

SERVICE

**electra 3000 A**

ANLEITUNG

INSTRUCTION

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# ASSEMBLY INSTRUCTIONS

for

**electra 3000 A**

(VALID AS FROM SERIAL-NO.109201)

IMPORTANT:

I. The electra 3000A (as from serial-no. 109201) can no more be fitted to:

- DUOMATIC pink and blue
- DUOMATIC - 80, serial no. 3'000'001 - 3'005'000 and 199001 - 199100

II. The electra 3000A (as from serial-no. 109201) can be fitted to:

- DUOMATIC - 80, as from serial-no. 3'005'001
- All DUO 80 single bed rebuilt into double bed (pay attention to serial-no. on needle bed back)
- DUOMATIC - S, all variants
- TRICOMAT - 32, all variants

DO FIRST  
 \* III. The electra 3000A can only be-fitted if there is already or will be a COLOR or a SPECIAL two-colour changer on the knitting machine!  
Without the COLOR or SPECIAL two-colour changer, the locks could fall on the floor on the right-hand side of the knitting machine!

IV. If you intend to fit the electra 3000 (up to serial-no. 109200) according to these instructions also in the new fastening method, a special fastening kit may be ordered for it: Art.no. 12.992.00 fastening kit E-3000.

Please note that points I-III above do also apply in this case.

1. General information on fitting the electra 3000A.

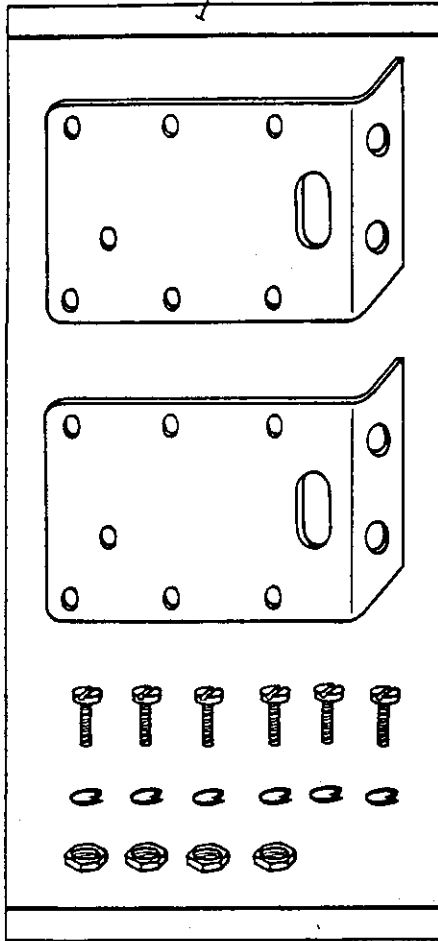
- Open the box (packing) and check that the voltage indicated on the covering plate of the electra is exactly the same as the voltage in your home. If this is not the case, do not use the electra!

- The box (packing) contains the following items:

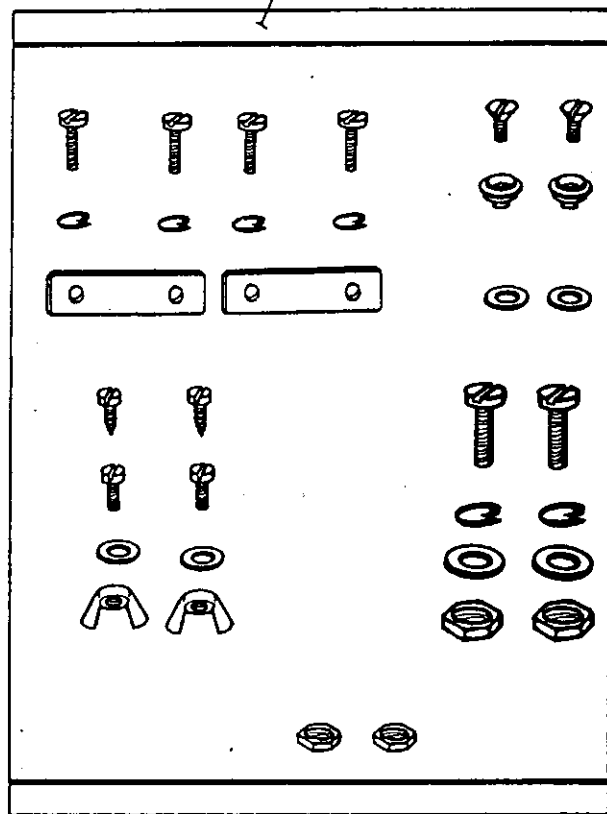
- 1 electra 3000A
- 1 Foot controller art.no. 12.830.03 for E-3000/E-3000A  
OR  
 Foot controller art.no. 12.857.03 for E-3000/E-3000A for USA/CDN  
OR  
 Foot controller art.no. 12.970.03 for E-3000/E-3000A for Australia
- 1 Operating instructions for E-3000/E-3000A
- 1 Plastic bag (large) art.no. 12.510.20, containing:
  - 1 Plastic bag art.no. 12.511.11 VM-Connecting parts for RT-63/RT-80/DM
  - 1 Plastic bag art.no. 12.512.01 VM-Fastening parts necessary only for  
RT-80
  - 1 Driver for cam box art.no. 12.514.12
  - 2 Angular bracket compl. " " 12.535.13
  - 1 Ratchet lever compl. " " 12.559.03 (for FORMA)
  - 1 Control bar compl. " " 12.607.02
  - 1 Racking plate compl. " " 12.985.01
  - 1 Assembling cardboard " " 12.993.02

12.510.20

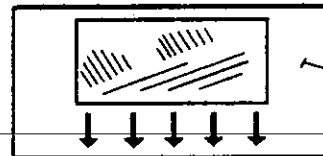
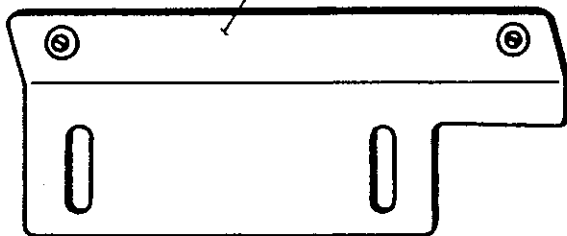
12.512.01



