

Operating-Instructions
Spare parts list

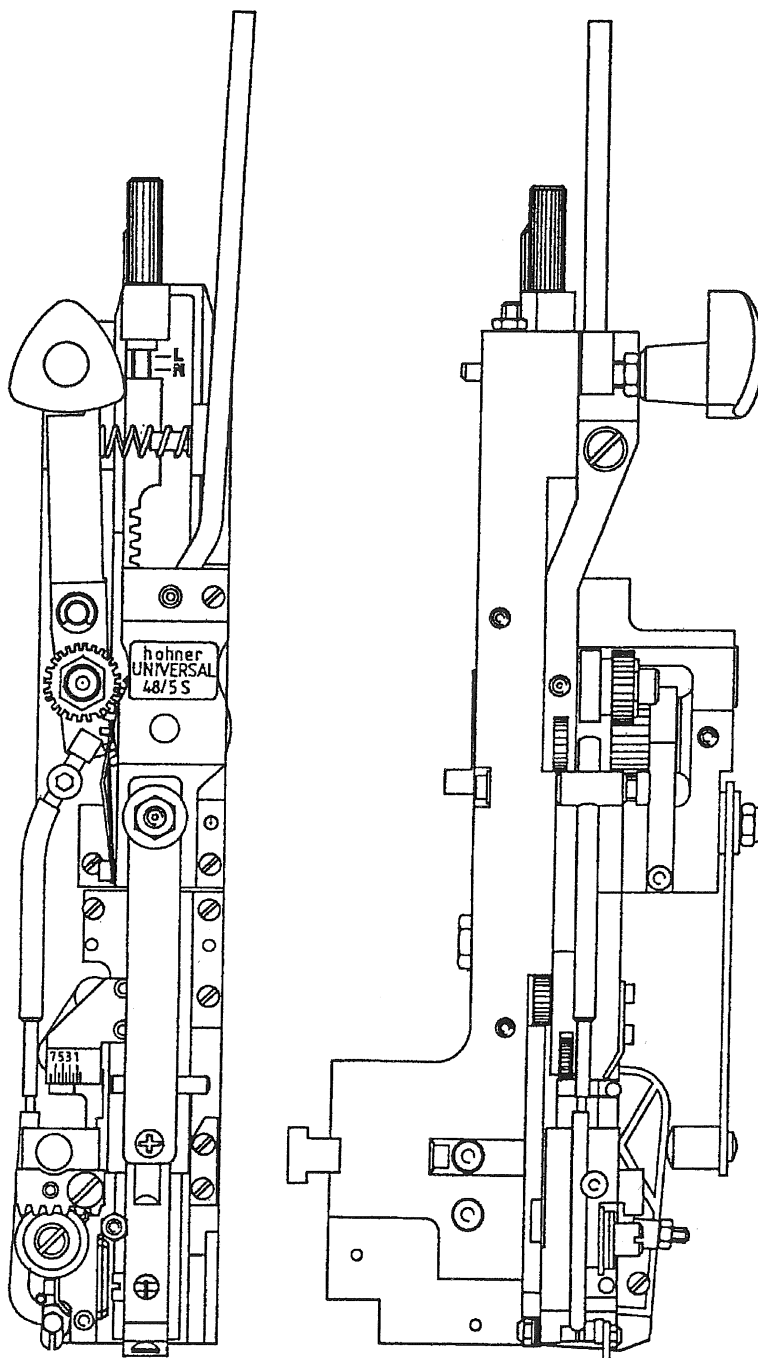
hohner

UNIVERSAL

48/5 S

04/2005

Narrow Stitching Head



hohner Maschinenbau GmbH
Gänsäcker 19, 78532 Tuttlingen, Telephone 07462 / 9468-0, Fax 07462 / 9468-20

hohner Maschinenbau GmbH - 48/5 S

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I. General and Services

1. Safety notices

ATTENTION

1. Before the operation of the stitching head or before working with the machine, do not forget to read carefully the **hohner**-instructions for use and observe all warning on the machine. The non-observance of this prescription may lead to severe injuries.
2. Do not operate the machine before all safety devices, lock and other security fixtures function or are set up.
3. Before working, cut off the current supply and set safety switch (main switch) to 0.
4. Your right to claim under guarantee can only be followed if the label with the serial number is stuck on the body of the head.

The user is responsible for the safe function of the machine at any time as well as for the observance of all prescriptions of these instructions for use by the operating person. For all questions regarding the safe operation of this machine, please, contact your senior officer or **hohner** sales representative or directly to:

hohner Maschinenbau GmbH

Street: Gänsäcker 19
Town: D-78532 Tuttlingen
Telephone: 07462 / 94 68 - 0
Fax: 07462 / 94 68 - 20
Email: info@hohner-gmbh.de
Internet: www.hohnerstiching.com

Spare Parts / Customer Service

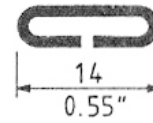
Fax: 07462 / 9468-20

- modifications reserved -

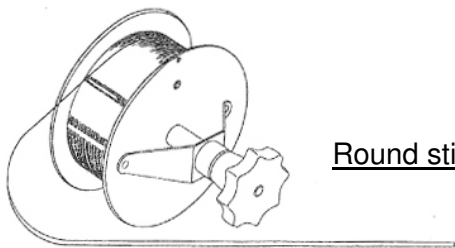
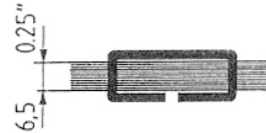
I. General and Services

2. Technical data

Crown width:



Max. stitching thickness clenched:



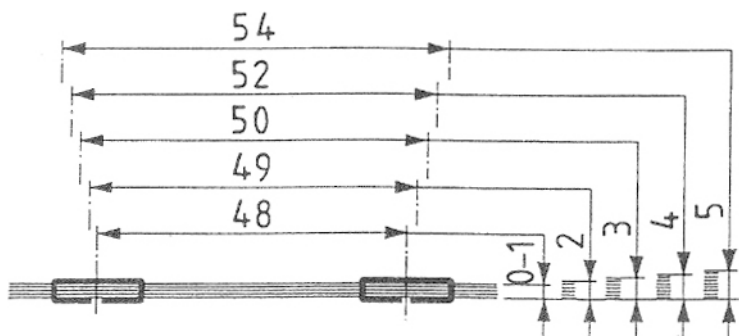
Round stitching wire:

No. 24 - 28
0,60 - 0,40 mm Ø
0.024 - 0.016 in. Ø

or alternatively:

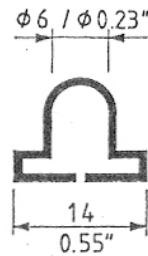
No. 26 - 30
0,50 - 0,35 mm Ø
0.020 - 0.014 in. Ø

Distance index for standard stitching (in mm):

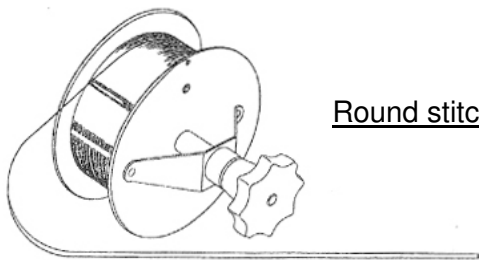
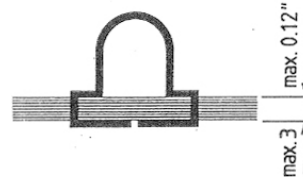


Standard loop stitching

Sizes of the staple



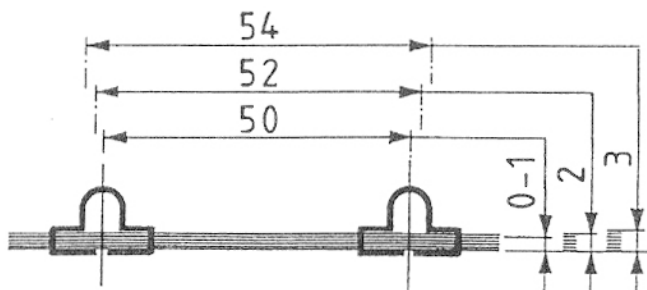
Max. stitching thickness:



Round stitching wire:

No.. 24 - 26
0,60 - 0,50 mm ϕ
0.024 - 0.020 in. ϕ

Distance index for loop stitching (in mm):



net weight:

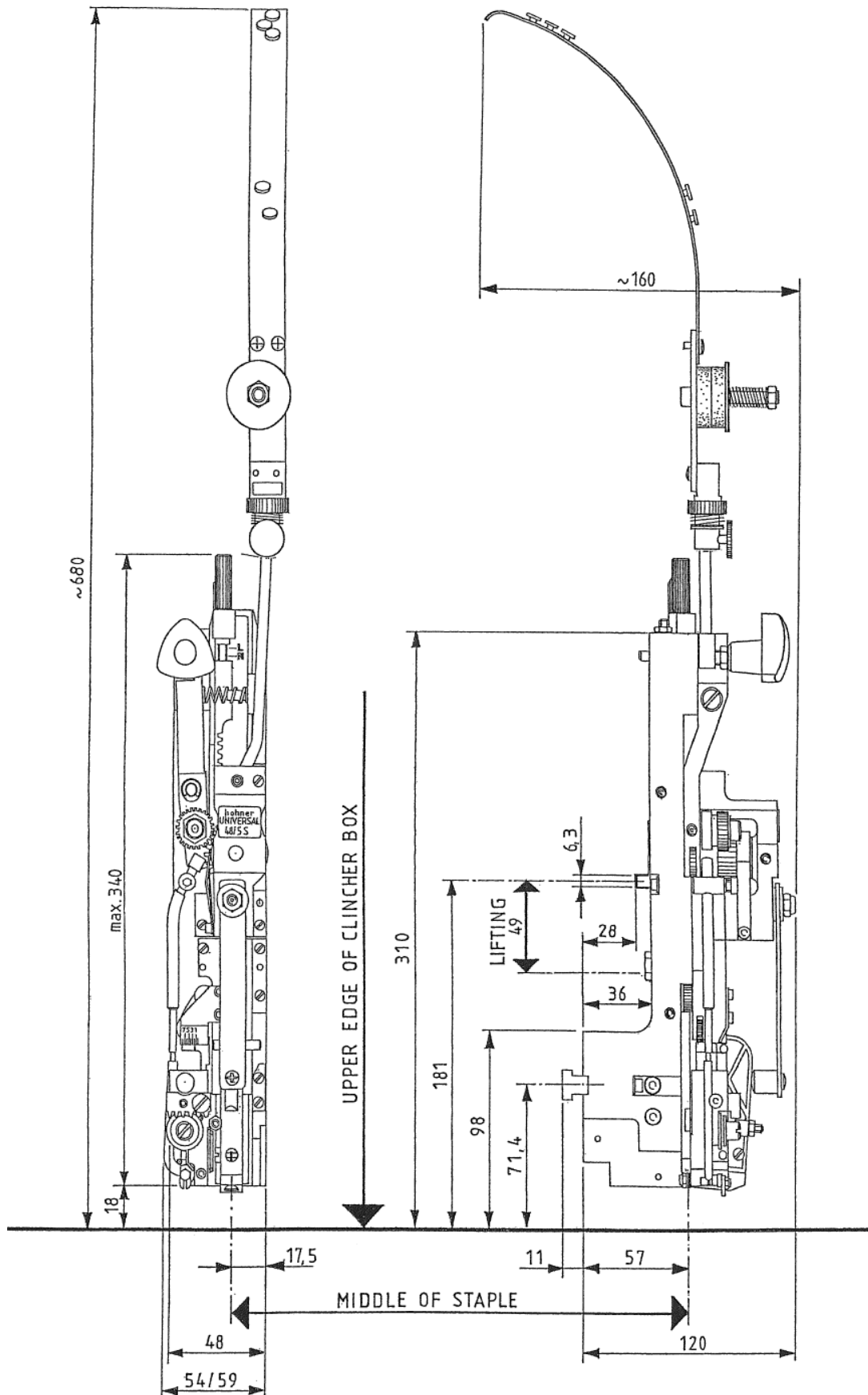
approx. 2,7 kg / 5.9 lbs

IMPORTANT

Please only use name brand steel, in normal or extra high tension steel versions, depending on usage. By heavy scuffing of wire, scuff resistibility causes wire guides to clog.

