

**PFAFF**<sup>®</sup>

1425

1426

# Service Manual

Innovation made by **PFAFF**

## **Notes on safety**

The machine must only be used for the purpose it has been designed for.

When converting it to another version, all valid safety rules must be followed.

Service and repair work must only be performed by qualified personnel.

Work on live parts is not permitted, apart from exceptions according to DIN 57 105 and VDE 0105.

## **Important note:**

This Service Manual applies also to the Pfaff 1425 and 1426. Deviations in the illustrations do not affect the adjustment of the machines. The Service Manual is based on a single needle machine (1425). When adjusting a two-needle machine, repeat the adjustment procedure for the left needle and sewing hook.

A separate Service Manual is available for adjusting thread trimmers -900/56 or -900/61 (publ. No. 296-12-14826).

## **Tools, gauges and other items required for adjusting Pfaff machines 1425 and 1426**

Set of screwdrivers with blades from 2 to 10 mm wide

Set of wrenches with openings from 7 to 14 mm wide

Set of allen keys from 2 to 6 mm

Needle rise gauge, part No. 08-880136-01

C-clamp, part No. 08-880137-00

Metal rule

Wrapper of needles: system 134-35

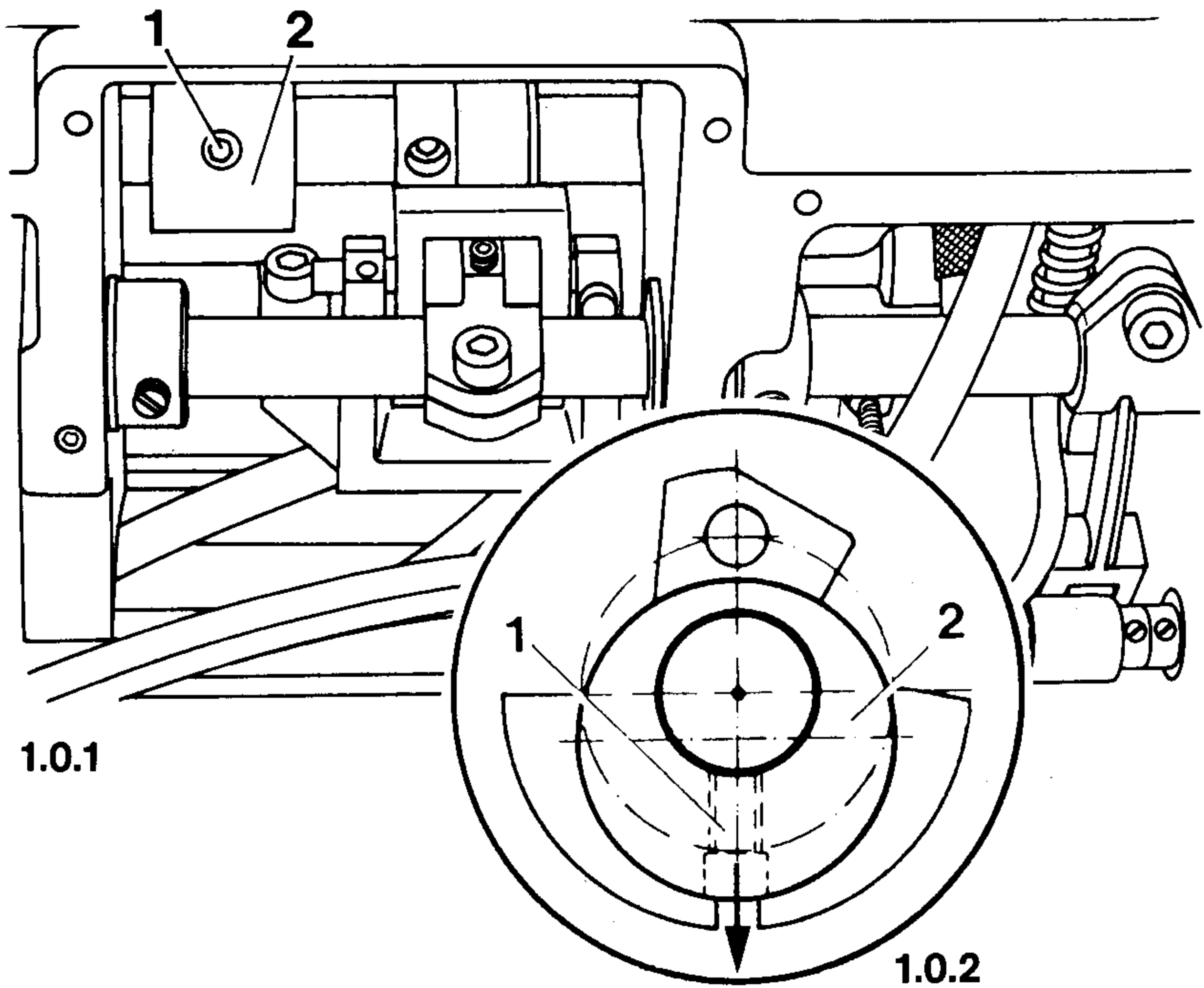
2 strips of white paper

Sewing thread and testing material

# 1 Balance weight

Setting:

With the needle at top dead centre the lobe of balance weight 2 must face downwards.



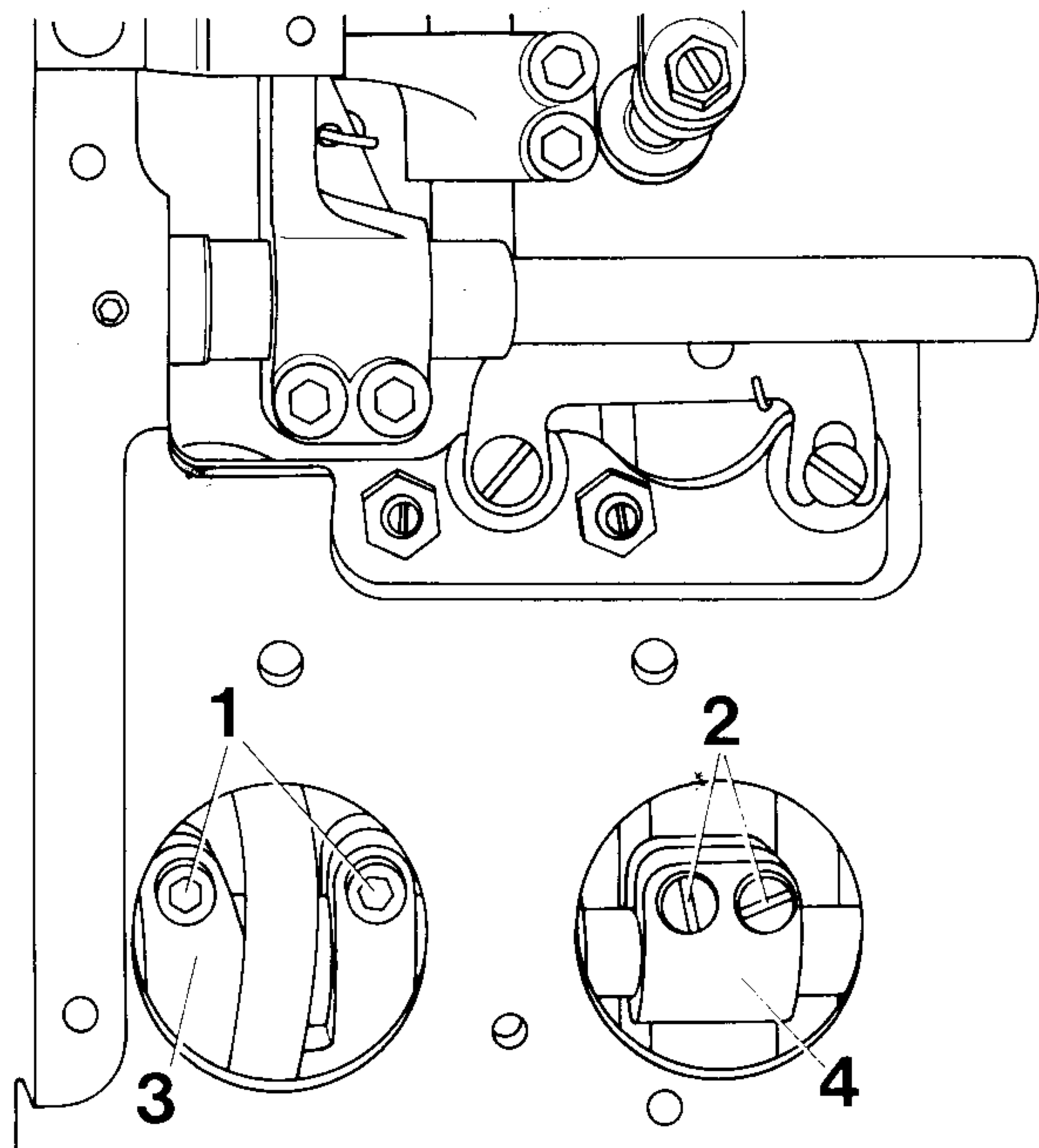
Adjustment:

- 1.1 Loosen screw 1 until balance weight 2 can be moved on its shaft against a resistance.
- .2 Set needle bar at top dead centre.
- .3 **Turn balance weight 2 until screw 1 faces downwards** (see arrow in Fig. 1.0.2).
- .4 Tighten screw 1.

## 2 Zeroing top-, bottom-, and needle feeds

Setting:

With the stitch length set at "0" top feed, bottom feed and needle bar must not make any feeding movement when the balance wheel is turned.

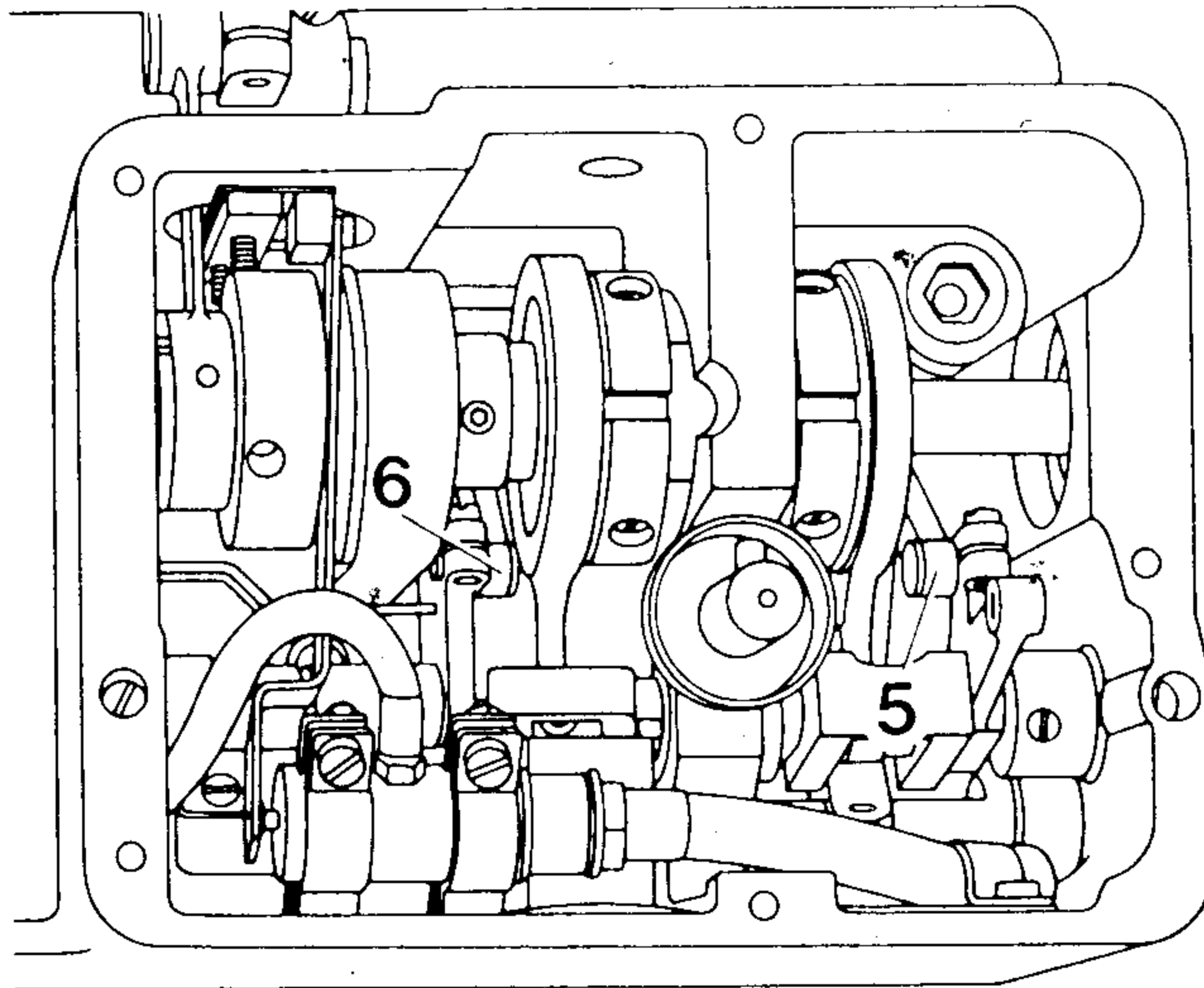


2.0.1

Adjustment:

- 2.1 Remove two plastic grommets at rear side of arm standard.
- .2 Remove gear cover at base of machine and allow any oil to drain out.
- .3 Set stitch length "0".
- .4 Loosen screws 1 and 2 just enough to allow cranks 3 (bottom feed) and 4 (top- and needle feed) to turn tightly.

- 2.5 **Position connecting rods 5 (bottom feed) and 6 (top- and needle feed) so that when balance wheel is turned, top feed, bottom feed and needle bar make no feeding movement.**
- .6 In this position tighten screws 1 and 2 firmly.
- .7 Fit two plastic grommets.

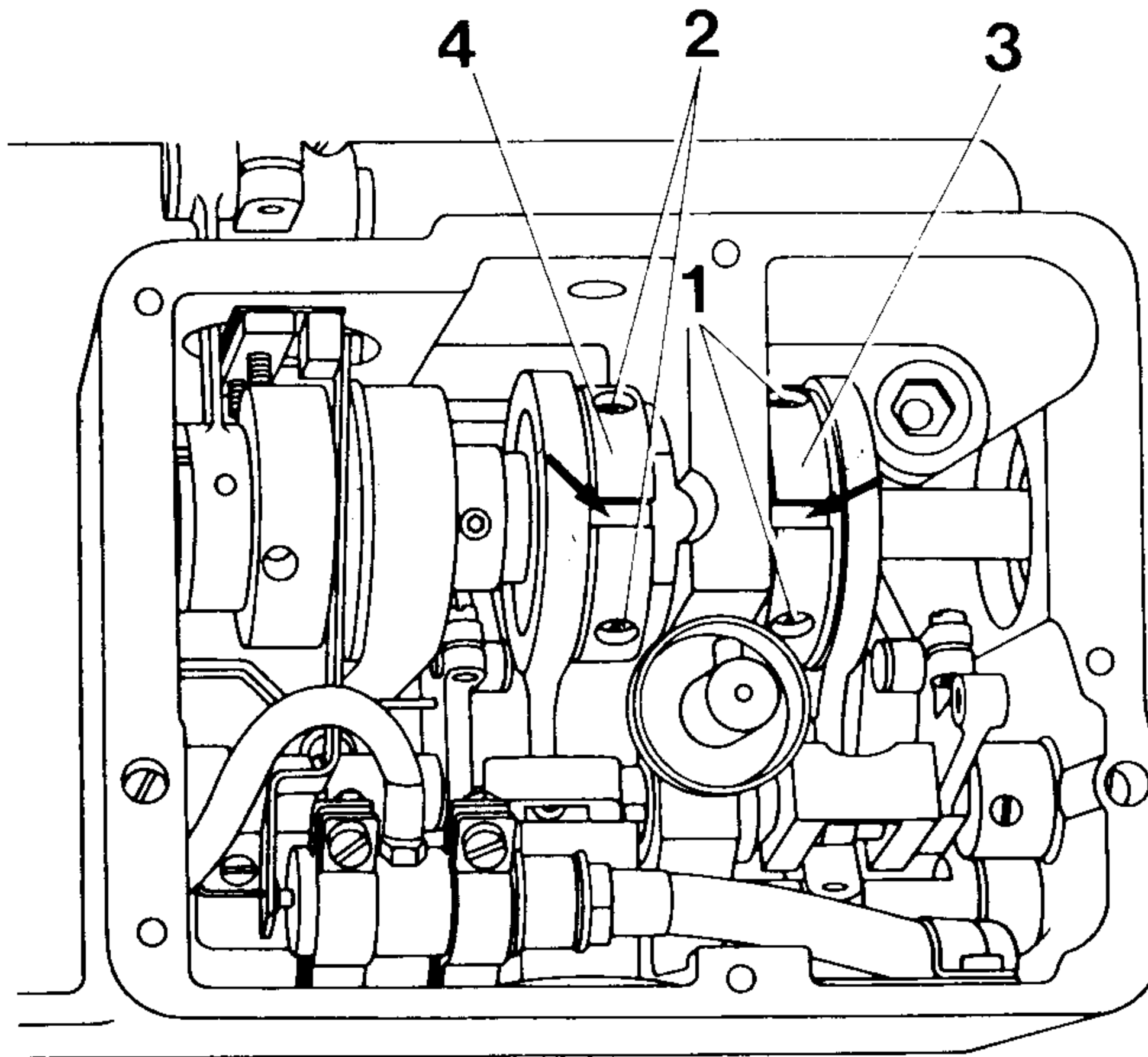


**2.0.2**

### 3 Feeding motion of top-, bottom- and needle feeds

Setting:

With the longest stitch length set and the needle bar 1.6 mm past best bottom dead centre, top-, bottom- and needle feed must not make any feeding motion when the reverse-feed lever is operated.



