Operating-Instructions
Spare parts list

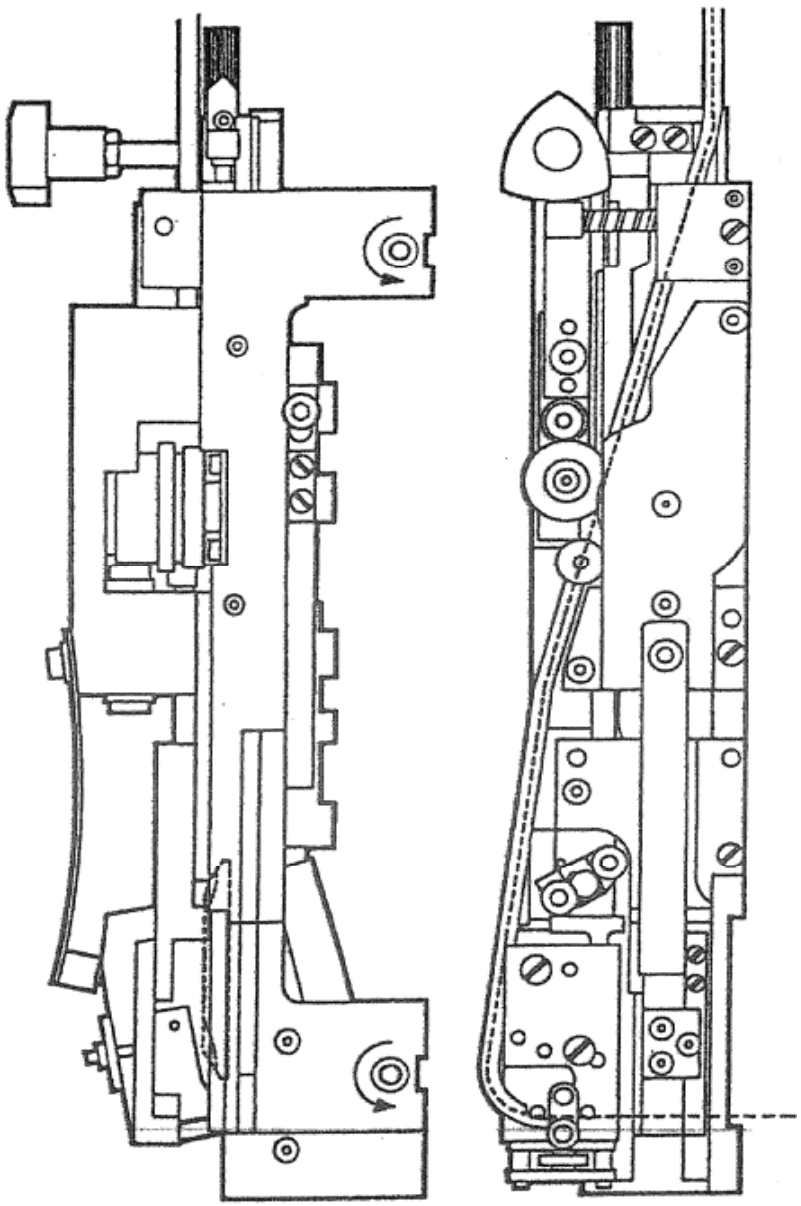
hohner

UNIVERSAL

70/20

04/2005

Narrow Stitching Head



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

Contents

A T T E N T I O N

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:

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Spare Parts / Customer Service

Fax:	07462 / 9468-20

- modifications reserved -

2. Technical details

Crown width:		14 mm / 0.55“
Round stitching wire:		No. 24 - 30 (0,60 - 0,35 mm ∅) (0.024 - 0.016“ ∅)
	kit, fine	
Flat stitching wire:		No. I - III (0,70 x 0,35 mm - 0,75 x 0,55 mm) (0.028“ x 0.014“ - 0.030“ x 0.022“)
Round stitching wire:		No. 20 - 24 (0,90 - 0,60 mm ∅) (0.035“ - 0.023“ ∅)
	kit, coarse	
Flat stichting wire:		No. III - VI (0,75 x 0,55 mm - 0,96 x 0,78 mm) (0.030“ x 0.022“ - 0.038“ x 0.031“)

Name brand steel, in normal or extra high tension steel versions, depending on usage.

Attention! By heavy scuffing of wire, scuff resistibility causes wire guide to clog.

Height of stroke of the driver:	2.63“ (66,7 mm)
Height of stroke of the bender:	2.14“ (54,3 mm)
Net weight, approx.:	20.5 lbs (9,3 kg)

3. Accessories

Every narrow **stitching-head UNIVERSAL 70/20** is supplied with:

3.1 Equipment:

Art.-No. 99 67 175	1 wire bow
Art.-No. 31 67 603	1 chlincher box with clinchers, fine and clincher bar
Art.-No. 31 67 602	2 clinchers, coarse

3.2 Tool:

Art.-No. 46 00 019	1 allen key	SW 5
Art.-No. 46 00 008	1 allen key	SW 3
Art.-No. 46 00 044	1 Torx screwdriver	T10
Art.-No. 46 00 045	1 Torx screwdriver	T20

4. Lubricating instructions

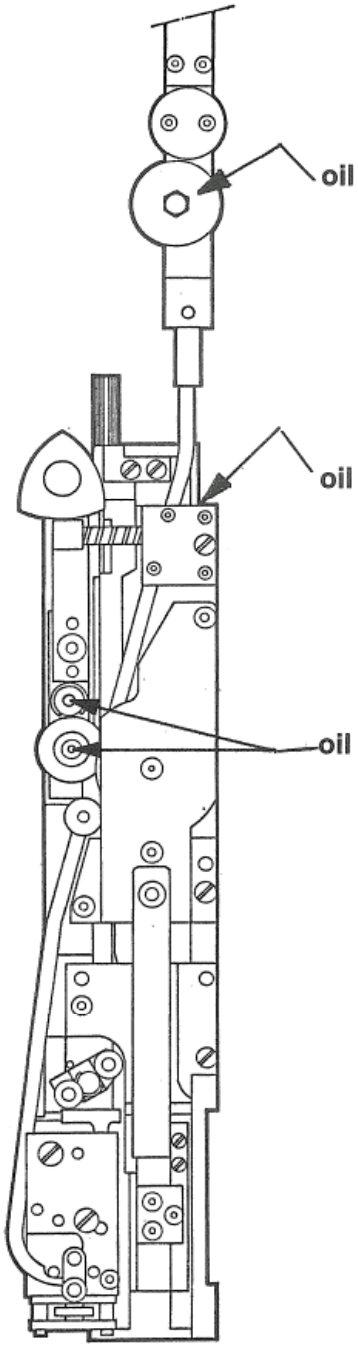
Apply a first - rate oil only!
Never use a viscous mineral oil,
or a light oil for sewing machines.

