

MBS 25F; MBS 16X



# Repair instructions

MBS 25F



MBS 16X





# Contents

- 1. Models described**
- 2. Technical data**
- 3. Notes / requirements**
- 4. Tools required**
- 5. Lubricants and auxiliary substances required**
- 6. Disassembly**
- 7. Assembly**
- 8. Troubleshooting**
- 9. Connection diagram**



## 1. Models described

These instructions describe how to repair the following models:

Model	Order no.
MBS 25F	9 03 19 223 00 0
MBS 16X	9 03 18 223 00 0



## 2. Technical data

### Technical data

The complete technical data can be found in the operating instructions for the specific model.

### Test data

Up-to-date test data for all models can be found on the FEIN Extranet (Customer Service → Repair Guides).

### Lubricants

The lubricants and container sizes available from FEIN can be found on the FEIN Extranet (Customer Service → Repair Guides).

### Lists of spare parts

Lists of spare parts and exploded views are available online at [www.fein.com](http://www.fein.com)



### 3. Notes / requirements

#### Note

These instructions are only intended for persons with suitable technical training. It is assumed that the reader has mechanical and electrical training.

**Only use original FEIN spare parts!**

#### Provisions

Please note that power tools may only be repaired, maintained and checked by a trained electrician, as improper repair can result in serious risks to the user.

The provisions set out in *DIN VDE 0701-0702* should be observed after repairs.

The relevant accident prevention regulations of the employers' liability insurance associations are to be observed when commissioning.

The German Equipment and Product Safety Act applies for correct use.

**Outside Germany, the regulations applicable in the relevant country must be observed!**



## 4. Tools required

### Standard tool

- Torx 15 and 20 screwdrivers
- Phillips head screwdriver
- Slotted screwdriver
- Socket wrenches: sizes 2.5; 3; 4; 5
- Size 17 ring wrench
- Arbor press
- Circlip pliers for  
inner and outer rings
- Inner bearing puller, 18-22 mm

### NOTE

Only special tools with an order number can  
be ordered from FEIN.



## 4. Tools required

### Standard tool

- Sleeve	Outer diameter	30mm
	Inner diameter	~26mm

### NOTE

Only special tools with an order number can be ordered from FEIN.



## 5. Lubricants and auxiliary substances required

### Lubricants

Grease	3 21 600 0306 1	5g	Shaft (spider), guide
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## 6. Disassembly

### Disassembling container

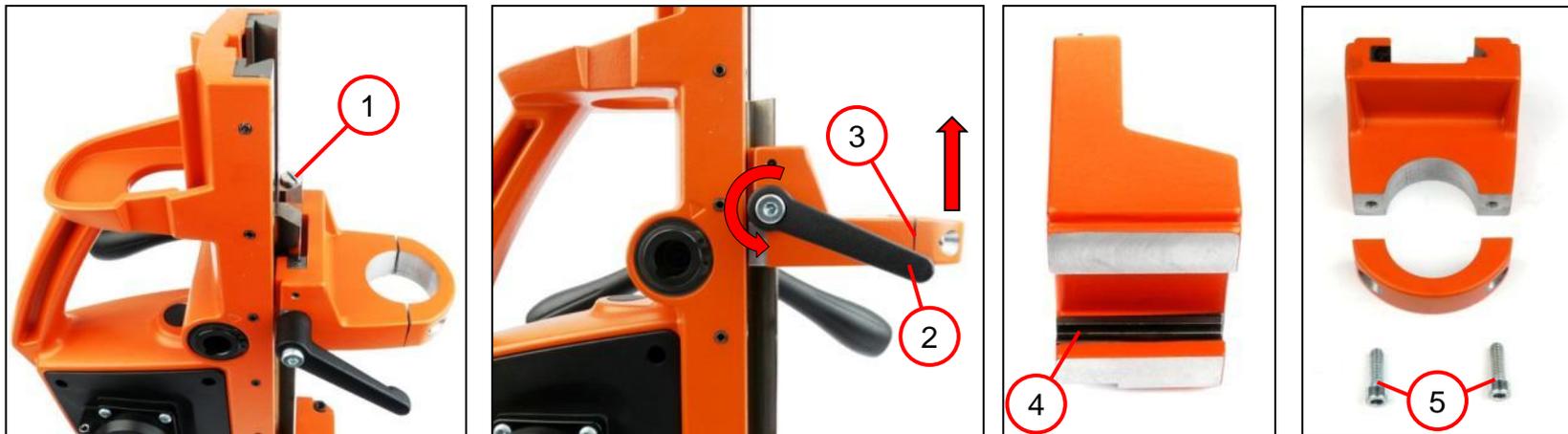


1. Remove container (1).



## 6. Disassembly

### Disassembling holder



1. Unscrew flat headed screw (1).
2. Loosen lever (2).
3. Slide up holder (3) and remove.
4. Remove pressure piece (4).
5. Unscrew the two cylinder head screws (5) with circlips.

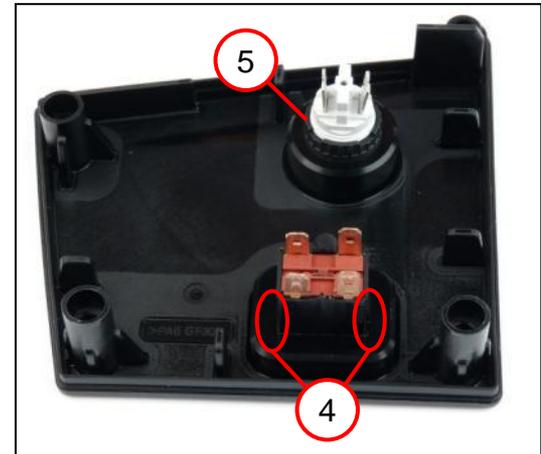
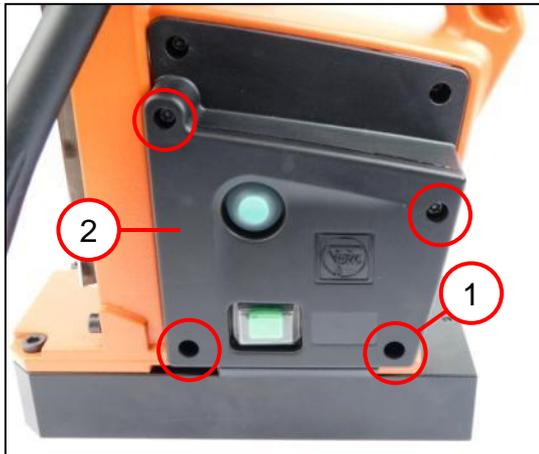
Tools:

- Slotted screwdriver
- Size 5 socket wrench



## 6. Disassembly

### Disassembling electronics



1. Loosen the four screws (1) and take off cover (2).
2. Remove plugs (3) from the two switches.
3. Press the two clips (4) inwards and slide out button.
4. Loosen screw connection (5) on button.
5. Slide button out.

