KBE 50-2 (7 270 51 .. .. .)

KBE 50-2

Technical data

Technical data

All the technical data can be found in the operating instructions for the model.

Tests

Up-to-date test data and test instructions after repair can be found on the FEIN Extranet (Customer Service → Repair Guides).

Lubricants / Auxiliary substances

The lubricants or auxiliary substances and their 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

KBE 50-2

Notes and requirements

Please 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 employer's liability insurance associations are to be observed when commissioning.

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

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

Lubricants and auxiliary substances required

Lubricants and auxiliary substances

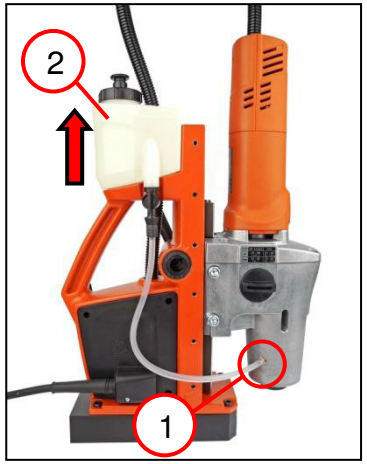
Grease	0 401 18 0300 9	120 g	gearbox

Troubleshooting

Not yet available.

Removal

Removing the container

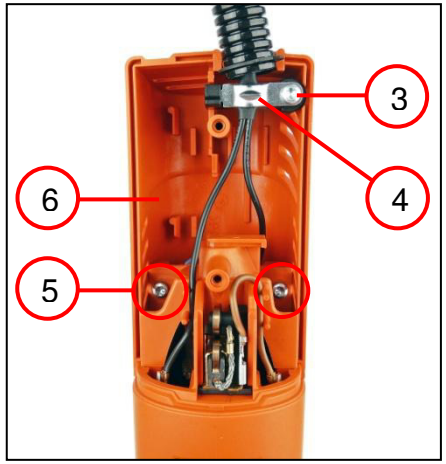


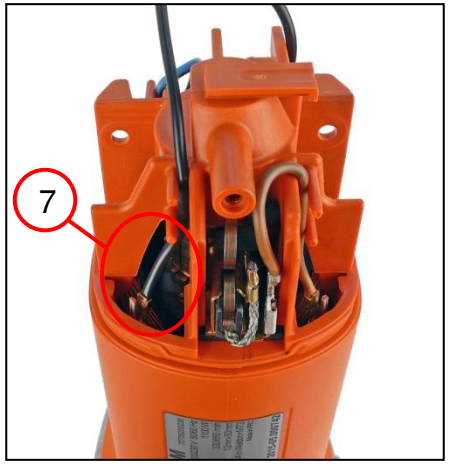
NOTE:
Fluid may be present in the container.

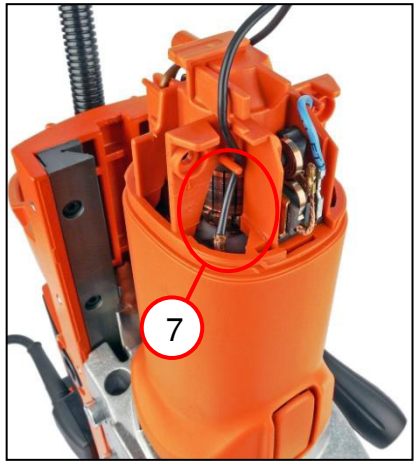
☞ Drain the container (2) before removal.

1. Remove the hose (1) from the hose socket.
2. Remove the container (2).

Removing the connecting cable







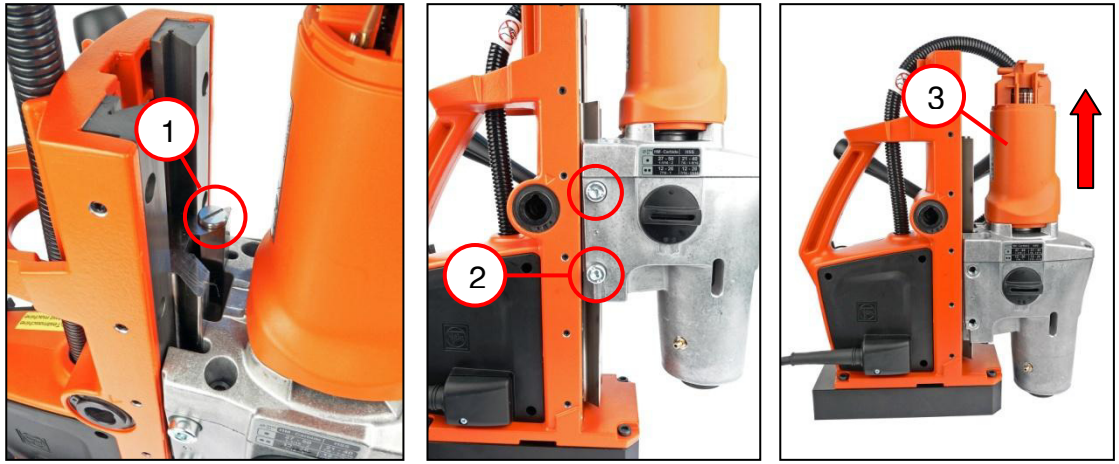
1. Unscrew the two screws (1).
2. Remove the lower part of the cover (2).
3. Unscrew the screw (3).
4. Remove the cable clamping piece (4).
5. Unscrew the two screws (5).
6. Remove the upper part of the cover (6).
7. Remove the two strands (7).

Tools:

- Torx T15

Removal

Removing the drill motor [applies to: KBM 50-2; KBM 50-2M]



1. Unscrew the flat headed screw (1).

Crushing hazard around drill motor!
The drill motor will rapidly slide downwards once the two screws (2) have been loosened.
☞ First move the drill motor downwards and then unscrew the two screws (2).

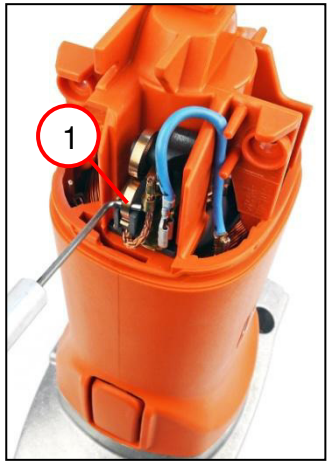
2. Move the drill motor downwards by turning the spider.
3. Unscrew the two screws (2).
4. Slide the drill motor (3) out of the guide.

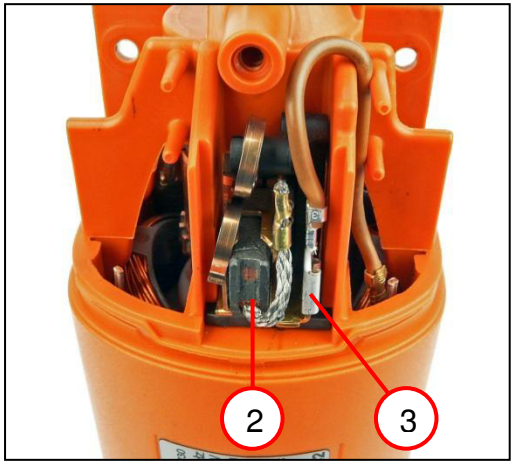
Tools:

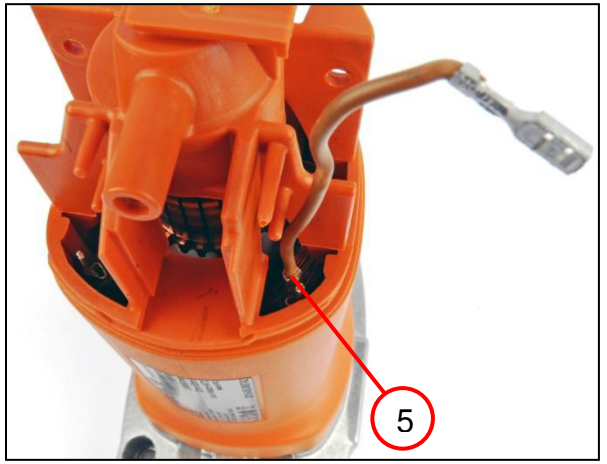
- Slotted screwdriver
- Socket head wrench, 6 mm

Removal

Removing the carbon brush holders (on both sides)





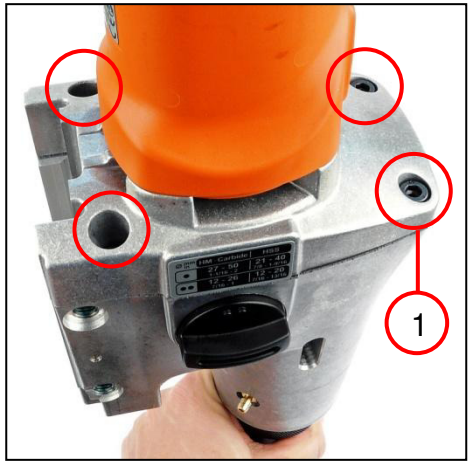


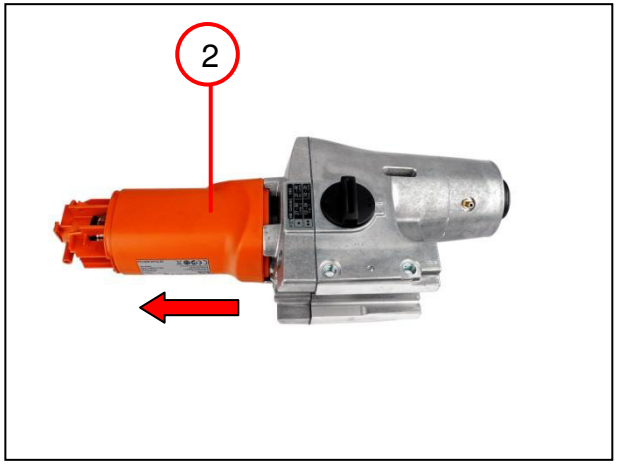
1. Lift up the spring (1).
2. Remove the carbon brush (2).
3. Pull off the plug (3).
4. Remove the carbon brush holder (4).
5. Remove the cable (5).

Tools:

- Assembly aid
- Long-nosed pliers

Removing the motor housing



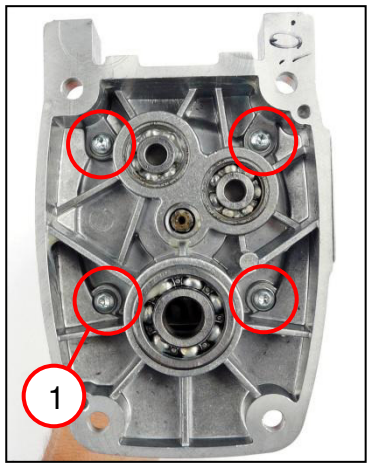


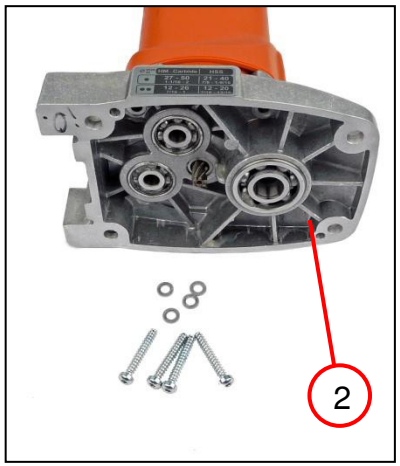
1. Unscrew the four screws (1).
2. Remove the motor (2).