3.0.1

Adjustment:

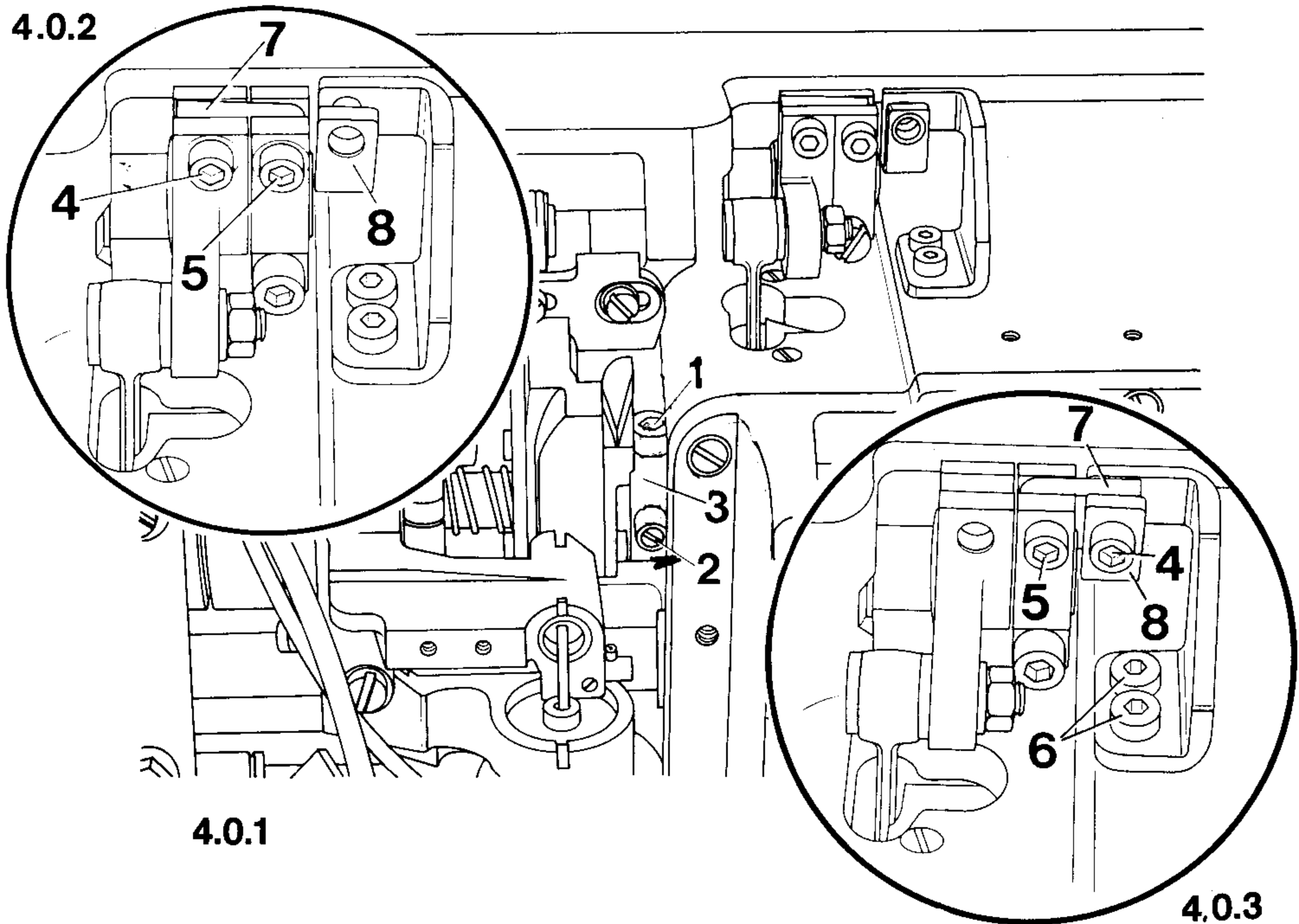
- 3.1 Loosen screws 1 and 2 just enough to allow eccentrics 3 and 4 to turn tightly.
- .2 Move needle bar to bottom dead centre and set longest stitch length.
- .3 Move C-clamp up against needle bar frame and tighten in position.
- .4 **Move reverse-feed lever continuously up and down and turn eccentric 3 until cutout in eccentric (see arrow) becomes visible and bottom feed dog no longer moves.**
- .5 Tighten screws 1 firmly.
- .6 **Move reverse-feed lever continuously up and down and turn eccentric 4 until cutout in eccentric (see arrow) becomes visible and top feed and needle bar no longer move.**
- .7 Tighten screws 2 firmly.
- .8 Remove C-clamp from needle bar.

## 4 Bottom feed lifting motion

Setting:

When the needle bar is 1.6 mm past bottom dead center, the feed dog must be at its highest point.

### 4.0.2



Adjustment:

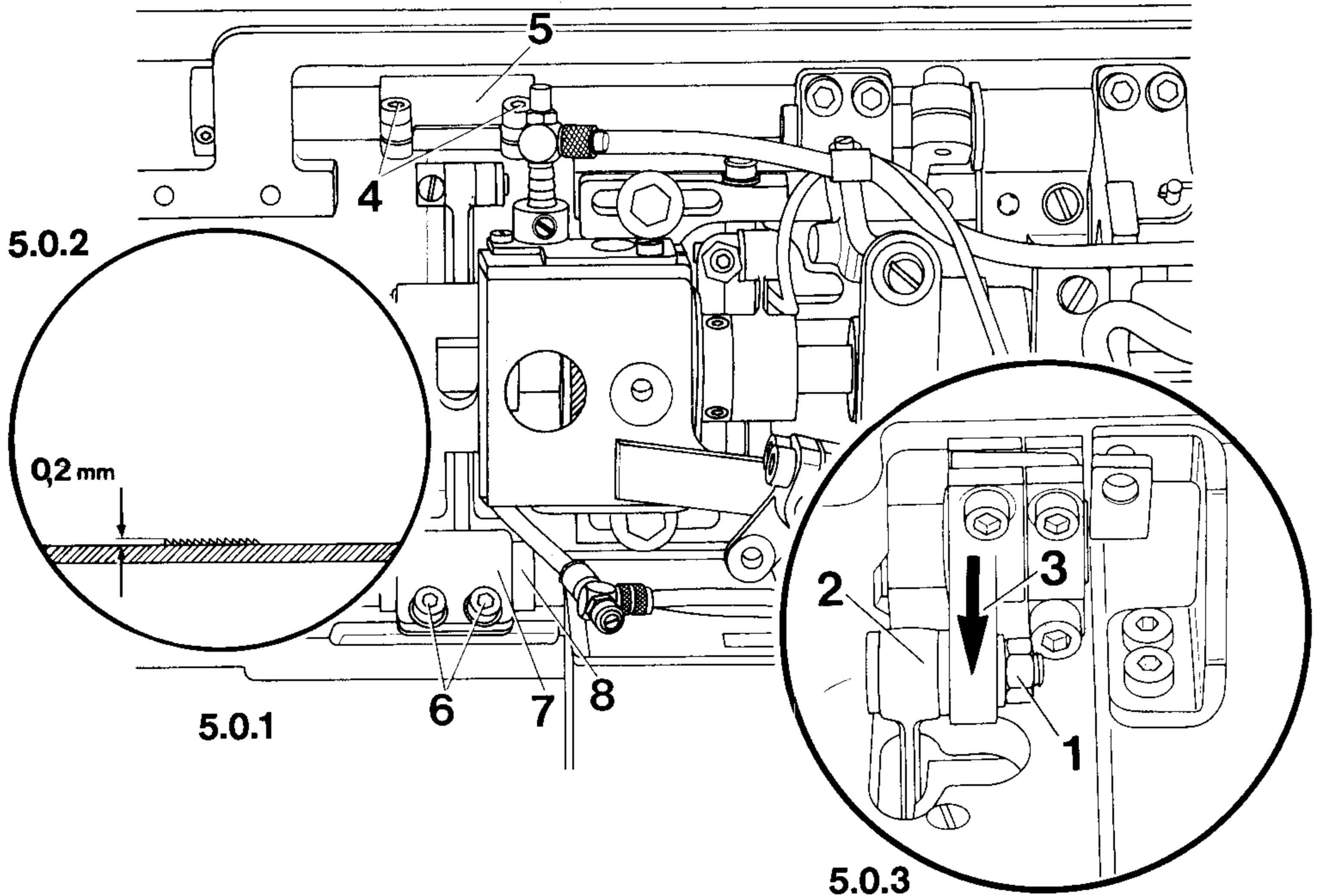
- 4.1 Set stitch length at "0".
- .2 Loosen screw 1.
- .3 Loosen screw 3 by half a turn.
- .4 Set needle bar at bottom dead center.
- .5 Push C-clamp up against lower needle bar bearing and tighten its screw.
- .6 **Turn collar 3 until feed dog is at top dead center.**
- .7 Tighten screw 1.
- .8 Remove C-clamp from needle bar and tighten screw 2.

Note: For fully disabling bottom feed lifting motion remove screw 4, loosen screw 5 and swivel lever 7 into claw 8. Afterwards insert screw 4 in hole of claw 8 and tighten screws 4 and 5.

## 5 Feed dog height

Setting:

With the stitch length set at "0", the needle bar at bottom dead centre and crank 2 set down in slotted lever 3, the teeth of the feed dog must project above the needle plate by **0.2 mm**. Also the feed dog must be positioned in the middle of the needle plate slots.



Adjustment:

- 5.1 Set stitch length at "0".
  - .2 Move needle bar to bottom dead centre.
  - .3 Loosen nut 1 and move crank 2 in slotted lever 3 fully downwards (see arrow in Fig. 5.0.3).
  - .4 Tighten nut 1.
  - .5 Loosen screws 4 and 6.
  - .6 **Turn lifting crank 5 so that teeth of feed dog project above needle plate by 0.2 mm.**
  - .7 Tighten screws 4.
  - .8 **Turn eccentric clamp bush 8 until feed dog is positioned horizontally.**
  - .9 **Making sure clamp bush 8 is not turned, turn feeding crank 7 until feed dog is in middle of feed slot.**
  - .10 Tighten screws 6.
  - .11 Check adjustment (see "Setting").
- Note: For increasing feed dog height (max. 1.5 mm) move crank 2 in slotted lever 3 accordingly.

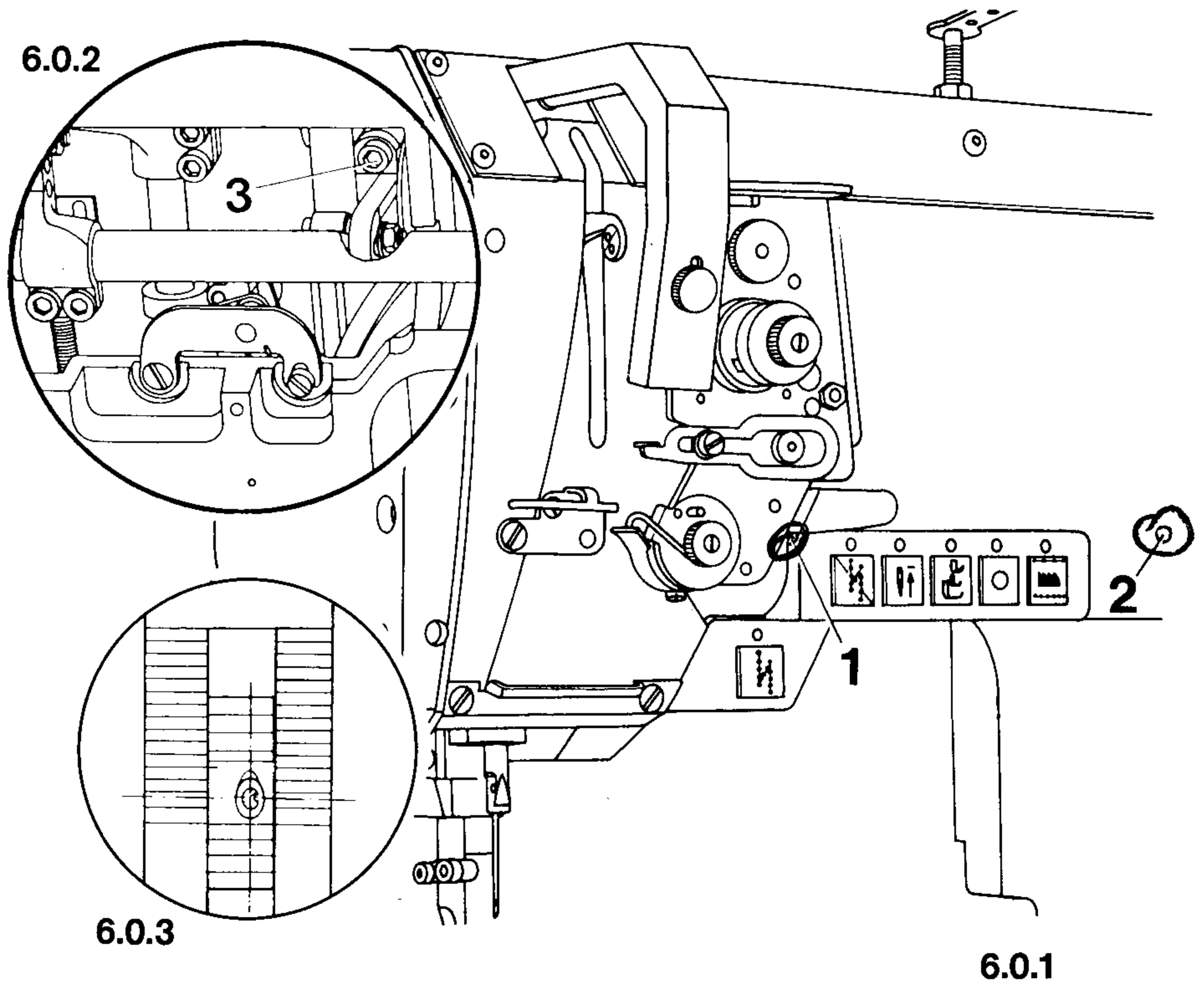


## 6

## Centering needle in needle hole

Setting:

With the stitch length set at "0" the needle must enter exactly in the centre of the needle hole (it is advisable to insert new needle).

