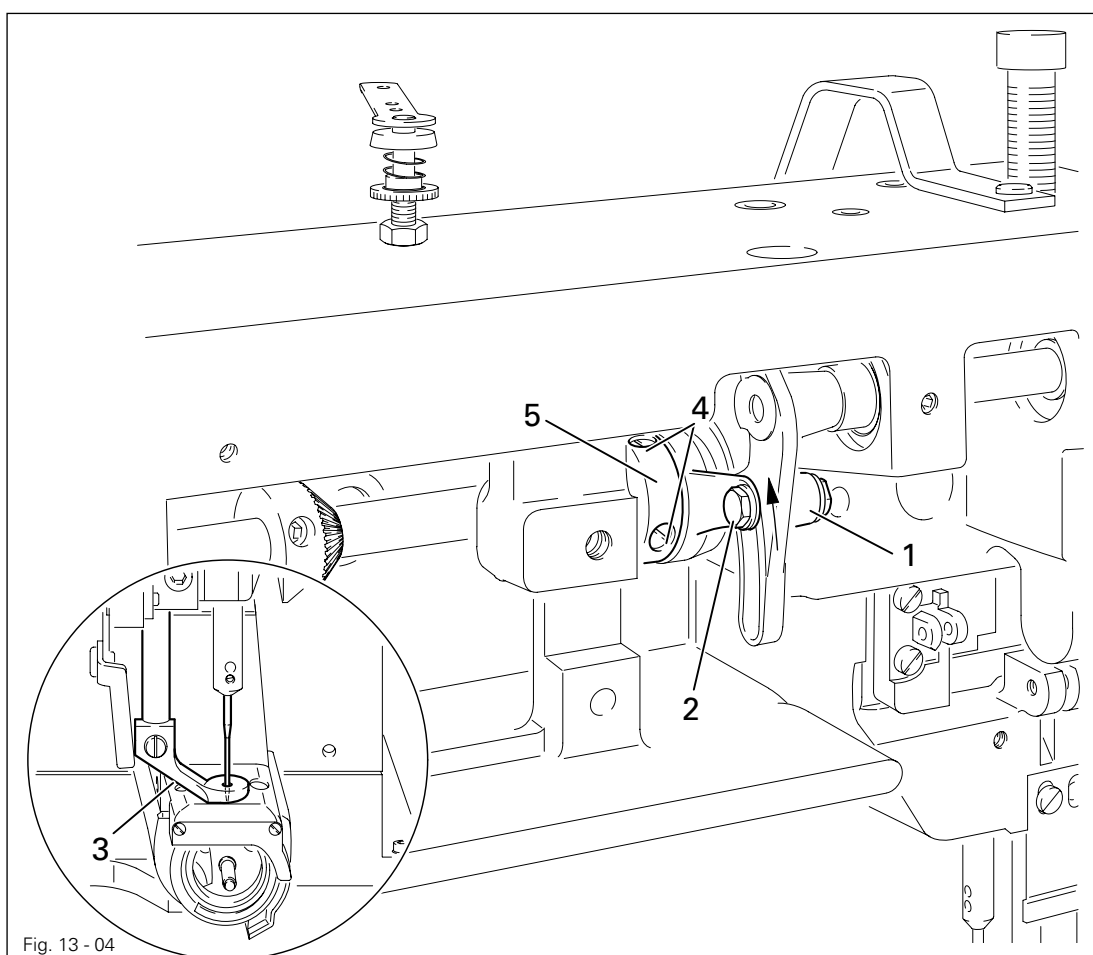
The setting of the end play of the hook shaft and hook shaft bearing **3** is omitted in machines with thread trimmer **-900/51**.



## 13.04.04 Presser stroke movement

### Rule

The presser foot **3** and the tip of the needle should reach the stitch platen at the same time when turning the handwheel.



- Slide the lever **1** (screw **2**) in its slotted lever until you feel it reach the upper stop.
- Lower the presser foot **3** onto the stitch platen.
- Loosen the screws **4** until the eccentric **5** is difficult to turn on the shaft.
- Turn the eccentric **5** according to the **rule**.
- Tighten the screws **4**.

### Rule

1. When the needle bar is in b.d.c., there should be a clearance of **172 mm** between the clamp **1** and the stitch platen.
2. The presser foot **5** should lift **20 mm** off the stitch platen in its upper turning point at maximum stroke adjustment.

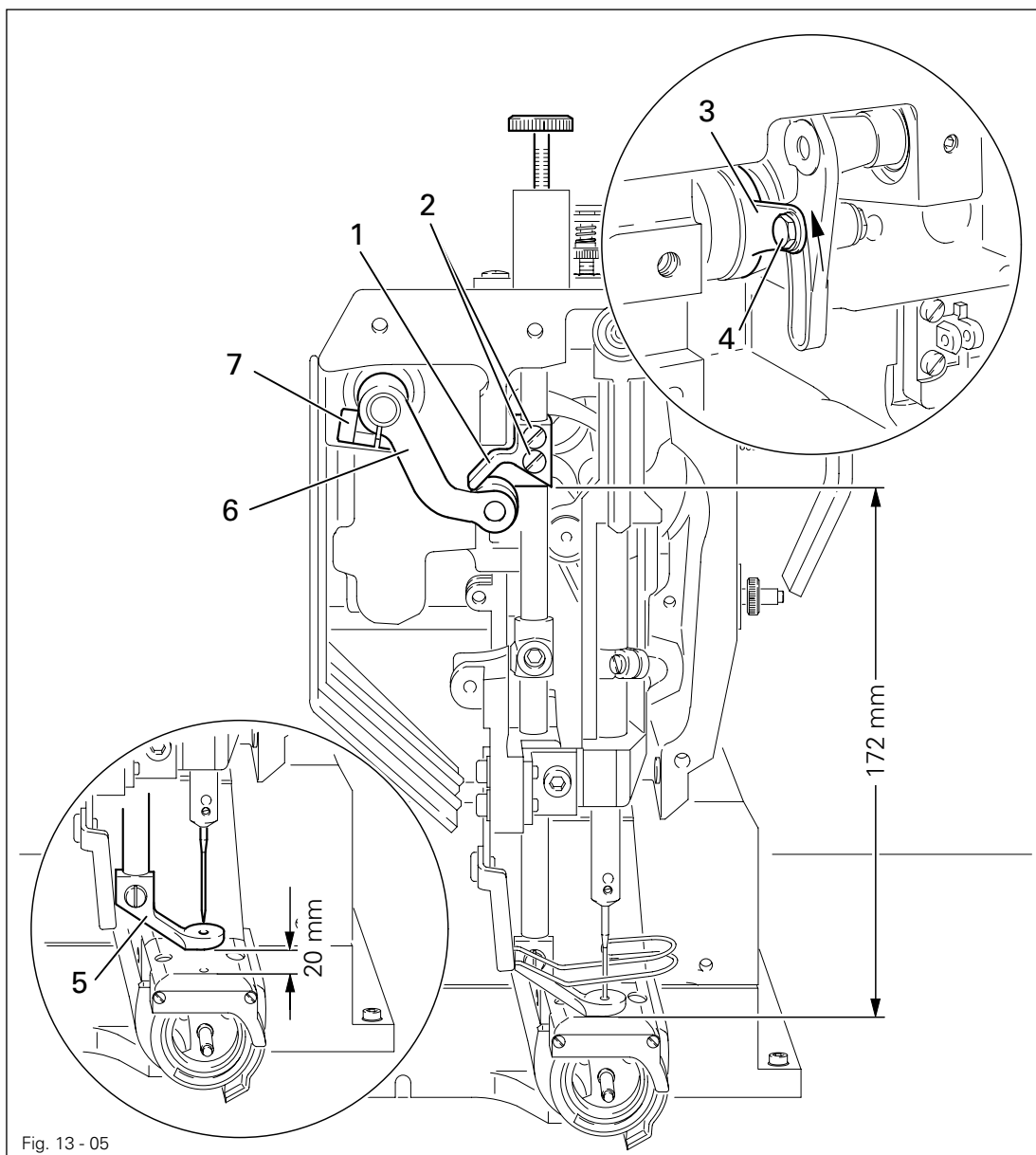
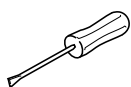


Fig. 13 - 05

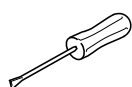
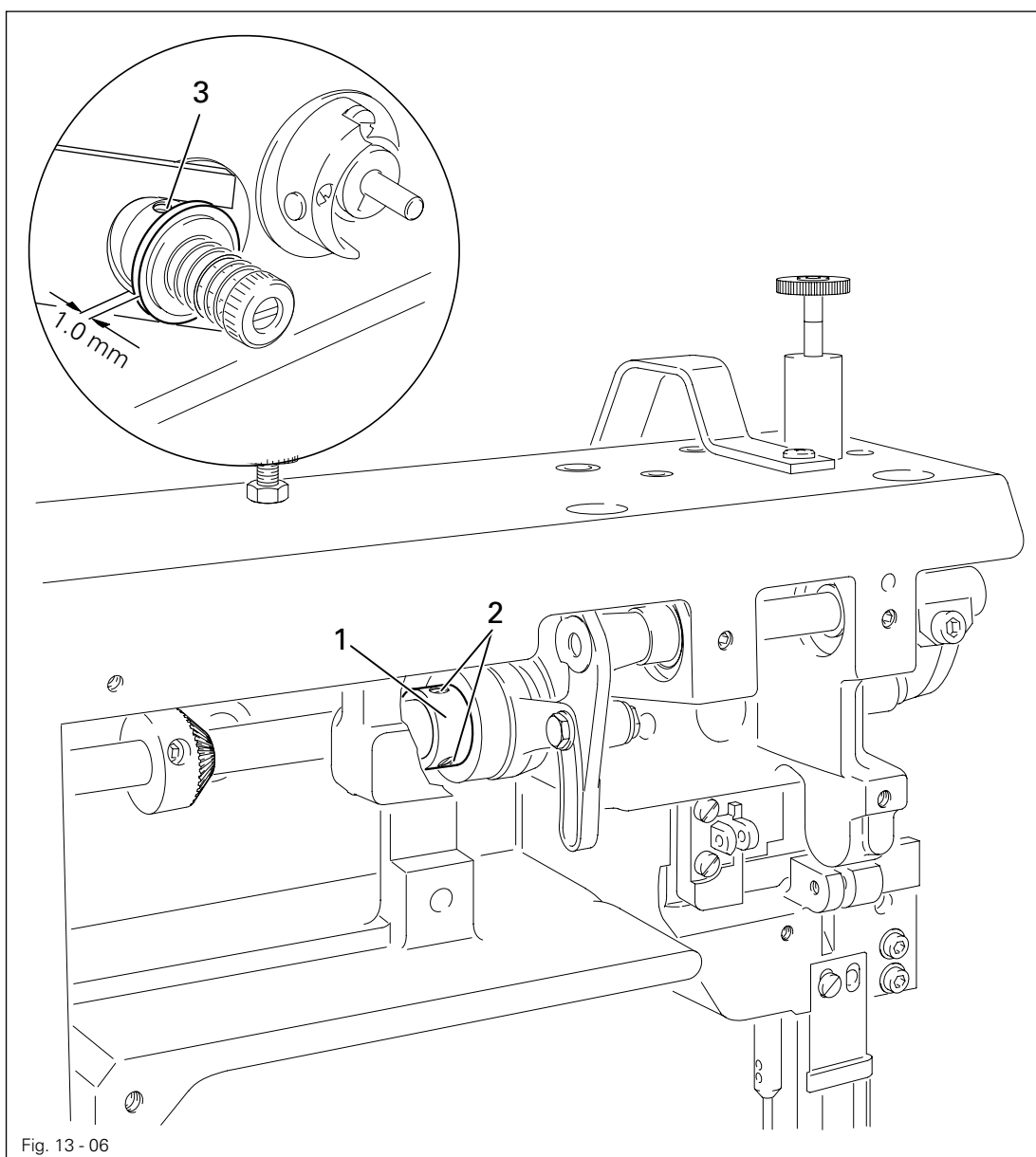