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.

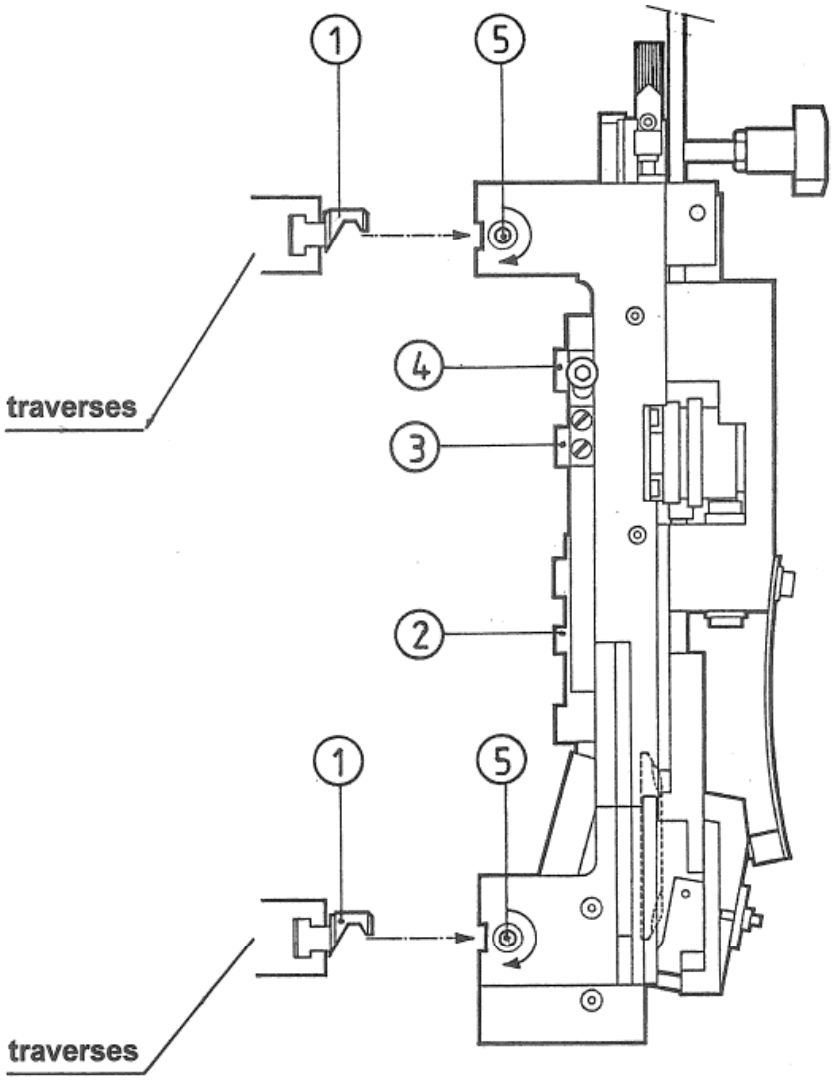


5. Assembly of the narrow stitching head

Insert key blocks **1** into the traverses. Milled part must point downwards.

Push the narrow stitching head with boring over peg of the key blocks **1** , at the same time also engage the drivingblock **2** , the pusher **3** and adjusting block **4** with the corresponding rails.

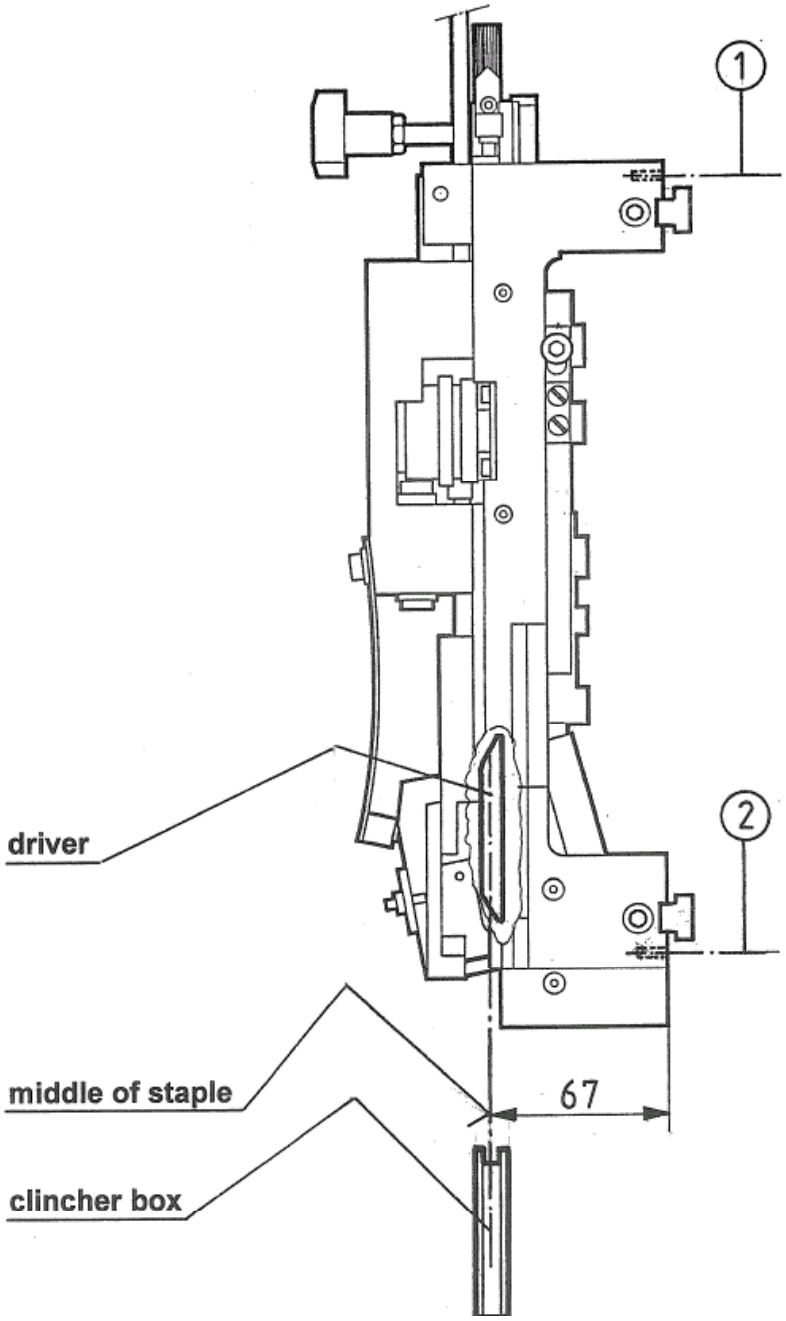
Clamp the narrow stitching head to the machine by turning down the hex sockets **5** of the eccentric until it is tight.



