

PFAFF[®]

118

Service Manual

Innovation made by **PFAFF**

Pfaff 118 Service Manual

Notes on safety

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

When converting it to another version all valid safety instructions must be observed.

Maintenance or repair work must only be carried out by trained staff.

Work on live parts is not permitted, apart from the deviations set forth in DIN 57105 and VDE 0105.

Tools, gauges and other equipment for adjustment

Set of screwdrivers with 2 to 10 mm wide blades

Set of wrenches with openings 7 to 14 mm wide

Set of allen keys from 2 to 6 mm

Adjustment gauge (7 and 1.2 mm), part No. 91-129995-05

Adjustment gauge 2 mm, part No. 08-880136-03 (on Cl. 118 x 6 mm)

Adjustment gauge 2.4 mm, part No. 08-880136-05 (on Cl. 118 x 10 mm)

Adjustable clamp, part No. 08-880137-00

Metal ruler

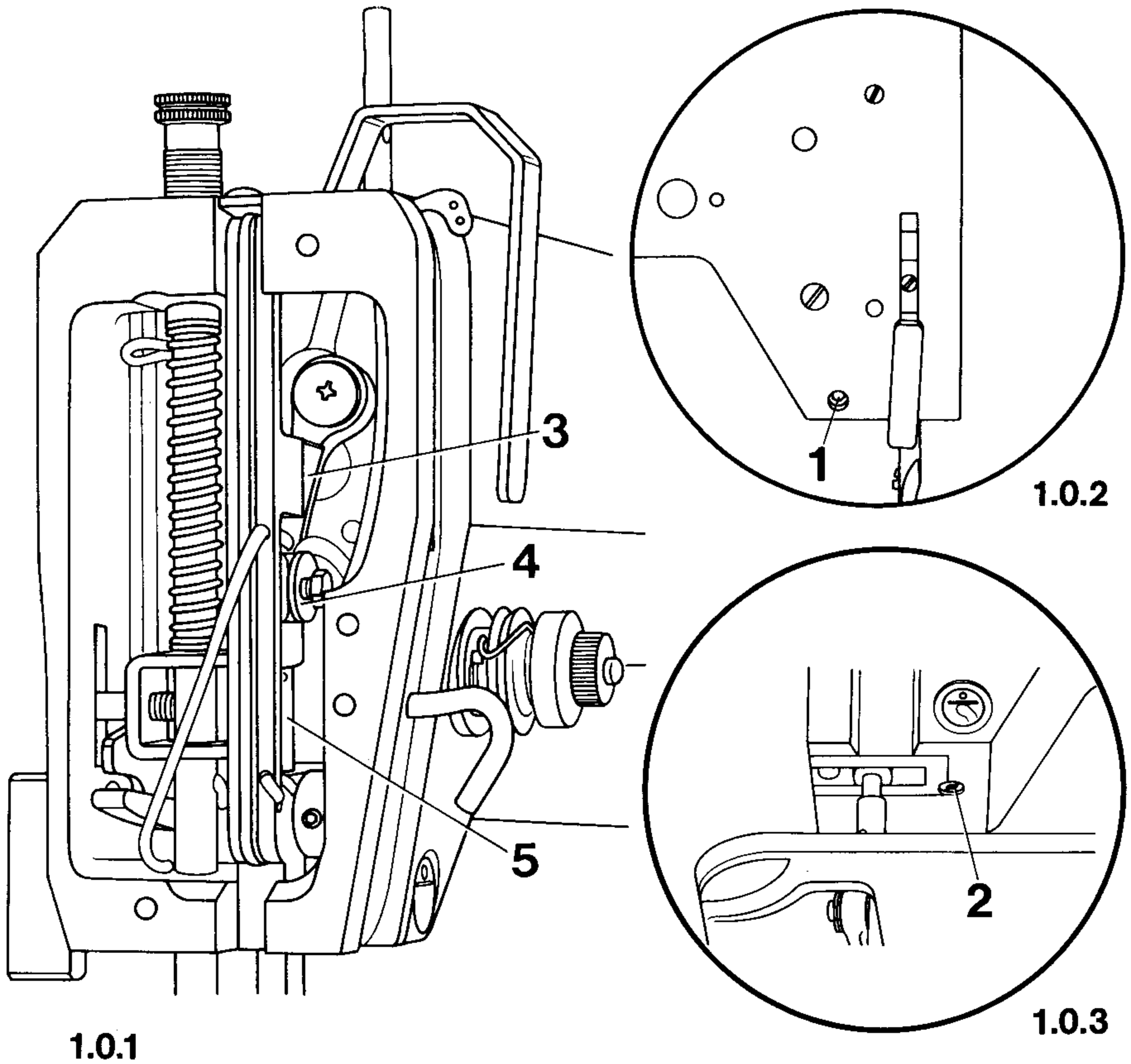
System 438KK needles

Sewing thread and testing material

1 Parallel guiding of connecting rod

Setting:

Connecting rod 3 and needle bar journal 4 must move freely on guide 5.



Adjustment:

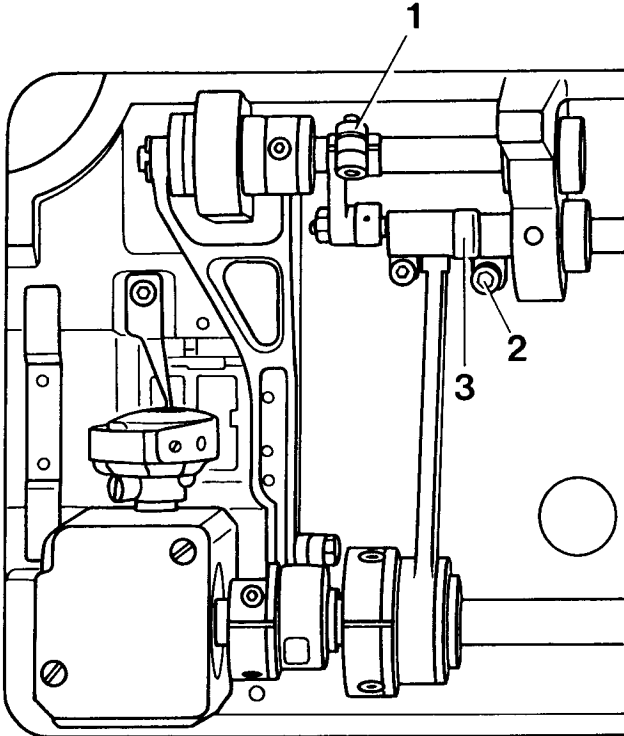
- 1.1 Unscrew face plate.
- .2 Loosen screw 1.
- .3 **Turn eccentric pin 2 until connecting rod 3 and needle bar journal 4 move freely on guide 5 when balance wheel is turned.**
- .4 In this position, tighten screw 1.

2

Neutralizing the feed dog movement

Setting:

When the stitch length is set at "0" the feed dog must not make any feeding motion when the balance wheel is turned.



2.0.1

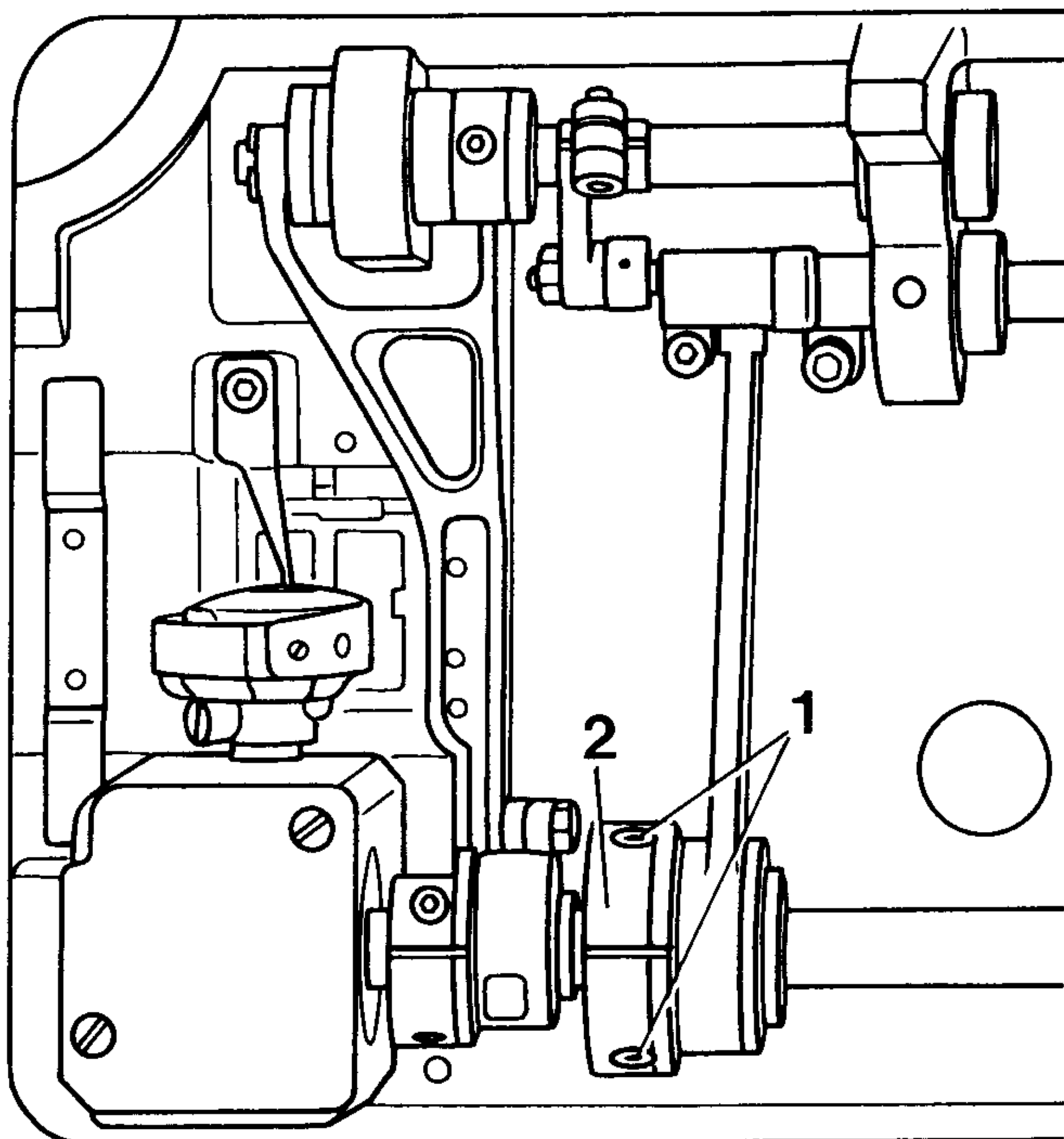
Adjustment:

- 2.1 Set stitch length "0".
- .2 For better recognition of feed dog rest position insert a screwdriver in slot of feed driving crank 1.
- .3 Loosen clamp screw 2 until crank 3 can be turned against a resistance.
- .4 **Keep turning balance wheel and turn feed crank 3 until screwdriver does not move anymore, i.e. feed dog does not make any feeding motion.**
- .5 In this position, tighten screw 2.

3 Feeding motion of feed dog

Setting:

When the machine is set for its longest stitch and the needle bar is positioned **1 mm** past bottom dead centre, the feed dog must not move when the reverse-feed control is operated.