- Move the needle bar to b.d.c.
- Adjust the clamp **1** (screws **2**) according to **rule 1**.
- Slide the lever **3** (screw **4**) in its slotted lever until you feel it reach the upper stop.
- Move the presser foot **5** to its upper turning point by turning the handwheel.
- Turn the crank **6** (screw **7**) according to **rule 2**.

## 13.04.06 Needle thread tension release

### Rule

1. The tension discs should start to open with the thread lever positioned **10 mm** before t.d.c.
2. When the thread lever is at t.d.c., there should be a clearance of **1.0 mm** between the tension discs.

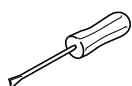
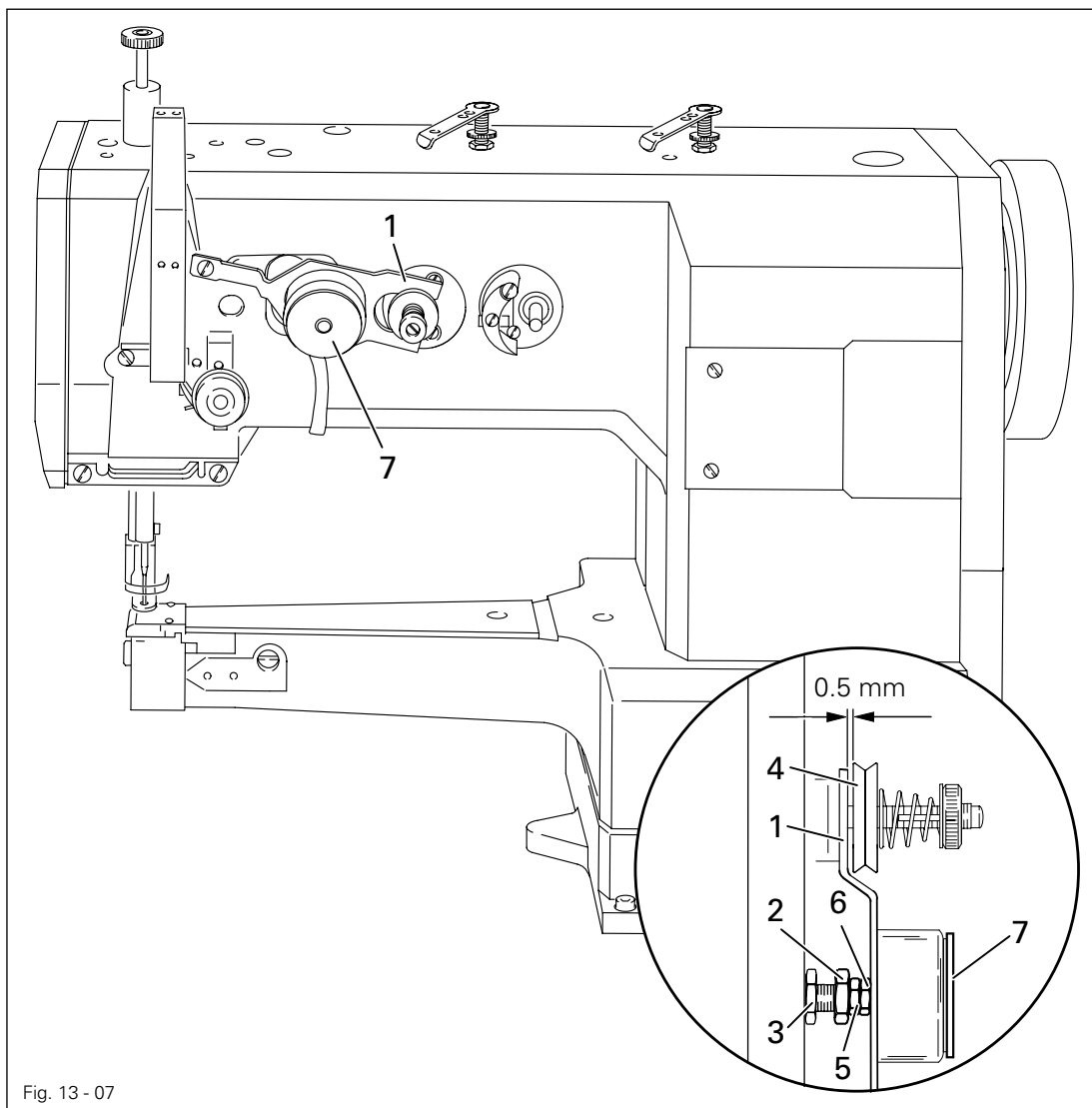


- Adjust the thread lever to a position **10 mm** before t.d.c.
- Turn the eccentric **1** (screws **2**) according to **rule 1**.
- Turn the handwheel until the tension discs are at the maximum distance from each other.
- Move the thread tension (screw **3**) according to **rule 2**.

## 13.04.07 Switching off the needle thread tension release

### Rule

1. There should be a clearance of approx. **0.5 mm** between the lever **1** and the tension disc **4** when the tension discs are closed.
2. The nut **5** should abut the stop **2** in the basic position of the solenoid **7**.



- Turn the handwheel until the tension discs are closed.
- Align the lever **1** according to **rule 1**.
- Turn the stop **2** (nut **3**) according to **rule 2**.



The magnet lift is factory set to **1 mm**.  
Setting on the nut **5** (lock nut **6**).

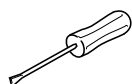
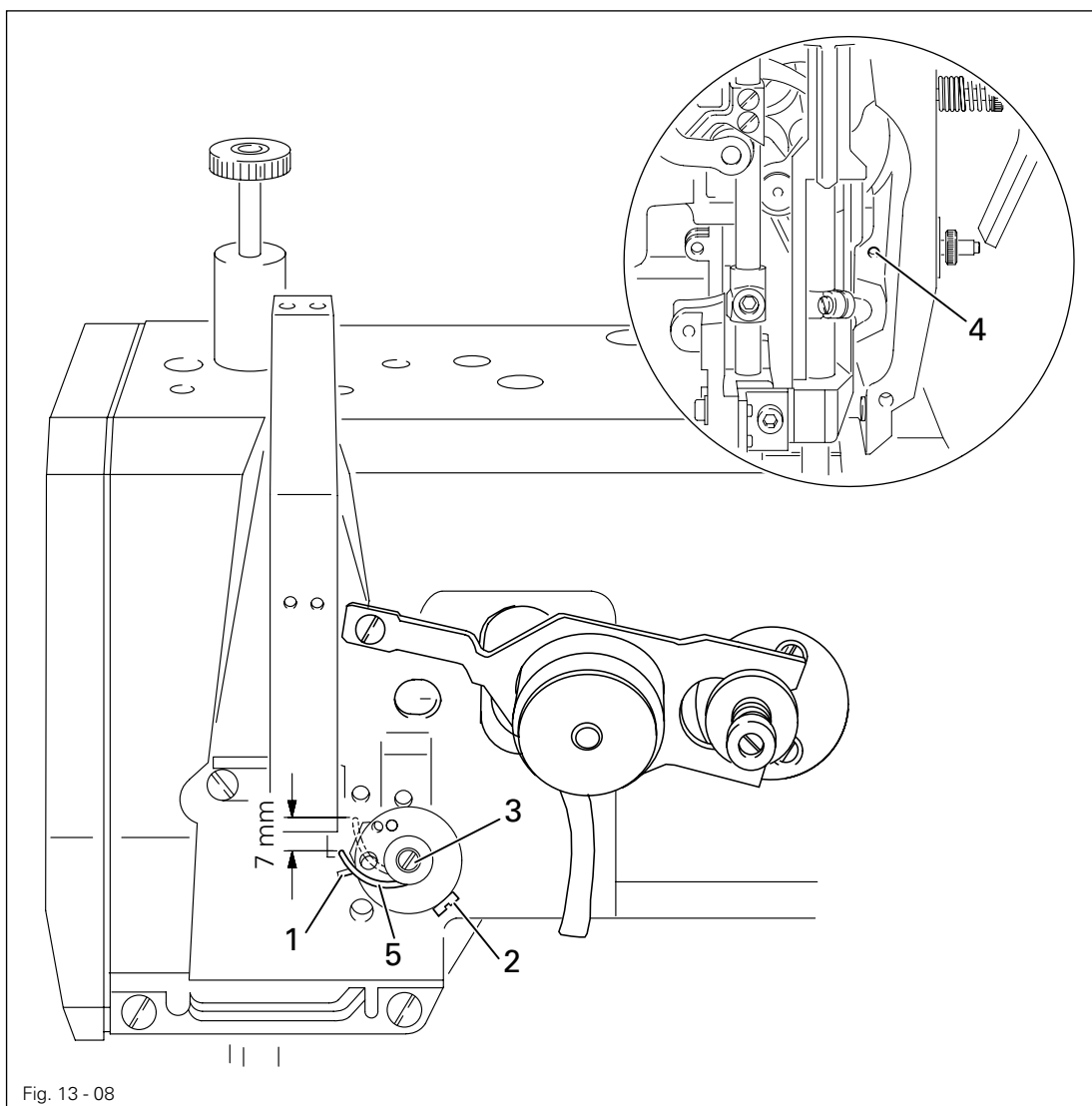
## 13.04.08 Thread check spring

**Rule**

The movement of the thread check spring **5** should be finished when the needle point punctures the material (spring deflection = approx. **7 mm**).