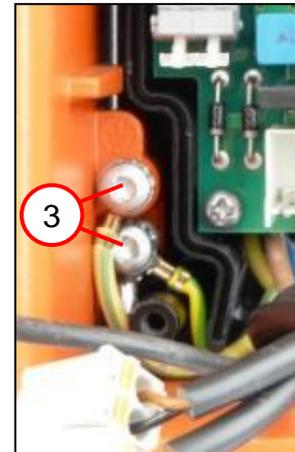
Tools:

- Torx T20



## 6. Disassembly

### Disassembling electronics



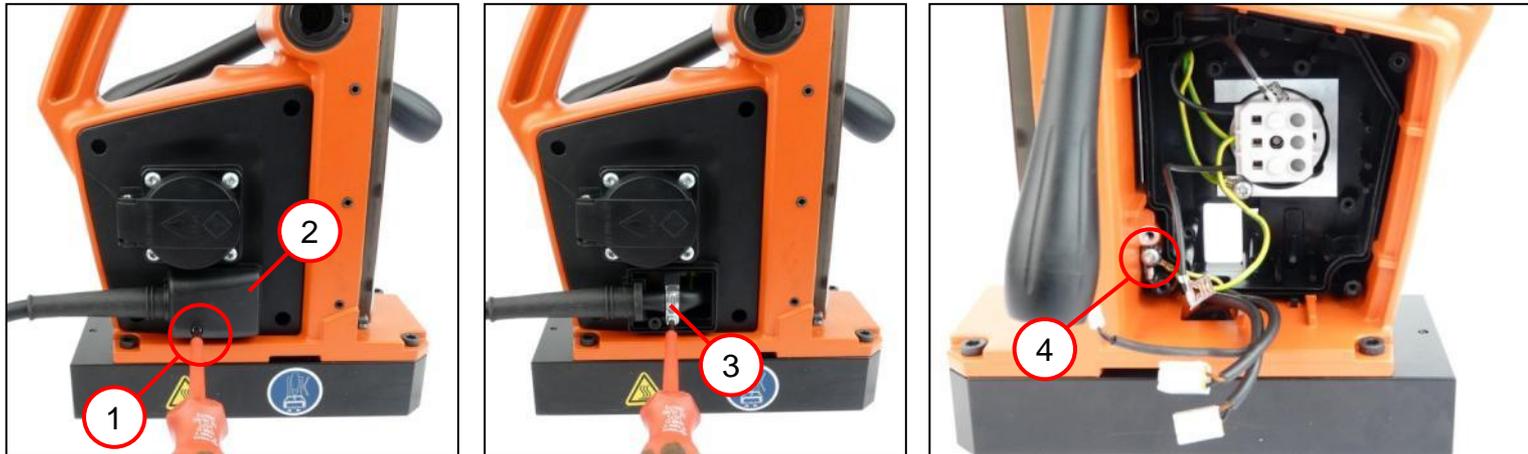
1. Loosen the two screws (1) and take off cover (2).
2. Pull all connecting cables out of electronics.
3. Unscrew the two screws (3) and remove earthing conductor.
4. Loosen the four screws (4) and take out electronics.

Tools:  
- Torx T20



## 6. Disassembly

### Disassembling electronics



1. Unscrew screw (1) and remove cover (2).
2. Unscrew screw and remove cable clamping piece (3).
3. Unscrew screw (4).

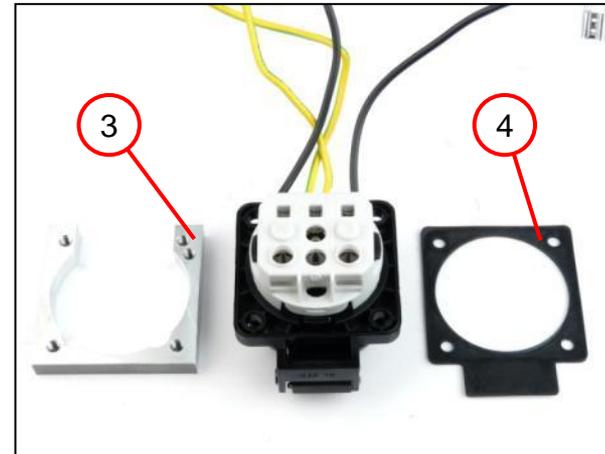
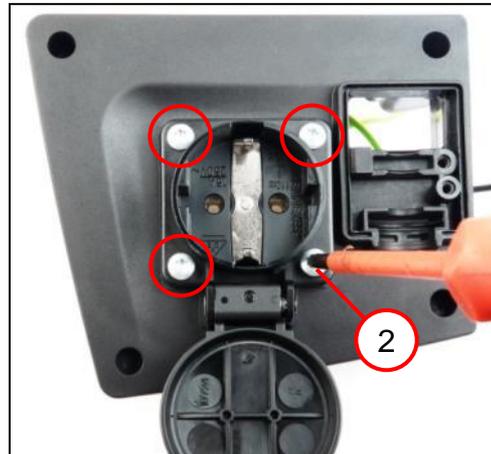
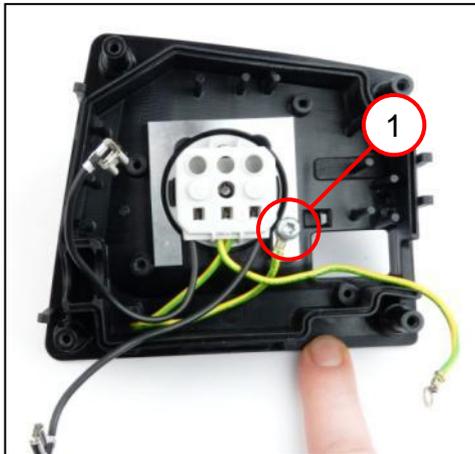
Tools:

- Torx T15; T20



## 6. Disassembly

### Disassembling electronics



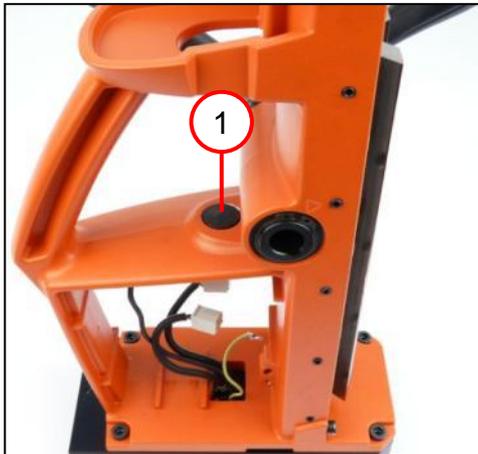
1. Unscrew screw (1).
2. Unscrew the four screws (2) and remove socket.
3. Remove plate (3) and seal (4) from socket.