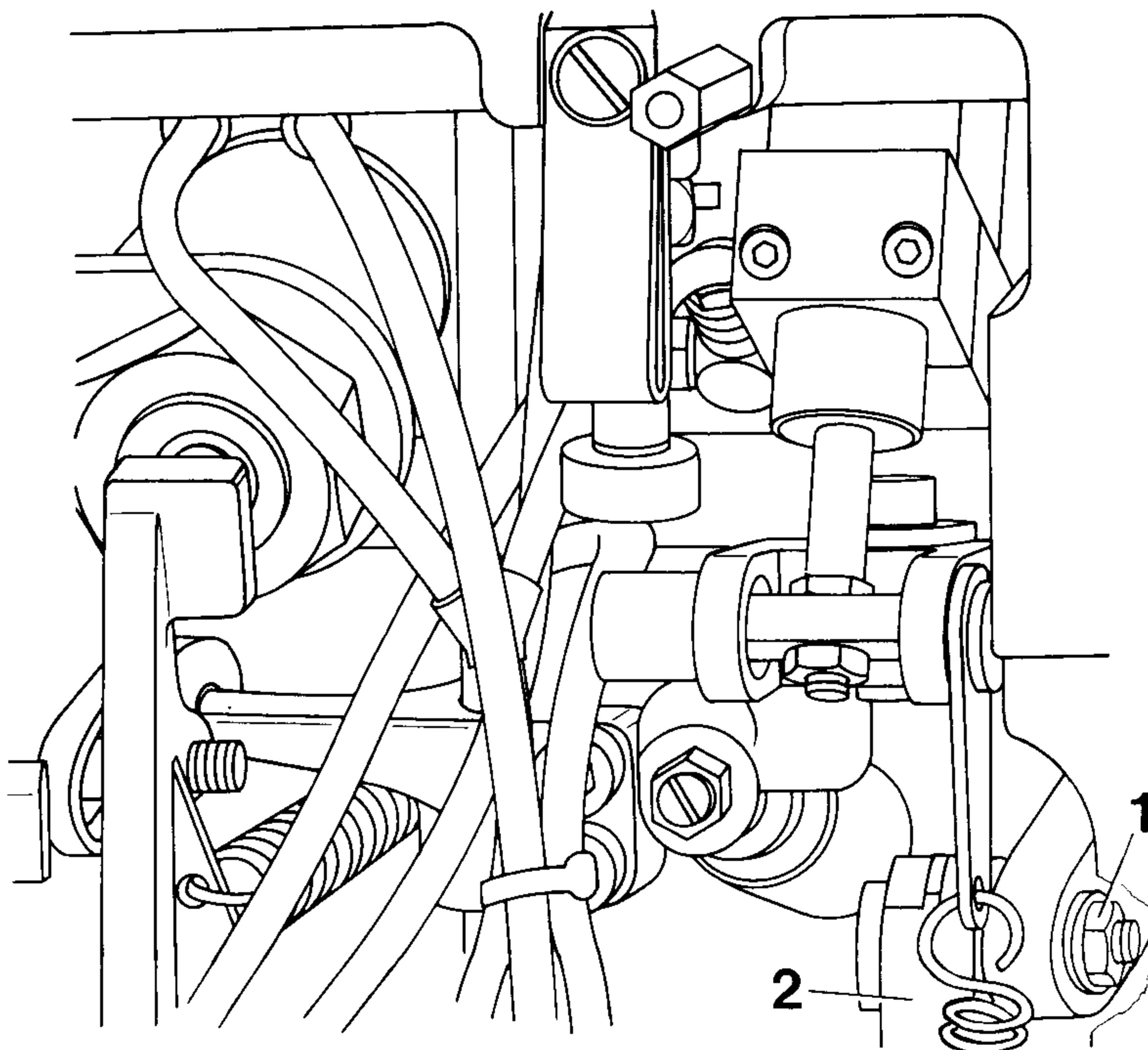


Adjustment:

- 6.1 Remove vibrating presser and presser foot.
- .2 Set stitch length at "0" and move needle bar to top dead centre.
- .3 Insert a new needle and remove two covers at rear of machine.
- .4 Loosen screws 1, 2 and 3.
- .5 Turn balance wheel until needle is positioned above needle hole.
- .6 **Continue turning balance wheel and adjust needle bar frame, both lengthwise and crosswise of feeding direction, so that needle enters exactly in centre of needle hole.**
- .7 Tighten screws 1, 2 and 3 firmly.

Setting:

When the balance wheel is turned at the longest stitch length setting the needle and the bottom feed dog must make the same feeding stroke.

**7.0.1**

Adjustment:

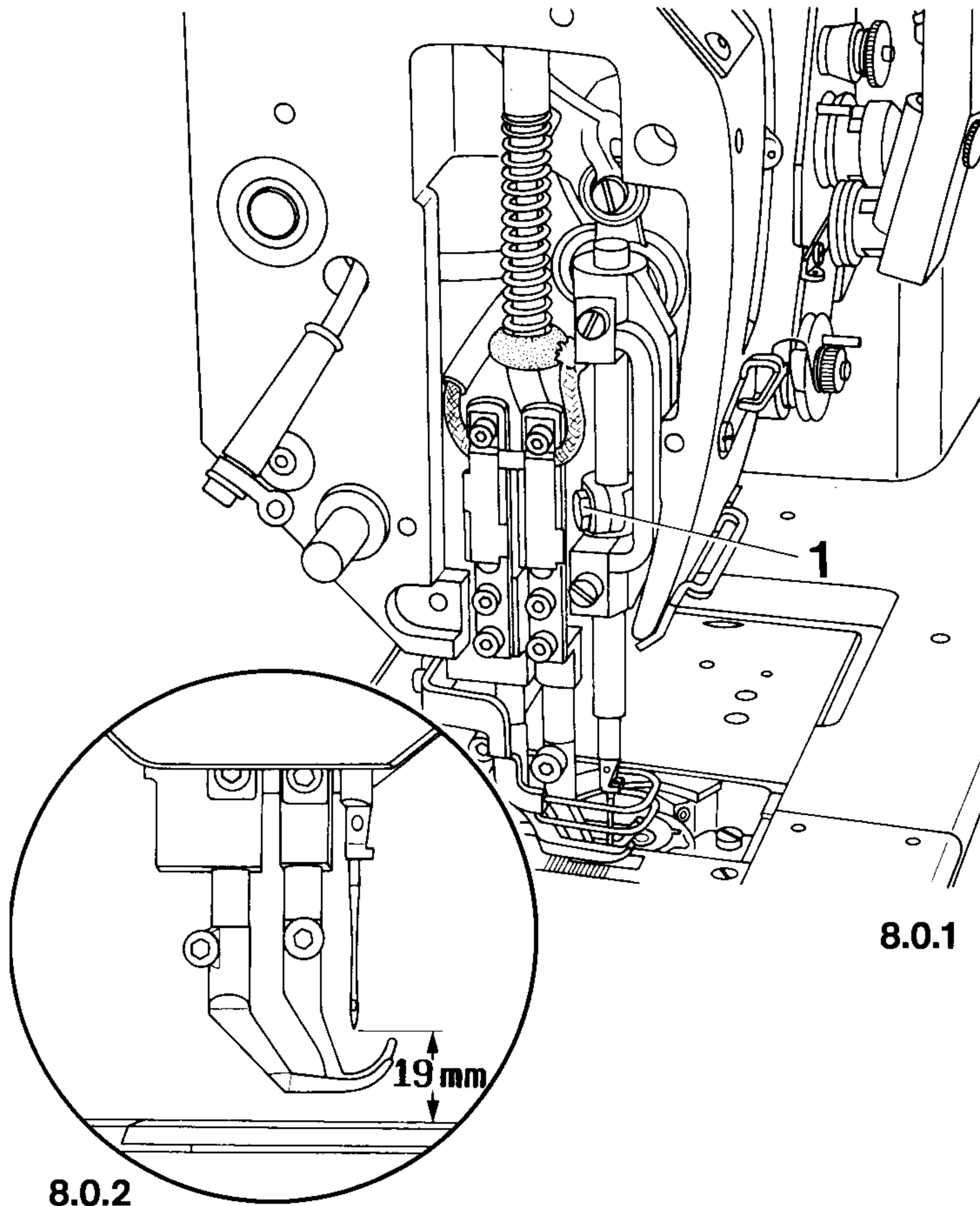
- 7.1 Set longest stitch.
- .2 **Loosen nut 1 and push connecting rod 2 so that needle and feed dog make same feeding stroke when balance wheel is turned.**
- .3 Tighten nut 1.
- .4 Check adjustment described in section 6 and repeat if necessary.

## 8

**Needle height (preliminary adjustment)**

Setting:

With the needle bar at top dead centre there must be a clearance of **19 mm** between needle point and needle plate.

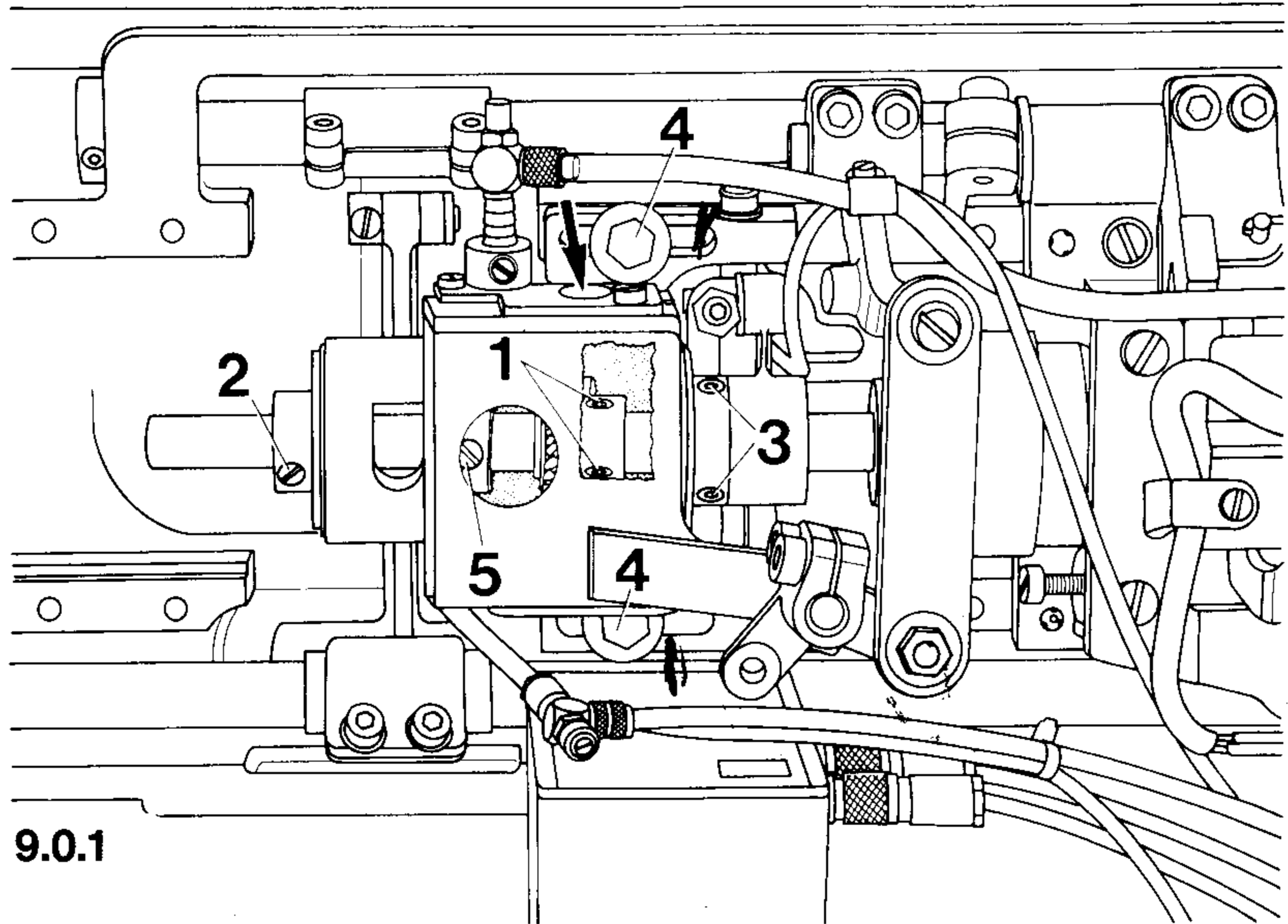


Adjustment:

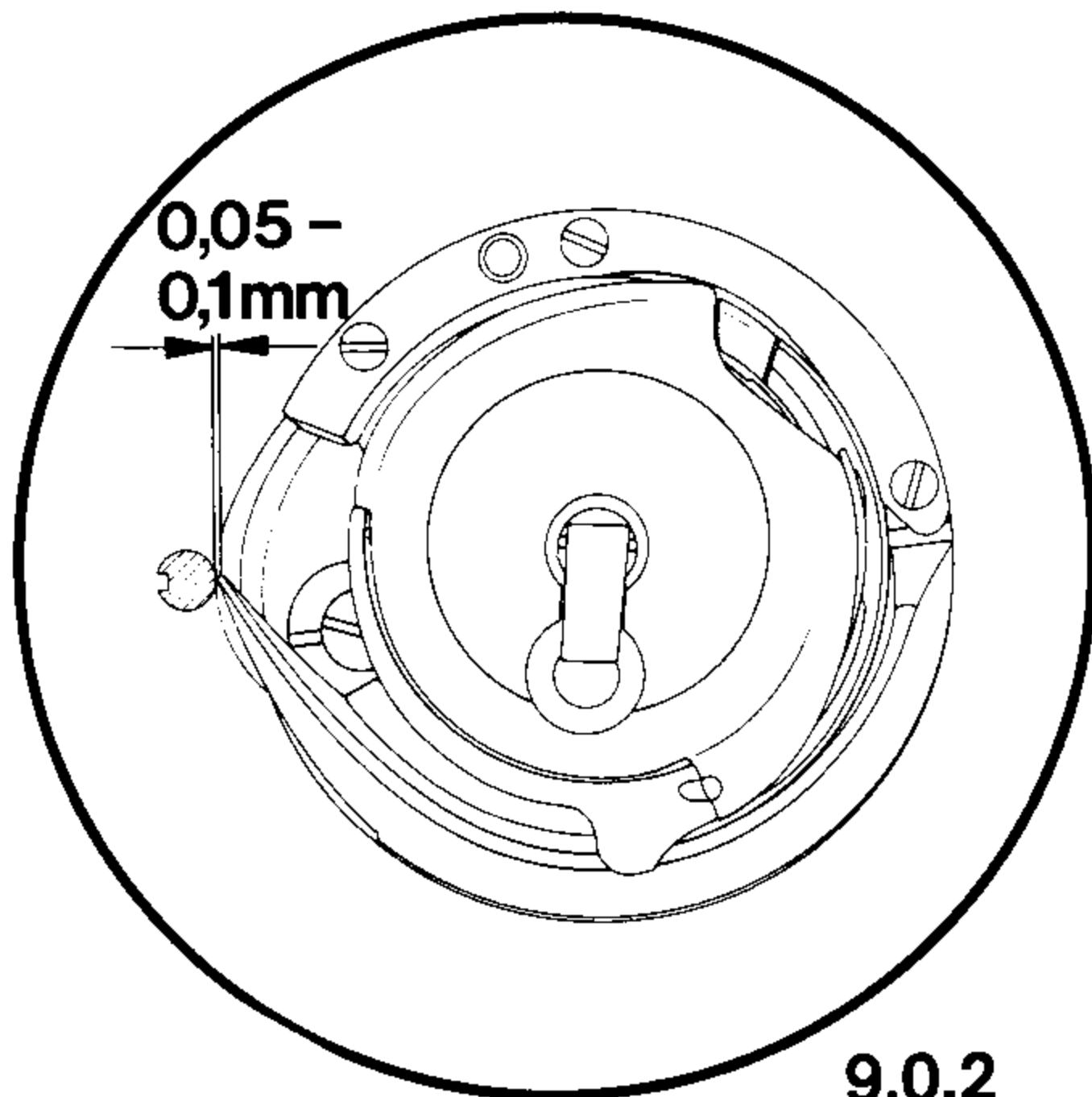
- 8.1 Remove face plate.
- .2 Move needle bar to top dead centre and loosen hexagon screw 1.
- .3 **Adjust height of needle bar, without turning it, so that clearance between needle point and needle plate is 19 mm.**
- .4 Tighten screw 1.

## Setting:

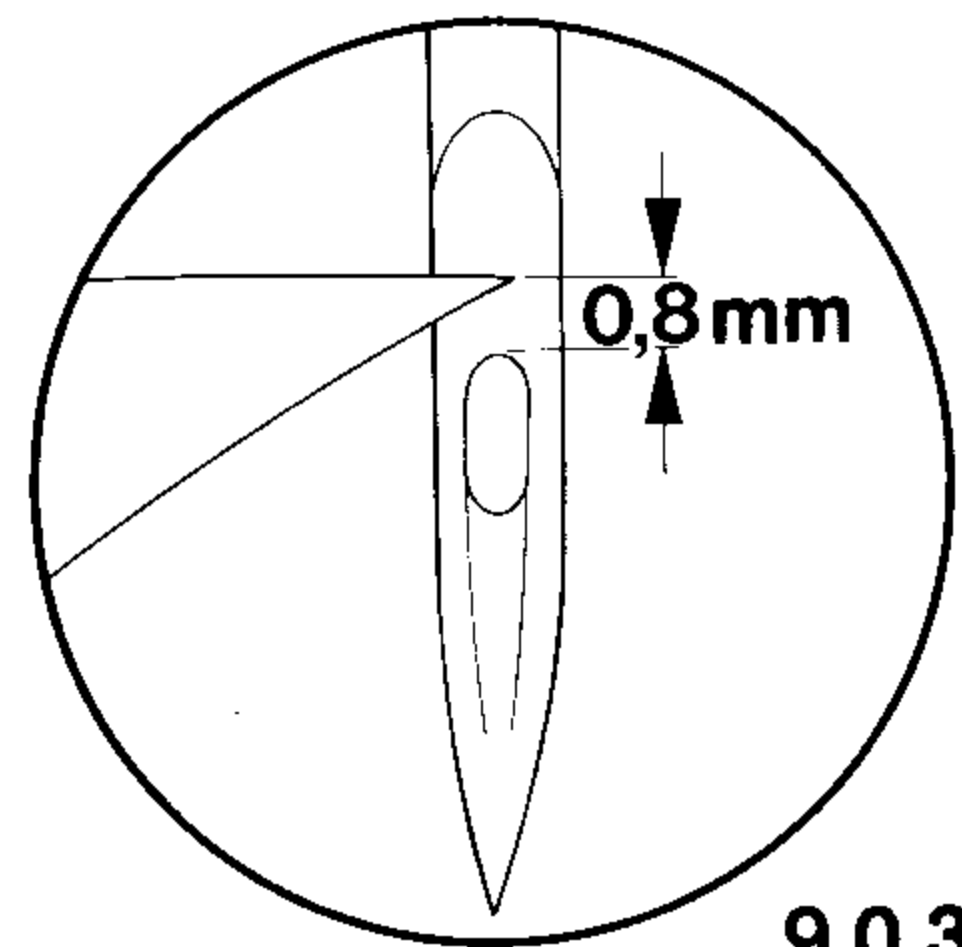
With the stitch length set at (0) and the needle bar positioned 1.8 mm past bottom dead center (needle rise position) the hook point must be exactly opposite the center line of the needle, the lateral clearance between hook point and needle being **0.05–0.1 mm**. Also, in this position, the hook point must be positioned **0.8 mm** above the top edge of the needle eye.