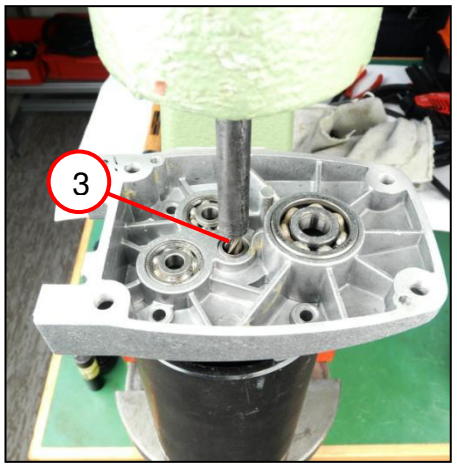
Tools:

- Socket head wrench, 5 mm

Removing the intermediate gearbox





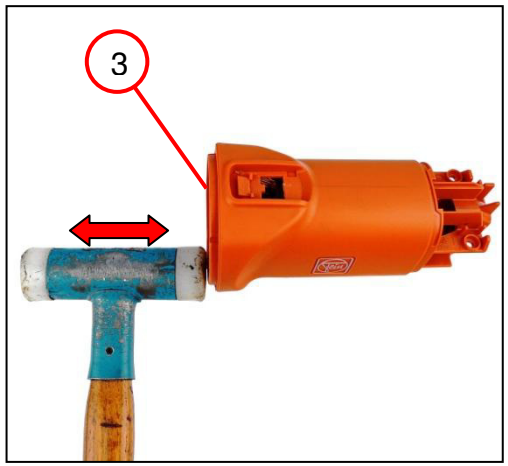


1. Unscrew the four screws (1).
2. Remove the intermediate gearbox (2).
3. Press out the armature (3).
4. Remove the grooved ball bearing (4).

Tools:

- Torx T20
- Sleeve
  60 mm inner diameter
  85 mm outer diameter
- Punch,
  7 mm diameter
- Slide hammer
- Inner puller

Removing the motor housing



1. Remove the air guide ring (1).
2. Remove the cover (2).
3. Remove the stator (3).

Tools:

- Slotted screwdriver
- Plastic hammer

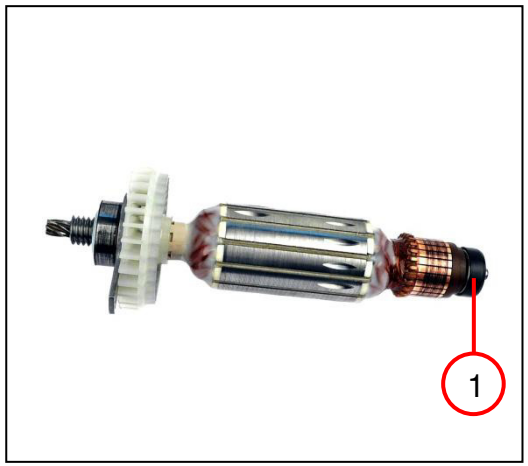
Removing the armature

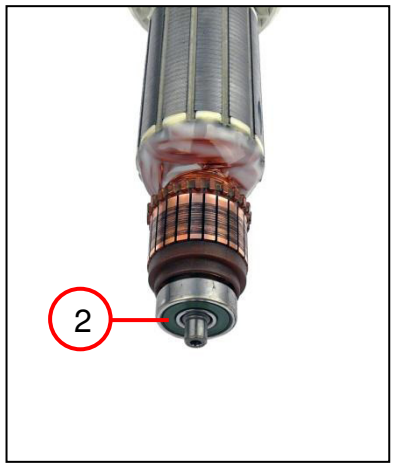
1. Remove the grooved ball bearing (1).

Tools:

- Drawing-off socket cap
- Chuck cone, 26 mm

Removing the armature





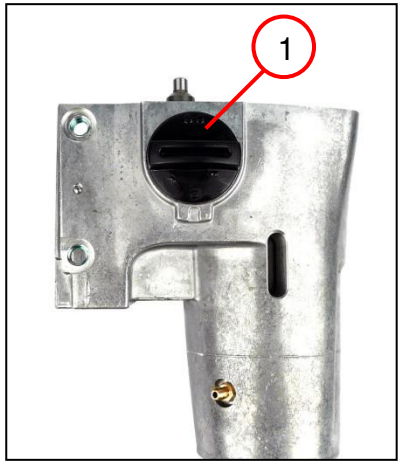
1. Remove the bearing bush (1).
2. Remove the grooved ball bearing (2).

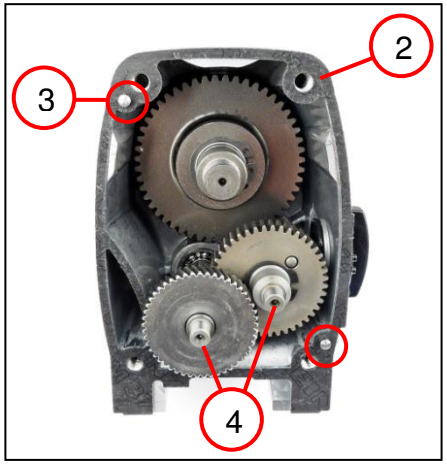
Tools:

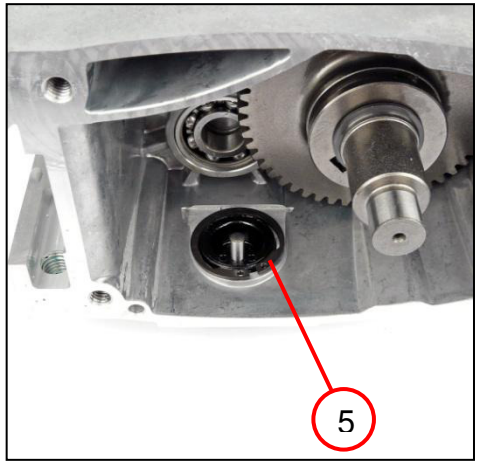
- Drawing-off socket cap
- Chuck cone, 19 mm

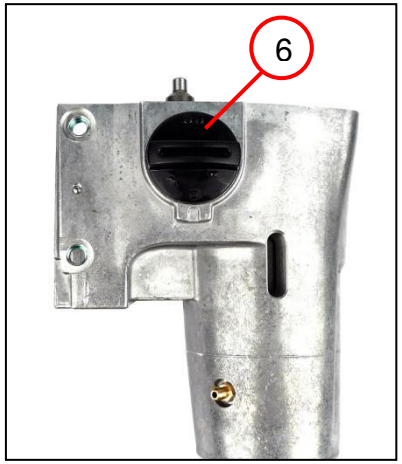
Removal

Removing the gearbox housing









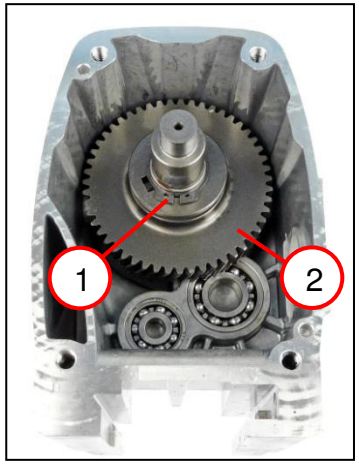
1. Turn the rotary knob (1) to the "••" position.
2. Remove the seal (2).
3. Remove the two straight pins (3).
4. Remove the two gear wheels (4).
5. Remove the circlip (5).
6. Remove the rotary knob (6).

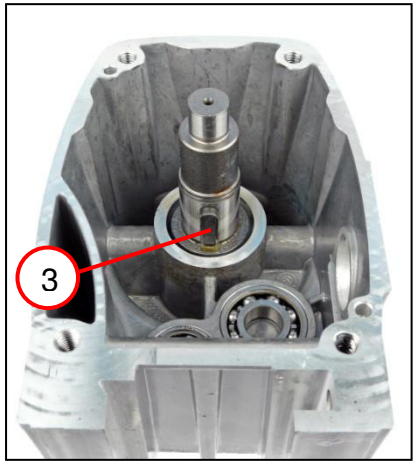
Tools:

- Combination pliers
- Circlip pliers

Removal

Removing the gearbox housing





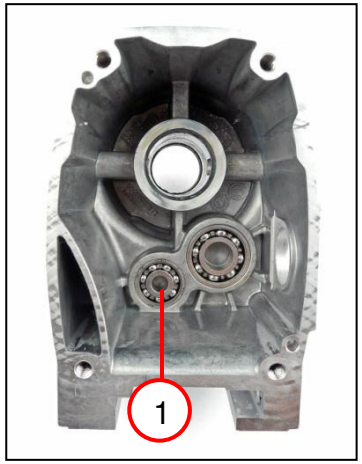
1. Remove the circlip (1).
2. Remove the gear wheel (2).
3. Remove the feather key (3).
4. Remove the circlip (4).
5. Press out the shaft (5).

Tools:

- Circlip pliers
- Combination pliers
- Arbor press
- Sleeve
  56 mm inner diameter
  60 mm outer diameter

Removal

Removing the gearbox housing



1. Remove the two grooved ball bearings (1).
2. Remove the hose socket (2).
3. Remove the three sealing rings (3).
   ☞ Replace the sealing rings with new ones after every removal.

Tools:

- Slide hammer
- Inner puller
- Socket wrench
- Socket wrench insert, 7 mm
- Slotted screwdriver

Removal

Removing the shaft

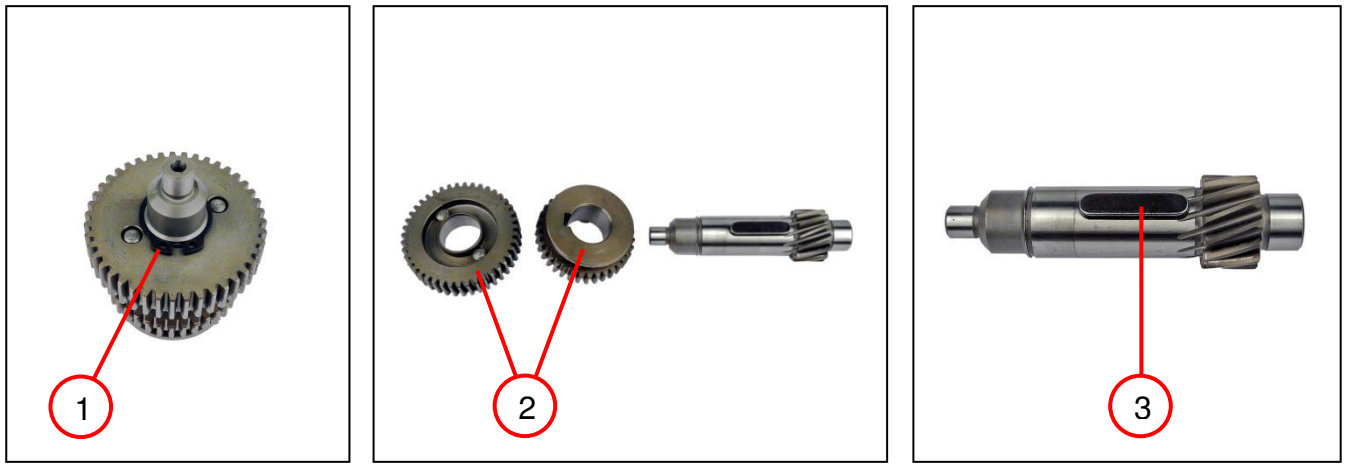
1. Remove the circlip (1).
2. Press the grooved ball bearing (2) off the shaft.

Tools:

- Circlip pliers
- Arbor press
- Sleeve
  36 mm inner diameter
  55 mm outer diameter

Removal

Removing the gear wheel



1. Remove the circlip (1).
2. Remove the two gear wheels (2).
3. Remove the feather key (3).

Tools:

- Circlip pliers
- Combination pliers

Removing the gear wheel

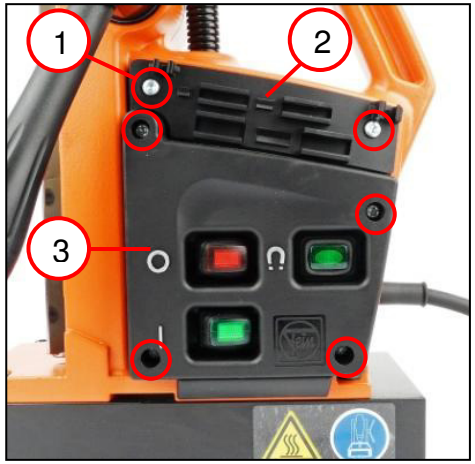
1. Press the gear wheel (1) off the shaft.