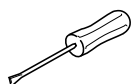
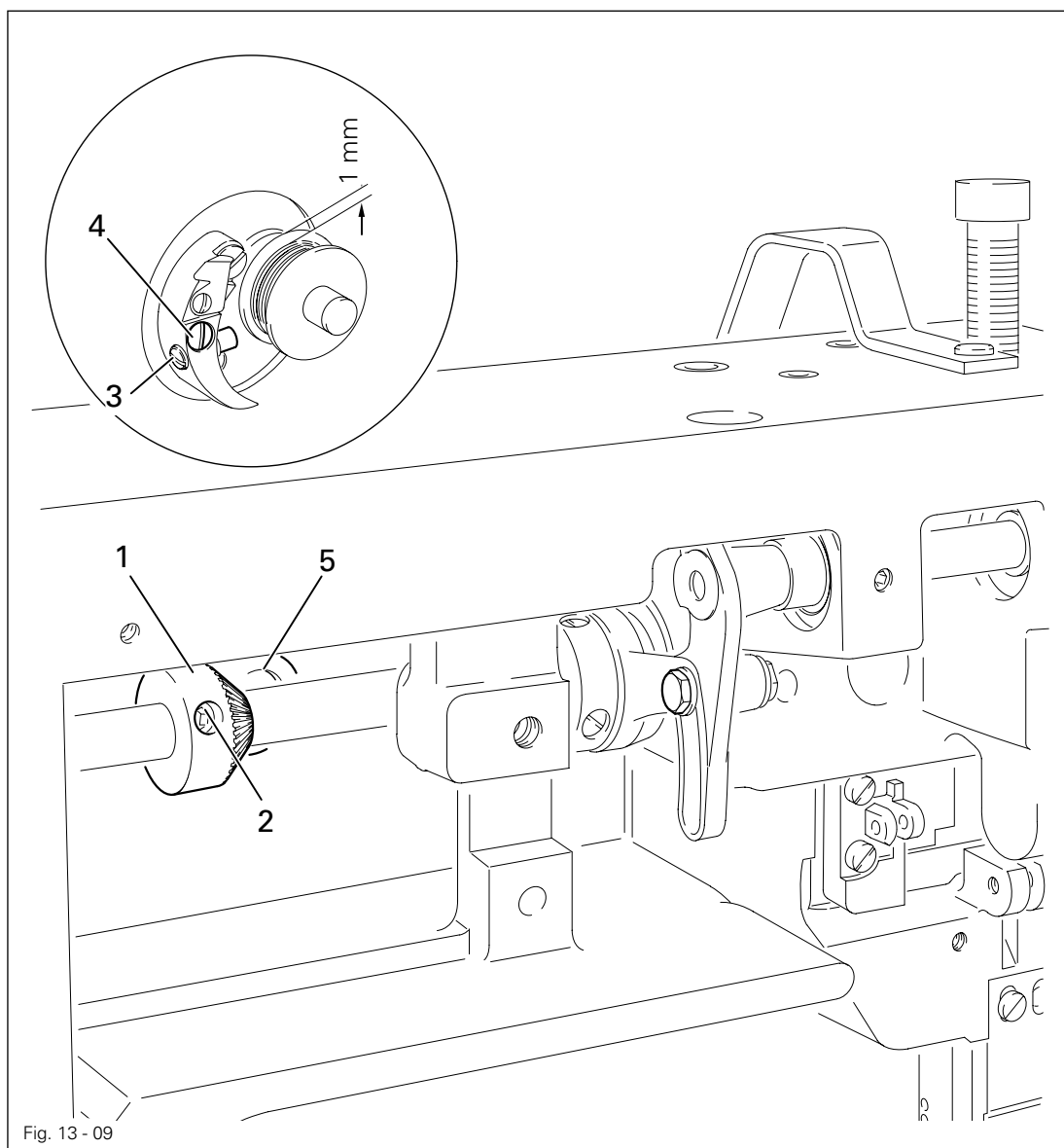
The length of the thread check spring deflection may deviate slightly upwards and downwards for reasons relating to the sewing technology.



- Adjust the stop **1** (screw **2**) according to the **rule**.
- Turn the screw **3** (screw **4**) to set the spring tension

## Rule

1. When the bobbin winder is switched on, the bobbin winder spindle should be moved easily; when the bobbin winder is switched off, the friction wheel **5 must not touch the drive wheel 1**.
2. The bobbin winder should switch off automatically when the fill amount is still around **1 mm** from the edge of the bobbin.

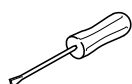
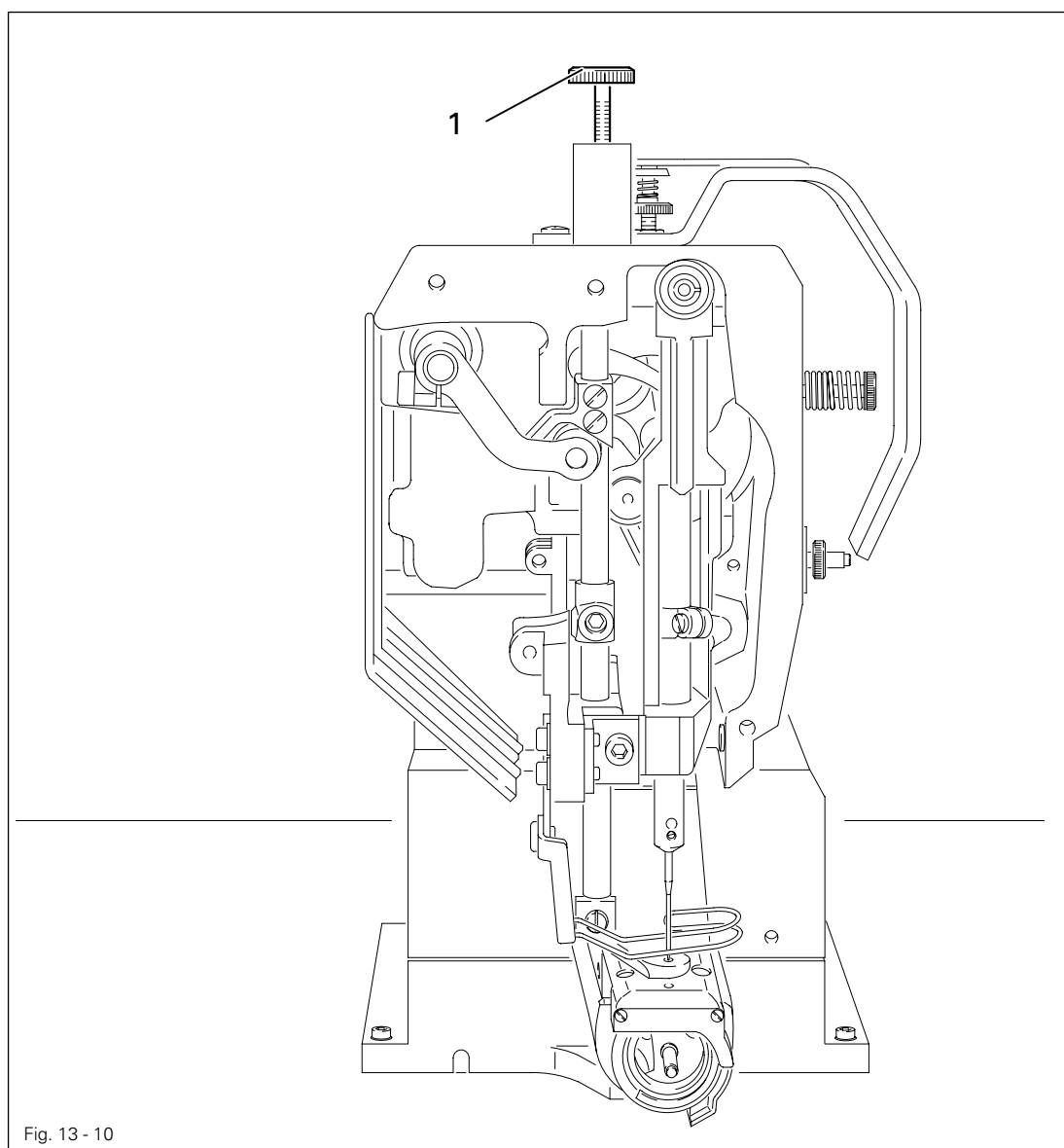


- Adjust the drive wheel **1** (screws **2**) according to **rule 1**.
- Adjust the stud **3** (screws **4**) according to **rule 2**.

## 13.04.10 Presser foot pressure

### Rule

The material should be transported properly even at top sewing speed.  
No pressure marks should appear on the material.



- Turn the screw 1 according to the rule.

## Adjustment

### 13.05 Adjusting thread trimmer -900/51

#### 13.05.01 Control cam (pre-calibrating)

##### Rule

When the needle bar is in b.d.c., the groove 4 of the control cam 2 should stand vertical under the feed regulator pin 5.