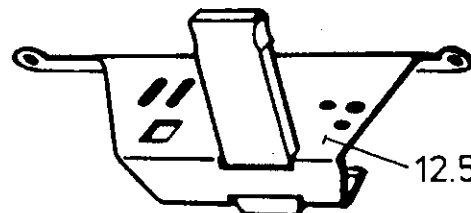
12.511.11



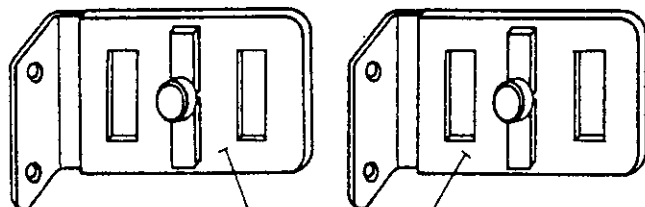
12.985.01



12.993.02

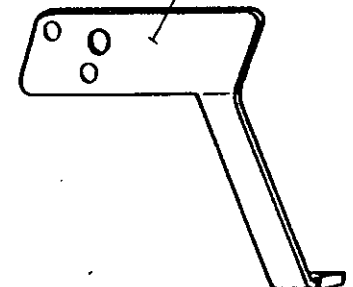


12.514.12

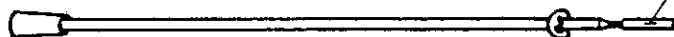


12.535.13

12.559.03



12.607.02



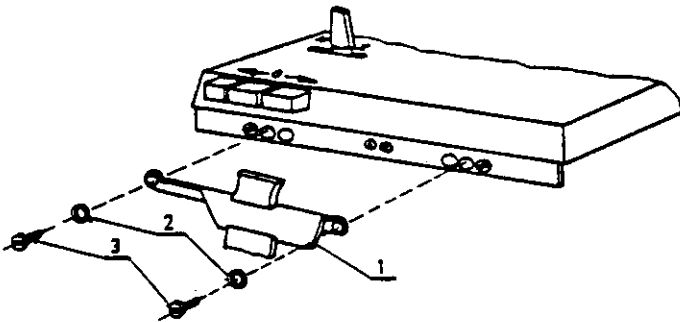
**NOTE:** - After fitting the electra 3000A, various parts will be left over, the reason being that all the parts necessary for fitting the electra either to the DUOMATIC 80/DUOMATIC-S/TRICOMAT-32 and to the stands RT-63/RT-80 are included. Also included are the parts needed for fitting the FORMA, the Lamp, and the multiple yarn guides MFS-80 and MFS-72.

- Do therefore not throw away the parts left over as you will need these on the purchase of a FORMA, Lamp or MFS-80.

2. Fitting the electra 3000A

DUOMATIC 80:

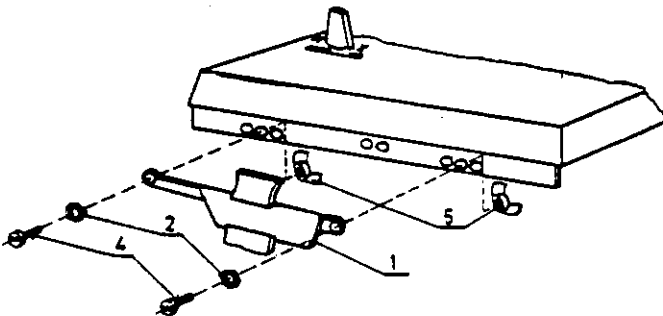
Driver for cam box fitted to cam box back.



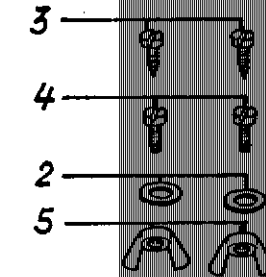
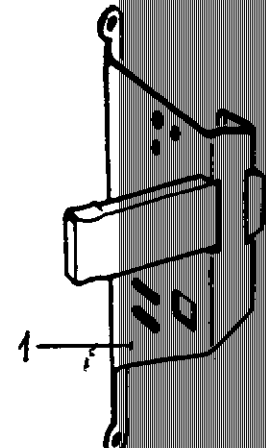
- 1 art.no. 12.514.12 Driver for cam box (1)
- 2 art.no. 90.711.23 Tension disk M 3 (2)
- 2 art.no. 12.309.02 Cylinder screw M3x6,5 (3)  
colour white

DUOMATIC-S and TRICOMAT-32:

Driver for cam box fitted to cam box back.

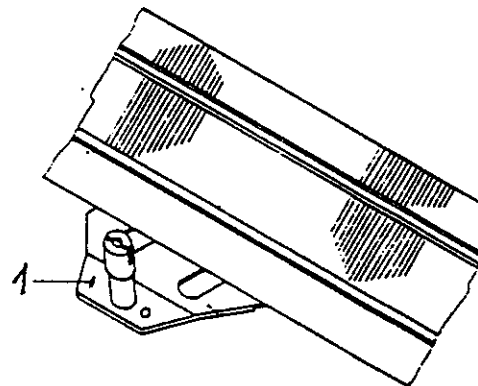


- 1 art.no. 12.514.12 Driver for cam box (1)
- 2 art.no. 90.711.23 Tension disk M 3 (2)
- 2 art.no. 90.412.32 Cylinder screw M3x8 col.yellow (4)
- 2 art.no. 90.640.01 Wing nut M3 (5)



OMIT (I will do)!!

3. Unscrew the support for mast (1) if there is one fitted.
- Should there already be a COLOR twin support, there is no need to unscrew it.



4. For electra 3000A with DUOMATIC 80, DUOMATIC-S and TRICOMAT-32:
- If there is no COLOR 80 or SPECIAL two-colour changer fitted, this must now be done.
  - Assembly COLOR 80, following the instructions 33.269.83
  - Assembly SPECIAL two-colour changer, following the instructions 33.610.83

IMPORTANT:

The fitting must be done by properly trained staff of the agency.

5. † a) If you intend to fit the electra 3000A to the Stand-63 (RT-63), continue fitting at point 6.
- b) If you intend to fit the electra 3000A to the Stand-80 (RT-80), continue fitting at point 9.

6. Attaching the electra to stand RT-63

Points 6, 7 and 8 apply only to attaching the electra to the stand RT-63.

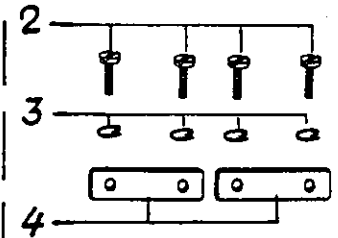
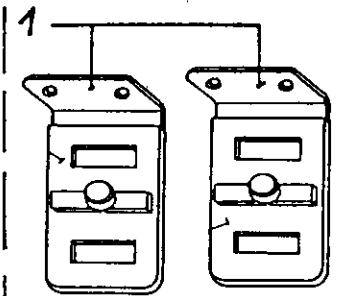
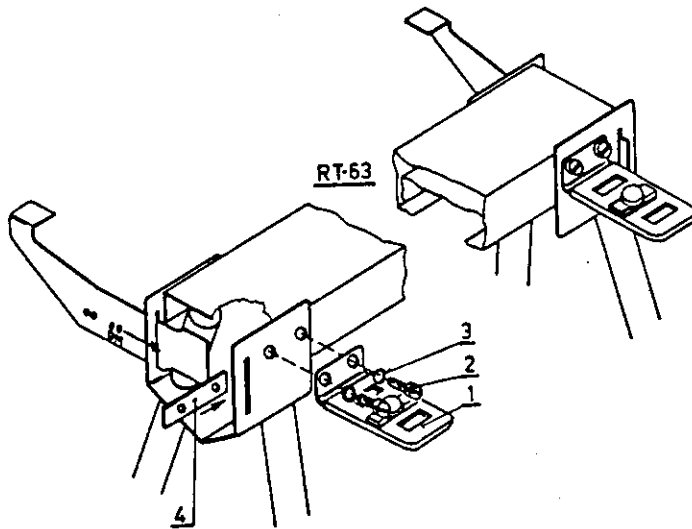
2 art.no. 12.535.13 Angular bracket (1)

to be mounted with:

4 art.no. 90.413.61 Cylinder screw M 4x12 (2)

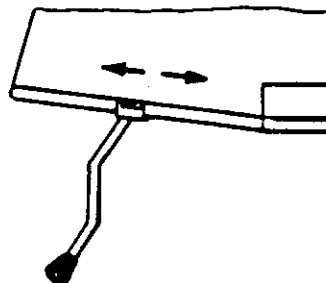
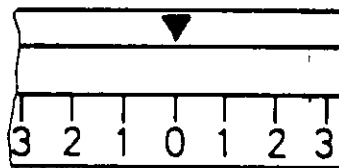
4 " " 90.700.51 Spring washer M 4 (3)

2 " " 12.991.02 Fixing plate M 4 (4)



7. - Place the machine on to stand RT-63 and use the two clamps to fix it, at the same time pulling the machine towards you.