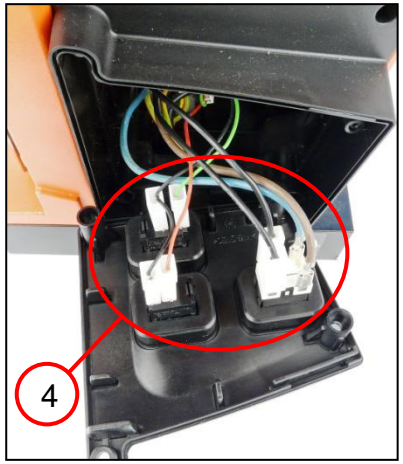
Tools:

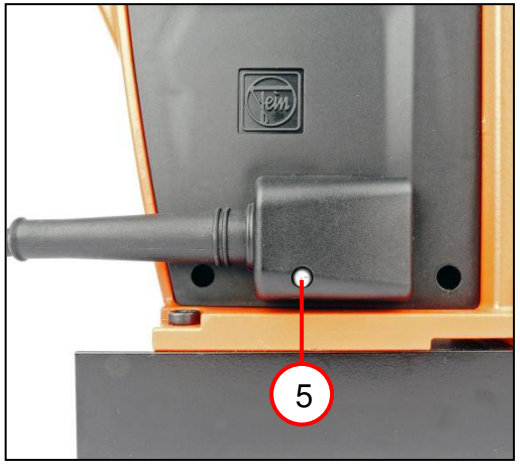
- Arbor press
- Punch, 7 mm
- Sleeve
  24 mm inner diameter
  42 mm outer diameter

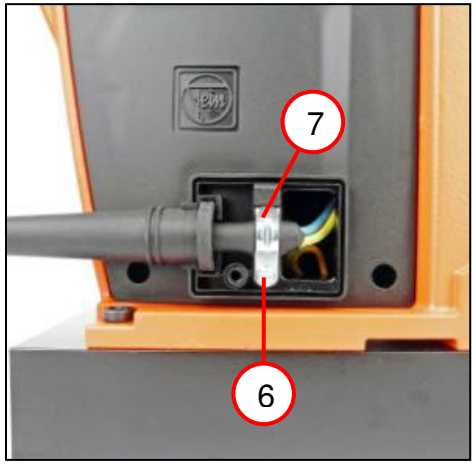
Removal

Removing the electronics









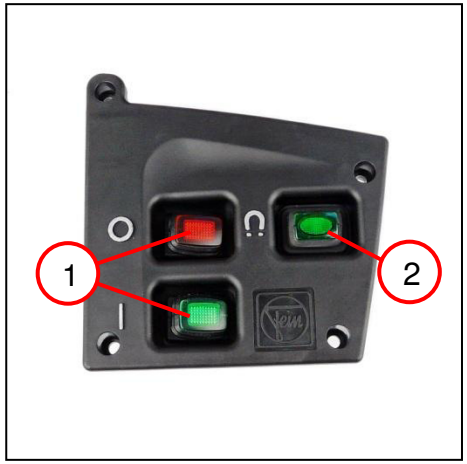
1. Unscrew the six screws (1).
2. Remove the holder (2).
3. Remove the cover (3).
4. Disconnect all the connectors (4).
5. Unscrew the screw (5).
6. Unscrew the screw (6).
7. Remove the cable clamping piece (7).

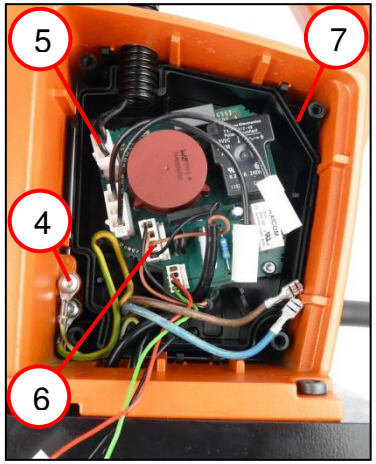
Tools:

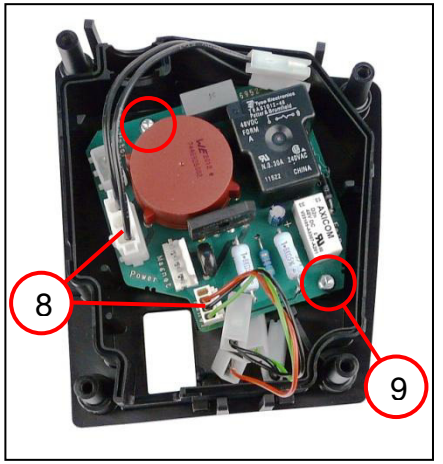
- Torx T20

Removal

Removing the electronics







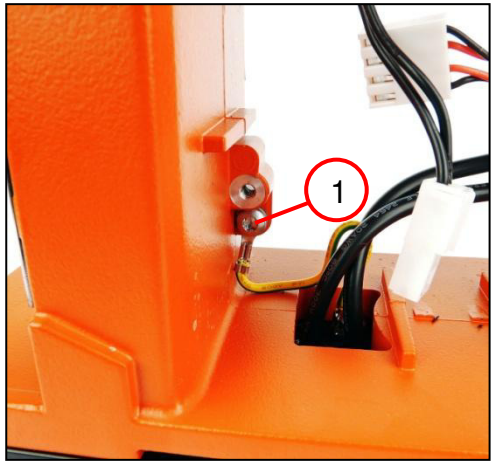
1. Remove the two switches (1) and the button (2).
2. Remove the cover (3).
3. Unscrew the screw (4).
4. Disconnect the cable (5).
5. Disconnect the cable (6).
6. Remove the cover (7) with the electronics.
7. Remove the two cables (8).
8. Unscrew the two screws (9) and remove the electronics.

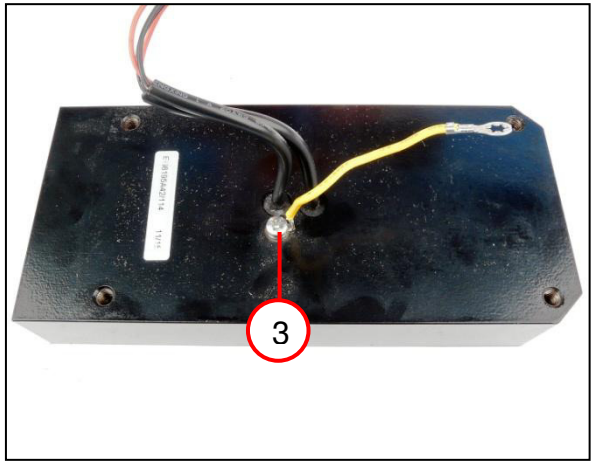
Tools:

- Torx T20

Removal

Removing the magnetic foot



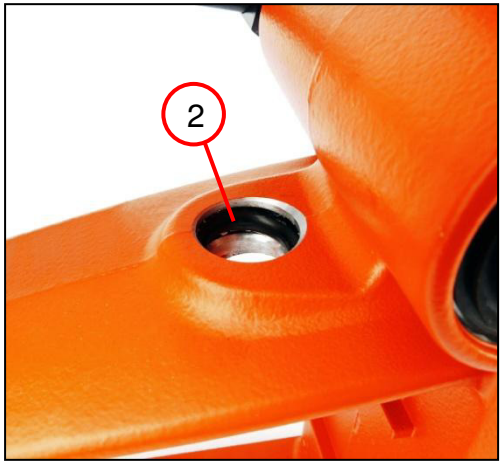


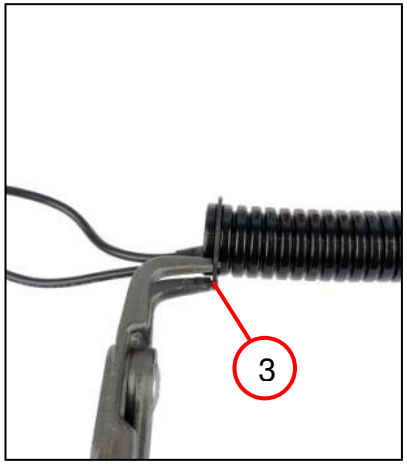
1. Unscrew the fillister head screw (1).
2. Unscrew the four screws (2) and remove the magnetic foot.
3. Unscrew the screw (3) and remove the cable.

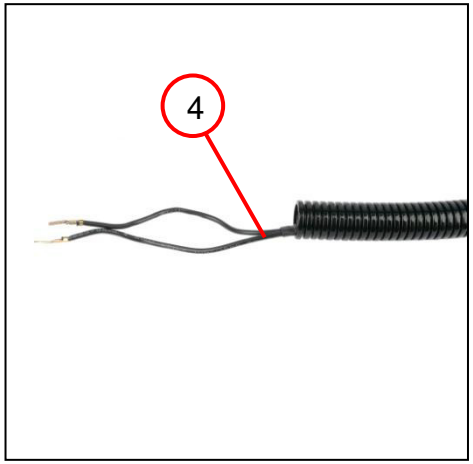
Tools:

- Torx T20
- Socket head wrench, 5 mm
- PH2 cross-head screwdriver

Removing the connecting cable







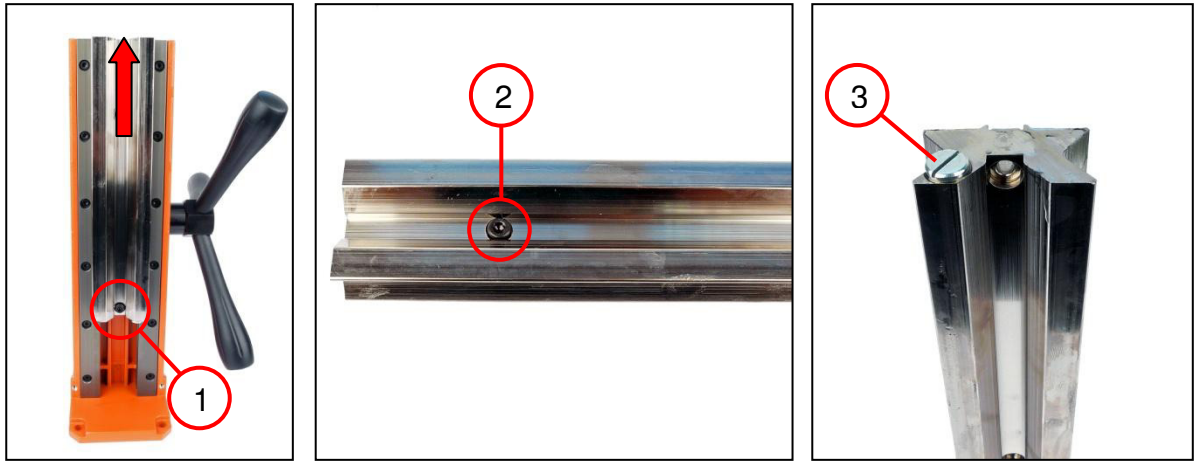
1. Remove the protective hose (1).
2. Remove the sealing ring (2).
3. Remove the circlip (3).
4. Pull out the connecting cable (4).

Tools:

- Circlip pliers

Removal

Removing the guide



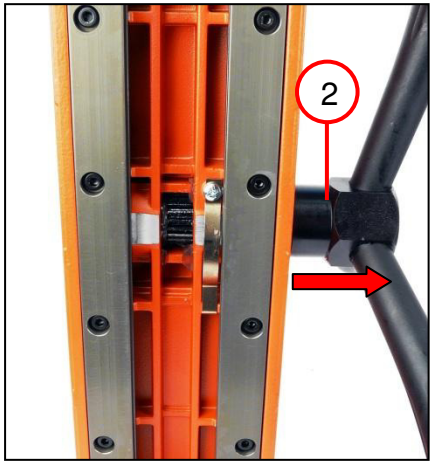
1. Unscrew the screw (1).
2. Move the guide upwards using the spider.
3. Remove the guide.
4. Unscrew the screw (2).
5. Unscrew the flat headed screw (3).

