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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:

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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 Ø
0.024 - 0.020 in. Ø

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 loosing 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.
I. General and Services

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.
I. **General and Services**

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.
I. **General and Services**

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.
I. **General and Services**

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
I. **General and Services**

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.
I. General and Services

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.
I. **General and Services**

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.
I. General and Services

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.
I. **General and Services**

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).
I. General and Services

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.
I. **General and Services**

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**

![Diagram showing fitting of holding down device with correct and incorrect placements indicated.](image_url)
**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 centering V-block 17 can be moved backwards or forwards by turning the adjusting screw 16.

- Move centering 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 pression 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 its 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 is 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 do 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 trop 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, see chapter 14b
- cutting rocker is blocked, compression spring in the cutting block is defective
- 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.chapte 11
- wire not straightened: see chapter 9
- former wrongly adjusted: see chapter 12