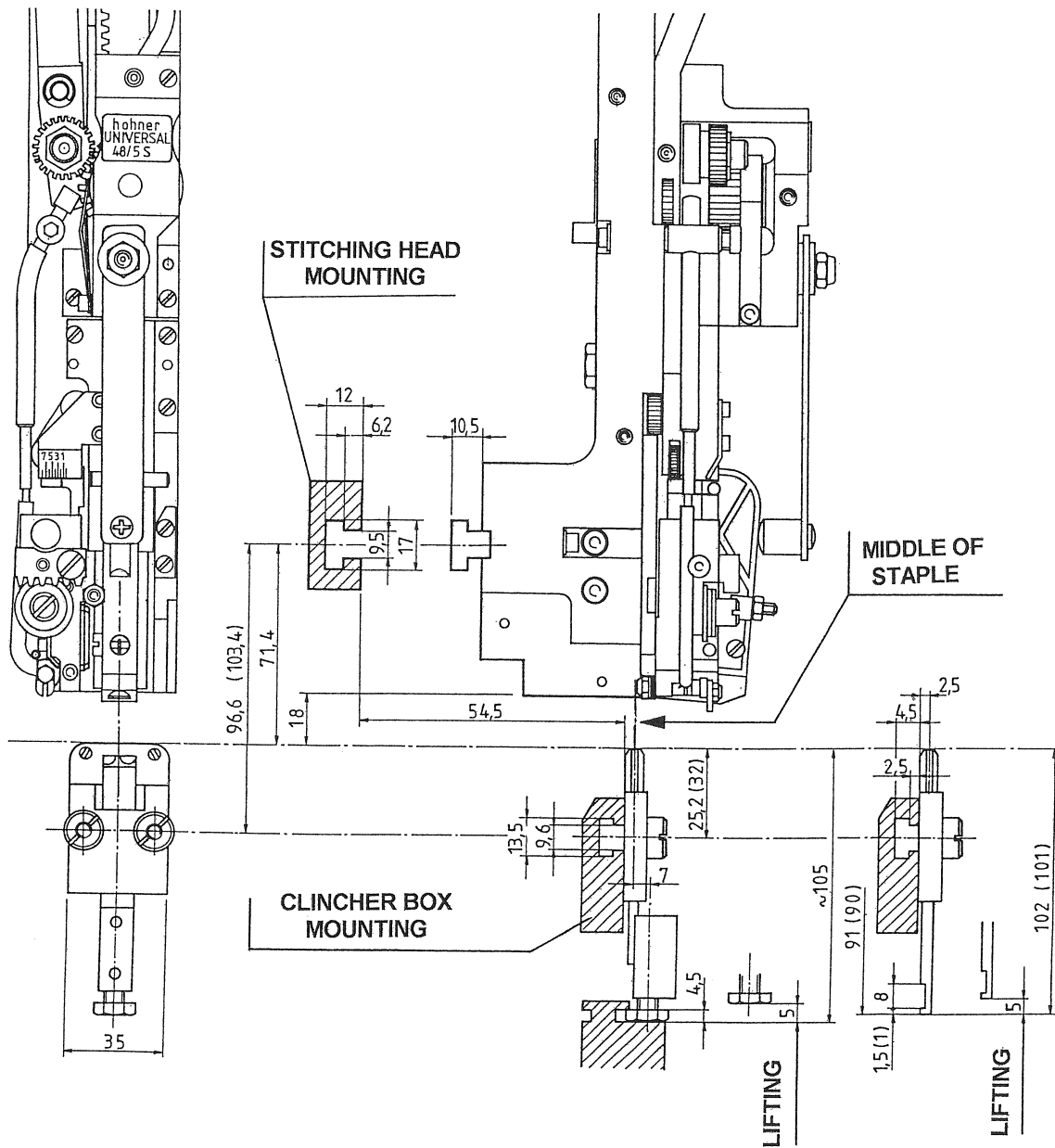
I. General and Services

3a Foundation plan of the stitching head UNIVERSAL 48/5 s



I. General and Services

3b Foundation plan of the stitching head and clincher box mounting



I. General and Services

4. Accessories

Every new **UNIVERSAL 48/5 S** is supplied with:

4.1 Equipment:

Art.-No.	1 wire bow cpl.
Art.-No.	1 clincher box cpl. (with clincher and clincher pusher)

4.2 Tools:

Art.-No. 46 00 006	1 hexagon socket screw key no. 2
Art.-No. 46 00 007	1 hexagon socket screw key no. 2,5
Art.-No. 46 00 033	1 hexagon key with T-handle no. 4 x 150
Art.-No. 94 61 230	1 adjusting handle

I. General and Services

5. Lube specification

Apply a first-rate oil only, never a viscous mineral oil, spray lubricants.

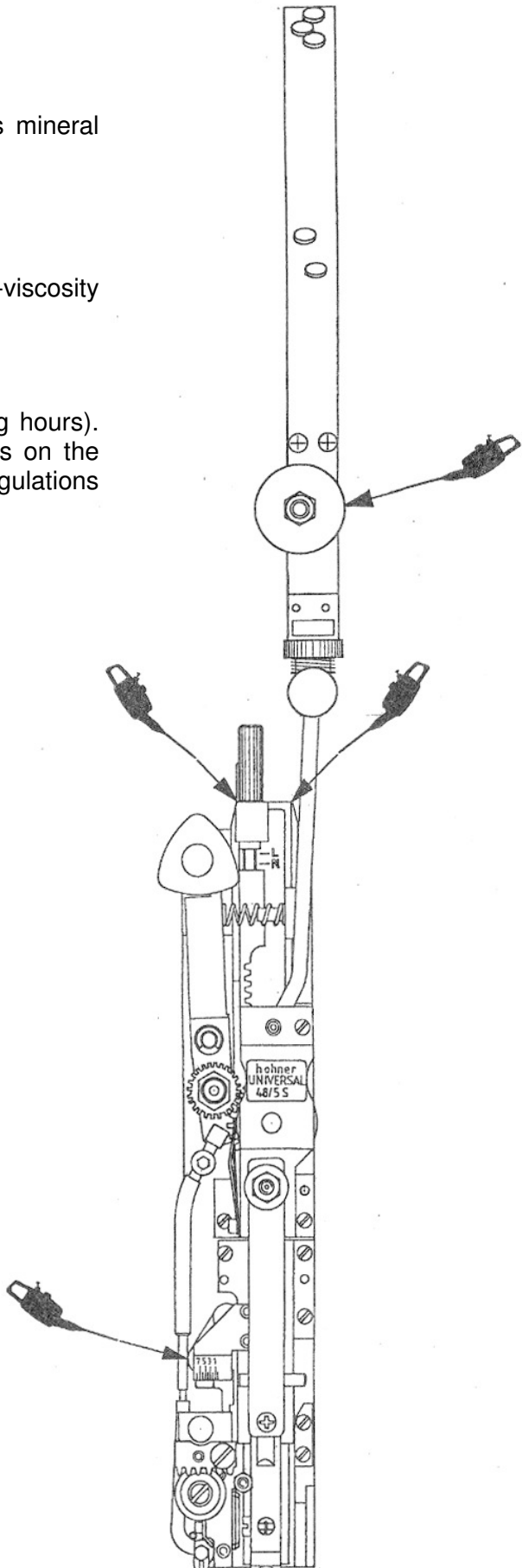
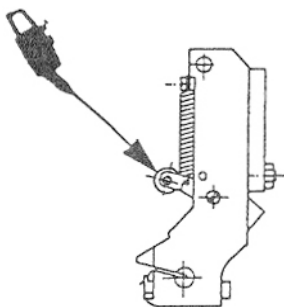
We recommend

Sliding oil with viscosity grade 65-70 (ISO-viscosity grade according to DIN 51 519).

Oiling: how often?

In case of need (approx. every 16 working hours). From time to time slightly oil the felt discs on the wire bow. Please observe all these regulations carefully to guarantee a faultless operation.