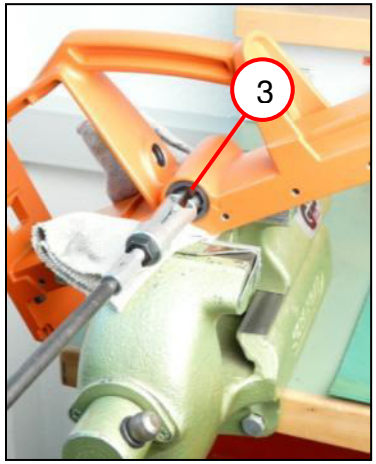
Tools:

- Socket head wrench, 4 mm
- Slotted screwdriver

Removal

Removing the guide





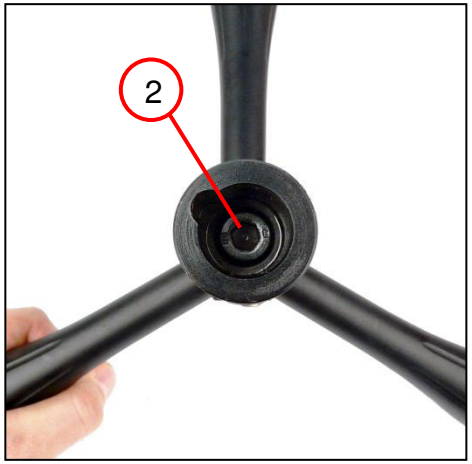
1. Remove the circlip (1).
2. Pull out the spider (2).
3. Remove the bush (3) on both sides.

Tools:

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

Removal

Removing the handle



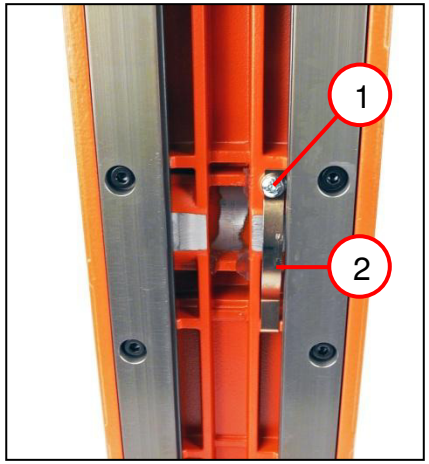
1. Remove the disc (1).
2. Unscrew the screw (2) and remove the shaft.
3. Unscrew the three handles (3).

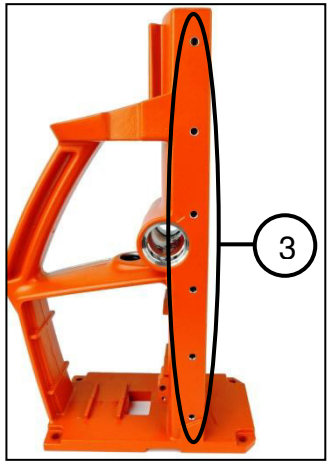
Tools:

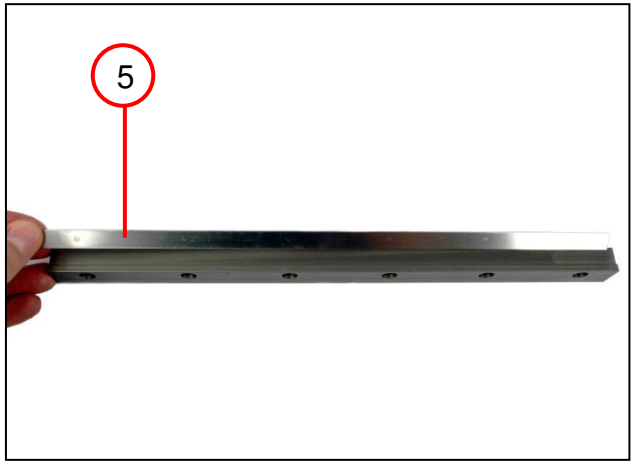
- Socket head wrench, 5 mm

Removal

Removing the guide







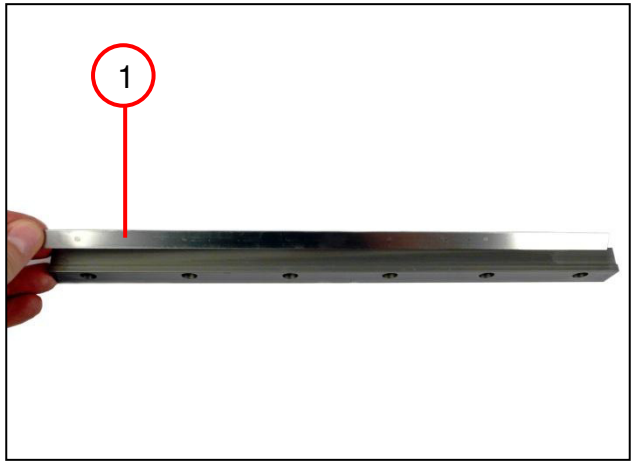
1. Unscrew the fillister head screw (1).
2. Remove the leaf spring (2).
3. Unscrew the six set screws (3).
4. Unscrew the six screws (4) and remove the guide strip.
5. Remove the pressure piece (5).

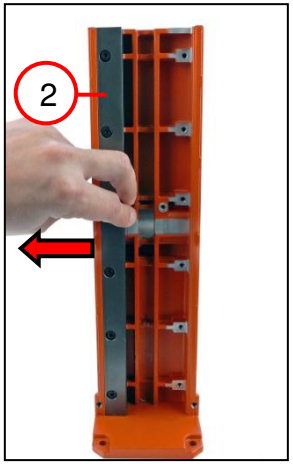
Tools:

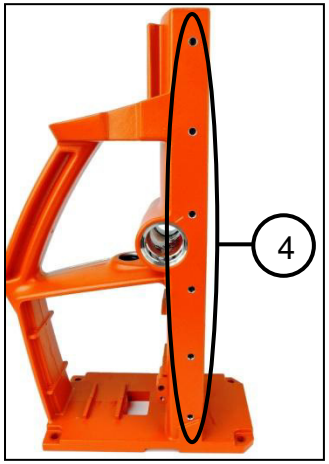
- PH2 cross-head screwdriver
- Socket head wrenches, 2.5 mm; 3 mm

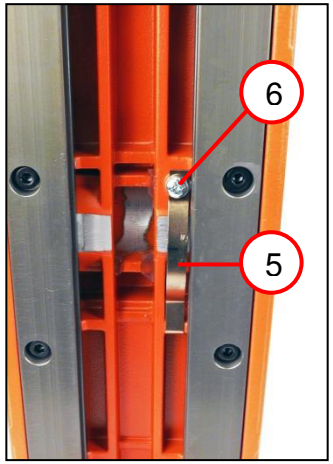
Fitting

Fitting the guide







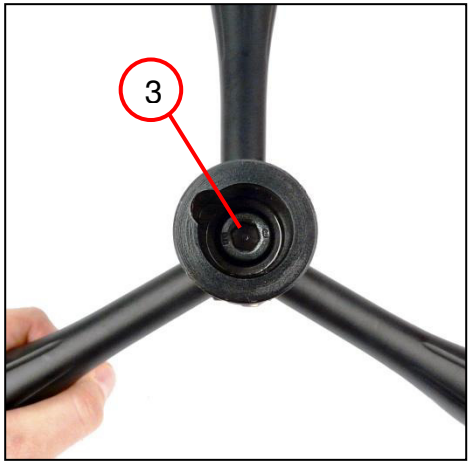


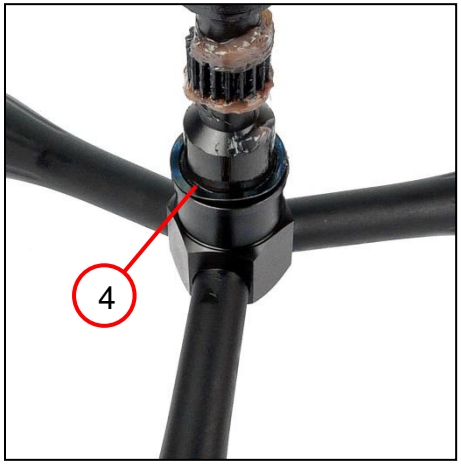
1. Place the pressure piece (1) in the correct position.
2. Position the guide strip (2) with the pressure piece and press onto the housing.
3. Insert the six cylinder head screws.
4. Position the guide strip (3).
5. Insert the six cylinder head screws.
6. Position the six set screws (4).
   ☞ The guide clearance is adjusted after installation of the drill motor
7. Position the leaf spring (5).
8. Screw in the screw (6) [1.1 Nm $^{\pm 0.15\ Nm}$].

Tools:

- Socket head wrenches, 3 mm; 2.5 mm
- PH2 cross-head screwdriver

Fitting the handle



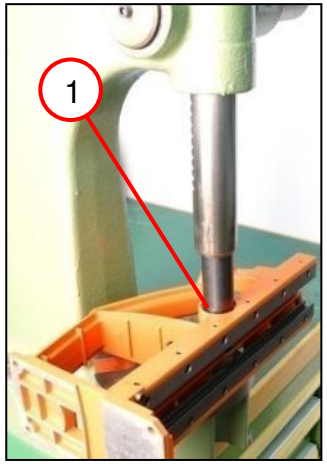


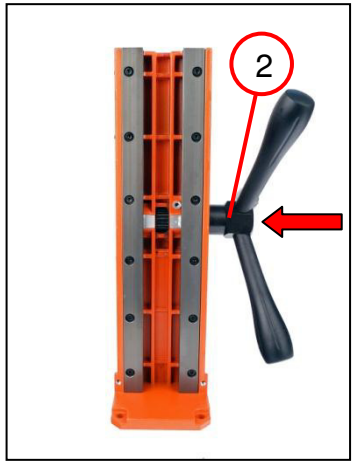
1. Screw in the three handles (1).
2. Position the shaft (2).
3. Screw in the cylinder head screw (3) [8.0 Nm $^{\pm 0.5\ Nm}$].
4. Position the disc (4).
5. Coat the shaft with grease.

Tools:

- Socket head wrench, 5 mm

Fitting the handle



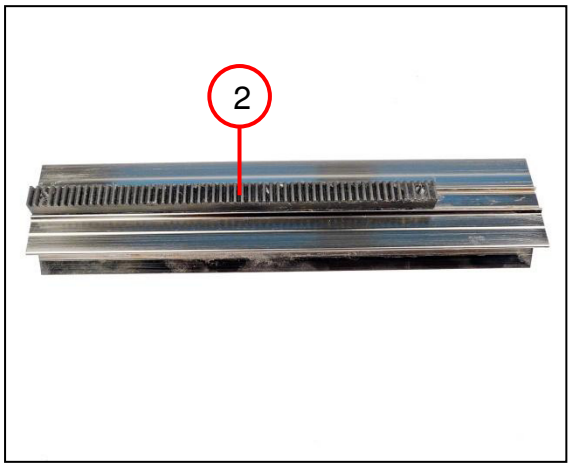


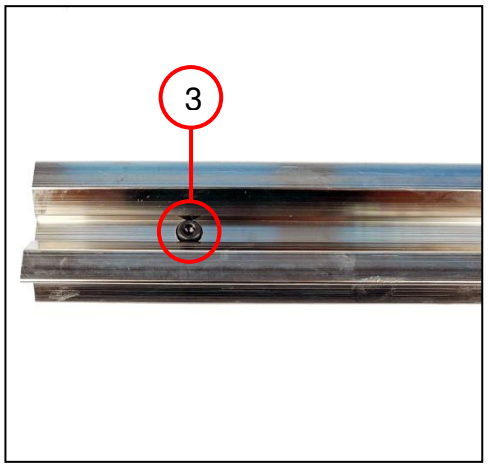
1. Press in the plastic bushes (1) on both sides.
2. Position the spider (2).
3. Fit the circlip (3).

