



Service Manual

Pfaff 5645H-840/01-706/07

Contents

	Page
1	4
2	6
3	7
4	8
5	10
5.1	10
5.2	10
5.3	12
6	14
7	16
7.1	16
7.2	16
8	18
9	19
10	20
11	21
12	22
13	24
13.1	24
13.2	26
14	27
15	28
15.1	28
15.2	29
16	30
17	31
18	32
18.1	32
18.2	34
19	35
20	36
21	37
22	38

Specifications

Stitch-type:	401 (Two-thread chainstitch)
Maximum sewing speed:	4000 s.p.m.
Version:	C
Needle-system:	5640
Maximum stitch-length:	6 mm
Clearance under the presser foot:	7 mm or 10 mm (with knee lever)
Balance wheel:	65 mm effective diameter
Maximum top feed stroke:	7mm
Air pressure for pneum. version:	6 bar

The following tools, gauges and other aids are required for adjustment:

- 1 Set of screwdrivers from 2 to 10 mm blade width
 - 1 Set of hexagon-allen keys from 1.5 to 6 mm
 - 1 Adjustment pin of 3 mm diameter (flattened on one side at 2.3 mm)
 - 2 Adjustment pins of 5 mm diameter, part-no. 61-111643-40
 - 1 Adjustment pin of 6 mm dia. with 3 mm shoulder, part-no. 61-111643-53
 - 1 Metal rule
 - 1 Screw clamp, part No. 08-880137-00
 - 1 Universal gauge, part No. 61-111643-54
 - 1 Packet of needles, system 5640
 - 2 Open-ended spanners (wrenches), 7 and 8 mm
- Sewing thread and sewing-in material

Notes:

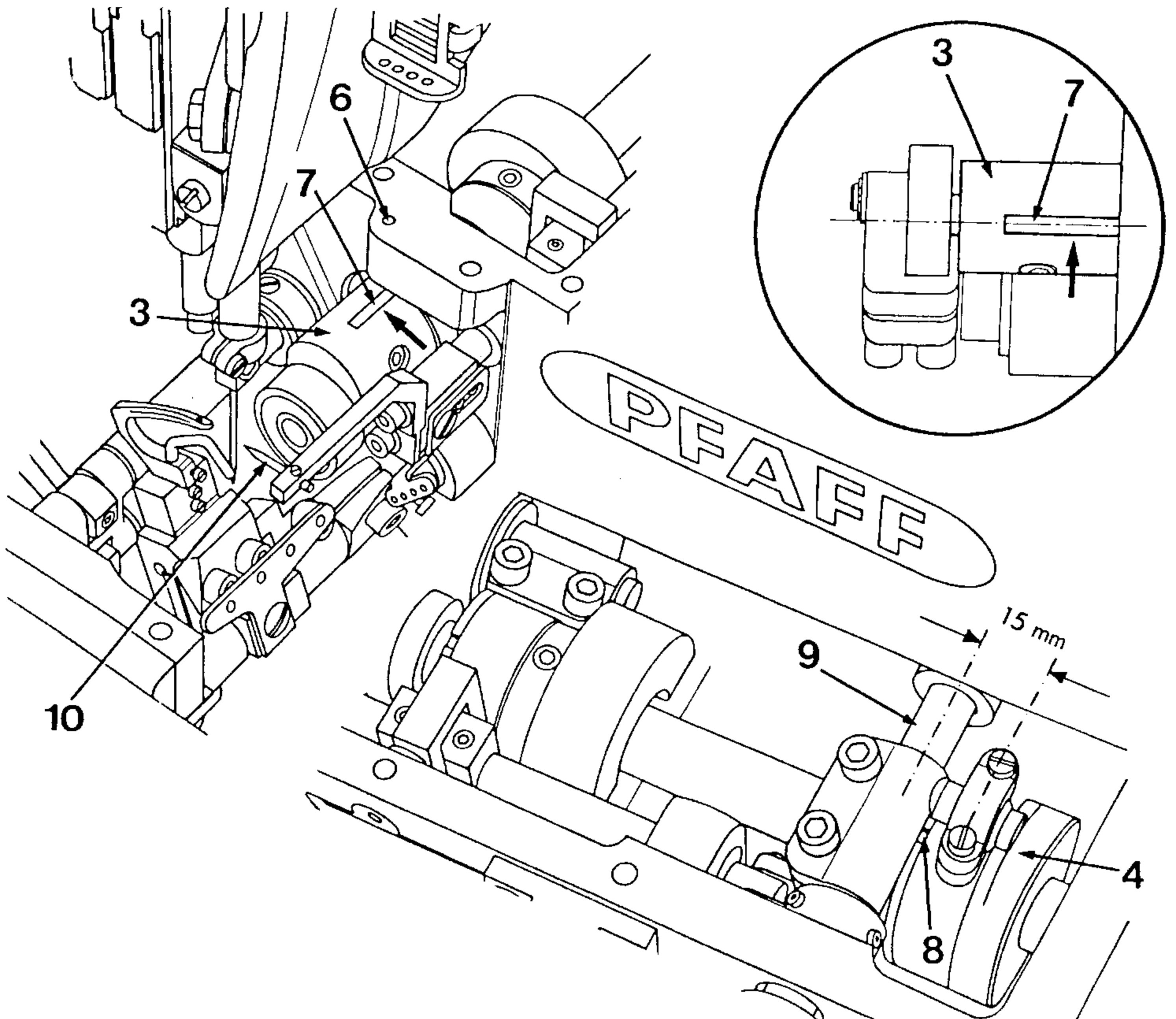
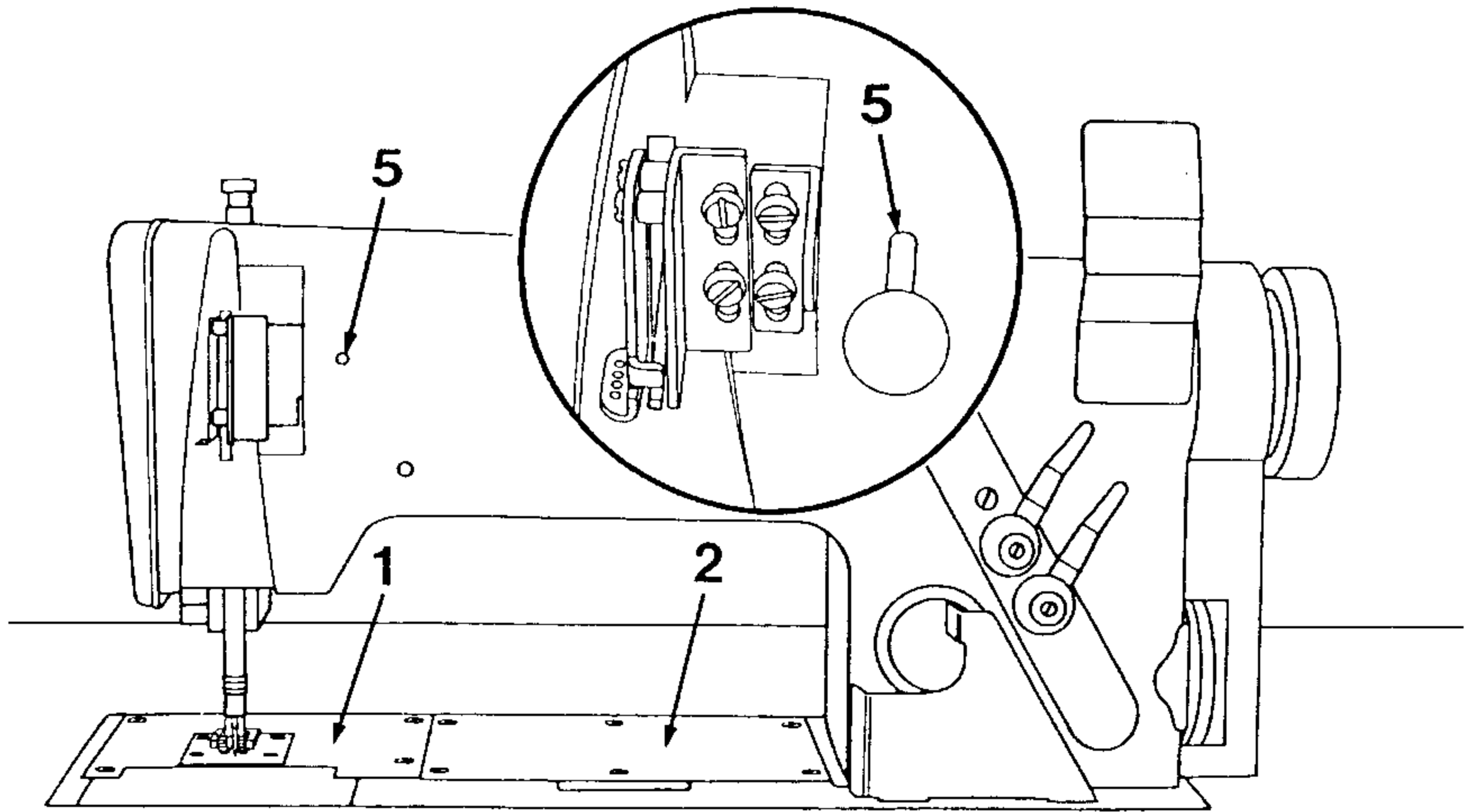
In the case of the quick-change stepping control (subclass-918/09), the sewing speed is reduced automatically during changing over to the high stroke. The override speed is 2000 rev/mins and in the case of the Efka-Variostop-motor, type VD 5G 52, is set at potentiometer 7 on the motor control panel (see reference manual of the motor manufacturer). Furthermore the 5G 52 motor VD includes a so-called "after-braking action" which reliably sets the needle bar in position TDC or BDC in the case of a seam interruption or at the seam-end. The necessary "after-braking action" is set on the motor control panel at potentiometers R211

1 Eccentric for spreader- and looper movement (on machines with 34 mm looper stroke)

Setting: At bottom dead centre of the needle bar and with the 3 mm thick adjustment pin inserted with its flat side to the front into hole 6, the front edge of marking groove 7 (see arrow) should rest against the flat edge of the adjustment pin. In addition, marking groove 8 should be moved in feeding direction by groove width from its vertical position over the looper drive shaft .

Note: In the case of machines with 31.5 mm looper stroke, the marking grooves 7 and 8 should be vertically over the looper drive shafts at bottom dead centre of the needle bar. The following adjustment procedures should be included accordingly.

- 1.1 Remove presser feet and top feed dog and take needle out of needle holder.
- 1.2 Unscrew cover plate 1 and remove together with needle plate; remove gear box lid 2.
- 1.3 Loosen the screws of the eccentric 3 (looper movement) and 4 (spreader movement) and tighten them again just enough to allow the respective eccentric to be turned.
- 1.4 Set the needle bar at bottom dead centre by turning the balance wheel.
- 1.5 Insert adjustment pin (5 mm) through hole 5 into the groove behind the arm shaft crank to block the arm shaft.
- 1.6 Insert the adjustment pin (3 mm) into hole 6 with its flat side to the front and turn eccentric 3 in such a way that marking groove 7 comes to rest on the flat side.
- 1.7 Tighten the accessible screw of eccentric 3 in this position.
- 1.8 Turn eccentric 4 so that groove 8 is moved in feeding direction by about groove width from its vertical position (advancement).
- 1.9 Retaining this position, set a clearance of approx. 15 mm between middle of spreader-drive shaft 9 and middle of upper linkage-rod bearing.
- 1.10 Tighten the accessible screw of eccentric 4 in this position.
- 1.11 Pull adjustment pins 5 and 6 out of the holes.
- 1.12 Also tighten the second screw of eccentrics 3 and 4 .
- 1.13 Turn the balance wheel and check whether spreader 10 makes a movement of 6 mm.
If necessary, loosen the screws of eccentric 4 and, without turning it, set the clearance accordingly larger or smaller.

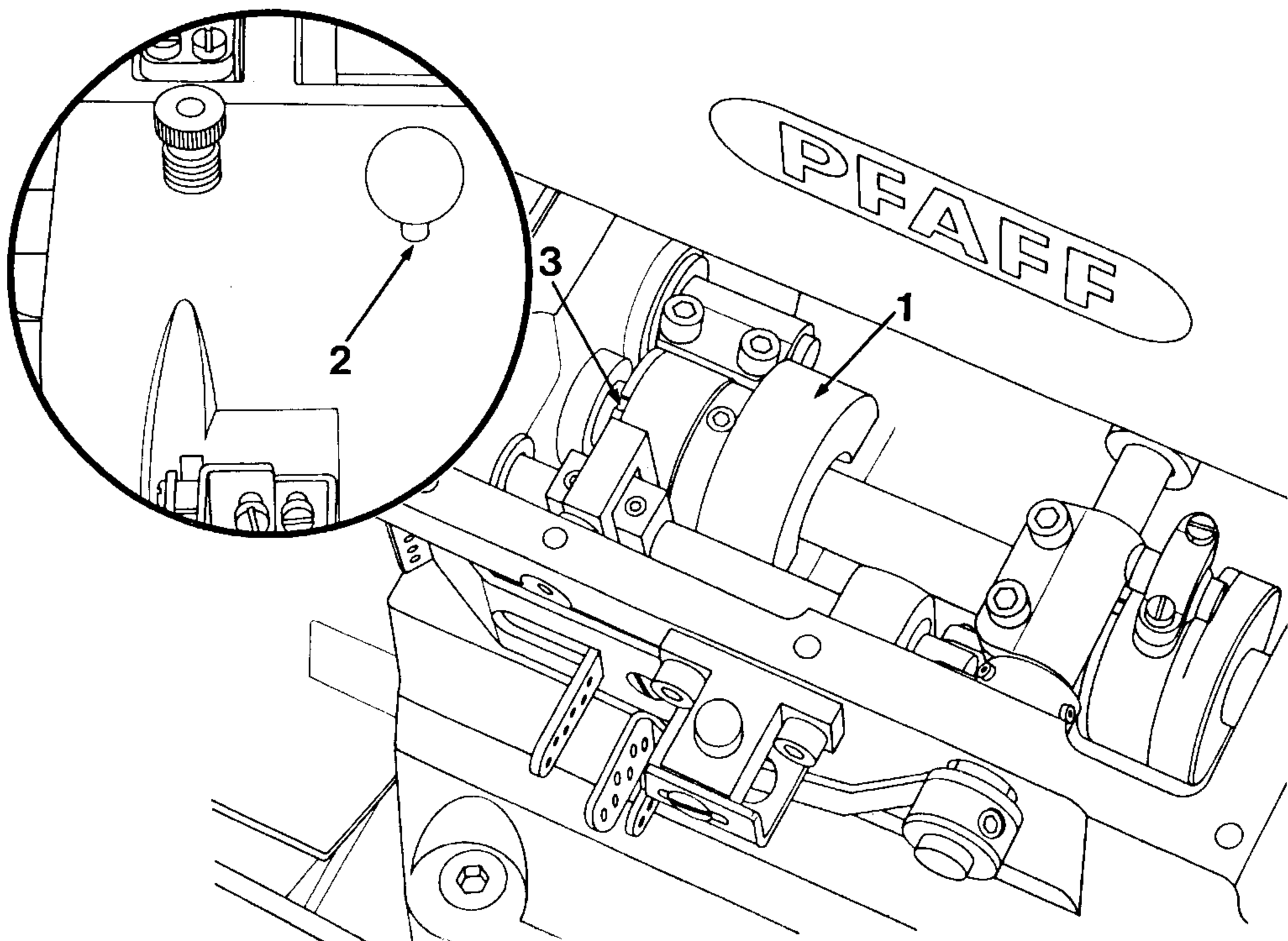


2 Bottom feed lifting eccentric

Setting:

In needle bar position 0,9mm before bottom dead centre, marking groove 3 of the feed lifting eccentric should be vertically over looper drive shaft 1.

- 2.1 Loosen the screws of feed lifting eccentric 1 and tighten them again just enough to allow the eccentric to be turned on its shaft.
- 2.2 Turn the balance wheel to set the needle bar just before bottom dead centre (0.9 mm) and block the arm shaft at hole 2 by inserting the adjustment pin (5 mm) into the groove behind the arm shaft crank .
- 2.3 Turn feed lifting eccentric 1 in such a way that marking groove 3 is vertically over the looper drive shaft.
- 2.4 Tighten the accessible screw of eccentric 1 in this position.
- 2.5 Pull the adjustment pin out of hole 2.
- 2.6 Tighten the second screw of eccentric 1.



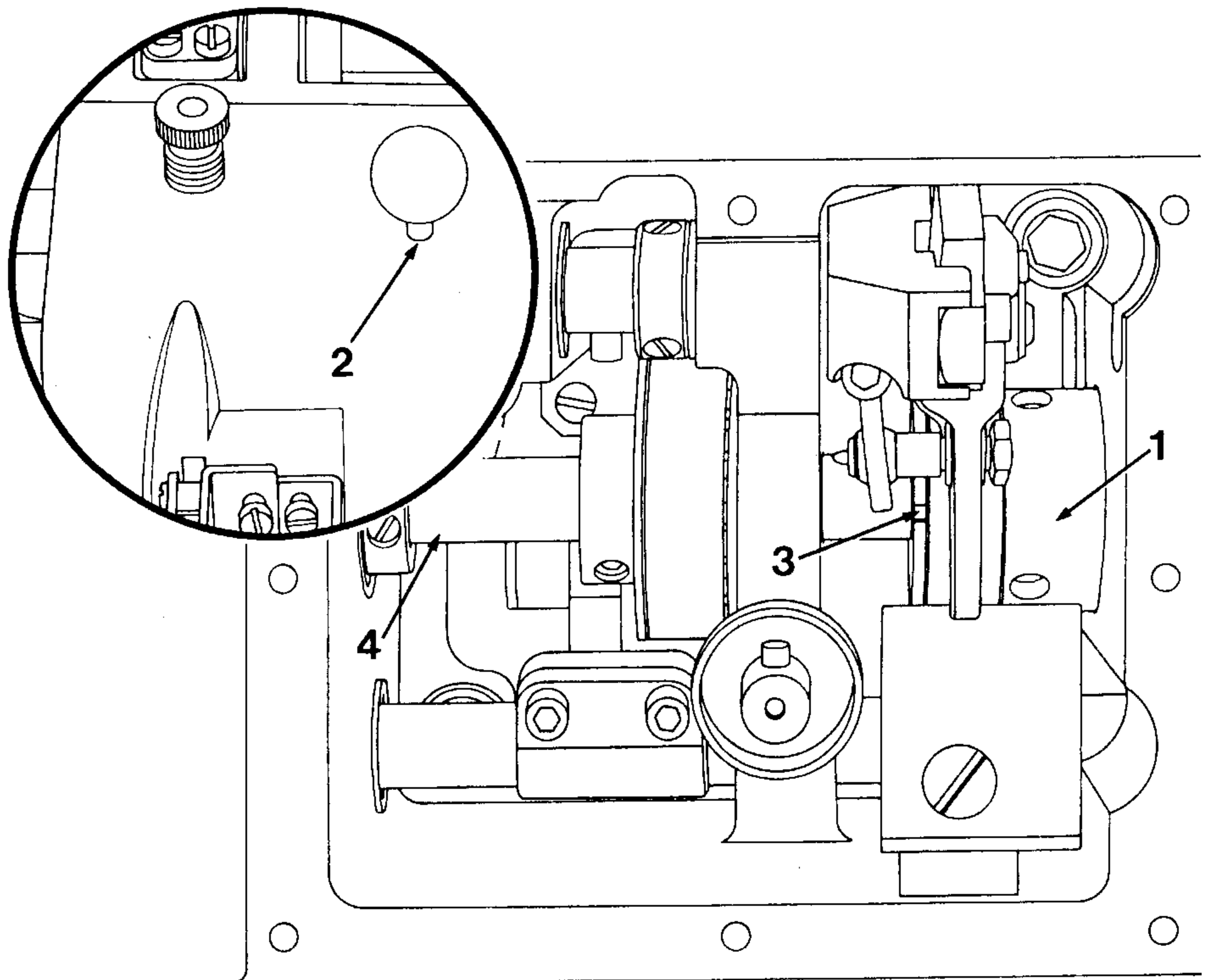
3

Bottom-feed eccentric

Setting:

In needle bar position 0.9 mm before bottom dead centre, marking groove 3 on feeding eccentric 1 should be exactly over the middle of shaft 4 (viewed from below)