9.0.1



9.0.2



9.0.3

## Adjustment:

9.1 Set stitch length at 3 mm and unscrew needle plate and feed dog.

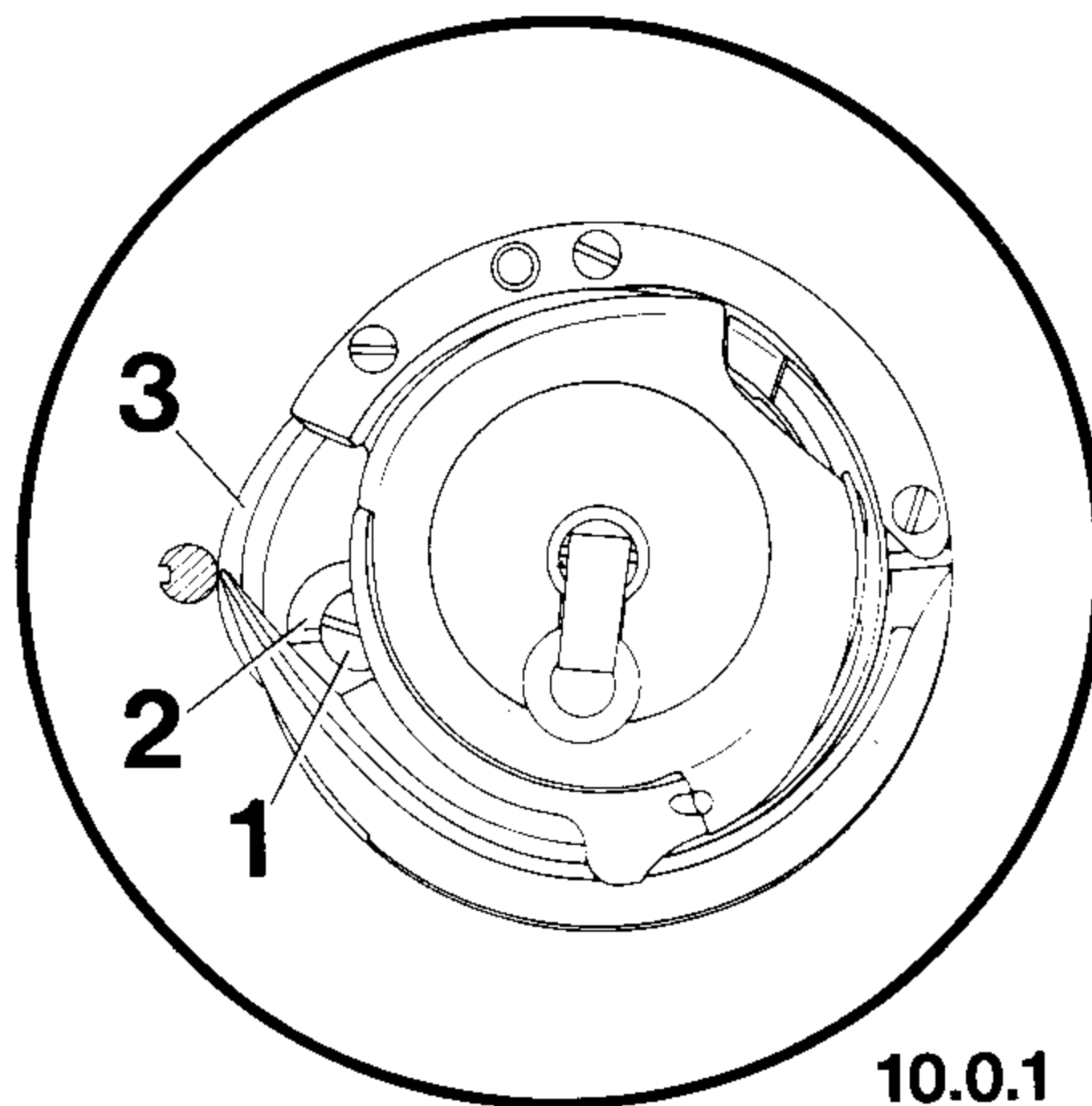
- 9.2 Loosen screws **1**, through hole in bevel gear case cover (see arrow in Fig. 9.0.1).
- .3 Loosen screws **2, 3, 4** and **5**.
- .4 Set needle bar at bottom dead center.
- .5 Push 2-mm-thick blade of gauge onto needle bar immediately below its lower bearing, push C-clamp up against blade and tighten its screw.
- .6 Pull out gauge and turn balance wheel until C-clamp contacts needle bar bearing.
- .7 **Turn hook so that its point is opposite center line of needle. In this position (needle rise position), hook point must be 0.8 mm above top edge of needle eye. If necessary, adjust needle bar height.**
- .8 **Adjust hook bearing bracket laterally until there is a clearance of 0.05 – 0.1 mm between hook point and needle.**
- .9 Tighten screws **4**.
- .10 Adjust left part of main drive shaft so that clutch has a play of **0.1 mm**.
- .11 Tighten screws **2**.
- .12 Making sure bevel gears are neither too close to each other nor have too much play, tighten screws **1**.
- .13 Tighten one screw **3**.
- .14 Move stop bushes up against bevel gears and tighten screws **5**.
- .15 Remove C-clamp from needle bar and check adjustment (see “Setting”).
- .16 Do not tighten second screw **3** yet.

## 10

### Needle guard

Setting:

In needle rise position needle guard **3** must contact the needle lightly thus preventing the needle from being caught by the hook point.



Adjustment:

- 10.1 Turn balance wheel to set needle at needle rise position.
- .2 **Loosen screw 1 and turn eccentric 2 until needle guard 3 contacts needle lightly, without deviating it.**
- .3 Making sure eccentric 2 is not turned, tighten screw 1.

## 11 Bobbin case opener

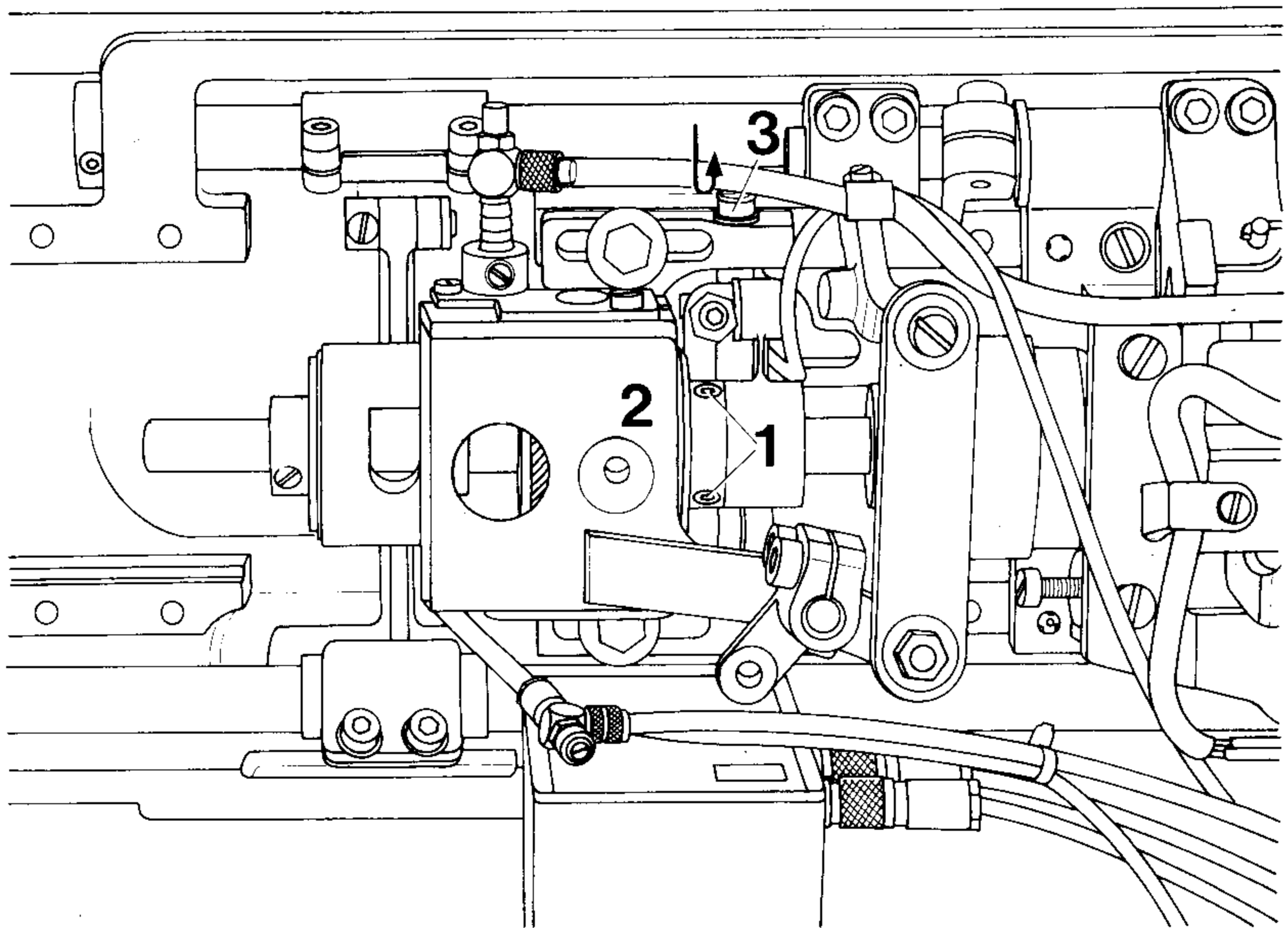
### 11.1 Bobbin case opener eccentric

#### Setting:

When the take-up lever is at top dead center, shaft **3** of the bobbin case opener must be exactly at its rear point of reversal, as seen in the direction of feed (see arrow).

#### Note:

With the needle at top dead centre the rock shaft of the left bobbin case opener on Cl. 1426 machines must be at its front position, as seen in feeding direction.



**11.0.1**

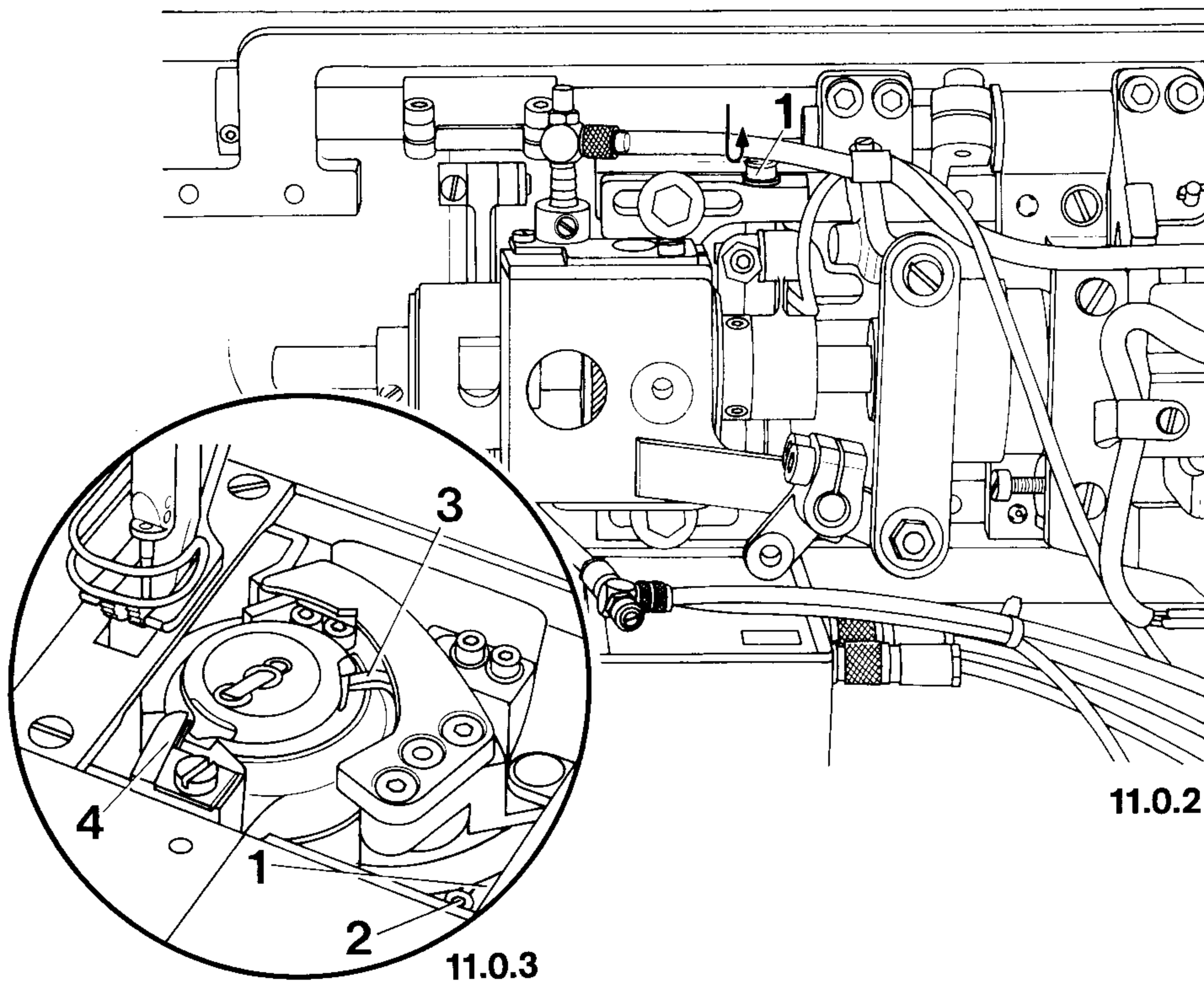
#### Adjustment:

- 11.1.1 Screw on feed dog and needle plate.
- .2 Loosen screw **1** tightened previously.
- .3 Turn balance wheel to set needle at top dead center.
- .4 **Turn bobbin case opener eccentric 2 on its shaft until shaft 3 is exactly at its rear point of reversal (see arrow).**
- .5 Tighten screws **1** securely.

## 11.2 Bobbin case opener stroke

### Setting:

With shaft 1 of the bobbin case opener at its rear point of reversal, as seen in the direction of feed (see arrow), bobbin case opener finger 3 must just release the spring of bobbin position stop 4 when the bobbin case base is actuated.