Tools:

- Arbor press
- Sleeve
  26 mm inner diameter
  30 mm outer diameter
- Circlip pliers

Fitting the guide



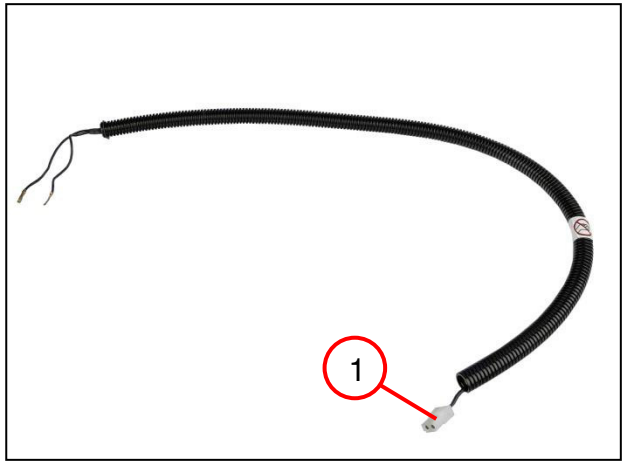


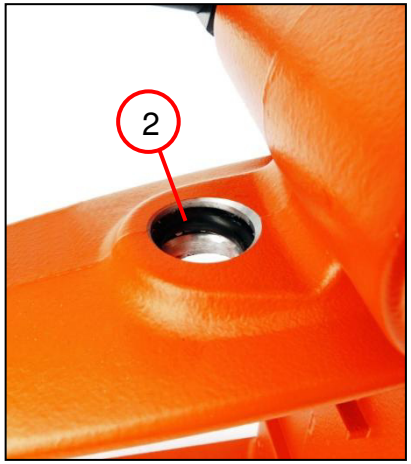
1. Screw in the flat headed screw (1) [1.2 Nm $^{\pm 0.15\ Nm}$].
2. Position the gear rack (2).
3. Screw in the screw (3) with the disc [3.0 Nm $^{\pm 0.3\ Nm}$].
4. Slide the guide onto the guide strip.
5. Use the spider to move the guide downwards.
6. Screw in the screw (4) with the disc [3.0 Nm $^{\pm 0.3\ Nm}$].

Tools:

- Slotted screwdriver
- Socket head wrench, 3 mm

Fitting the connecting cable



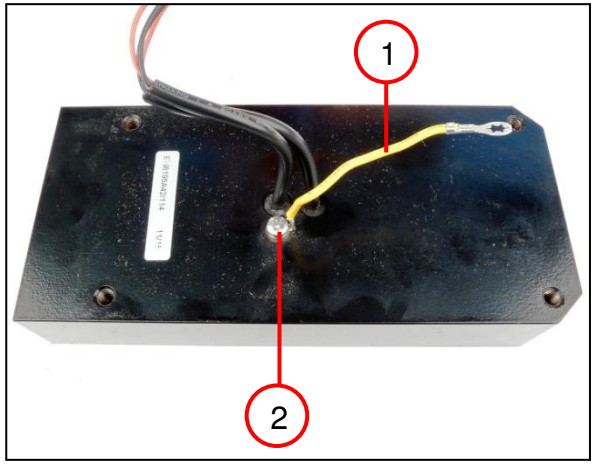


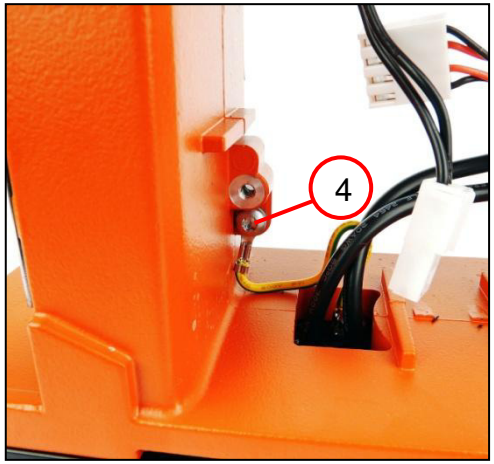
1. Thread the connecting cable (1) into the protective hose.
2. Insert the sealing ring (2).
3. Fit the protective hose (3).

Tools:

- Circlip pliers

Fitting the magnetic foot



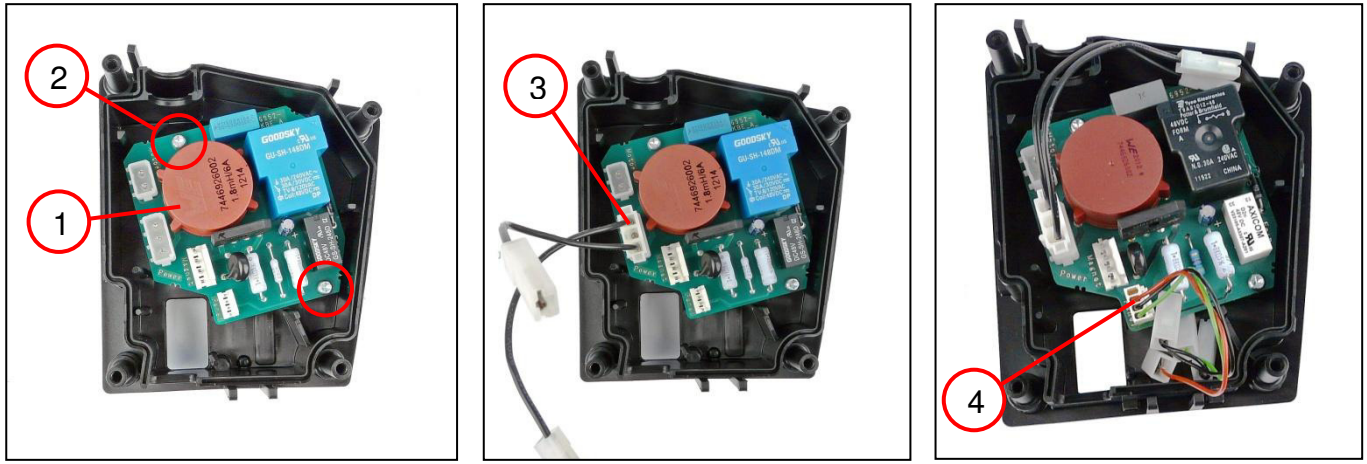


1. Position the connecting cable (1).
2. Screw in the screw (2) [1.5 Nm $^{\pm 0.2\ Nm}$].
3. Screw in the four screws (3) [8.0 Nm $^{\pm 0.5\ Nm}$].
4. Place the connecting cable in the correct position.
5. Screw in the screw (4) [1.5 Nm $^{\pm 0.2\ Nm}$].

Tools:

- PH2 cross-head screwdriver
- Socket head wrench, 5 mm
- Torx T20

Fitting the electronics

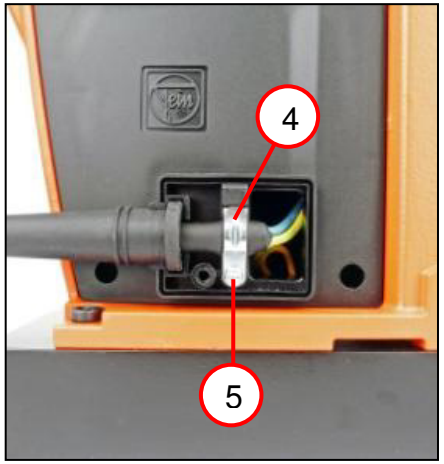


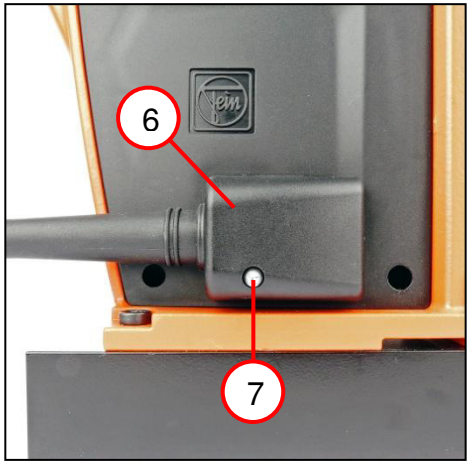
1. Place the electronics (1) in the correct position.
2. Screw in the two screws (2) [1.1 Nm $^{\pm 0.15\ Nm}$].
3. Connect the cable (3).
4. Connect the cable harness (4).

Tools:

- Torx T15

Fitting the electronics



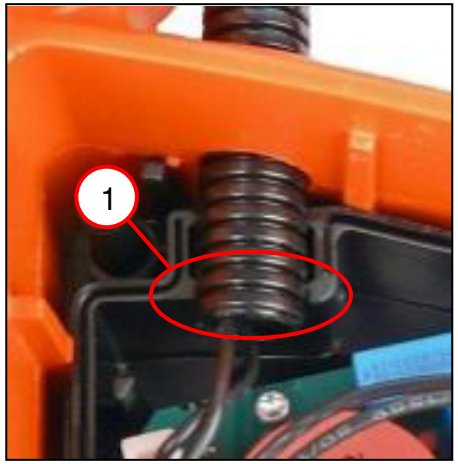


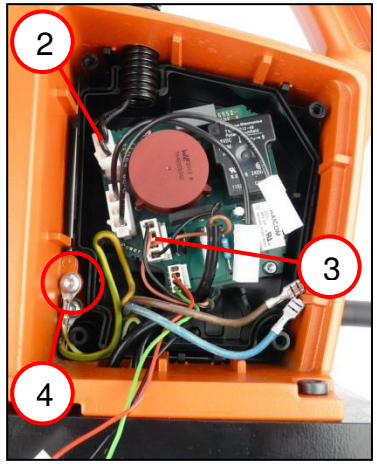
1. Fit the cover (1).
2. Slide the protective hose (2) over the cable (3).
3. Position the cable with the protective hose.
4. Position the cable clamping piece (4).
5. Screw in the screw (5) [0.9 Nm $^{\pm 0.1\ Nm}$].
6. Position the cover (6).
7. Screw in the screw (7) [1.8 Nm $^{\pm 0.1\ Nm}$].

Tools:

- Torx T15

Fitting the electronics



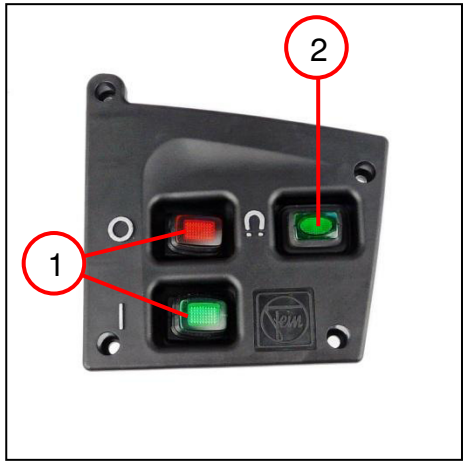


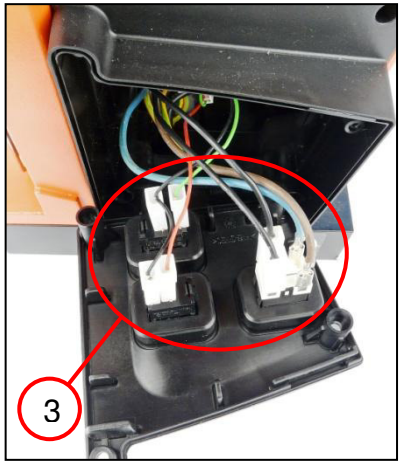
1. Place the protective hose in the recess (1).
2. Connect the connecting cable (2).
3. Connect the magnet cable (3).
4. Position the earthing conductor of the cable with plug.
5. Screw in the screw (4) [1.5 Nm $^{\pm 0.2\ Nm}$].
6. Fit the cover (5).