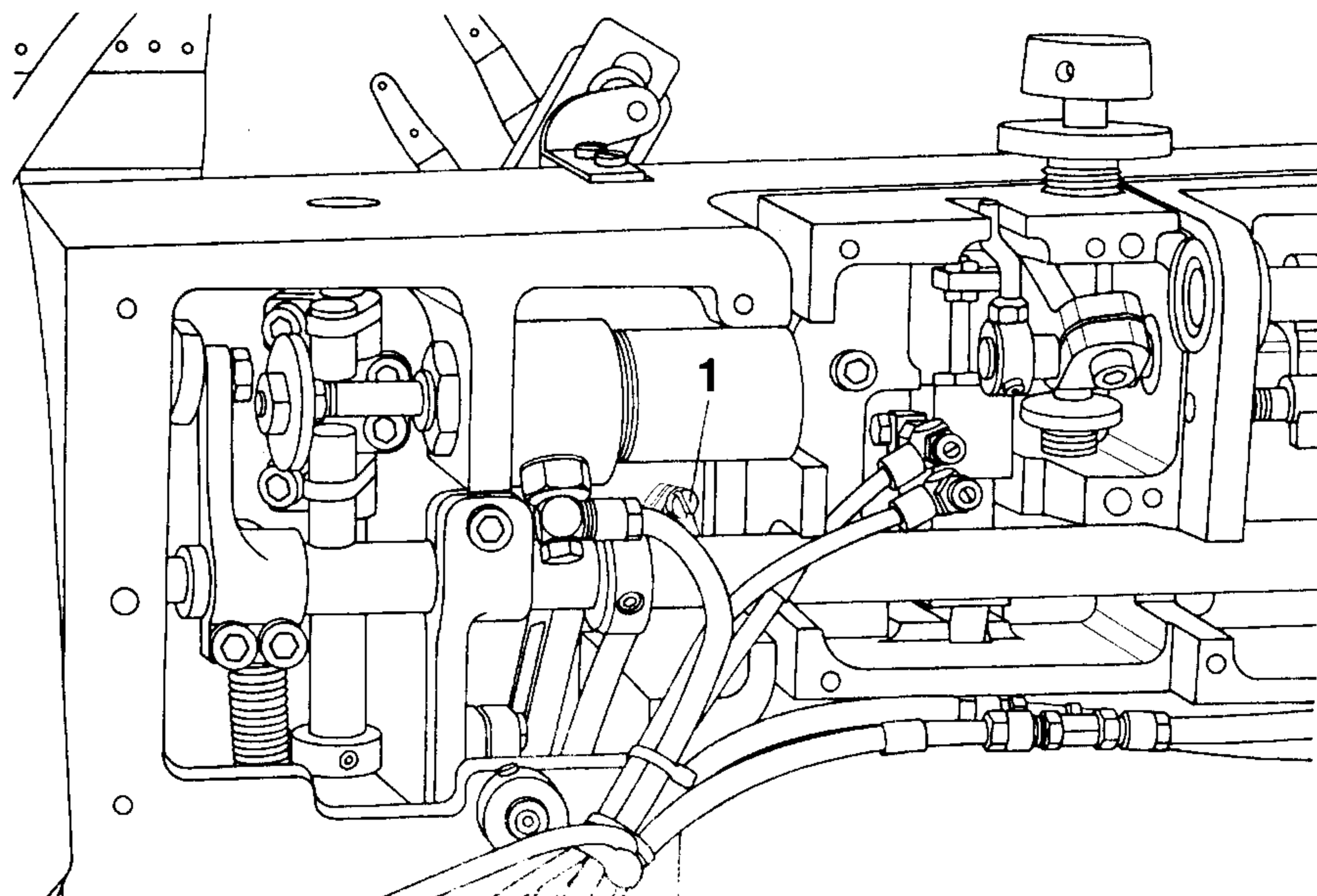
- 3.1 Unscrew the gear-box lid on the bottom of the arm standard.
- 3.2 Loosen the screws of feeding eccentric 1 and tighten them again in such a way that the eccentric can still be turned on the shaft. Set the needle bar just before bottom dead centre (0,9 mm) by turning the balance wheel and block the arm shaft at hole 2 by inserting the adjustment pin (5 mm) into the groove behind the arm shaft crank .
- 3.4 Turn feeding eccentric 1 on the shaft in such a way that marking groove 3 (viewed from below) is exactly over the middle of shaft 4.
- 3.5 Tighten the accessible screw of eccentric 1 in this position
- 3.6 Pull the adjustment pin out of hole 2.
- 3.7 Also tighten the second screw of feeding eccentric 1.

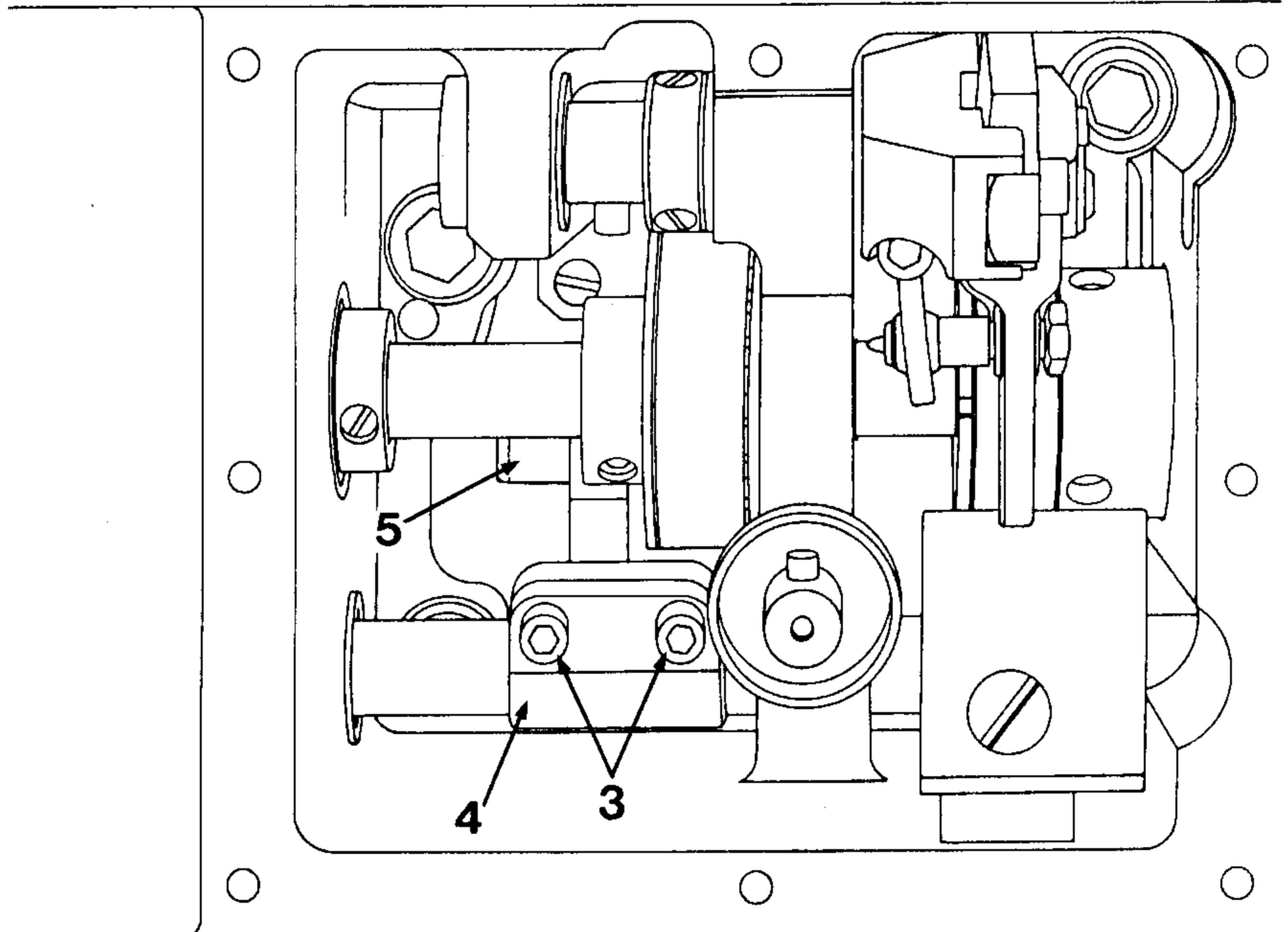
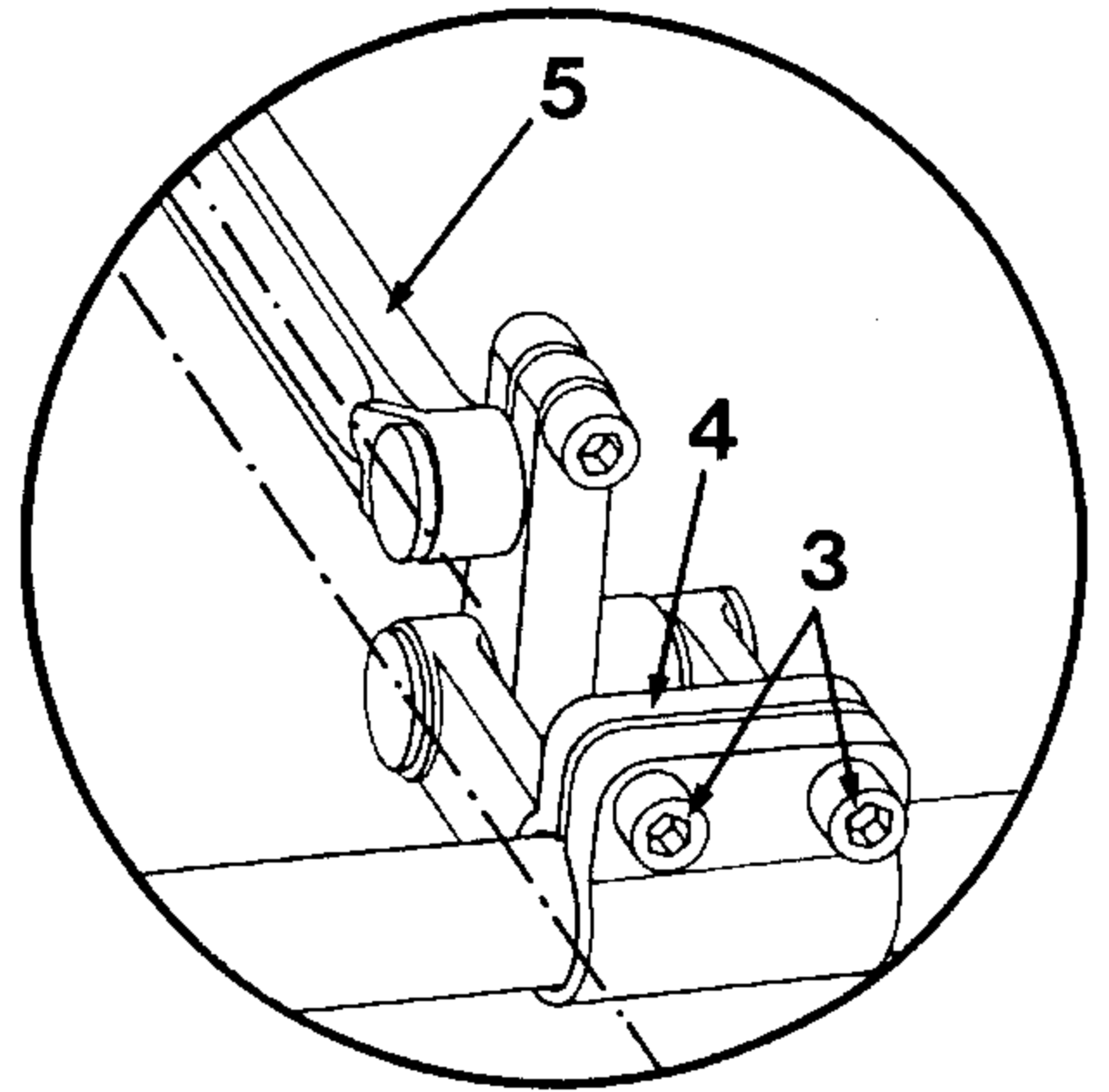
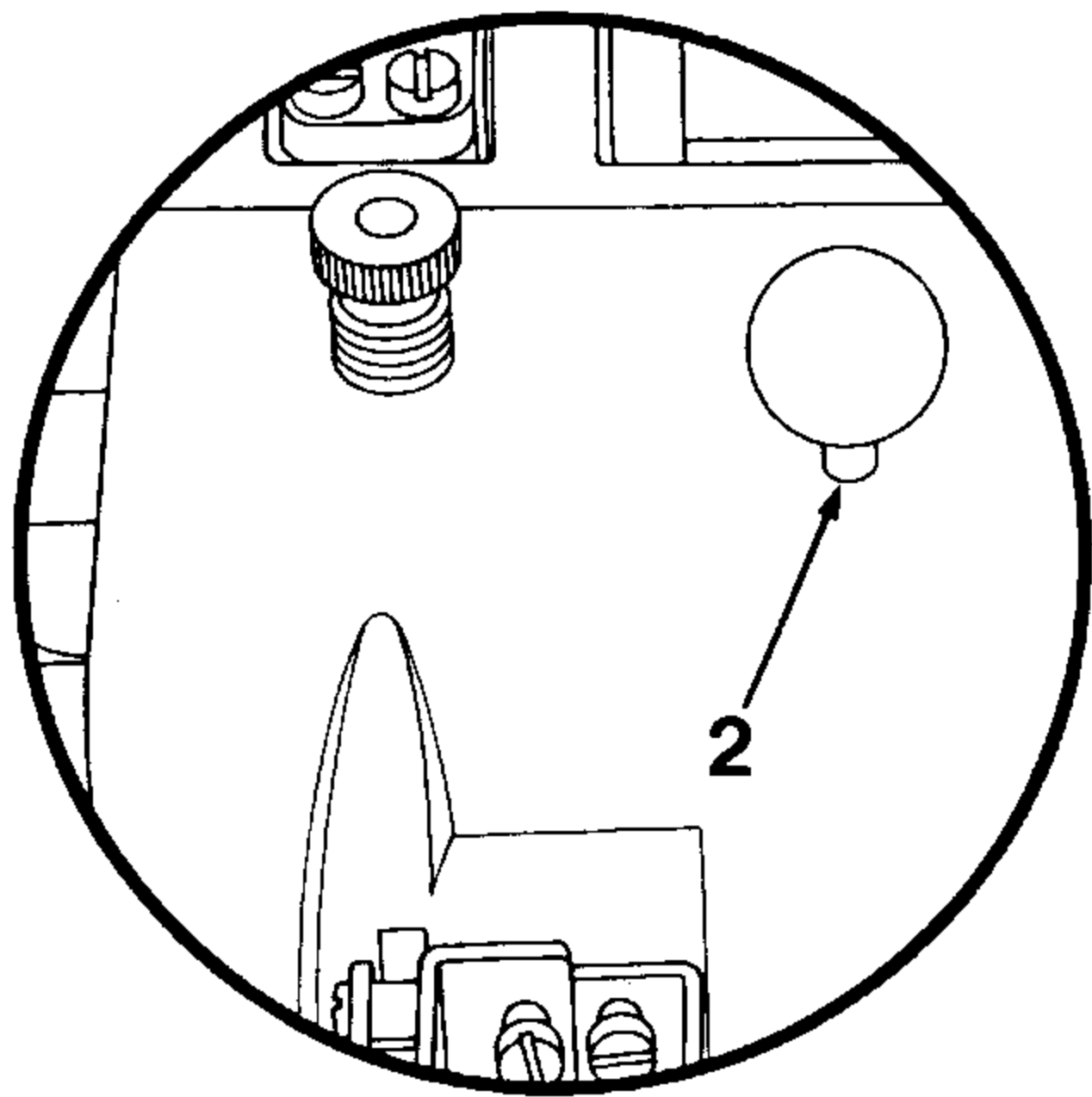


4 Needle-bar frame drive

Setting: In needle bar position 0.9 mm before bottom dead centre, the imaginary centre-lines of drive crank 4 and crank 5 should run parallel to each other.

- 4.1 Unscrew cover on the machine reverse side.
- 4.2 Loosen screw 1 in the upper drive crank.
- 4.3 Set the needle bar just before bottom dead centre (0.9 mm) by turning the balance wheel and block the arm shaft at hole 2 by inserting the adjustment pin (5 mm) in the groove behind the arm shaft crank .
- 4.4 Making sure that the gear box lid is removed from the bottom of the arm standard, loosen both screws 3.
- 4.5 Turn drive crank 4 in such a way that the imaginary centre-lines of drive crank 4 and crank 5 are parallel with each other.
- 4.6 In this position make sure that drive crank 4 or crank 5 does not strike anywhere, tighten screws 3.
- 4.7 Carry out a check (see setting) and pull the adjustment pin out of hole 2.
- 4.8 Finally, replace the lower gear box lid.
- Note: Screw 1 remains loosened for setting according to section 6.





5 Bottom feed dog

Setting: When the balance wheel is turned, the bottom feed dog should move in the middle of the feed slots freely, also laterally, at the maximum stitch-length setting.

5.1 Bottom feed-dog position crosswise to sewing direction

5.1.1 Unscrew the cover on the reverse side of the machine arm.

5.1.2 Loosen clamp screws 1 and 2.

5.1.3 Also Loosen the screws of the two fixing collars 3.

5.1.4 Set maximum stitch length.

5.1.5 Remove cover plate with needle plate.

5.1.6 Align feeding mechanism 4 in such a way that the bottom feed dog has the same clearance to either side in the feed slots.

5.1.7 In this position move both fixing collars 3 up to feeding mechanism 4 and tighten them.

5.2 Bottom feed dog position in sewing-direction

5.2.1 Set the needle bar just before bottom dead centre (0,9mm) by turning the balance wheel and block the arm shaft at hole 5 by inserting the adjustment pin (5 mm) into the groove behind the arm shaft crank

5.2.2 Insert adjustment pin (6 mm) into hole 6 and position connecting pin 7 in such a way that the shoulder of the adjustment pin can also engage the hole of connecting pin 7 (see arrow).

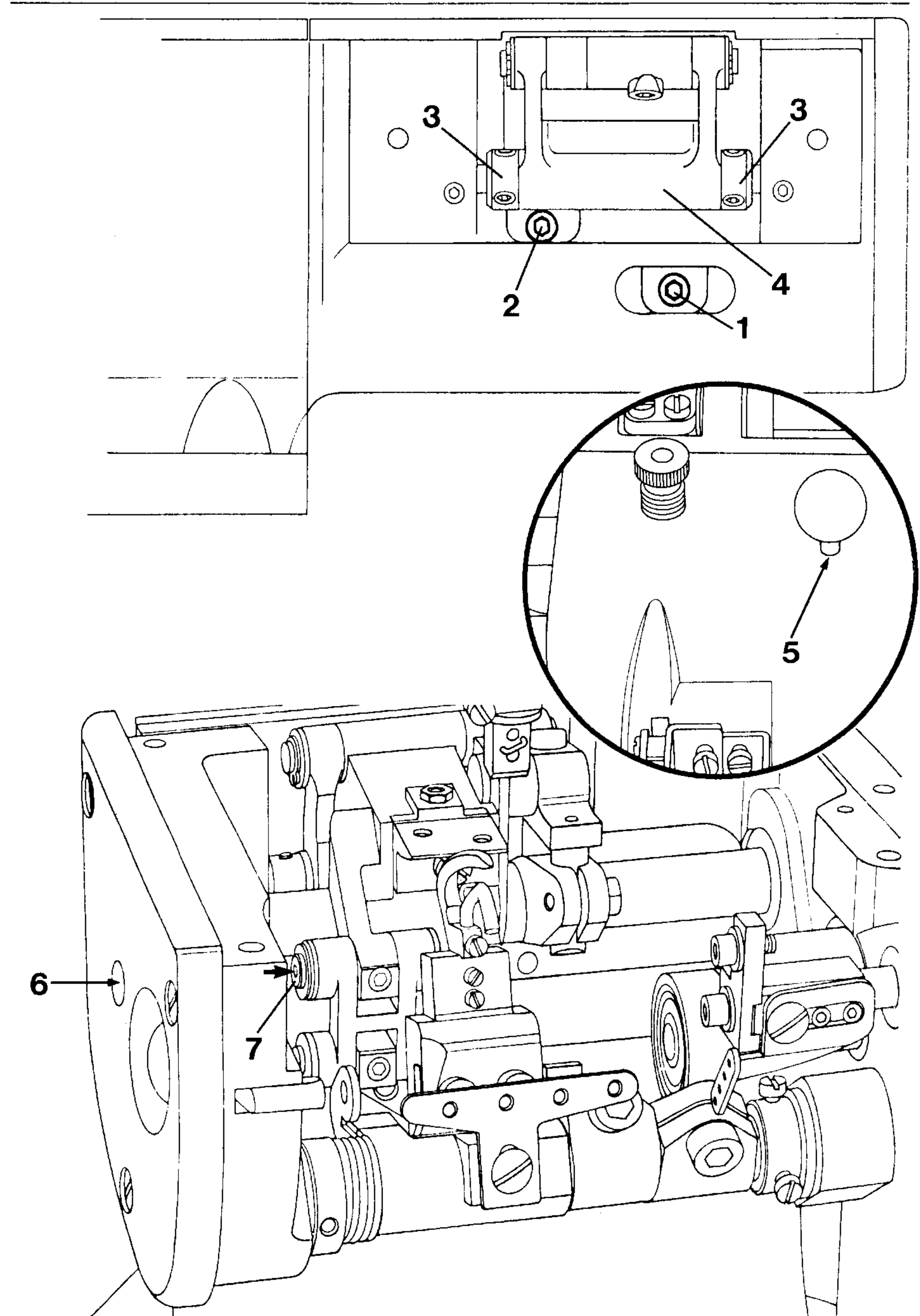
Note This blocking for adjustment simultaneously determines the crosswise position of the bottom feed dog also is .