Tools:  
- Torx T20



## 6. Disassembly

### Disassembling plug

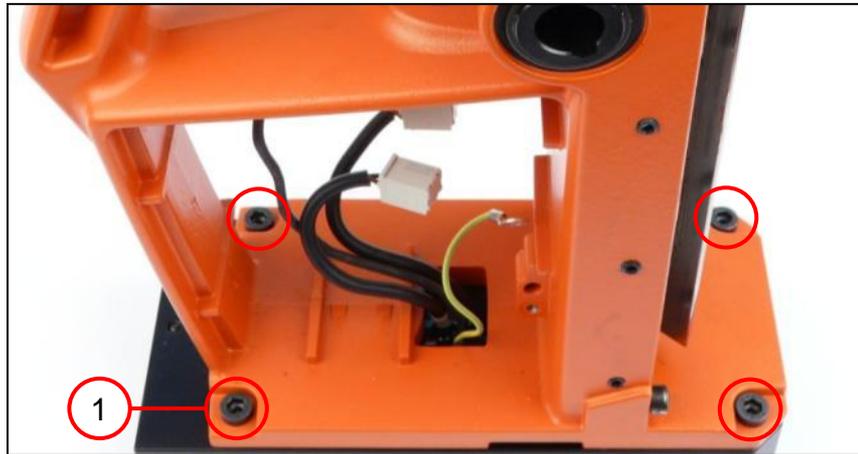


1. Remove plug (1).
2. Remove sealing ring (2).



## 6. Disassembly

### Disassembling magnetic foot



1. Unscrew the four cylinder head screws (1) and remove magnet.

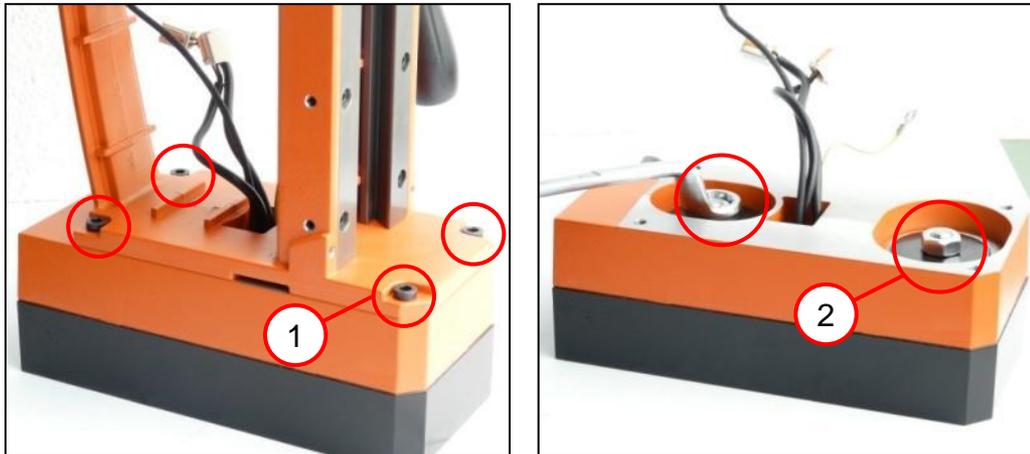
Tools:

- Size 5 socket wrench



## 6. Disassembly

### Disassembling magnetic foot (applies to MBS25 F)



1. Unscrew the four cylinder head screws (1).
2. Unscrew the two hex nuts (2) and remove together with discs.

Tools:

- Ring wrench 17 mm
- Size 5 socket wrench



## 6. Disassembly

### Disassembling magnetic foot (applies to MBS25 F)

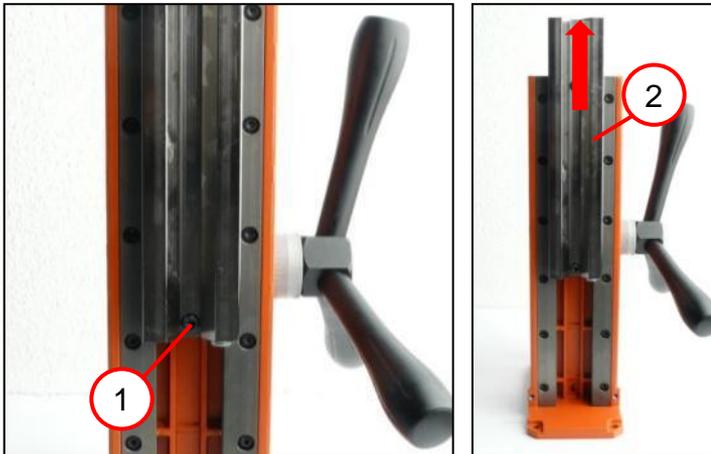


1. Take intermediate bearing off magnetic foot and remove rollers (1).
2. Pull out lever (2).



## 6. Disassembly

### Disassembling guide



1. Move guide up to stop with help of spider.
2. Unscrew cylinder head screw (1) until spider can be turned one more revolution.
3. Remove guide (2).

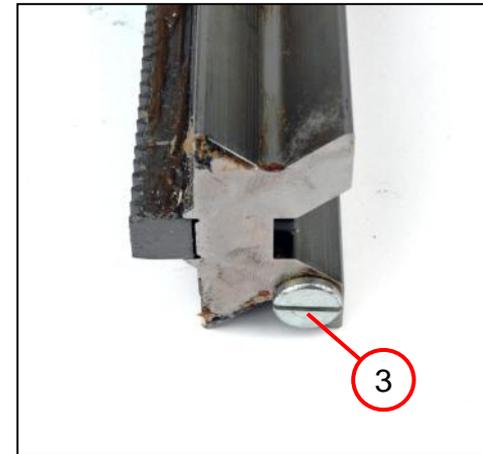
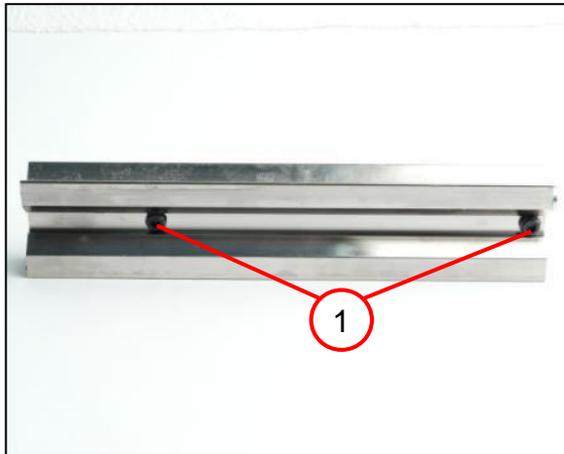
Tools:

- Size 4 socket wrench



## 6. Disassembly

### Disassembling guide



1. Unscrew cylinder head screws (1).
2. Remove gear rack (2).
3. Unscrew flat headed screw (3).

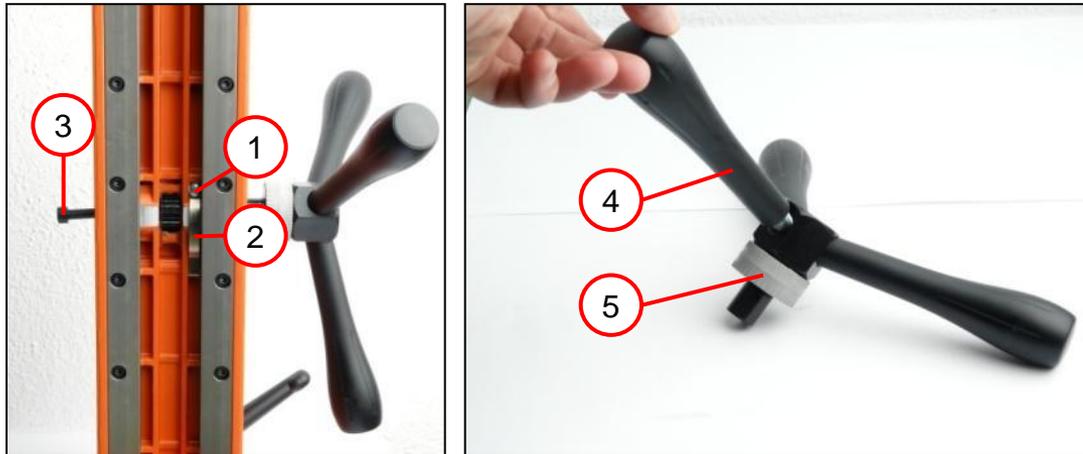
Tools:

- Size 4 socket wrench
- Screwdriver



## 6. Disassembly

### Disassembling spider



1. Unscrew fillister head screw (1) and remove leaf spring (2).
2. Unscrew cylinder head screw (3) and remove together with spider.
3. Unscrew handles (4) from connecting piece.
4. Remove scale (5).