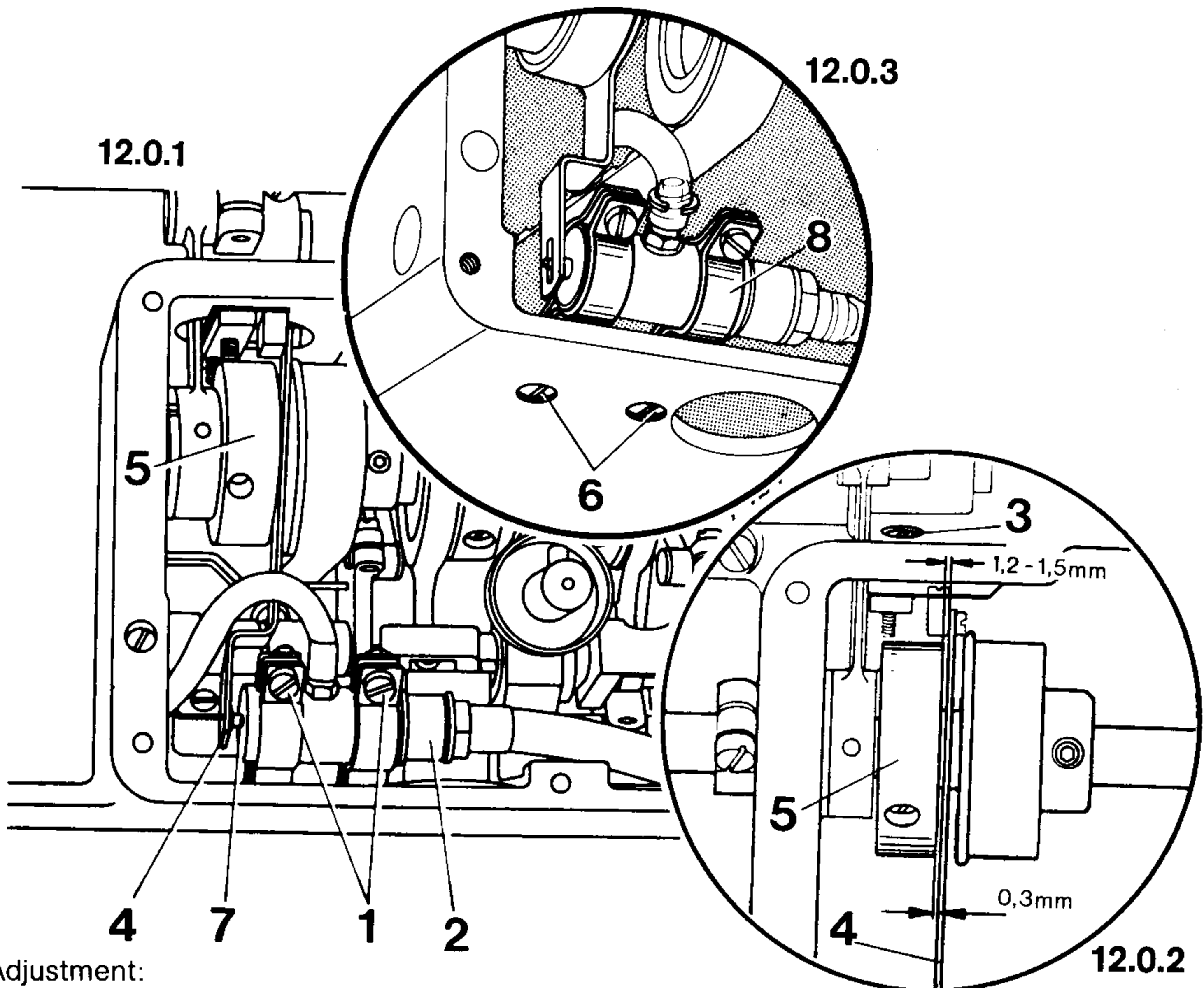
### Adjustment:

- 11.2.1 Set needle bar at top dead centre.
- .2 Turn balance wheel in feeding direction until shaft 1 is at its rear point of reversal (see arrow).
- .3 Loosen screw 2.
- .4 **Move crank on shaft 1 until bobbin case opener stroke is large enough for spring of bobbin position stop to be released noticeably.**
- .5 Making sure crank is not lodged, tighten screw 2.



## Setting:

With the machine in its inoperative position there must be a clearance of **0.3 mm** or **1.2–1.5 mm** between actuating link **4** and centrifugal switch **5** at its narrowest point (Fig. 12.0.3).  
Also, pin **7** must be set at the middle of the elongated hole and the circlip on the pin must rest lightly against the actuating link.



## Adjustment:

- 12.1 Loosen screws **1** and push oil check valve **2** to right.
- .2 Loosen screw **3**.
- .3 **Position link **4** so that in its resting position it clears centrifugal switch **5** by 0.3 mm or 1.2–1.5 mm (Fig. 12.0.2).**
- .4 Tighten screw **3**.
- .5 Loosen screws **6**.
- .6 Push pin **7** to right until you feel a pressure, then position clamp **8** so that pin **7** is in middle of elongated hole.
- .7 Tighten screws **6**.
- .8 **Move oil check valve **2** so that circlip on pin **7** rests lightly against actuating link **4**, making sure that pin is still at pressure point.**
- .9 Tighten screws **1**.
- .10 Carefully clean surface of gearbox and gasket of gearbox cover.
- .11 Replace gear cover with 5 retaining screws (tightening screws evenly crosswise).

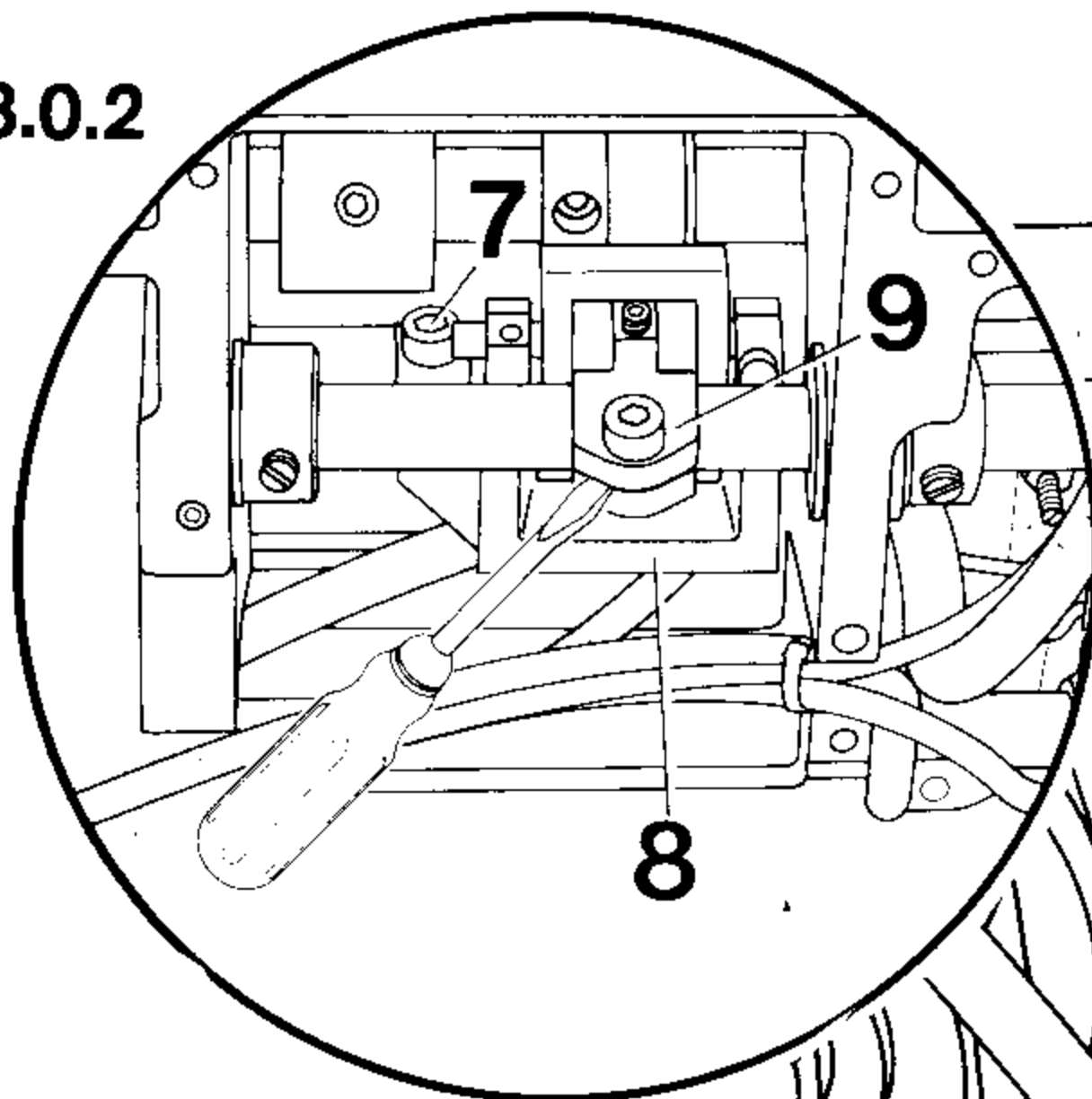
13

Setting the top feed stroke

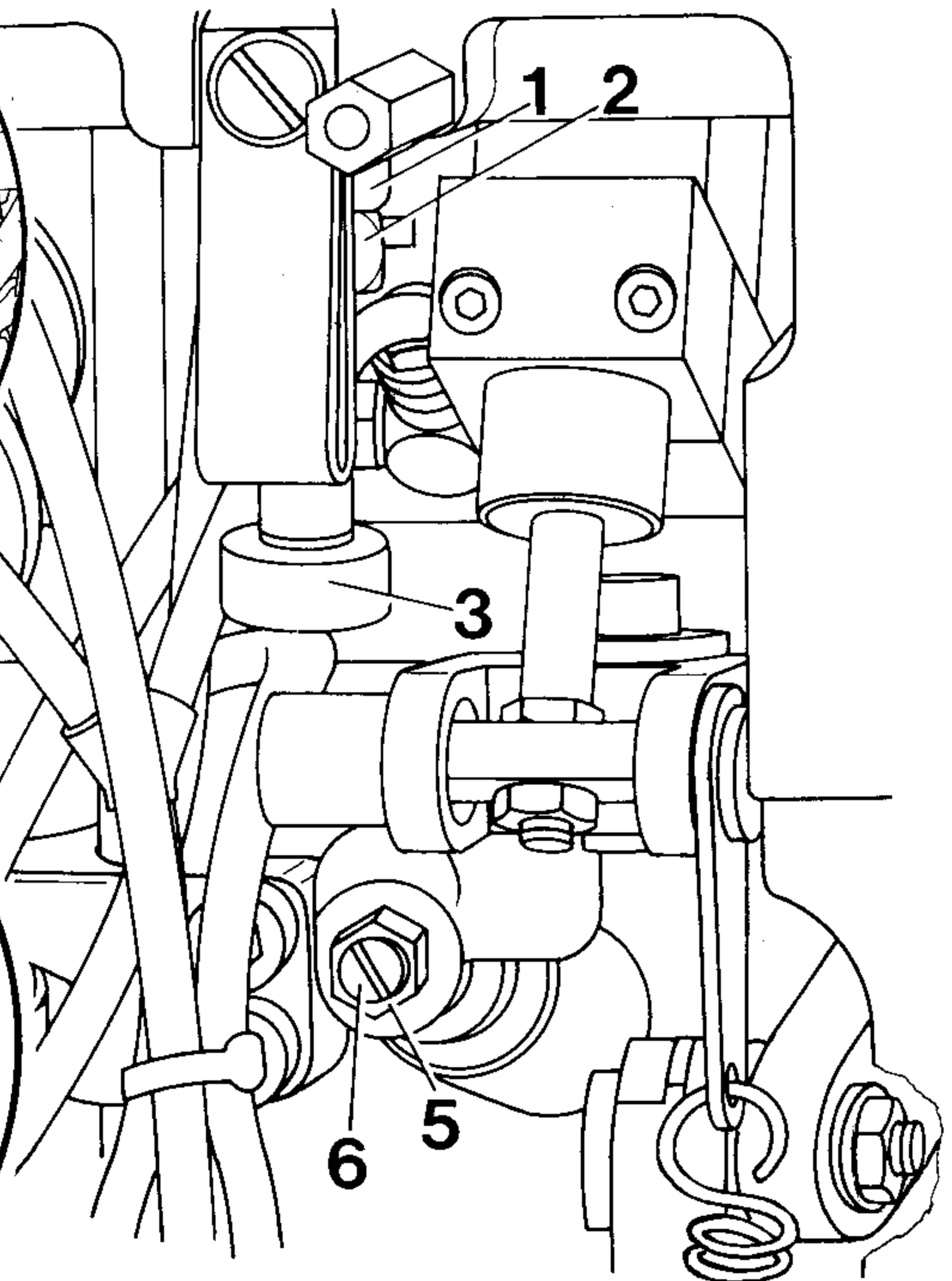
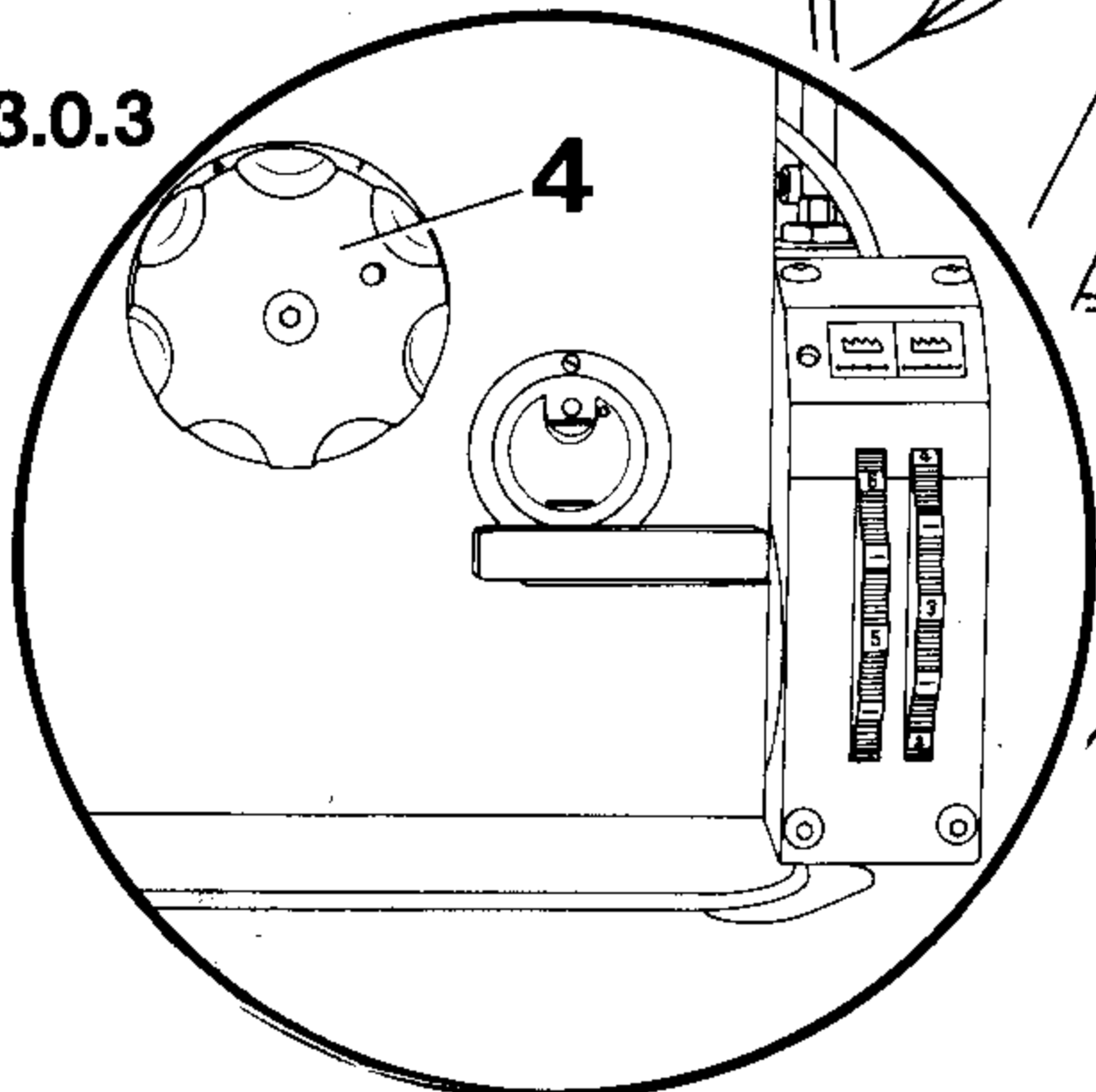
Setting:

At position "6.5" of feed regulator 4 vibrating presser and presser foot must be lifted by 7 mm when the balance wheel is turned.