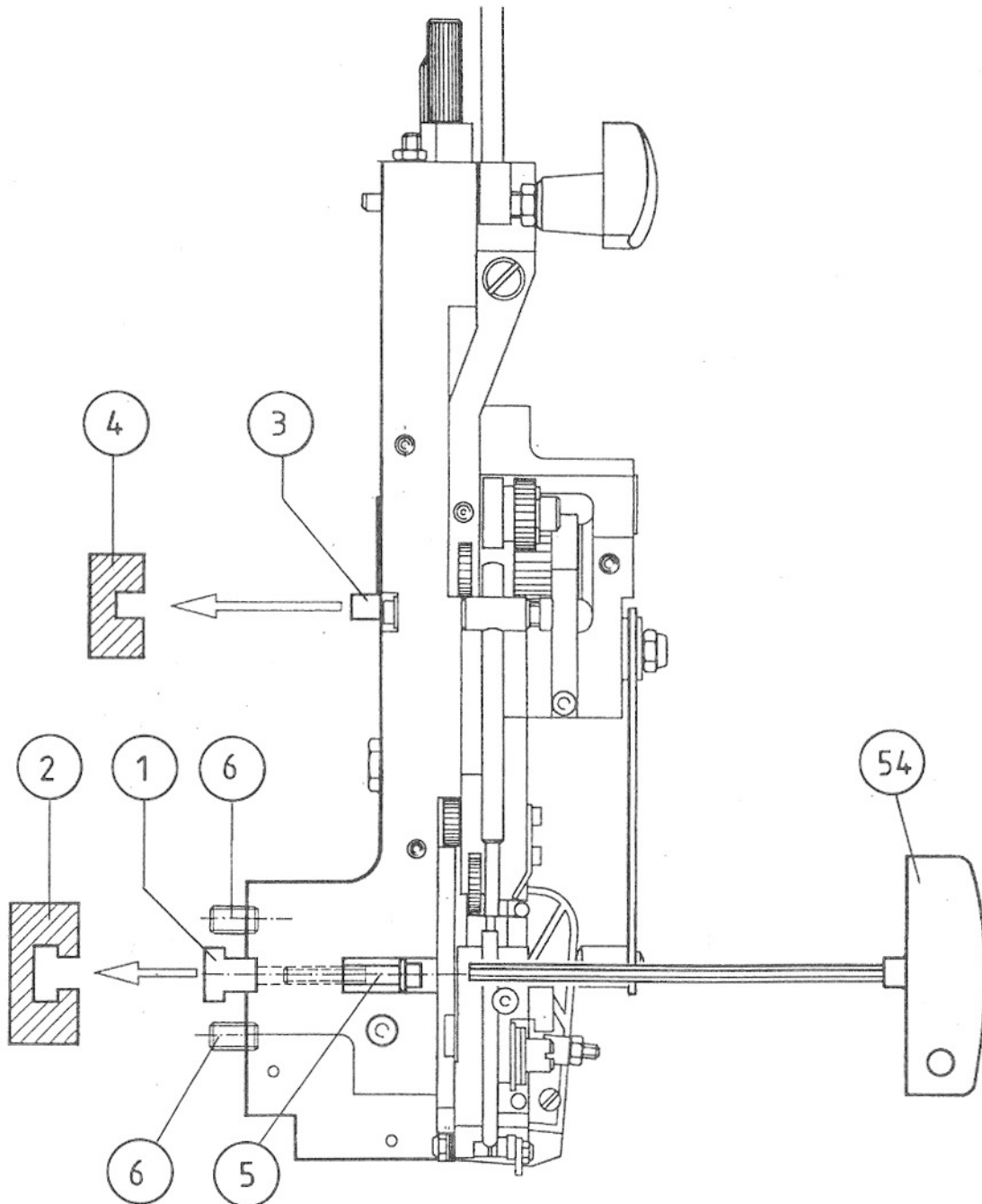
Former for loop stitching



I. General and Services

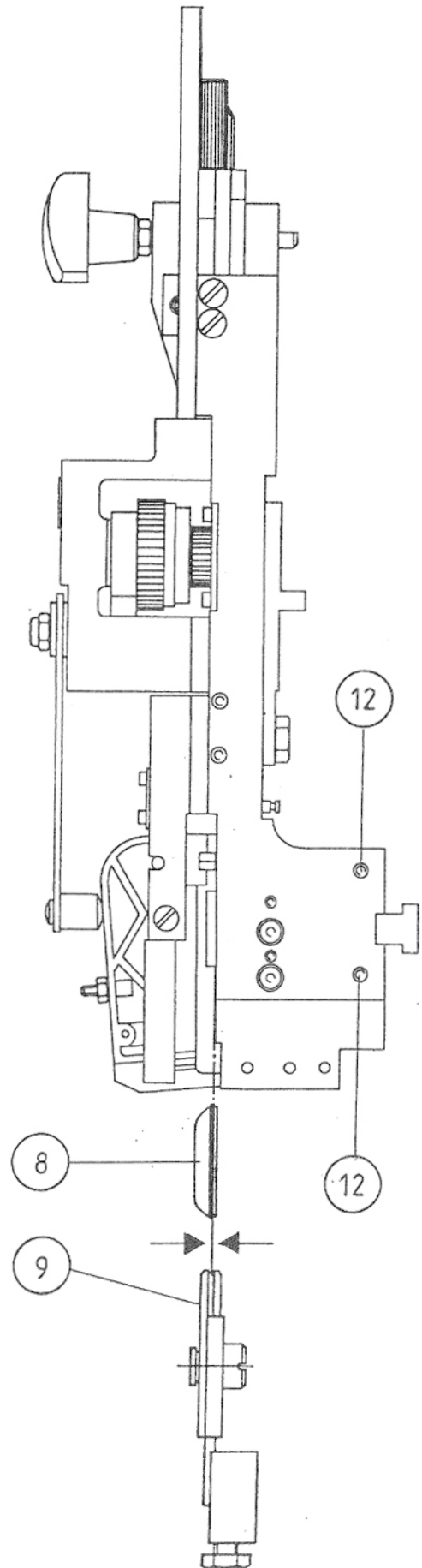
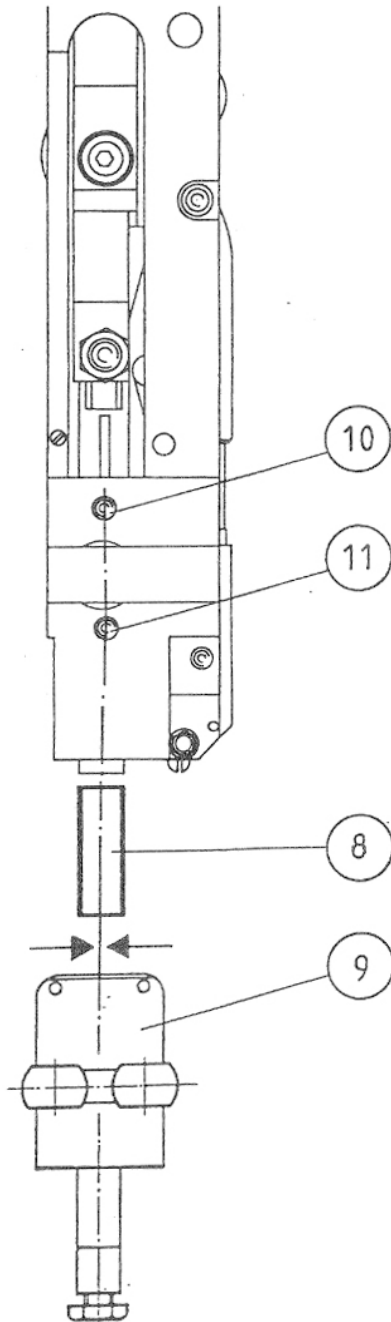
6. Installation and adjustment of the Universal 48/5 s

Insert mounting block **1** into stitching head receiver **2** laterally. Insert stitching head over the protruding journal of the mounting block **1**, taking caution that the carrier nose **3** in the main drive bar **4** is properly seated. Tighten the hexagon socket head cap screw **5** with the delivered hexagon key no. 4 **54**. By loosening both hexagon socket set screws **6** the stitching head can be adjusted to the clincher box.



IMPORTANT!

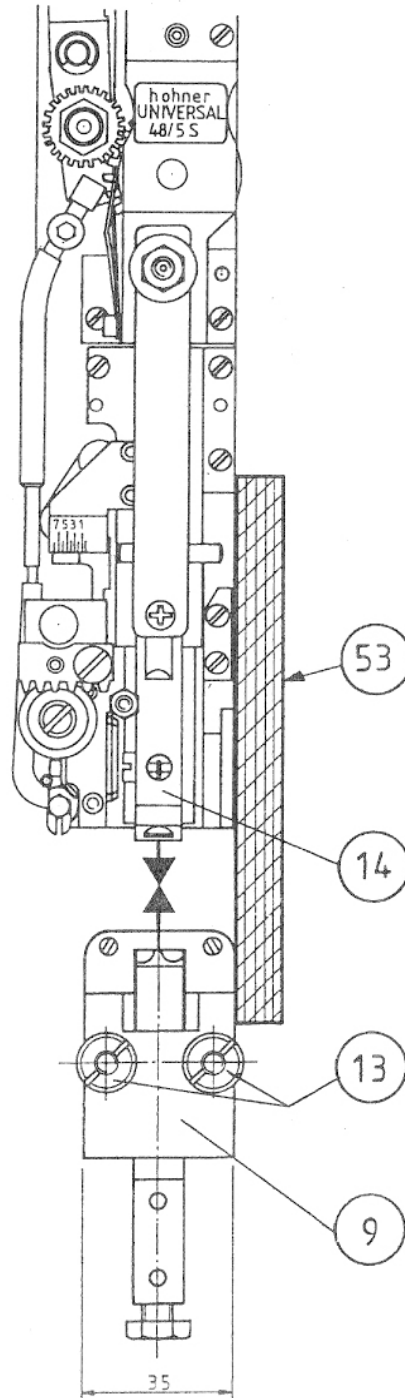
The middle of driver **8** and clincher box **9** have to coincide absolutely. Depending on the type of machine, an adjustment may be necessary. By removing the hexagon socket set screws **10** or **11**, the stitching head can be aligned with the clincher box **9**. First loosen both hexagon socket set screws **12** and retighten them after adjustment.



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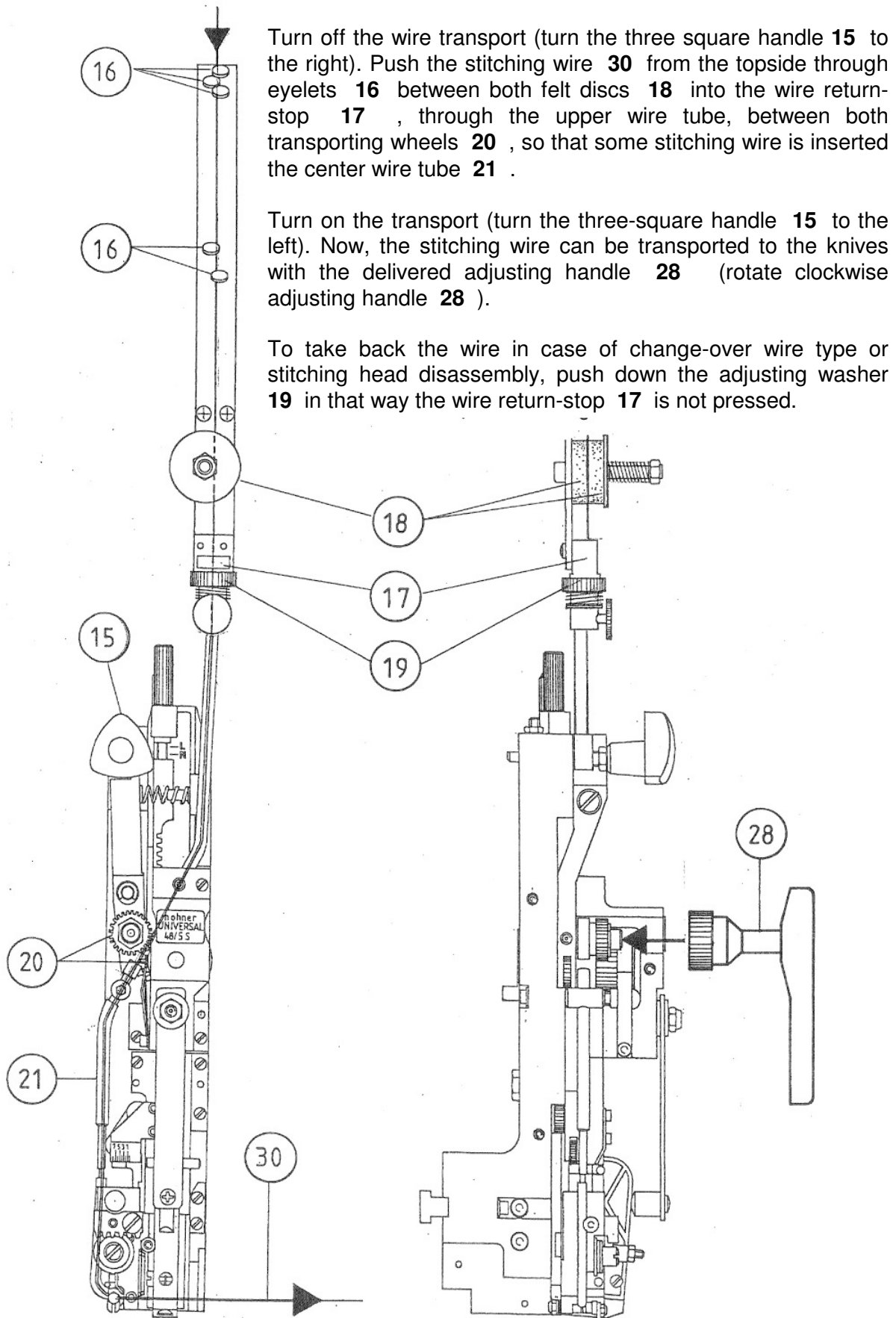
7. Fine adjustment of the clincher box

Loosen clamping nuts **13** . Adjust the clincher box **9** by moving it laterally until it is centered with the stitching head. The middle of the former **14** must be exactly in alignment with the middle of the clincher box **9** . It is helpful to use a straight flat material i.e. a ruler. The flat material **53** is put against the right side of the stitching head. Then move the clincher box **9** to the right side against the flat material **53** until it stops. Tighten the clamping nuts **13** again.