- Insert the racking handle into the machine, racking set to 0, and racking handle down (see sketch).



8. Now follow point 11 (points 9 and 10 apply only to the fitting onto stand RT-80).

9. Attaching the electra to stand RT-80

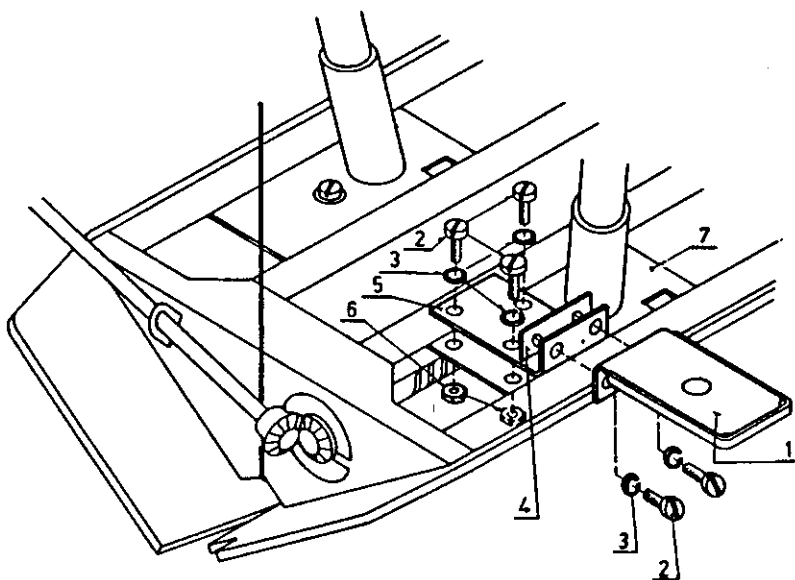
Points 9 and 10 apply only to attaching the electra to the stand RT-80.

Remove both cam boxes and the edge springs from the machine and place the machine and stand RT-80 on a work table (see sketch).

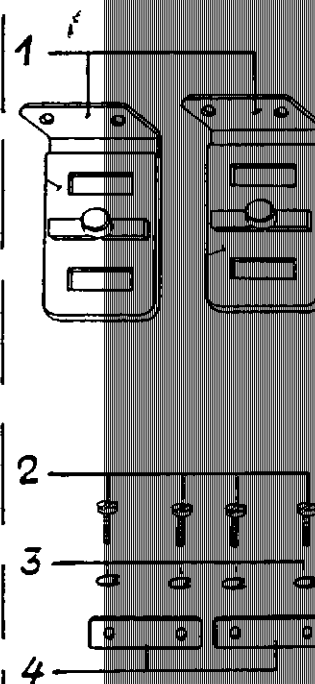
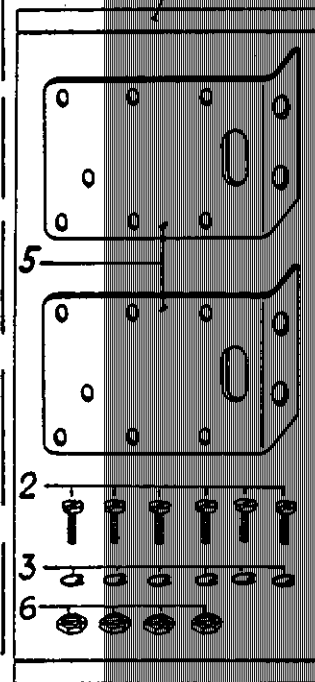
To be able to fit the parts number (5), the 2 screws on the 2 parts numbered (7) on the left and right have to be unscrewed.

Assemble the following parts according to the sketch:

- |   |         |           |                                 |     |
|---|---------|-----------|---------------------------------|-----|
| 2 | art.no. | 12.536.02 | Angle plate                     | (5) |
| 6 | "       | "         | 90.413.61 Cylinder screw M 4x12 | (2) |
| 6 | "       | "         | 90.700.51 Spring washer M 4     | (3) |
| 4 | "       | "         | 90.605.53 Hexagon nut M 4       | (6) |
| 2 | "       | "         | 12.535.13 Angular bracket       | (1) |
| 4 | "       | "         | 90.413.61 Cylinder screw M 4x12 | (2) |
| 4 | "       | "         | 90.700.51 Spring washer M 4     | (3) |
| 2 | "       | "         | 12.991.02 Fixing plate M 4      | (4) |



12.512.01

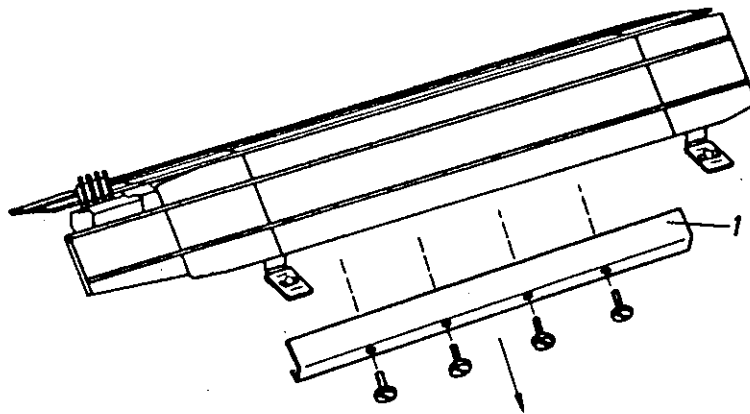


10. - Place stand RT-80 with machine upright on the floor.

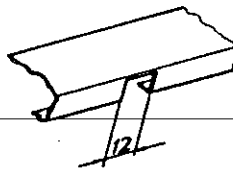
- Insert racking handle into the machine and set racking to '0', acc. to sketch given for point 7.

11. a) If you intend to fit the electra to a DUOMATIC-S or TRICOMAT-32, the protecting plate (1) art.no. 16.962.02 on needle bed back has to be unscrewed, according to sketch below. If you do not intend to fit the protecting plate (1) any more, you have to continue fitting with point 12.