3.0.1

Adjustment:

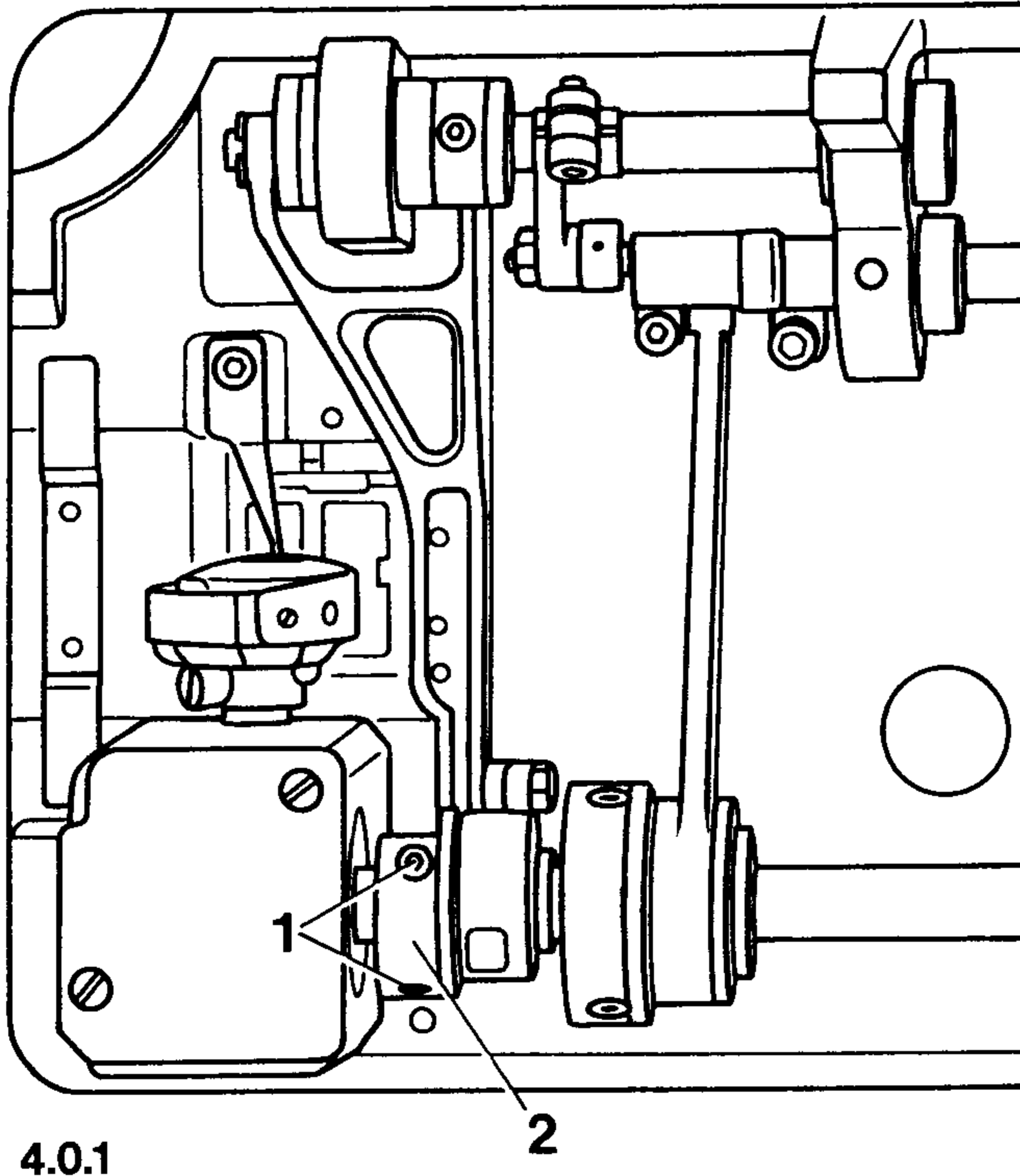
- 3.1 Set machine for its longest stitch.
- .2 Making sure screwdriver is still in slot of feed driving crank, loosen screws **1** until feeding eccentric **2** can be turned against a resistance.
- .3 Set needle bar **1 mm** past bottom dead centre.
- .4 **Turn feeding eccentric 2 until screwdriver, i.e. feed dog is at rest when reverse-feed control is moved up and down.**
- .5 Tighten screws **1**.

4 Feed lifting motion

4.1 On machines up to sewing head No. 2-135499

Setting:

When the machine is set for its longest stitch and the needle stitches into the needle hole, the teeth of the descending feed dog must be flush with the needle plate.



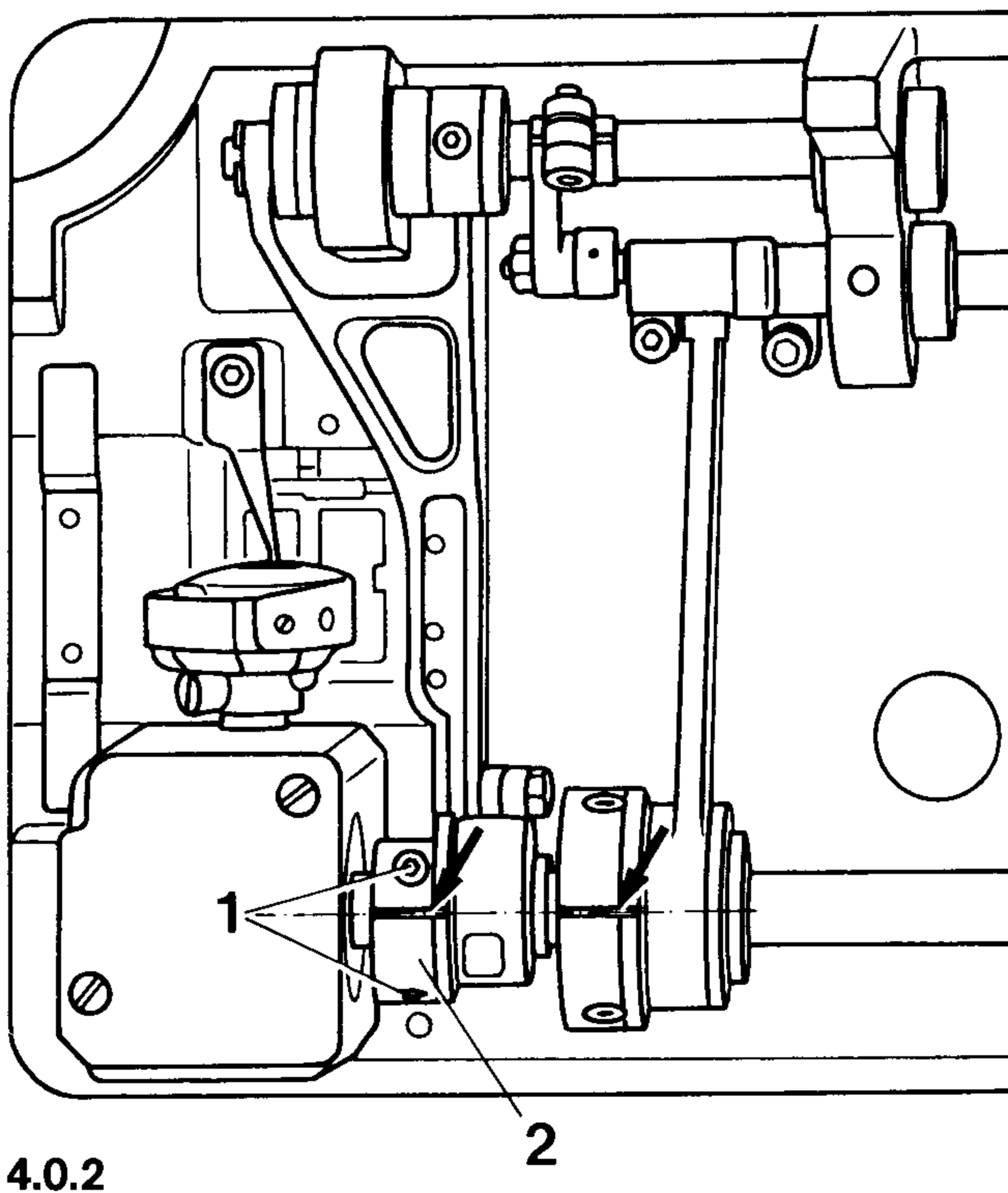
Adjustment:

- 4.1.1 Set machine for its longest stitch.
- .2 Loosen screws 1 until feed lifting eccentric 2 can be turned on its shaft against a resistance.
- .3 Turn balance wheel until descending needle is positioned above needle hole.
- .4 **Turn feed lifting eccentric 2 a little until teeth of feed dog are flush with needle plate.**
- .5 Tighten screws 1.

4.2 On machines from sewing head No. 2-135 500 onwards

Setting:

The mark on the feed lifting eccentric must be aligned with that on the feeding eccentric.



Adjustment:

4.2.1 Loosen screws 1.

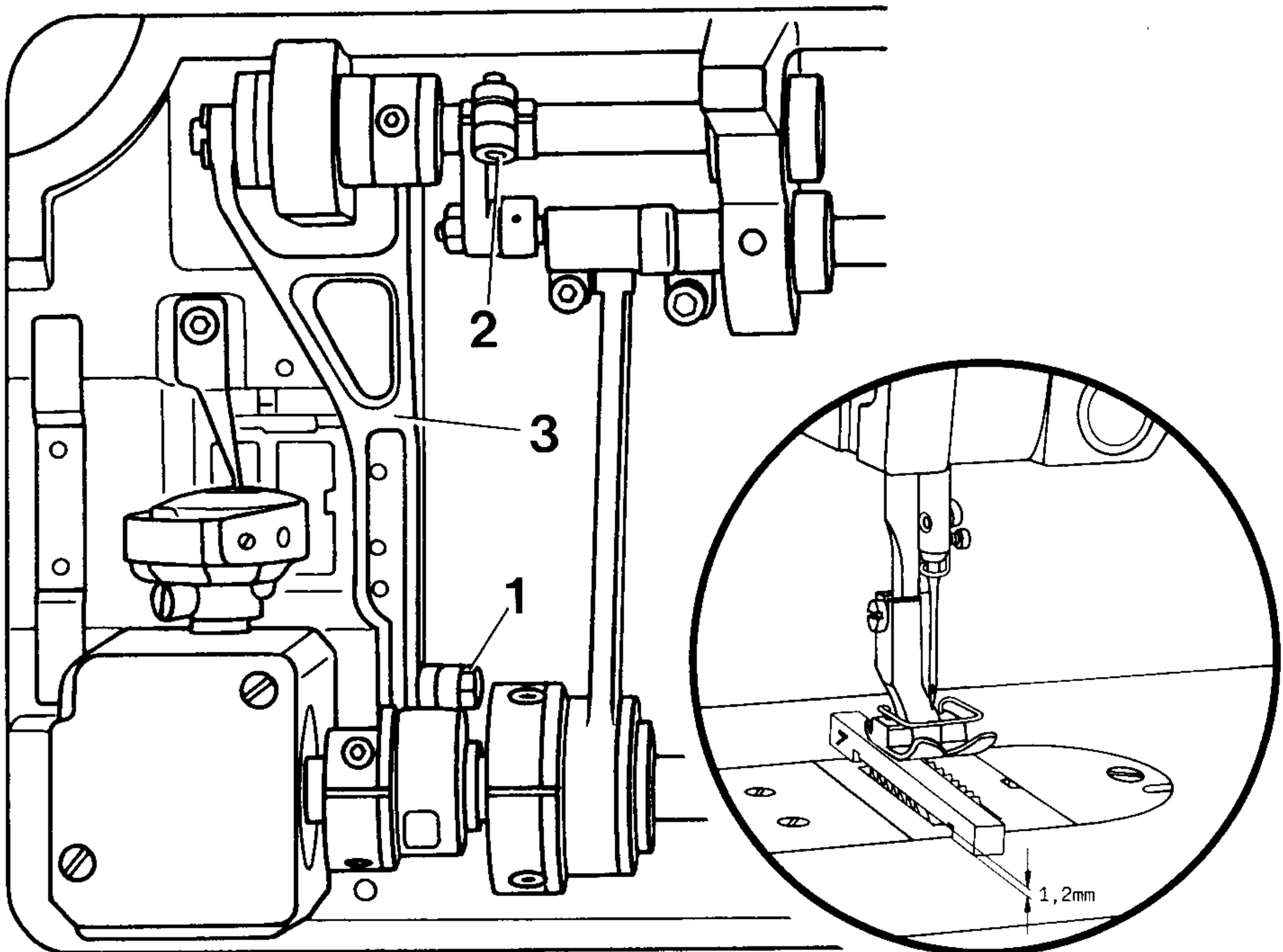
.2 **Turn feed lifting eccentric 2 until its mark is aligned with that on feeding eccentric 3 (see arrows).**

.3 In this position, tighten screws 1.

5 Feed dog height

Setting:

When the stitch length is set at "0" the feed dog at the top of its stroke must be centered in the feed slot; its rear teeth must contact the gauge.



5.0.1

5.0.2

Adjustment:

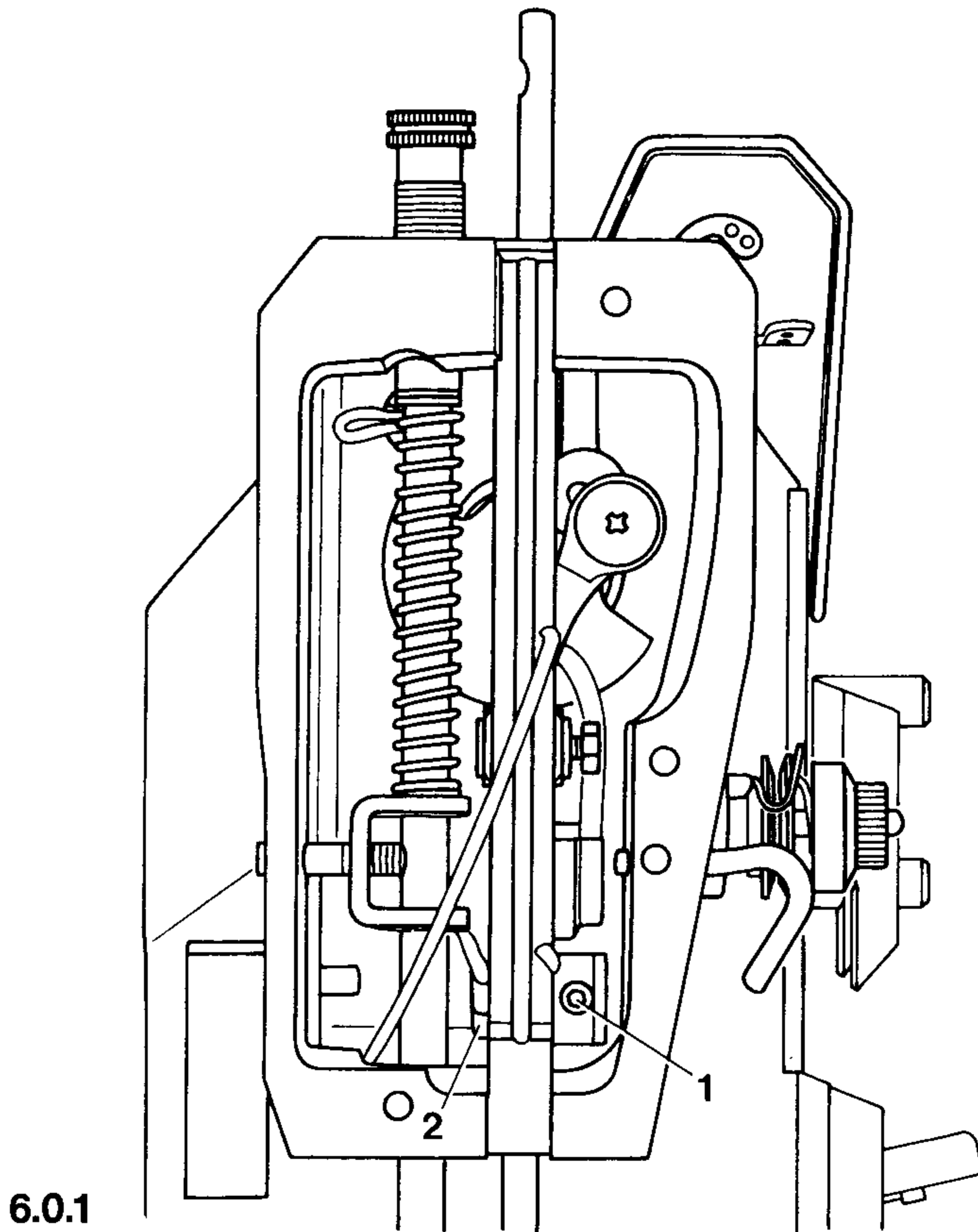
- 5.1 Set stitch length at "0" and move feed dog to top of its stroke.
- .2 Loosen screws 1 and 2.
- .3 Centre feed dog in feed slot and tighten screw 2.
- .4 **Push up bracket 3 until rear tooth row of feed dog contacts gauge.**
- .5 Tighten screw 1.