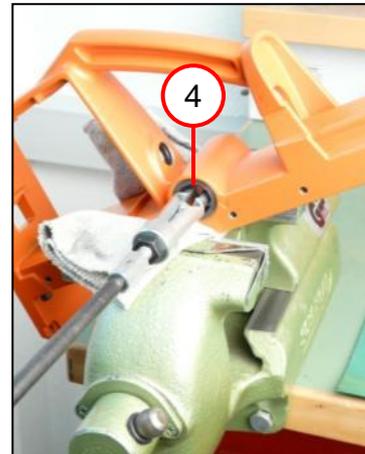
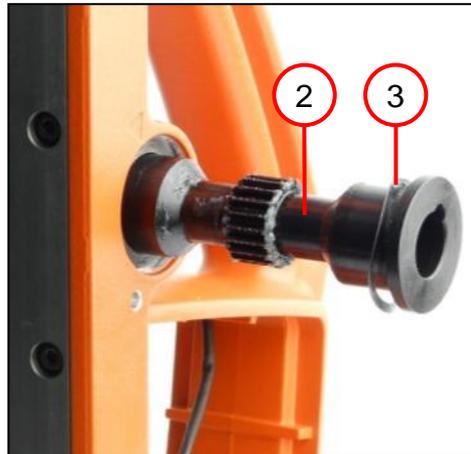
Tools:

- Phillips head screwdriver
- Size 5 socket wrench



## 6. Disassembly

### Disassembling spider



1. Remove circlip (1).
2. Pull out shaft (2).
3. Remove disc (3).
4. Remove two bushes (4).

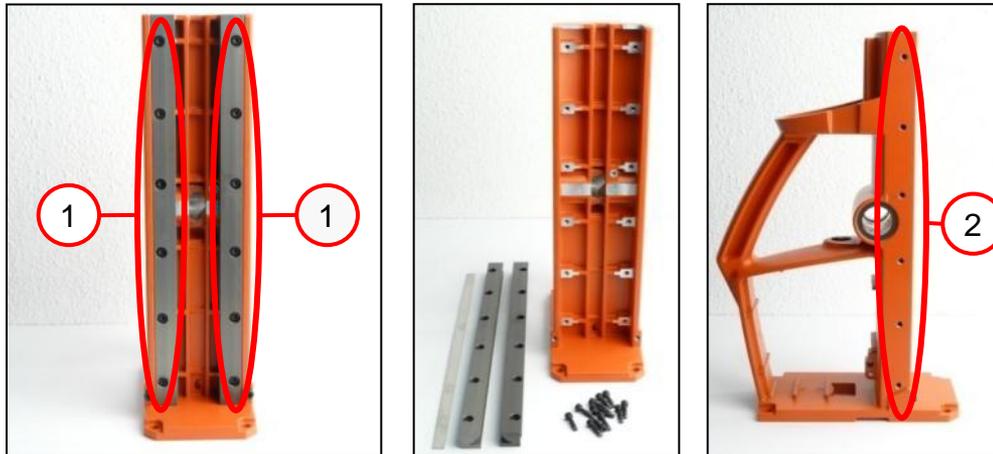
Tools:

- Circlip pliers
- Inner bearing puller, 18-22mm



## 6. Disassembly

### Disassembling guide rails



1. Unscrew six cylinder head screws (1) on each of the guide strips.
2. Remove pressure piece and guide strips.
3. Unscrew the six set screws (2).

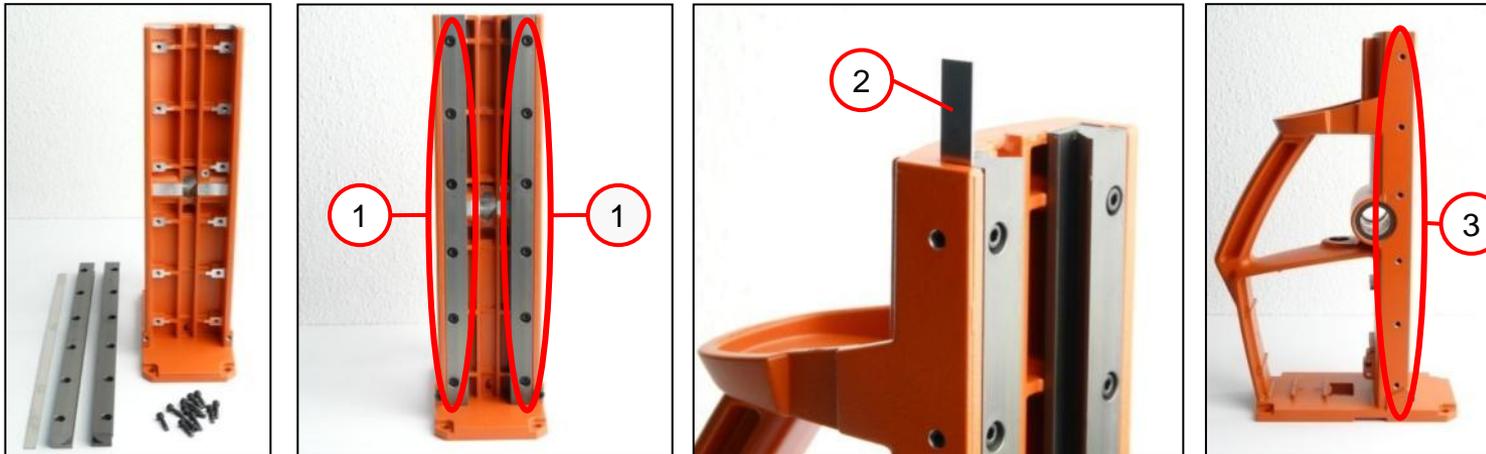
Tools:

- Socket wrenches: sizes 2.5; 3



## 7. Assembly

### Assembling guide rails



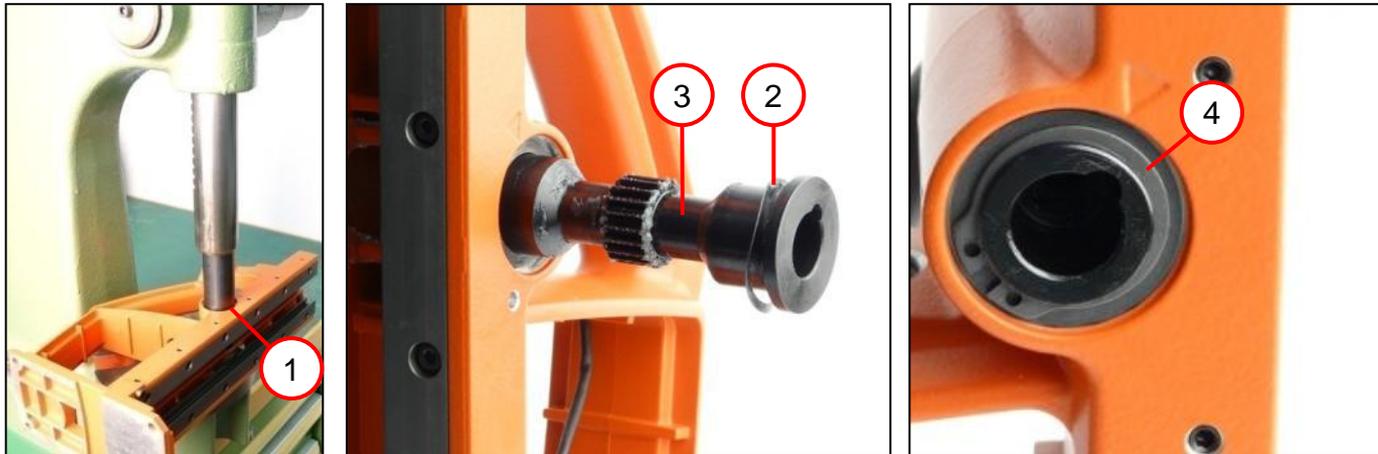
1. Secure each guide strip with six cylinder head screws (1) [2 Nm].
2. Slide pressure piece (2) behind guide strip.
3. Install the six set screws (3).