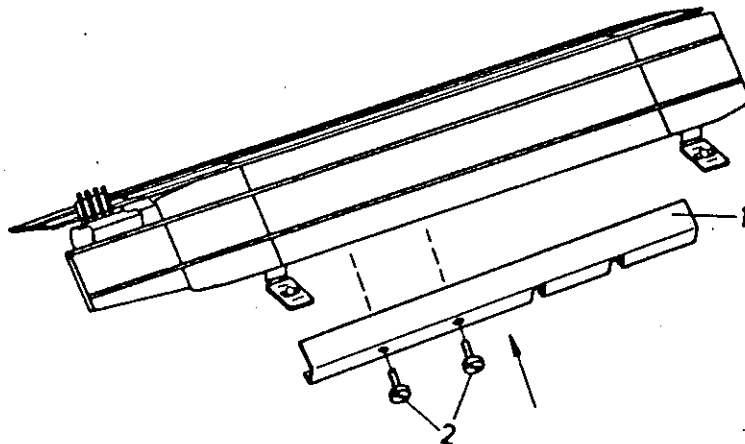
If you intend to fit again the protecting plate, b and c have also to be followed.



- b) On protecting plate (16.962.02) on the right-hand side, cut off 2 slits, acc. to sketch below.



- c) Screw on again protecting plate (1) with the two screws 2, acc. to sketch below.



DMT



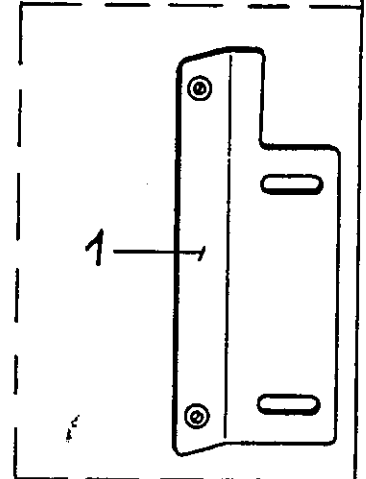
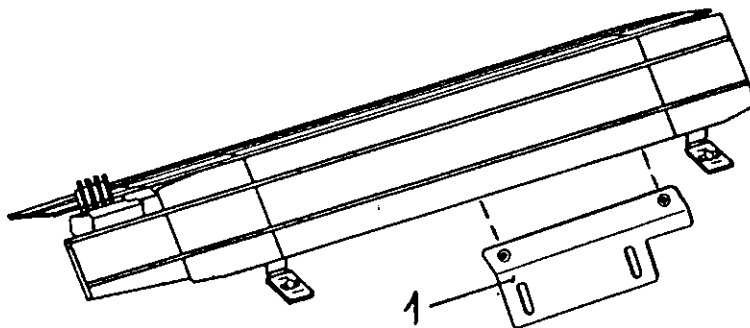
## 12. Fitting the electra on DUOMATIC-80, DUOMATIC-S and TRICOMAT-32

### Attention:

- a) For DUOMATIC-80 with a serial-no. between 3'005'001 and 3'175'000 as well as 0001-0700, you have to continue fitting with point 13. Otherwise continue fitting at b. You will find the serial-no. on the machine on the side plate right-front and left-back.

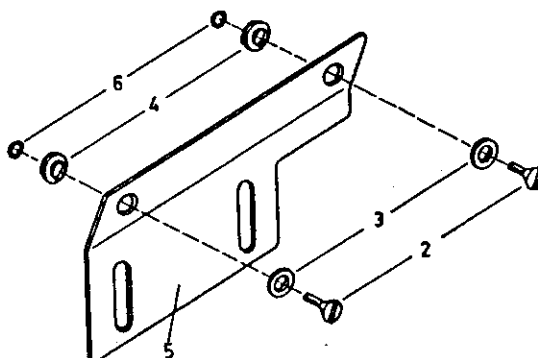
- b) Screw on racking plate compl. (1) art.no. 12.985.01 on the machine, acc. to sketch below.

If parts have fallen off on racking plate compl. (1) during transportation, the racking plate compl. can be assembled again, acc. to paragraph c).

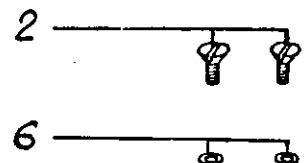


- c) Assembling of racking plate compl. (1) art.no. 12.985.01, if parts have fallen off, acc. to sketch below.

1 x art.no.	12.986.02	Racking plate	(5)
2 x "	"	90.302.22 Countersunk screw M 3x6	(2)
2 x "	"	16.825.02 Special spring washer	(3)
2 x "	"	16.823.02 Spacing bush	(4)
2 x "	"	90.768.71 Washer (red)	(6)



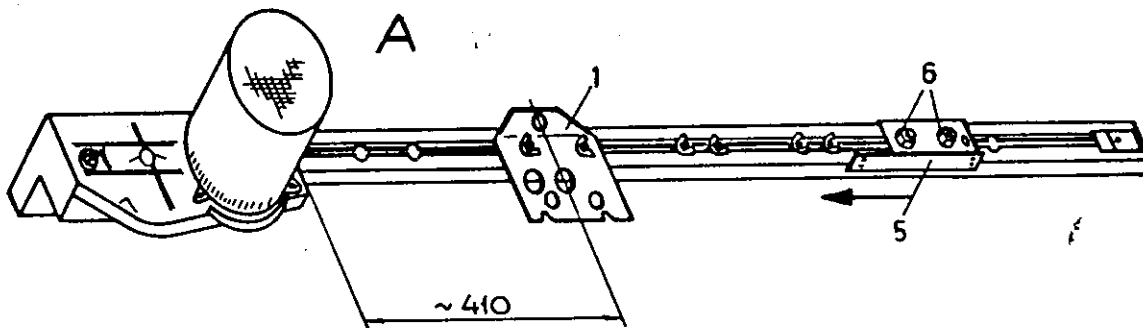
Reserve parts from plastic bag  
12.511.11



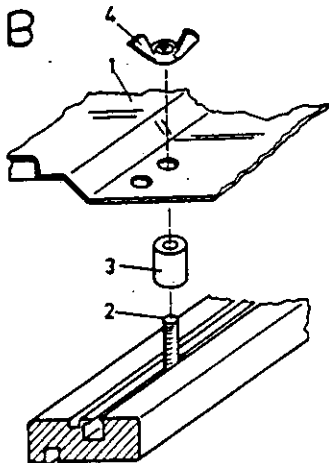
13. a) Put the electra on a work table, acc. to sketch A below.
- b) With stand-63 (RT-63) the support for mast (1) has to be fitted acc. to sketches (below) A+B. The necessary screws etc. are already fitted on the electra.
- c) With stand-80 (RT-80) the support for mast (1) has to be fitted acc. to sketches (below) A+C. The necessary screws etc. are already fitted on the electra.
- d) Only with stand-80 (RT-80):

Acc. to sketch A, loosen the two sleeve nuts (6) on racking angle compl. (5) art.no. 12.987.01 and move the racking angle compl. (5) approx. 100 mm to the left.