6

Preliminary adjustment of eccentric pin needle bar frame

Setting:

The lobe of eccentric pin 2 must face upwards



Adjustment:

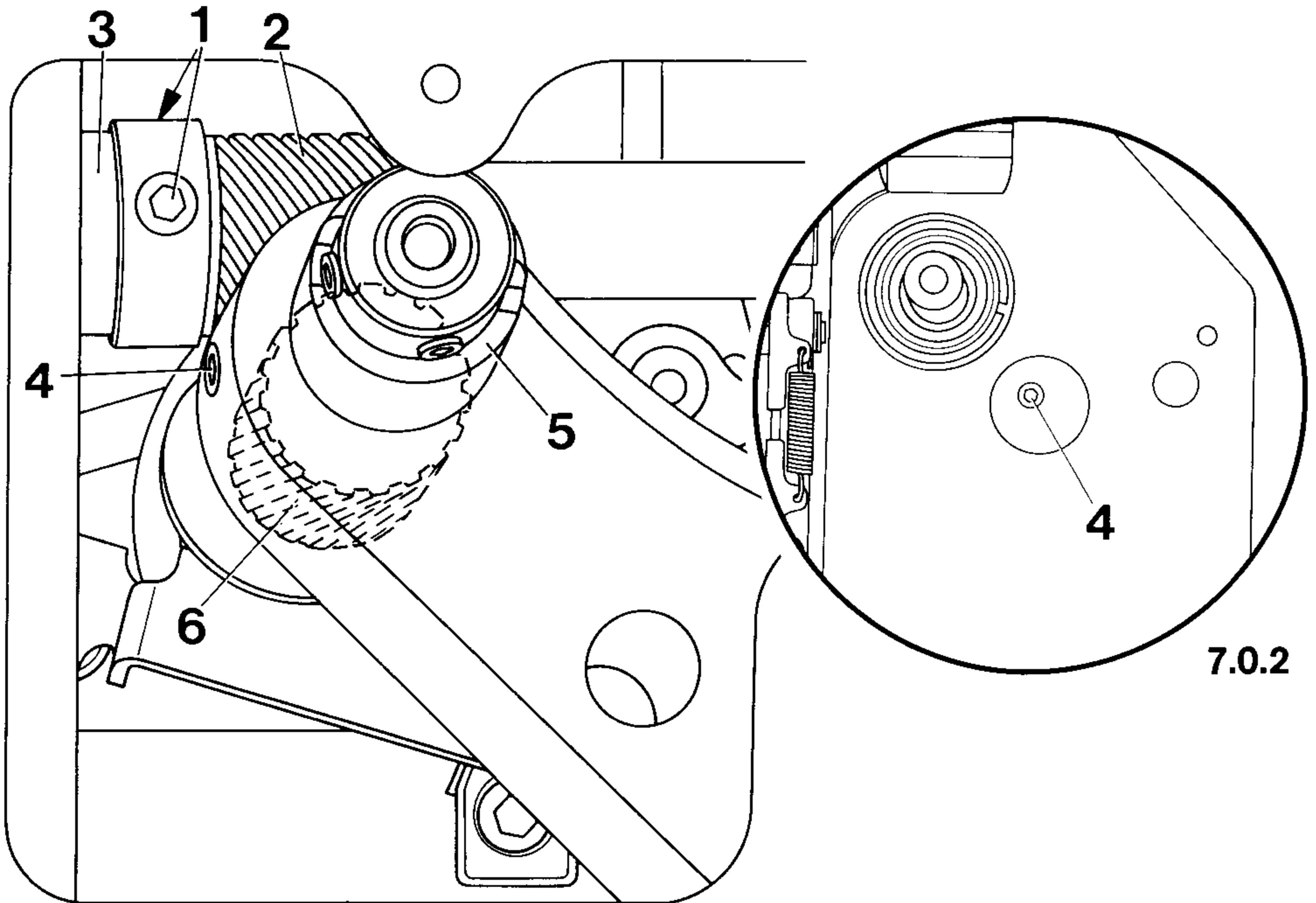
- 6.1 Loosen screw 1.
- .2 **Turn eccentric pin 2 until its lobe faces upwards.**
- .3 Tighten screw 1.

7

Spiral gears for zigzag drive

Setting:

Spiral gears **2** and **6** must have a slight amount of play. The end of gear **2** must contact toothed belt sprocket **3**.



7.0.1

7.0.2

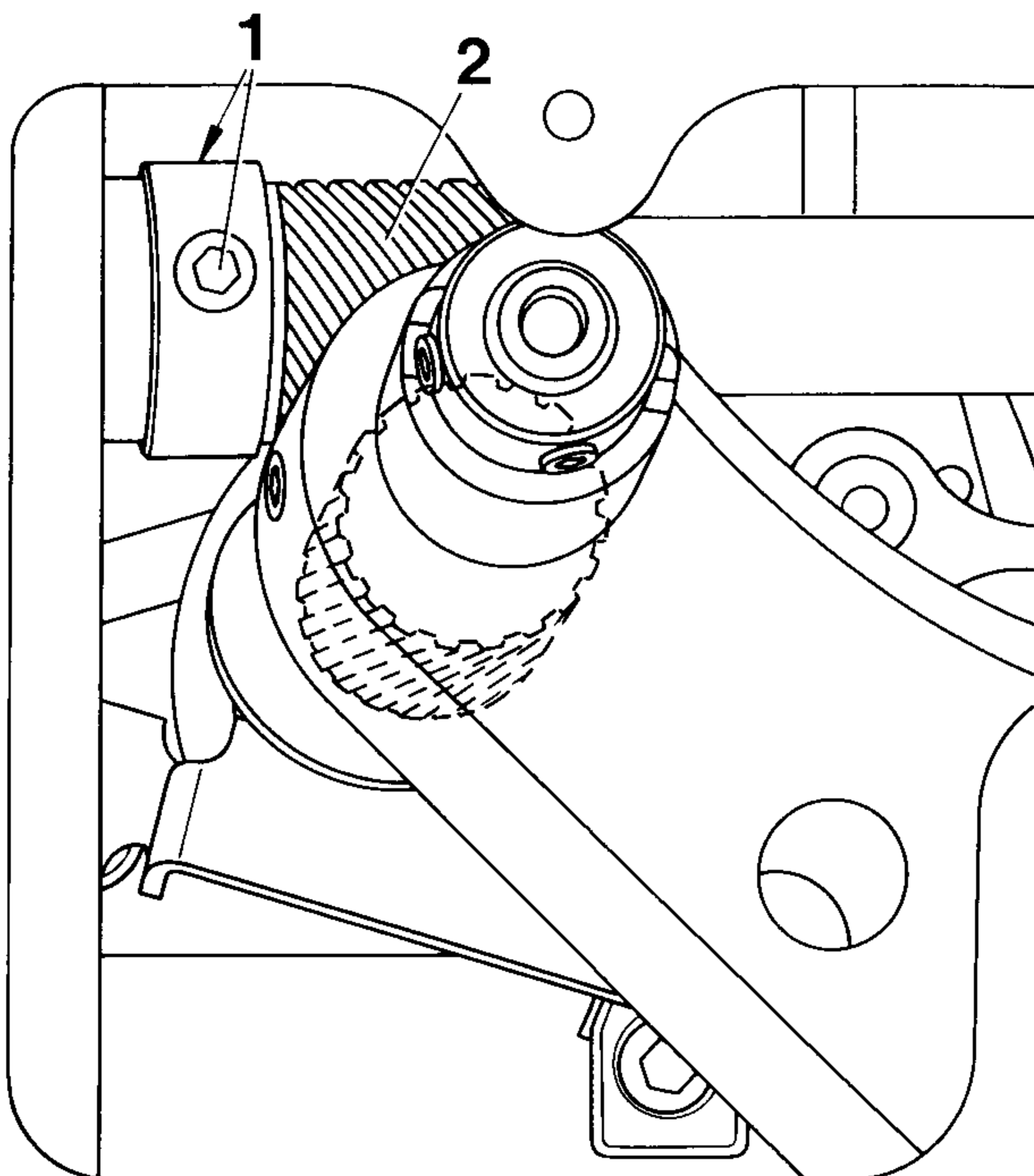
Adjustment:

- 7.1 Unscrew belt guard and cover at back of machine.
- .2 Loosen screws **1**.
- .3 **Let spiral gear 2 contact toothed belt wheel 3.**
- .4 Tighten screws **1**.
- .5 Loosen screw **4**.
- .6 **Making sure it is not shifted lengthwise, turn eccentric bush 5 until spiral gears 2 and 6 have a slight amount of play.**
- .7 Tighten screw **4**.

8 Zigzag stitch movement

Setting:

When the needle bar, moving upwards on the right on its throw, is positioned at top dead centre, it must not make any lateral movement when the zigzag control lever is moved back and forth.



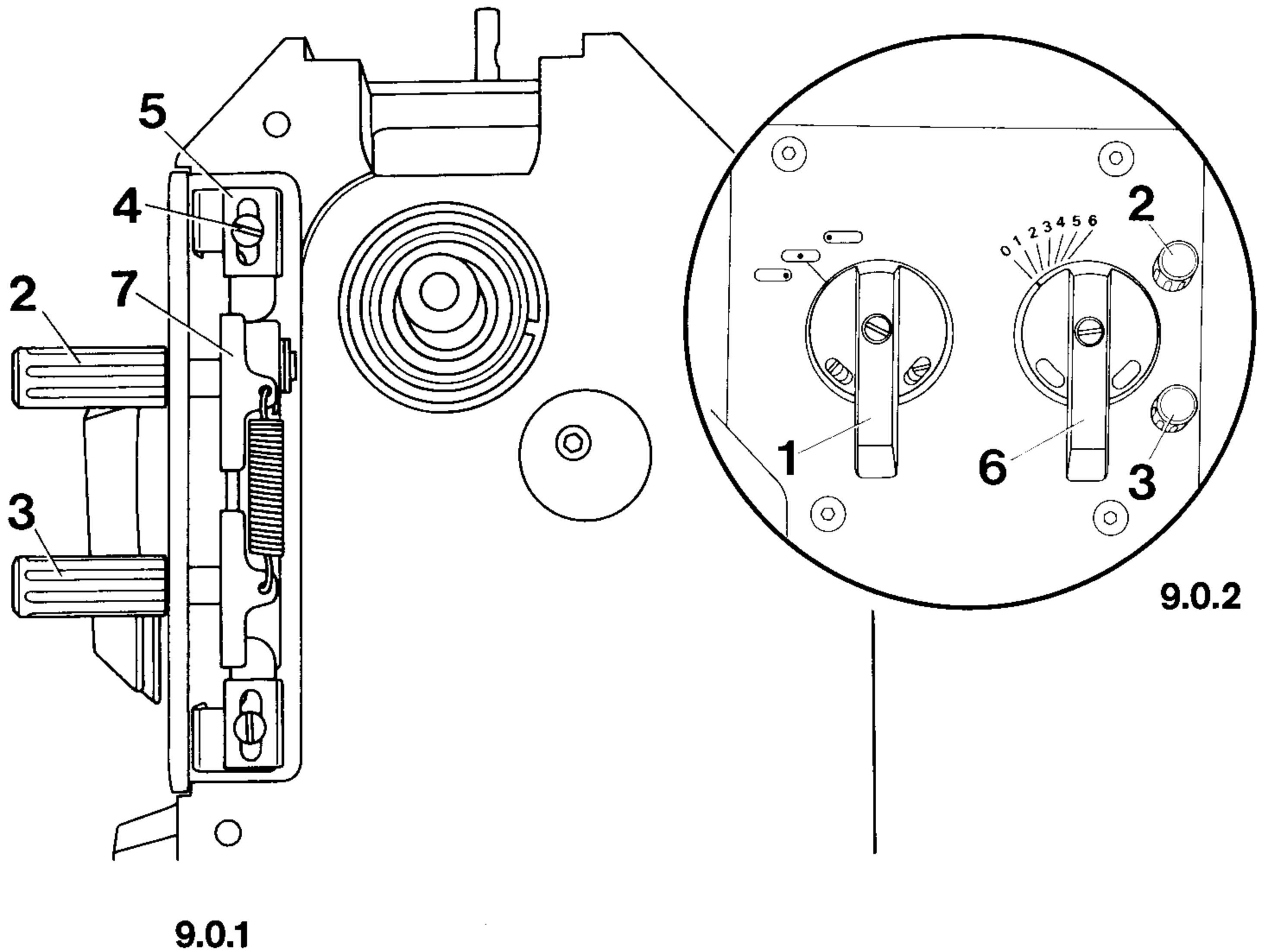
8.0.1

Adjustment:

- 8.1 Set machine for its largest stitch width.
- .2 Loosen screws 1.
- .3 Set needle bar, moving upwards on the right of its throw, at top dead centre.
- .4 **Turn spiral gear 2 until needle bar does not make any lateral movement when zigzag control lever is moved back and forth.**
- .5 Tighten screws 1.