6. Adjustment of the narrow stitching head

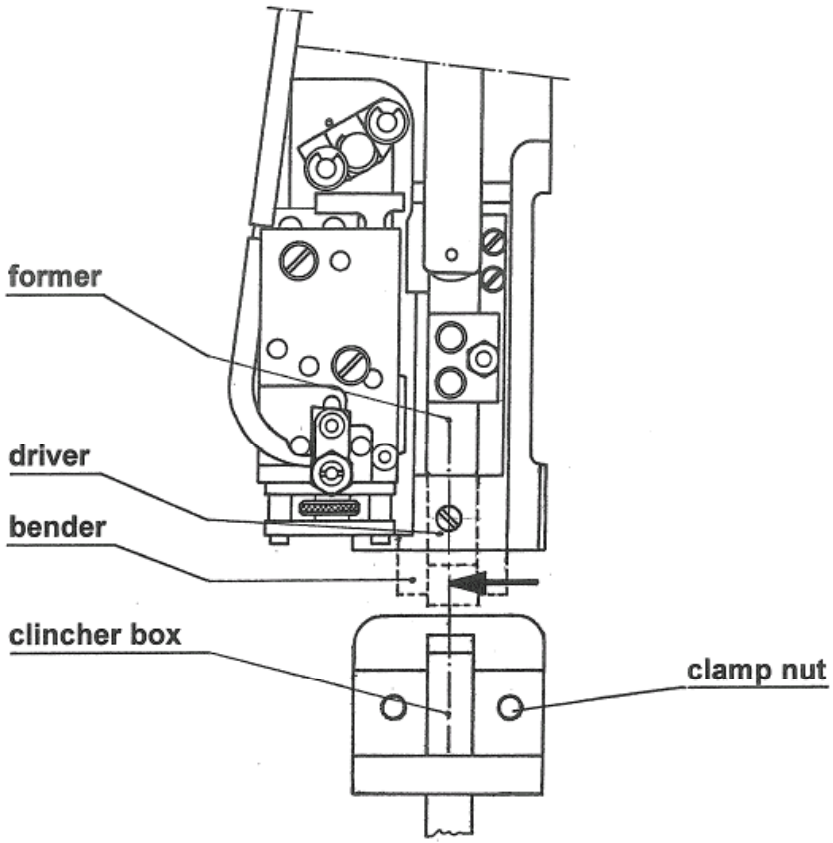
Important!

The mid of driver and clincher box must coincide absolutely. By turning of the hex socket set screw **1** or **2** . The narrow stitching head can be adjusted exactly on the same level as the clincher box.



7. Adjustment of the clincher box

The middle of the driver and the bender must be exactly in the middle of the clincher box.
Now, rotate the unit by hand until the driver and the bender will be just over the clincher box.
Adjust the middle of the clincher box to the middle of the driver. Tighten the clamp nuts.

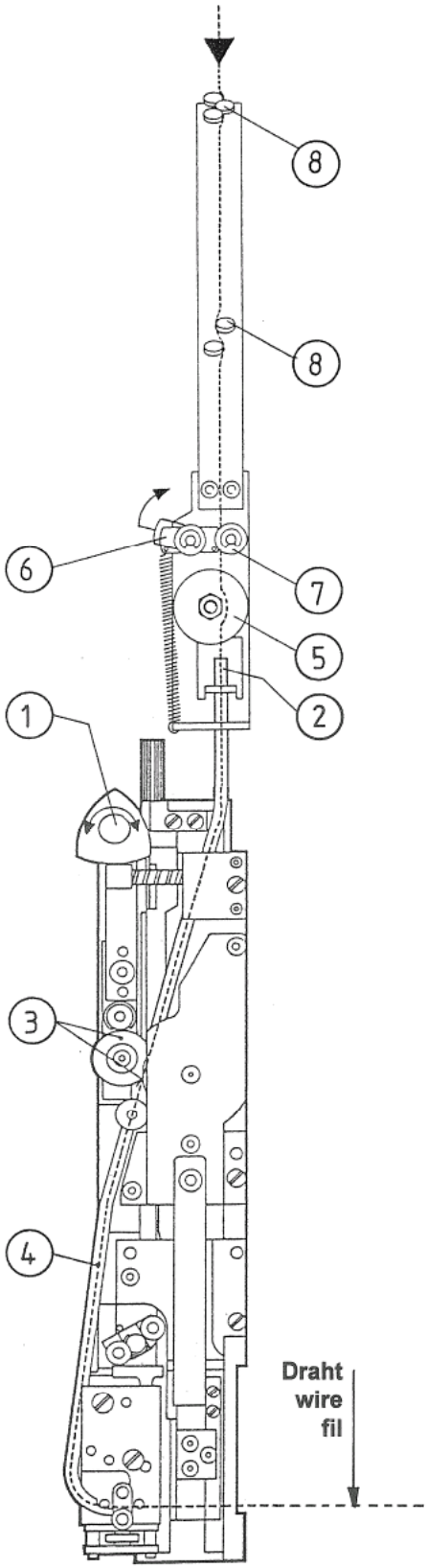


8. Insertion of the wire

Turn off the wire transport (turn knob **1** to the right). Push stitching wire through the upper wire tube **2** , between the two transport wheels **3** so that some wire is inserted in the middle wire guide tube **4** .

Turn on the wire transport (turn knob **1** to the left).

Clamp stitching wire between the two felt discs **5** and push brake block **6** on the left side upwards, at the same time put the stitching wire under the shoulder of the clamping roll **7** and let the brake block **6** snap back against the stitching wire. Then put the stitching wire under the guiding knobs **8** . Let the unit run until the first staple exits the cutting box. Place some paper under the stitching head so that wire segments and staples can be collected.



9. Basic adjustment of wire length

The necessary wire length for a two-sheets-thickness is approx. 26 mm. Adjust the stitching unit to two sheets.