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8. Inserting the wire



Turn off the wire transport (turn the three square handle **15** to the right). Push the stitching wire **30** from the topside through eyelets **16** between both felt discs **18** into the wire return-stop **17**, through the upper wire tube, between both transporting wheels **20**, so that some stitching wire is inserted the center wire tube **21**.

Turn on the transport (turn the three-square handle **15** to the left). Now, the stitching wire can be transported to the knives with the delivered adjusting handle **28** (rotate clockwise adjusting handle **28**).

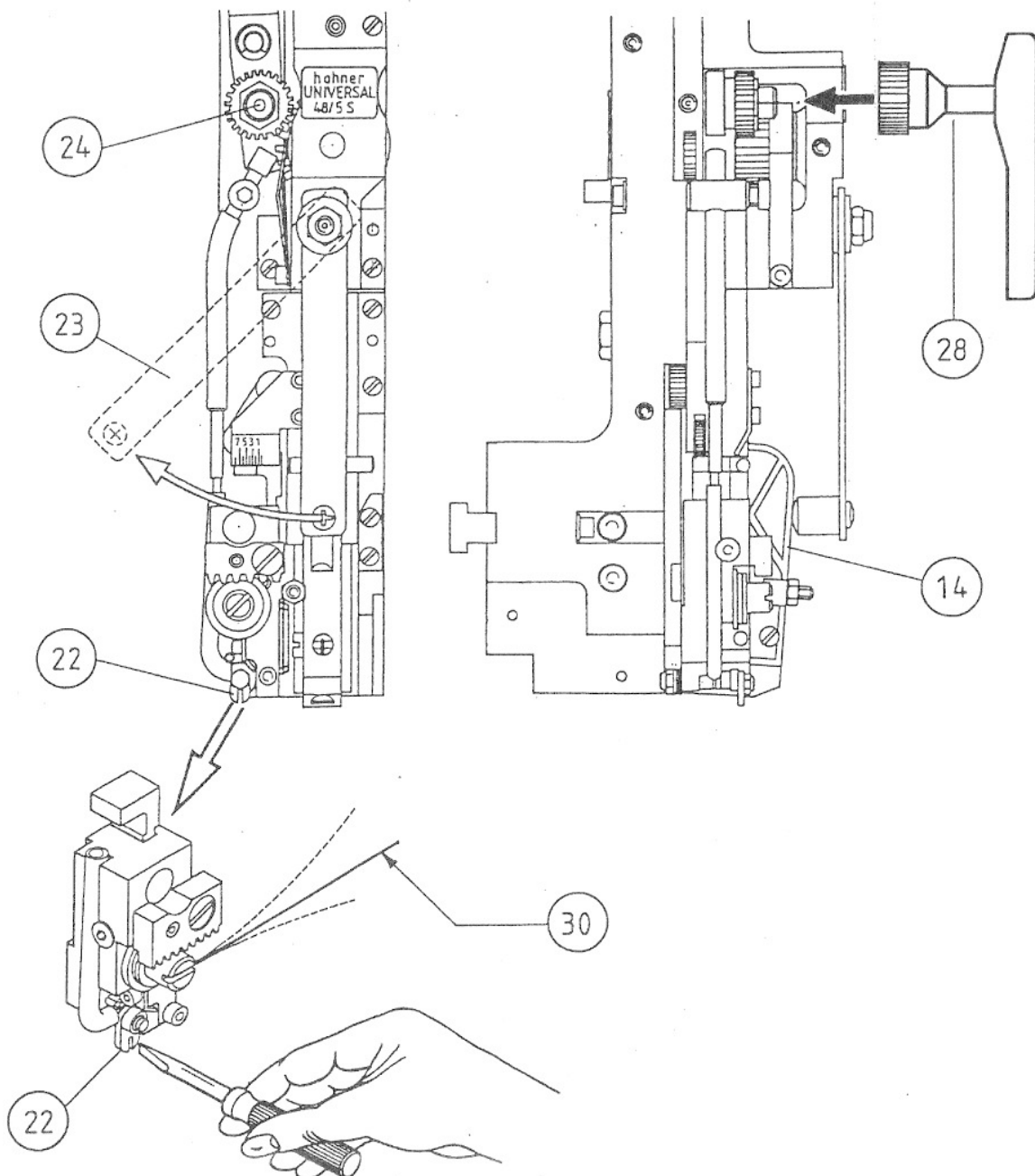
To take back the wire in case of change-over wire type or stitching head disassembly, push down the adjusting washer **19** in that way the wire return-stop **17** is not pressed.

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9. Straightening of the wire

The wire must be straight for stitching. If the wire is not straight or if any difficulties appear, try to change the course of the wire by slightly turning the wire straightener **22** by using a screw driver.

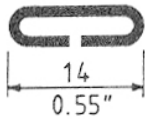
If this is unsuccessful the former **14** must be removed. Pivot the leaf spring **23** sideways and remove the former **14**. Now put the adjusting handle **28** on the adjusting nut **24** turn to the right and you will see whether the stitching wire **30** is transported bent or straight. If the wire is not exactly horizontal it must be corrected by the wire straightener **22** until getting a straight wire. Put in again the former **14** and turn back the leaf spring **23**.



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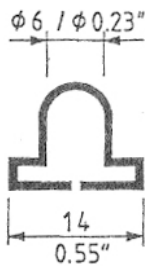
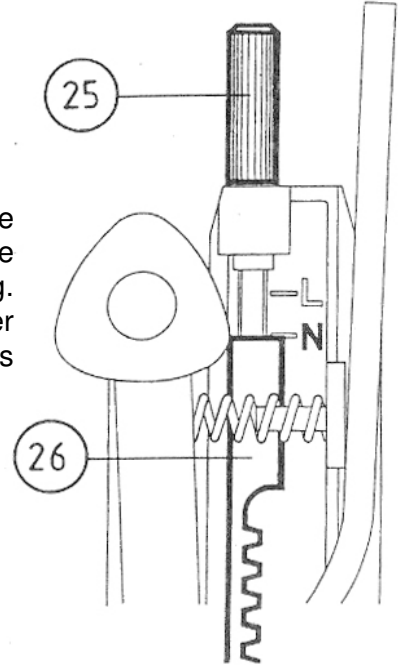
10. Basic setting of wire length

The adjustment is necessary only once, and that is when the stitching head is installed and compression is set. A slight correction is only necessary if you change the stitching wire thickness.



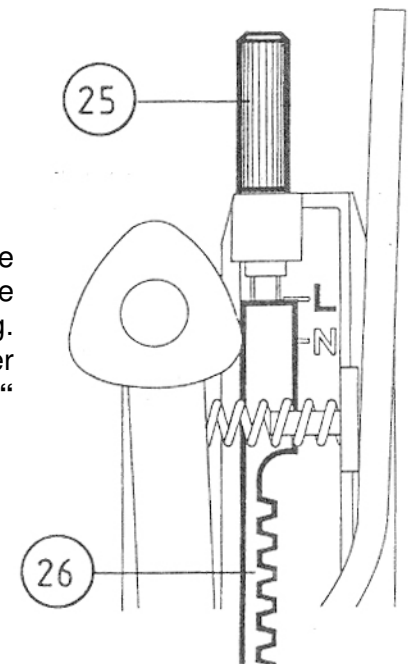
Standard stitching

The required length of wire for 2-page stitching is approx. 26 mm. Set the stitching aggregate for 2-page stitching. Turn knurled nut **25** until the upper edge of the tooth rack **26** indicates „N“. * After wards fine adjustment.



Standard loop-stitching

The required length of wire for 2-page stitching is approx. 32 mm. Set the stitching aggregate for 2-page stitching. Turn knurled nut **25** until the upper edge of the tooth rack **26** indicates „L“. * After-wards fine adjustment.



* Fine Adjustment

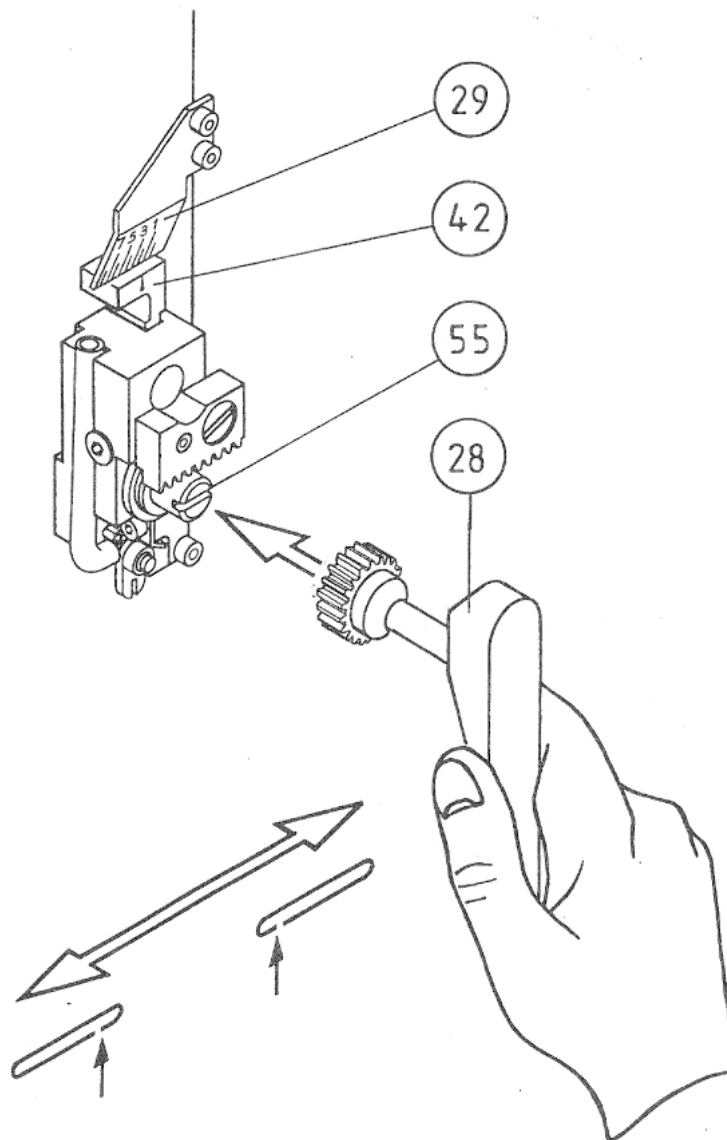
knurled nut **25** turned to the right
= longer wire