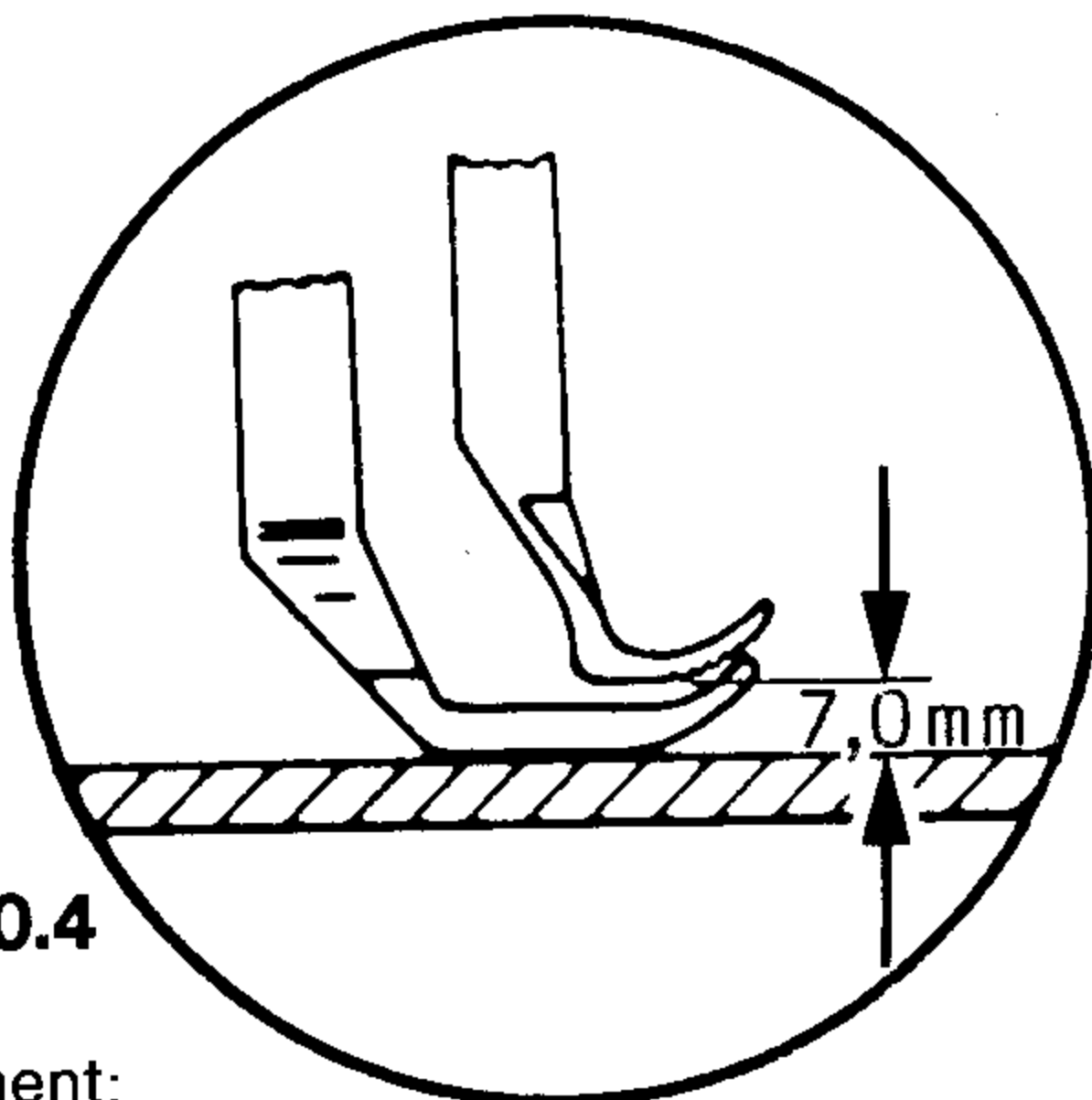
13.0.2



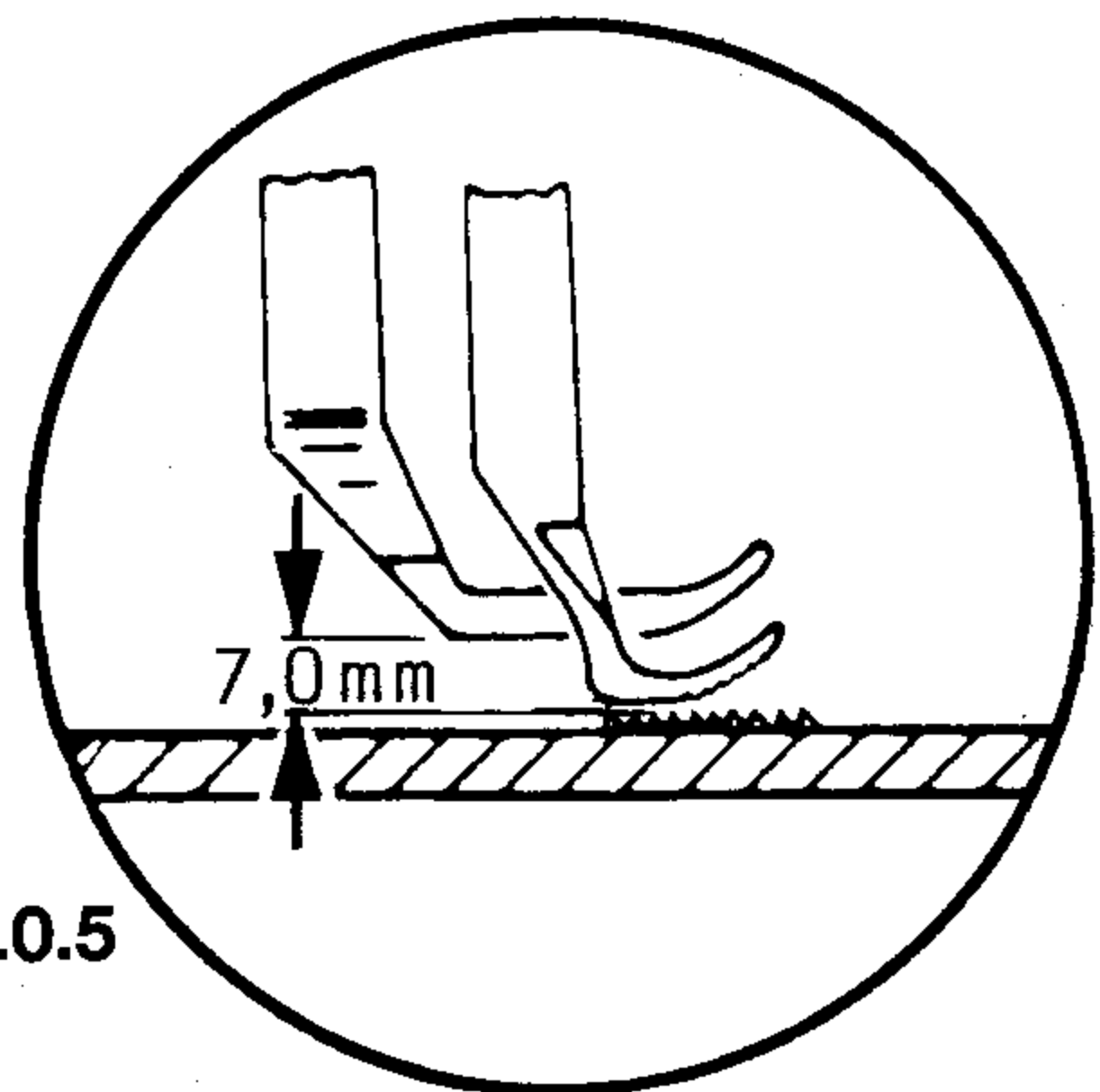
13.0.3



13.0.1



13.0.4

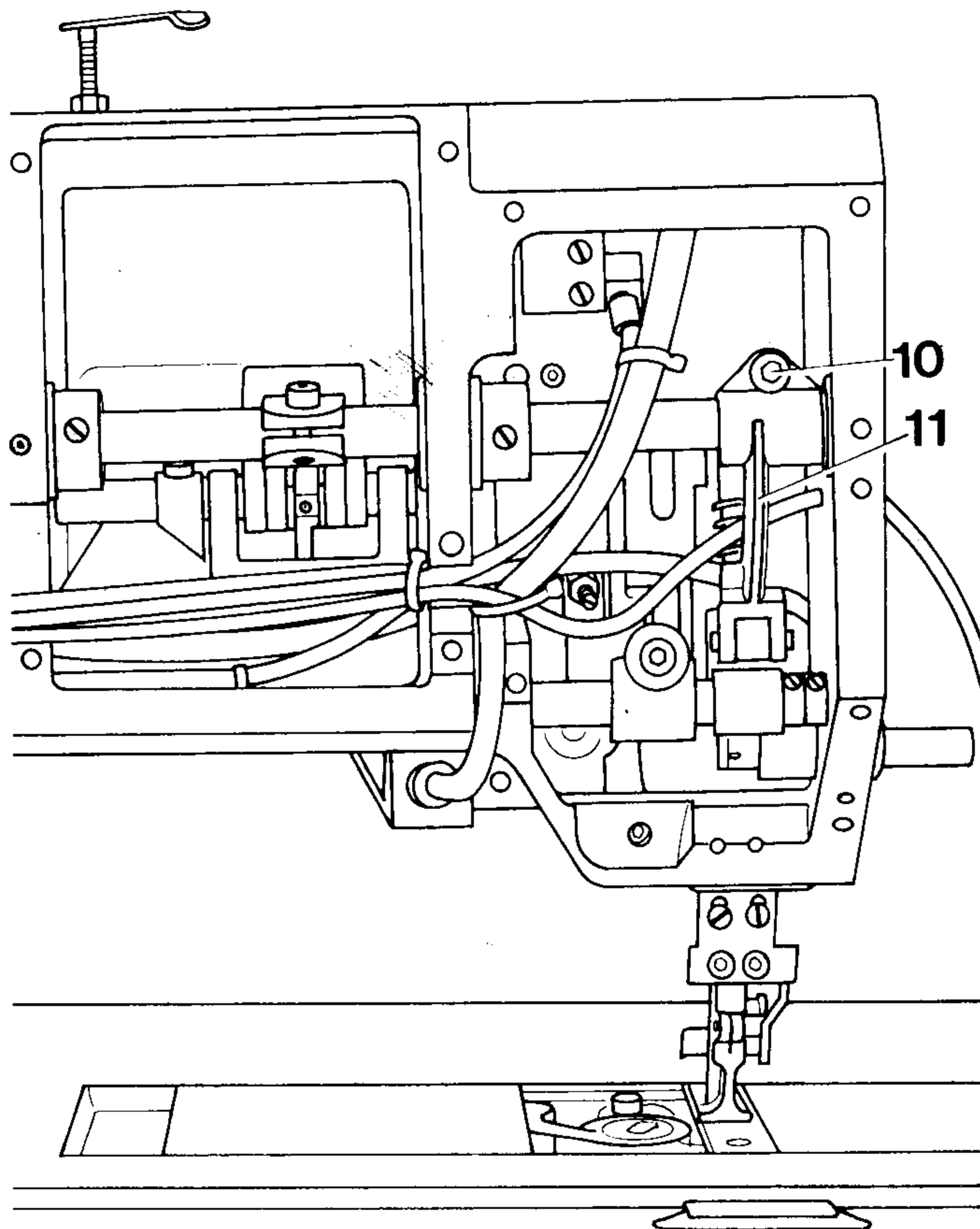


13.0.5

Adjustment:

- 13.1 Loosen nuts 1 and 2 and turn screw 3 fully upwards.
- .2 Set feed regulator 4 at "1".
- .3 Loosen nut 5 and turn out screw 6 as far as it will go.

- 13.4 Loosen screw 7.
- .5 Turn crank 8 until crank 9 does not move when balance wheel is turned (insert screwdriver in slot of crank 9 to check this).
- .6 Tighten screw 7.
- .7 Set feed regulator 4 at "6.5".
- .8 **Screw in screw 6 until vibrating presser and presser foot are lifted by 7 mm when balance wheel is turned (Figs. 13.0.4 and 13.0.5).**
- .9 Tighten nut 5.
- Note: If pressers do not lift by 7 mm loosen screw 10 and turn crank 11 accordingly. Tighten screw 10 afterwards.

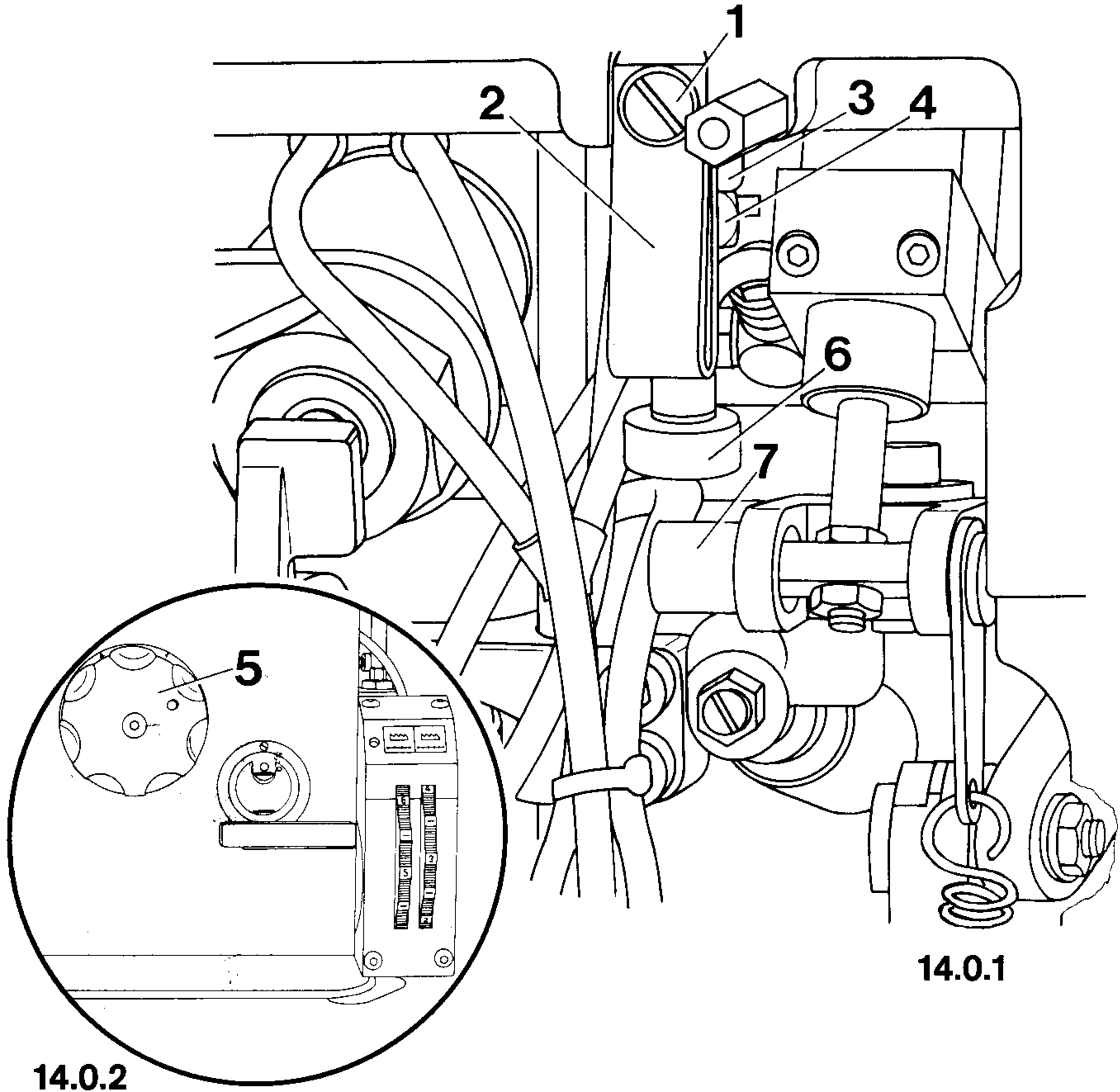


**13.0.6**

**14 Stroke limitation**

Setting:

Normally the stroke must be limited to **5 mm**, but when required it can be increased to max. **7 mm**.