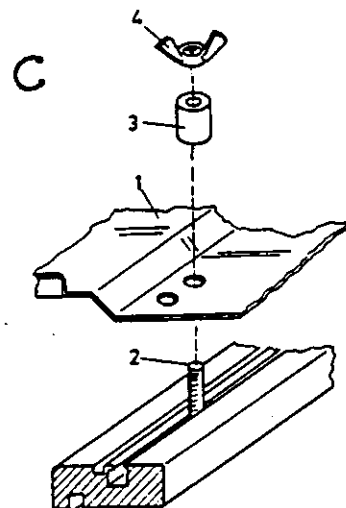
1 x art.no. 16.050.03	Support for mast compl.	(1)
2 x " " 12.551.02	Spec. hexagon screw M 4x20	(2)
2 x " " 12.553.02	Distance tube D 5/13x11	(3)
2 x " " 90.640.17	Wing nut M 4	(4)



With stand-63 (RT-63)



With stand-80 (RT-80)



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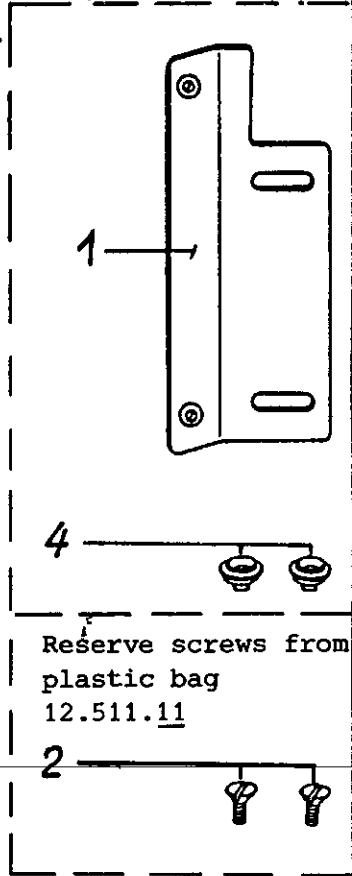
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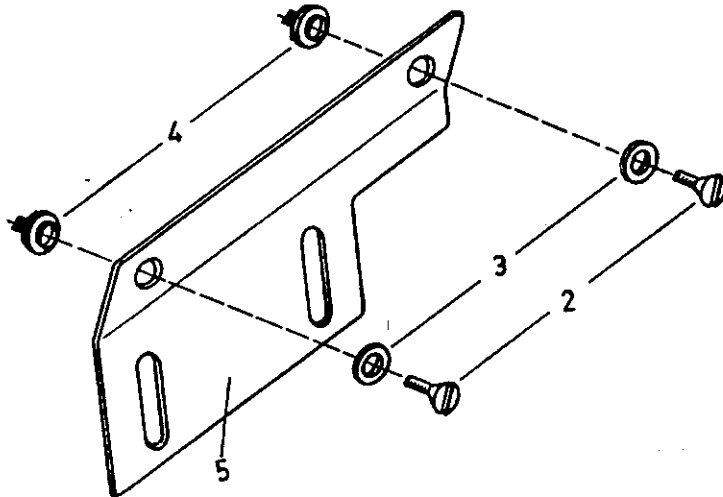
14. This point 14 is valid only for fitting the electra to a DUOMATIC-80 with serial-no. between 3'005'001 and 3'175'000 as well as 0001-0700.

For all other machines you have to continue fitting with point 15.

- On racking plate compl. (1) art.no. 12.985.01 take off the two small washers (red) and the two spacing bushes. These are the parts (6) and (4) in section c on page 8.
- From plastic bag take the two special nuts (4) and screw them on to the racking plate, acc. to sketch below.
- On both screwed-on special nuts (4) oil slightly the projecting small bolt.
- Continue fitting with point 15.

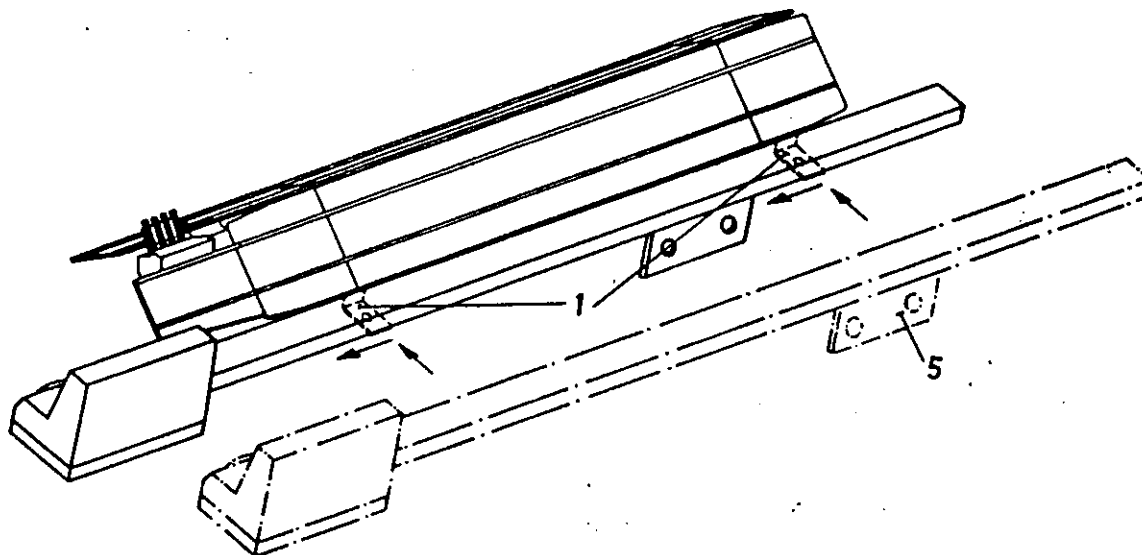


1 x art.no.	12.986.02	Racking plate	(5)
2 x "	"	90.302.22	Countersunk screw M 3x6 (2)
2 x "	"	16.825.05	Special spring washer (3)
2 x "	"	12.990.02	Special nut M 3 (4)



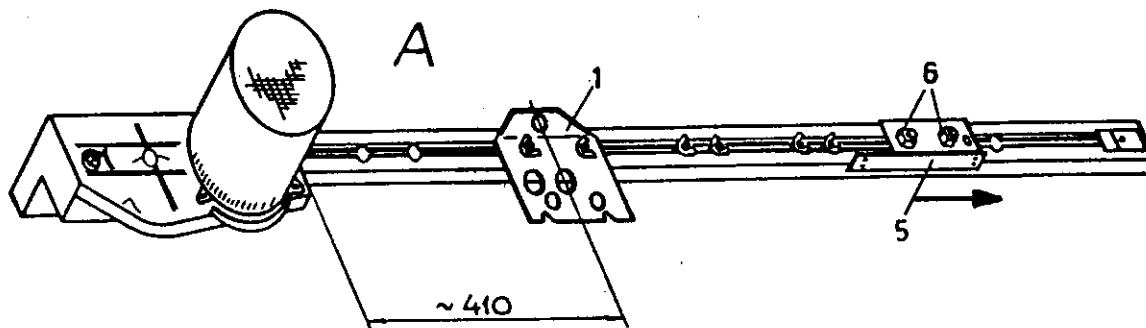
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15. a) Place the electra on the two angular brackets (1) on the stand RT-63 or stand RT-80 and shift sideways the electra, acc. to sketch.



b) Only with stand-80 (RT-80)

Push back the formerly shifted racking angle compl. (5) in its correct position again and tighten again slightly the formerly loosened two sleeve nuts (6), acc. to sketch A (view from below).