Turn the locking nut **1** to the right

= longer wire

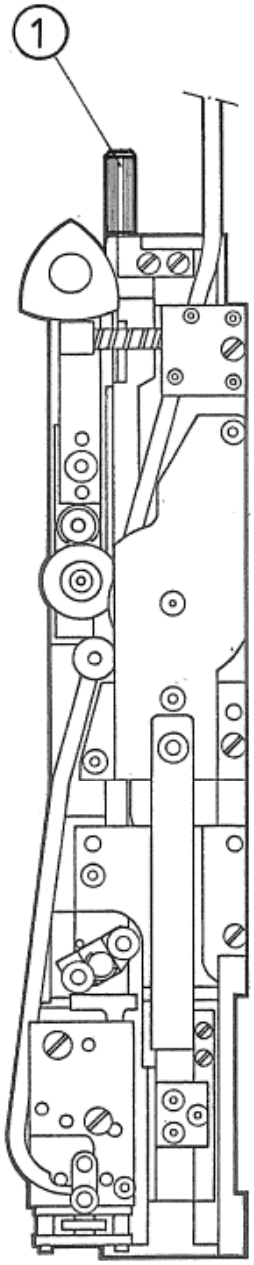
Turn the locking nut **1** to the left

= shorter wire

This adjustment will be done once, only then will the narrow stitching head be adapted on the height of stroke of the unit.

Attention!

A correction ist necessary if you change the wire size, for example, from flat to round wire.



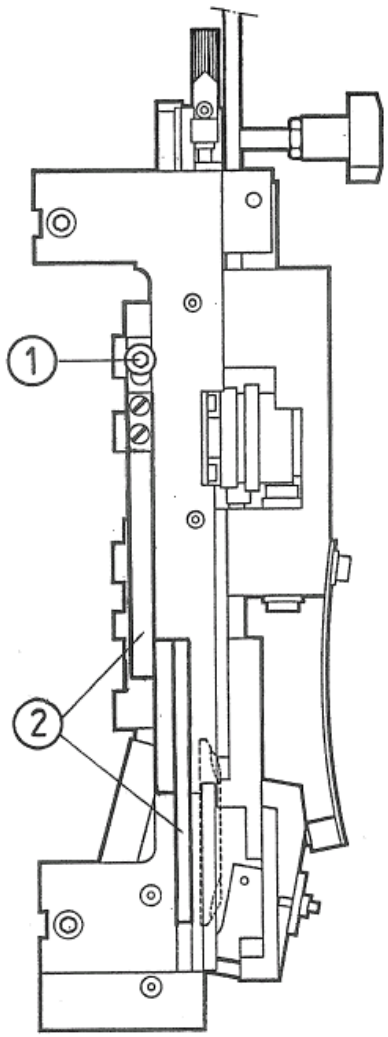
10. Basic adjustment of wire - and staple leg length

The staple leg length has to be adjusted just as the wire length for each machine, and it does not depend on the thickness of the wire.

Loosen the hexagon socket haed cap screw **1** .

Move the divert bars, below and top **2** accordingly. Move upwards, left staple leg longer and right staple leg shorter. Move downwards, left staple leg shorter and right staple leg longer.

Tighten hexagon socket head cap screw **1** again.



11. Straightening of the wire

The wire must be straight for stitching. This is done by the wire adjust bar **1** . Do not adjust these devices when the machine is working correctly. The wire must become straightened in the following cases:

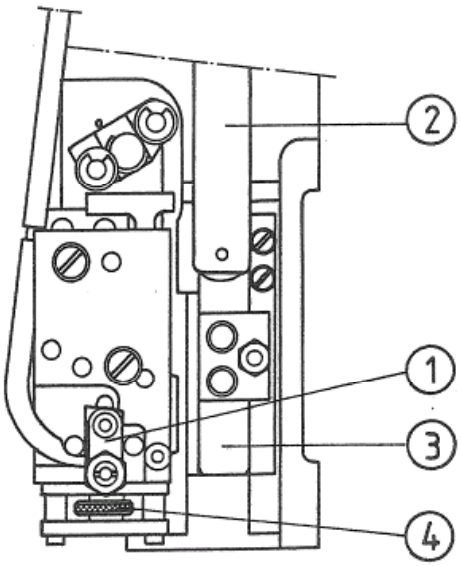
a) the wire is forming loops between the feeding wheels and the lower wire tube, it does not run through, it has an obstruction somewhere;

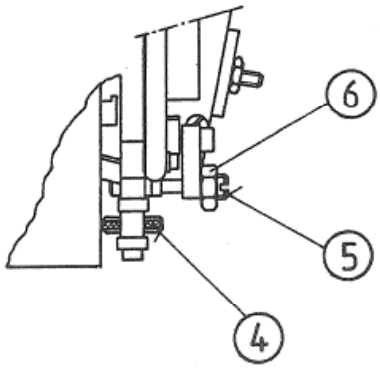
b) only wire bits are produced instead of staples, consequently the wire is missing the former;

c) the staple shanks are converging or diverging when pads are too thick.

Try to correct the trouble by a slight turning of the knurled nut **4** of the wire ajdust bar **1** Shold these efforts prove ineffective take of the former spring **2** and the former **3** .

Now switch on the unit and you will see whether the wire is being transported bent or straight. The running wire, is not exactly horizontal, must be corrected at the knurled nut **4** or eventually at the bolt **5** . Loosen hexagon nut **6** , until you get a straight wire. Assemble the parts again.



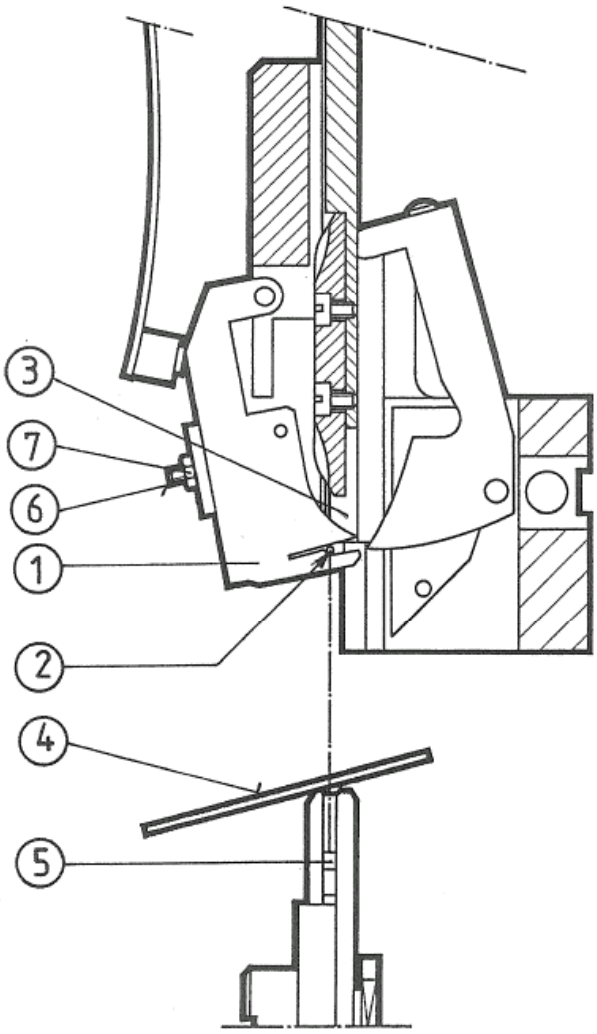


12. Adjustment of the former

The stitching will be correct only if the former **1** swings in so far that the stitching wire **2** comes exactly under the middle of the groove of the bender **3** . This can be controlled exactly by laying a mirror **4** on the clincher box **5** , by that means the position of the former respecting the wire can be seen clearly. A correction eventually necessary can be obtained by adjusting the hexagon socket set screw **6** .