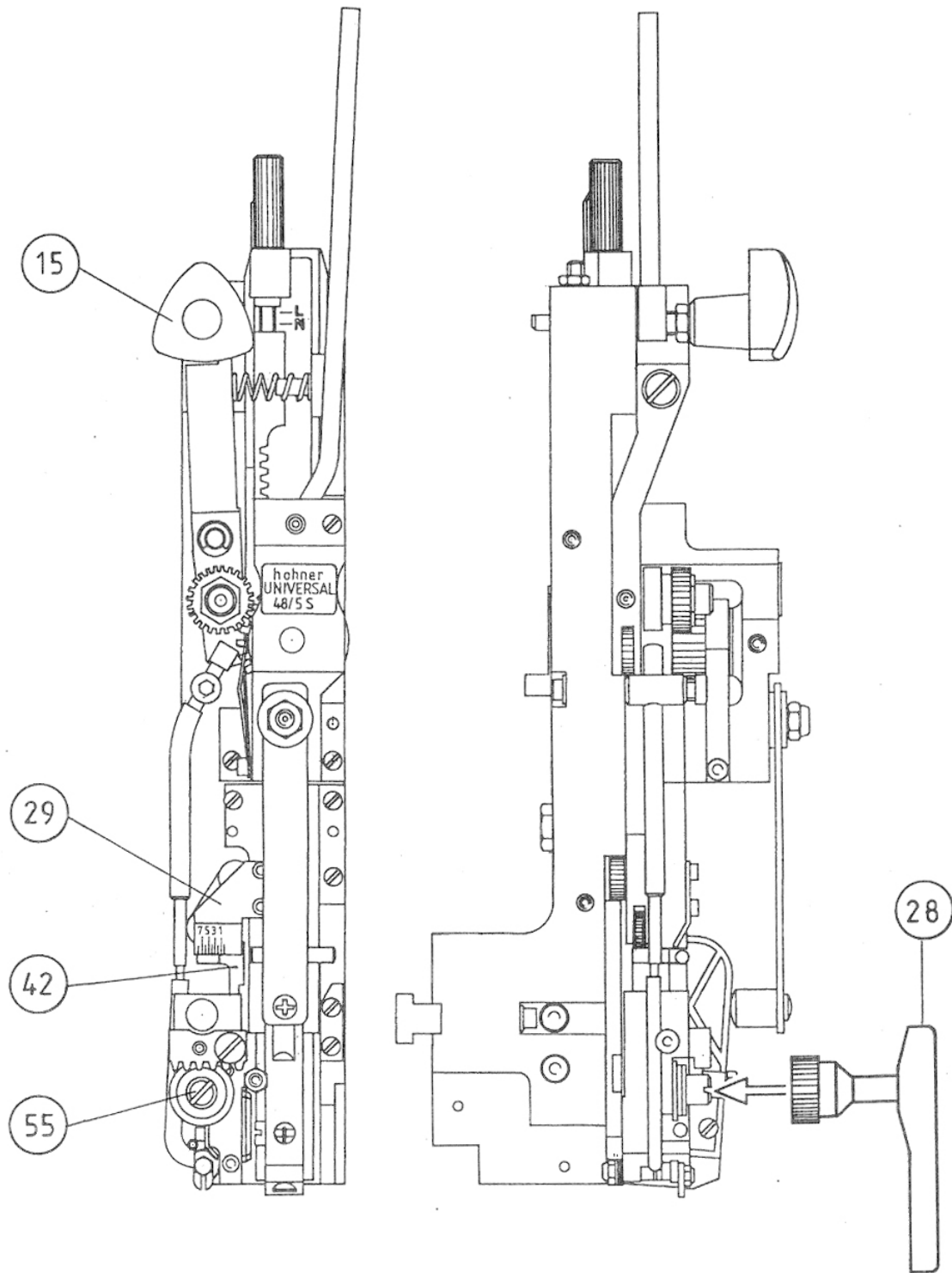
knurled nut **25** turned to the left
= shorter wire

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11. Setting of leg length

The thickness of the folder or pad determines the required length of the stitching wire for a complete staple, but first the stitching aggregate must be adjusted to the required stitching thickness (see corresponding machine operating instructions). Turn off the wire transport with the three-square handle **15** . Put the delivered adjusting handle **28** on the stand-up bolt **55** . Adjust the needed stitching thickness from the marking stitch on the cutting pusher **42** to the scale **29**. Turn on the wire transport.





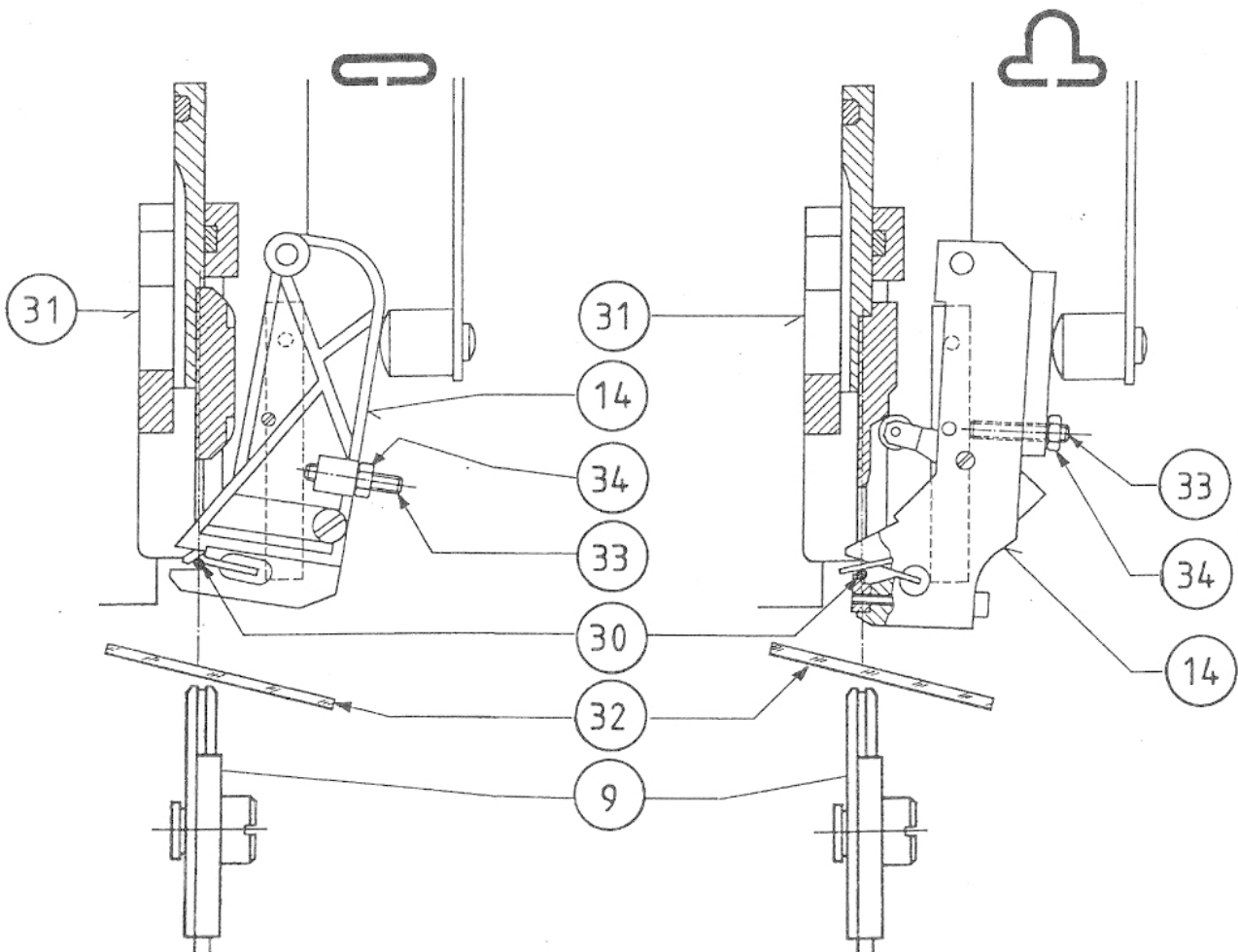
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12. Alignment of former

The stitching will be correctly only when the former **14** swings in so far that the stitching wire **30** comes exactly under the middle of the groove of the bender **31**. This can be controlled exactly by laying a mirror **32** on the clincher box **9**, by that means the position of the former respecting the wire can be seen clearly. A correction eventually necessary can be obtained by the hexagon socket set screw **33**.

Important!

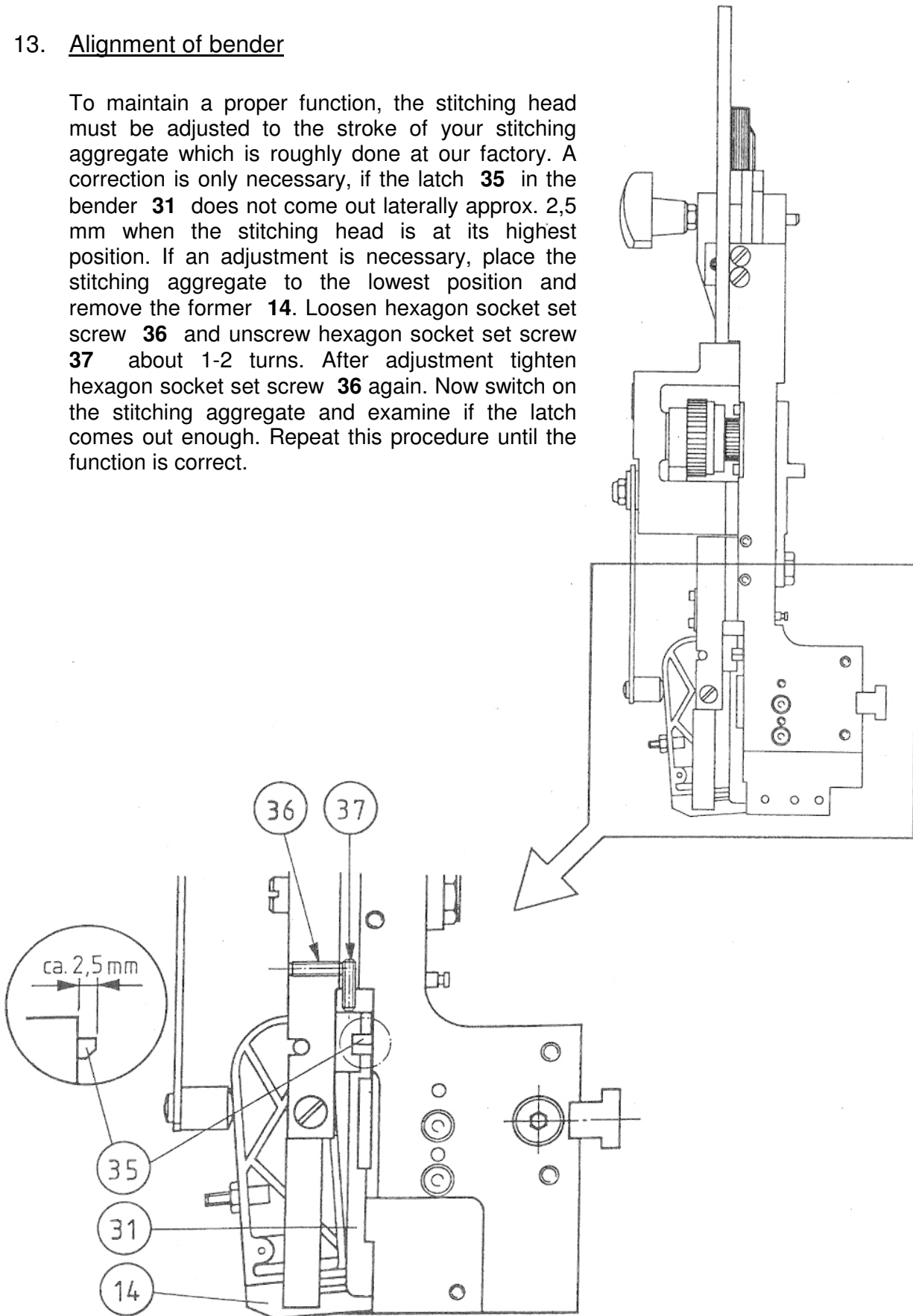
After adjustment tighten hexagon nut **34** again carefully.