Adjustment:

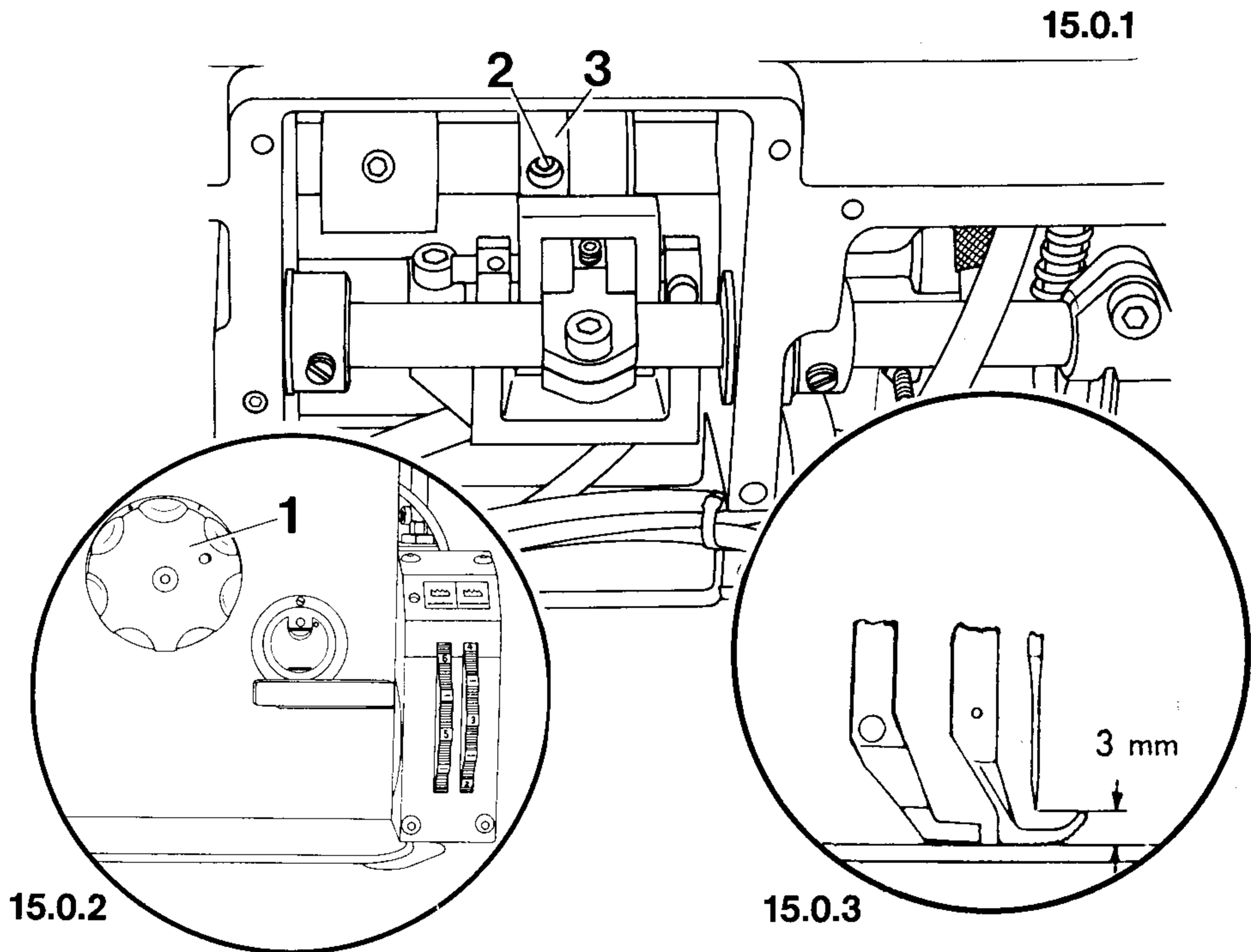
- 14.1 Take out screw 1 and remove leaf spring 2.
- .2 Turn nut 3 until it contacts housing.
- .3 Lock nut 4 with nut 3.
- .4 Tighten leaf spring 2 with screw 1.
- .5 Set feed regulator 5 at "5".
- .6 Turn screw 6 down until it contacts pin 7.

Note: For setting max. stroke of **7 mm** turn screw 6 upwards fully.

## 15 Top feed dog lifting motion

Setting:

With the presser foot stroke set at 3 mm, and the foot resting on the needle plate, the top feed dog must just have arrived at the needle plate when the needles on their way down are 3 mm above it.

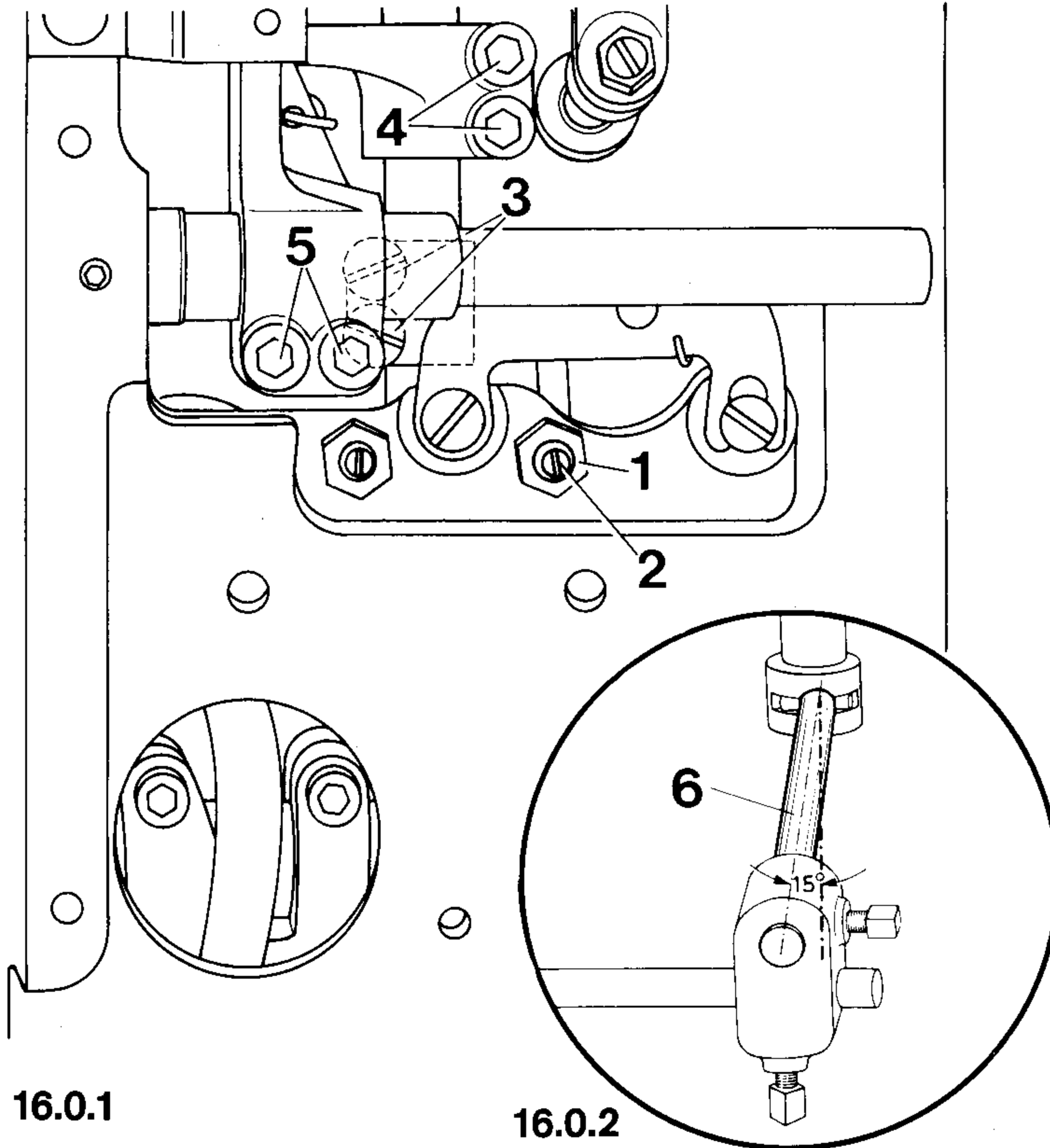


Adjustment:

- 15.1 Set feed regulator **1** at "3".
- .2 Turn both screws **2** until lifting eccentric **3** can be turned on its shaft against a resistance.
- .3 Lower foot onto needle plate.
- .4 **Move lifting eccentric **3** until top feed dog reaches needle plate.**
- .5 Tighten screws **2**.

Setting:

Knee-lever connecting shaft **5** must be at an angle of  $15^\circ$  to the left of a line extending perpendicularly from the bedplate.



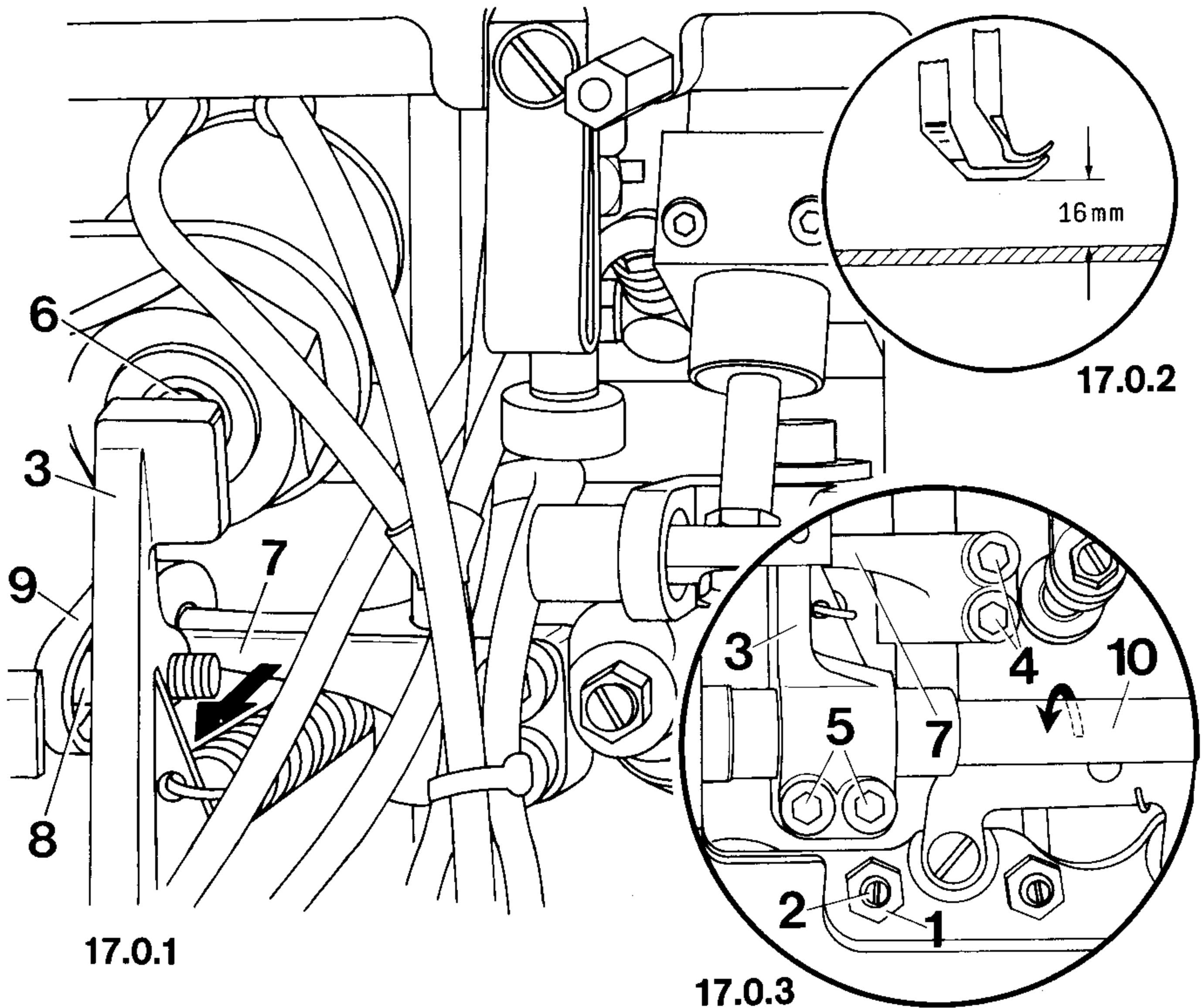
Adjustment:

- 16.1 Loosen nut **1** and turn screw **2** until its head is flush with nut **1**.  
 .2 Lock screw **2** with nut **1**.  
 .3 Loosen screws **3** to **5**.  
 .4 **Set knee-lever connecting shaft at position  $15^\circ$  to left of a line extending perpendicularly from bedplate.**  
 .5 Making sure vertical shaft does not have any play, tighten screws **3**.

## 17 Fabric clearance

Setting:

When the knee lever is actuated fully the fabric clearance must be **16 mm**.

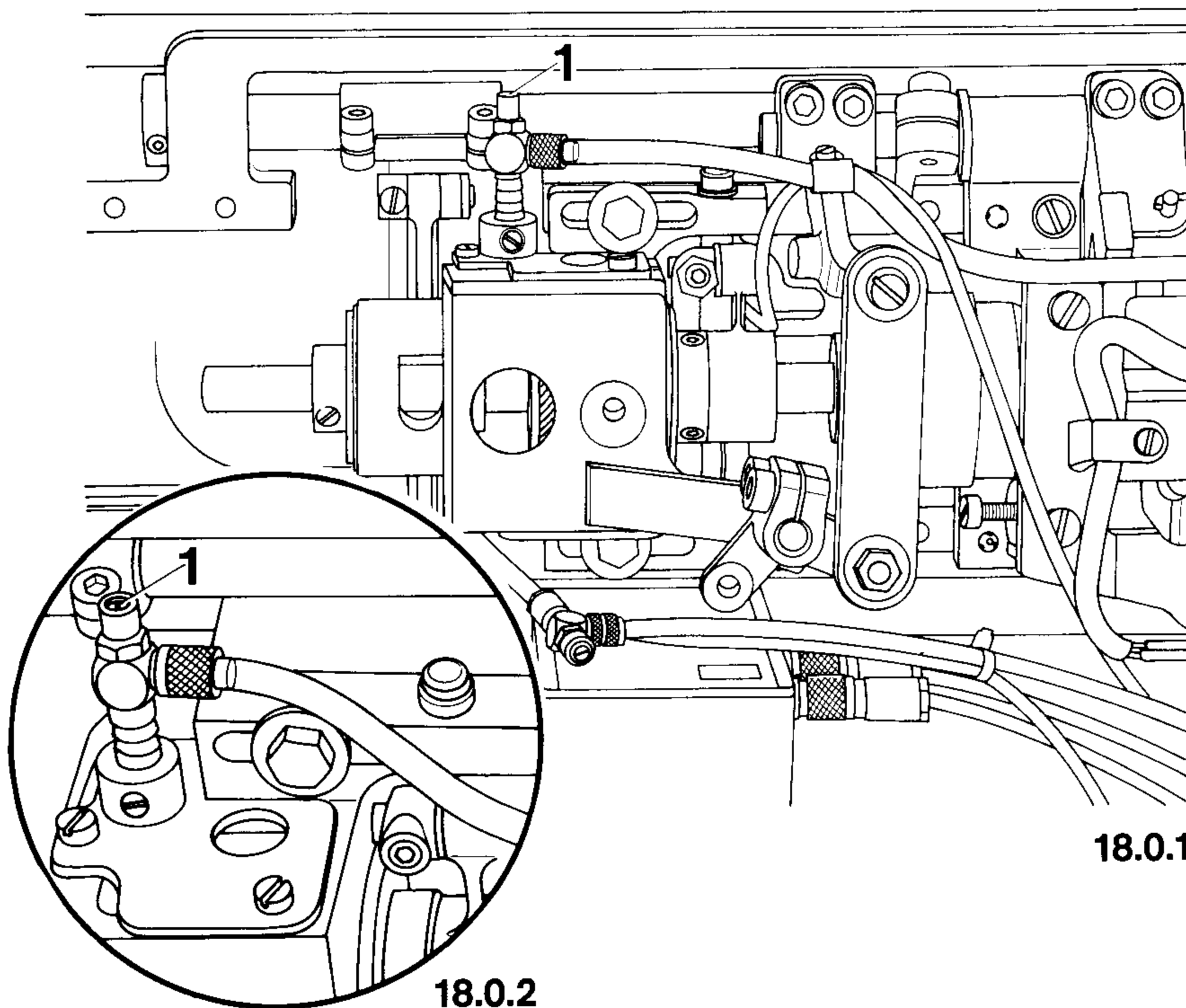


Adjustment:

- 17.1 Loosen nut **1** and turn out screw **2** a few turns.
- .2 Fully turn shaft **10** in direction of arrow.
- .3 Turn lever **3** until there is a clearance of **1 mm** between plunger **6** and lever **3**.
- .4 Tighten screws **5**.
- .5 First move crank **7** forwards (see arrow) until pin **8** contacts elongated hole of connecting rod **9**, then move it back again until there is approx. **1 mm** of play.
- .6 Make sure connecting rod **9** is positioned horizontally and tighten screws **4**.
- .7 **Fully actuate knee lever and turn in screw 2 until fabric clearance is 16 mm.**
- .8 Lock screw **2** with nut **1**.

## Setting:

After the machine has run at full speed for about ten seconds, a fine trace of oil must appear opposite the hook on a piece of paper placed vertically behind it.