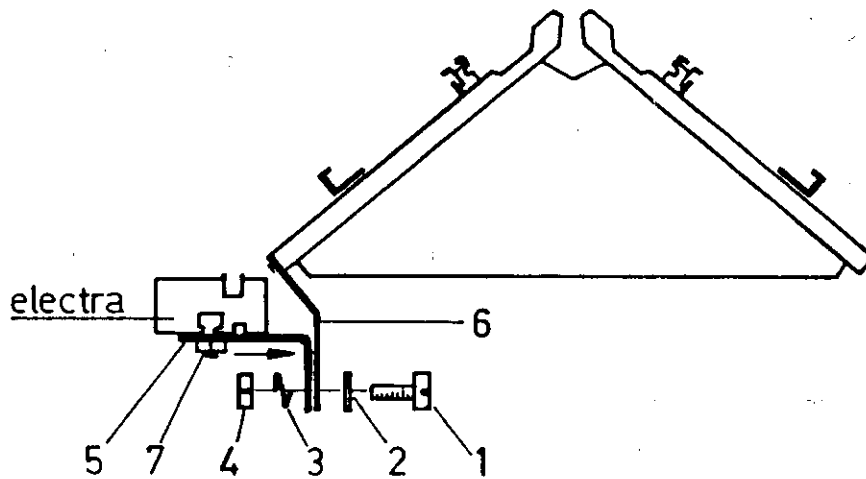
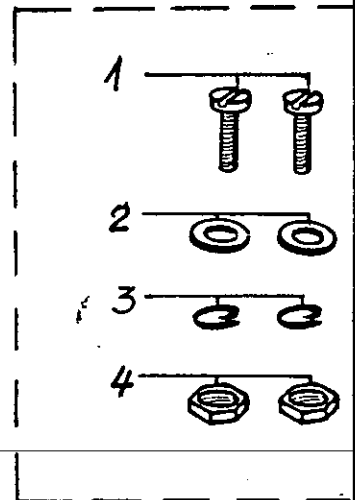


c) If DUOMATIC-80 with serial-no. between 3'005'001 and 3'175'000, as well as 0001-0700, you have to continue with point 17.

For all other machines you have to continue fitting with point 16.

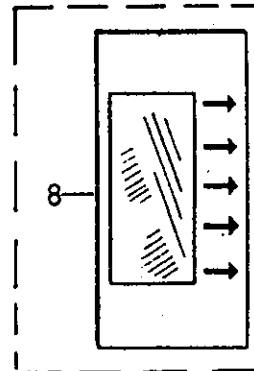
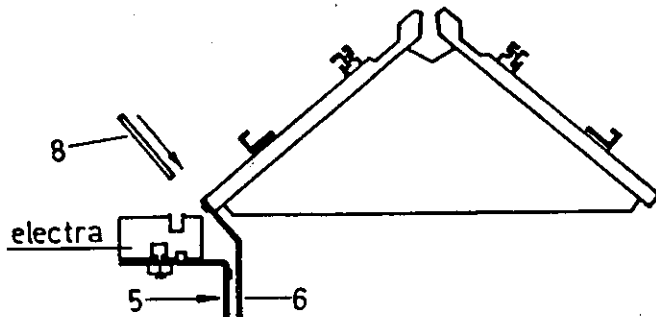
- 16. a) Shift the electra and the racking angle (5) until the two projecting pegs of the racking angle (5) fit exactly into the two slits of the racking plate (6).  
Important, the two parts (5) and (6) have to be opposite adjacent without any spacing, acc. to sketch below.
- b) Screw up racking angle (5) and racking plate (6), acc. to sketch below, with parts 1-4.
- c) Tighten well the two sleeve nuts (7) on the racking angle (5).
- d) Check racking by turning the racking handle to the left and right.  
Set racking to 0 again, racking handle down.
- e) Continue fitting with point 18.

2 x art.no.	90.416.21	Cylinder screw M 6x12	(1)
2 x "	"	90.755.71 Washer D 6,4/11x1,6	(2)
2 x "	"	90.700.71 Spring washer M 6	(3)
2 x "	"	90.605.72 Hexacon nut M 6	(4)



17. a) This point 17 is only valid when fitting the electra to a DUOMATIC-80 with serial-no. between 3'005'001 and 3'175'000, as well as 0001-0700.

b) Put the racking plate (6) acc. to sketch in the two holes provided for on needle bed back. Hold racking plate (6) and fix it in this position using the assembling cardboard (8) art.no. 12.993.02.



c) Shift the electra and racking angle (5) until the two projecting pegs of the racking angle (5) fit exactly into the two slits of the racking plate (6).

Important, the two parts (5) and (6) have to be opposite adjacent without any spacing, acc. to sketch below.

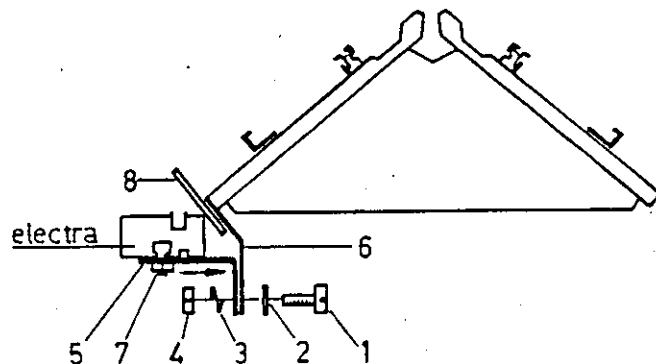
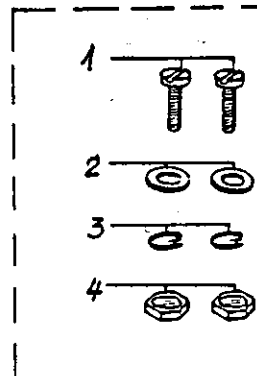
d) Screw up racking angle (5) and racking plate (6), acc. to sketch below, with parts 1-4.

e) Tighten well the two sleeve nuts (7) on the racking angle (5) and take off again the assembling cardboard (8).

f) Check racking, by turning the racking handle to the left and right. Set racking to 0 again, racking handle down.

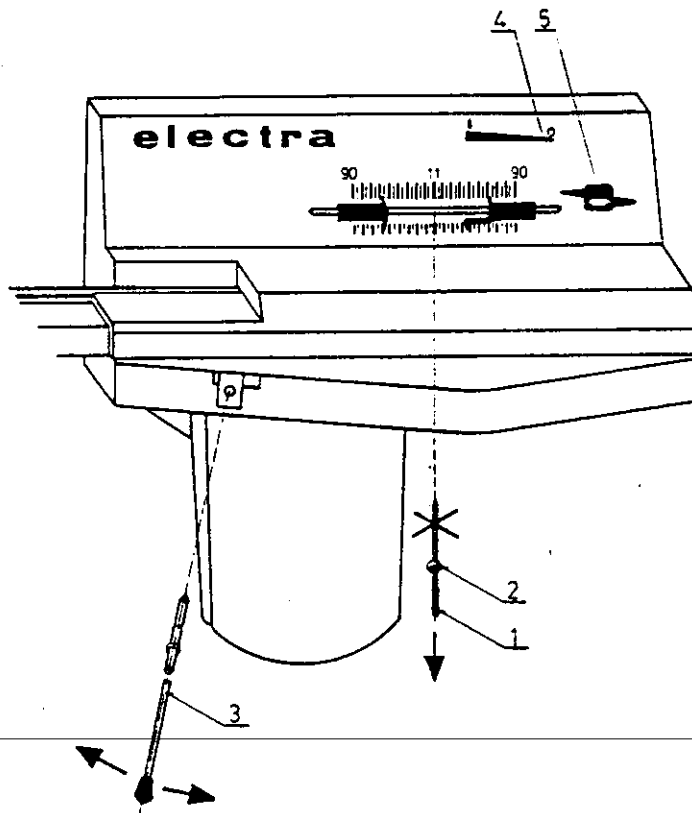
g) Continue fitting with point 18.

