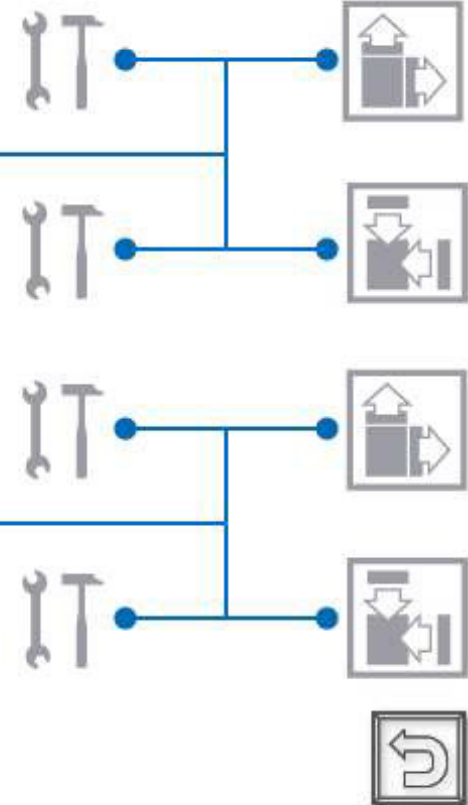




GSZ4-280EL (7 223 24 ...)





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



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.

GSZ4-280EL

Lubricants and auxiliary substances required



Note

No lubricants or auxiliary substances are required for assembly of the GSZ4-280EL.

GSZ 280EL; GSZ 90EL

Troubleshooting

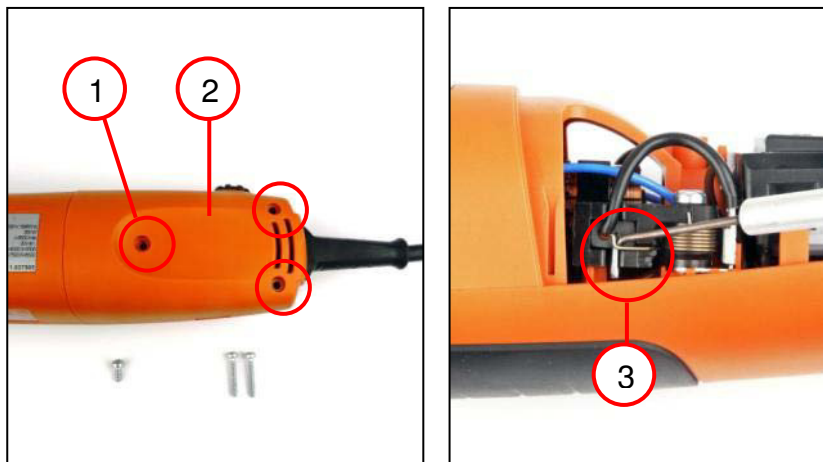


Not yet available.



Removal

Removing the motor housing



1. Unscrew the three screws (1).
2. Remove the cover (2).
3. Lift up the tension spring from the carbon brush (3) [on both sides].

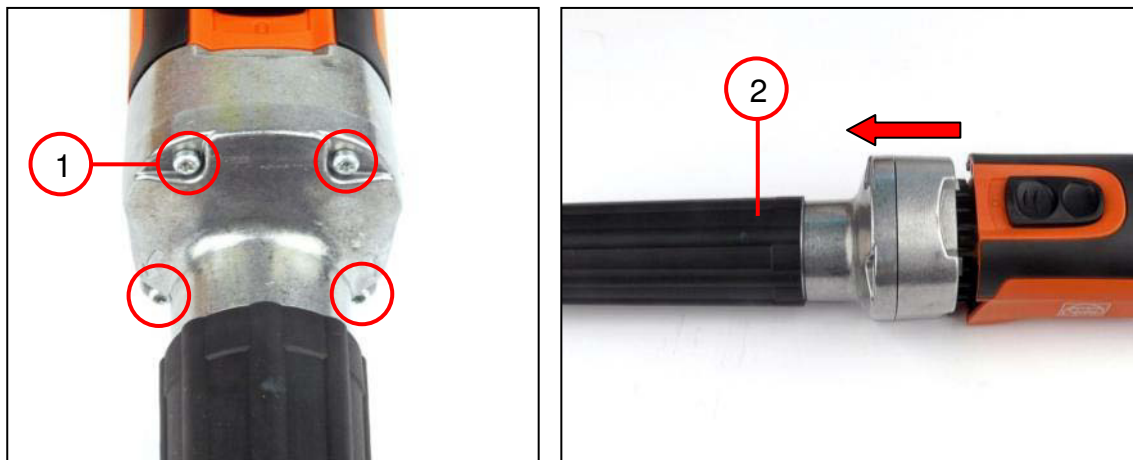
Tools:

- Torx T15
- Assembly aid



Removal

Removing the motor housing



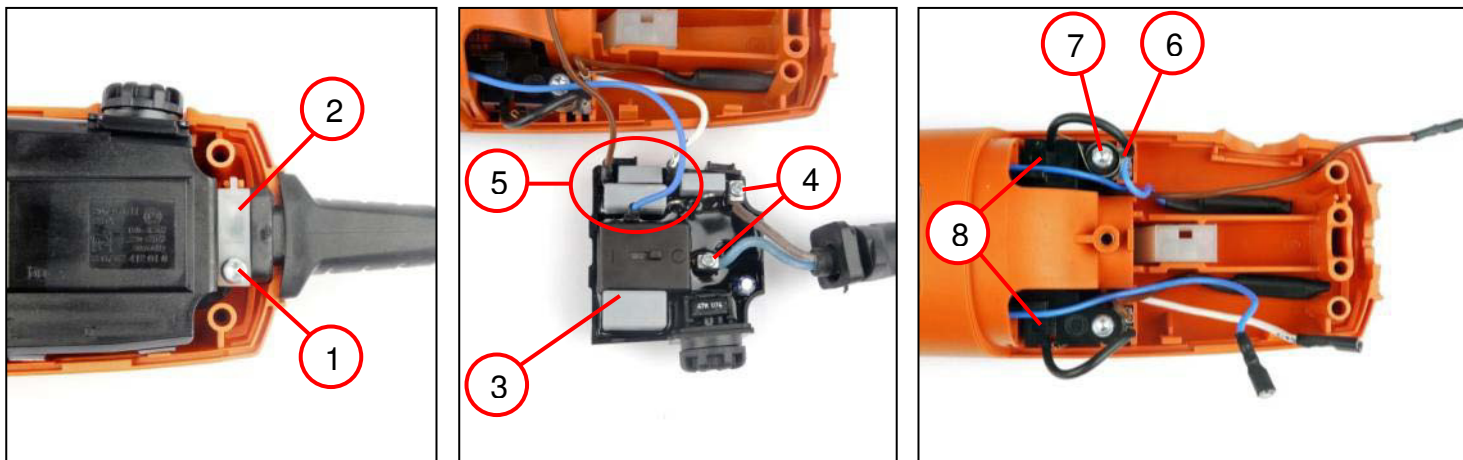
1. Unscrew the four screws (1).
2. Pull the collar bearing (2) with intermediate gearbox out of the housing.

Tools:

- Torx T15

Removal

Removing the electronics



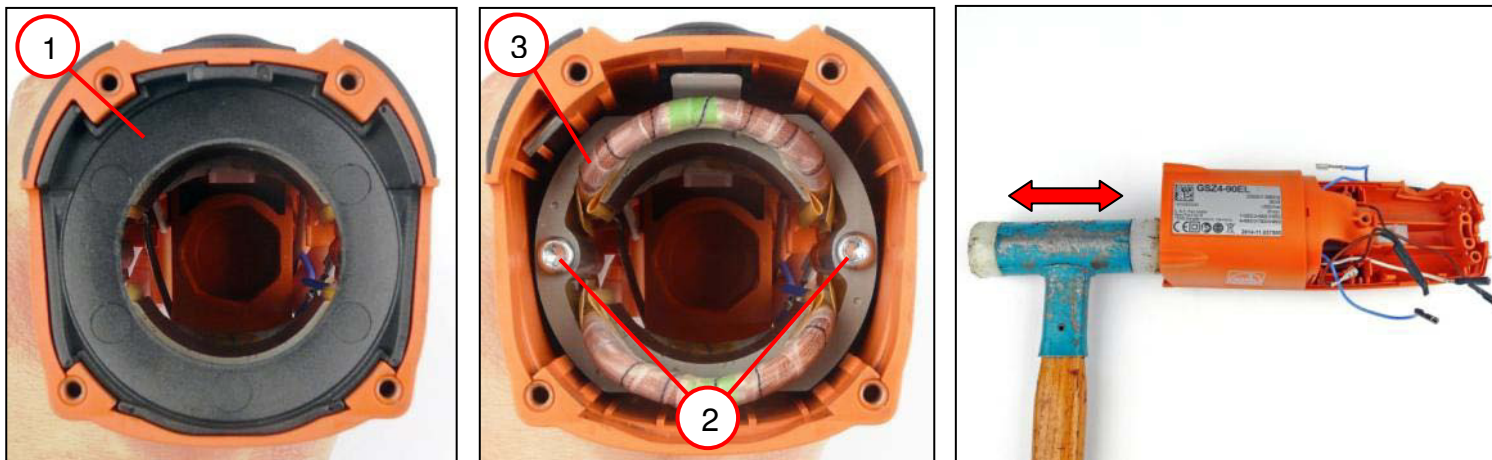
1. Unscrew the screw (1).
2. Remove the cable clamping piece (2).
3. Take out the electronics (3).
4. Loosen the two screws (4) and remove the two cables.
5. Pull off the cables (5).
6. Pull the cables (6) off the connector [on both sides].
7. Unscrew the screw (7) on the brush holder [on both sides].
8. Remove the brush holder (8) and the connector [on both sides].

Tools:

- Torx T15
- PH1 cross-tip screwdriver

Removal

Removing the stator



1. Remove the air guide ring (1).
2. Unscrew the two screws (2).
3. Remove the stator (3) from the housing.

Tools:

- Torx T15
- Plastic hammer

Removal

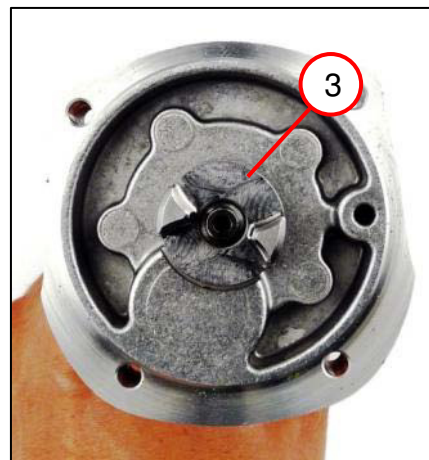
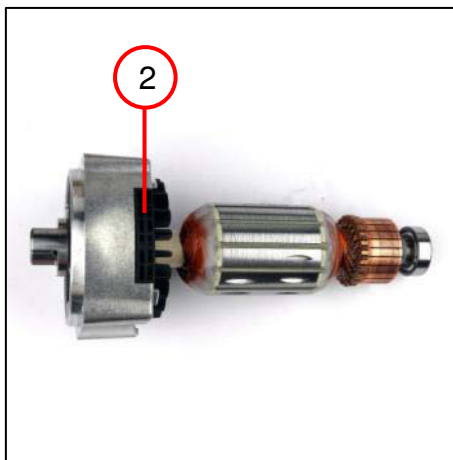
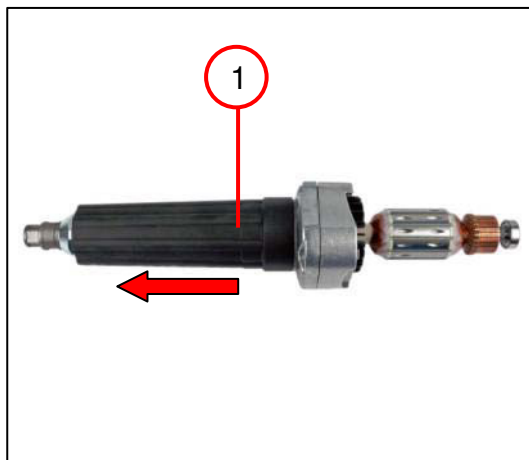
Removing the slide switch



1. Remove the contact spring (1).
2. Remove the slide switch (2).
3. Remove the control rod (3).

Removal

Removing the intermediate gearbox



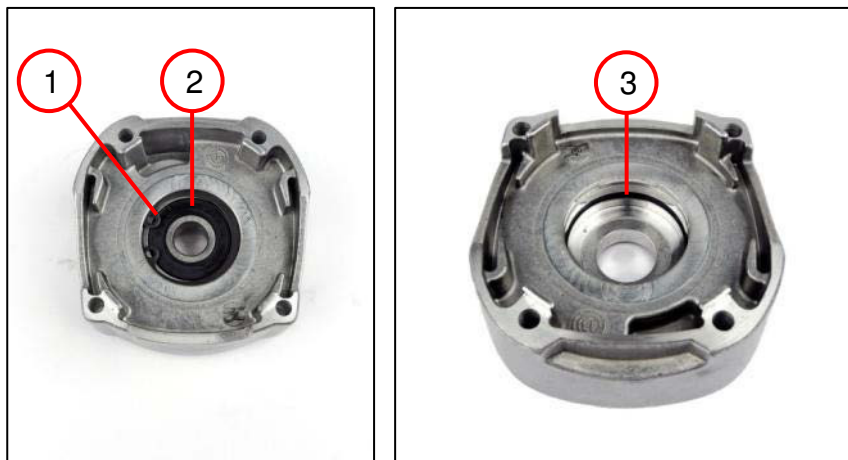
1. Pull the collar bearing (1) off the intermediate gearbox.
2. Remove the protective grille (2).
3. Unscrew the clutch part (3).
4. Press the armature out of the intermediate gearbox (4).

Tools:

- Arbor press
- Punch 5 mm
- Sleeve
55 mm inner diameter
65 mm outer diameter

Removal

Removing the intermediate gearbox



1. Remove the circlip (1).
2. Press the grooved ball bearing (2) out of the intermediate gearbox.
3. Remove the sealing ring (3).
 - ☞ The sealing ring is destroyed during removal and must be replaced.

Tools:

- Arbor press
- Circlip pliers
- Punch with 12 mm diameter



Removal

Removing the armature



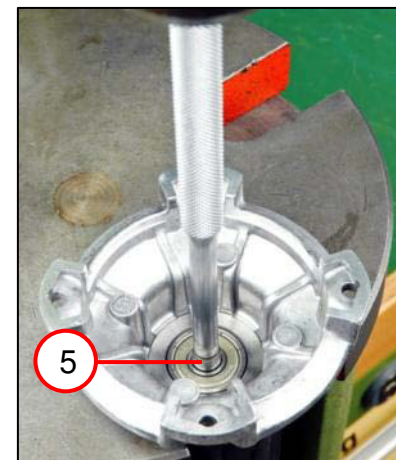
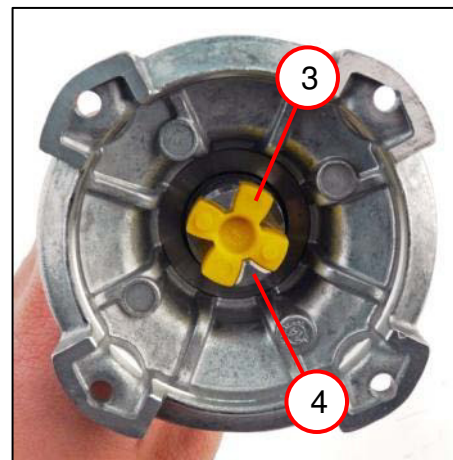
1. Pull the grooved ball bearing (1) off the armature.

Tools:

- Drawing-off socket cap
- Chuck cone 19 mm

Removal

Removing the collar bearing



1. Pull off the protective hose (1).
2. Unscrew the sleeve (2) [left-handed thread].
3. Remove the clutch part (3).
4. Unscrew the clutch part (4).
5. Press the shaft (5) out of the collar bearing.