5.2.3 Fully tighten clamp screw 1 and lightly tighten clamp screw 2 in this position.

5.2.4 Pull adjustment pins 5 and 6 out of the holes.

5.2.5 Set the feed dog in the middle of the feed slots (in sewing direction) and tighten screw 2 in this position.

5.2.6 Carry out a check (see setting).

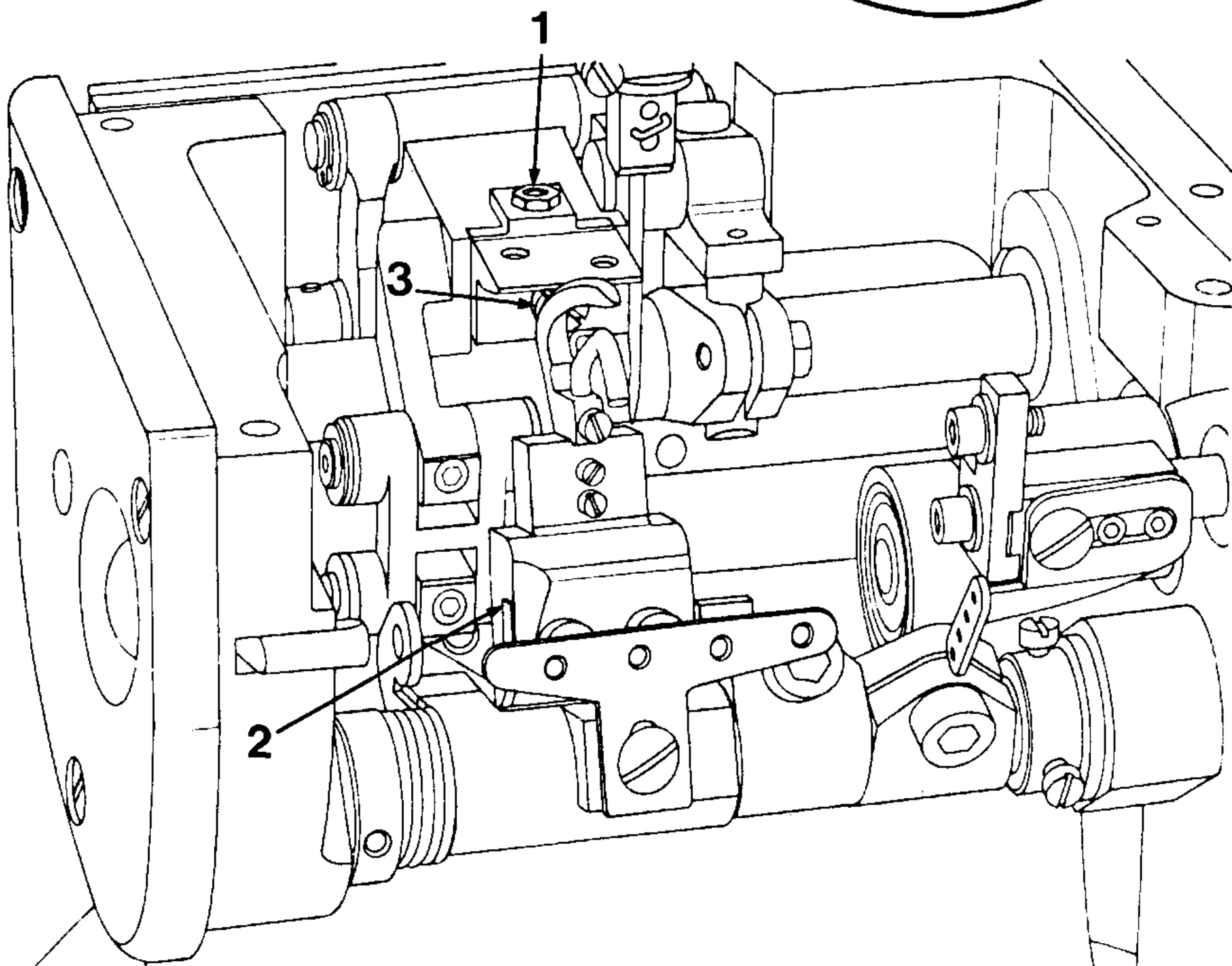
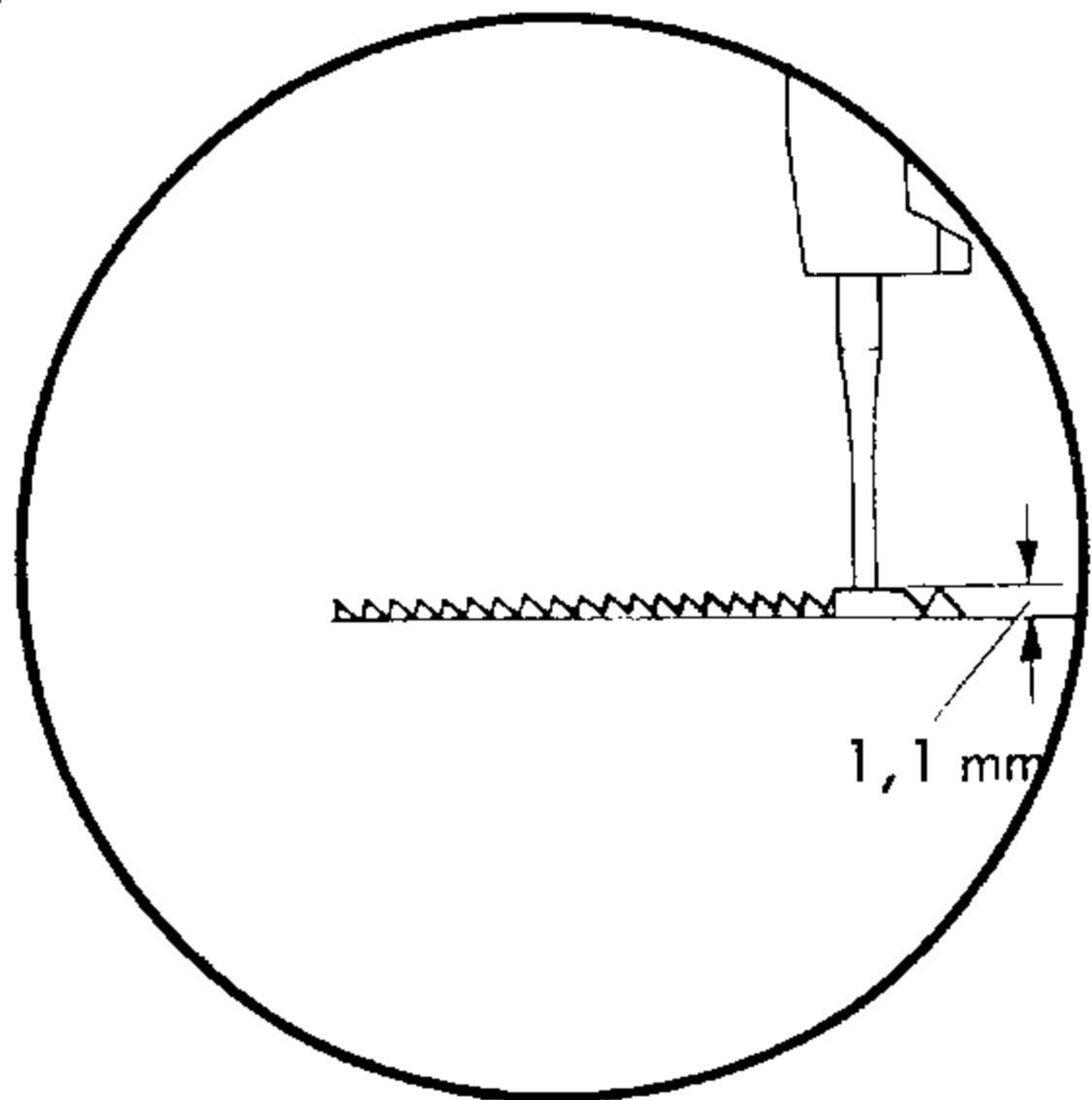
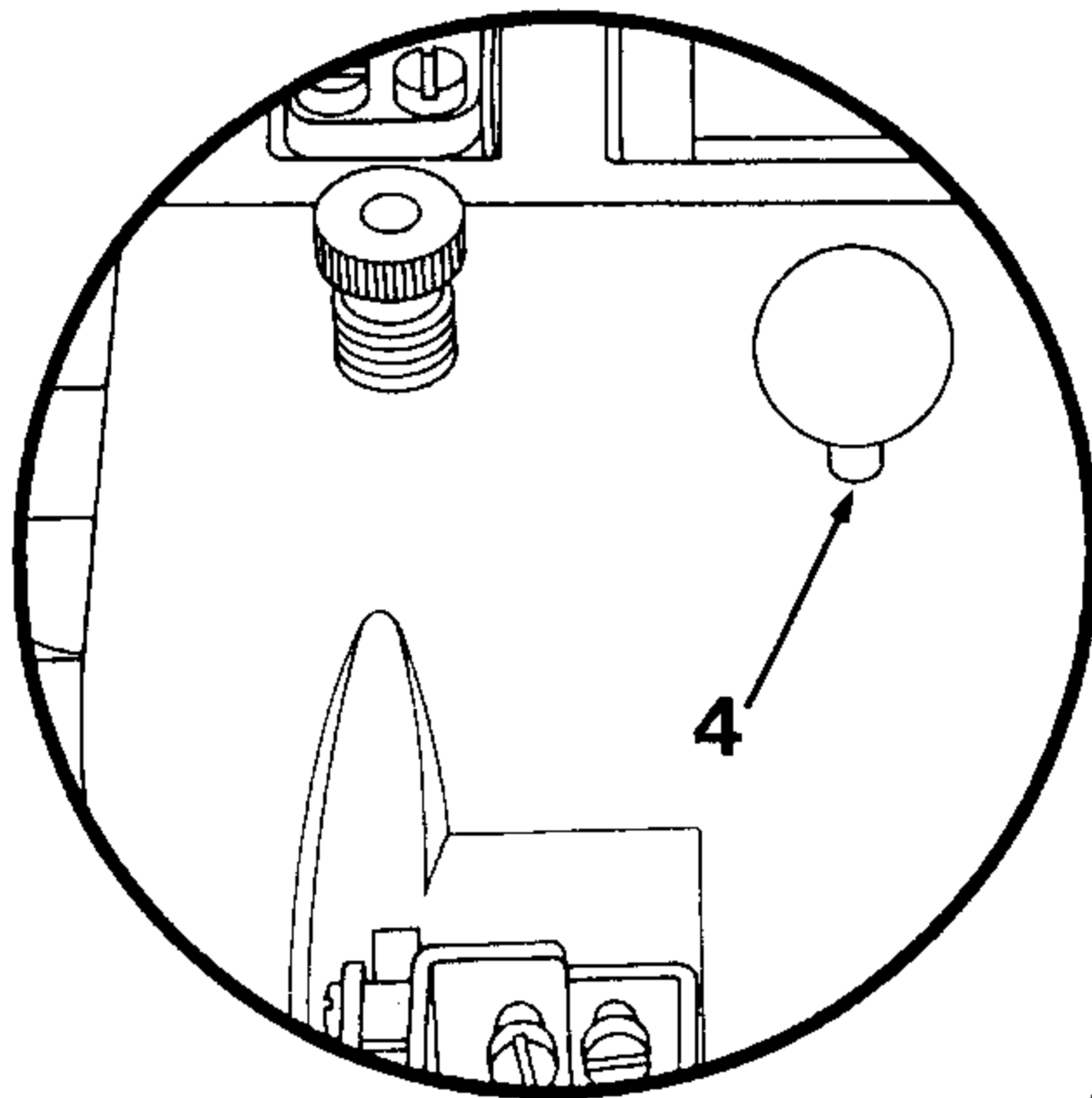


5 Bottom feed dog height

Setting:

At the maximum stitch length setting and in needle bar position 0.9 mm before bottom dead centre, the front teeth of the bottom feed dog should protrude 1.1 mm over the needle plate.

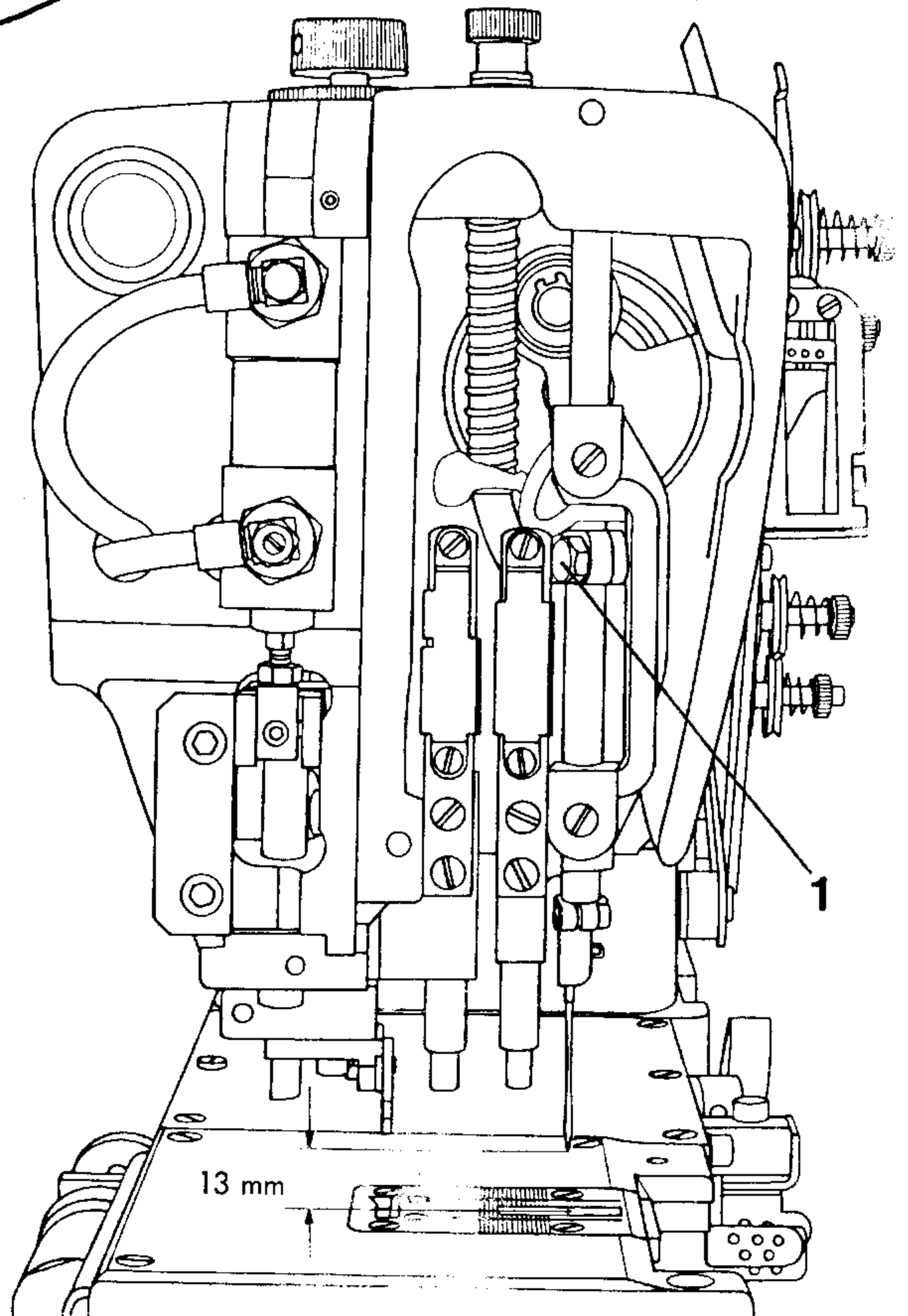
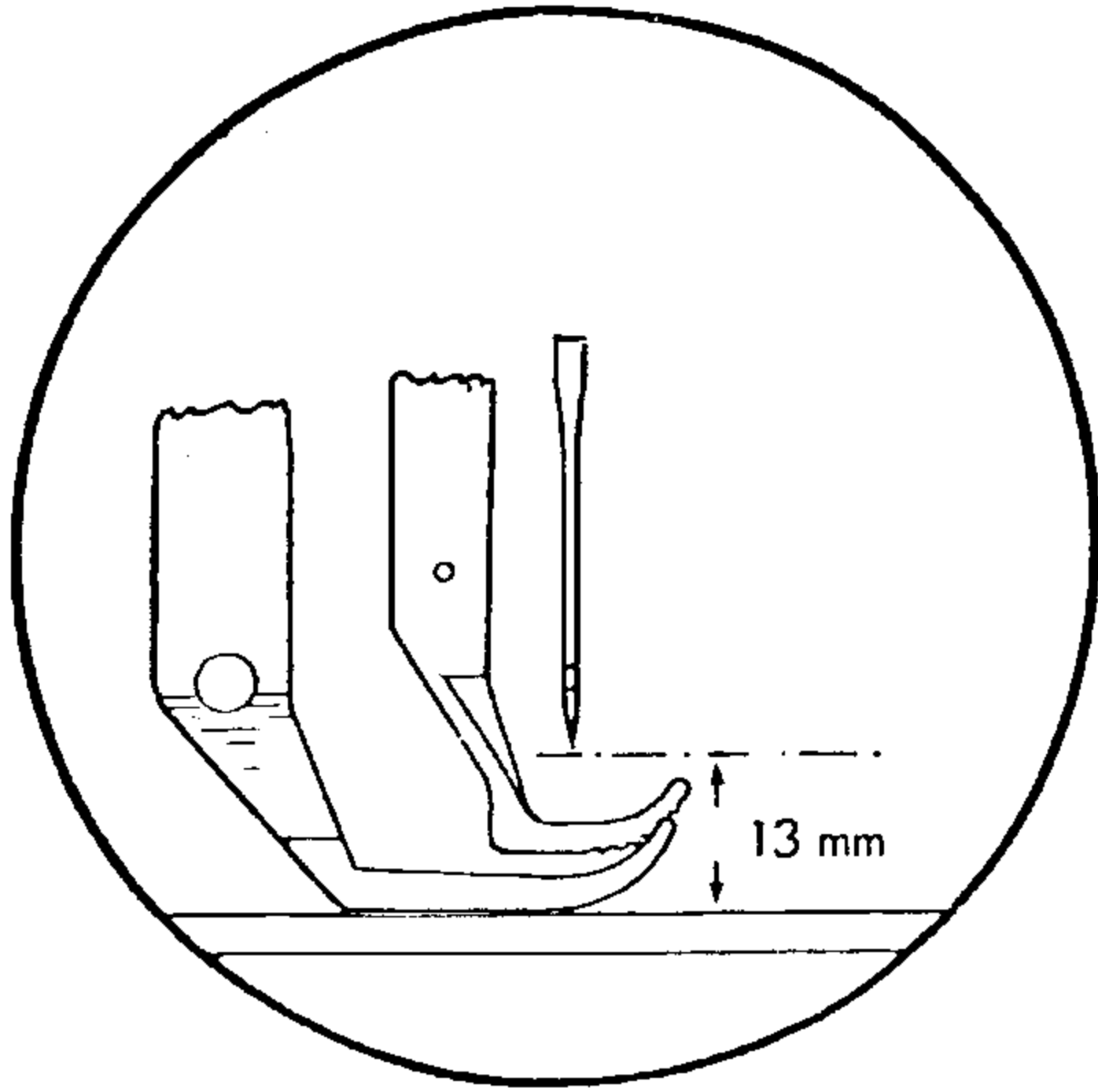
- 5.3.1 Remove cover plate with needle plate.
- 5.3.2 Loosen nut 1 and unscrew the regulating screw approx. 2 - 3 turns.
- 5.3.3 Move the needle bar to top dead centre, press locking lever 2 to the left and swing out the looper.
- 5.3.4 Loosen screw 3 a little.
- 5.3.5 Re-fit cover plate with needle plate.
- 5.3.6 Set maximum stitch-length.
- 5.3.7 Set the needle bar just before bottom dead centre (0.9 mm) by turning the balance wheel and block the arm shaft at hole 4 by inserting the adjustment pin (5 mm) into the groove behind the arm shaft crank.
- 5.3.8 Turn regulating screw 1, accessible through the hole in the, needle plate, so far clockwise that the front teeth of the bottom feed dog (viewed in feeding direction) project from the needle plate by 1.1 mm, or, if the gauge (61-111643-54) is used, rest against the gauge
- 5.3.9 Retaining this position, remove the cover plate together with the needle plate, lock regulating screw 1 with the nut and tighten screw 3 firmly.
- 5.3.10 Remove the adjustment pin from hole 4.
- 5.3.11 To carry out a check (see setting) refit cover plate with needle plate.