Important:

After adjustment, tighten self locking hexagon nut **7** again carefully. (Danger of breaking of the hexagon socket set screw **6** .)



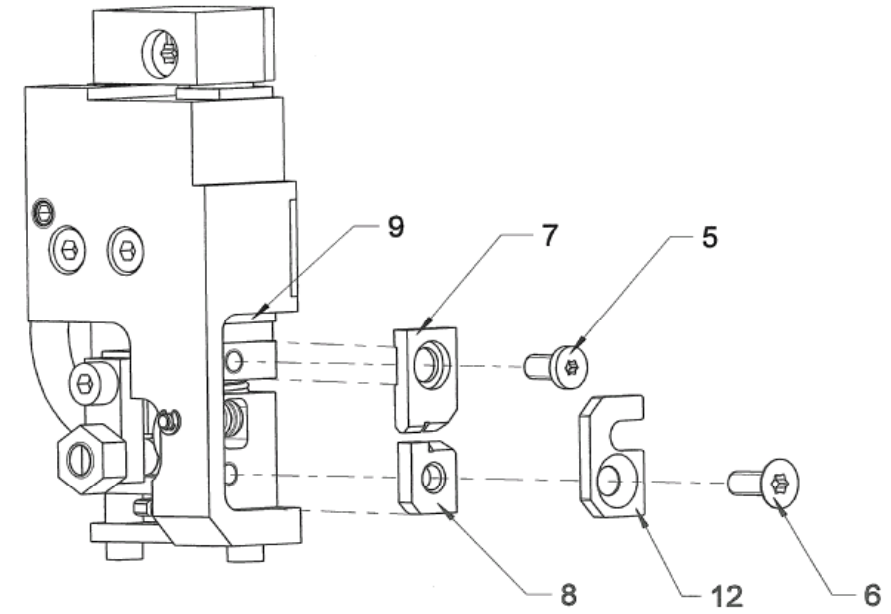
13. Exchange the knives

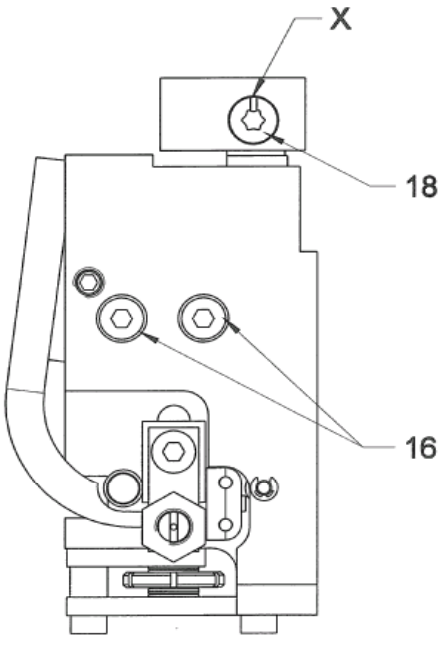
Turn out the hexagon socket head cap screw **10** and remove the knife box. Loose the screws **1** and **4** in the compression block **3**. Turn the marking **X** at the eccentric **18** upwards. Turn out the screws **5** and **6** and then take out the guiding plate **12**, upper knife **7** and lower knife **8**.

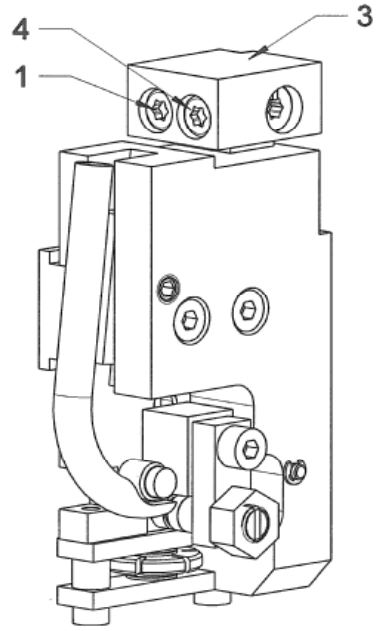
Attention! The knife pusher **9** will be pressed upwards by a compression spring. Fix the new upper knife **7** on the knife pusher with the collar screw **5**.

Please observe that the collar screw fits correctly!
Fix the new lower knife **8** and the guiding plate **12** with the screws **6**. Please see to it that the lower edge of the lower knife clings to the opposite side of the knife box.

Attention! It should be possible to move the knife pusher **9** in the knife box guiding against the spring resistance. Installment of the knife box.







14. Adjustment of the upper knife

Each change of knives or other parts of the cutting system requires a control respectively the new adjustment of the upper knife.

Only an exact adjustment guarantees a good cutting of the wire which is necessary for a staple.

Too many pressure increases the wear and tear. When the pressure is too small the stitching wire is not being cut exactly.

The adjustment will be done manually, mainly at the stitching head dismantled (dependent on the machine). In case the adjustments are being made at the installed stitching head, then this is on own risk.