Tools:  
- Socket wrenches: sizes 3; 2.5



## 7. Assembly

### Assembling spider



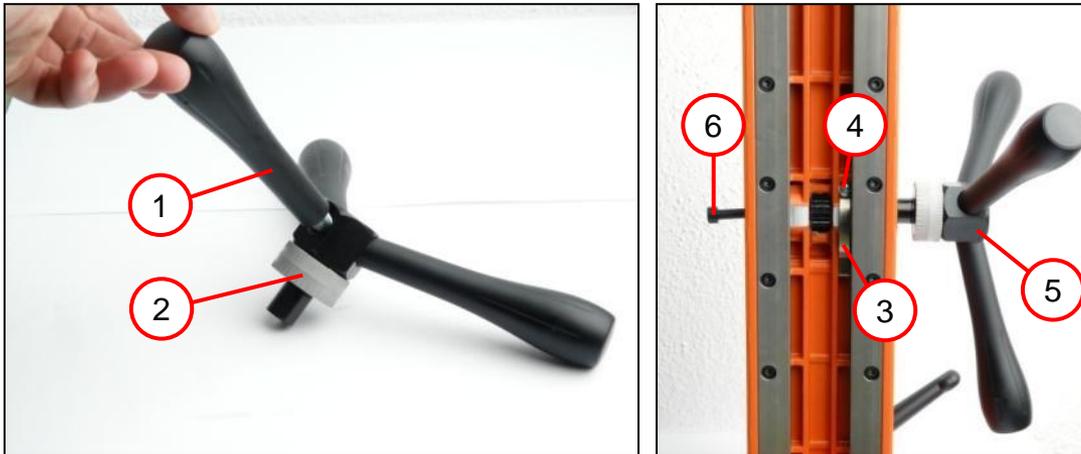
1. Press in the two bushes (1).
2. Slide disc (2) over shaft (3).
3. Coat shaft (3) with thin layer of grease (0 40 106 0100 1) and slide through bushes.
4. Secure shaft on opposite side with a circlip (4).

Tools:
- Sleeve $\varnothing$ outer: 30 mm $\varnothing$ inner: ~26 mm
- Circlip pliers



## 7. Assembly

### Assembling spider



1. Screw handles (1) on to connecting piece.
  2. Slide scale (2) on to connecting piece.
  3. Screw leaf spring (3) to housing with fillister head screw [1.2 Nm] (4).
  4. Screw down spider (5) with cylinder head screw [8 Nm] (6).
- ☞ Spider can be assembled on the left or right.

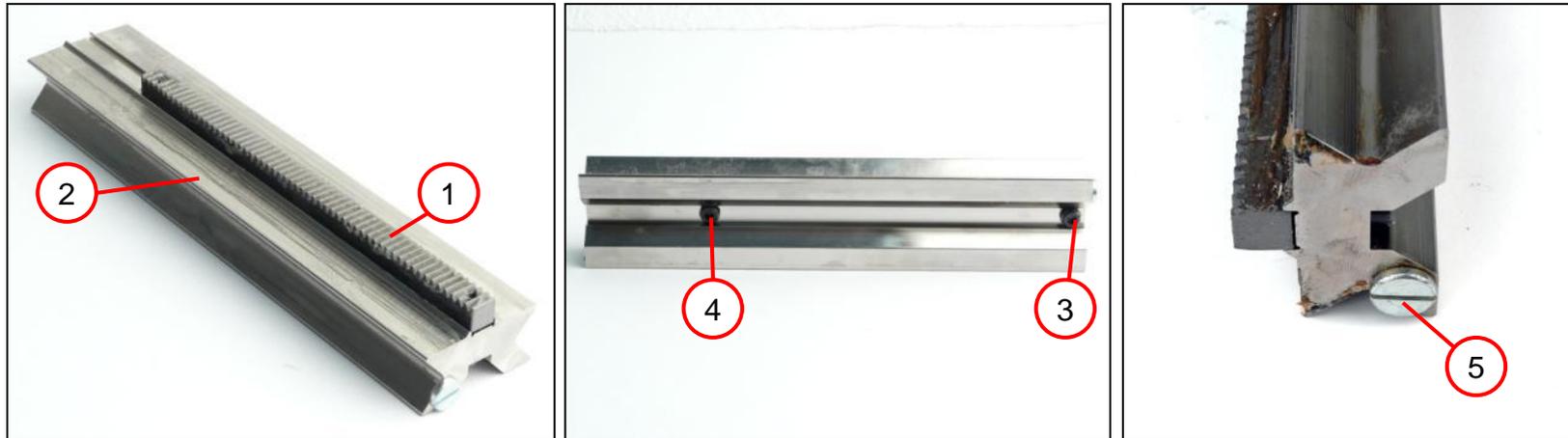
Tools:

- Size 5 socket wrench



## 7. Assembly

### Assembling guide



1. Position gear rack (1) on guide (2).
2. Place cylinder head screw (3) in position with circlip.
3. Screw down cylinder head screw (4) with circlip [4.5 Nm].
4. Screw down flat headed screw (5) [1.2 Nm].

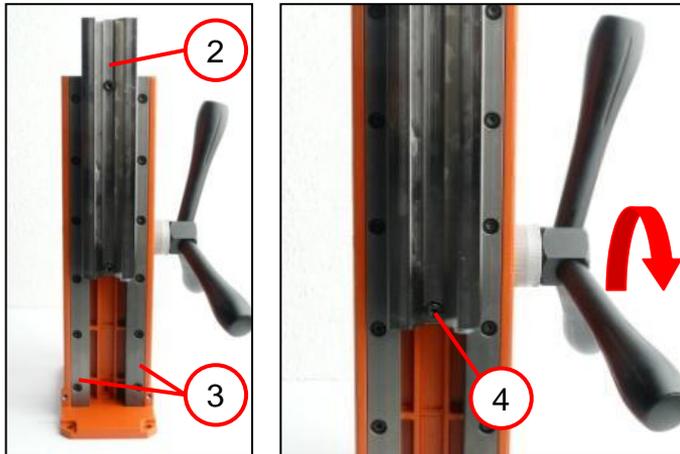
#### Tools:

- Size 4 socket wrench
- Slotted screwdriver



## 7. Assembly

### Assembling guide



1. Apply thin layer of grease (0 40 106 0100 1) to guide (1) and thread in to guide strips (2).
2. Turn spider to move guide down a little.
3. Tighten cylinder head screw (3) [4.5 Nm].