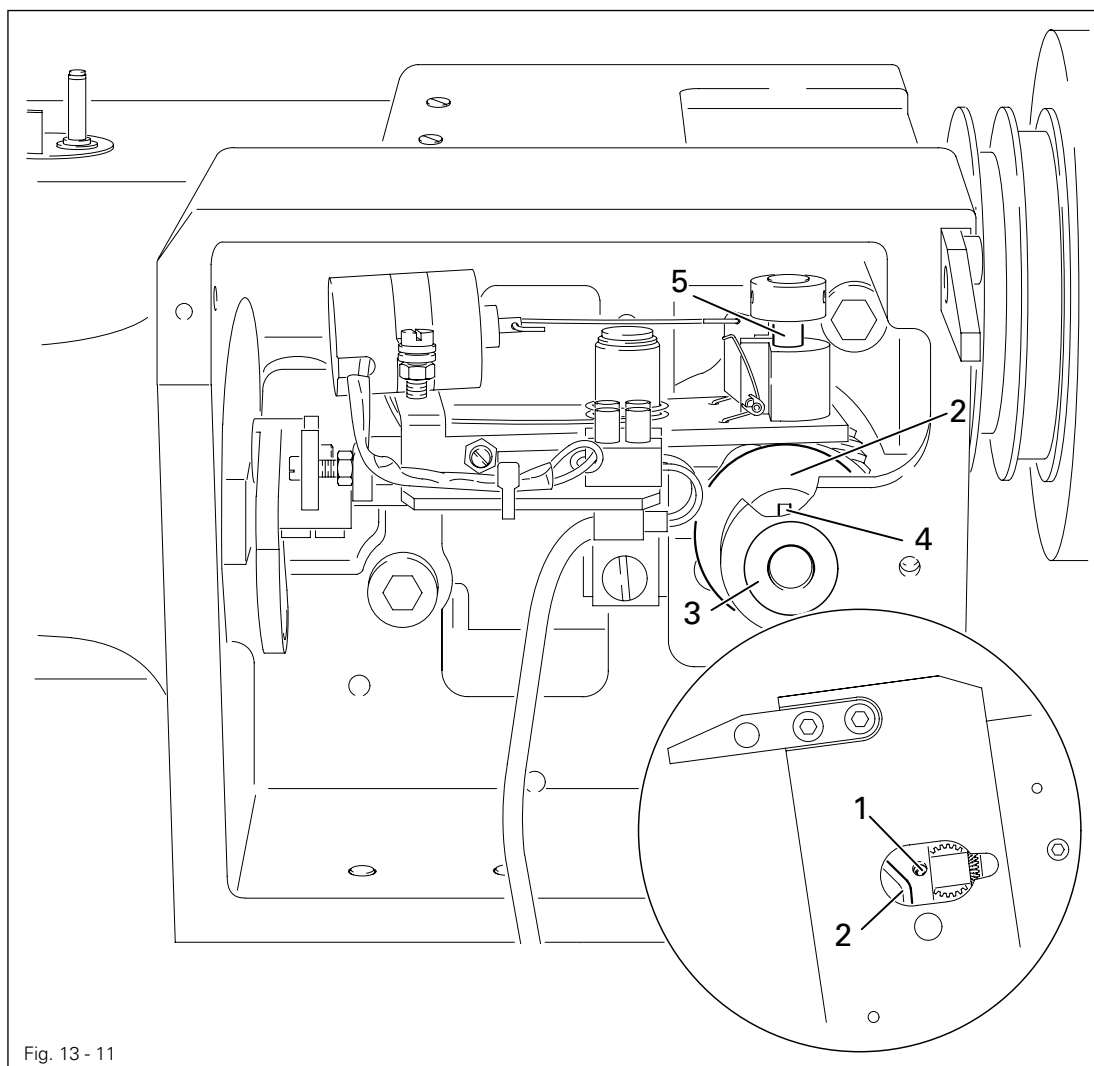
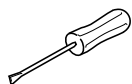


Fig. 13 - 11



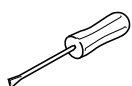
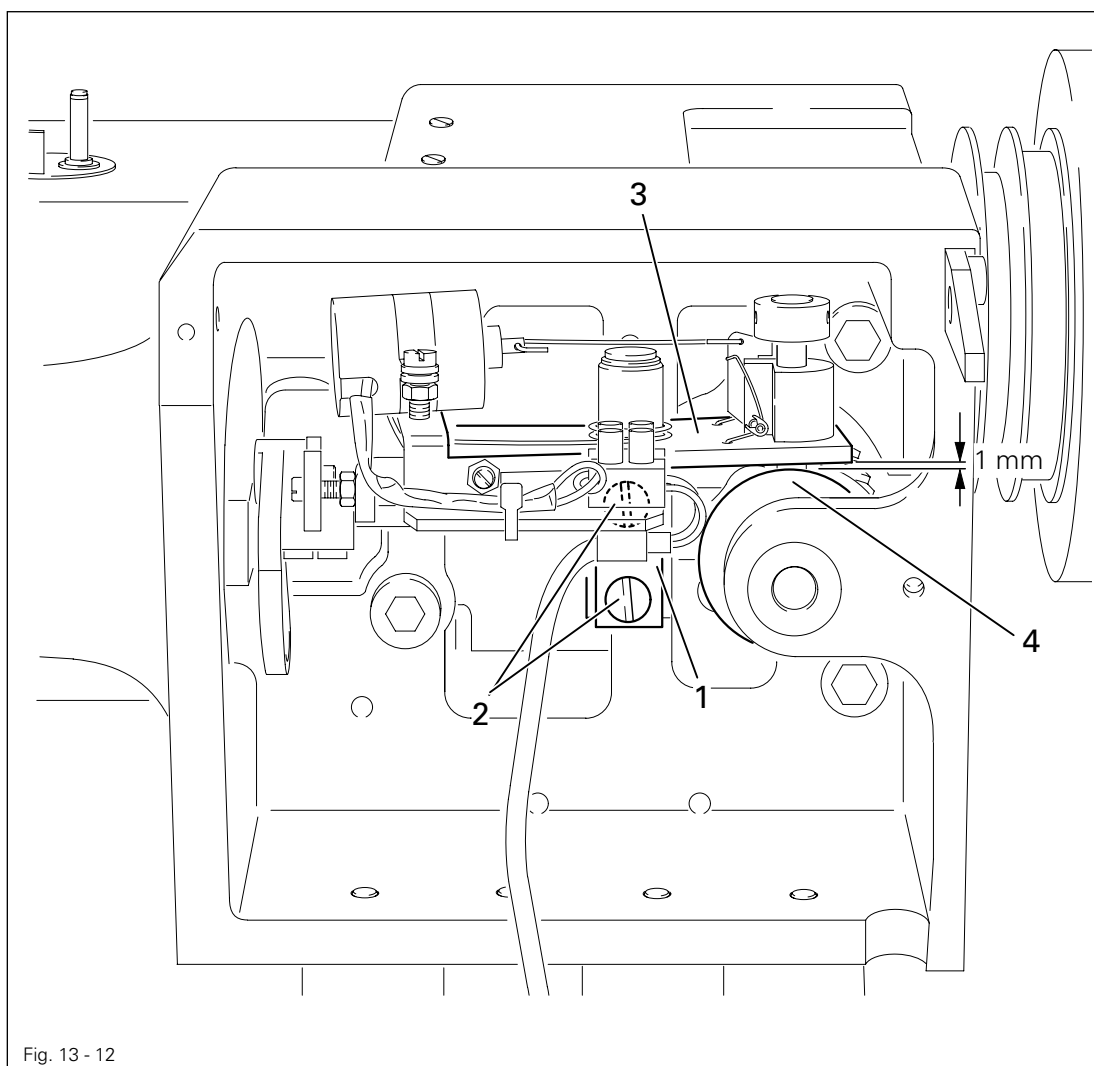
- Loosen the screws 1 through the hole in the machine housing.
- Move the thread lever to b.d.c.
- Turn the control cam 2 according to the **rule**.
- Move the control cam 2 down so that it touches the bearing 3 and tighten the accessible screw 1.
- Make the second screw 1 accessible and tighten it.



## 13.05.02 Tripping lever height

### Rule

When the needle bar is in b.d.c., there should be a clearance of **1.0 mm** between the tripping lever **3** and the control cam **4**.



- Move the needle bar to b.d.c.
- Adjust the carrier **1** (screws **2**) of the tripping lever **3** in the elongated hole according to the rule.

# Adjustment

## 13.05.03 Feed regulator pin

### Rule

When the needle bar is in b.d.c., the feed regulator pin 5 should be able to drop easily into the control cam track 7 when the engaging solenoid 6 is activated.

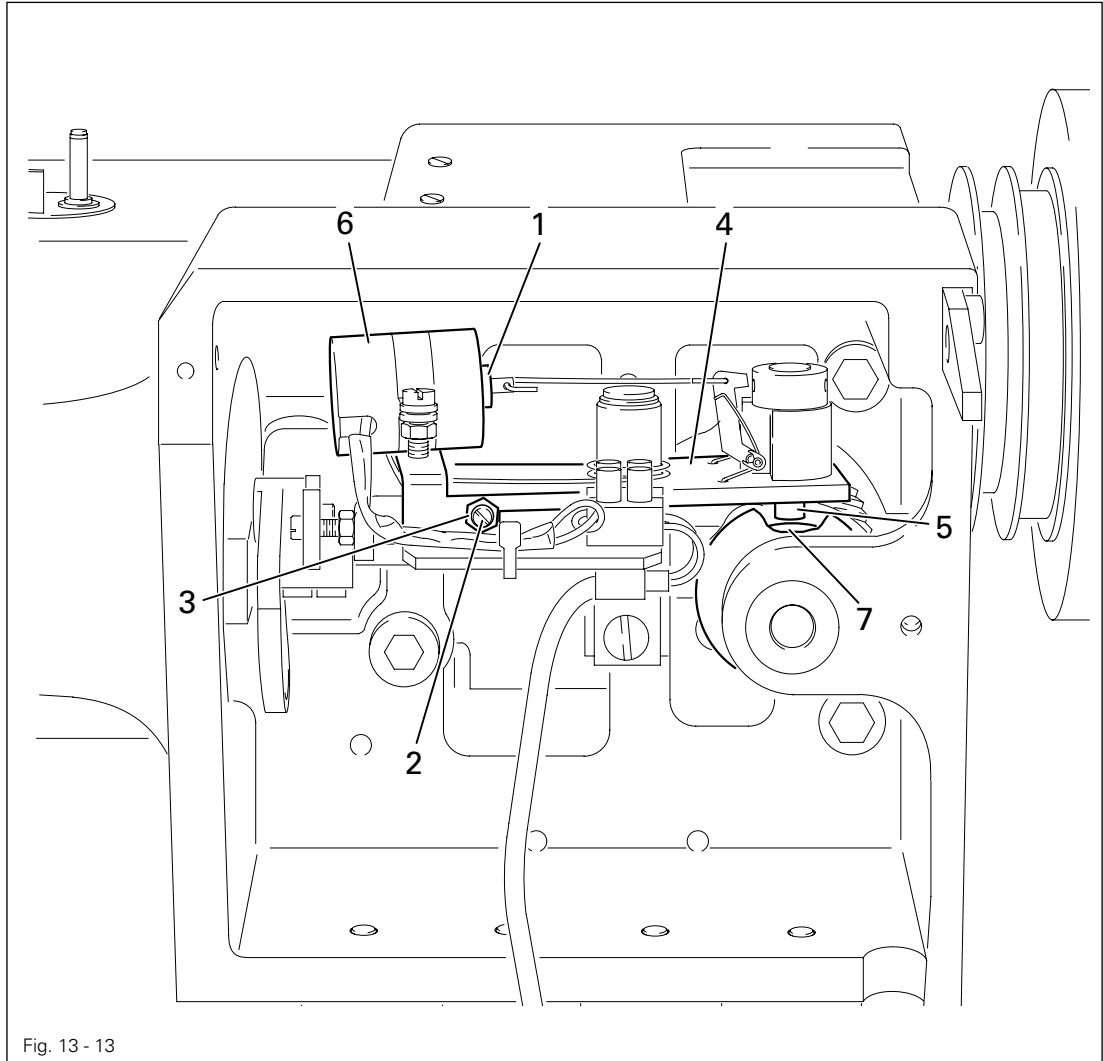
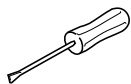