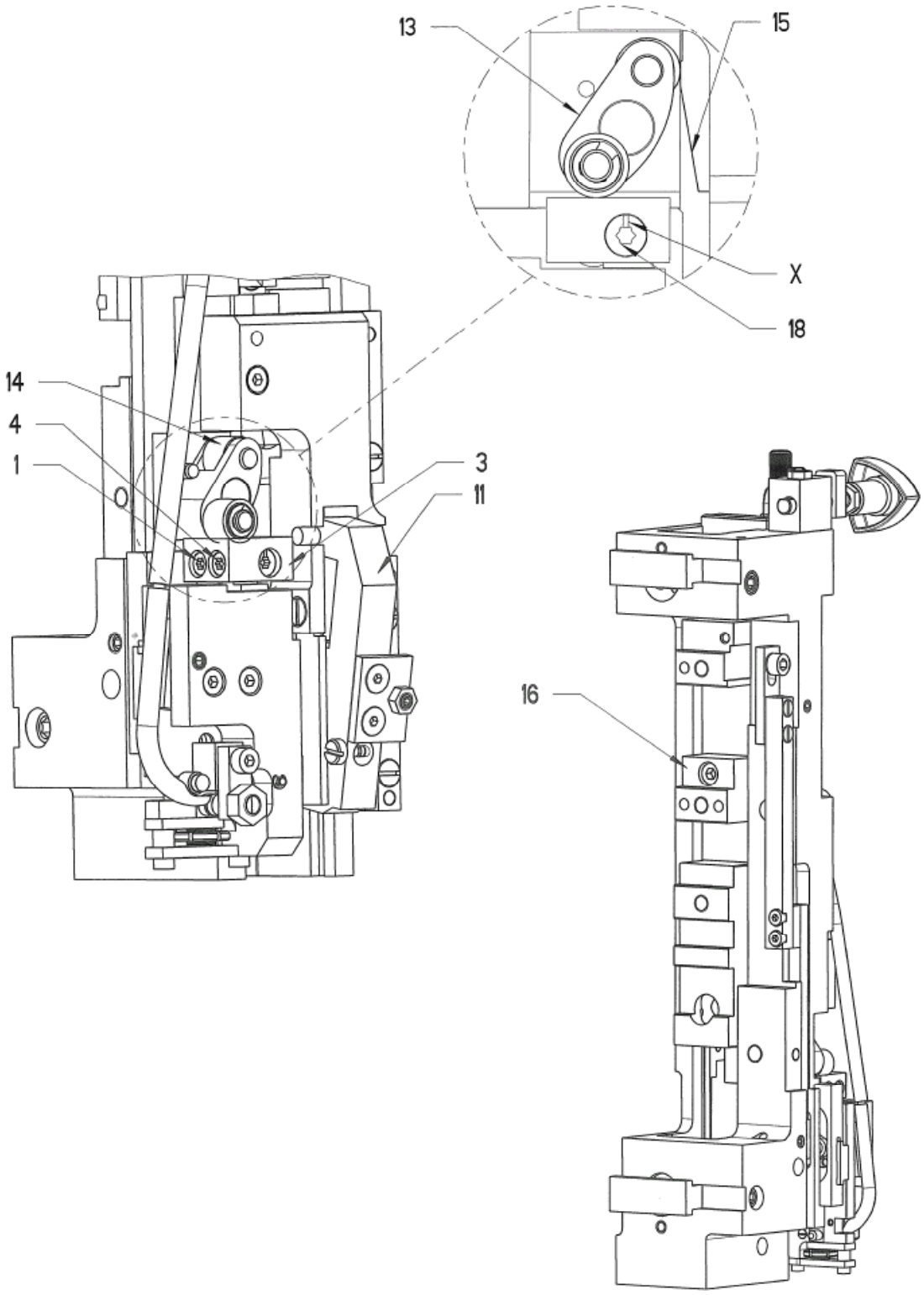
Attention: Please switch off the stitching aggregate in every case and observe the safety rules of the machine manufacturer!

- The adjustment will be made when the knife box is being installed, **without** stitching wire (the adjustment should be made independent from the thickness of the wire).
- Stop the wire transport > then the slide bars can be moved easier.
- Remove the screws **1** and **4** in the compression block
- Firstly turn the marking **X** of the eccentric screw **18** to the highest position (see illustration).
- Bring the cutting ramp **15** (controlled by the pusher) in such a position that the upper bearing roll of the cutting rocker **13** stands on the highest point of the cutting ramp (see illustration).
- Move the upper knife downwards by turning the eccentric screw **18** carefully and then come up to the lower knife carefully until a slight resistance is felt.
  It has to be observed that the pressure on the knives is not too high, which would have as a result thereof a very high wear and tear of the complete system. The life limit of the stitching head would in this case reduced strongly.
- Fix the screws **1** and **4** in the compression block.
- Install the stitching head into the stitching aggregate.

Before making stitching tests respectively production please remove the complete tools of the stitching head and of the machine!

- Make a test stitching. When the wire will not be cut correctly then re-adjust the upper knife once again (by a slight turning at the eccentric screw **18**).

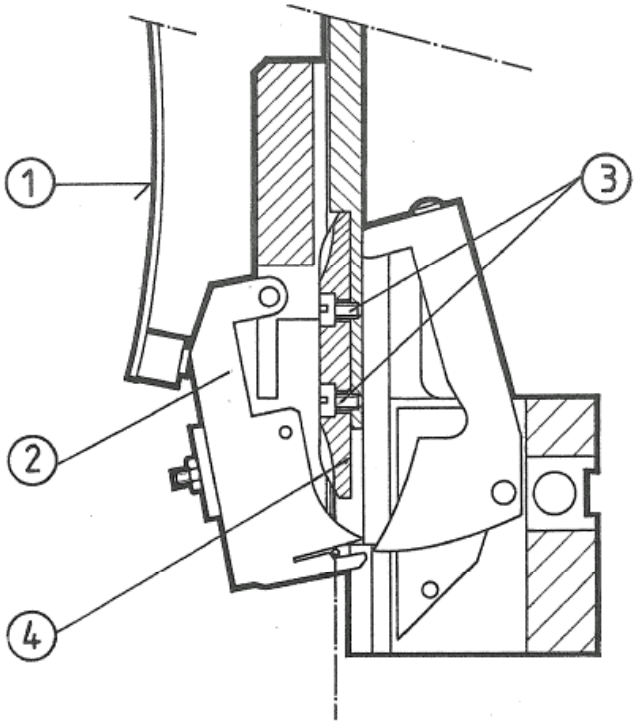
View from the front !



15. Exchange the driver

Displace the clincher box laterally, than rotate the driver bar until the driver is at the upper end of its stroke. Remove the former spring **1** and the former **2** . Loosen both slotted cheese head screw **3** and pull driver **4** downwards. The driver is doubleended and may be reversed.

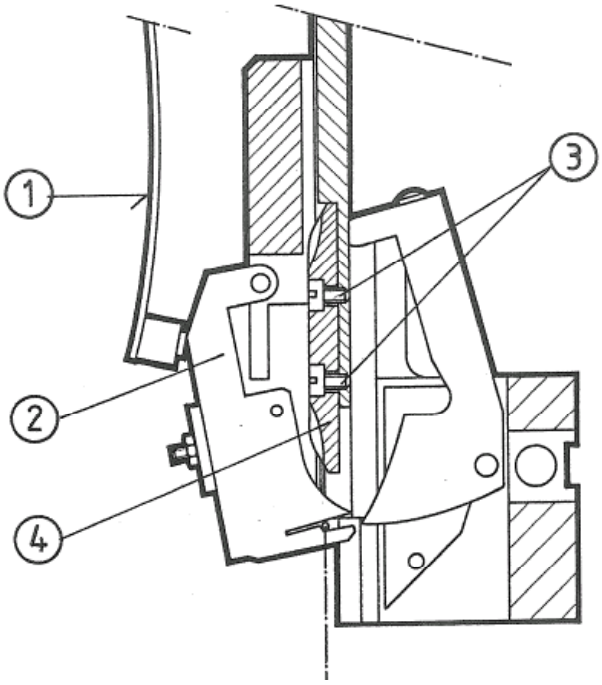
Assemble in reversed order.