6 Needle bar height (pre-adjustment)

With the needle bar set at top dead centre there should be a distance of 13 mm between needle point and needle plate.

- 6.1 Unscrew face plate.
6.2 Insert needle in needle holder; the long thread groove must face the right.
6.3 Place on cover plate with needle plate.
6.4 Turn the balance wheel to move the needle bar to top dead centre.
6.5 Loosen screw 1.
6.6 Shift the needle bar vertically in such a way that a clearance of approx. 13 mm exists between the needle-point and the needle plate.
6.7 In this position and making sure that the long groove of the needle faces to the right, tighten screw 1.
6.8 Carry out a check (see setting)



7 Needle position in needle hole

7.1 Crosswise to feeding direction

Setting:

In the crosswise direction, the needle should penetrate in the middle of the needle hole.

7.1.1 Insert a new needle (system 5640) with the long groove facing to the right.

7.1.2 Making sure that clamp screw 1 of the drive crank is loose, loosen both screws 2 and 3 through the fitting holes.

7.1.3 Set the needle just above the needle hole by turning the balance wheel.

7.1.4 Move the needle bar frame in such a way that the needle is positioned exactly in the middle of the needle hole crosswise to the feeding direction.

7.1.5 In this position, tighten both screws 2 and 3 through the fitting holes.

7.2 In feeding direction

Setting:

In needle bar position 0.9 mm before bottom dead centre, there should be a clearance of <u>0.8 mm</u> between the front needle side and the front side of the needle hole.
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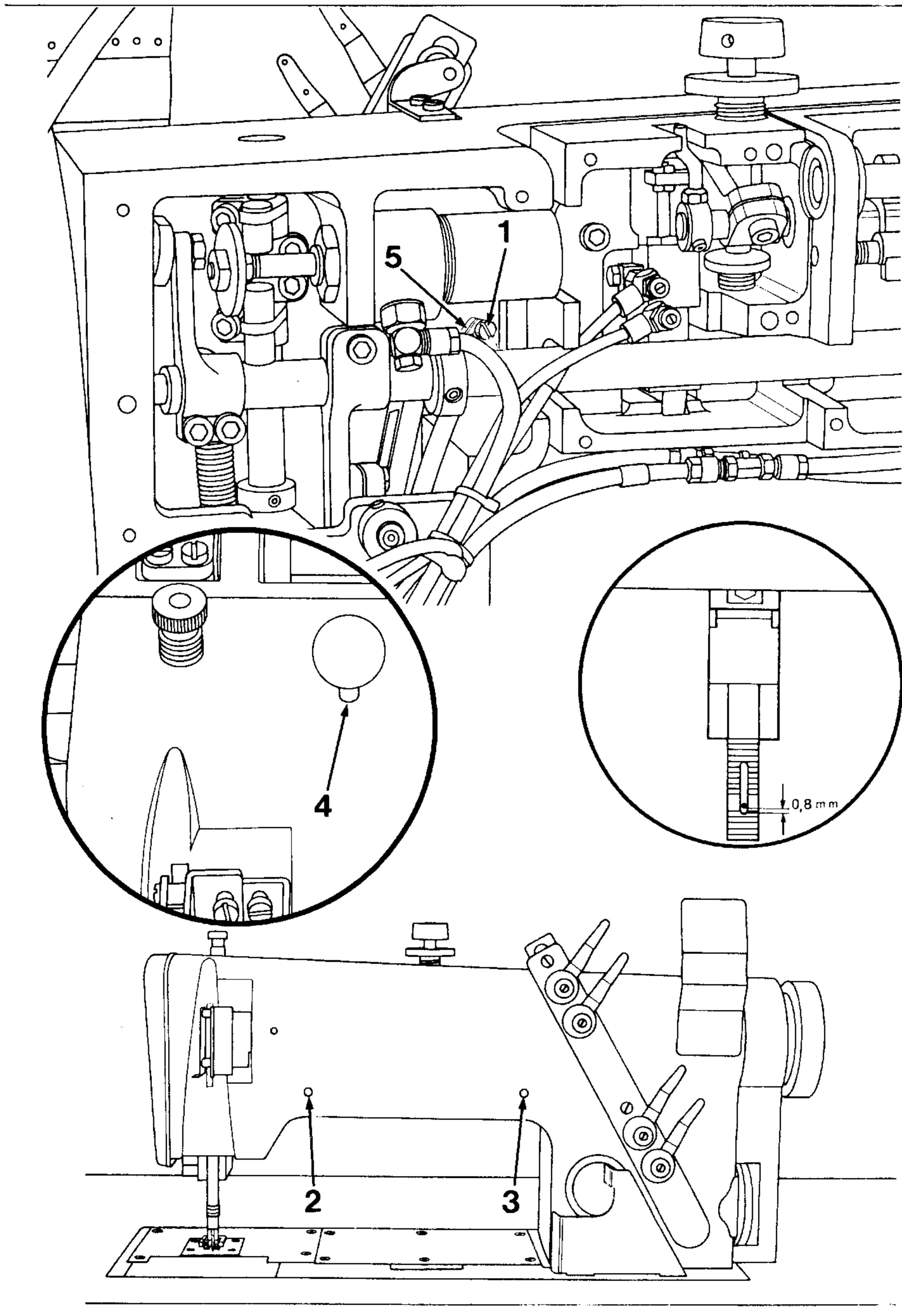
7.2.1 Set the needle bar just before bottom dead centre (0.9 mm) by turning the balance wheel and block the arm shaft at hole 4 by inserting the adjustment pin (5 mm) into the groove behind the arm shaft crank .

7.2.2 Shift the needle bar in the lengthwise direction in such a way that there is a clearance of 0.8 mm between the needle and the front sides of the needle hole .

7.2.3 In this position, and making sure that no twist results at crank 5, tighten clamp screw 1.

7.2.4 Pull the adjustment pin out of hole 4.

7.2.5 Carry out a check (see setting).



8 Minimum top feed stroke limitation

With cylinder 3 fully extended, stop-crank 4 should be adjacent to the lower edge of the threaded sleeve 2.

Note: The minimum top feed stroke is 1.5 mm.

8.1 Turn off compressed air.

8.2 Loosen screw 1.

8.3 Unscrew threaded sleeve 2 far enough to allow the plunger of cylinder 3 to be extended by hand.

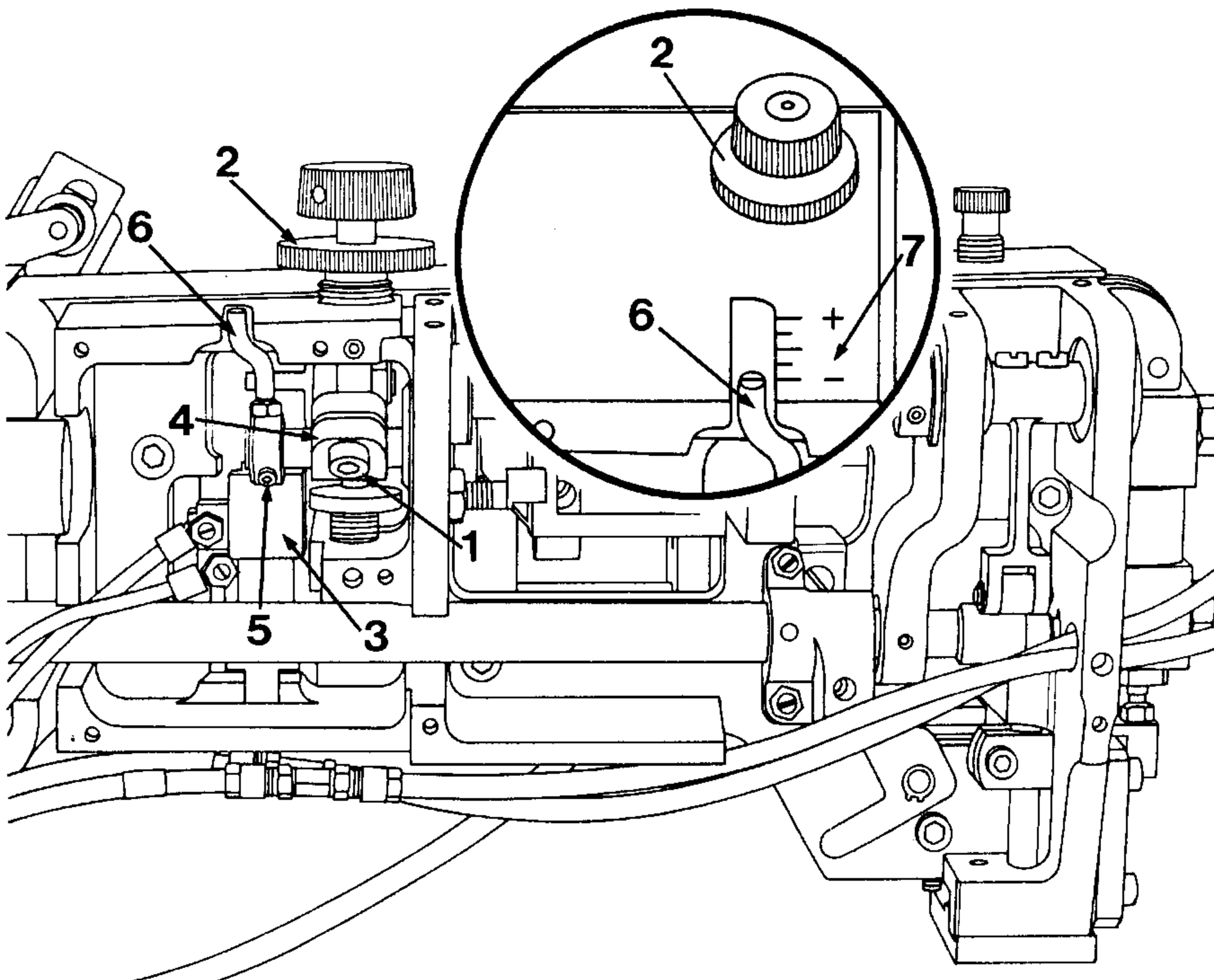
8.4 Turn on compressed air and engage minimum top feed stroke at the knee switch.

8.5 Turn threaded sleeve 2 far enough in until the plunger of the cylinder 3 begins to retract.

8.6 Making sure that the lower edge of threaded sleeve 2 is adjacent to the stop crank 4, tighten screw 1.

8.7 Loosen screw 5.

8.8 Set the mark of indicator 6 at the outer minus mark of scale 7 and tighten screw 5.



9 Top feed stroke

Setting: With cylinder 1 fully extended, crank 4 should move 3 mm when the balance wheel is turned.

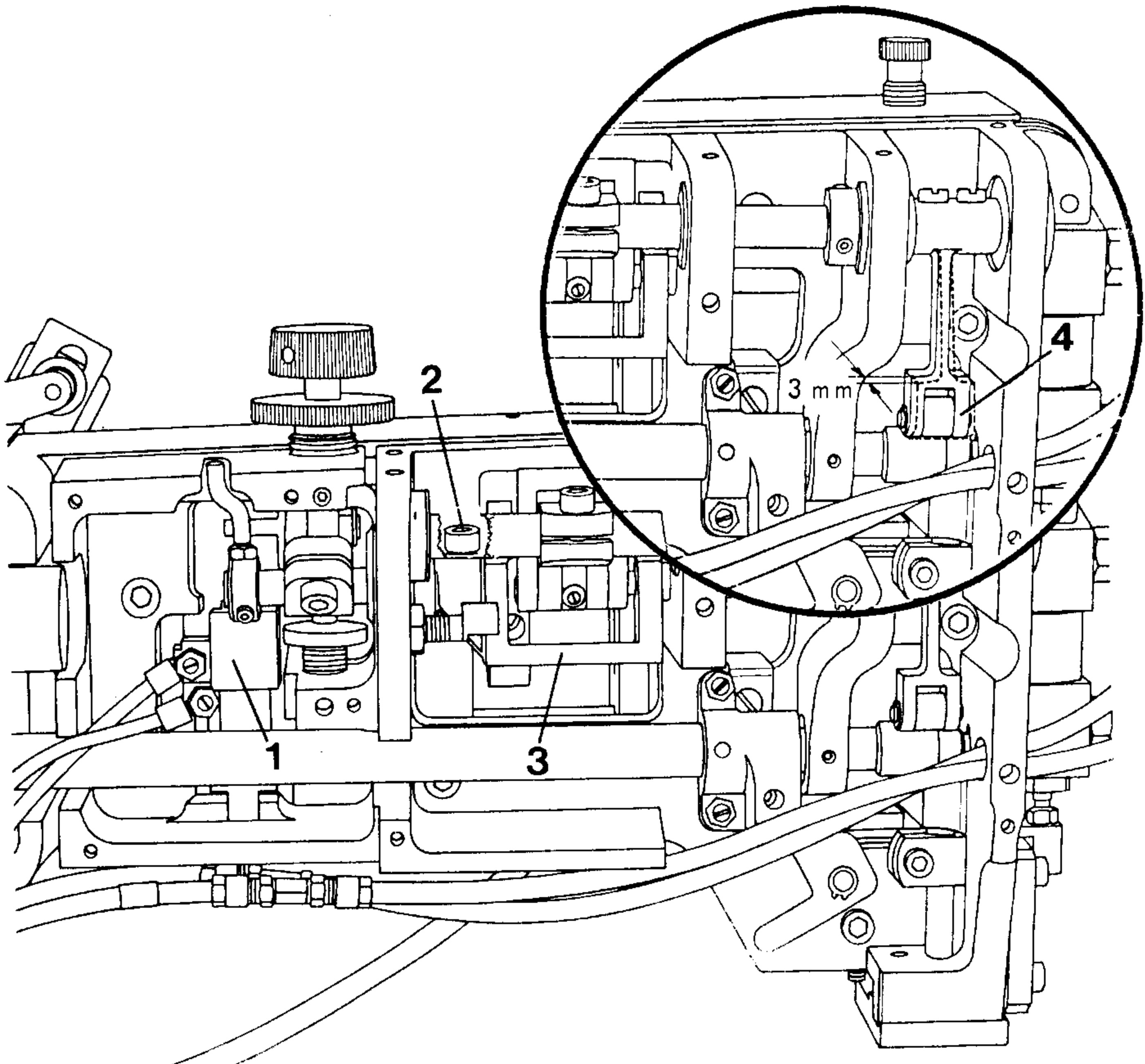
9.1 Loosen screw 2.

9.2 Make sure that the compressed air is still on, cylinder 1 is fully extended, and the knee switch is set for the minimum top-feed stroke.

9.3 Turn feed regulator crank 3 so that crank 4 makes a movement of 3 mm when the balance wheel is turned.

9.4 Tighten screw 2 in this position.

9.5 Carry out a check (see setting).

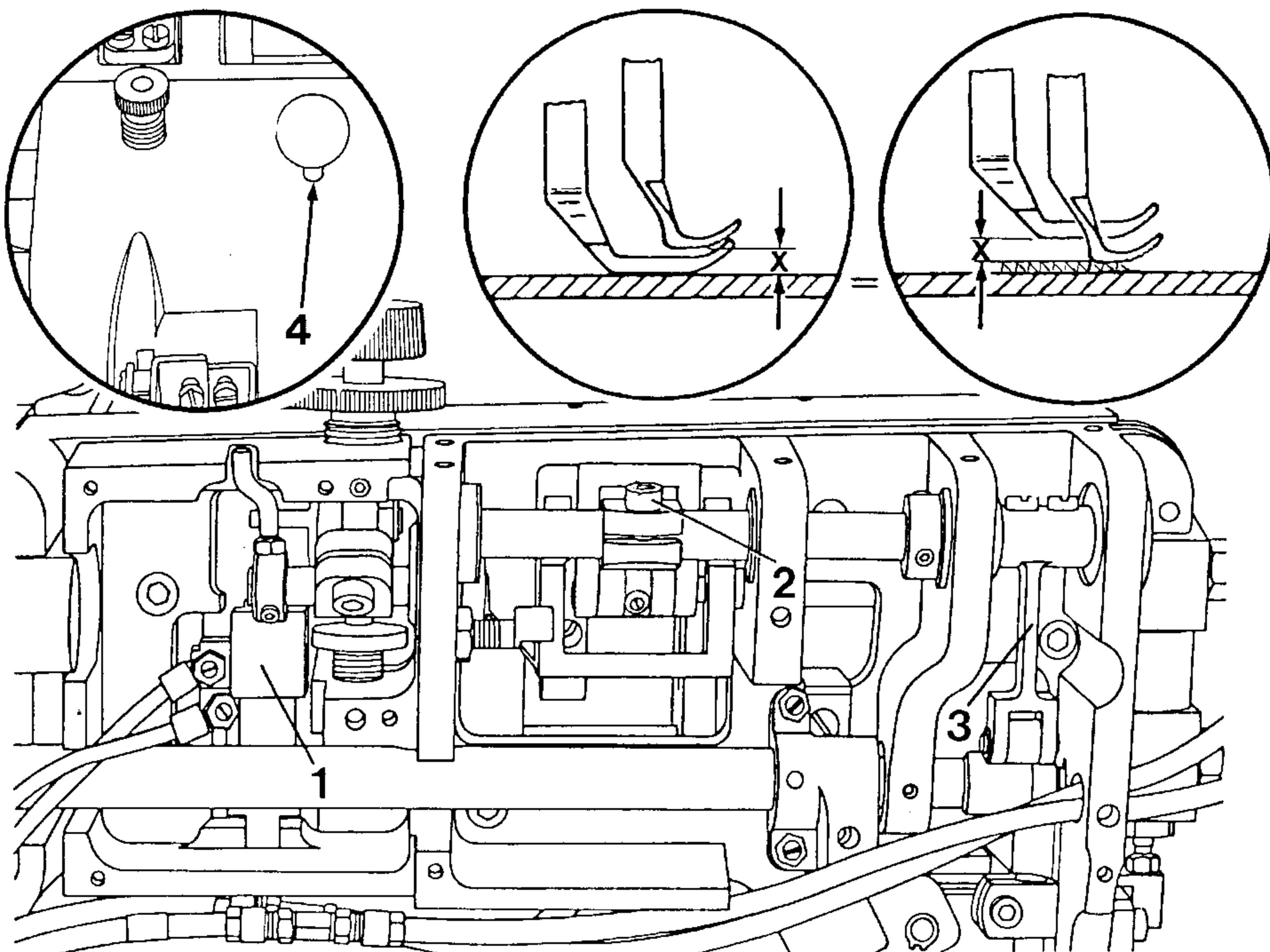


10 Vibrating- and lifting presser strokes

Setting:

With cylinder 1 fully extended, vibrating and lifting pressers should execute the same stroke (1,5 mm) when the balance wheel is turned.