Setting:

When the mark on the zigzag control lever is set at "0" the needle bar must not make any lateral movement.



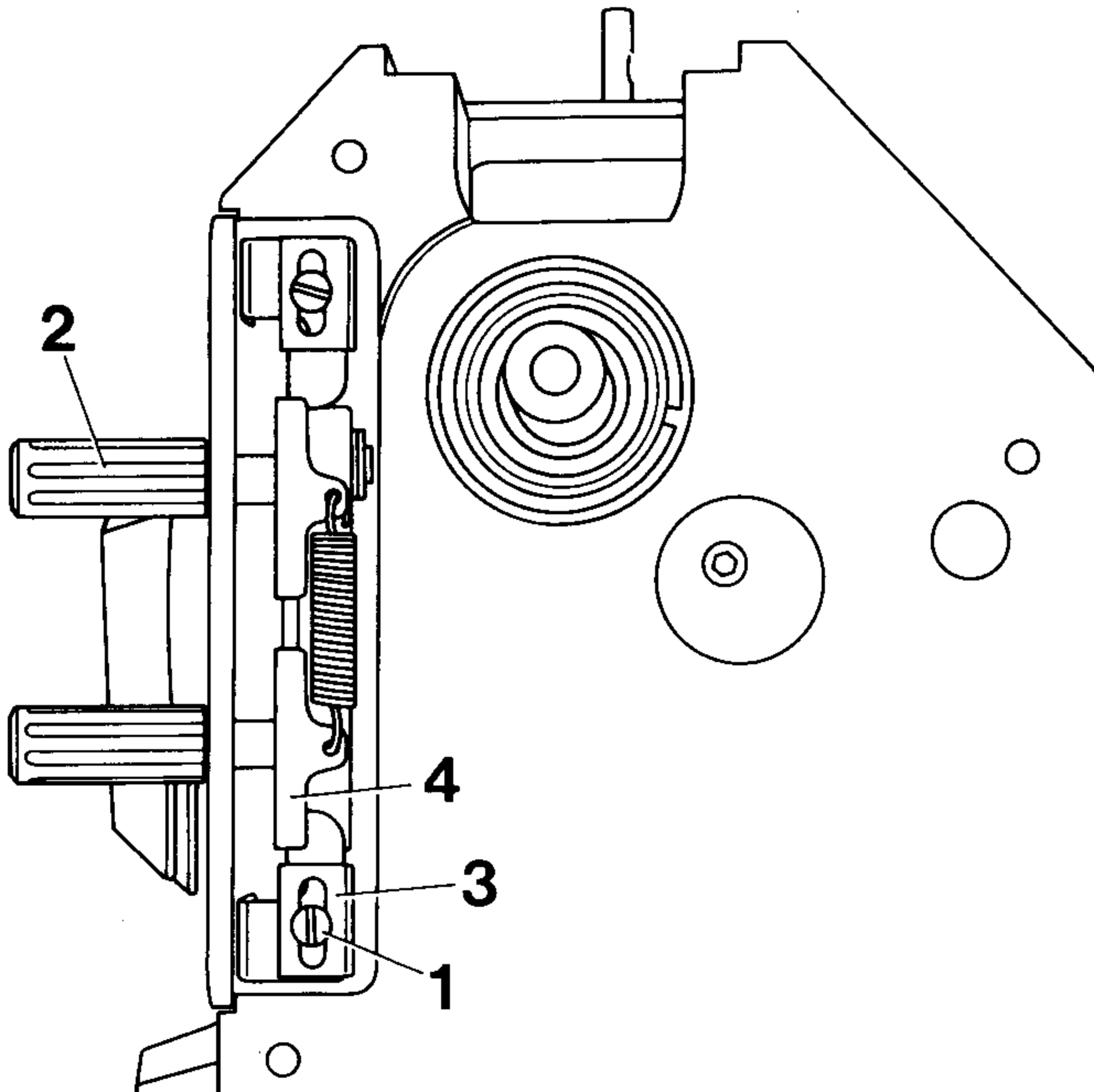
Adjustment:

- 9.1 Engage needle position lever **1** in central position.
- .2 Loosen adjusting screws **2** and **3**.
- .3 Loosen screw **4** until stop **5** can be moved against a resistance.
- .4 Place a piece of paper on needle plate and secure with adhesive strip.
- .5 Turn balance wheel in sewing direction and let needle stitch into paper.
- .6 Turn balance wheel in opposite direction until needle is positioned just over paper.
- .7 Turn zigzag control lever **6** until needle is positioned above stitching hole just made.
- .8 In this position, let stop **5** rest against resilient stop **7** and tighten screw **4**.

10 Zigzag stitch width

Setting:

Depending on the gauge parts used the zigzag stitch width must be 6 or 10 mm.



10.0.1

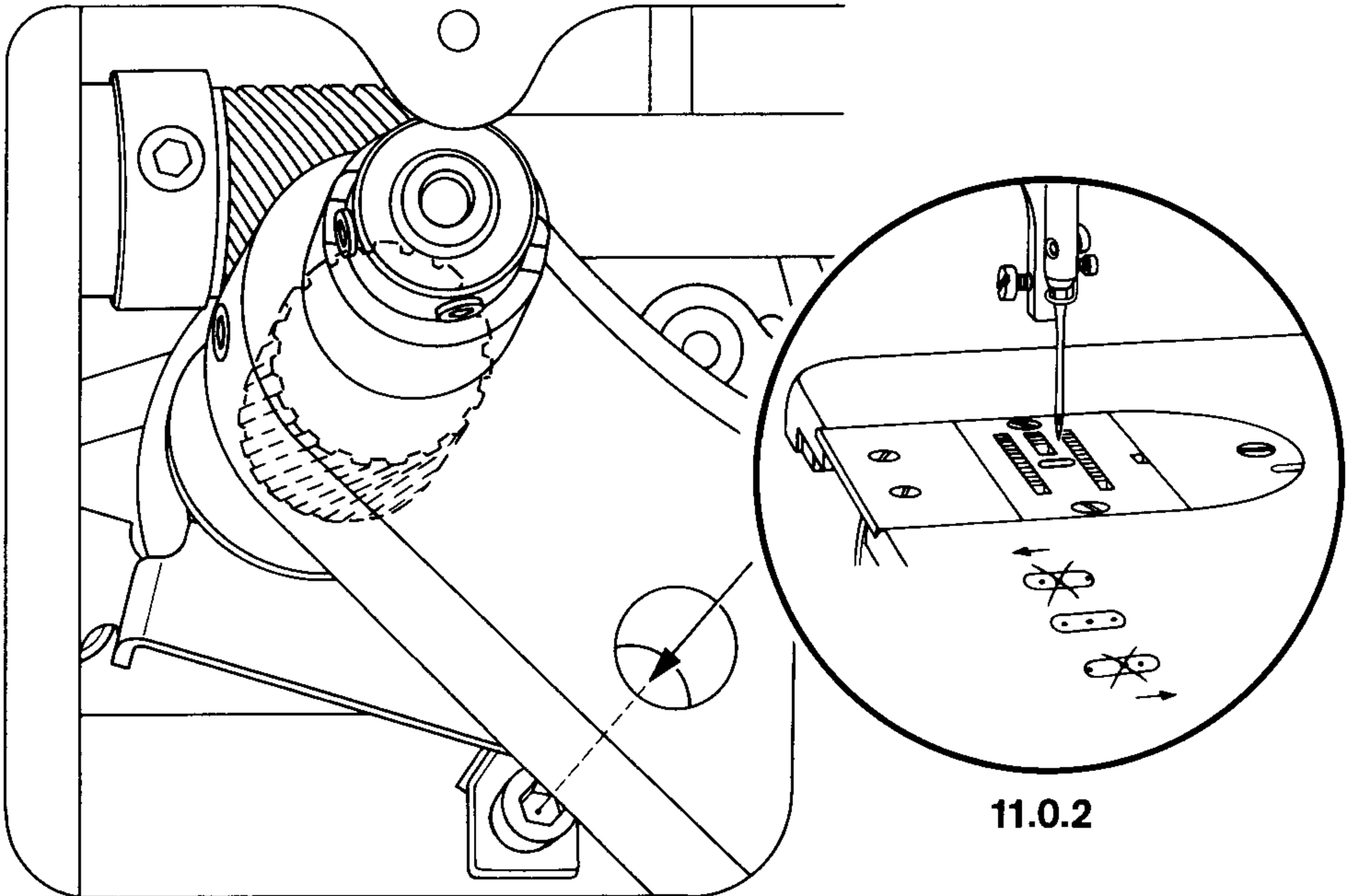
Adjustment:

- 10.1 Loosen screw 1.
- .2 Place a piece of paper on needle plate and secure with adhesive strip.
- .3 Set zigzag control lever at maximum zigzag stitch width and tighten screw 2.
- .4 Turn balance wheel in sewing direction and let needle stitch into paper.
- .5 Turn balance wheel in opposite direction and let needle stitch into paper again.
- .6 Measure distance between the two needle entries.
- .7 When distance is correct, let stop 3 contact resilient stop 4 and tighten screw 1.

11 Needle position "left, centre, right"

Setting:

When the stitch width lever is set at "0", the needle must enter the needle hole in the centre. When the maximum stitch width is set the right and left positions of the needle in the needle hole must be equidistant from the centre.



11.0.1

11.0.2

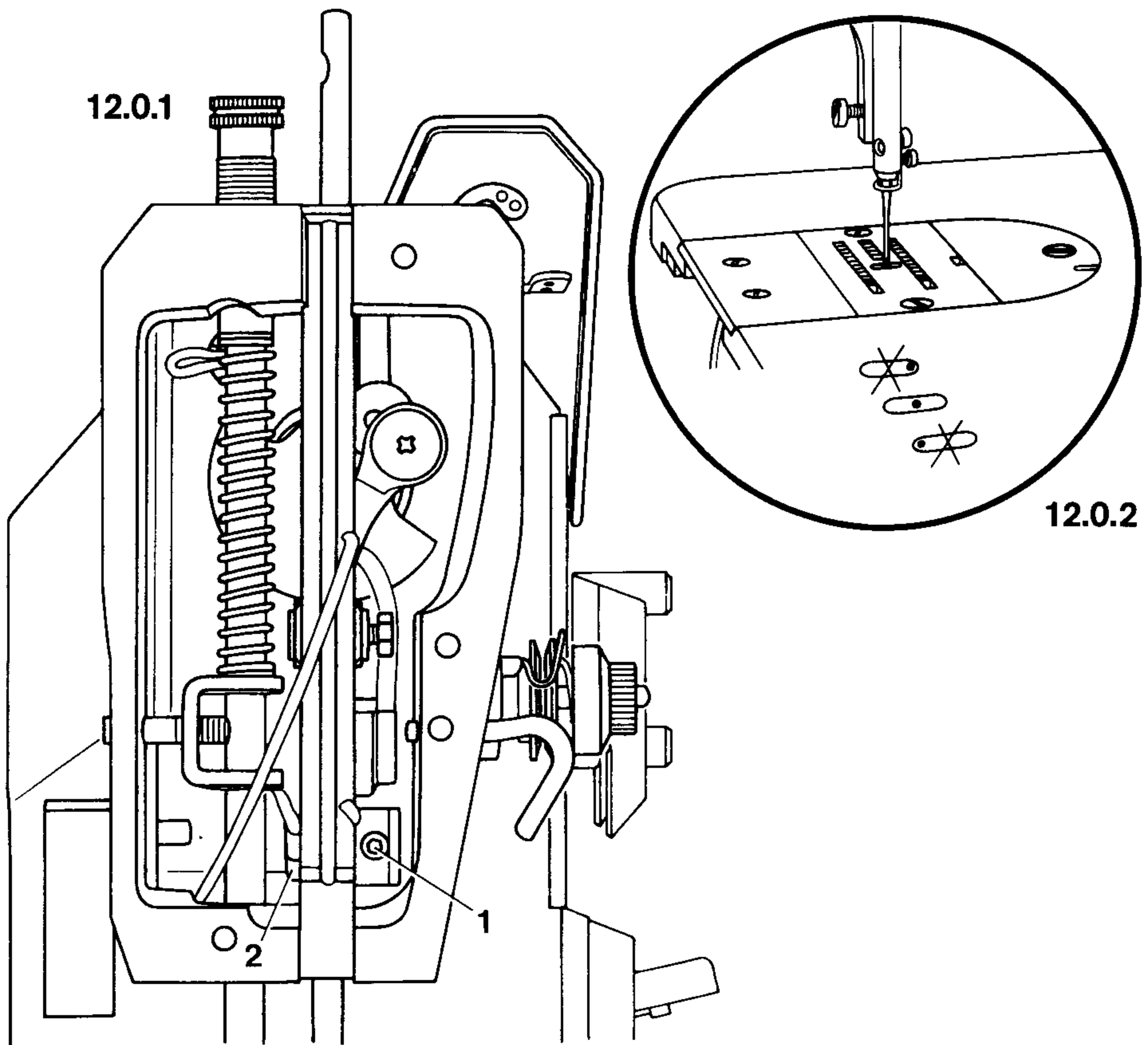
Adjustment:

- 11.1 Turn needle position lever to its central position and zigzag control lever at largest zigzag stitch width.
- .2 Turn balance wheel and let needle stitch into paper both at left and right.
- .3 Raise needle and set zigzag control lever at "0".
- .4 Turn balance wheel, let needle stitch into paper and measure distance.
- .5 Loosen screw 1 accessible through hole (see arrow).
- .6 **Turn needle position lever until a symmetrical stitch pattern is obtained.**
- .7 Tighten screw 1.
- .8 Check this adjustment (see Setting).
- .9 Replace belt guard and cover.

12 Needle in needle hole (crosswise to sewing direction)

Setting:

When the stitch width lever is set at "0", and the needle position lever at "centre" the needle must be centered in the needle hole – viewed crosswise to the sewing direction.



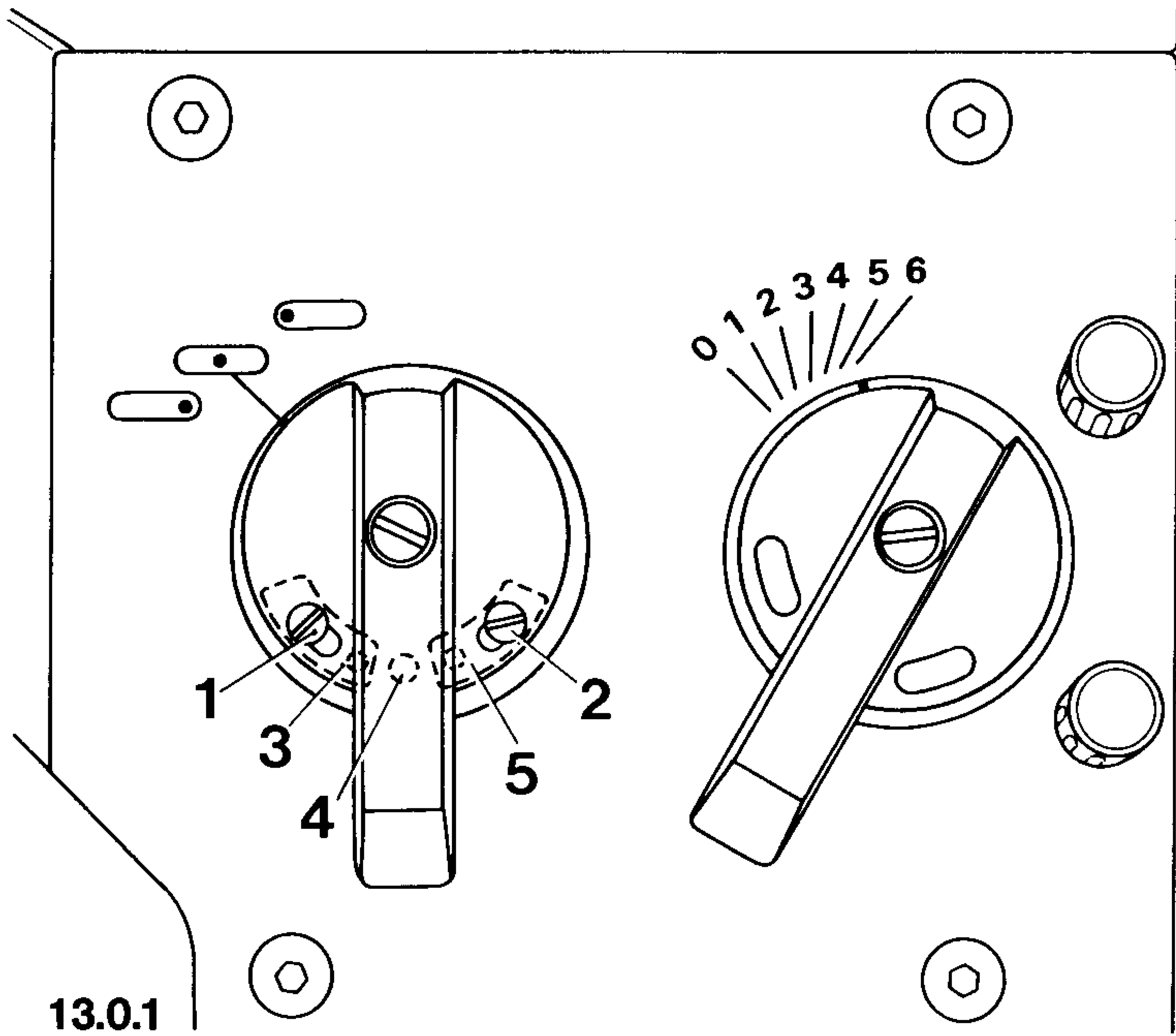
Adjustment:

- 12.1 Set stitch width lever at "0", and needle position lever at "centre".
- .2 Set needle bar at bottom dead centre.
- .3 Loosen screw 1.
- .4 **Turn eccentric pin 2 until needle is centered in needle hole – viewed crosswise to sewing direction.**
- .5 Tighten screw 1.

13 Needle position lever

Setting:

The left and right throws of the needle must be the same both at the widest stitch setting and at the left and right needle positions.

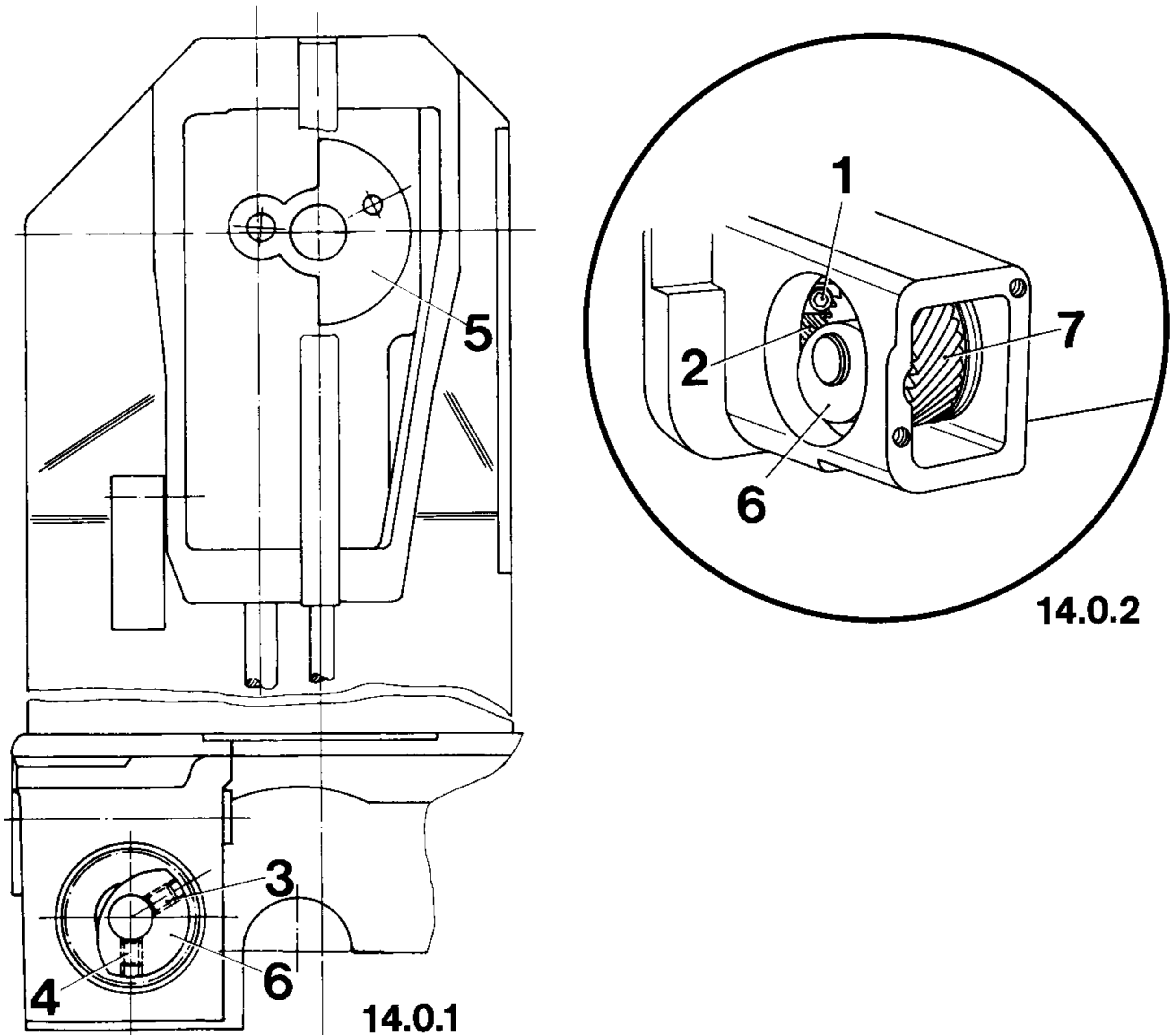


Adjustment:

- 13.1 Loose screws 1 and 2.
- .2 Set needle position lever at its central position and zigzag control lever at maximum stitch width.
- .3 Place a piece of paper on needle plate and secure with adhesive strip.
- .4 Turn balance wheel in sewing direction and let needle stitch into paper.
- .5 Turn balance wheel in opposite direction and let needle stitch into paper again.
- .6 **Set zigzag control lever at "0" and move needle position lever to the right until needle is positioned above the left needle hole just made.**
- .7 In this position, let stop 3 contact spring-loaded pin 4 and tighten screw 1.
- .8 **Move needle position lever to the left until needle is positioned above the right needle hole just made.**
- .9 In this position, let stop 5 contact spring-loaded pin 4 and tighten screw 2.

Setting:

Set the amount of end play of the hook shaft as slight as possible. The position of the balance weight in relation to the needle bar crank must correspond with that shown in Fig. 14.0.1.