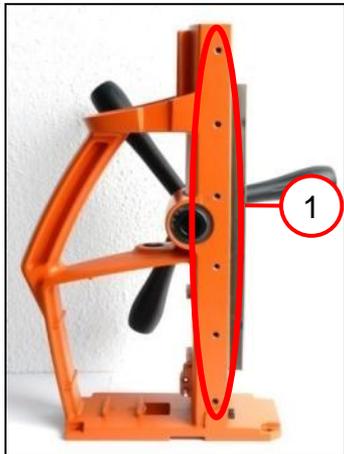
#### Tools:

- Phillips head screwdriver
- Size 4 socket wrench



## 7. Assembly

### Assembling guide

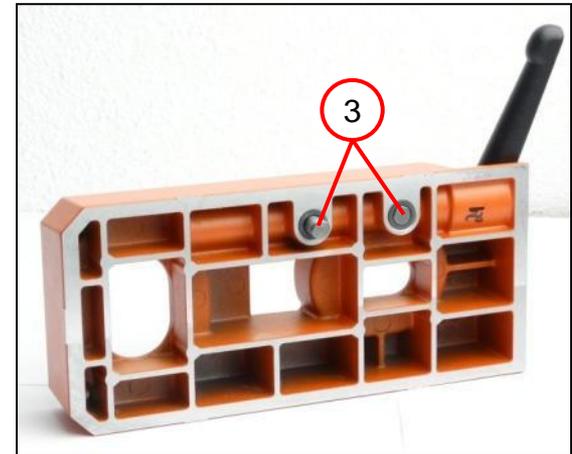
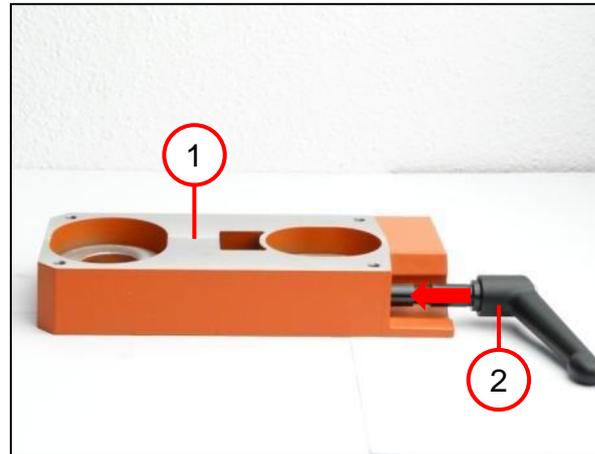


1. Install the six set screws (1).  
☞ The guide is adjusted after the holder is assembled.

Tools:  
- Size 2.5 socket wrench

## 7. Assembly

### Assembling magnetic foot (applies to MBS25 F)

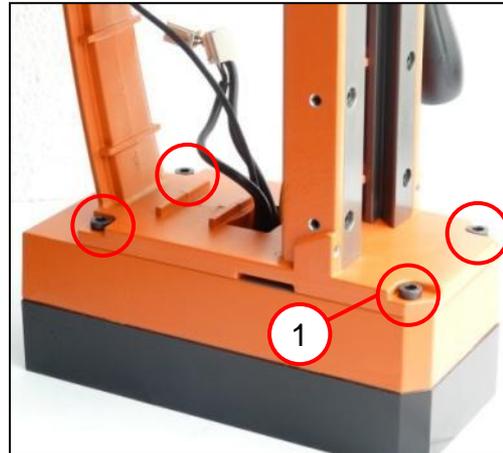


1. Slide lever (2) into intermediate bearing (1).
2. Slide the two rollers (3) into the intermediate bearing.



## 7. Assembly

### Assembling magnetic foot (applies to MBS25 F)



1. Fit intermediate bearing with discs and hex nuts on magnetic foot [15 Nm].
2. Screw magnetic foot down to housing with four cylinder head screws (1) [8 Nm].

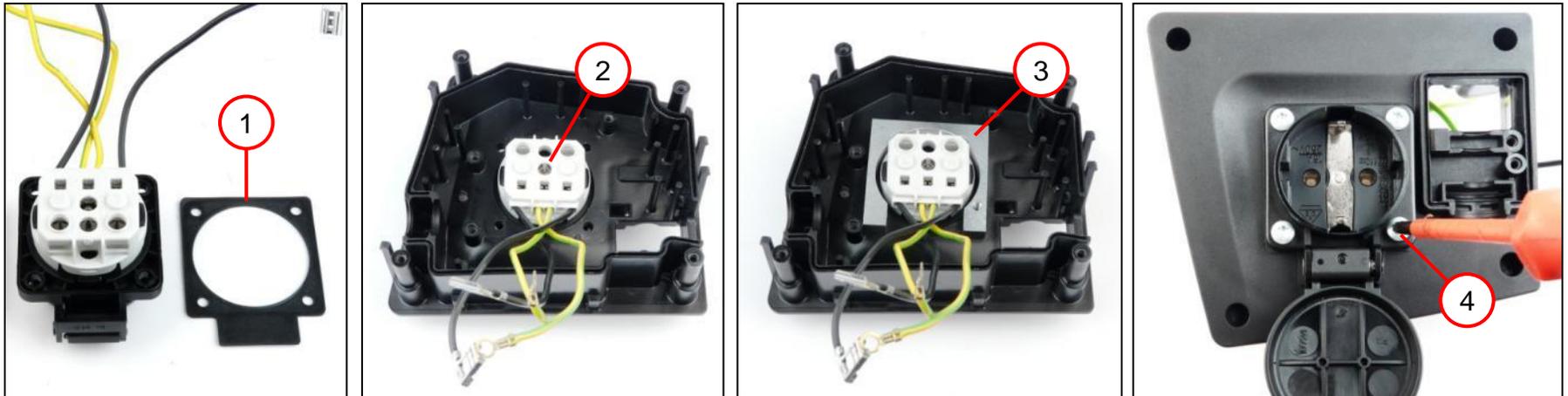
Tools:

- Ring wrench 17 mm
- Size 5 socket wrench



## 7. Assembly

### Assembling electronics



1. Place seal (1) on socket.
2. Slide socket (2) into cover as shown.
3. Place plate (3) in correct position.
4. Fasten socket to plate with the four screws (4) [1.3 Nm].

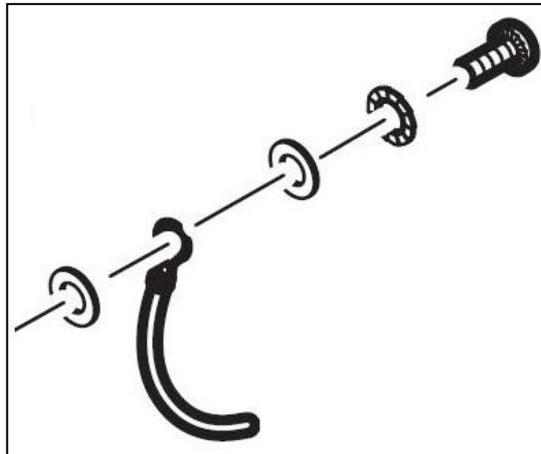
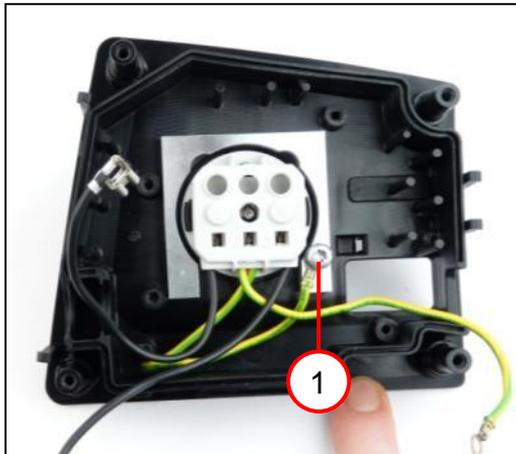
Tools:

- Torx T20



## 7. Assembly

### Assembling electronics



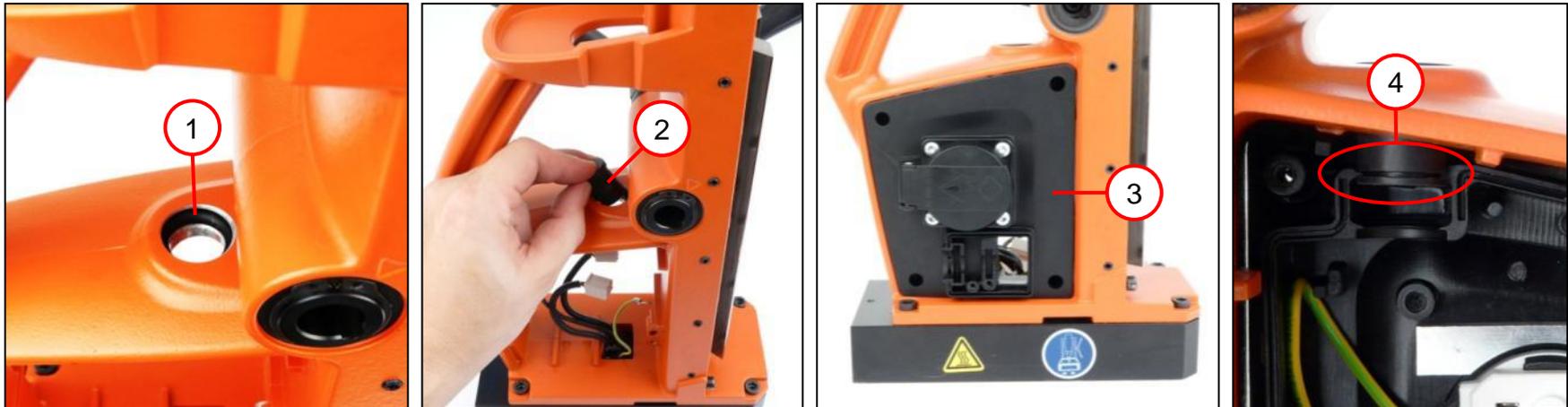
1. Fasten earthing conductor (1) of socket to plate [1.7 Nm].

Tools:  
- Torx T20



## 7. Assembly

### Assembling electronics

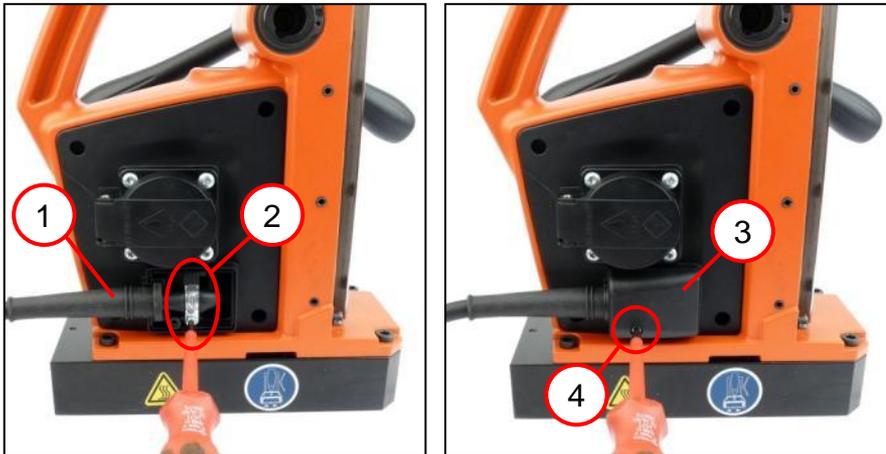


1. Insert sealing ring (1) in housing.
2. Insert plug (2).
3. Slide cover (3) into housing.
  - ☞ Ensure that the plug is positioned in the cover guide (4).



## 7. Assembly

### Assembling electronics



1. Install supply cable (1) and fit cable clamping piece (2) [0.9 Nm].
2. Fit cover (3) and secure with screw (4) [0.9 Nm].

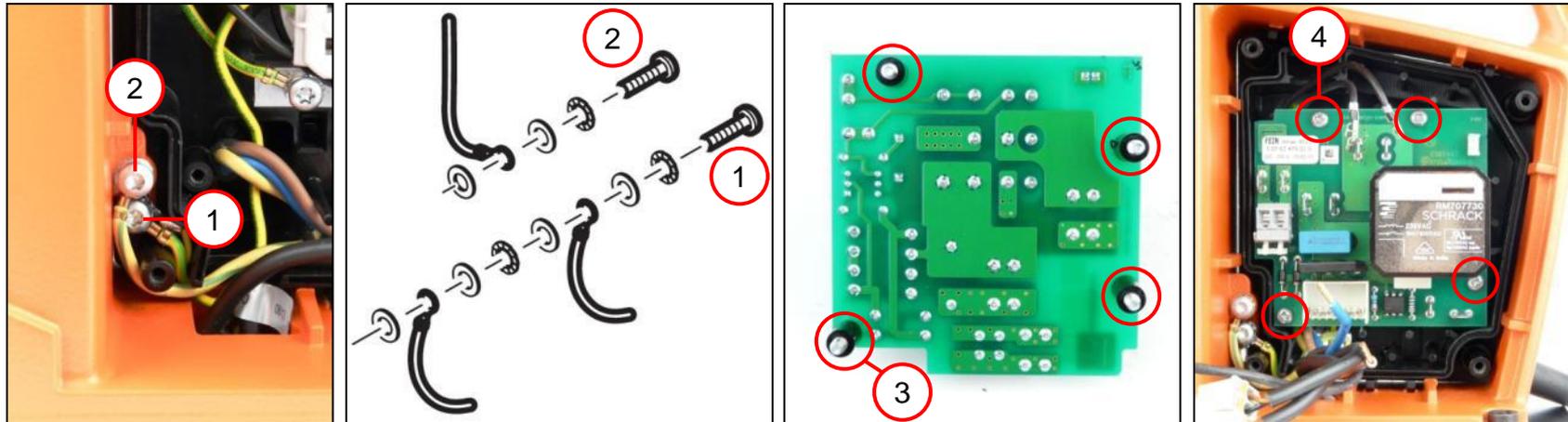
Tools:

- Torx T15



## 7. Assembly

### Assembling electronics



1. Connect earthing conductors (1) of magnet and socket [2 Nm].
2. Connect earthing conductor (2) of mains cable [2 Nm].
3. Pre-fit four screws with spacers (3) on electronics.
4. Insert the electronics and screw down with the four screws (4) [0.9 Nm].
  - ☞ Ensure that no connecting cables are trapped.