- 10.1 Screw on top feed dog and presser foot.
- 10.2 Turn the balance wheel to set the needle bar 0.9 mm before bottom dead centre.
- 10.3 Insert the adjustment pin (5 mm) through hole 4 into the groove behind the arm-shaft crank to block the arm shaft.
- 10.4 Make sure that compressed air is switched, cylinder 1 is fully extended, the lifting presser is resting on the needle plate, and the knee switch is set for the maximum top feed stroke, and loosen screw 2.
- 10.5 Turn and fix the crank 3 so that the 1.5 mm thick feeler gauge can be pushed btween lifting presser and feed dog.
- 10.6 In this position, tighten screw 2 firmly.
- 10.7 Remove the adjustment pin from hole 4.
- 10.8 Carry out a check (see setting).



11

Maximum top feed stroke limitation

Setting:

When the cylinder plunger is fully retracted, eccentric pin 2 should be adjacent to feed regulator crank 4. When the balance wheel is turned, top feed dog and presser foot should execute a maximum stroke of 7 mm.

Note:

According to the material and type of operation, the stroke of the top feed dog or the presser feet can be limited optionally downward.

11.1

Loosen nut 1 and position the lobe of the eccentric pin 2 to the outside.

11.2

Turn on compressed air and set the maximum top feed stroke at the knee switch.

11.3

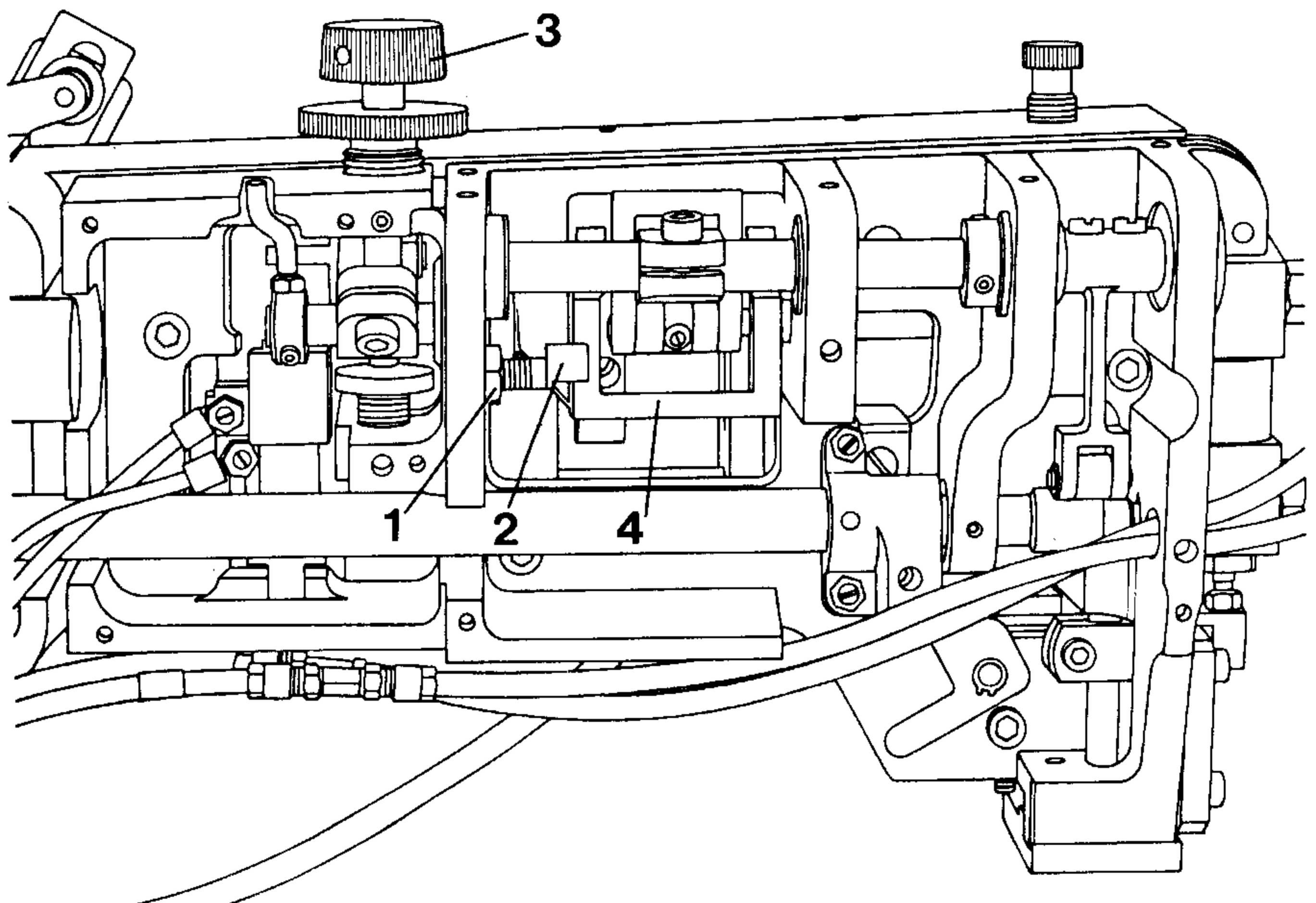
Set the required maximum stroke of the top feed dog by turning milled screw 3 accordingly.

11.4

Move eccentric pin 2 up against feed regulator crank 4 and lock nut 1.

11.5

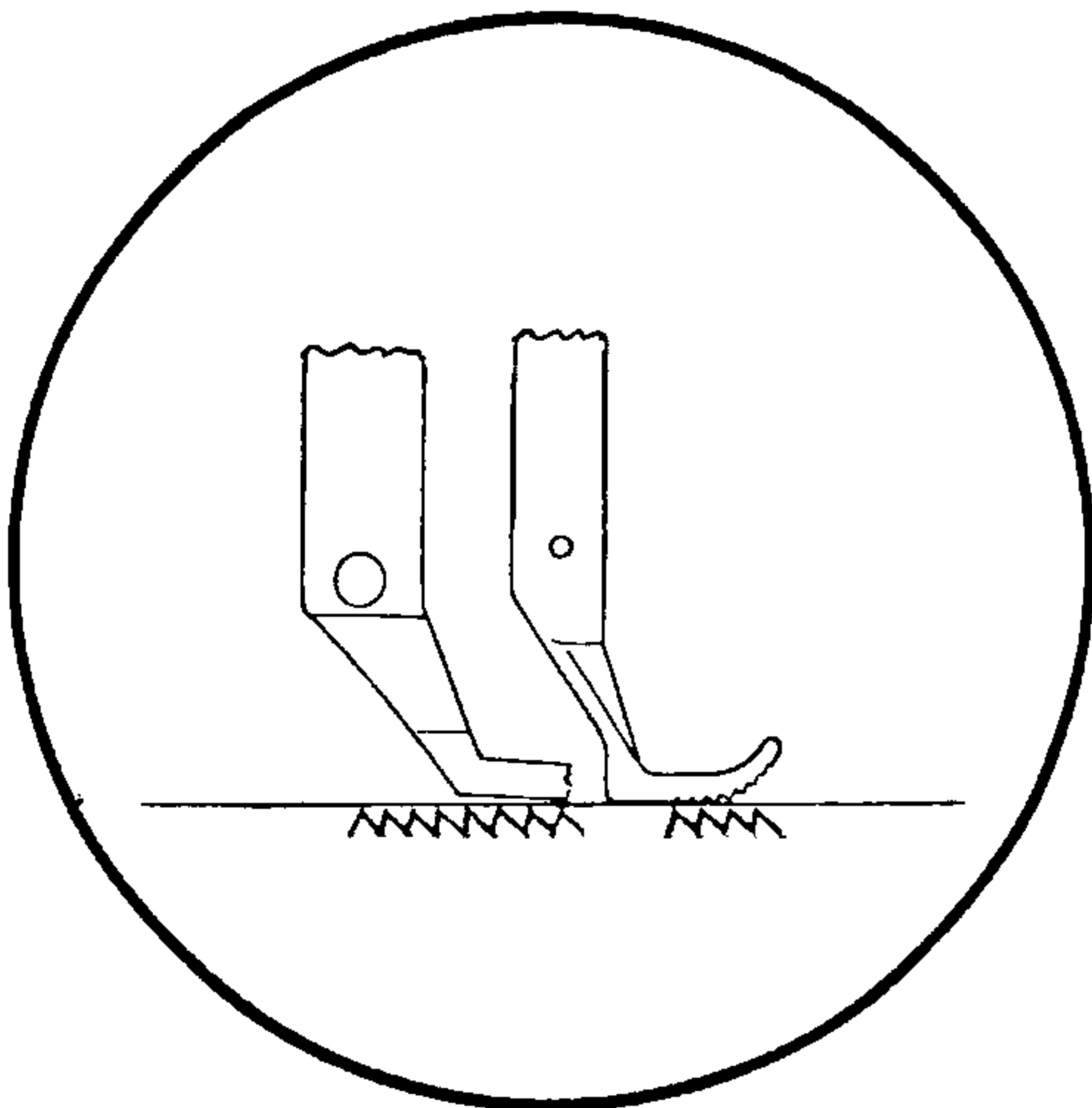
Carry out a check (see setting).

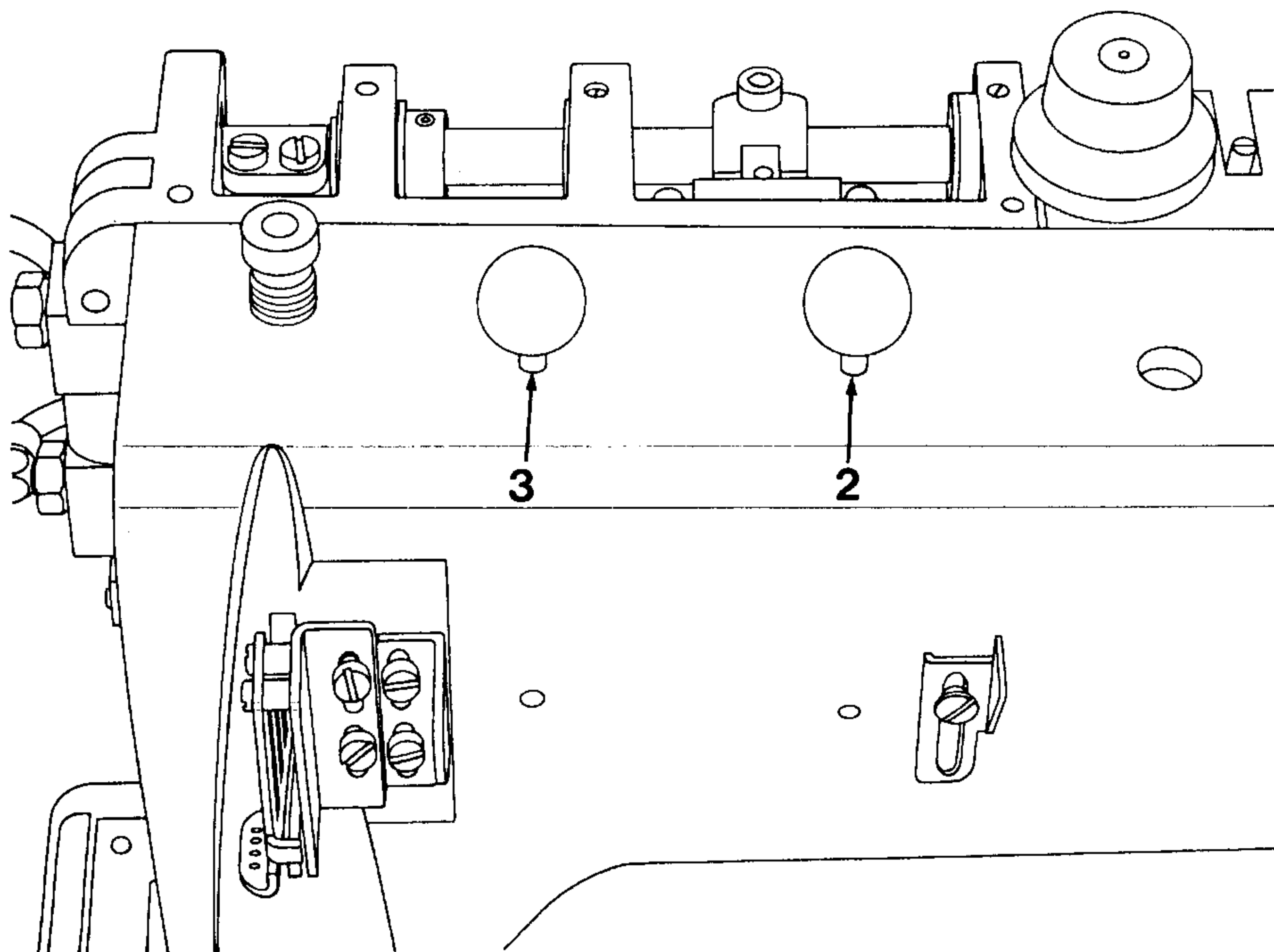
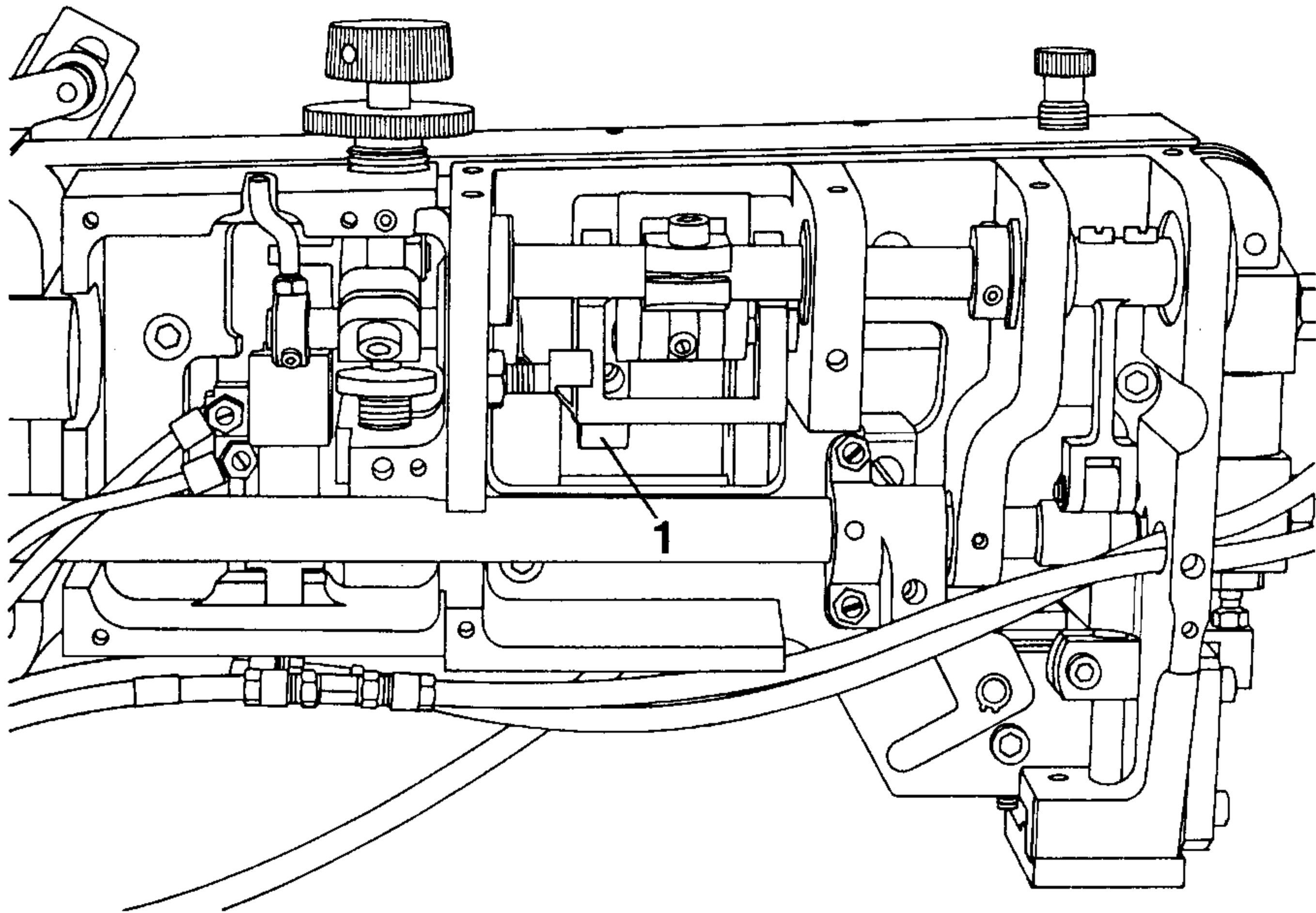


12 Top feed lifting stroke

Setting: When the presser foot is down on the needle plate, the bottom- and top feed dogs should reach the needle plate surface simultaneously when the balance wheel is turned.

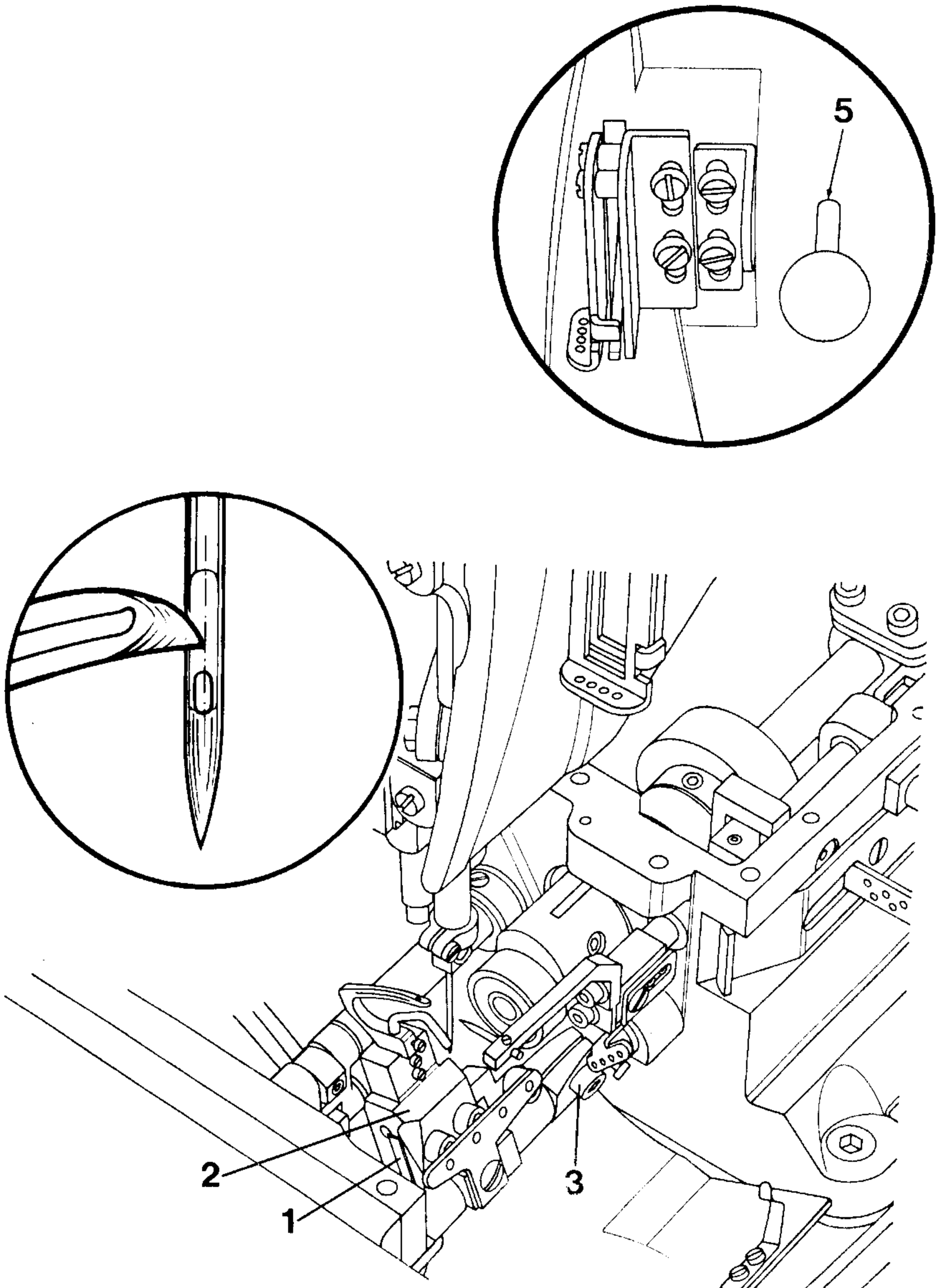
- 12.1 Lower the presser foot onto the needle plate.
- 12.2 Loosen the screws of lifting eccentric 1 and tighten them again so that the eccentric can just be turned on its shaft.
- 12.3 Insert an adjustment pin (5 mm) into hole 2.
- 12.4 Turn the balance wheel in sewing direction and insert the adjustment pin in the groove of lifting eccentric 1.
- 12.5 Turn the balance wheel to set the needle bar just before bottom dead centre (0.9 mm) and block the arm shaft at hole 4 by inserting the adjustment pin (5 mm) into the groove behind the arm shaft crank.
- 12.6 In this position, tighten the accessible screw of the feed lifting eccentric.
- 12.7 Pull the adjustment pins out of the holes 2 and 3.
- 12.8 Make the second screw of the feed lifting eccentric accessible and tighten it also.
- 12.9 Carry out a check (see setting).