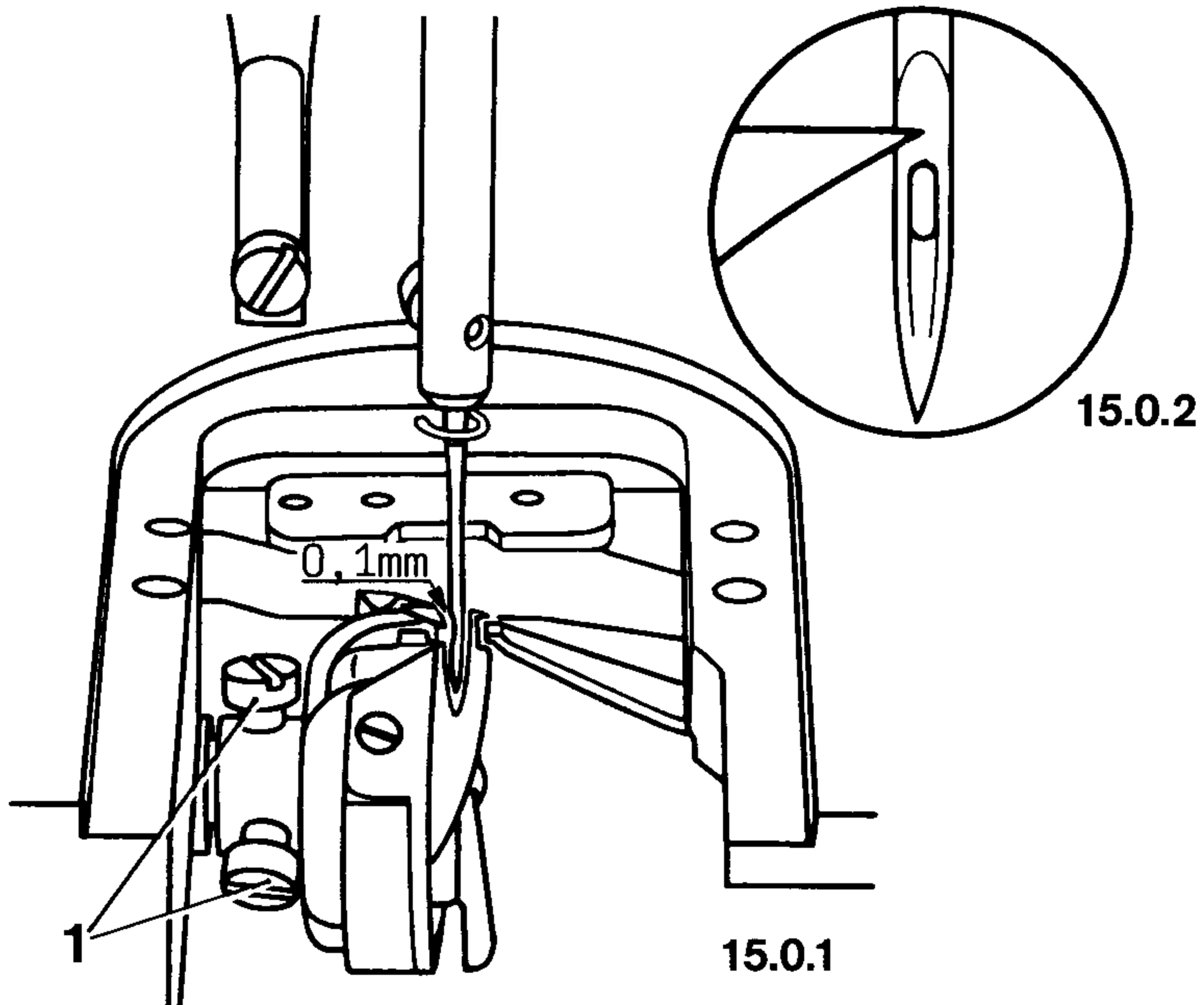
Adjustment:

- 14.1 Loosen screws 1.
- .2 **Let spiral gear 2 contact hook shaft bearing so that there is a slight amount of play.**
- .3 Tighten screws 1.
- .4 Loosen screws 3 and 4.
- .5 Turn balance wheel to set needle bar crank 5 in position shown in Fig. 14.0.1.
- .6 **Turn balance weight 6 until screw 4 faces downwards.**
- .7 **Move spiral gear 7 and balance weight 6 lengthwise until there is a slight amount of play (check at hook).**
- .8 Tighten screws 3 and 4.
- .9 Check this adjustment (see Setting).

Setting:

With the needle position lever at "centre", the stitch width lever at "0", and the needle bar at the position indicated in the table, the hook point must be positioned at needle centre.
In this position, the clearance between the needle and the hook point must not exceed 0.1 mm.

Zigzag stitch width	Needle bar position
6.0 mm 10.0 mm	2.0 mm past b.d.c. 2.4 mm past b.d.c.

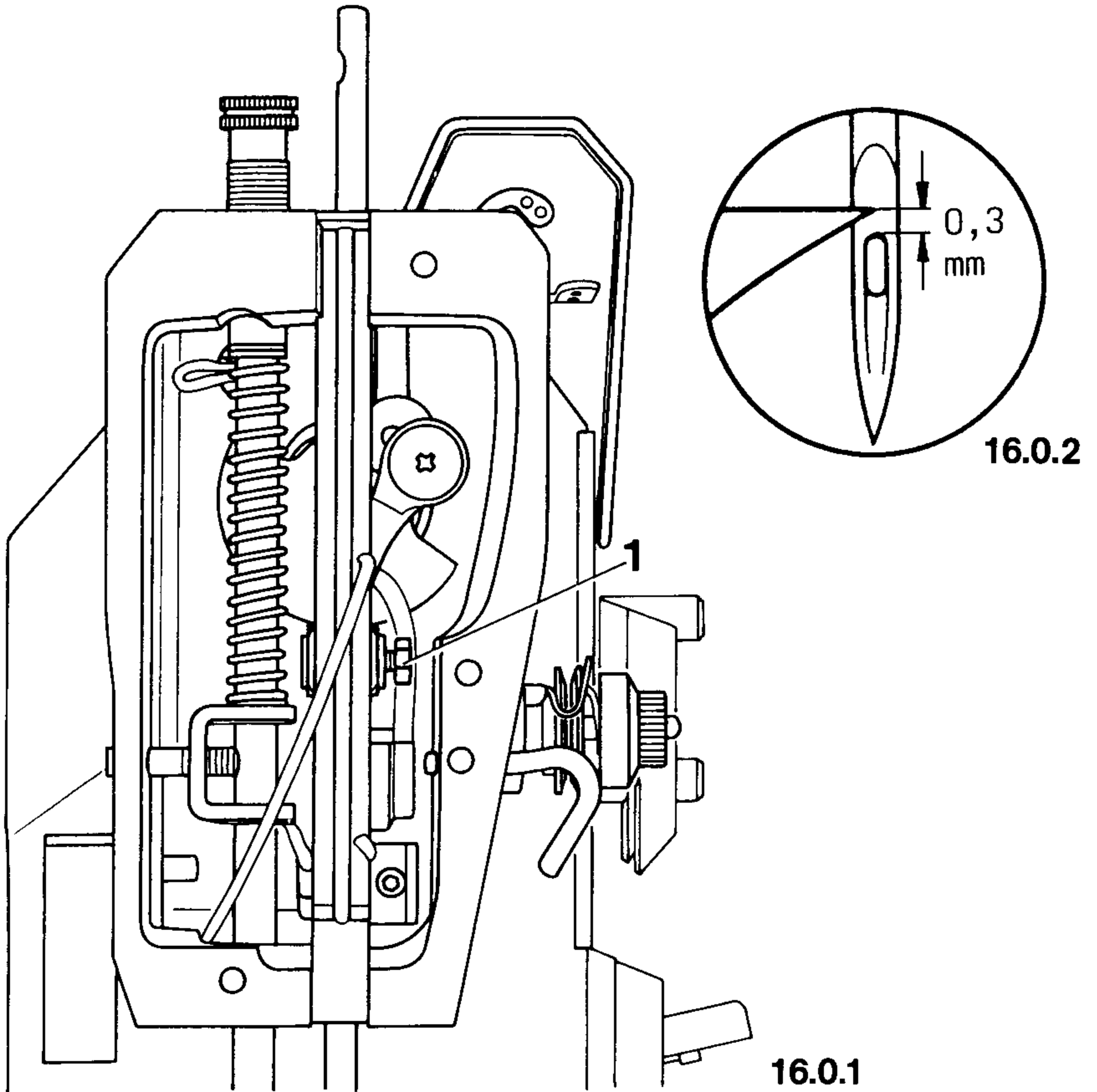


Adjustment:

- 15.1 Set needle position lever at "centre", and stitch width lever at "0".
- .2 Unscrew needle plate.
- .3 Loosen screws 1 until hook can be moved against a resistance.
- .4 Set needle bar at bottom dead centre.
- .5 Place recess of 2 or 2.4 mm-thick feeler gauge against lower needle bar bearing, set adjustable clamp against gauge and screw it tight.
- .6 Remove feeler gauge and turn balance wheel in sewing direction until adjustable clamp contacts needle bar bearing.
- .7 **Turn hook until its point is centred to needle (Fig. 15.0.2).**
- .8 **Move hook until there is a clearance of max. 0.1 mm between hook point and needle.**
- .9 Tighten screws 1.

Setting:

With the stitch width lever at "0", the needle position lever at "left" and the hook point positioned at needle centre, there must be a distance of **0.3 mm** between the hook point and the needle eye.



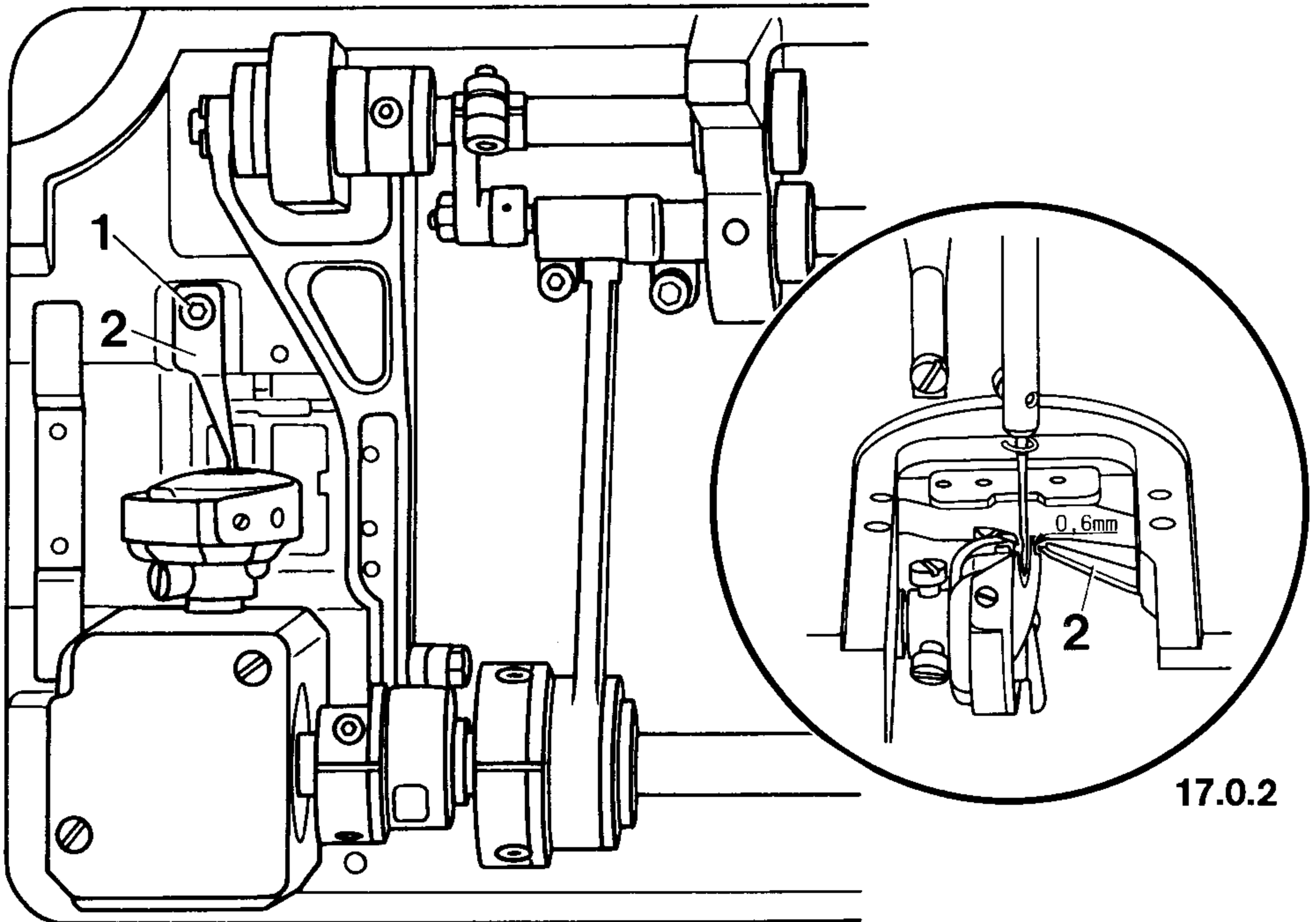
Adjustment:

- 16.1 Set stitch width lever at "0", and needle position lever at "left".
- .2 Turn balance wheel in sewing direction until hook point is positioned at needle centre.
- .3 Loosen screw 1 in needle bar journal.
- .4 **Adjust needle bar height so that hook point is positioned 0.3 mm above needle eye.**
- .5 Tighten screw 1.

17 **Bobbin case position stop**

Setting:

The clearance between the bobbin case base and the bobbin position stop must be **0.6 mm**.