Fig. 13 - 13

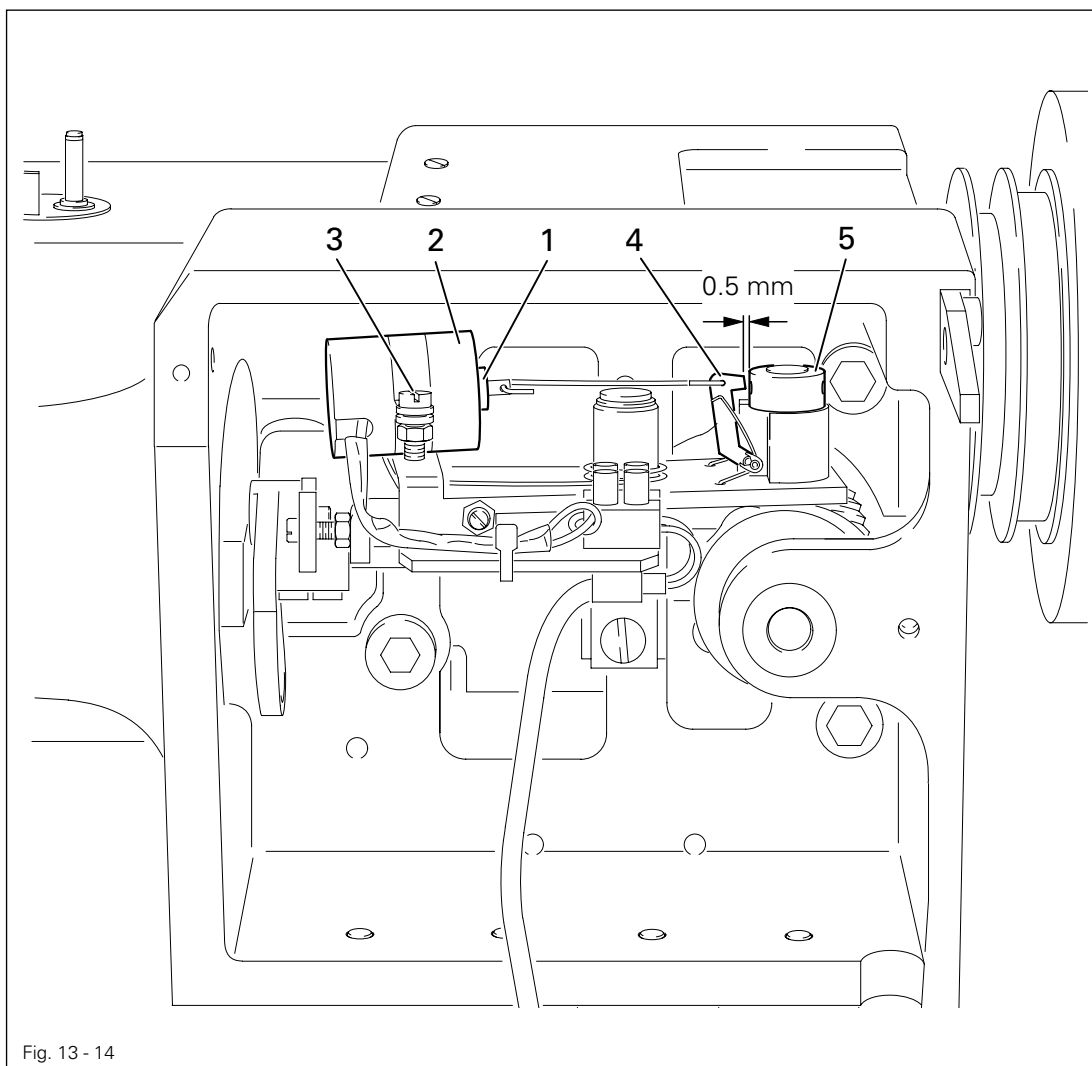


- Move the needle bar to b.d.c.
- Activate the field core 1 manually.
- Turn the screw 2 (nut 3) until it slightly touches the tripping lever 4.
- Loosen the screw 2 approx. half a rotation until the movement of the feed regulator pin 5 complies with the rule.

## 13.05.04 Engaging solenoid

**Rule**

When the needle bar is in b.d.c., and the field core **1** is activated up to the stop, there should be a clearance of approx. **0.5 mm** between the pawl **4** and the retaining collar **5**.



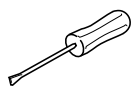
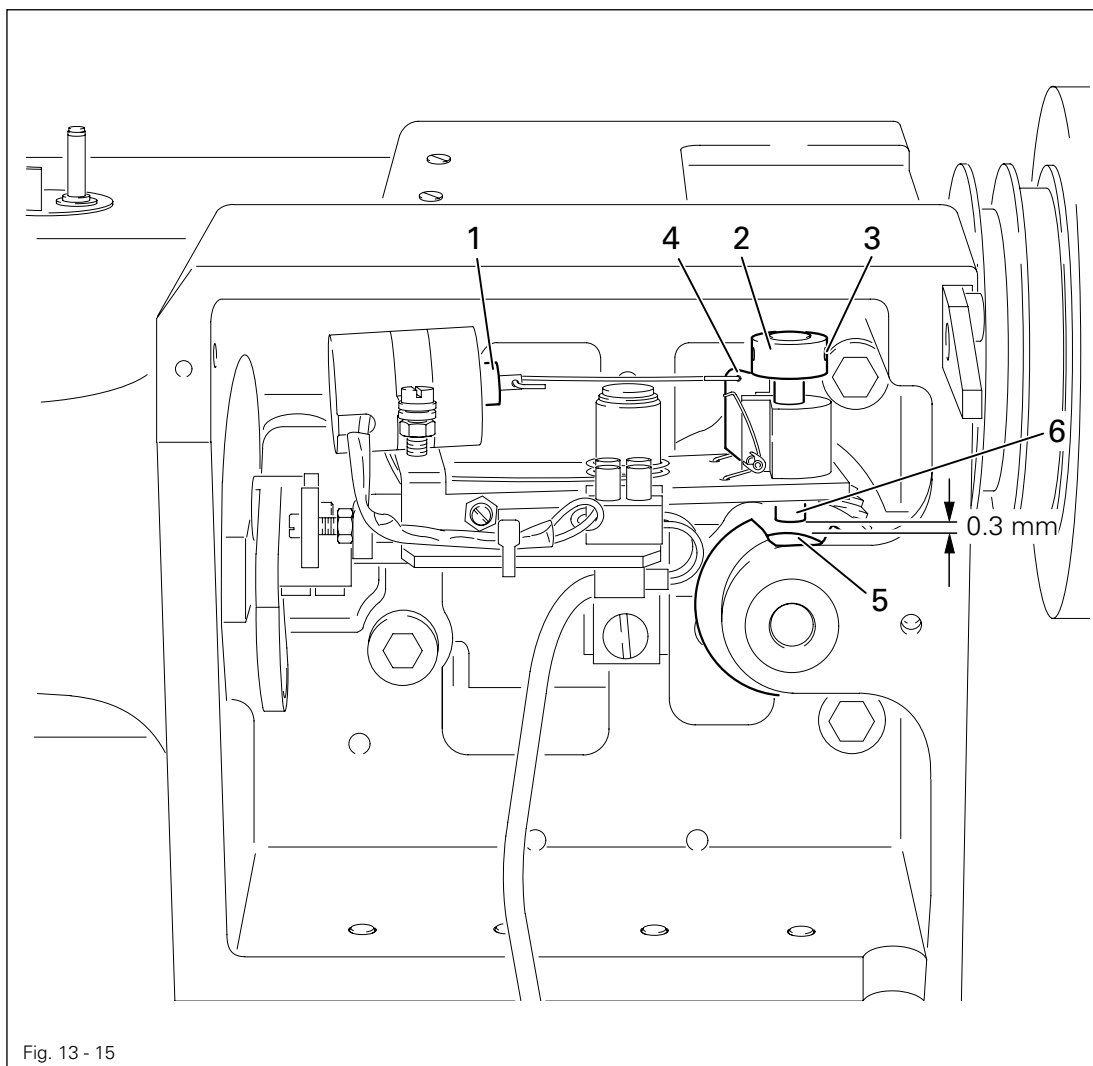
- Move the needle bar to b.d.c.
- Slide the field core **1** up to the stop.
- Adjust the magnet housing **2** (screw **3**) according to the rule.