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- 13 Looper-to-needle clearance
- 13.1 In feeding direction
- Setting:

In needle bar position <u>6.0 mm</u> past bottom dead centre, the looper point should be exactly at the needle centre.
--
- 13.1.1 Turn the balance wheel to set the needle bar top dead centre.
- 13.1.2 Remove cover plate with needle plate.
- 13.1.3 Push locking lever 1 to the left and swing out the looper
- 13.1.4 Remove bottom feed dog with feed bar.
- 13.1.5 Swing in the looper.
- 13.1.6 Making sure that the looper is pushed fully into the groove of looper carrier 2, tighten clamp screw 3.
- 13.1.7 Turn the balance wheel to set the needle bar at bottom dead centre.
- 13.1.8 Insert the adjustment pin(5 mm) through hole 5 into the groove behind the arm shaft crank and block the arm shaft.
- 13.1.9 Insert the 6 mm feeler gauge with its cutout close under the needle bar bearing.
- 13.1.10 Move the screw clamp up against the feeler gauge and tighten it.
- 13.1.11 Remove the adjustment pin from hole 5 and take out the feeler gauge.
- 13.1.12 Turn the balance wheel in sewing direction until the screw clamp is resting on the lower needle bar bearing.
- 13.1.13 Retaining this position, adjust looper carrier 2 so that the point of the looper is exactly centred with the needle.
- 13.1.14 In this position, tighten clamp screw 13.
- 13.1.15 Remove the screw clamp.
- 13.1.16 Carry out a check (see setting).

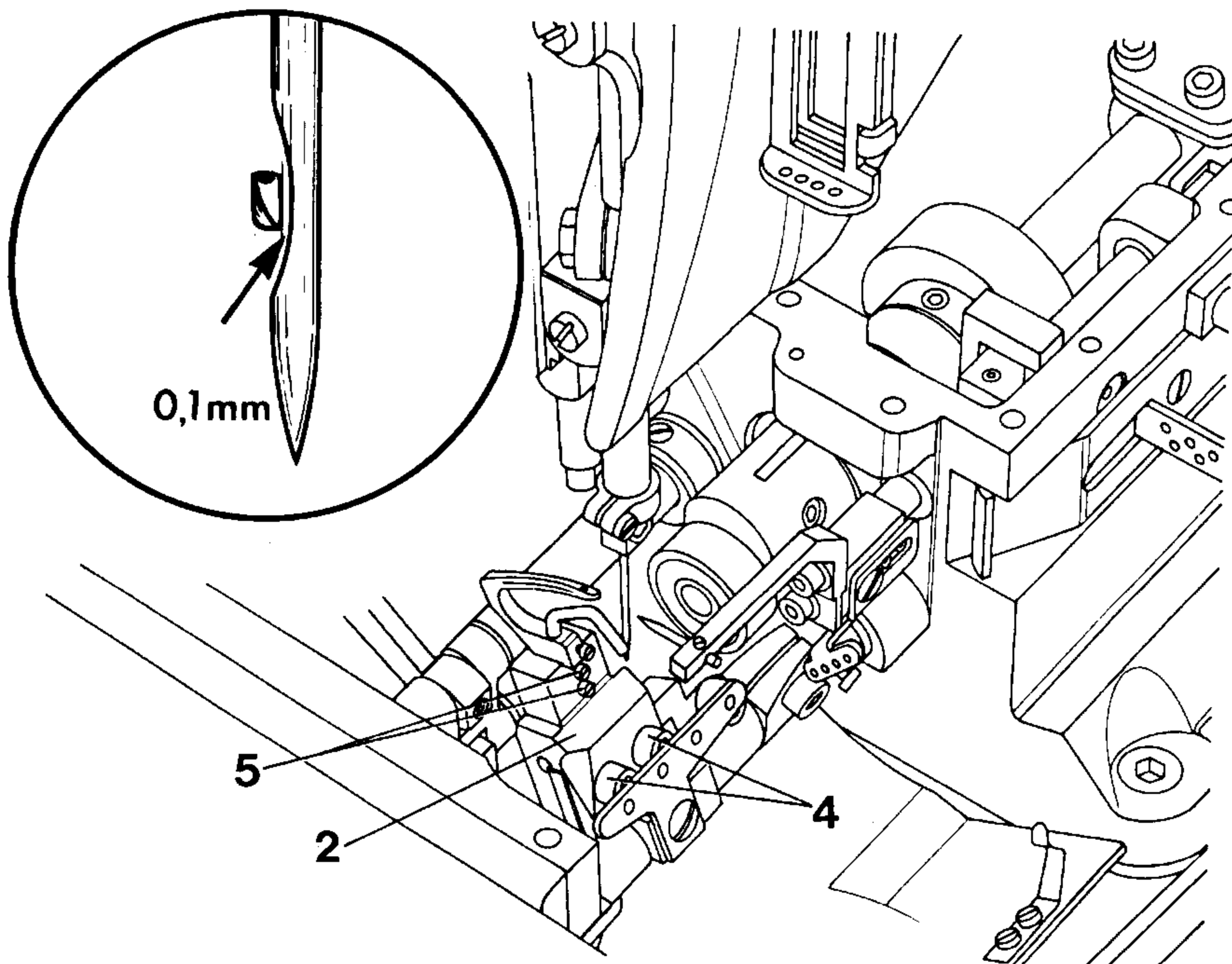


13.2 Crosswise to the feeding direction

Setting:

When the looper point stops exactly at the needle centre, a clearance of not more than 0,1 mm should exist between the looper point and the needle.

- 13.2.1 Making sure that looper point stops exactly at needle centre, loosen screw 4.
- 13.2.2 Position looper carrier 2 in such a way that looper point moves against needle.
- 13.2.3 Tighten screws 4 in this position.
- 13.2.4 Loosen screws 5 a little.
- 13.2.5 Align looper in such a way that its point is not more than 0.1 mm away from needle.
- 13.2.6 Tighten screws 5 in this position.
- 13.2.7 Carry out a check (see setting).

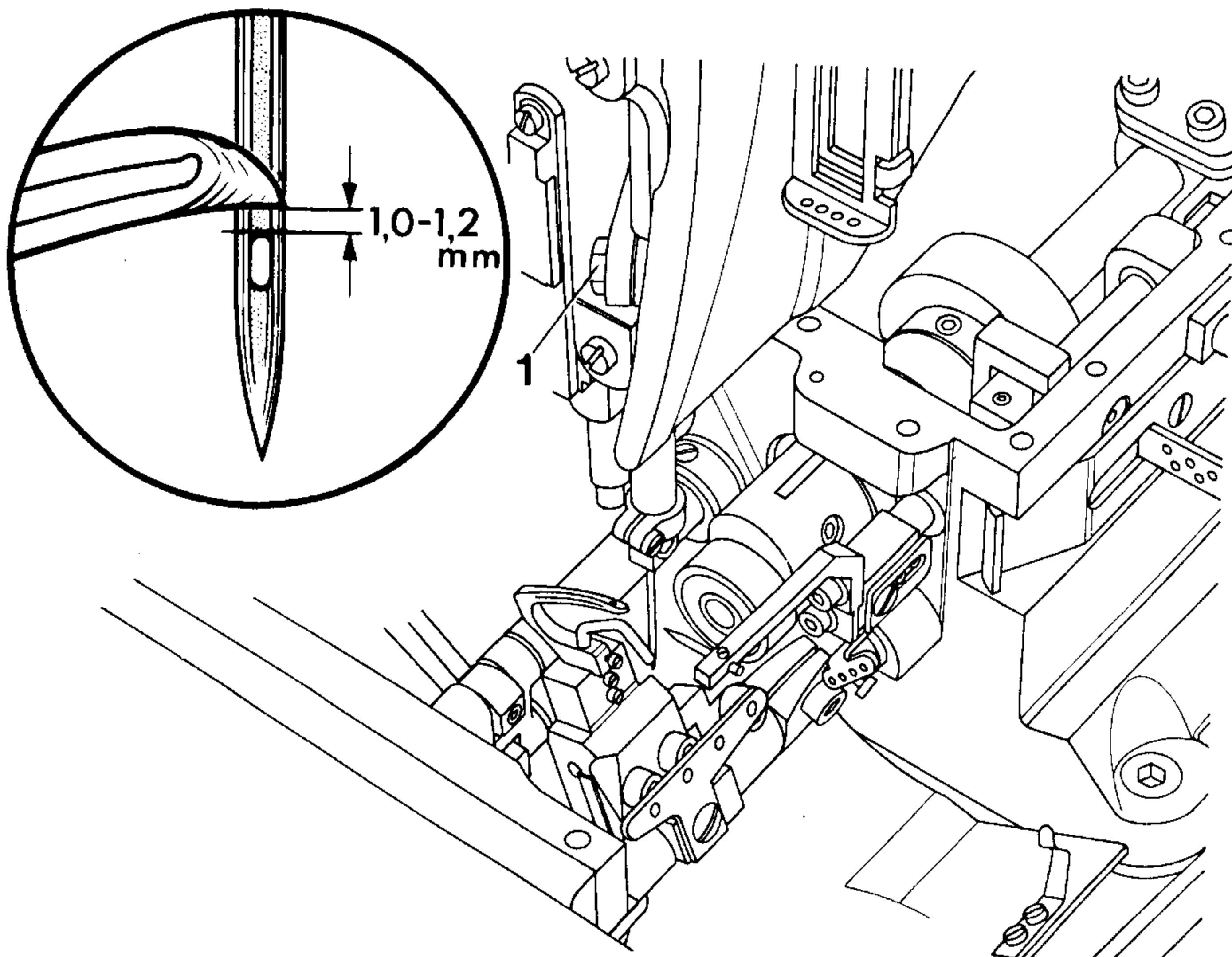


14 Needle height (final adjustment)

Setting:

When the point of the looper coming from behind aligns with the front side of the needle, there should be a clearance of 1,0 - 1.2 mm between lower edge of looper blade and upper edge of needle eye.

- 14.1 Turn balance wheel until point of looper coming from behind aligns with front side of needle.
- 14.2 Loosen clamp screw 1.
- 14.3 Set needle bar - without twisting it - in such a way vertically that a clearance of 1.0 - 1.2 mm results between lower-edge of looper blade and upper-edge of needle eye.
- 14.4 Tighten clamp screw 1 in this position.
- 14.5 Carry out a check (see setting) and check item 13.2.
- Note: If take-up lever touches cutout, re-adjust it in height accordingly.



15 Spreader position
15.1 In feeding direction

Setting: The spreader point should be inclined by 45° to the right and at a clearance of 13.5 mm from the spreader carrier. In addition, the distance between spreader point and needle centre should be 2 - 3 mm at the maximum stitch length setting and with the needle bar at bottom dead centre.

Note: Depending on the type of sewing threads used, it may be necessary to set the distance between spreader point and needle centre at 3 mm. At any rate, the looper thread must be held by spreader 2 until it enters the "thread-triangle".

15.1.1 Set maximum stitch-length.

15.1.2 Loosen screw 1.

15.1.3 Position the spreader 2 in such a way that a interval of 13.5 mm results between its point and the spreader-standard 3.

15.1.4 Turn the spreader 2 retaining this position in such a way that its/his point inclines 45° to the right.

15.1.5 In this position, tighten screw 1 and loosen screw 4.

15.1.6 Turn the balance wheel to set the needle bar at bottom dead centre.

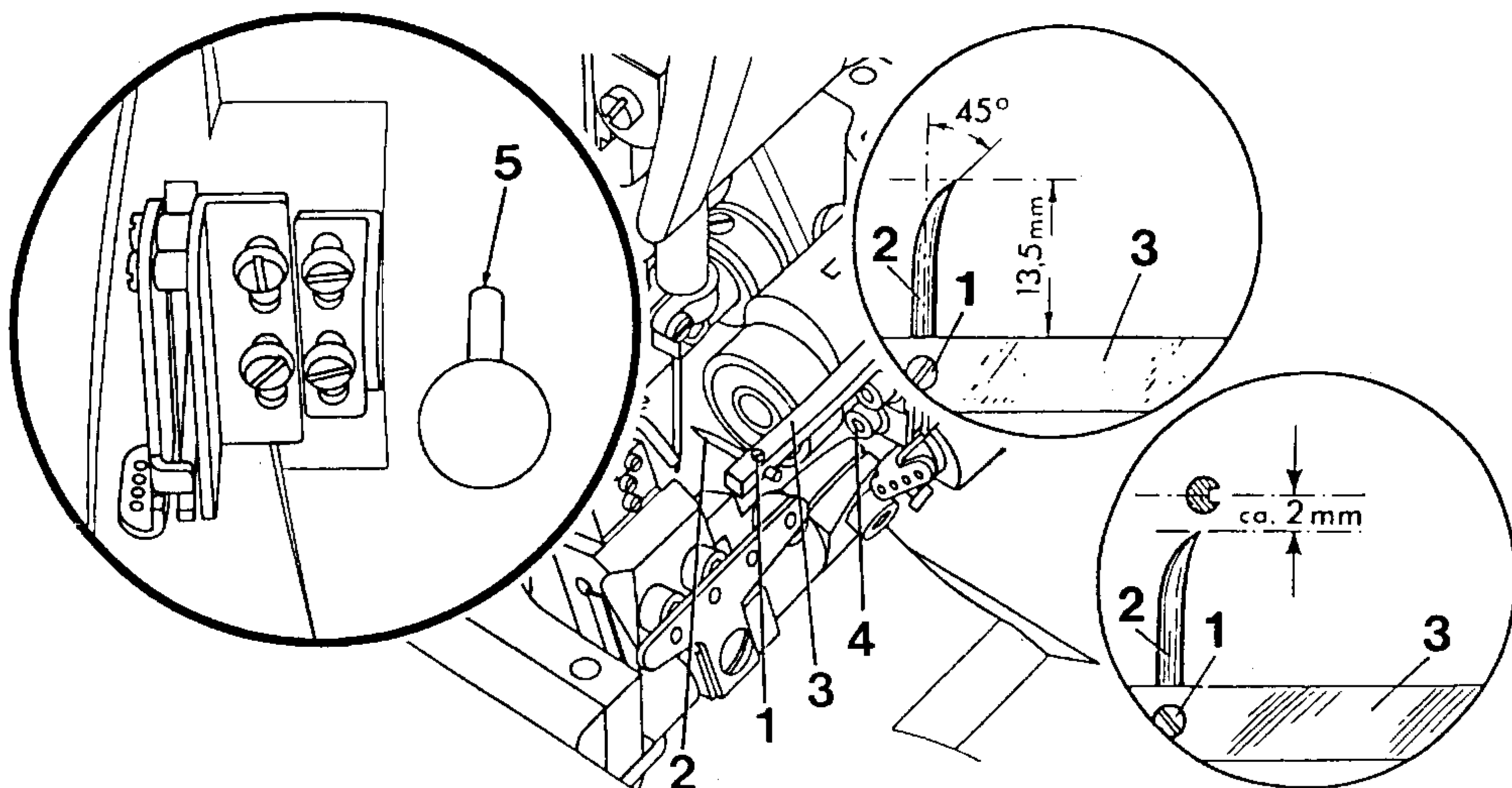
15.1.7 Insert the pin (5 mm) through hole 5 into the groove in the arm shaft crank to block the arm shaft.

15.1.8 Align the spreader carrier 3 in the elongated hole in such a way that a clearance of 2 mm results between spreader point and middle of needle.

15.1.9 Tighten screw 4 in this position.

15.1.10 Remove the pin from hole 5.

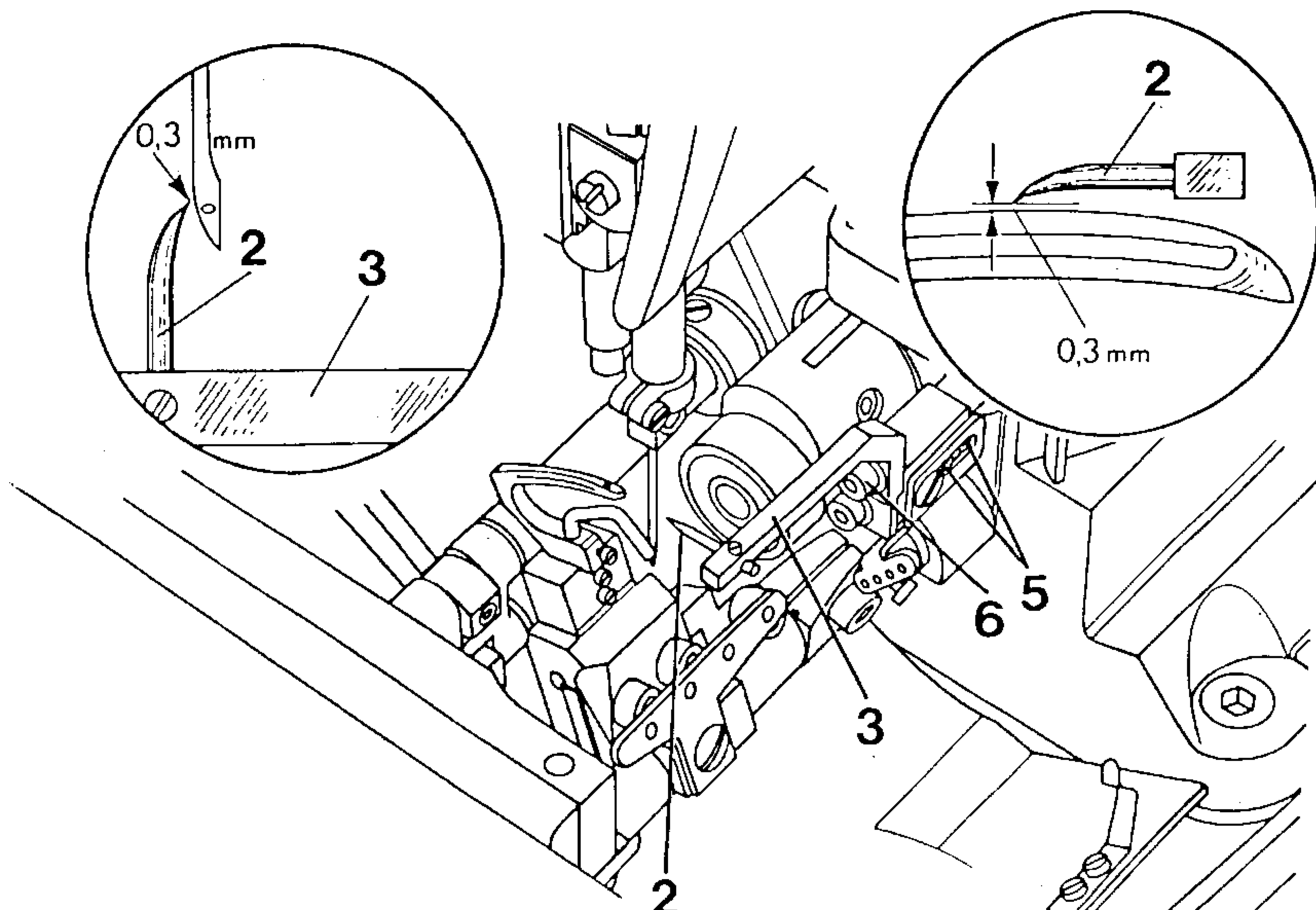
15.1.11 Carry out a check (see setting).



15.2 Crosswise to feeding direction

Setting: The spreader point must not touch the looper in any position.