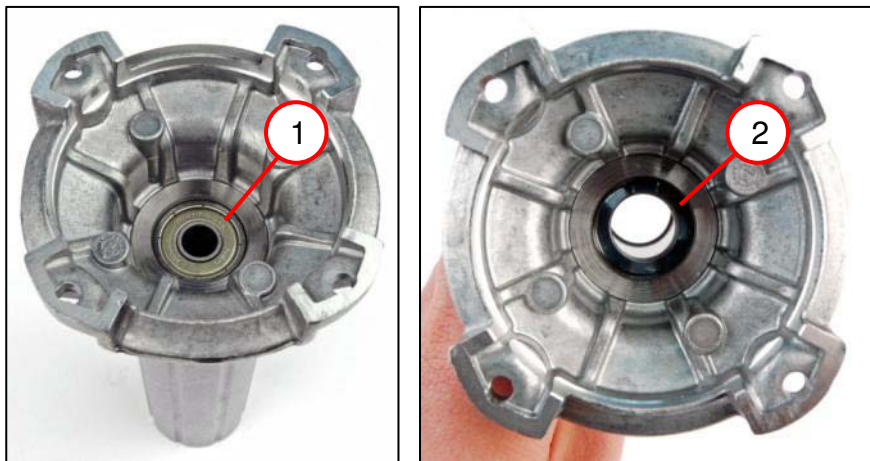
Tools:

- Open-ended spanner 30 mm
- Arbor press
- Punch 5 mm



Removal

Removing the collar bearing



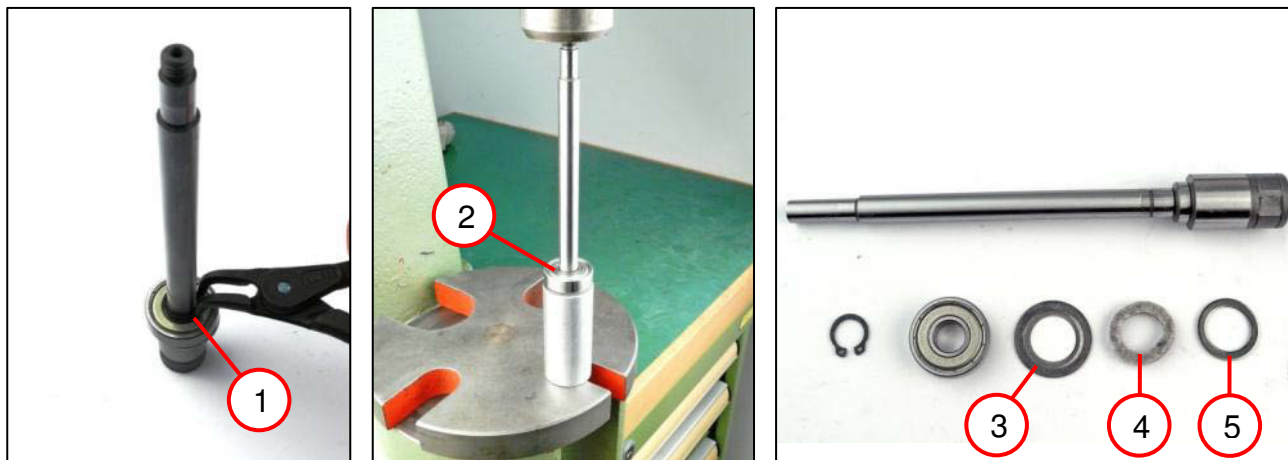
1. Remove the grooved ball bearing (1).
2. Remove the disc (2).

Tools:

- Inner puller
- Slide hammer

Removal

Removing the shaft



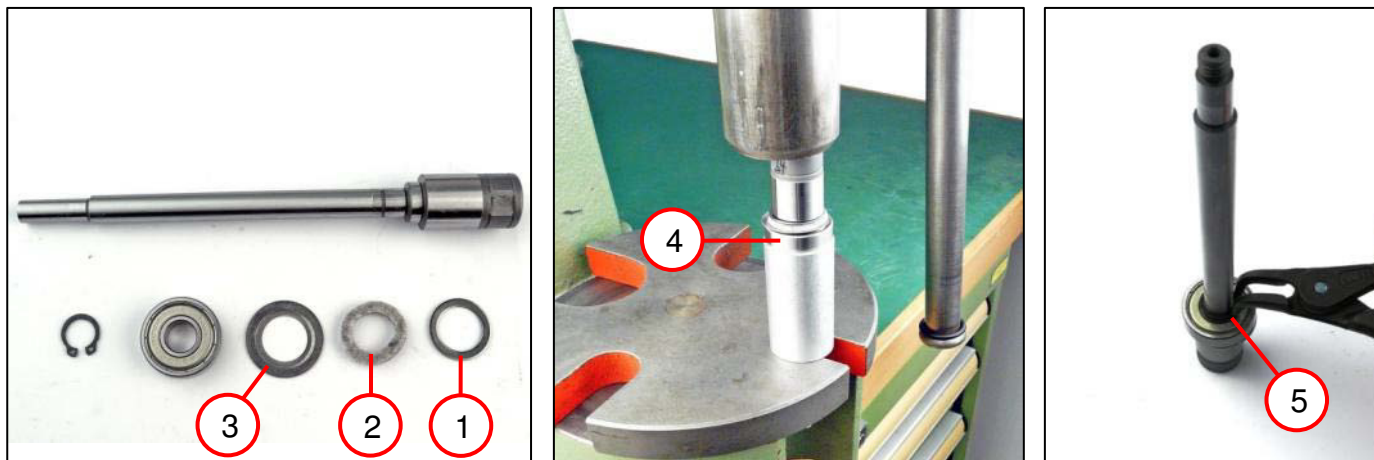
1. Remove the circlip (1).
2. Press off the grooved ball bearing (2).
3. Remove the disc (3).
4. Remove the felt ring (4).
5. Remove the disc (5).