17.0.1

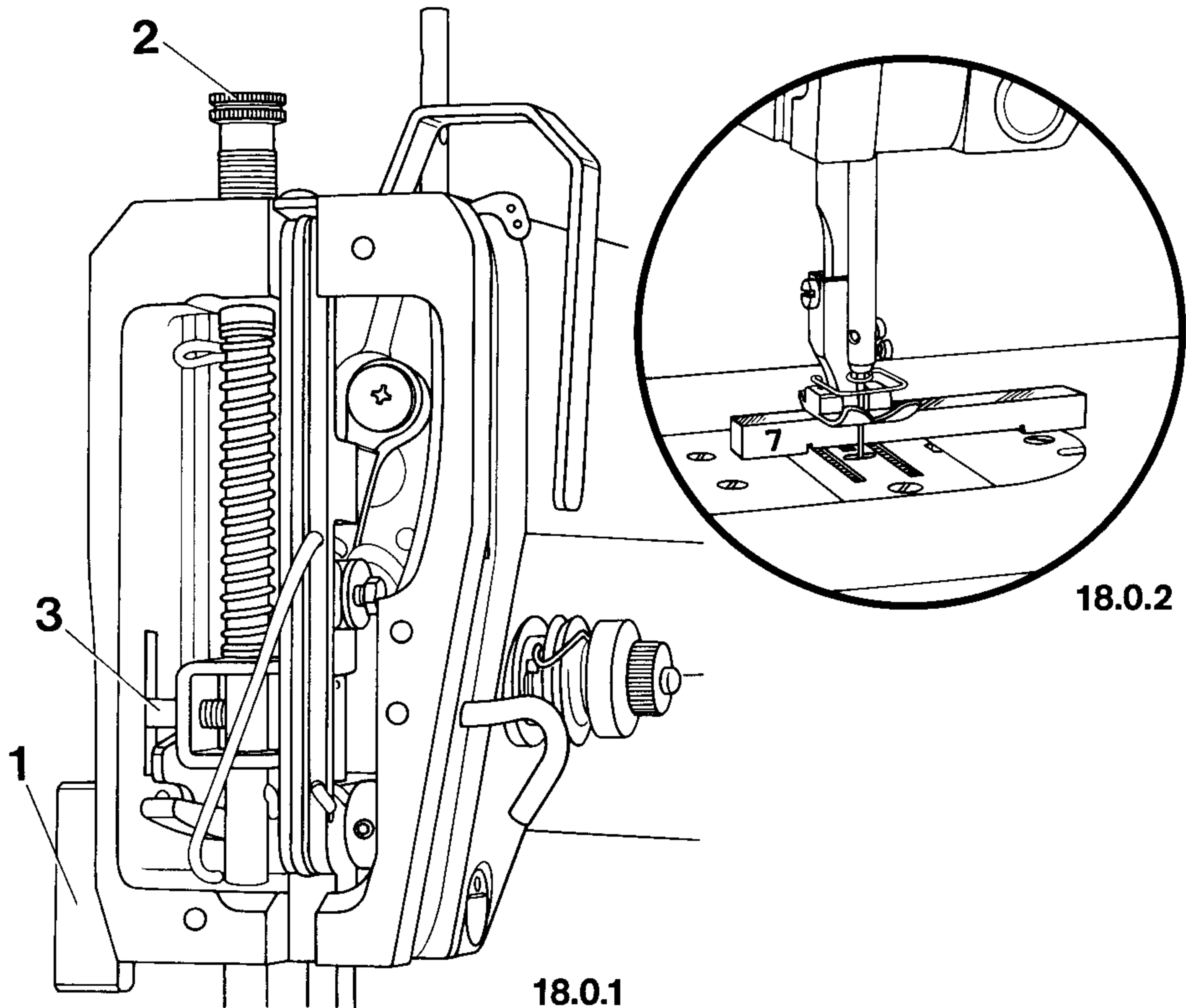
17.0.2

Adjustment:

- 17.1 Loosen screw 1.
- .2 **Move bobbin position stop 2 in groove of bobbin case base until there is a clearance of 0.6 mm between bobbin case base and position stop.**
- .3 Tighten screw 1.

18 Clearance between presser foot and needle plate

Setting: When the presser bar lifter 1 is raised there must be a clearance of 7 mm between the presser foot and the needle plate.



Adjustment:

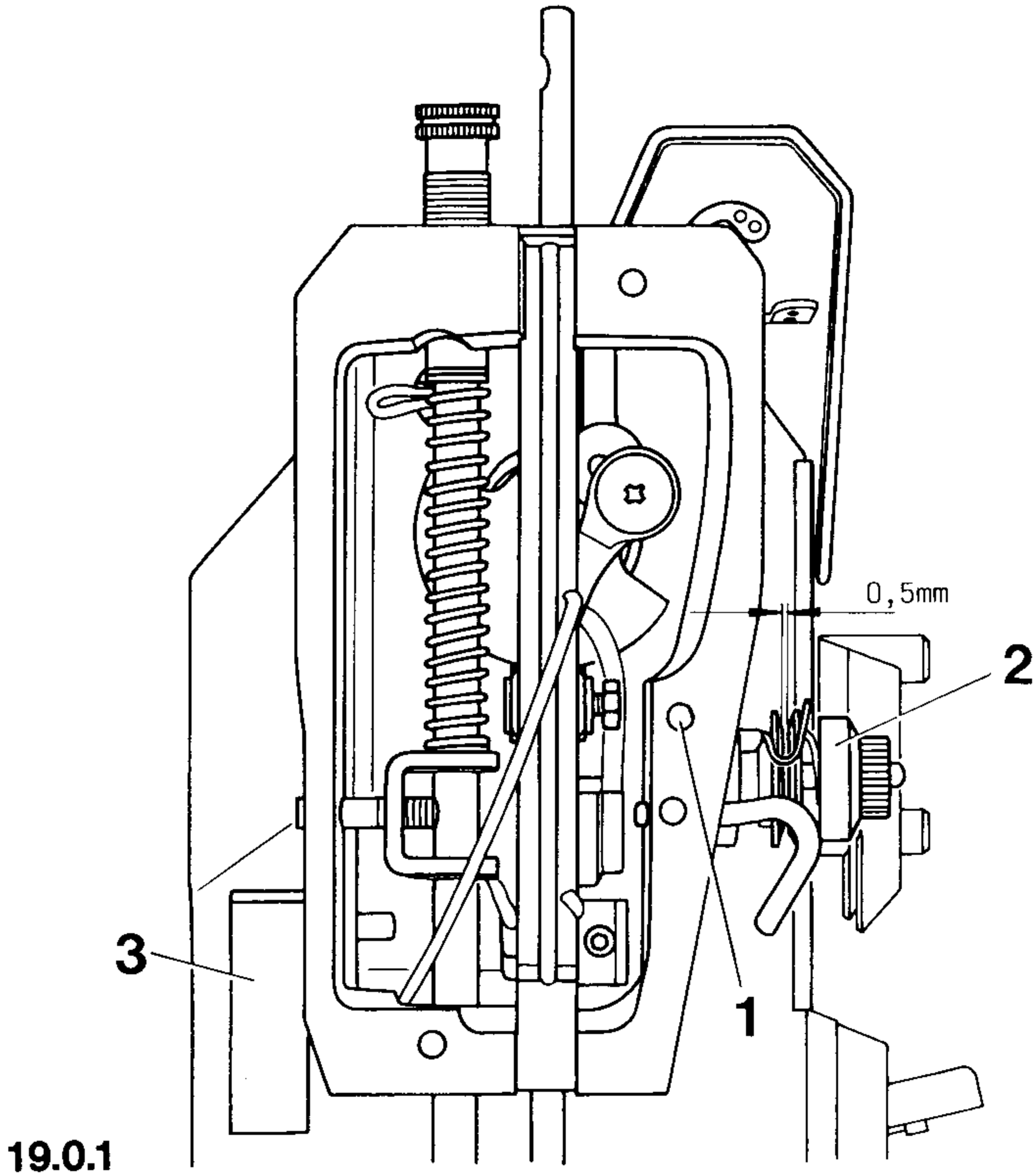
- 18.1 Lower presser foot on needle plate by presser bar lifter 1.
- .2 Reduce pressure of presser bar at regulating screw 2 until presser foot rests on needle plate just lightly.
- .3 Place 7-mm-thick part of universal gauge under presser foot from rear in such a way that gauge is positioned underneath presser foot hinge.
- .4 Loosen screw 3 and raise presser bar lifter 1.
- .5 Turn balance wheel until the needle is down in the needle hole of the presser foot.
- .6 **Adjust position of presser foot until needle is centred in needle hole of presser foot.**
- .7 **In this position, push presser foot lifting piece downwards and tighten screw 3.**

19

Needle thread tension release

Setting:

When the presser bar lifter is raised the two tension discs must be at least **0.5 mm** apart.



Adjustment:

- 19.1 Loosen screw 1.
- .2 **Move tension unit 2 until the two tension discs are at least 0.5 mm apart when presser bar lifter is raised.**
- .3 In this position, tighten screw 1.

Note: When presser foot is lowered on needle plate, tension must be fully effective.

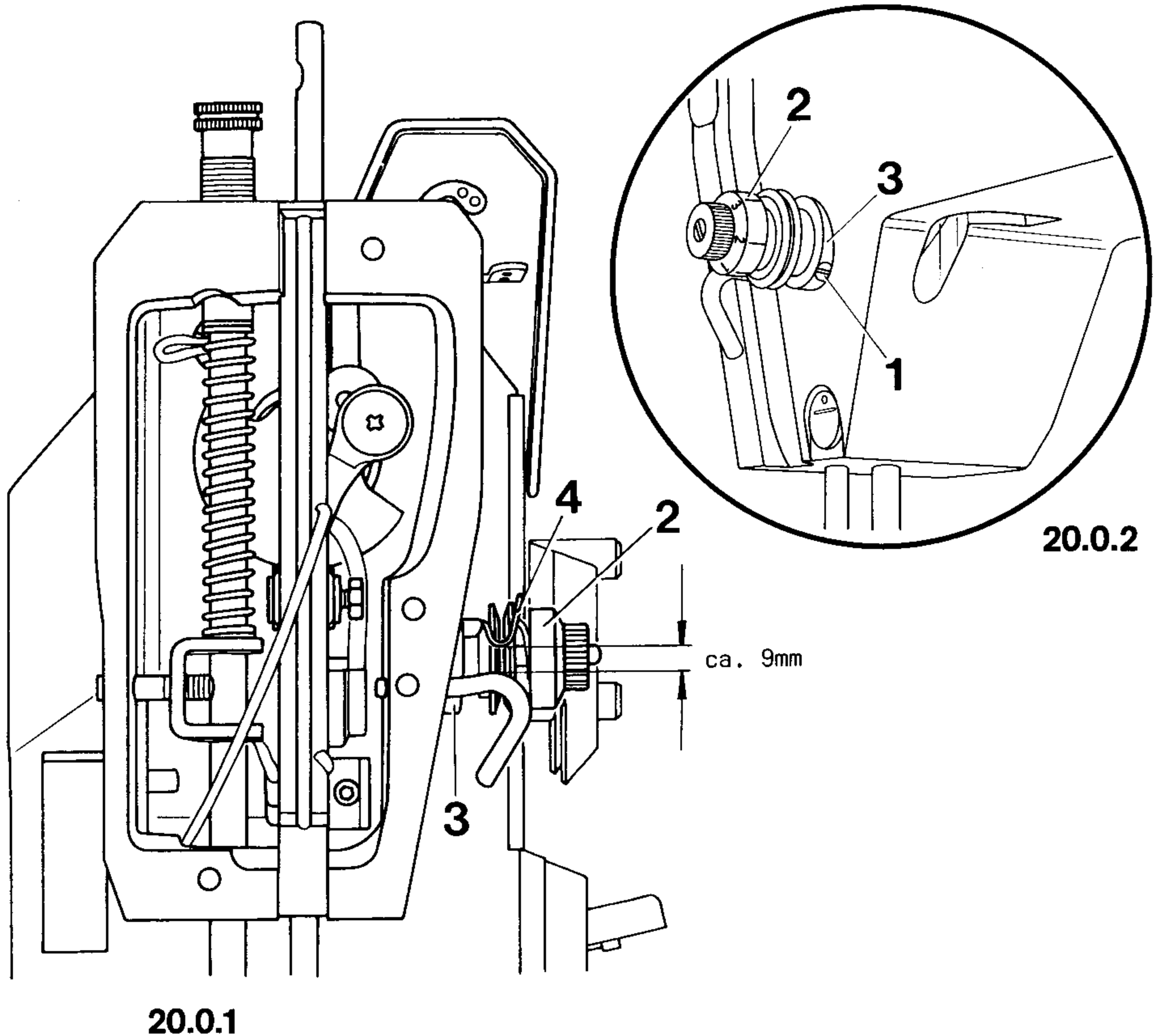
20 Thread check spring

Setting:

The stroke of the thread check spring must be completed when the needle stitches into the material (equals a stroke of 9 mm).

Note:

Special sewing operations may make it necessary to choose a longer or shorter stroke.