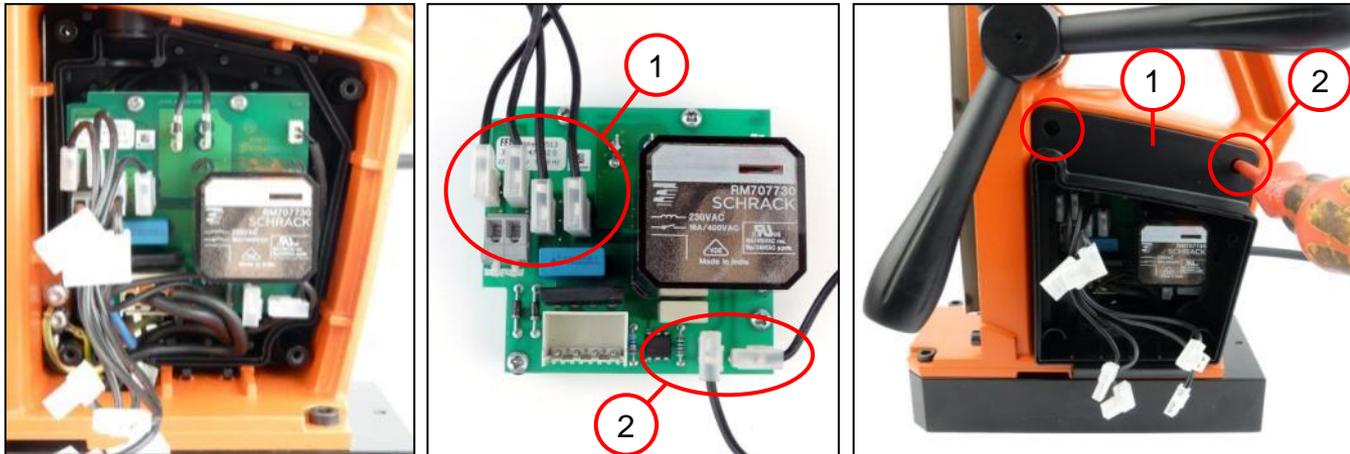
Tools:

- Torx T20



## 7. Assembly

### Assembling electronics



1. Connect all connection cables to electronics.  
☞ See chapter 9. Connection diagram.
2. Position cover (1).
3. Screw both covers together with the two screws (2) [2 Nm].

Tools:  
- Torx T20



## 7. Assembly

### Assembling electronics



1. Insert button (1) in cover and screw down.
2. Press button (2) into cover.
3. Connect connecting cables (3) to buttons.  
☞ See chapter 9. Connection diagram.
4. Close cover (4).
5. Insert two screws 4x18 [2Nm] (5) and two screws 4x48 [2Nm] (6) and screw down.

Tools:

- Torx T20



## 7. Assembly

### Assembling holder



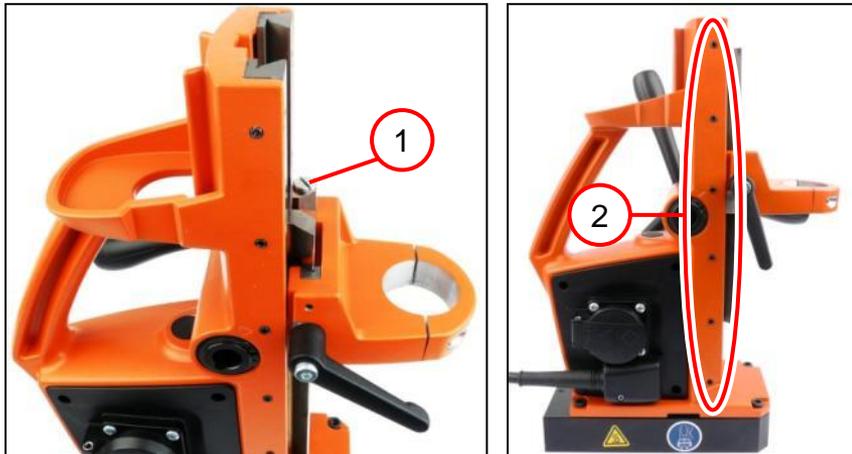
1. Screw together holder (1) with two cylinder head screws (2) and circlips.
2. Insert pressure piece (3) in correct position.
3. Slide holder on to guide (4).
4. Fix holder with lever (5).

Tools:  
- Socket wrenches: sizes 4; 5



## 7. Assembly

### Assembling holder



1. Screw down flat headed screw (1).
2. Use the six set screws (2) to set zero backlash on the guide.
  - ☞ To check the guide, move it up and down with the spider.
  - ☞ At the places where the guide moves too fast or too slowly, screw the set screws in or out.

#### Tools:

- Slotted screwdriver
- Size 2.5 socket wrench



## 7. Assembly

### Assembling tank



1. Assemble container (1).



## 8. Troubleshooting

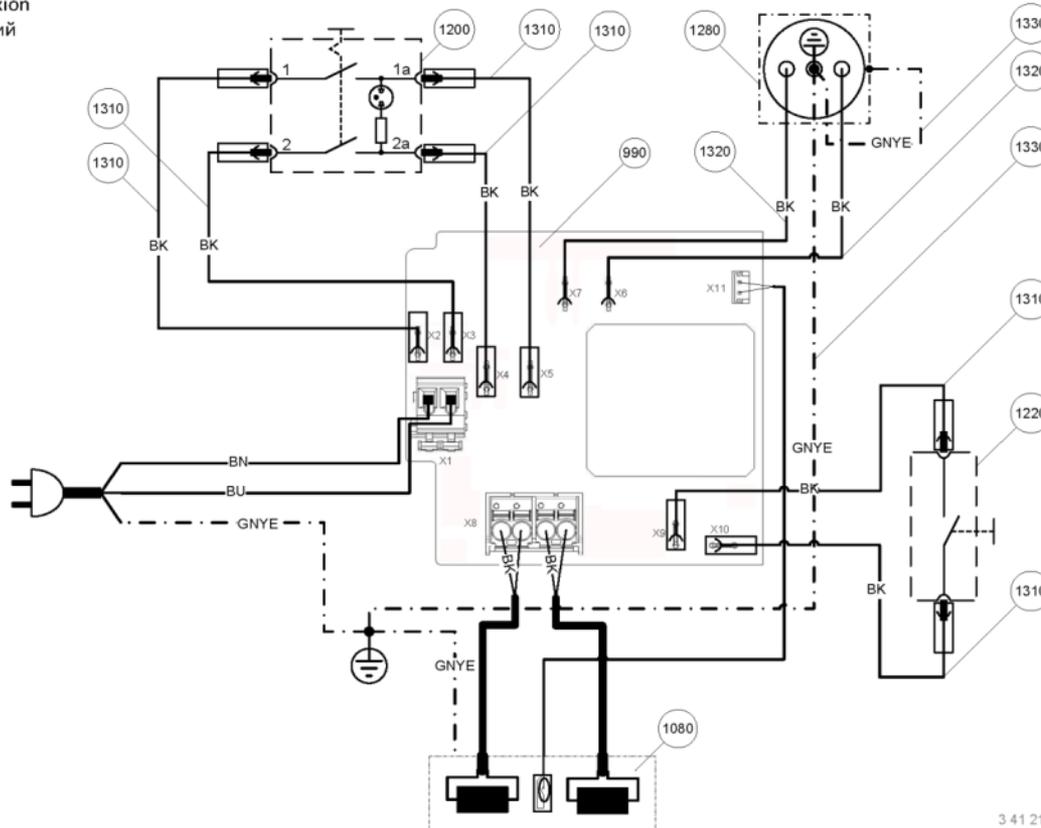
See separate file on Extranet or retail partner portal.



## 9. Connection diagram

**Anschlussplan**  
 Connection diagram  
 Esquemade conexiones  
 Schémade connexion  
 Схэма соединэний  
 接线图

9 03 18 – MBS 16 X / 230V 50Hz  
 9 03 19 – MBS 25 F / 230V 50Hz



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