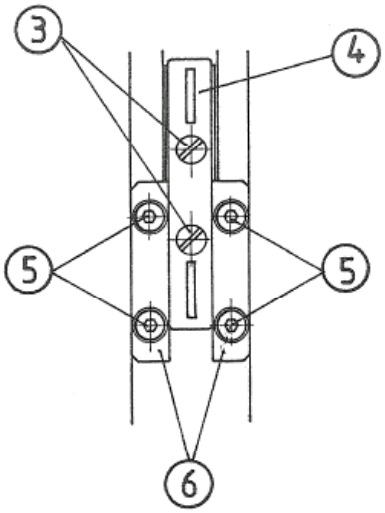


16. Exchange the bender

Rotate the unit until the four hexagon socket head cap screw **5** are easy to loosen. Remove the former spring **1** and the former **2** . Loosen the four hexagon socket head cap screw **5** and pull the benders **6** downwards.

Assemble in reversed order. Plaese pay attention that the bender **6** press against the lip on the main pusher.

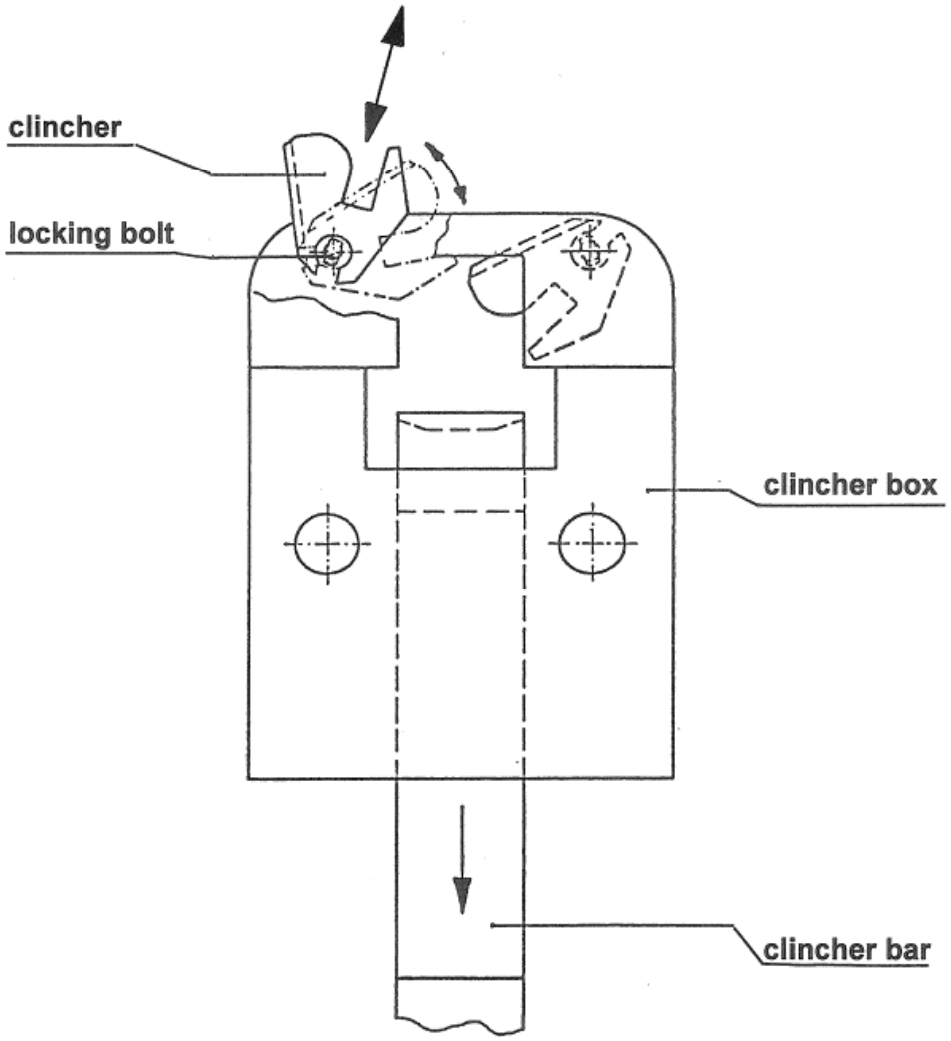




17. Exchange the clinchers

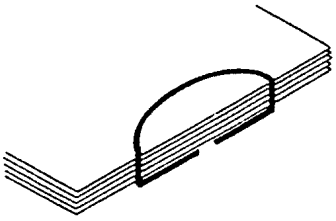
Pull clincher bar downwards, turn clinchers in the clincher box upwards and extract them out of the locking bolt.

Push in two new clinchers into the clincher box, turn them down and insert clincher bar again.



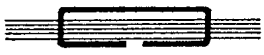
18. Trouble shooter's guide, faults and their correction

Here are some axamples 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 makin tests in between. Worn out parts should be exchanged.



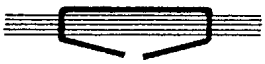
Staple back arche:

- wire weak or soft
- wire not straightened: see chapter 11
- lknives worn out: see chapter 13
- pressure of the shoe tongue weak or blocked: remove blocking ire 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 15
  clean wire groove rsp. 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:

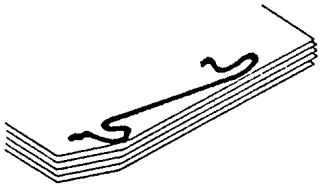
- pressure of the stitching too weak: adjust stitching aggregate to stitching thickness
- clincher do not go upwards enough: adjust pression for the clincher lifting at the stitching aggregate
- timing from clincher actuation to lifting actuation ot correct: stitching aggregate must be adjusted again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

Staple back does not lay tight, is saddle shaped:

- pressure of the stitching too weak: adjust stitching aggregate to stitching thicknes
- 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 11
- clincher box must be aligned: see chapter 7
- staple legs not equal length: see chapter 10
- overall wire length too short: see chapter 9
- knives worn out: see chapter 13

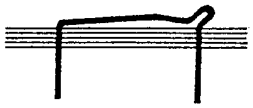


Wire does not pierce through and builds sling:

- wire weak or soft
- groove in the bender is clogged by wire pieces
- knives worn out: see chapter 13
- wire groove in the driver ist dirty, worn out or broken out: remove driver, see chapter 15
  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