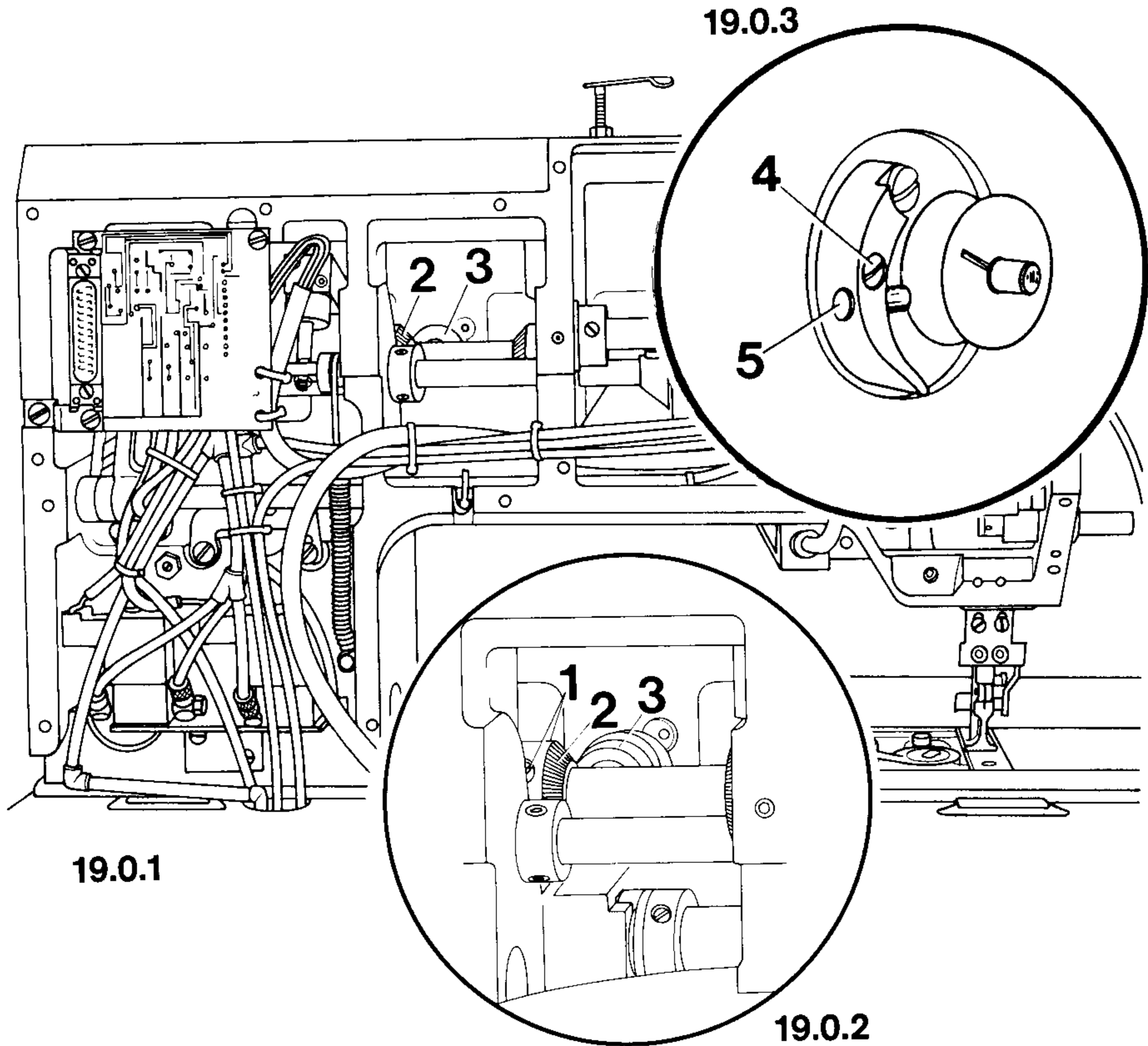
## Adjustment:

- 18.1 Check oil level at oil sight glass and, if necessary, top up reservoir until oil level is in line with upper mark. Use oil with a mean viscosity of  $22 \text{ mm}^2/\text{s}$  at  $40^\circ\text{C}$  and a density of  $0.865 \text{ g/cm}^3$  at  $15^\circ\text{C}$ . We recommend Pfaff sewing machine oil No. 280-1-120144.
- .2 Turn in regulating screw 1 and then back out by three turns.
- .3 Turn on master switch and let machine run about one minute.
- .4 Place a piece of paper vertically behind hook. Then check to see if fine trace of oil has appeared on paper opposite hook raceway.
- .5 **If too much oil is emitted, turn in regulating screw 1. If too little oil is emitted turn it out a little.**



## Setting:

When the bobbin winder is engaged, the winder spindle must be driven reliably; when the bobbin winder is disengaged, however, friction wheel 3 must not contact drive wheel 2. Furthermore, the bobbin winder must stop automatically when the thread wound on the bobbin has reached a point abt. 1 mm below its rim.



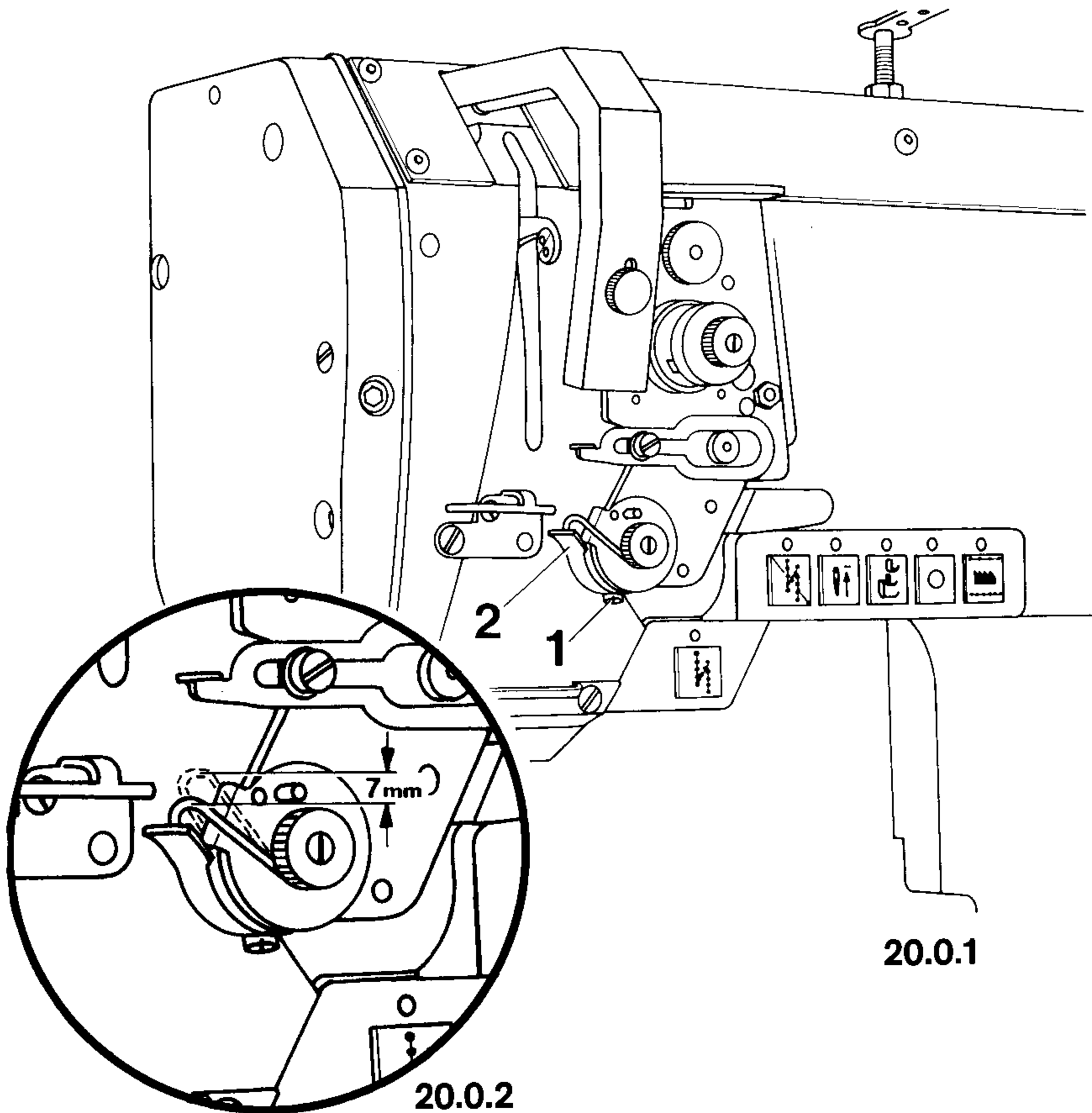
## Adjustment:

- 19.1 Engage bobbin winder.
- .2 Loosen screw 1 on back of machine arm.
- .3 Adjust drive wheel 2 on arm shaft so that winder spindle is driven reliably when bobbin winder is engaged, but friction wheel 3 is not in contact with drive wheel 2 when bobbin winder is disengaged.
- .4 Tighten screws 1.
- .5 Loosen screw 4.
- .6 **If bobbin is too full, push regulating stud 5 toward right; if it is not full enough, push it toward left.**
- .7 Tighten screw 4.

## 20 Thread check spring

Setting:

The movement of the thread check spring must be completed when the needle point penetrates the material (roughly 7 mm stroke).



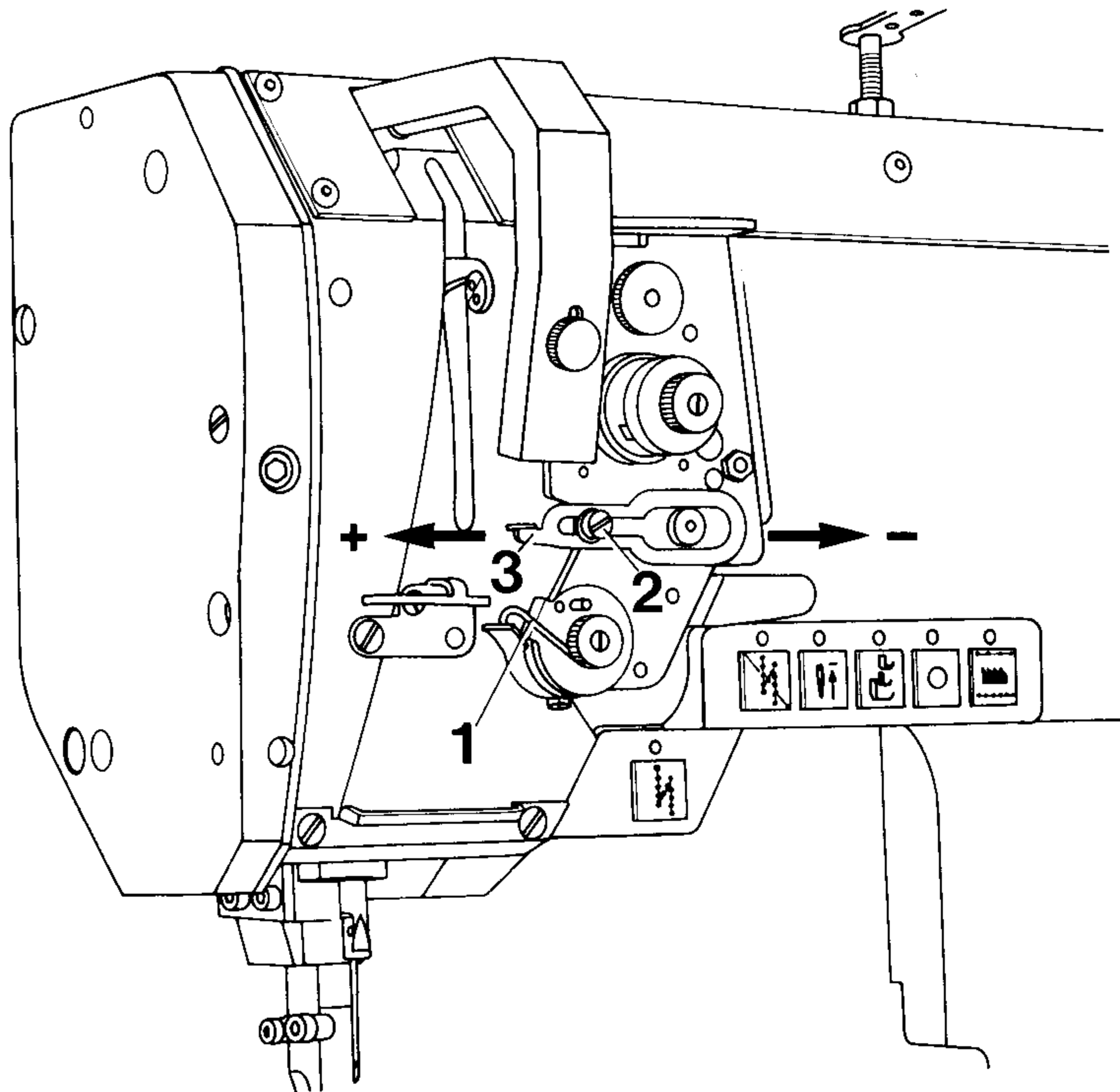
Adjustment:

- 20.1 Thread machine and place piece of waste fabric under presser foot.
- .2 Lower presser foot onto needle plate.
- .3 Loosen screw 1.
- .4 Make a number of stitches by turning balance wheel, then set take-up lever at top dead centre.
- .5 **Continue turning balance wheel in rotating direction and allow thread check spring to move back by 7 mm.**
- .6 Move stop 2 up against thread check spring and tighten screw 1.

## 21 Slack thread regulator

Setting:

While the thread is passed around the sewing hook the thread check spring must move only a little.



21.0.1

Adjustment:

- 21.1 Turn balance wheel and watch movement of thread check spring 1.
- .2 **Loosen screw 2 and move slack thread regulator 3 according to "Setting". Move in "+" direction for more thread, in "-" direction for less thread.**
- .3 Tighten screw 2.

**Maximum speeds**

<b>Class 1425</b>	
Top feed lift	Max. speed in s.p.m.
7 mm	2000
6 mm	2300
5 mm	2700
4 mm	3000
3 mm	3400
2 mm	3800
1 mm	4000

<b>Class 1426</b>					
Top feed lift	Max. speed in s.p.m. for needle gauges				
	Up to 6 mm	Up to 12 mm	Up to 20 mm	Up to 28 mm	Up to 40 mm
7 mm	1800	1700	1600	1500	1400
6 mm	2000	1900	1800	1700	1600
5 mm	2300	2150	2000	1900	1800
4 mm	2700	2500	2300	2150	2000
3 mm	3000	2850	2700	2500	2300
2 mm	3400	3200	3000	2850	2700
1 mm	3800	3600	3400	3200	3000

**23 Quick-change stepping control -918/09**

By this control the maximum speed is decreased automatically when the machine is switched over to high stroke, and increased in case of low stroke.

The maximum speed is set at the control panel (refer to instruction manual of motor supplier).

**24 After-braking action**

The after-braking action serves to secure the position of the take-up lever at top dead centre after thread trimming. Make sure the balance wheel can still be turned by hand.

Adjustment is made at the control panel (refer to instruction manual of motor supplier).

Plug connections on Series 1420		
X 1	Central electric plug	
X 2	Keyboard plug	
X 3	Thread trimmer, long/short thread ends	(-900/56; /61)
X 4	Automatic presser foot lift	(-910/04)
X 5	Backtacking mechanism	(-911/35)
X 6	Reversing mechanism	(-913/08)
X 7	-	
X 8	-	
X 9	Puller lift	(-748/26)
X 10	Edge trimming	(-731/01)
X 11	Left needle disengaged	(-720/04)
X 12	Right needle disengaged	(-720/04)
X 13	Thread wiper	(-909/02)
X 14	Quick-change stepping control	(-918/09)
X 15	Bobbin monitor	(-926/04)
X 16	Top feed stitch length setting	(-918/27; /28)
X 17	Bottom feed stitch length setting	(-918/26; /28)
X 18	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="display: flex; justify-content: space-around; width: 60px;"> <span>3</span><span>2</span><span>1</span> </div> <div style="border: 1px solid black; padding: 2px; display: flex; justify-content: space-around; width: 60px;"> <span>●</span><span>●</span><span>●</span> </div> </div> <div>           Jumper 1-2 for Efka motors            Jumper 3-2 for Efka DC modular            Jumper 3-2 for Quick motors         </div> </div>	
X 19	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="display: flex; justify-content: space-around; width: 60px;"> <span>3</span><span>2</span><span>1</span> </div> <div style="border: 1px solid black; padding: 2px; display: flex; justify-content: space-around; width: 60px;"> <span>●</span><span>●</span><span>●</span> </div> </div> <div>           Jumper 1-2 switching functions for X 16            Jumper 3-2 key functions for X 16         </div> </div>	
X 20	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="display: flex; justify-content: space-around; width: 60px;"> <span>3</span><span>2</span><span>1</span> </div> <div style="border: 1px solid black; padding: 2px; display: flex; justify-content: space-around; width: 60px;"> <span>●</span><span>●</span><span>●</span> </div> </div> <div>           Jumper 1-2 switching functions for X 17            Jumper 3-2 key functions for X 17         </div> </div>	

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