## Adjustment

### 13.05.05 Feed regulator pin height

#### Rule

When the thread trimmer is in the neutral position and the pawl 4 is engaged, there should be a clearance of **0.3 mm** between the highest point of the control cam 5 and the feed regulator pin 6.



- Move the needle bar to t.d.c.
- Activate the field core 1.
- Adjust the retaining collar 2 (screws 3) according to the rule.

## 13.05.06 Front turning point of thread catcher

### Rule

When the thread catcher **3** is in the front turning point, the rear edge of the thread catcher cutout should still be **1 mm** above the front edge of the bobbin case position finger **6**.

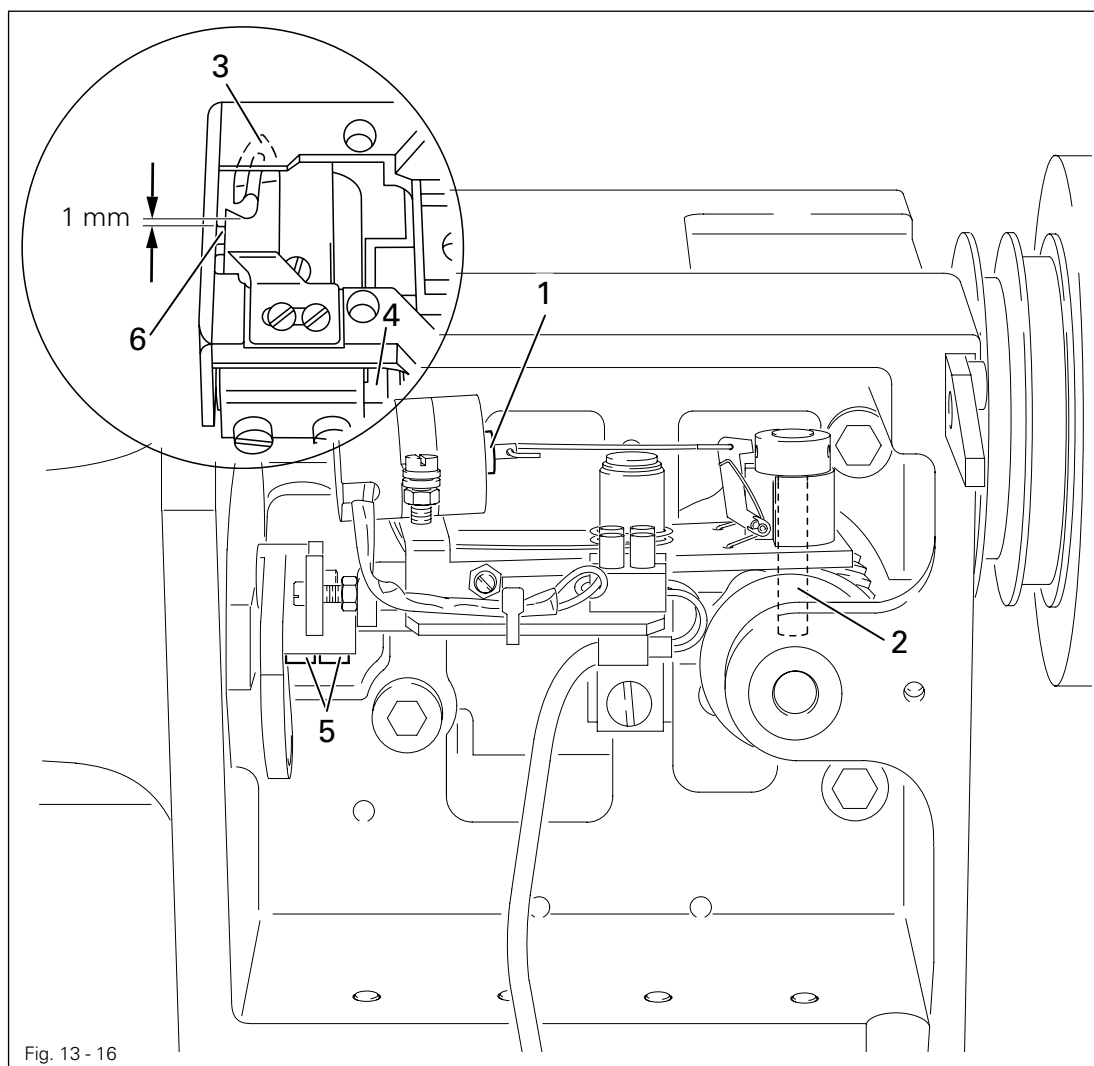
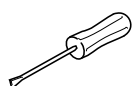


Fig. 13 - 16

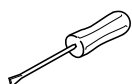
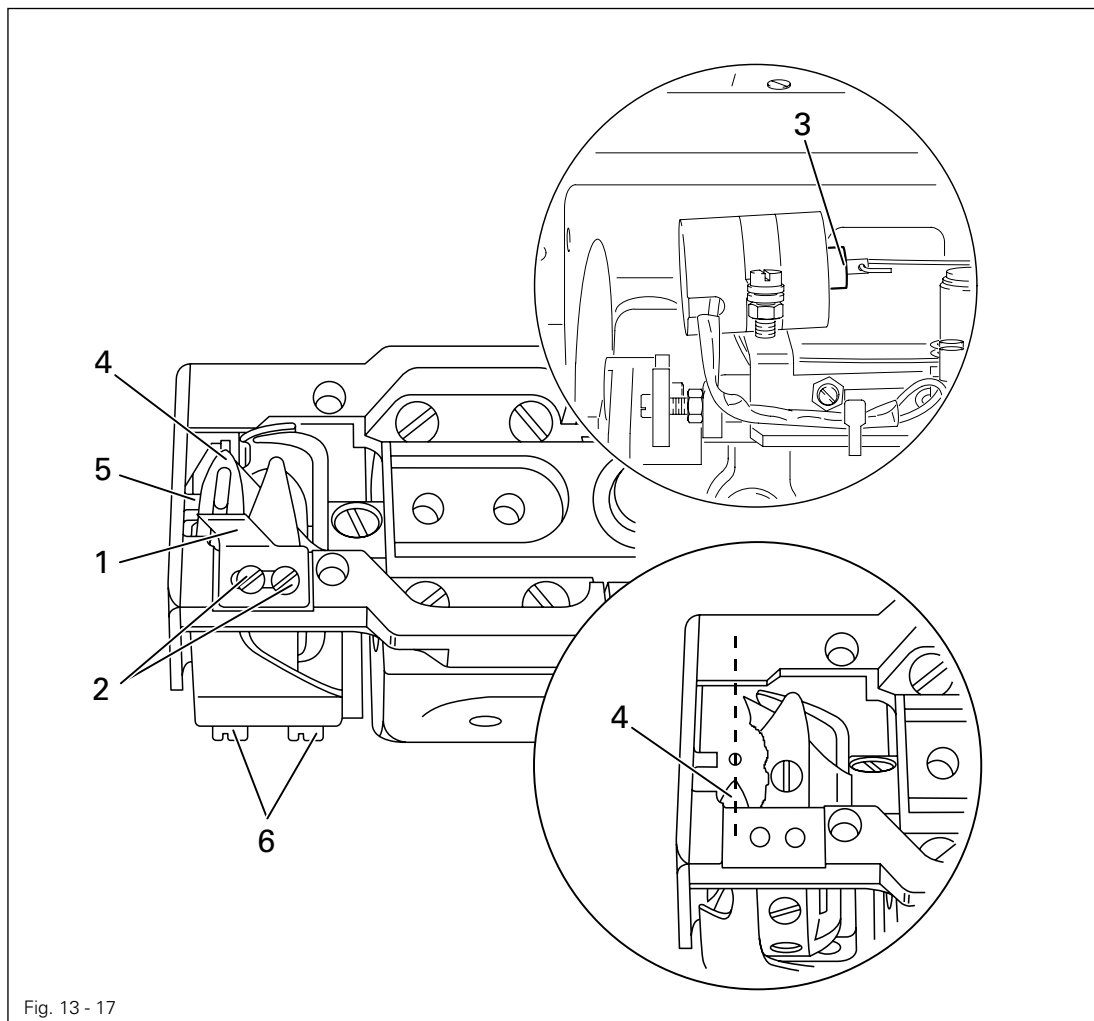


- Move the needle bar to b.d.c.
- Activate the field core **1** so that the feed regulator pin **2** drops into the cam track.
- Move the thread catcher **3** to its front turning point by turning the handwheel (direction of rotation).
- Set the thread catcher **3** according to the **rule** by turning the thread catcher carrier **4** (screws **5**).

## 13.05.07 Aligning thread catcher laterally

### Rule

When the needle bar is in b.d.c., the thread catcher tip **4** should point exactly at the middle of the needle.



- Remove the blade **1** (screws **2**).
- Move the needle bar to b.d.c.
- Activate the field core **3** manually and turn the handwheel until the needle bar is positioned at t.d.c. Please ensure that the thread catcher **4** does not touch the bobbin case position finger **5** as it moves.
- Align the thread catcher **4** (screws **6**) laterally according to the rule.