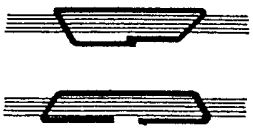
Staples legs break off:

- wire ist brittle: use orthe wire quality
- former is blocked by wire pieces: remove wire pieces, eventually remove former
- tension spring or gripper in former defective
- wire sizes does not coincide with the wire bender parts (bender and driver)
- adjust the former to the groove of the bender



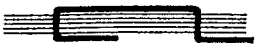
Bulge at one staple edge:

- wire weak or soft
- driver is broken out: see chapter 15
- knives worn out: see chapter 13



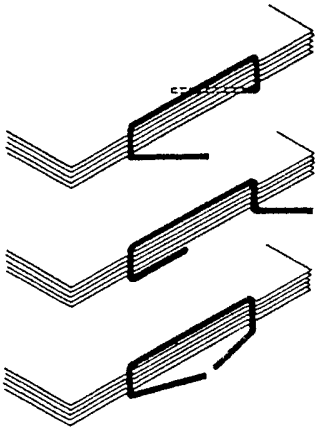
Staple legs run together or apart:

- wire not straightened: see chapter 11
- knives worn out: see chapter 13



One leg is formed wrong:

- wire not straightened: see chapter 11
- clincher box must be aligned: see chapter 7



One or both legs are formed diagonally:

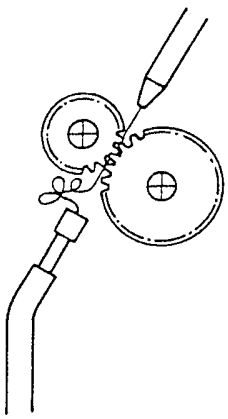
- wire weak or soft
- wire not straightened: see chapter 11
- knives worn out: see chapter 13
- clinchers broken out: see chapter 17
- adjustment of the cutting box receiver to the stit.head see chapter 6

Staple legs are formed diagonally to the same side:

- wire not straightend: see chapter 11
- adjustment of the cutting box receiver to the stit.head rec. see chapter 6

Slightly formed wire pieces trop out:

- wire not straightened: see chapter 11
- hook spring in the bender is defective or bender worn out



Snarled wire between transport wheels and wire tube:

- wire not straightened: see chapter 11
- cutting pusher is jamming: round knife is pressed against flat knife, see chapter 14
- cutting rocker is blocked, compression spring in the cutting block is defective
- lower wire tube misplaced or wrongly adjusted: move slinghtly upwards or downwards
- former wrongly adjusted: see chapter 12

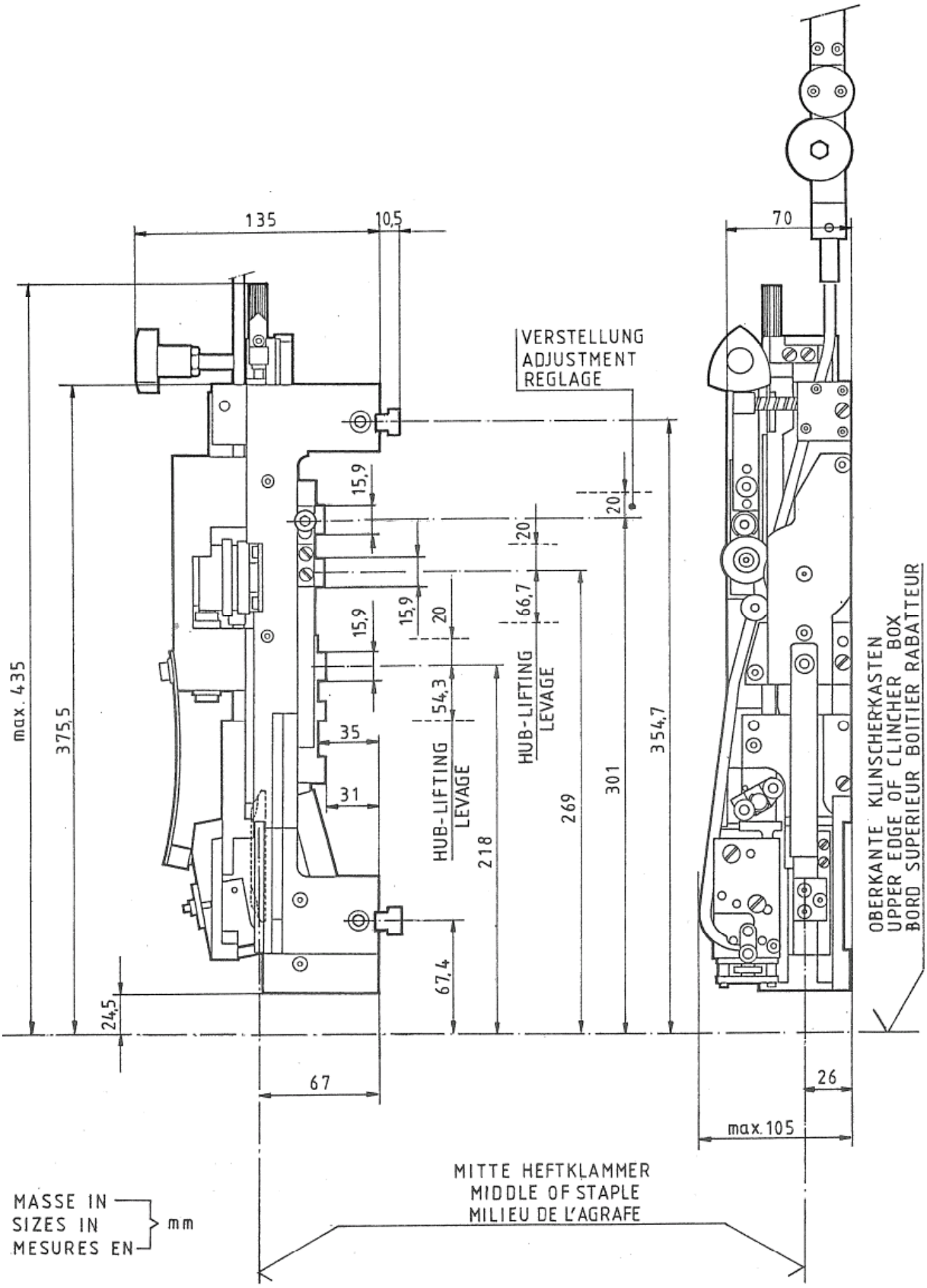
Troubleshooting - loop stitching:

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

Only straight wire pieces appear:

- wire not straightened: see chapter 11
- former wrongly adjusted: see chapter 12

19. Important sizes of the narrow stitching head



20. Fondation plan of the clincher box and stitching head mounting