2 x art.no. 90.416.21	Cylinder screw M 6x12	(1)
2 x " "	90.755.71 Washer D 6,4/11x1,6	(2)
2 x " "	90.700.71 Spring washer M 6	(3)
2 x " "	90.605.72 Hexagon nut M 6	(4)



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- 18. - Unscrew the transport screw (1) art.no. 12.764.02 and washer (2) art.no. 90.755.17, at (11) on the scale, and keep safe.
- Insert the control bar (3) art.no. 12.607.02 into the COLOR switch and push to the left.
- Set tipping switch (4) on zero.



Note:

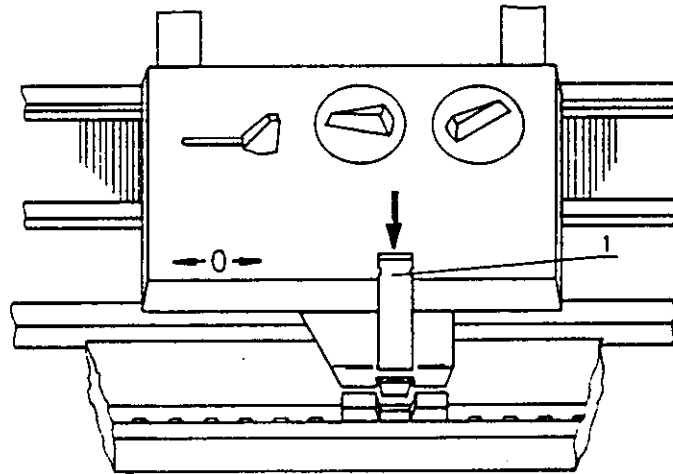
During the transport of the electra (by rail or road), the transport screw (1) and the washer (2) have to be screwed in at number 11 on the scale.

The transport screw (1) can only be screwed in if the direction indicator (5) points to the right, i.e. is down.

- 19. Insert the yarn tensioners, acc. to the instruction book of the knitting machine.

20. - Place cam box back (with driver for cam box) on the machine and connect to the electra by pressing the slider (1) into the clutch on the toothed belt as shown in the sketch below.

Place cam box front on the machine and connect to cam box back.



- \* 21. - Plug foot controller cable into socket on electra.
- Plug mains plug into wall socket.
- The electra is now ready for use by following the enclosed operating instructions.
- Before actually knitting with the electra, become fully acquainted with it by operating it without wool and following the instructions very carefully.

22. On the next pages fitting of the following accessories to the electra is shown:

- FORMA
- Lamp
- MFS-80 and MFS-72 (Multiple yarn guide)
- Fitting of the FORM COMPUTERS to the electra is shown in the instruction book art.no. 33.205.73 for FORM COMPUTER. Fitting to the electra 3000A is the same as to the electra 2000 and 3000.

3MIT

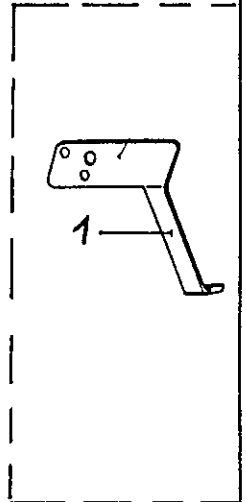
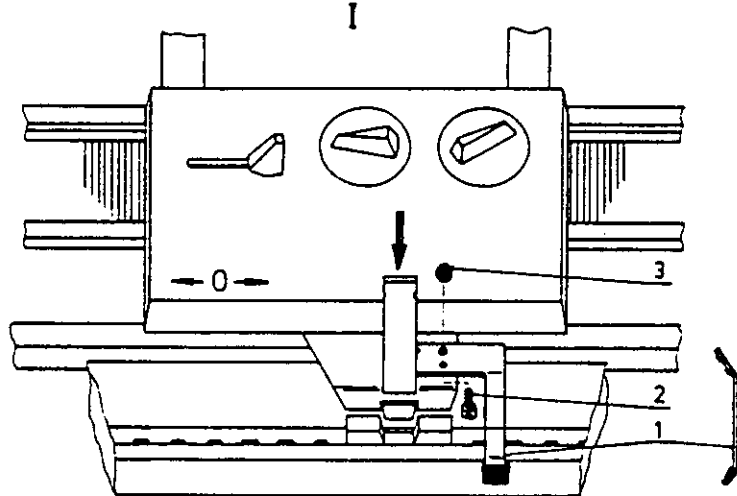


23. Attaching the FORMA to the electra

- Take the parts marked with a \* from the FORMA parts, all other parts are attached to or included with the electra.

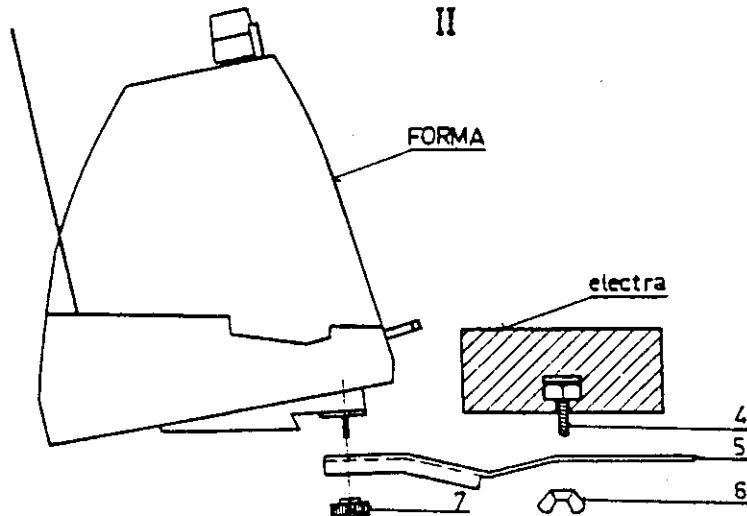
- Mount the following parts to the cam box back acc. to sketch I :

- 1 art.no. 12.559.03 Ratchet lever (1)
- \* 1 art.no. 90.413.41 Cylinder screw M 4x8 (2)
- \* 1 art.no. 90.605.53 Hexagon nut M 4 (3)



Attach the FORMA to the electra acc. to sketch II with the following parts:

- 2 art.no. 12.552.02 Special hexagon screw M 4x10 (4)
- \* 1 art.no. 17.015.02 Supporting foot (5)
- 2 art.no. 90.640.17 Wing nut M 4 (6)
- \* 2 art.no. 17.019.02 Knurled nut M 3 (7)



- Check the correct functioning of the FORMA (without the electra) by moving the cam box back and forth a few times. Should the distance between the FORMA and the cam box back not be correct, adjust as follows: Slightly loosen the 2 wing nuts (6), find the right distance, and tighten the wing nuts (6) again.