Tools:

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

Fitting

Fitting the shaft



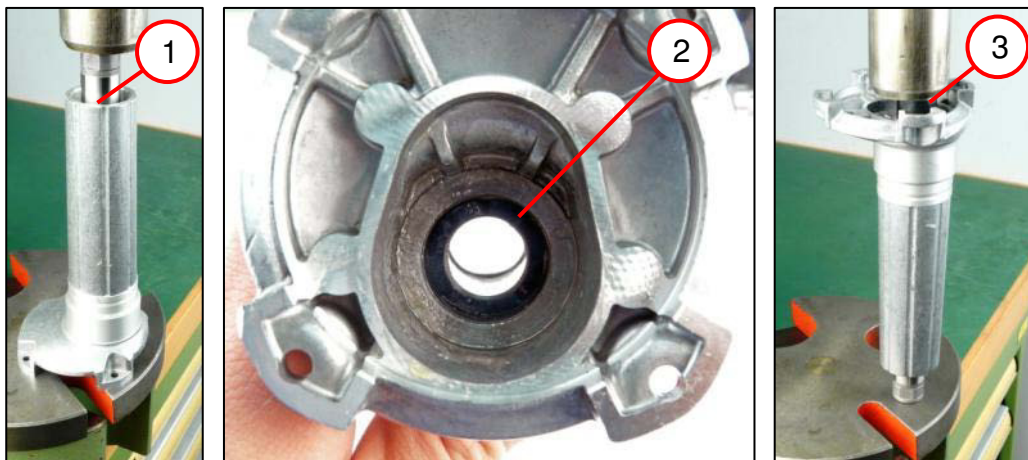
1. Slide the disc (1) onto the shaft.
2. Soak the felt ring (2) in oil.
3. Slide the felt ring (2) onto the shaft.
4. Slide the disc (3) onto the shaft.
5. Press the grooved ball bearing (4) onto the shaft.
6. Fit the circlip (5).

Tools:

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



Fitting the collar bearing



1. Press the shaft (1) into the collar bearing.
2. Insert the disc (2).
3. Press the grooved ball bearing (3) into the collar bearing.

Tools:

- Arbor press
- Sleeve
9 mm inner diameter
21 mm outer diameter

Fitting

Fitting the collar bearing



1. Screw the clutch part (1) hand-tight onto the shaft.
2. Insert the clutch part (2).
3. Screw the sleeve (3) onto the collar bearing [left-handed thread] [$12^{+1.0}\text{Nm}$].
4. Slide the protective hose (4) onto the collar bearing.

Tools:

- Open-ended spanner
30 mm



Fitting the armature



1. Press the grooved ball bearing (1) onto the armature.

Tools:

- Arbor press
- Sleeve
8 mm inner diameter
19 mm outer diameter

Fitting

Fitting the intermediate gearbox



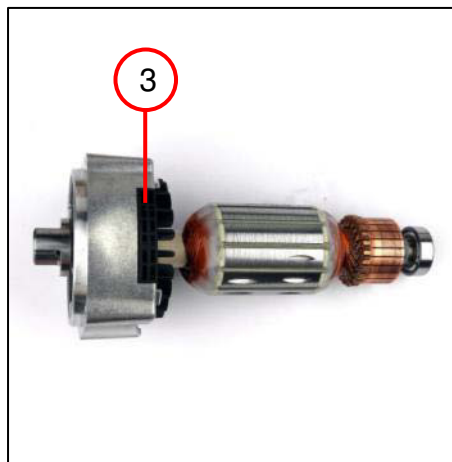
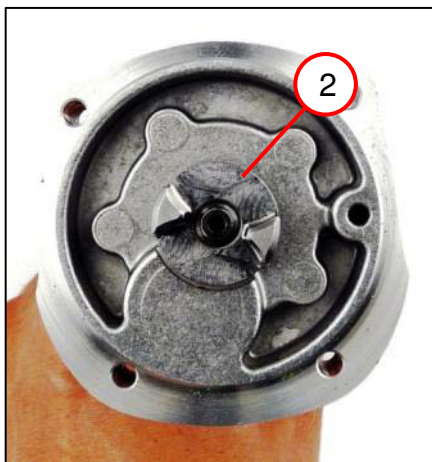
1. Coat the sealing ring (1) with oil.
2. Place the sealing ring (1) in the recess.
☞ Use a new sealing ring during each fitting.
3. Press the grooved ball bearing (2) into the intermediate gearbox.
4. Fit the circlip (3).

Tools:

- Arbor press
- Sleeve
10 mm inner diameter
25 mm outer diameter
- Sleeve
55 mm inner diameter
65 mm outer diameter
- Circlip pliers



Fitting the intermediate gearbox



1. Press the armature into the intermediate gearbox (1).
2. Screw the clutch part (2) hand-tight onto the armature.
3. Insert the protective grille (3) into the intermediate gearbox.
4. Fit the collar bearing on the intermediate gearbox.

Tools:

- Arbor press
- Sleeve
55 mm inner diameter
65 mm outer diameter

Fitting

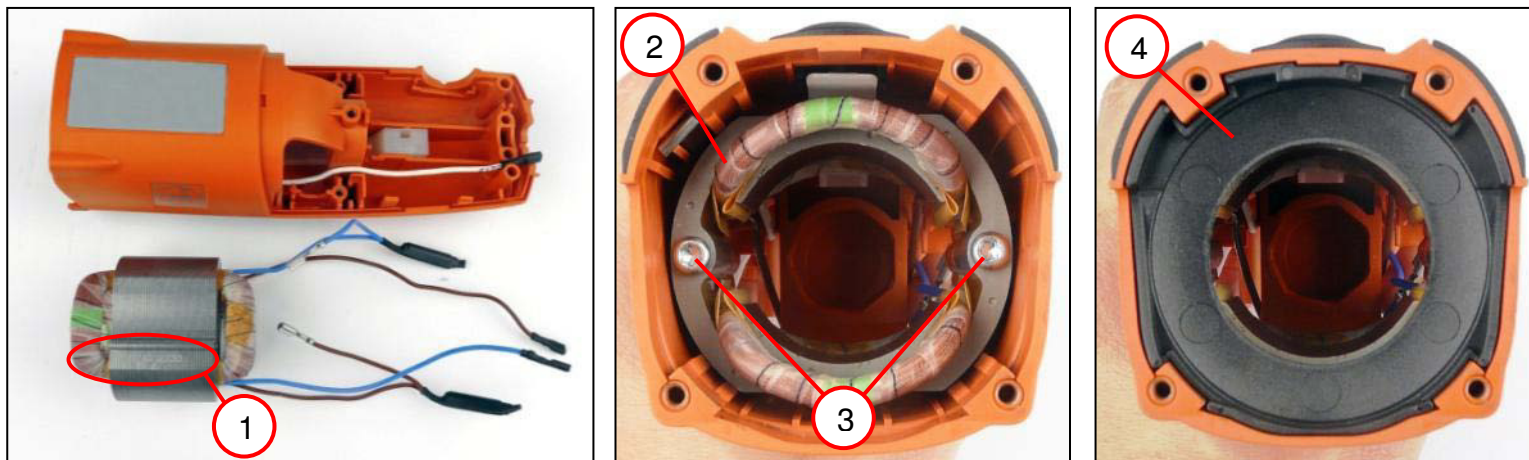
Fitting the slide switch



1. Slide the control rod (1) into the motor housing.
2. Clip the slide switch (2) into the control rod.
3. Insert the contact spring (3).

Fitting

Removing the motor



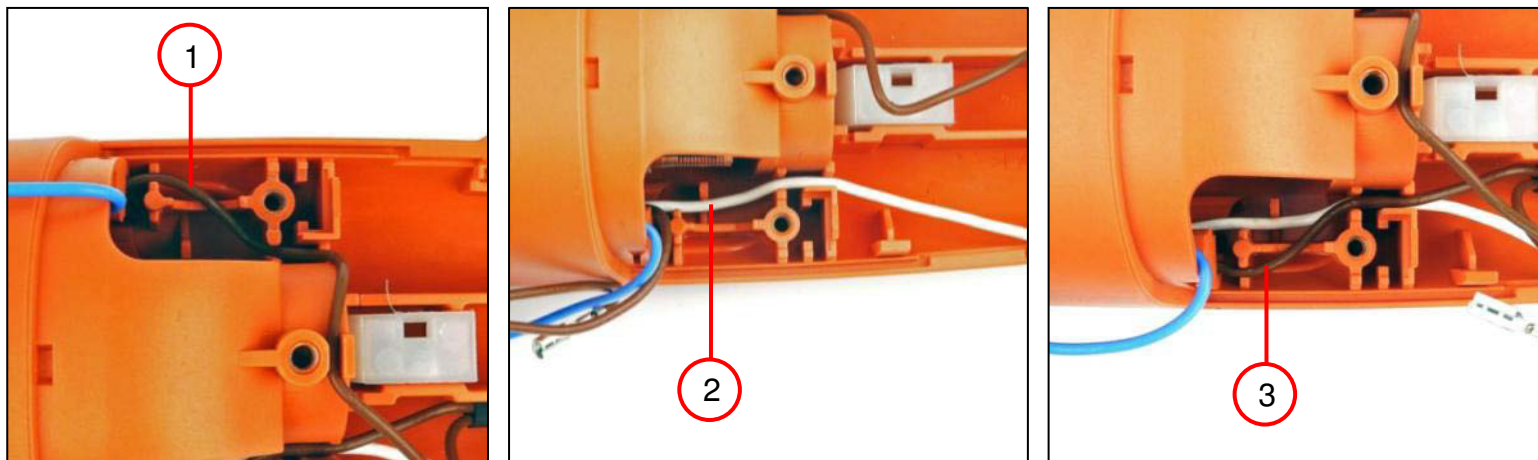
1. Insert the stator (2) into the motor housing in the correct position.
 - ☞ Use the ID number (1) to align the stator.
 - ☞ The ID number (1) is located on the side of the type plate.
2. Secure the two screws (3) [$1.8^{+0.1}$ Nm].
3. Insert the air guide ring (4) in the correct position.

Tools:

- Torx T15

Fitting

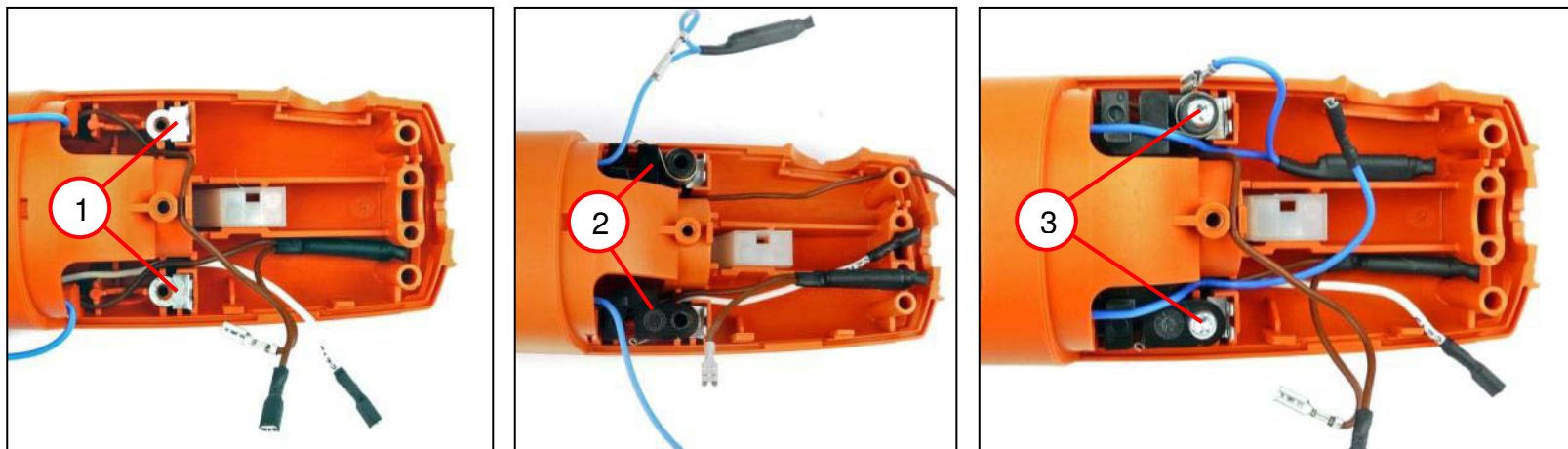
Routing the cables



1. Route the cable (1).
2. Route the cable (2).
3. Route the cable (3).

Fitting

Fitting the brush holder



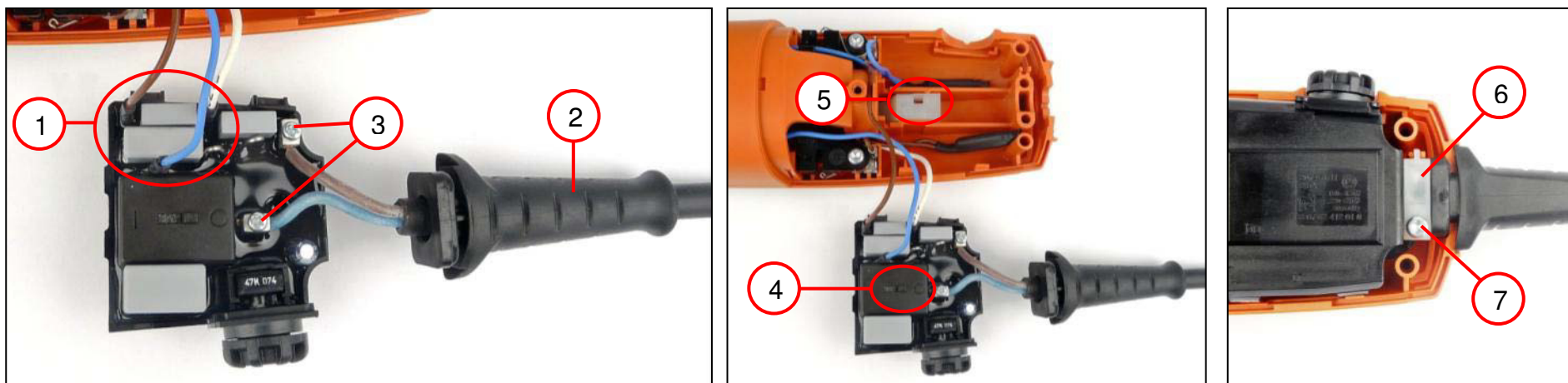
1. Insert the two connectors (1).
2. Insert the two brush holders (2).
3. Screw in the two screws (3) [$1.5^{+0.2}$ Nm].
4. Connect the cables with chokes to the connectors as shown in the connection diagram.
5. Route the cables with chokes.

Tools:

- Torx T15

Fitting

Fitting the electronics



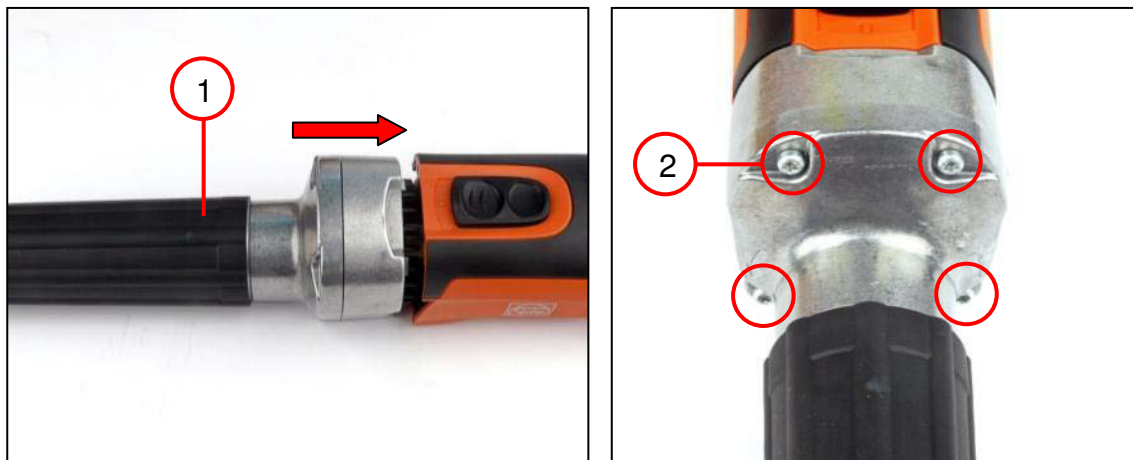
1. Connect the three cables (1) as shown in the connection diagram.
2. Slide the protective hose (2) over the cable.
3. Connect the cable with plug (3) to the electronics as shown in the connection diagram.
4. Insert the electronics into the motor housing.
✎ Insert the switch (4) into the recess (5).
5. Fit the cable clamping piece (6).
6. Screw in the screw (7) [$1.5^{+0.2}$ Nm].