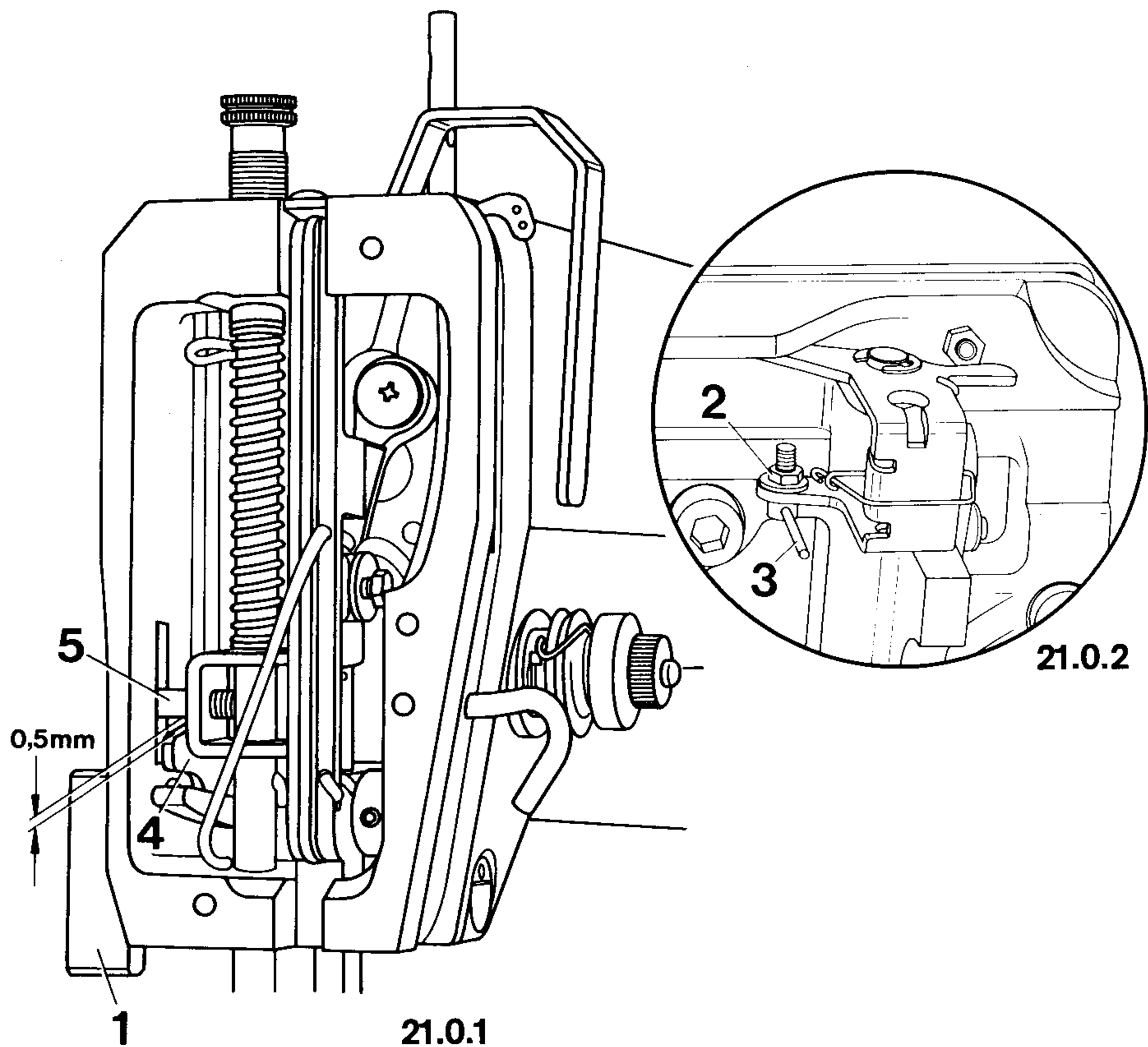


Adjustment:

- 20.1 Loosen screw 1.
- .2 **Making sure that tension unit 2 is pushed fully into bush 3, turn tension unit until stroke of thread check spring 4 is approx. 9 mm.**
- .3 Tighten screw 1.
- .4 Make a few stitches and check this adjustment (see Setting).

21 Knee lever play

Setting: When the presser foot is lowered onto the needle plate there must be a clearance of 0.5 mm between presser bar lifter 4 and stud 5.

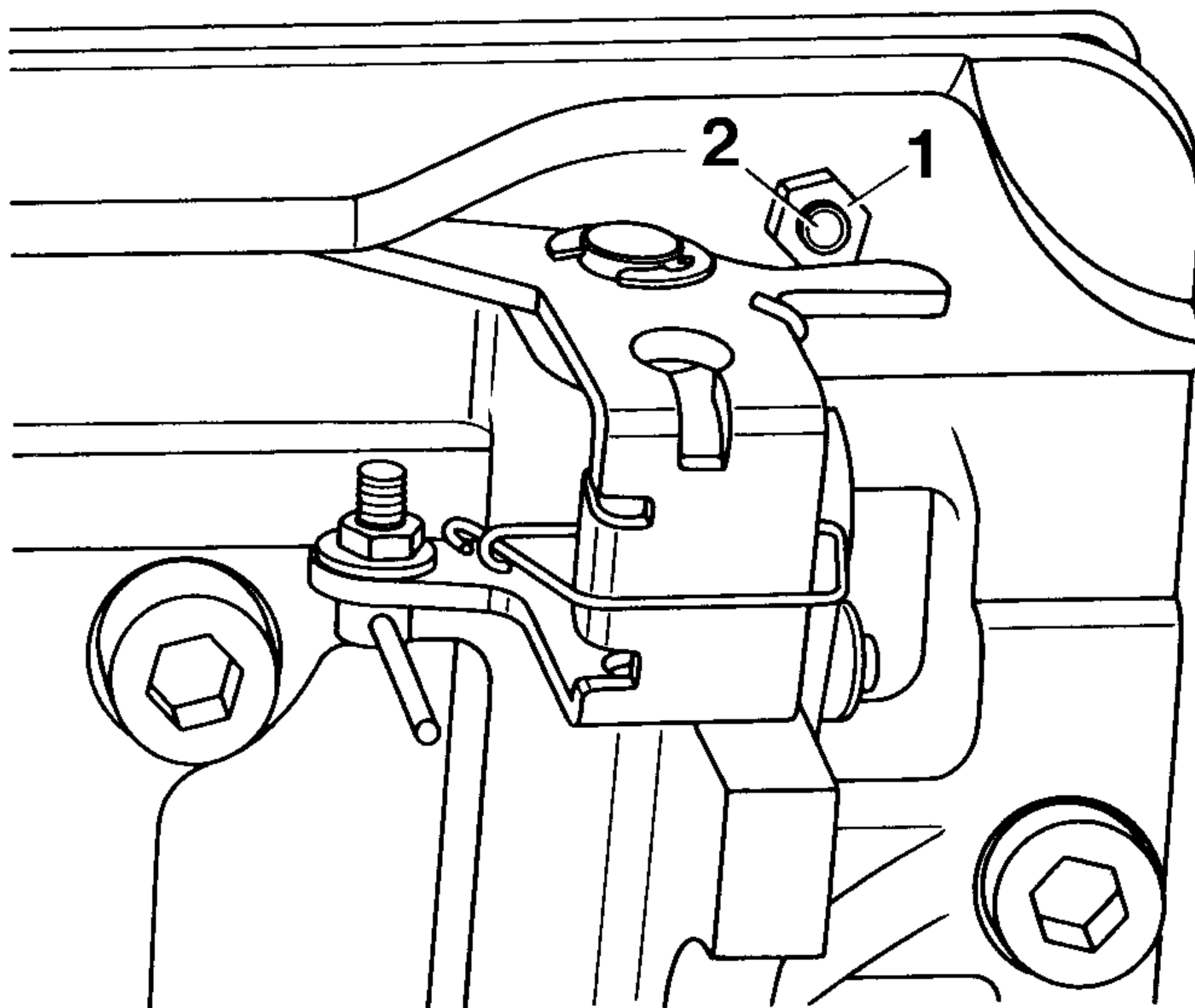


Adjustment:

- 21.1 Lower presser foot onto needle plate by presser bar lifter 1.
- .2 Tilt sewing head backwards and loosen nut 2.
- .3 **Adjust bowden cable 3 until there is a clearance of 0.5 mm between presser bar lifter 4 and stud 5.**
- .4 Tighten nut 2.

Setting:

When the knee lever is fully operated to the right, the presser foot must be lifted by **9 mm** and the presser bar lifter must drop by its own weight.



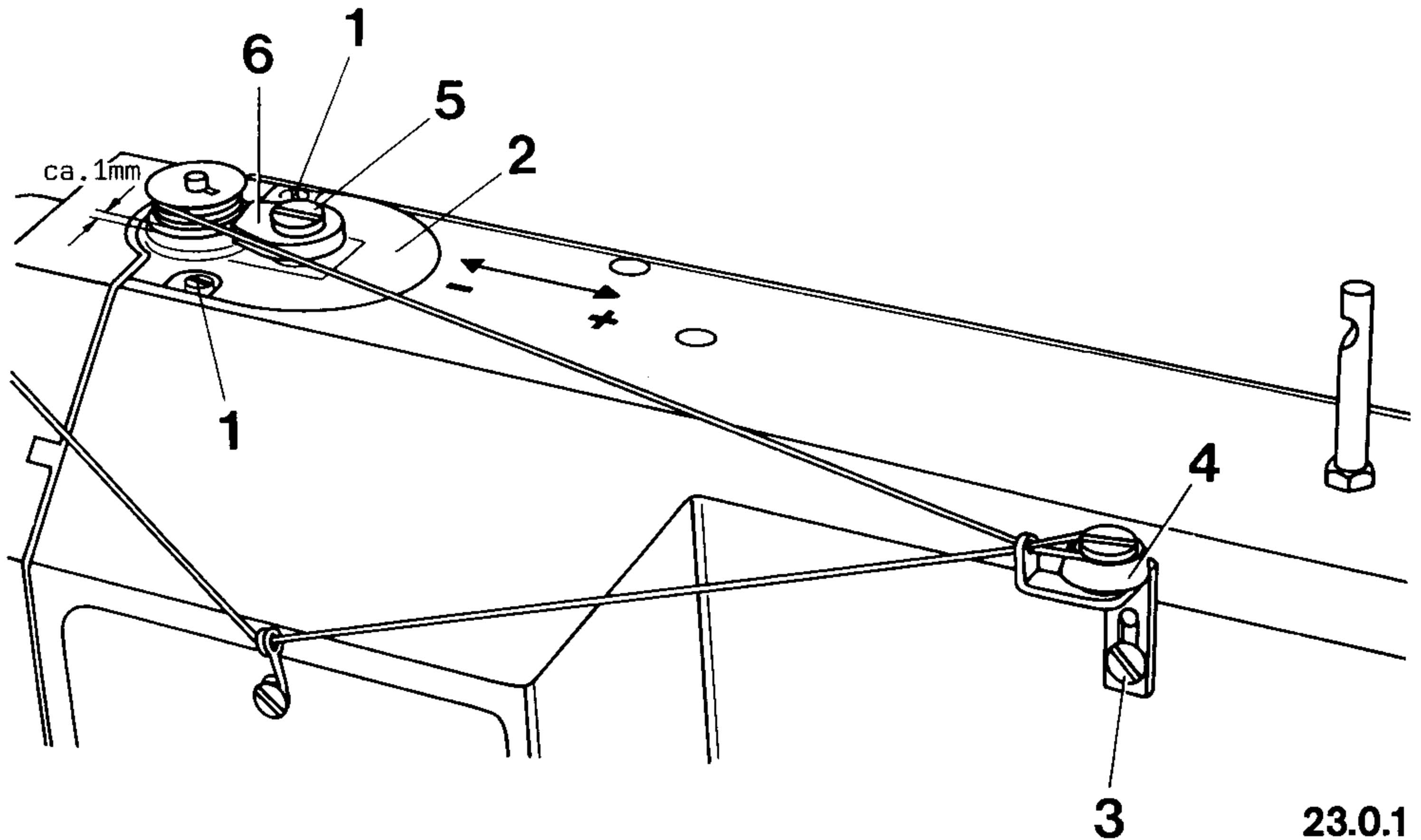
22.0.1

Adjustment:

- 22.1 Loosen nut **1** and tighten screw **2** a few turns.
- .2 Operate knee lever to the right and slowly unscrew screw **2** again until there is a clearance of **9 mm** between presser foot shoe and needle plate.
- .3 Lock screw **2** in position with nut **1**.

Setting:

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



23.0.1

Adjustment:

- 23.1 Raise presser bar lifter and engage bobbin winder.
- .2 Loosen screws 1.
- .3 **Set plate 2 with friction wheel close enough to balance wheel to ensure that bobbin winder spindle is driven reliably when bobbin winder is engaged, but that friction wheel is not driven by balance wheel when bobbin winder is disengaged.**
- .4 Tighten screws 1.
- .5 Place a bobbin on spindle, thread machine for bobbin winding, engage bobbin winder and start machine.
- .6 Loosen screw 3.
- .7 Adjust bobbin winder tension 4 in such a way that bobbin thread is wound evenly.
- .8 Tighten screw 3.
- .9 Loosen screw 5.
- .10 If bobbin is not full enough push trip dog 6 towards "+", if it is too full, push it towards "-" (Fig. 23.0.1).
- .11 Tighten screw 5.
- .12 Check this adjustment (see Setting).

Contents

	Page
1 Parallel guiding of connecting rod	3
2 Neutralizing the feed dog movement	4
3 Feeding motion of feed dog	5
4 Feed lifting motion	6
5 Feed dog height	8
6 Preliminary adjustment of eccentric pin needle bar frame	9
7 Spiral gears for zigzag drive	10
8 Zigzag stitch movement	11
9 Zero stitch width	12
10 Zigzag stitch width	13
11 Needle position "left, centre, right"	14
12 Needle in needle hole (crosswise to sewing direction)	15
13 Needle position lever	16
14 End play of hook shaft and position of balance weight	17
15 Needle bar rise and hook-to-needle-distance	18
16 Needle height	19
17 Bobbin case position stop	20
18 Clearance between presser foot and needle plate	21
19 Needle thread tension release	22
20 Thread check spring	23
21 Knee lever play	24
22 Knee lever stroke	25
23 Bobbin winder	26

PFAFF®

Innovation made by **PFAFF**

Pfaff, D-6750 Kaiserslautern, Postfach 3020/3040, Telefon (06 31) 2 00-0, Telex 45753
Telefax (06 31) 172 02