24. Attaching the Lamp to the electra

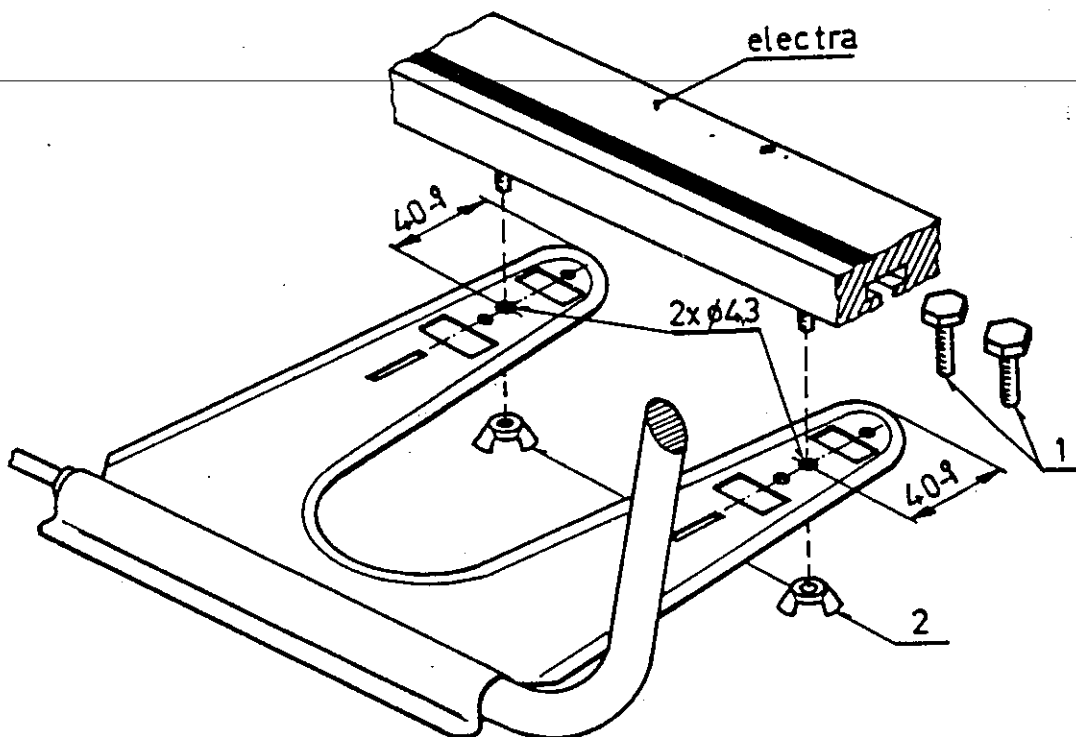
- Unscrew the 4 screws and nuts on the Lamp foot.
- If your Lamp does not have the 2 big holes ( $\varnothing$  4,3 mm), drill them as follows:

Acc. to the sketch, on the axle of the existing holes measure 40 mm from the edge and mark. Now drill the 2 additional holes of 4,3 mm  $\varnothing$  using a twist drill.

- Assemble the Lamp acc. to sketch using the following parts which are already attached to the electra:

2 x art.no. 12,552.02 Special hexagon screw M 4x10 (1)

2 x art.no. 90.640.17 Wing nut M 4 (2)

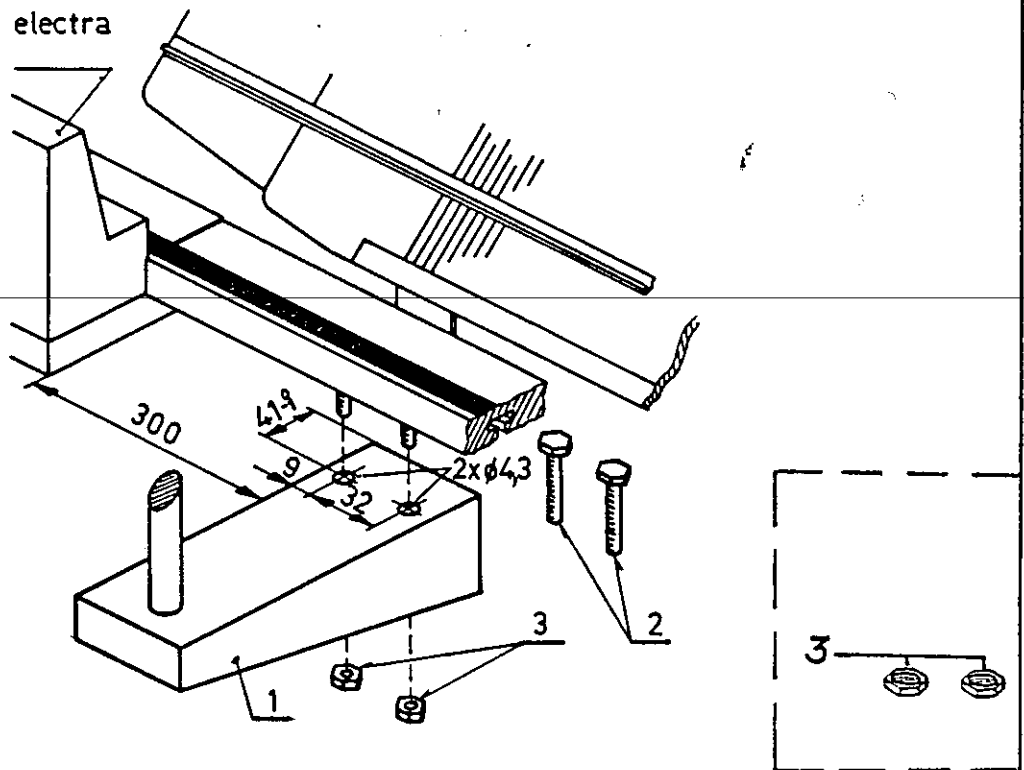


25. Attaching the MFS-80 or MFS-72 to the electra:

- If the lower carrier (1) does not yet have the 2 holes for fitting it to the electra, these 2 holes have to be drilled as follows:
- Acc. to sketch, mark the distances on the lower carrier (1).
- Using a twist drill of 4,3 mm Ø, drill the 2 holes.  
Ensure that you drill through both metal pieces.
- Fit the lower carrier (1) acc. to sketch using the following parts:

- 2 x art.no. 12.551.02 Special hexagon screw M 4x20 (2) (already attached)
- 2 x art.no. 90.605.53 Hexagon nut M 4 (3) (from plastic bag)

Note: The distance of 300 mm, as indicated in the sketch, between the electra and lower carrier (1) is necessary to be able to rack the needle bed back.



- Assemble the yarn tensioner acc. to operating instructions given for MFS.