Tools:

- PH2 cross-tip screwdriver
- Torx T15

Fitting

Fitting the collar bearing



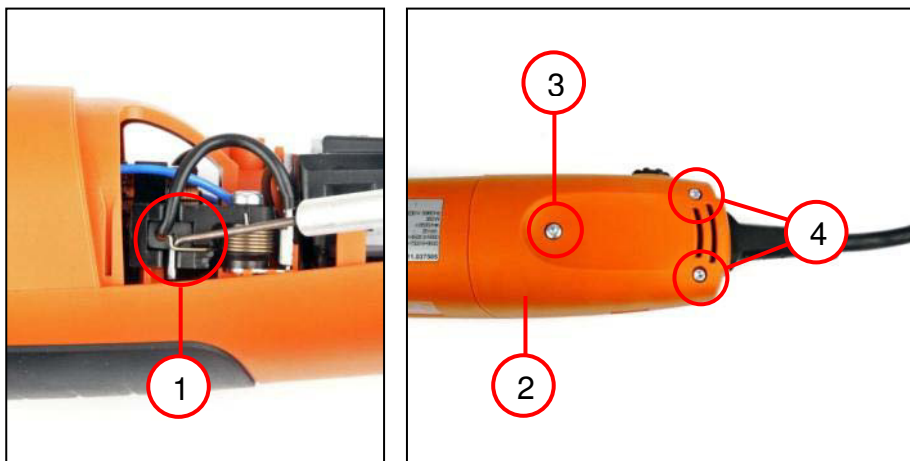
1. Attach the collar bearing (1) with the intermediate gearbox to the motor housing.
2. Screw in the four screws (2) [$1.8^{+0.1}$ Nm].

Tools:

- Torx T15

Fitting

Fitting the cover



1. Insert the carbon brush (1) [on both sides].
2. Connect the carbon brush to the connector as shown in the connection diagram [on both sides].
3. Put the tension spring (1) on the brush holder onto the carbon brush [on both sides].

PLEASE NOTE:

Make sure that the cables are not crushed when attaching the cover.

4. Attach the cover (2).
5. Screw in the screw [40x8] (3) [$1.5^{+0.1}$ Nm].
6. Screw in the screw [35x20] (4) [$1.5^{+0.1}$ Nm].

Tools:

- Assembly aid
- Torx T15

GSZ4-280EL; GSZ4-90EL



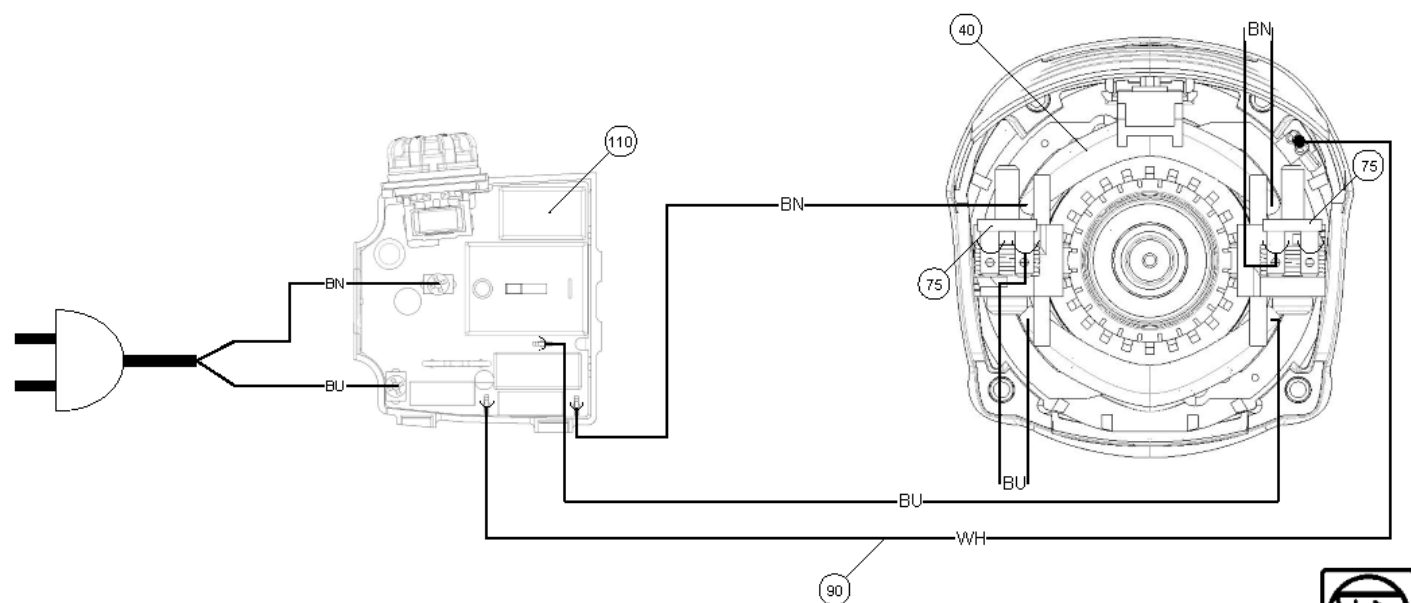
Connection diagram

Anschlussplan

Connection diagram
Esquema de conexiones
Schéma de connexion
Схема соединений
接线图

7 223 24 – GSZ4-280EL 100V - 110V / 220V - 230V 50/60Hz

7 223 25 – GSZ4-90EL 100V - 110V / 220V - 230V 50/60Hz



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25.09.2014