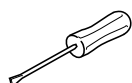
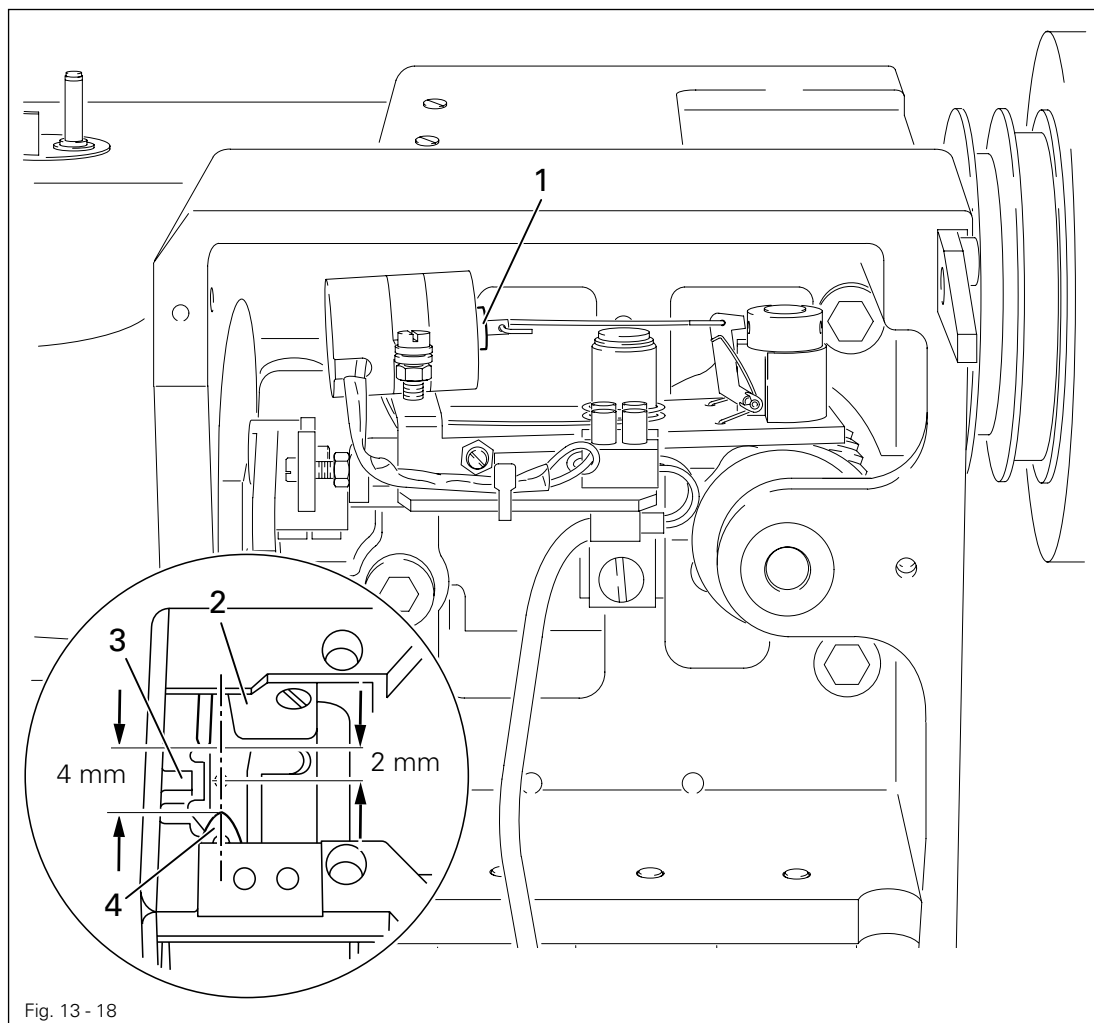


The blade **1** remains dismantled for additional settings.

## 13.05.08 Control cam (pre-calibrating)

**Rule**

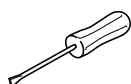
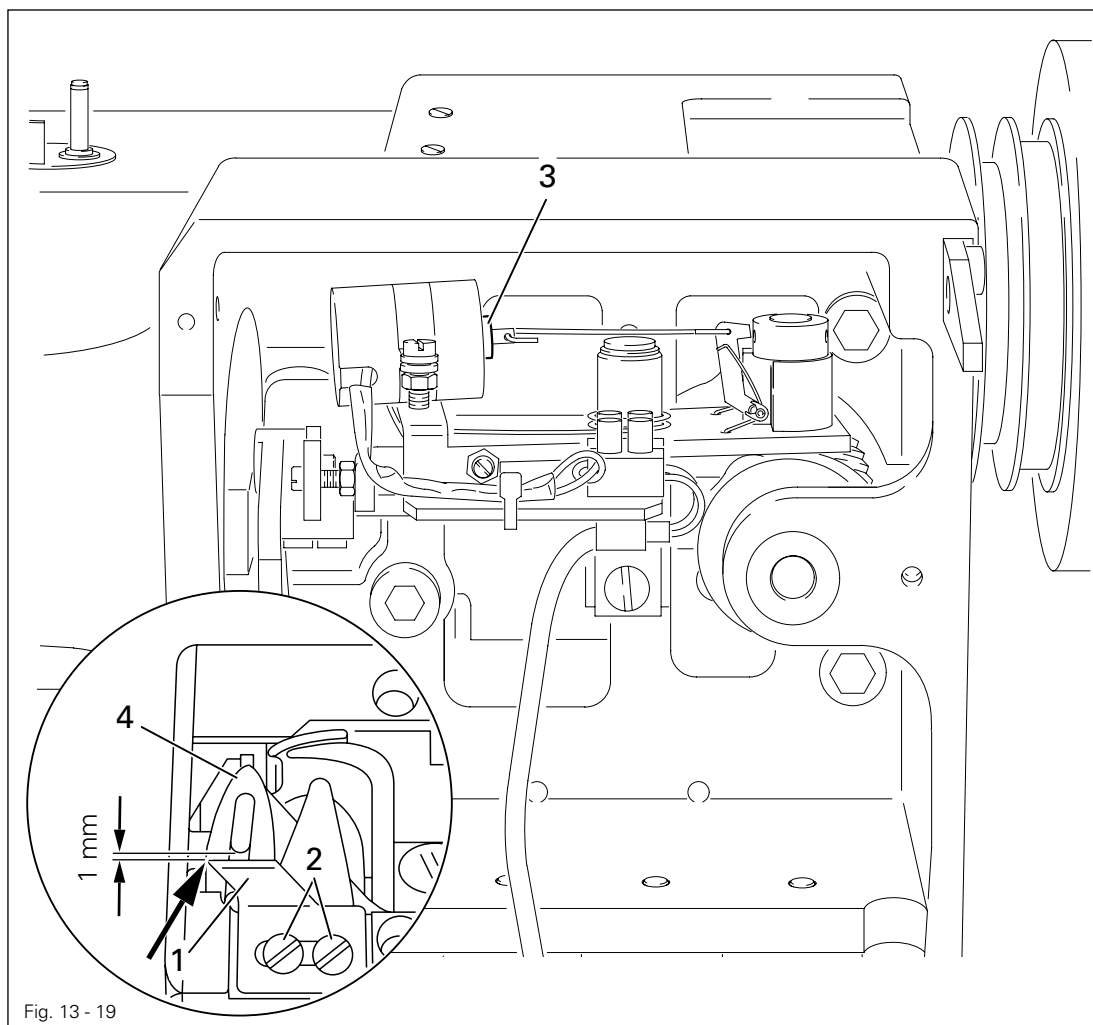
If the end of the thread guard **2** is **2 mm** behind the middle of the bobbin case position finger **3** looking in the feeding direction, the clearance between the thread catcher tip **4** and the thread guard **2** should be approx. **4 mm**.



- Move the needle bar to b.d.c. with the handwheel.
- Activate the field core **1** manually.
- Continue turning the handwheel (direction of rotation) until the end of the thread guard **2** is **2 mm** behind the middle of the bobbin case position finger **3** looking in the feeding direction.
- Check the **rule** and readjust the control cam accordingly if necessary, see chapter **13.05.01 Pre-calibrating control cam**.

## Rule

If the rear edge of the thread catcher cutout is **1 mm** in front of the blade edge, the left blade edge should be flush with the thread catcher edge (see arrow in circle).



- Unscrew the blade **1** (screws **2**).
- Move the needle bar to b.d.c. and activate the field core **3**.
- Turn the handwheel in the direction of rotation until the thread catcher tip **4** is at the same level as the blade edge.
- Align the blade **1** laterally according to the **rule** (see arrow).
- Tighten the screws **2**.
- Check that the back of the thread catcher is not twisted at the blade edge by turning the handwheel.
- Readjust the thread catcher **4** if necessary, see chapter **13.05.07 Aligning thread catcher laterally**.



## 13.05.10 Test cut

**Rule**

The blade should be parallel to the thread catcher and both threads must be cut properly.

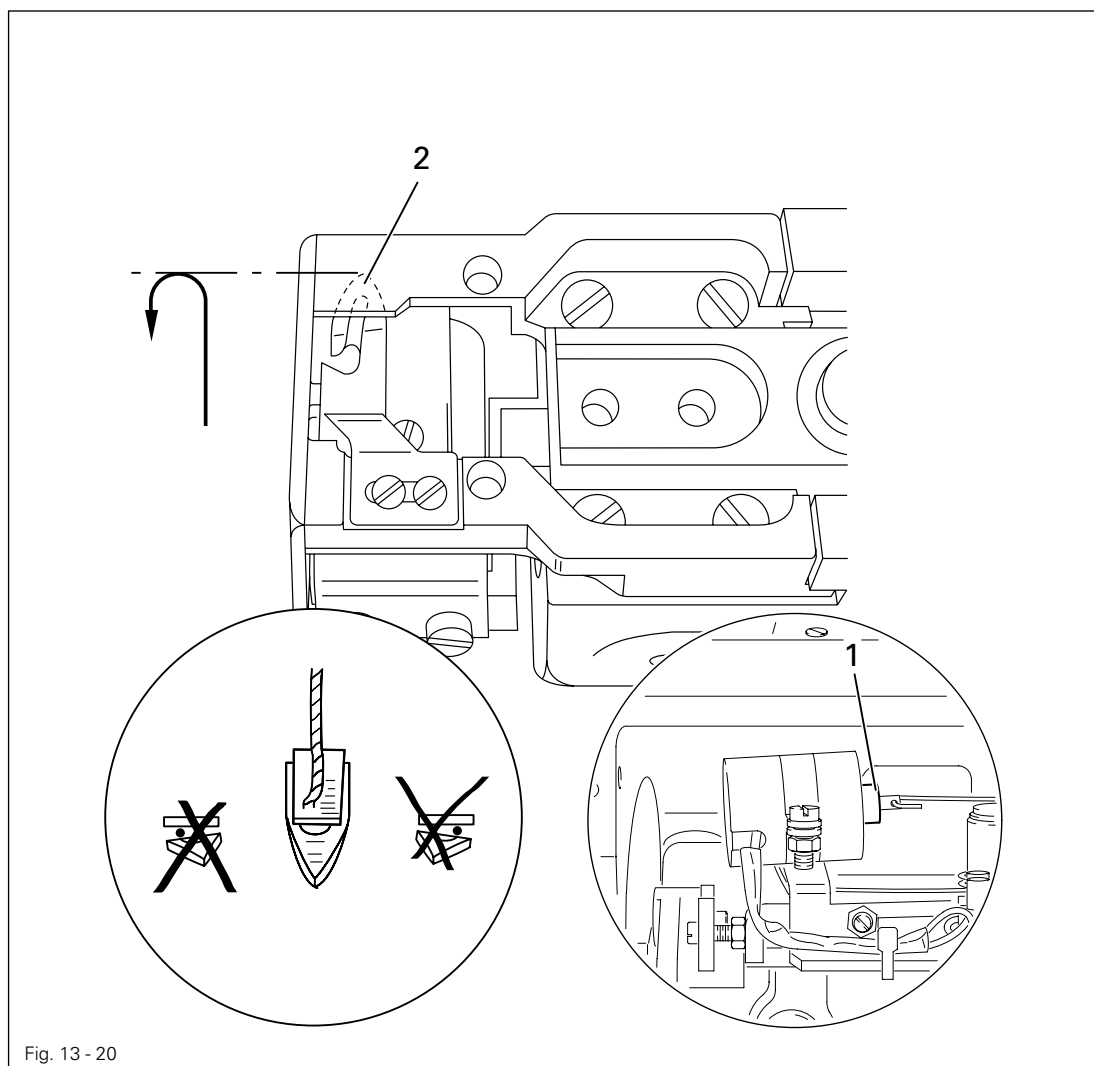
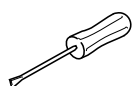