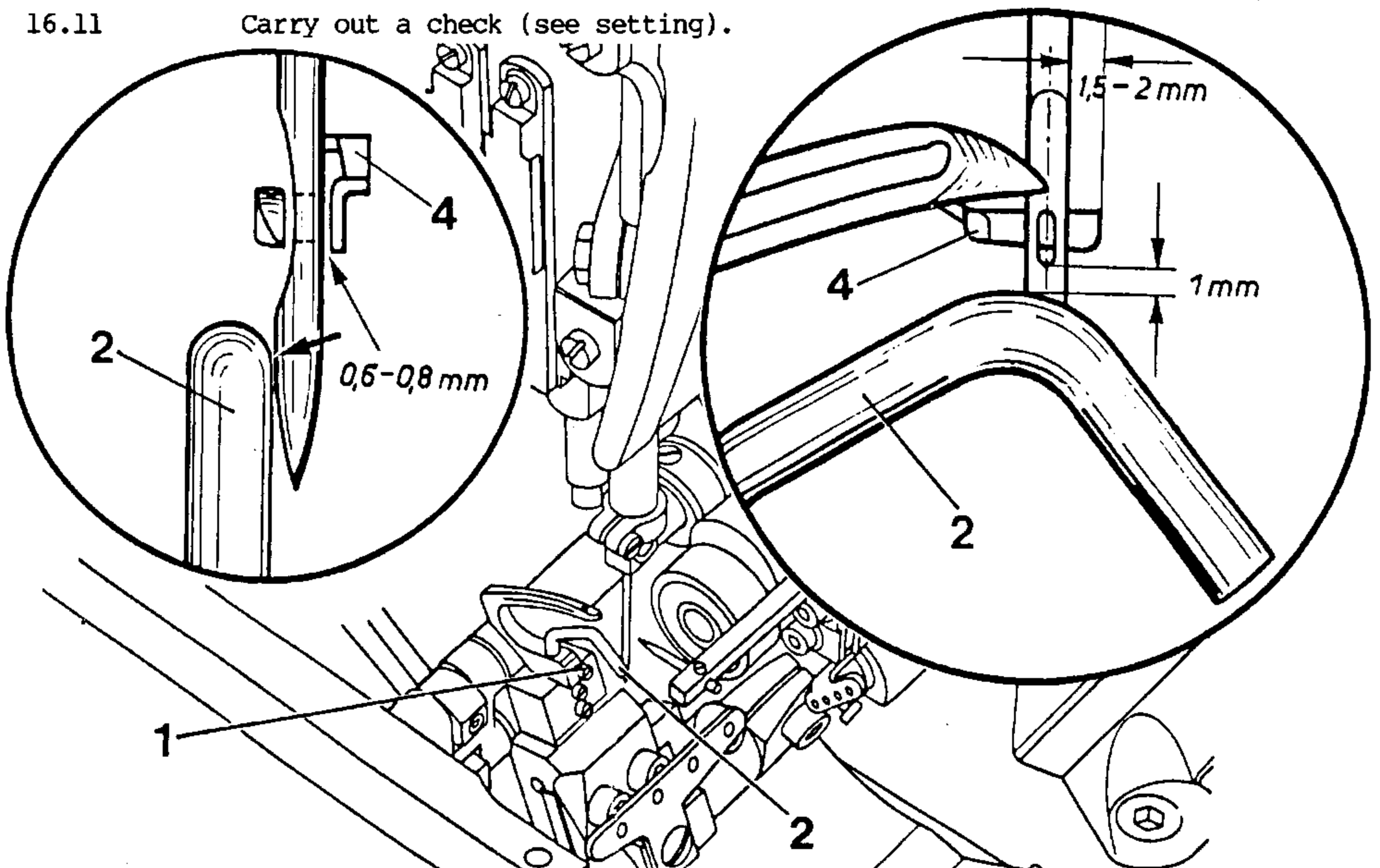
- 15.2.1 Loosen screws 5.
- 15.2.2 Move spreader carrier 3 first to its left reversal point by turning the balance wheel. Check that the spreader point does not collide with the looper.
- 15.2.3 Turn the balance wheel back and forth a little until the looper eye 2 is positioned next to the point of the spreader.
- 15.2.4 Position spreader-carrier 3 in such a way that, between the point of the spreader 2, a clearance of 0.3 mm results to 2 and the looper.
- 15.2.5 Tighten screws 5 in this position.
- 15.2.6 Loosen screw 6.
- 15.2.7 Turn the balance wheel and set spreader 2 above the back of looper.
- 15.2.8 Set spreader carrier 3 vertically in such a way that the spreader point is approx. 0.3 mm above back of looper.
- 15.2.9 Tighten screw 6 in this position.
- 15.2.10 Carry out a check (see setting).



Setting:

When the looper stops with its point at the needle centre, coming from behind, there should be a clearance of 1 mm between the top edge of needle guard 2 and the bottom of the needle eye, and the needle guard should rest lightly against the needle. Also, loop support 4 should be 1.5 to 2 mm in front of the needle and there should be a clearance of 0.6 to 0.8 mm between needle and support.

- 16.1 Loosen screw 1.
- 16.2 Turn the balance wheel until the looper, coming from behind, has reached the needle centre with its point.
- 16.3 Align needle guard 2 in such a way that there is a clearance of 1 mm between top edge of needle guard and bottom of needle eye and the guard rests lightly against the needle without deflecting it.
- 16.4 Tighten screw 1 in this position.
- 16.5 Turn the balance wheel to set the needle bar at bottom dead centre, push locking lever 3 to the left and swing out the looper.
- 16.6 Re-fit the bottom feed dog with feed bar and swing in the looper.
- 16.7 Turn the balance wheel to set the looper at the needle centre coming from behind.
- 16.8 Loosen the screws of loop support 4.
- 16.9 Adjust loop support 4 so that it is 1.5 to 2 mm from the front of the needle and has a clearance of 0.6 to 0.8 mm to the side.
- 16.10 In this position, tighten the two screws of loop support 4.
- 16.11 Carry out a check (see setting).



17 Needle-thread regulation

Setting: Thread guides 2 and 4 should be fastened in the middle of their elongated holes. When thread puller 6 is at the top of its stroke, there must be a clearance of 1 mm between its top edge and bushes 8.

Note: Depending on thread type and stitch length, deviation from this basic setting may be necessary.

17.1 Loosen screws 1.

17.2 Set thread guide 2 in the middle of its elongated hole and fasten it with screws 1.

17.3 Loosen screws 3.

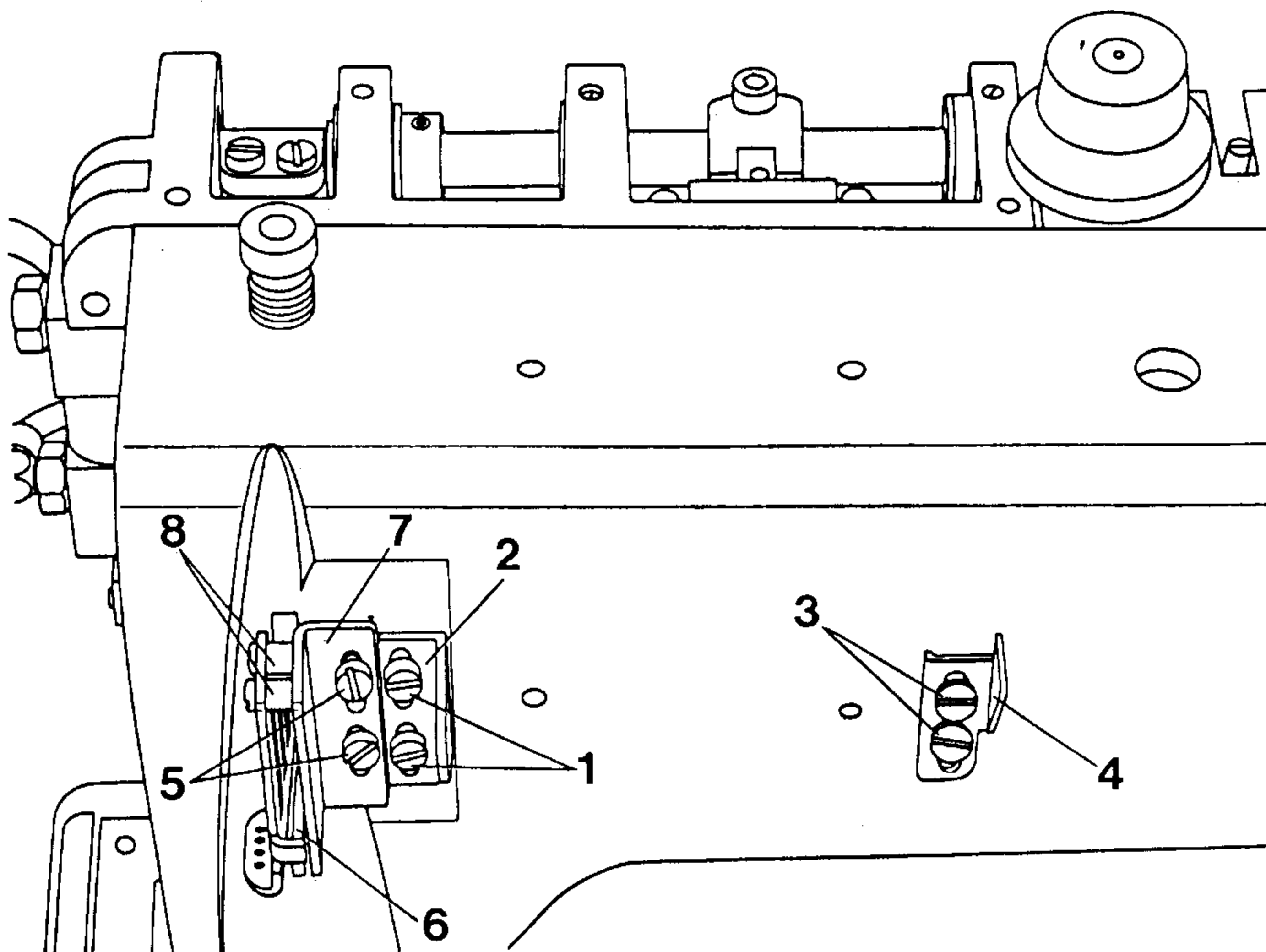
17.4 Set thread guide 4 in the middle of its elongated hole and fasten it with screws 3.

17.5 Loosen screws 5.

17.6 Turn the balance wheel to set thread puller 6 in its top position.

17.7 Retain this position and adjust the height of thread puller guard 7 so that there is a clearance of 1 mm between its top edge and bushes 8.

17.8 In this position, make sure that thread puller 6 is in the middle of thread puller guard 7 laterally, and tighten screws 5.

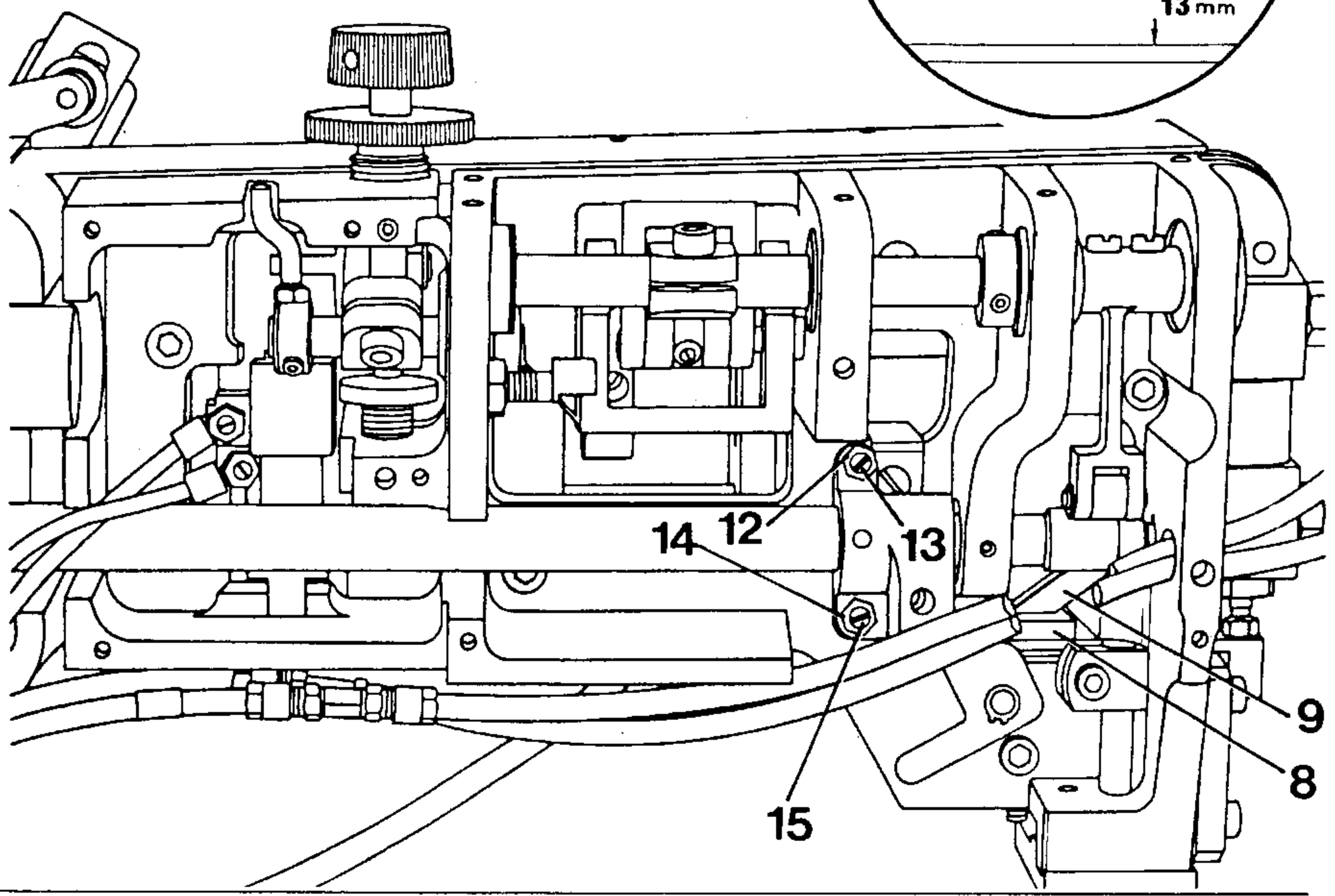
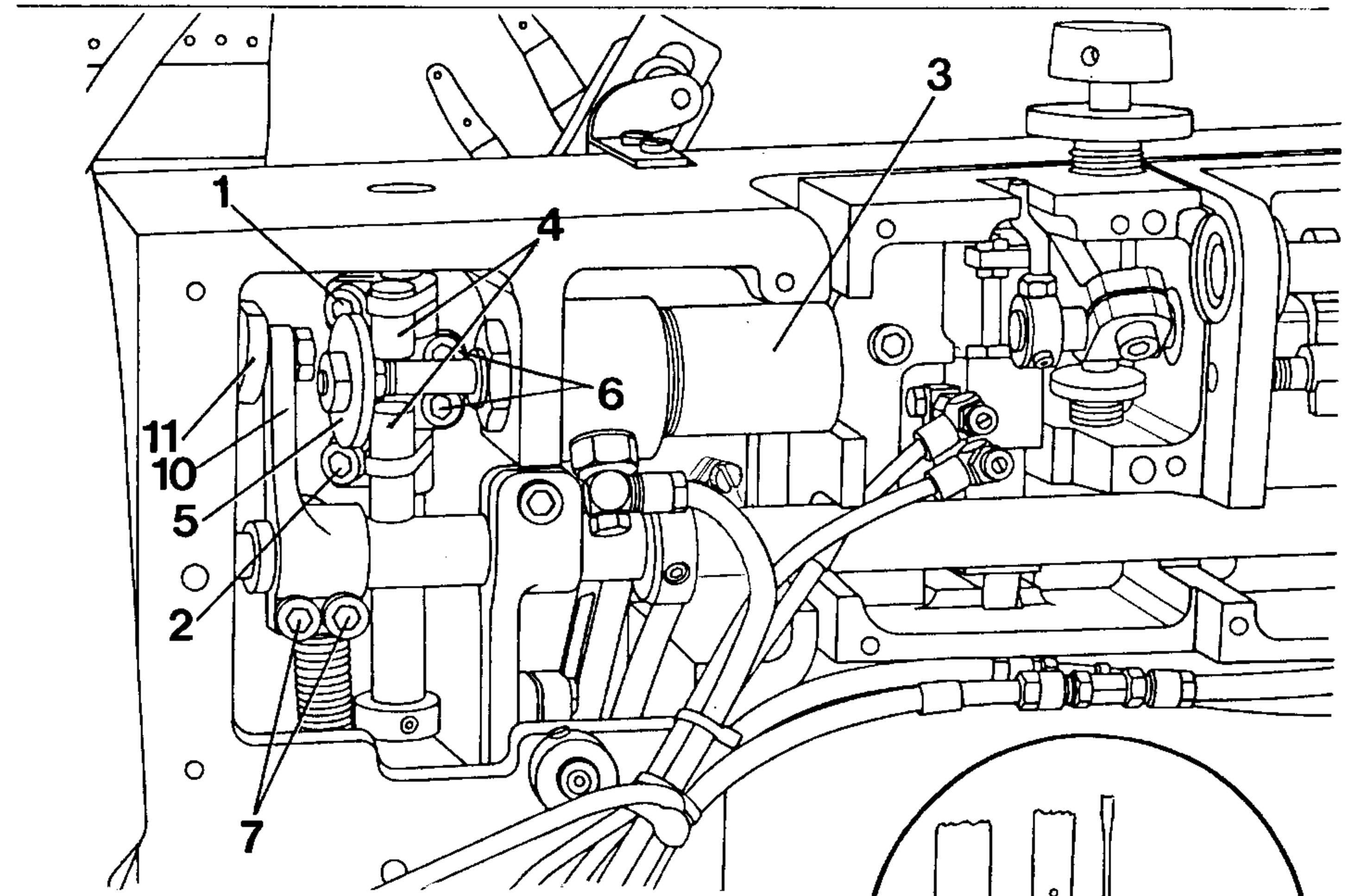


18 Fabric clearance
on machines with automatic presser foot lift -910/04

Setting:

With the compressed air turned on (cylinder <u>3</u> fully retracted), there should be a clearance of approx. <u>13 mm</u> between the lifting presser and the needle plate.
--

- 18.1.1 Remove cover plate with needle plate.
- 18.1.2 Screw on top feed dog and presser foot.
- 18.1.3 Turn on compressed air.
- 18.1.4 Loosen screws 1 and 2.
- 18.1.5 Raise the lifting presser and place the 13 mm thick adjustment gauge under the shoe.
- 18.1.6 Fully retract the plunger of cylinder 3.
- 18.1.7 Retain this position and move the two pins 4 against actuating disk 5, then tighten screws 1 and 2.
- 18.1.8 Loosen the two screws 6 and 7 in each case.
- 18.1.9 Making sure that the plunger of cylinder 3 is fully retracted, set lifting lever 8 down on lever 9.
- 18.1.10 Retaining this position, set crank 10 vertically (making sure that ball-joint linkage 11 does not strike the casting) and tighten the applicable screws 6 and 7.
- 18.1.11 Remove the 13 mm thick feeler gauge from under the presser foot.
- 18.1.12 Making sure that the presser foot is resting on the needle plate, loosen nut 12, turn adjusting screw 13 a half turn outwards (set play) and tighten nut 12.
- 18.1.13 Loosen nut 14.
- 18.1.14 Making sure that the plunger of cylinder 3 is fully retracted, turn screw 15 out until it stands back from the casting.
- 18.1.15 In this position, tighten nut 14.
- 18.1.16 Carry out a check (see setting).



18.2 On machines with knee-lever

Setting: When the knee lever is fully pressed, there should be a clearance of 13 mm between the presser foot and the needle plate.