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13. Alignment of bender

To maintain a proper function, the stitching head must be adjusted to the stroke of your stitching aggregate which is roughly done at our factory. A correction is only necessary, if the latch **35** in the bender **31** does not come out laterally approx. 2,5 mm when the stitching head is at its highest position. If an adjustment is necessary, place the stitching aggregate to the lowest position and remove the former **14**. Loosen hexagon socket set screw **36** and unscrew hexagon socket set screw **37** about 1-2 turns. After adjustment tighten hexagon socket set screw **36** again. Now switch on the stitching aggregate and examine if the latch comes out enough. Repeat this procedure until the function is correct.



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14. Exchange of knives

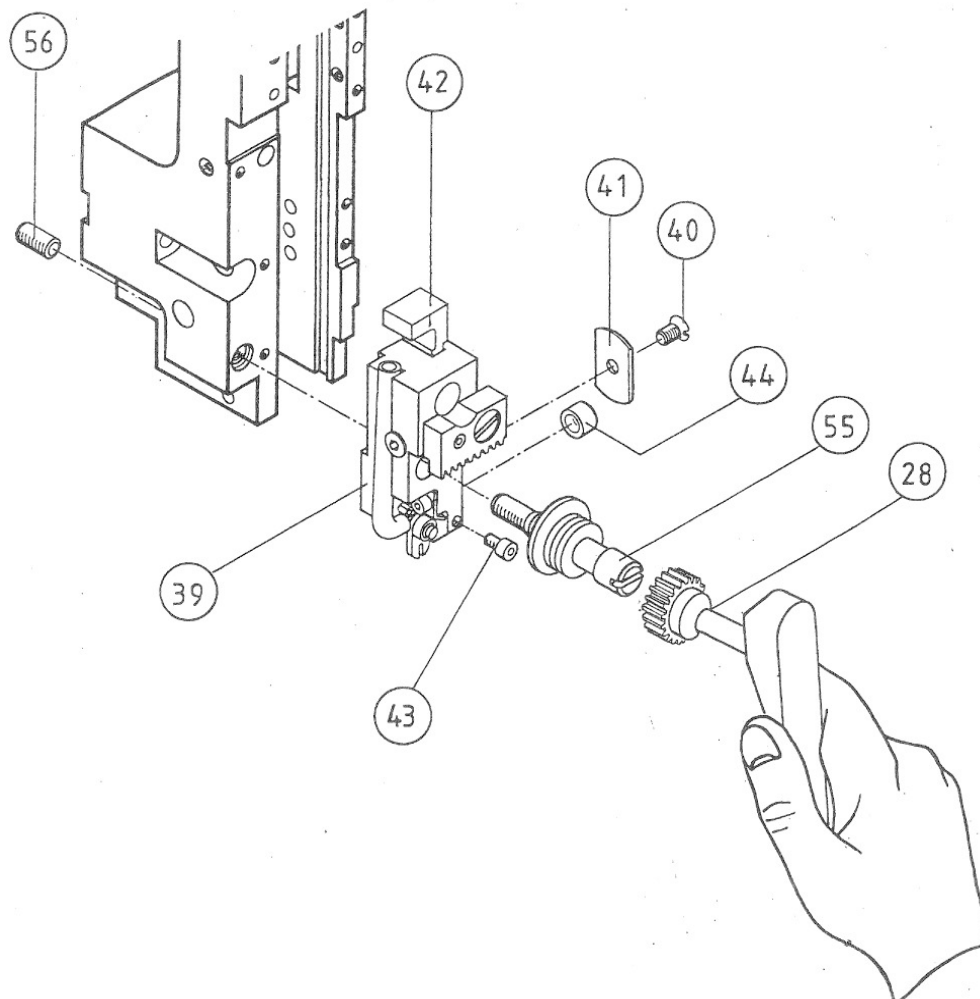
The quality of the stitching mainly depends on the condition of the knives. The knives can be used several times by turning them some degrees.

a) exchange of flat knife 41

Loosen hexagon socket set screw **56** . Remove stand-up bolt **55** and take out the cutting block **39** . Loosen the slotted countersunk head cap screw **40** at the flat knife **41** and exchange the flat knife. Assemble in reversed order.

b) exchange of round knife 44

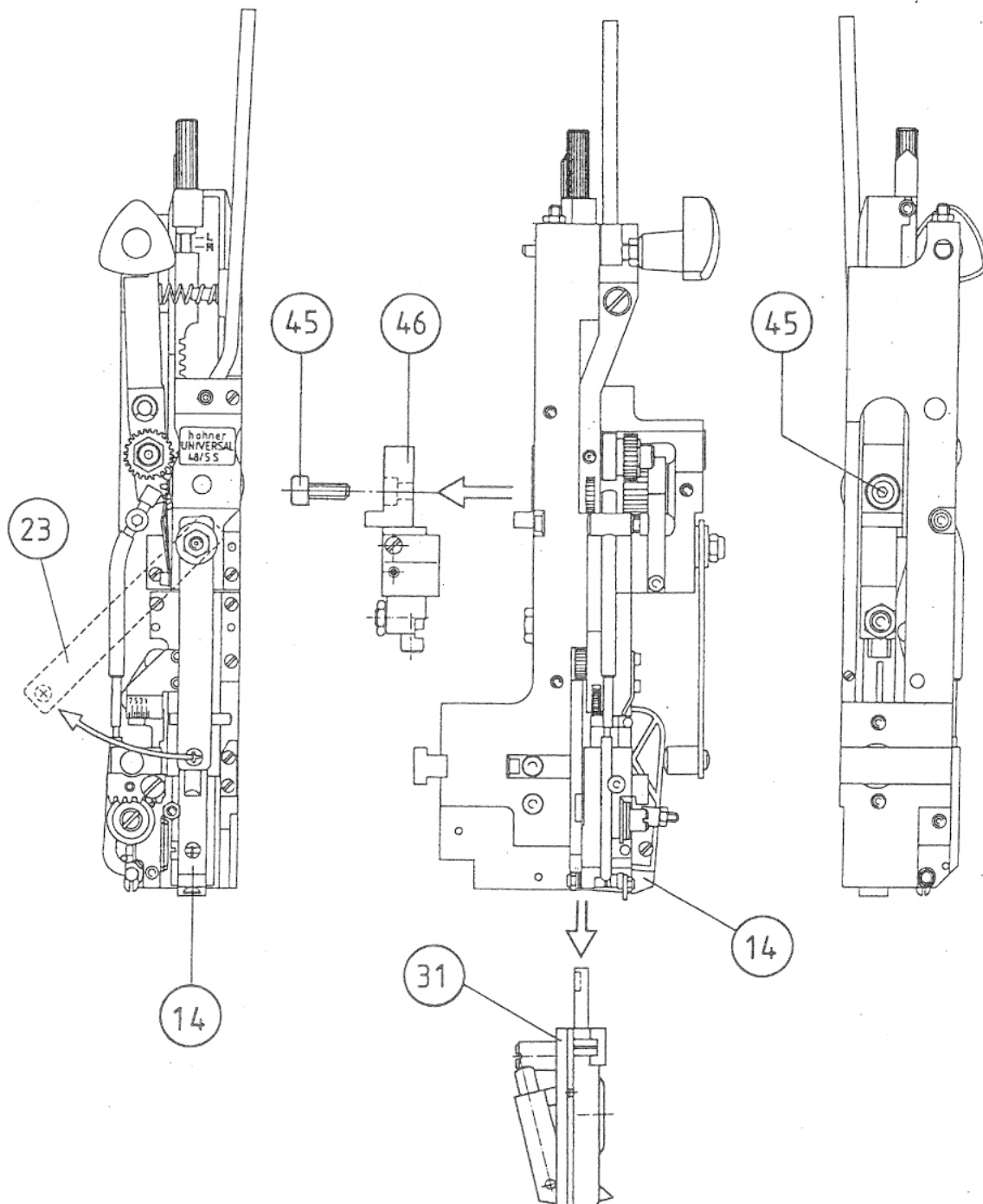
Loosen hexagon socket set screw **56** . Remove stand-up bolt **55** and take out the cutting block **39** . Carefully remove the cutting pusher **42** (the installed compression spring is under pressure). Loosen hexagon socket head cap screw **43** and squeeze out the round knife **44** from the left. Exchange round knife. Assemble in reversed order. When assembling the new round knife you must pay attention that the round knife projects so far that an absolute cutting effect with the counter cutting edge results. For the best results push in the round knife and adjust it at the flat knife pressed down. Tighten the hexagon socket head cap screw **43** again. Make sure that the stand-up bolt **55** is tightened so strongly that the cutting block **39** can only be slightly adjusted when using the adjusting handle **28**.