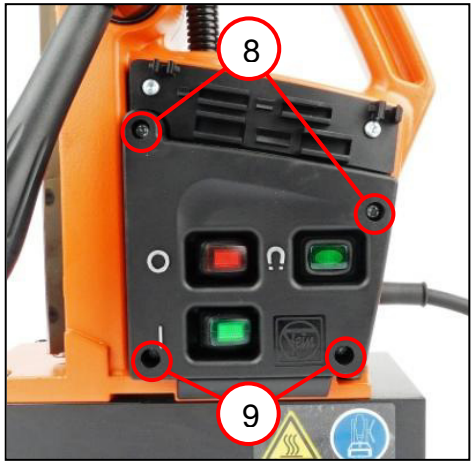
Tools:

- Torx T20

Removing the electronics







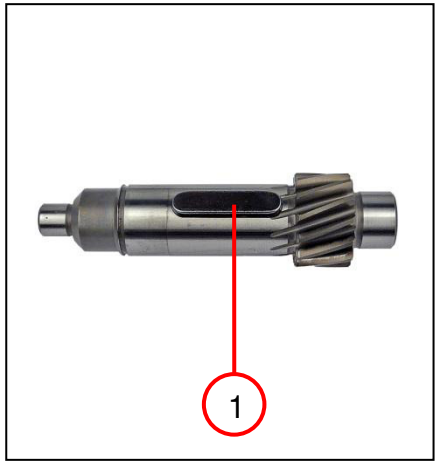
1. Install the two buttons (1).
2. Install the switch (2).
3. Connect all cables (3) as shown in the connection diagram.
4. Position the holder (4).
5. Screw in the screw “4x48” (5) [2.0 Nm $^{\pm 0.3\ Nm}$].
6. Screw in the screw “4x35” (6) [2.0 Nm $^{\pm 0.3\ Nm}$].
7. Fit the cover (7).
8. Screw in the two screws “4x18” (8) [2.0 Nm $^{\pm 0.3\ Nm}$].
9. Screw in the two screws “4x48” (9) [2.0 Nm $^{\pm 0.3\ Nm}$].

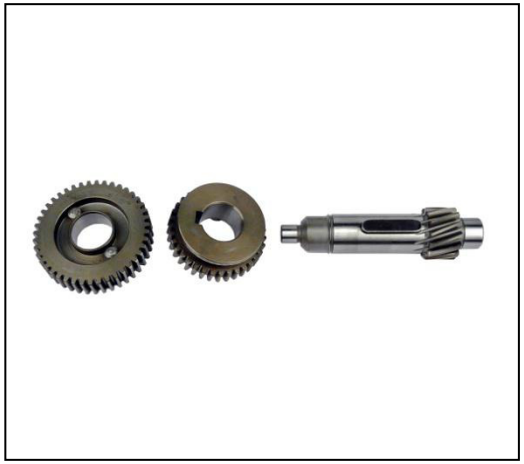
Tools:

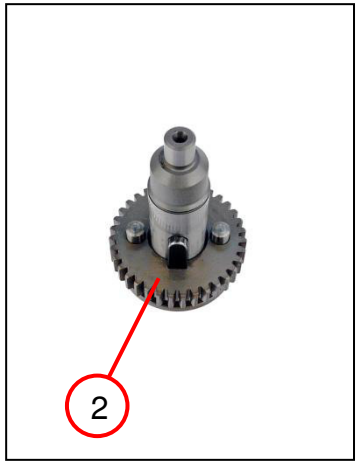
- Torx T20

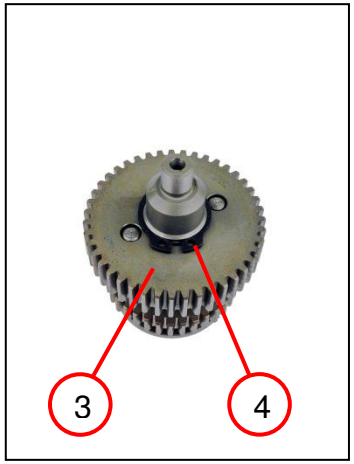
Fitting

Fitting the gear wheel







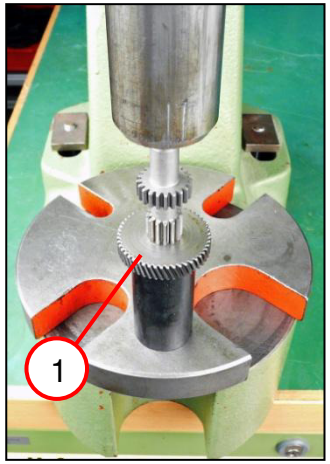


1. Position the feather key (1).
2. Place the gear wheel (2) in the correct position.
3. Place the gear wheel (3) in the correct position.
4. Fit the circlip (4).

Tools:

- Circlip pliers
- Combination pliers

Fitting the gear wheel

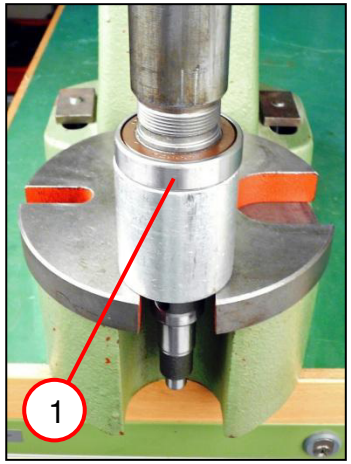


1. Push the gear wheel (1) onto the shaft.

Tools:

- Arbor press
- Sleeve
  24 mm inner diameter
  42 mm outer diameter

Fitting the shaft

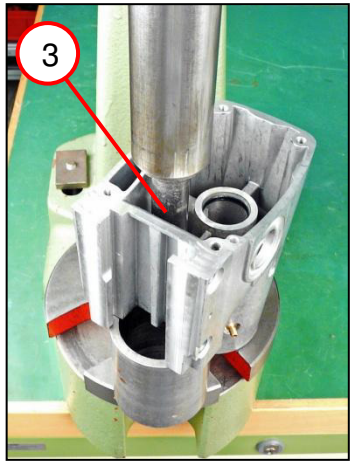


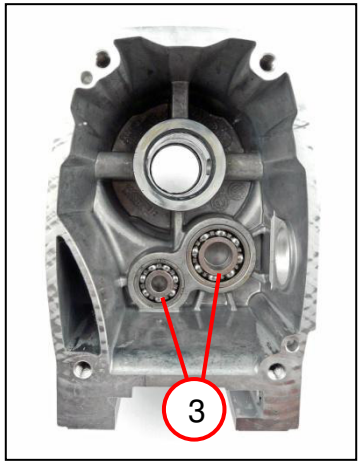
1. Push the grooved ball bearing (1) onto the shaft.
2. Fit the circlip (2).

Tools:

- Arbor press
- Sleeve
  36 mm inner diameter
  55 mm outer diameter
- Circlip pliers

Fitting the gearbox housing



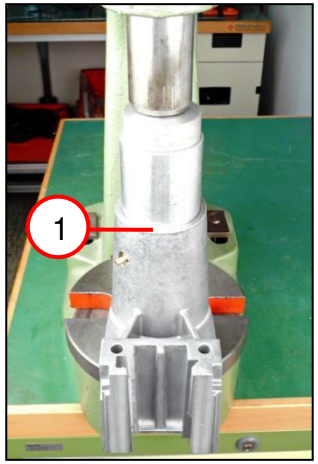


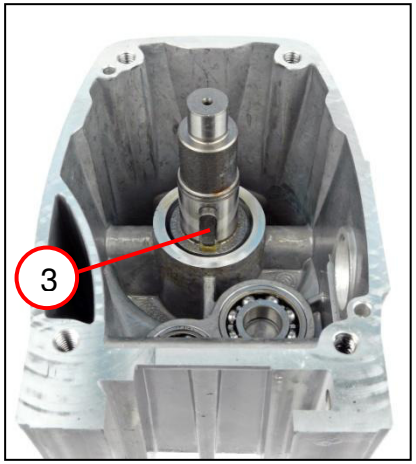
1. Coat the hose socket (1) with thread-locking fluid.
2. Screw in the hose socket (1) [$1.6^{\pm 0.25}$ Nm].
3. Coat the three sealing rings with oil.
4. Position the three sealing rings (2).
   ☞ Replace the sealing rings with new ones during each fitting.
5. Press in the two grooved ball bearings (3).

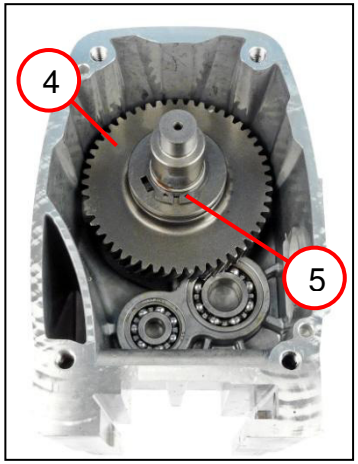
Tools:

- Socket wrench
- Socket wrench insert, 7 mm
- Arbor press
- Sleeve
  8 mm inner diameter
  21 mm outer diameter
- Sleeve
  12 mm inner diameter
  27 mm outer diameter

Fitting the gearbox housing





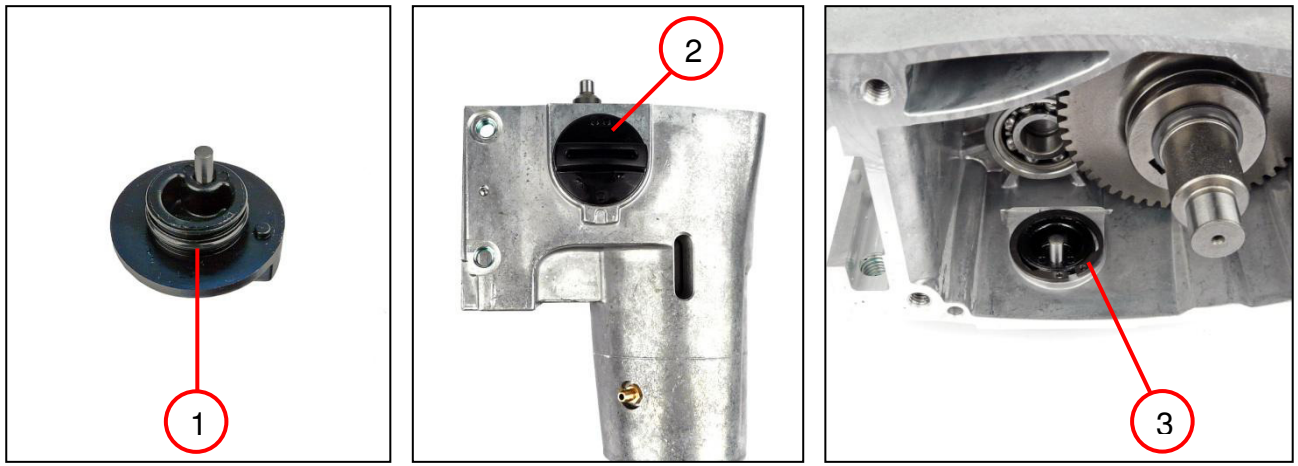


1. Press in the shaft (1).
2. Fit the circlip (2).
3. Position the feather key (3).
4. Position the gear wheel (4).
5. Fit the circlip (5).

Tools:

- Circlip pliers
- Combination pliers
- Arbor press
- Sleeve
  56 mm inner diameter
  60 mm outer diameter

Removing the gearbox housing

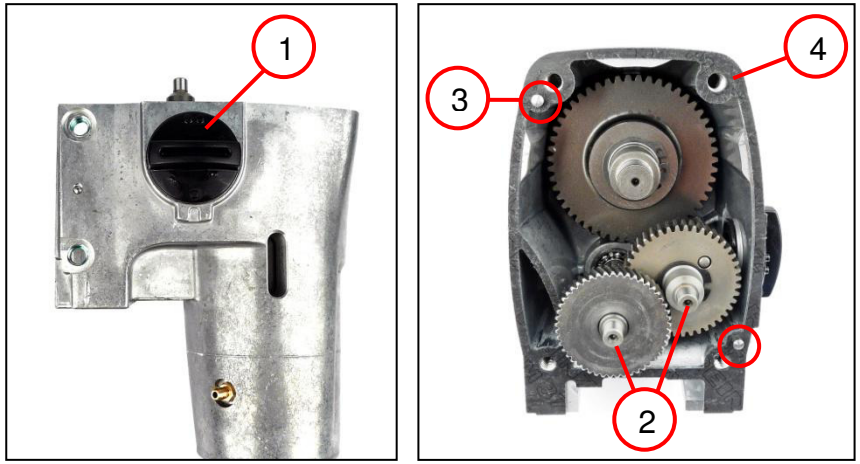


1. Coat the sealing ring (1) with oil.
2. Position the sealing ring (1).
3. Insert the rotary knob (2).
4. Fit the circlip (3).