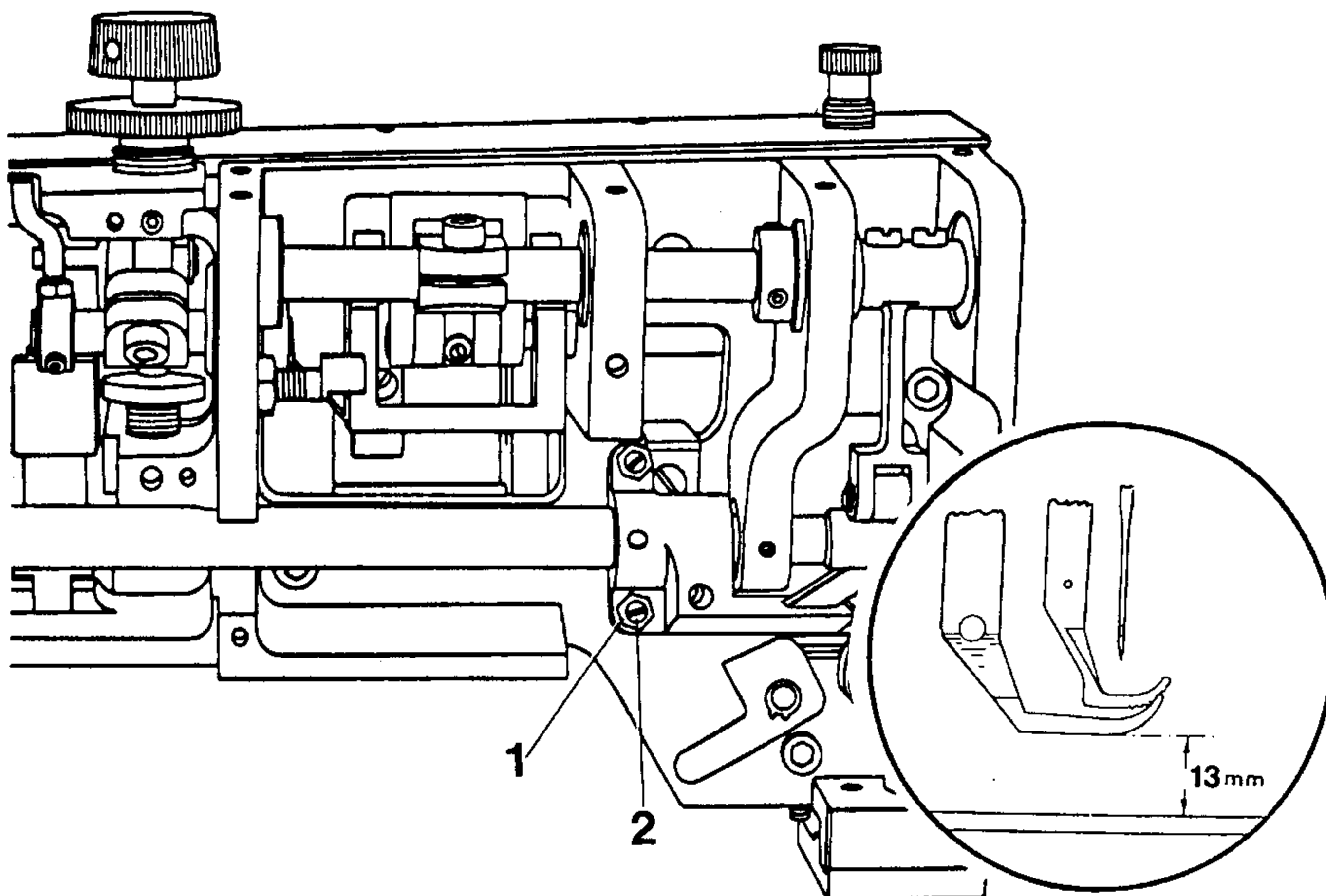
18.2.1 Loosen nut 1.

18.2.2 Fully press the knee lever.

18.2.3 Retain this position and turn adjusting screw 2 to so that there is a clearance of about 13 mm between the presser foot and the needle plate.

18.2.4 In this position lock adjusting screw 2 with locknut 1.

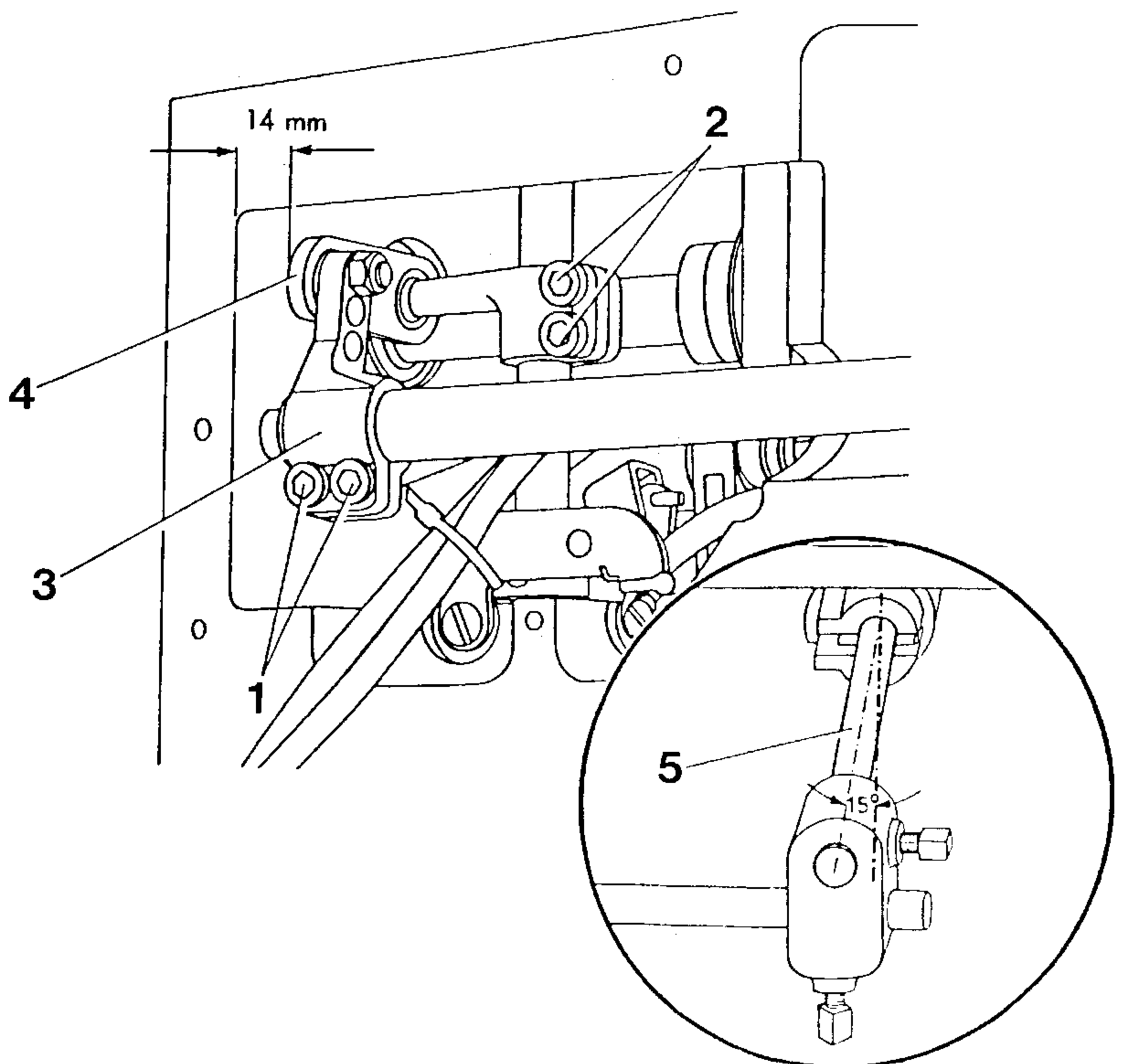
18.2.5 Carry out a check (see setting).



19 Most convenient knee-lever neutral position
(not applicable to machines with automatic presser foot lift -910/04)

Setting: Knee-lever connecting rod 5 should be roughly 15° left of the perpendicular to the bed plate.

- 19.1 Loosen screws 1 and 2.
- 19.2 Turn crank 3 so that the front edge of ball-joint rod 4 is roughly 14 mm from the outer edge of the housing.
- 19.3 Retain this position and tighten screws 1.
- 19.4 Making sure that ball-joint rod 4 is horizontal, position the knee lever so that connecting rod 5 is roughly 15° left of a perpendicular to the bedplate.
- 19.5 In this position, fully tighten screws 2.



20

Looper thread regulation

Setting:

With the needle bar at t.d.c. the holes of thread guide 2 must be aligned with the holes of thread guides 3 and 4.

Note:

Depending on the type of thread used, a deviation from this basic setting may be required. Move bracket 6 to the right for more thread and to the left for less thread.

20.1 Loosen the two screws 1.

20.2 Turn the balance wheel to set the needle bar at top dead centre.

20.3 Retain this position and adjust thread guide 2 in height so that its holes are aligned with the holes of thread guides 3 and 4.

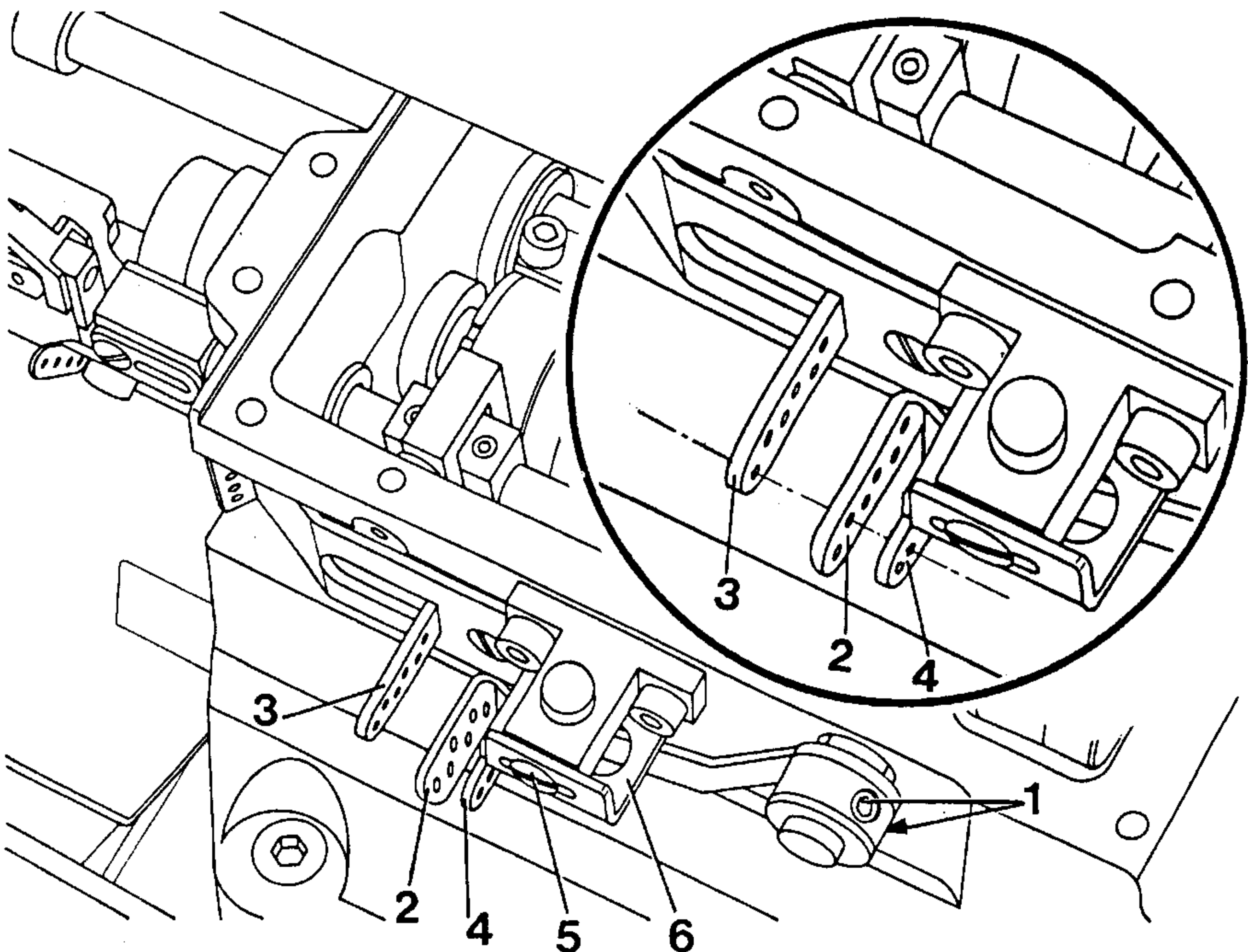
20.4 In this position tighten the two screws 1.

20.5 Loosen screws 5.

20.6 Position bracket 6 of thread guide 4 laterally so that it is in the middle of its elongated hole.

20.7 In this position tighten screw 5.

20.8 Carry out a check (see setting).

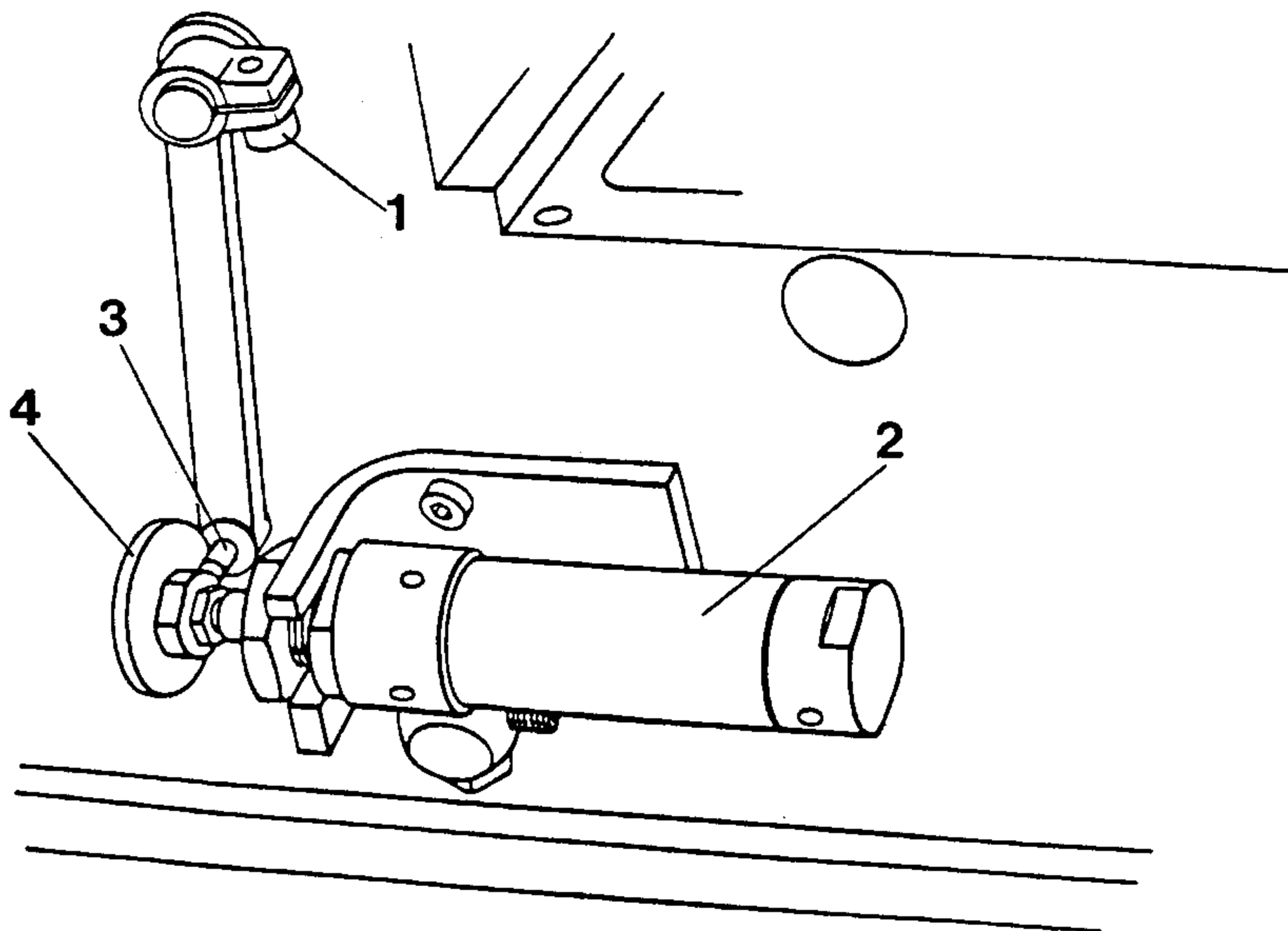


21 Crank of stitch condensation mechanism

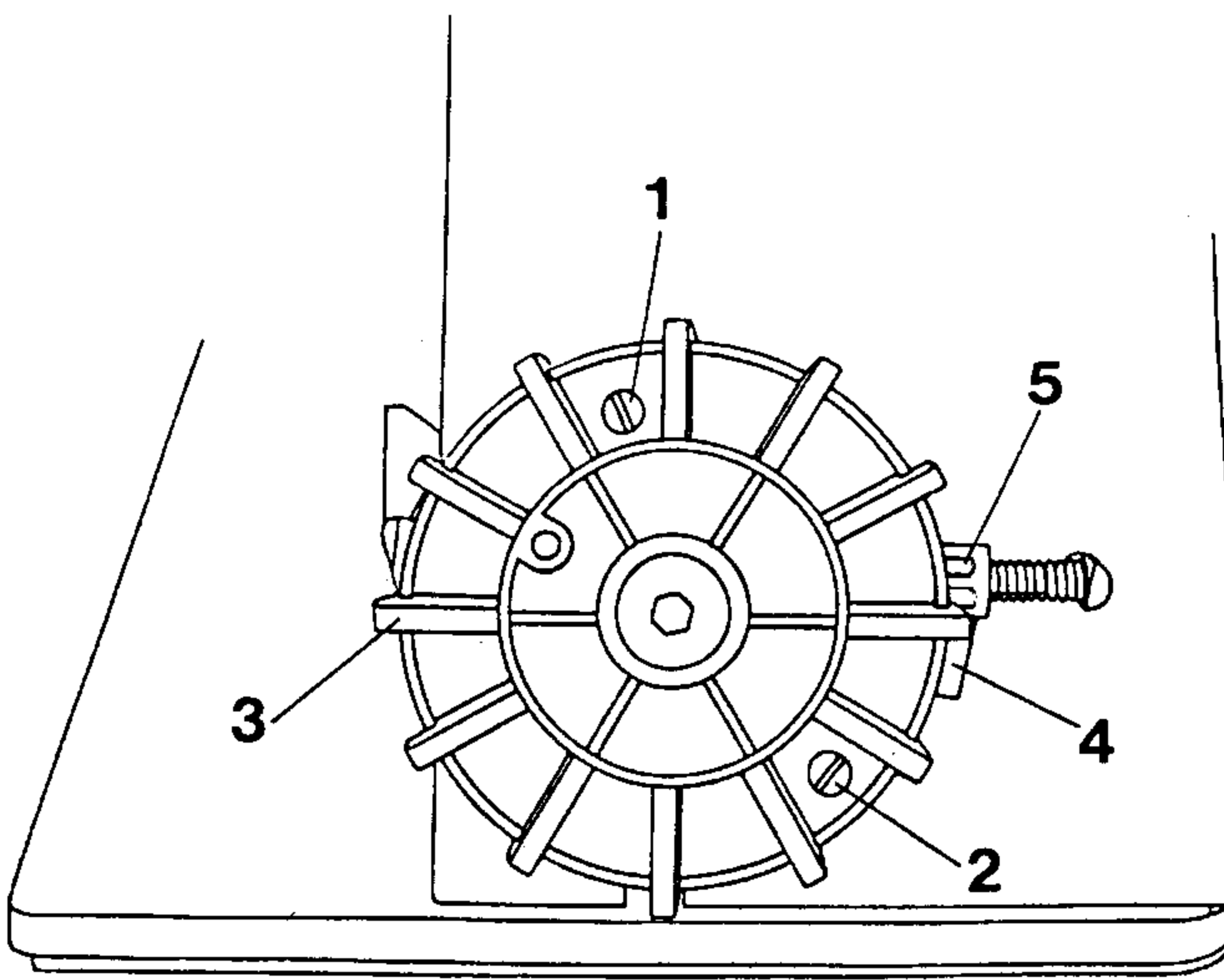
Setting:

When the required condensed stitch length is set on the feed regulator and the plunger of cylinder 2 is fully retracted, pin 3 must rest on actuating cam 4.

- 21.1 Set the required condensed stitch length on the feed regulator (not more than 2.5 mm).
- 21.2 Loosen clamp screw 1.
- 21.3 Fully retract the plunger of cylinder 2.
- 21.4 Retain this position and place pin 3 against actuating cam 4.
- 21.5 In this position tighten clamp screw 1.
- 21.6 Finally set the required stitch length on the feed regulator.



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- 22 Stitch length limitation
- 22.1 Loosen screws 1 and 2.
- 22.2 Set the required maximum value on the feed regulator.
- 22.3 Turn the limitation ring so that its nose 4 moves up against stop 5
coming from below.
- 22.4 In this position tighten screws 1 and 2.



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