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15. Exchange of bender

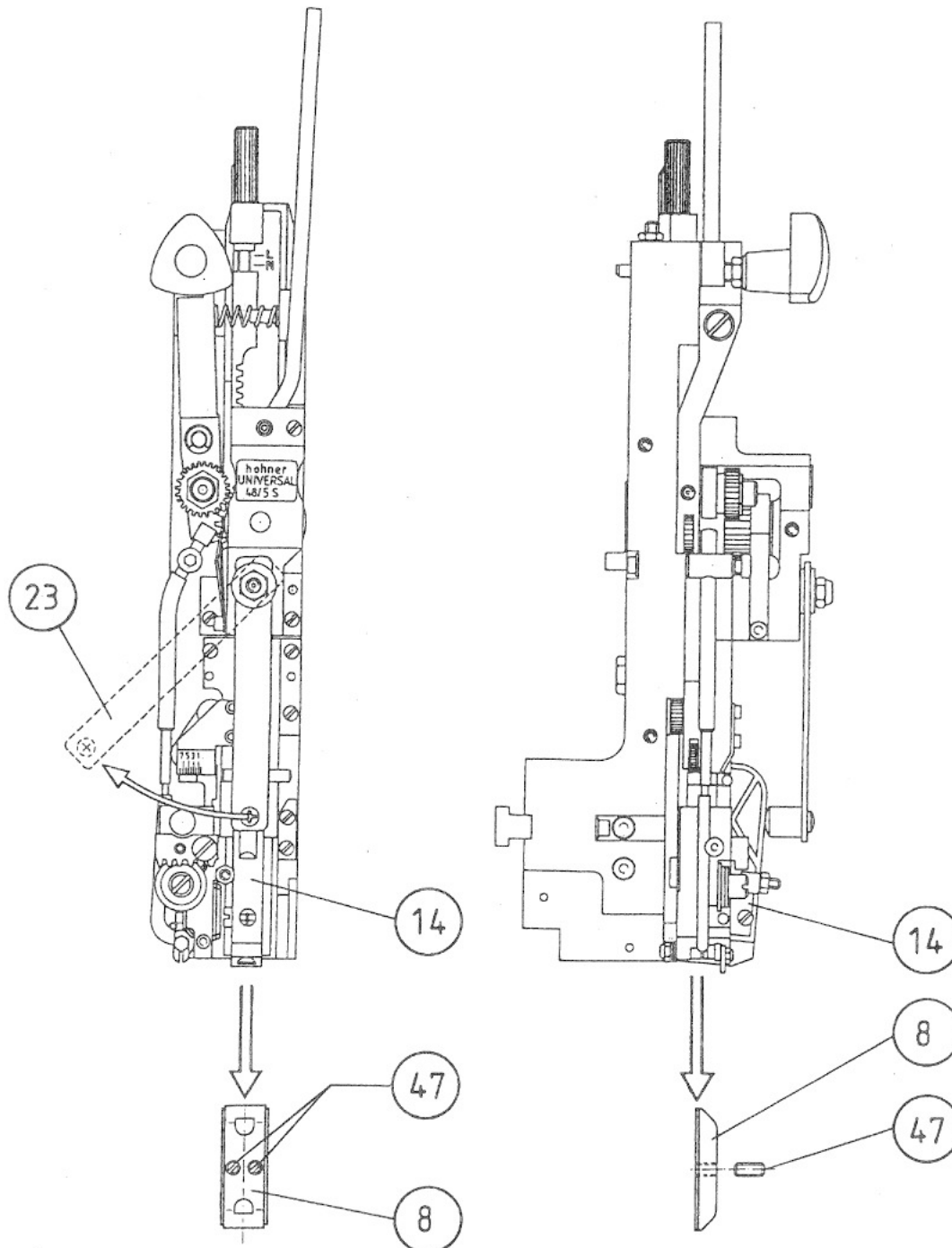
Pivot the leaf spring **23** sideways and remove the former **14** . Remove hexagon socket head cap screw **45** and the corresponding carrier **46** . Pull out the bender **31** downwards. Assemble in reversed order. When inserting the bender **31** into the stitching head, the latch must be pressed a bit into the bender (see chapter 12, pos. 35).



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16. Exchange of driver

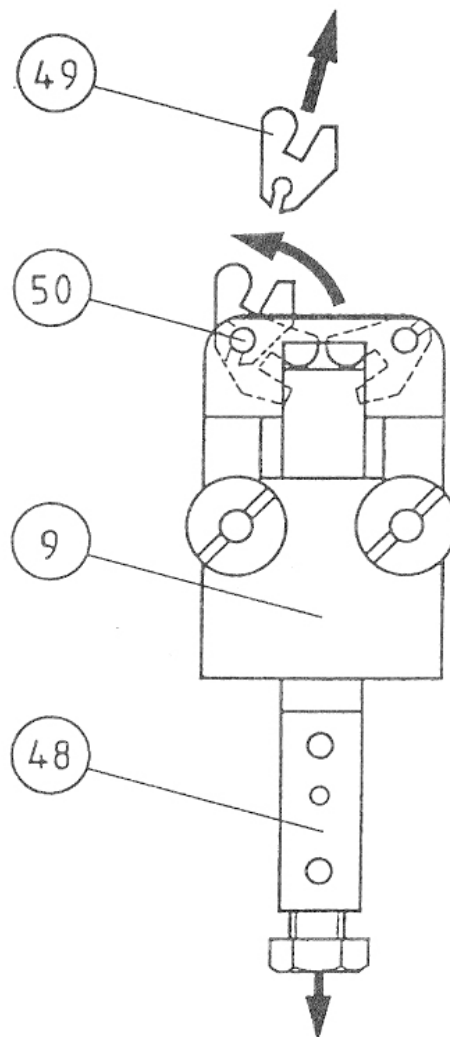
Pivot the leaf spring **23** sideways and remove the former **14**. Turn out both threaded bolts **47** in the driver **8** and pull out the driver downwards. Assemble in reversed order. If the lower edge of the driver is worn out, the driver can be turned round and used again.



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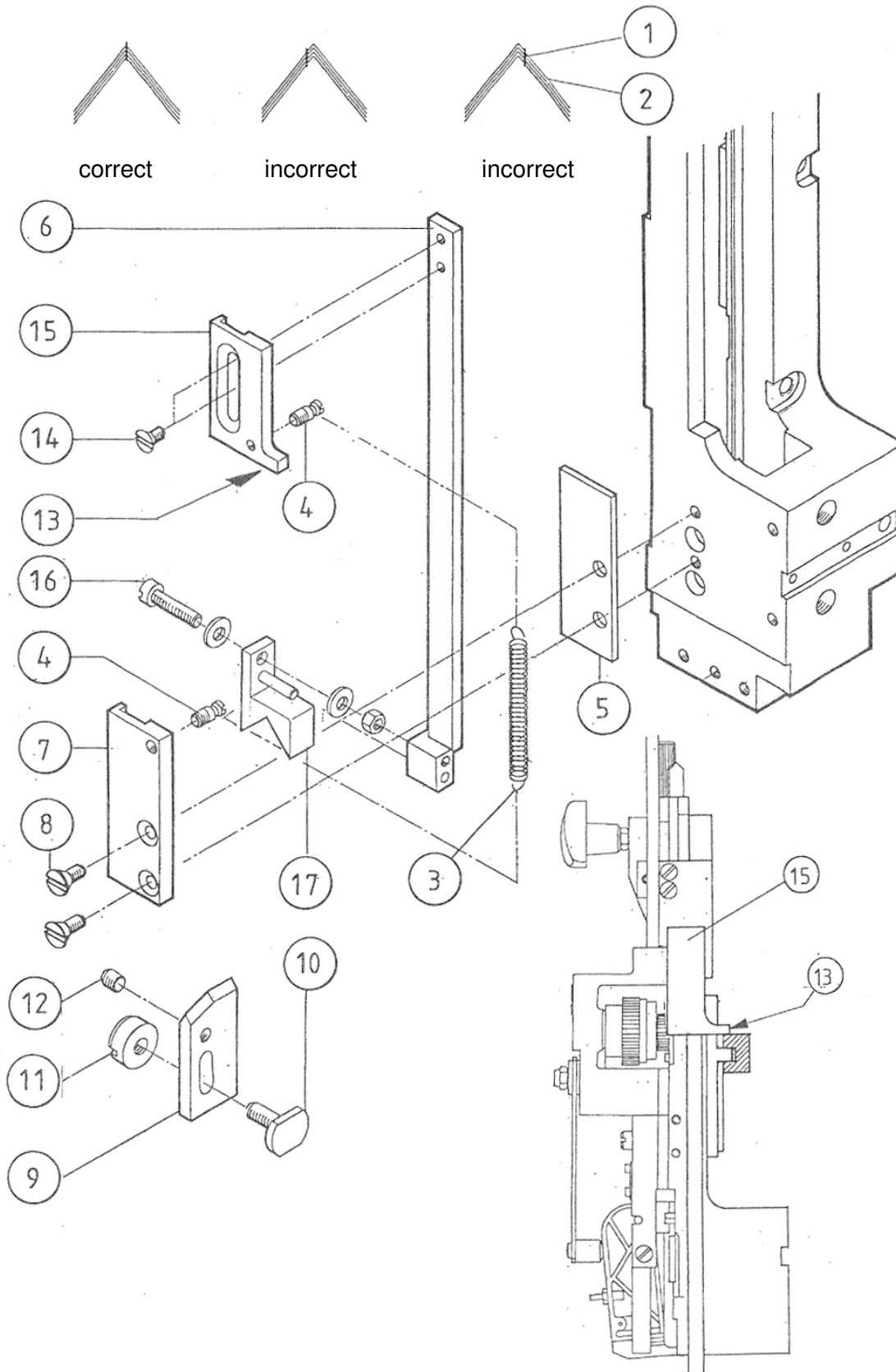
17. Exchange of clincher

Draw out clincher pusher **48** downwards. Turn clinchers **49** in the clincher box **9** upwards and extract them out of the locking bolt **50**. Push in new clinchers into the locking bolt **50**, turn them around to the middle of the clincher box. Insert the clincher pusher **48** again.



I. General and Services

18. Fitting the holding down device



Spine centering parts

The spine centering parts are only for saddle stitching. They help to precisely position the stitch **1** in the center of the sheet fold **2** (see page 22).

Fitting the holding down device

- Attach tension spring **3** to the two spring bolts **4** .
- Mount distance plate **5** on stitching head.
- Place complete rod assembly **6** with the guide plate **7** on the distance plate and fix to the housing with the help of the two countersunk screws **8** .
- Ensure that the rod assembly runs smoothly.

Fitting the slide

- Insert slotted screw **10** laterally into the clinching box mounting.
- Fix slide **9** with slot on slotted screw and tighten lightly using the locking nut **11**.
- Push the complete slide **9** against the clinching box.
- Align the V-block of the slide to the center of the clinching box with the help of the M5 setscrew **12** .
- Set the height of the V-block to approx. 0,5 mm above the clinching box.
- Tighten the locking nut **11** .

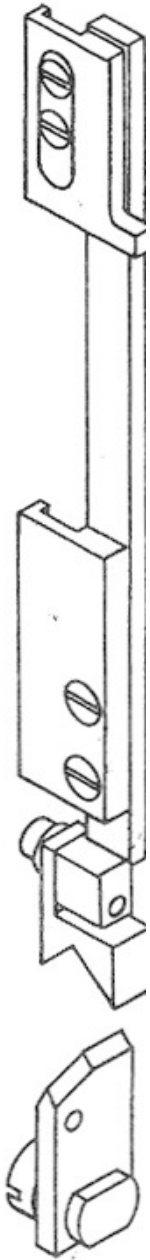
Setting the holding down device

The centering V-block **17** on the lower part of the rod linkage should lie approx. 3-5 mm beneath the edge of the bender. This can be adjusted by moving the plate **15** in the slot.