Fig. 13 - 20



- Move the needle bar to b.d.c. and activate the field core 1.
- Turn the handwheel (direction of rotation) until the thread catcher 2 is at its front turning point.
- Pull a doubled-up length of thread into the thread catcher cutout 2 and carry out a test cut by continuing to turn the handwheel.
- Check that both threads have been cut properly.
- Readjust the thread catcher 2 accordingly if necessary, see chapter 13.05.07 **Aligning thread catcher laterally**.

### 13.06 Parameter settings

- The separate parameter list for the machine describes how to select the user level and change parameters (see **chapter 1.1.2 Technician level**).

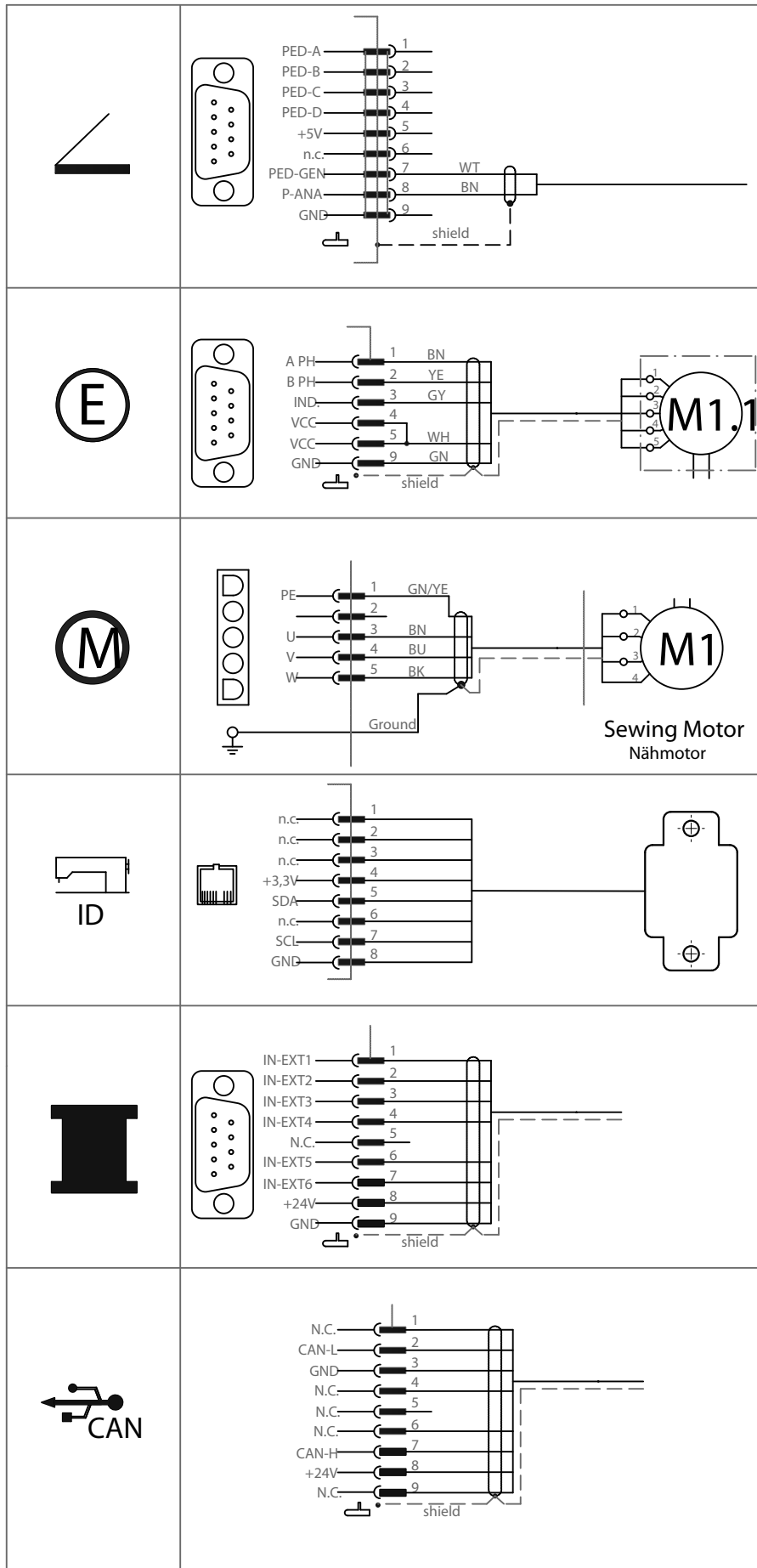
### 13.07 Internet update of control P40 CD

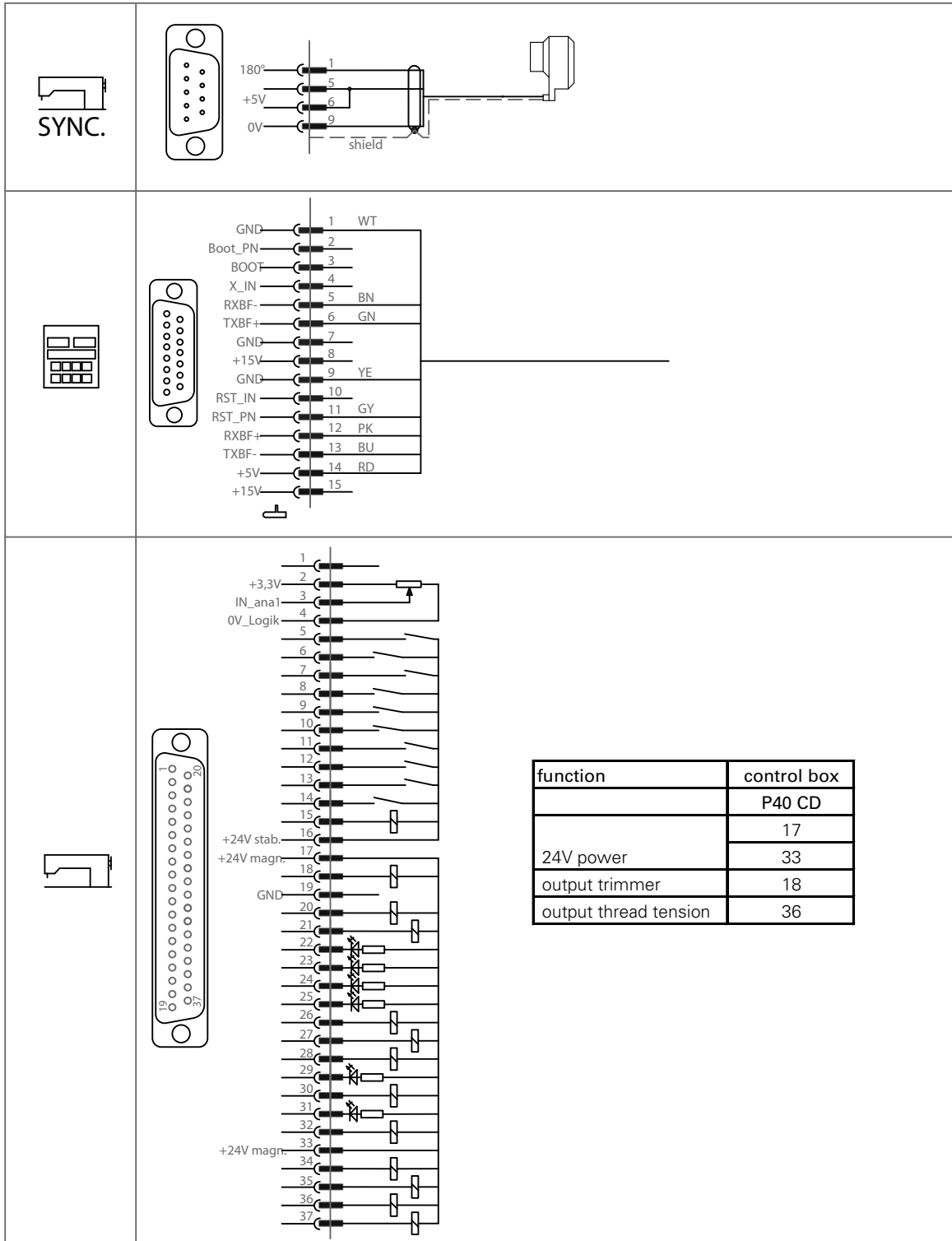
- You need a dongle with the appropriate machine software to be able to perform a control update.
- You can obtain an empty dongle using the order number **72-250 303-91**.
- The "**DongleCopy**" PC tool is needed to upload software onto the dongle.

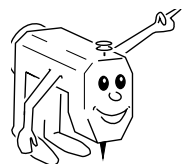


A description of how to perform an Internet update of **control P40 CD** as well as the "**DongleCopy**" PC tool can be downloaded from the Internet address <https://partnerweb.pfaff-industrial.com/>.

Circuit Diagrams 91-191 580-95







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## Notes

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