Tools:

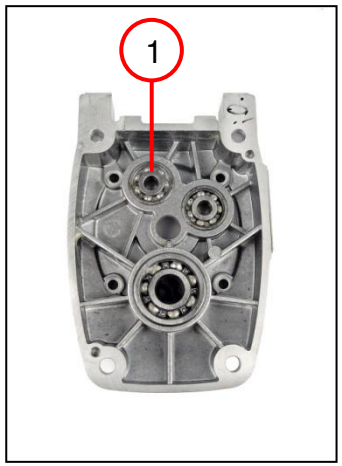
- Circlip pliers

Removing the gearbox housing



1. Turn the rotary knob to the "●" position (1).
2. Insert the two gear wheels (2).
3. Insert the two straight pins (3).
4. Position the seal (4).
   ☞ Replace the seal before each fitting.

Removing the gearbox housing



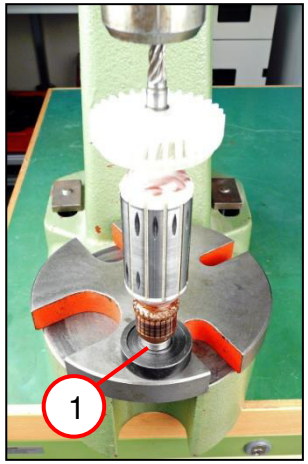
1. Press in the three grooved ball bearings (1).

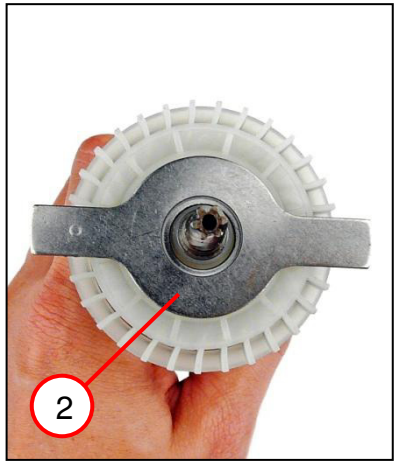
Tools:

- Arbor press
- Sleeve
  8 mm inner diameter
  21 mm outer diameter
- Sleeve
  12 mm inner diameter
  31 mm outer diameter

Fitting

Fitting the armature



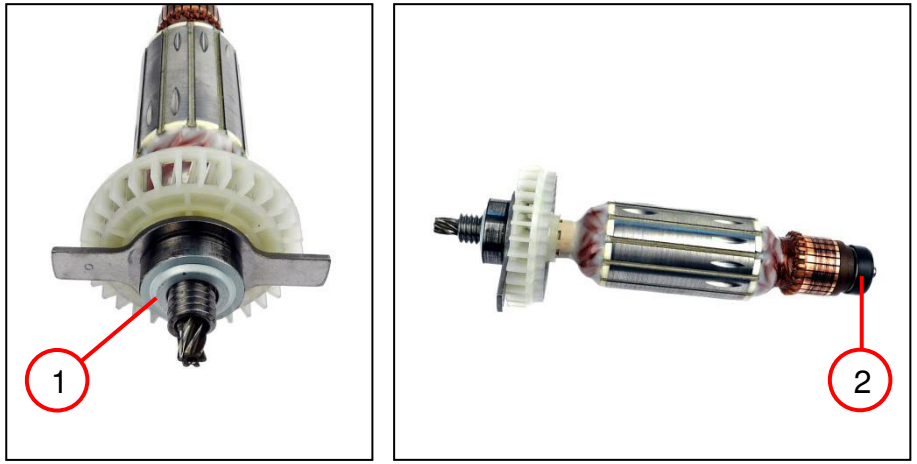


1. Press on the grooved ball bearing (1).
2. Position the plate (2).
3. Press on the grooved ball bearing (3).
4. Press on the sealing ring (4).

Tools:

- Arbor press
- Sleeve
  8 mm inner diameter
  20 mm outer diameter
- Sleeve
  7 mm inner diameter
  26 mm outer diameter

Fitting the armature



1. Position the sealing ring (1).
2. Position the bearing bush (2).

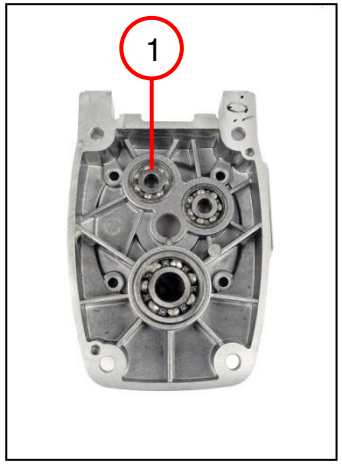
Fitting the motor housing

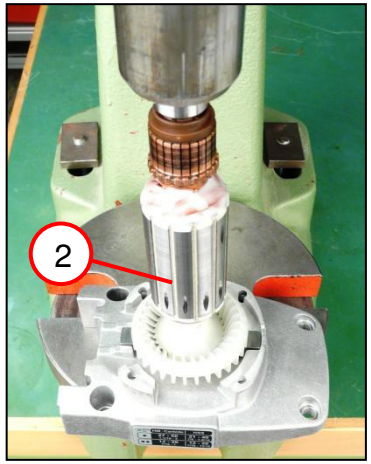
1. Press in the stator (1).
2. Fit the cover (2).
3. Insert the air guide ring (3).

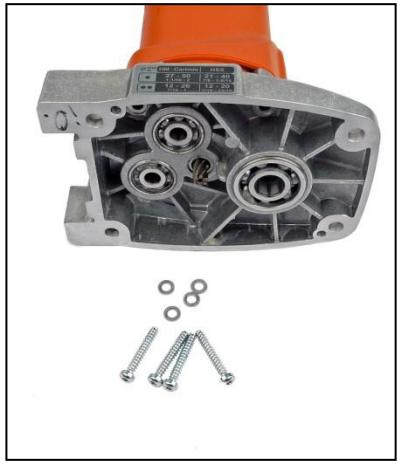
Tools:

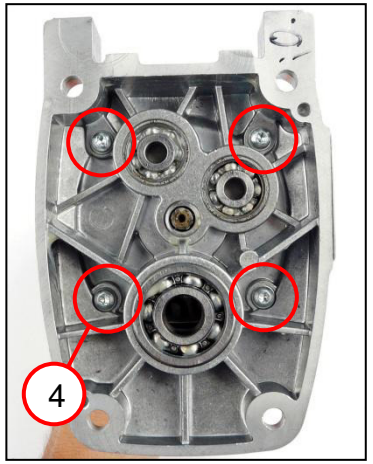
- Arbor press
- Pressure piece
- 4x round material, diameter 20 mm; length 60 mm

Fitting the motor housing







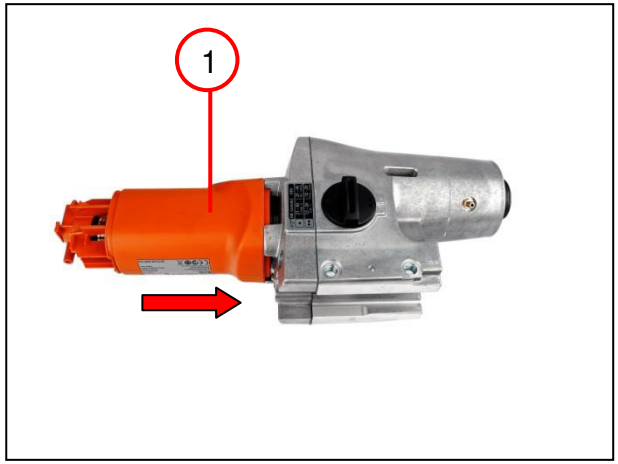


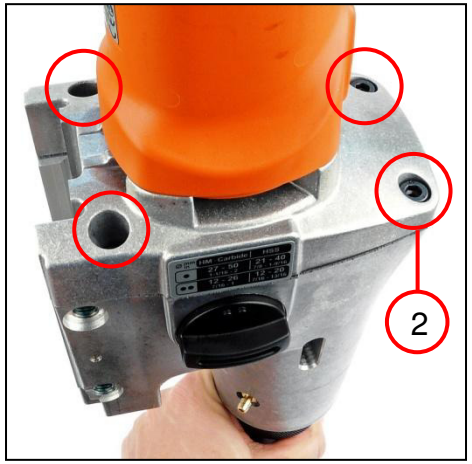
1. Press in the three grooved ball bearings (1).
2. Press in the armature (2).
3. Fit the motor housing (3).
4. Screw in the four screws (4) with sealing ring [$1.8^{\pm 0.1}$ Nm].
   ☞ Use new sealing rings for each new fitting.

Tools:

- Arbor press
- Sleeve
  10 mm inner diameter
  21 mm outer diameter
- Sleeve
  15 mm inner diameter
  30 mm outer diameter
- Torx T20

Fitting the motor housing



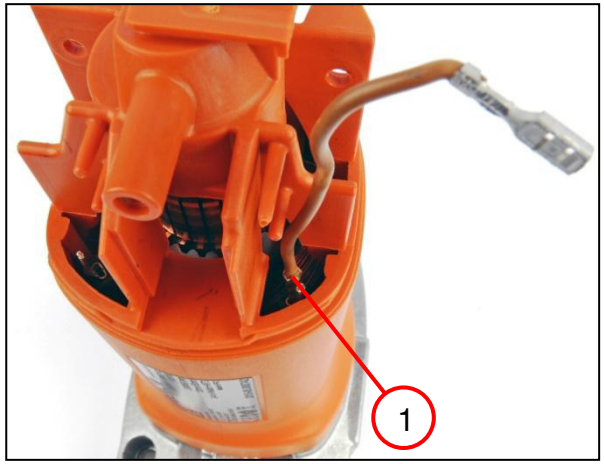


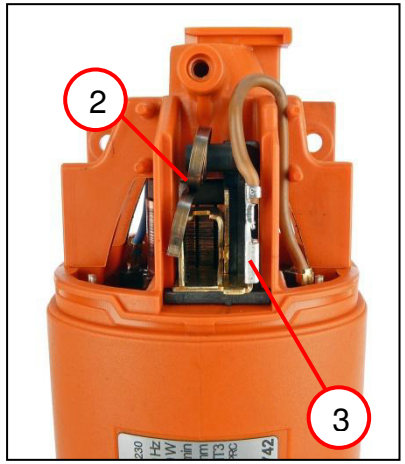
1. Place the motor housing on the gearbox housing (1).
2. Screw in the four screws (2) [8.0 Nm $^{\pm 0.3\ Nm}$].