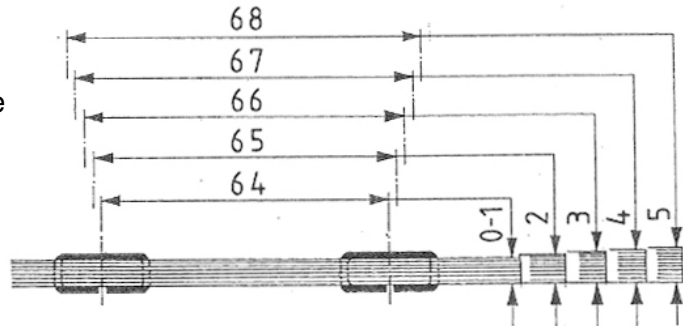
- Install stitching head in the stitching unit. You must ensure that the locating key **13** of the plate is positioned on the lifting bar and is not, as is the case with the stitching head locating key, inserted into the locating groove.
- Loosen the 2 countersunk screws **14** .
- Drive rod linkage into plate **15** until the lower part of the rod linkage is positioned approx. 3-5 mm beneath the edge of the bender.
- Tighten the 2 countersunk screws **14** .

The centring V-block **17** can be moved backwards or forwards by turning the adjusting screw **16** .

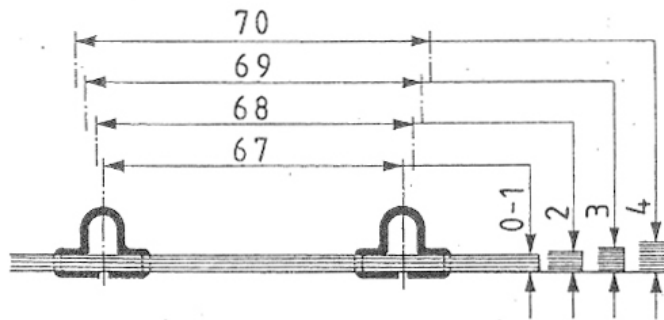
- Move centring V-block **17** far enough backwards or forwards so that it is precisely aligned with the V-block of the slide **9** .



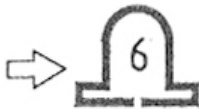
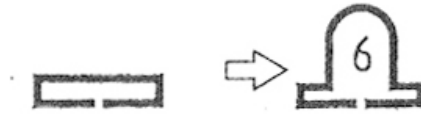
Standard stitching
with centering device



Standard loop stitching
with centering device



II. Conversion of the universal 48/5 s from standard-stitching to loop-stitching

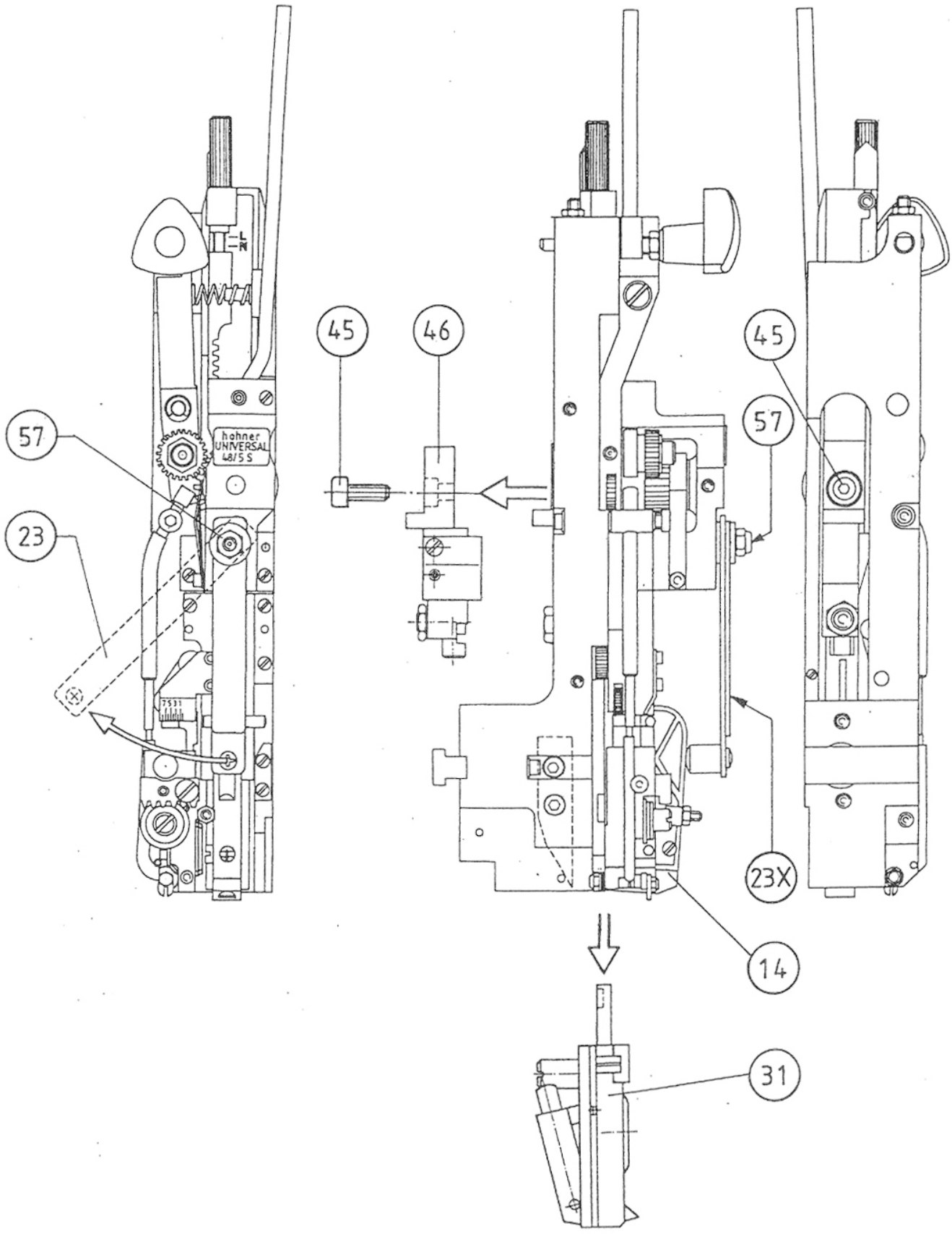


For standard loop stitching a change part set
Art.-No. 05 48 051 consisting of the following parts is needed:

Art.-No. 38 63 418 L	leaf spring, short
Art.-No. 99 61 355 L	bender, complete
Art.-No. 99 63 410 L	former, complete

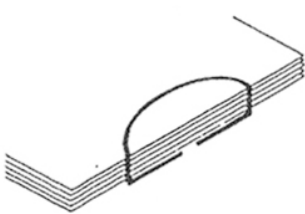
(see page 26)

Pivot the leaf spring **23** sideways and remove the former **14**. Remove hexagon socket head cap screw **45** and the corresponding carrier **46**. Pull out the bender **31** downwards. Now install the bender **31** for standard loop-stitching and make sure that the latch (see chapter 12, position 35) is pressed a bit into the bender. Install carrier **46** and tighten hexagon socket head cap screw **45** again. Install former **14** and put the leaf spring, short **23X** on the leaf spring **23** with the prevailing torque, type hexagon nut **57** pivot back leaf spring **23**.



III. Troubleshooting

Here are some examples of faults with specifications of the possible causes. There are often different reasons which have to be investigated step by step. Do not apply all suggestions simultaneously but one after the other making tests in between. Worn out parts should be exchanged.



Staple back arched:

- wire weak or soft
- wire not straightened: see chapter 9
- knives worn out: see chapter 14
- pressure of the shoe tongue weak or blocked: remove blocking wire pieces or replace compression spring in the shoe tongue
- wire groove in the driver is dirty, worn out or broken out: remove driver, see chapter 16
clean wire groove resp. exchange driver



Staple back does not lay tight:

- pressure of the stitching too weak: adjust stitching aggregate to stitching thickness



Staple legs are not bent enough:

- pressure of the stitching too weak: adjust stitching aggregate to stitching thickness
- clincher do not go upwards enough: adjust pressure for the clincher lifting at the stitching aggregate
- timing from clincher actuation to lifting actuation not correct: stitching aggregate must be adjusted again at the manufacturer



Staple back does not lay tight, is saddle shaped:

- pressure of the stitching too weak: adjust stitching aggregate to stitching thickness
- wire weak or soft
- pressure of the shoe tongue too weak or blocked: remove blocking wire pieces or replace compression spring in the shoe tongue



Staple legs rammed and are not correctly bent:

- wire weak or soft
- wire not straightened: see chapter 9
- clincher box must be aligned: see chapter 7
- staple legs not equal length: see chapter 11
- overall wire length too short: see chapter 10
- knives worn out: see chapter 14



Wire does not pierce through and builds sling:

- wire weak or soft
- groove in the bender is clogged by wire pieces
- knives worn out: see chapter 14
- wire groove in the driver is dirty, worn out or broken out: remove driver, see chapter 16
clean wire groove resp. exchange driver
- shoe tongue spring too weak: remove blocking wire pieces or replace compression spring in the shoe tongue
- clincher box not aligned properly: see chapter 7



Staples legs break off:

- latch not adjusted: see chapter 13
- wire its brittle: use other wire quality
- former is blocked by wire pieces: remove wire pieces, eventually remove former
- tension spring or gripper in former defective
- hook spring in bender defective
- wire sizes does not coincide with the wire bender parts (bender and driver)
- adjust the former to the groove of the bender



Bulge at one staple edge:

- wire weak or soft
- driver is broken out: see chapter 16
- knives worn out: see chapter 14



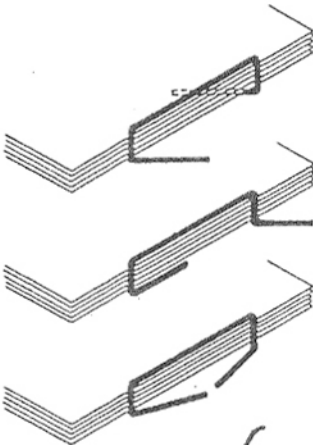
Staple legs run together or apart:

- wire not straightened: see chapter 9
- knives worn out: see chapter 14



One leg is formed wrong:

- wire not straightened: see chapter 9
- clincher box must be aligned: see chapter 7



One or both legs are formed diagonally:

- wire weak or soft
- wire not straightened: see chapter 9
- knives worn out: see chapter 14
- clinchers broken out: see chapter 17
- adjustment of the cutting box receiver to the stit.head rec., s.ch. 3b

Staple legs are formed diagonally to the same side:

- wire not straightened: see chapter 8
- adjustment of the cutting box receiver to the stit.head rec., s.ch. 3b

Slightly formed wire pieces trap out:

- wire not straightened: see chapter 9
- adjust bender: see chapter 13
- hook spring in the bender is defective or bender worn out

Snarled wire between transport wheels and wire tube:

- wire not straightened: see chapter 9
- cutting pusher is jamming: round knife is pressed against flat knife, cutting rocker is blocked, compression spring in the cutting block is defective see chapter 14b
- lower wire tube misplaced or wrongly adjusted: move slightly upwards or downwards
- former wrongly adjusted: see chapter 12

Troubleshooting - loop stitching:

Most faults and specifications of the eventual reasons are indicated in the section before.

Only straight wire pieces appear:

- adjust the short leaf spring for the former on the cover: s.chapter 11
- wire not straightened: see chapter 9
- former wrongly adjusted: see chapter 12