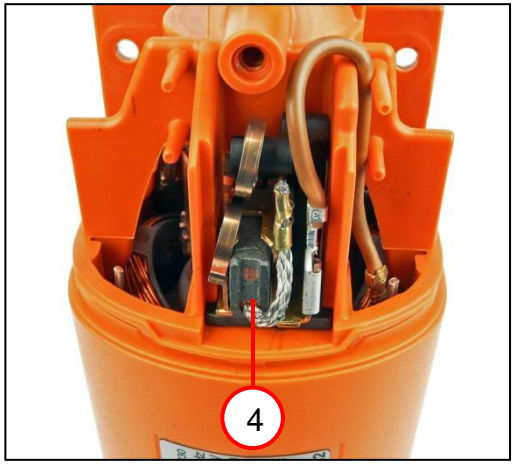
Tools:

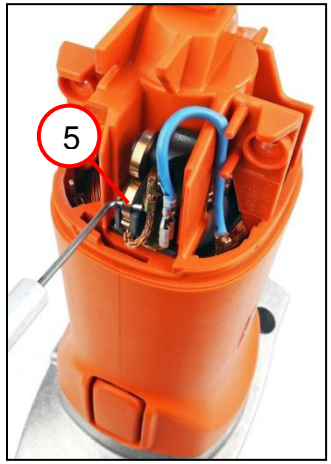
- Socket head wrench, 5 mm

Fitting the carbon brush holders (on both sides)







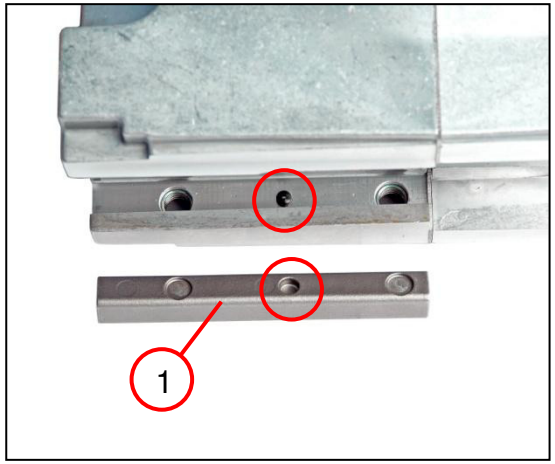


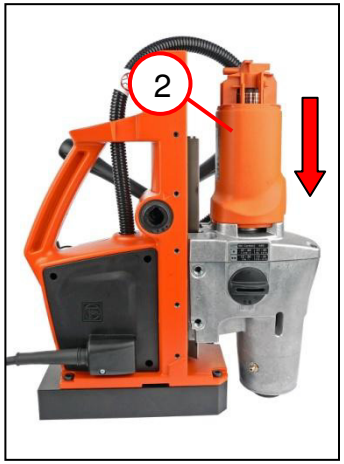
1. Connect the cable (1) as shown in the connection diagram.
2. Fit the carbon brush holder (2).
3. Connect the cable (3) as shown in the connection diagram.
4. Place the carbon brush in the correct position (4) and connect it.
5. Place the spring (5) on the carbon brush.

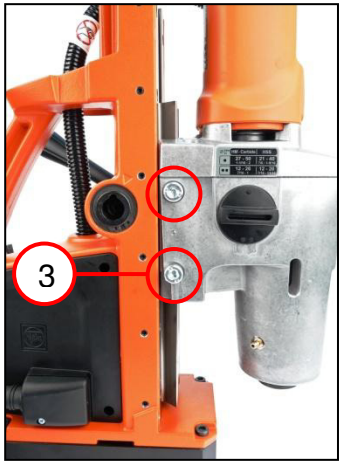
Tools:

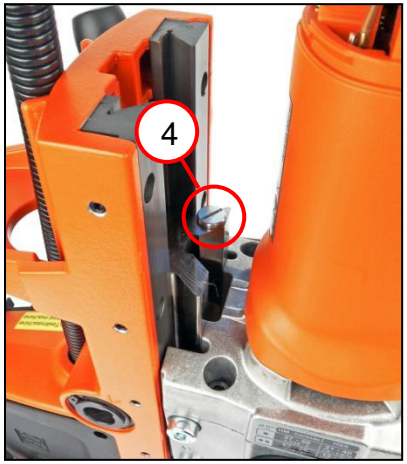
- Assembly aid
- Long-nosed pliers

Fitting the drill motor









1. Position the guide (1).

Crushing hazard around drill motor!

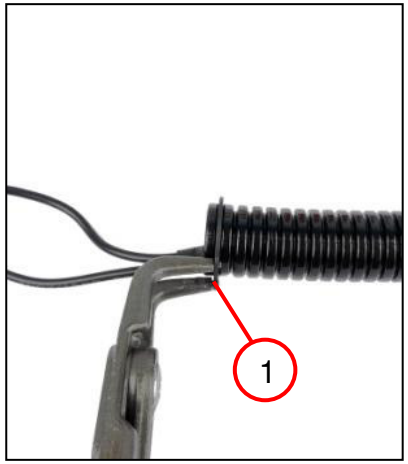
☞ The drill motor will rapidly slide downwards if the two screws (3) are not tight.

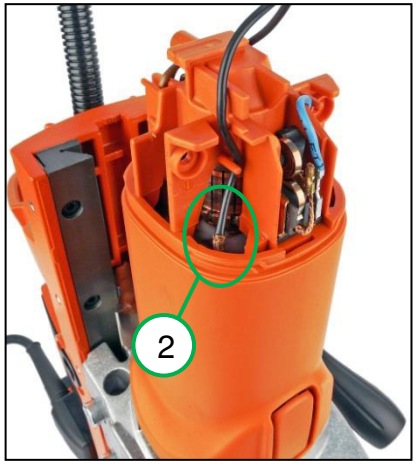
2. Slide the drill motor (2) onto the guide.
3. Screw in the two screws (3).
4. Screw in the flat headed screw (4) [1.2 Nm $^{\pm 0.15\ Nm}$].

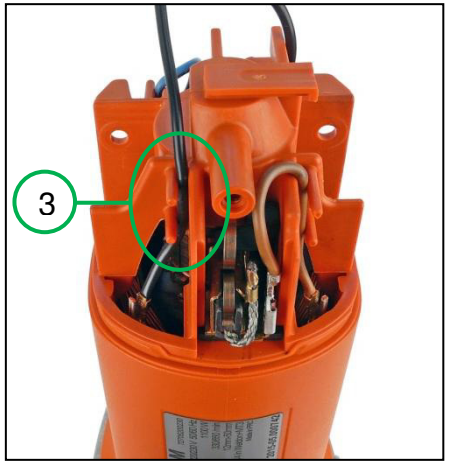
Tools:

- Socket head wrench, 6 mm
- Slotted screwdriver

Fitting the connecting cable





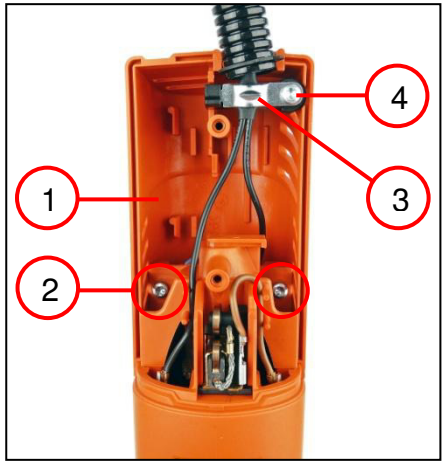


1. Fit the circlip (1).
2. Connect the cable on the stator (2).
3. Route the cable (3).

Tools:

- Circlip pliers

Fitting the connecting cable



1. Position the upper part of the cover (1).
2. Screw in the two screws (2) [1.6 Nm $^{\pm 0.25\ Nm}$].
3. Position the cable clamping piece (3).
4. Screw in the screw (4) [1.6 Nm $^{\pm 0.25\ Nm}$].
5. Position the lower part of the cover (5).
6. Screw in the two screws (6) [1.6 Nm $^{\pm 0.25\ Nm}$].

Tools:

- Torx T15

Setting the guide

1. Use the six set screws (1) to set zero backlash on the guide.
   - ☞ To check the setting, move the drill motor up and down using the spider.
   - ☞ At the places where the drill unit moves too fast or too slowly, screw the stud bolts in or out a little further.

Tools:

- Socket head wrench, 2.5 mm

Fitting the container

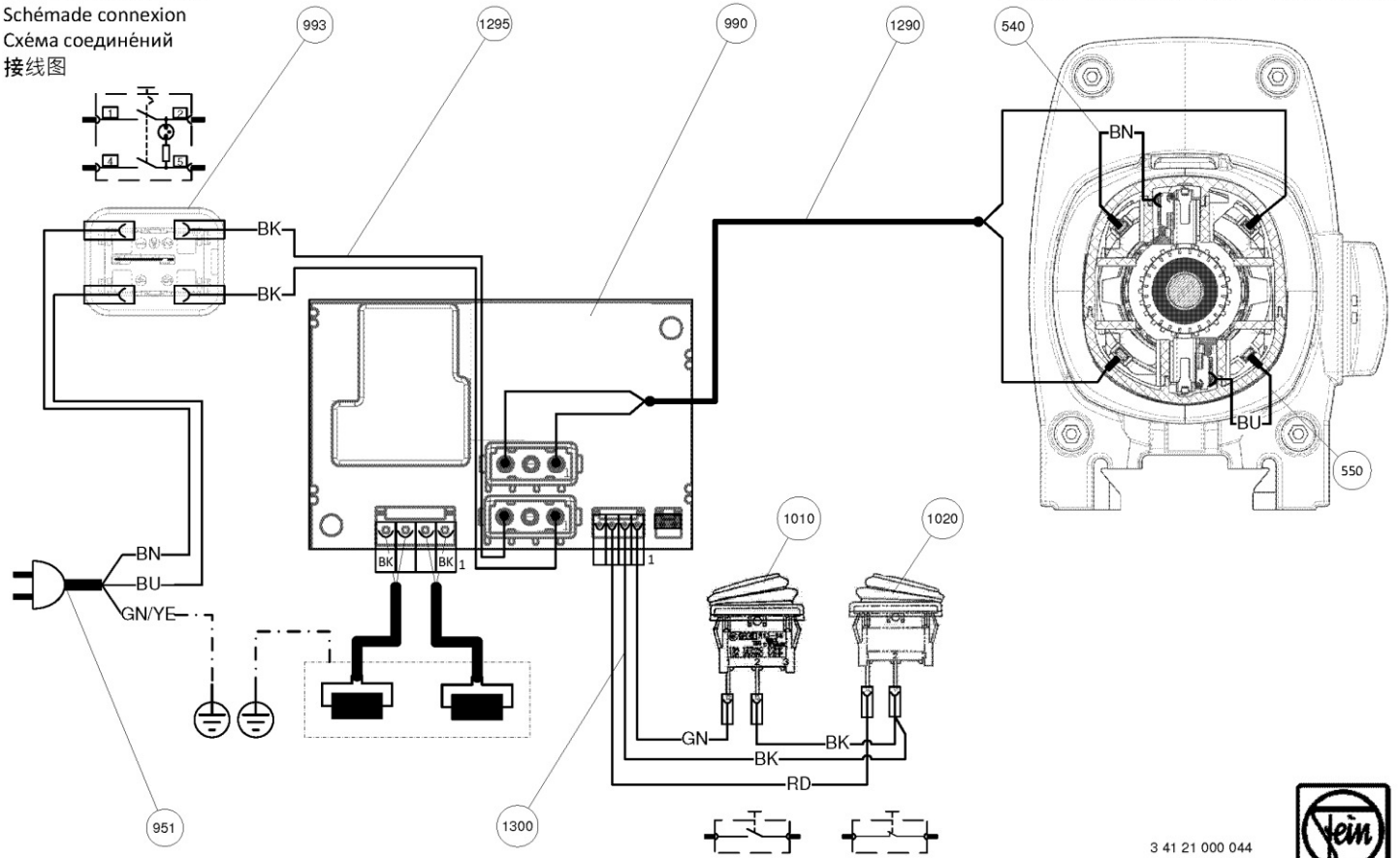
1. Position the container (1).
2. Connect the hose to the hose socket (2).

KBE 50-2

Connection diagram

Anschlussplan
Connection diagram
Esquemade conexiones
Schémade connexion
Схéма соединéний
接线图

7 270 50 – KBE 35 / 220V – 230V 50/60Hz
7 270 51 – KBE 50-2 / 220V – 230V 50/60Hz
7 270 52 – KBE 50-2M / 220V – 230V 50/60Hz



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