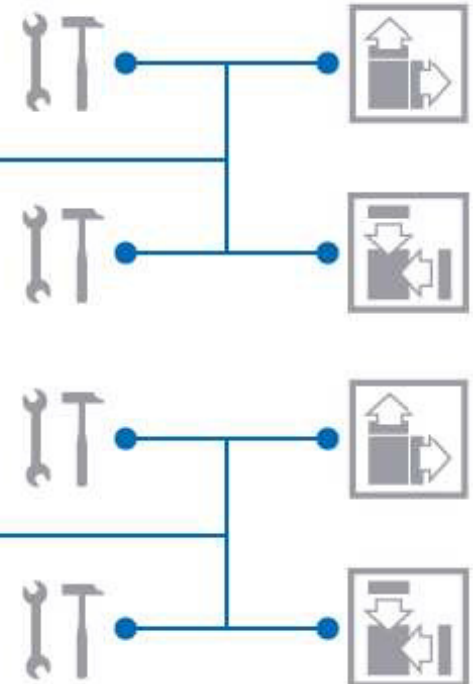




ASW 18-30-PC (7 112 62 ...)
ASW 18-45-PC (7 112 63 ...)
ASW 18-60-PC (7 112 64 ...)





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



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

Grease	0 40 123 0100 0	0,6 g	Tool holder; Clutch ring
--------	-----------------	-------	--------------------------

Auxiliary substances

Loctite 638

Loctite 243

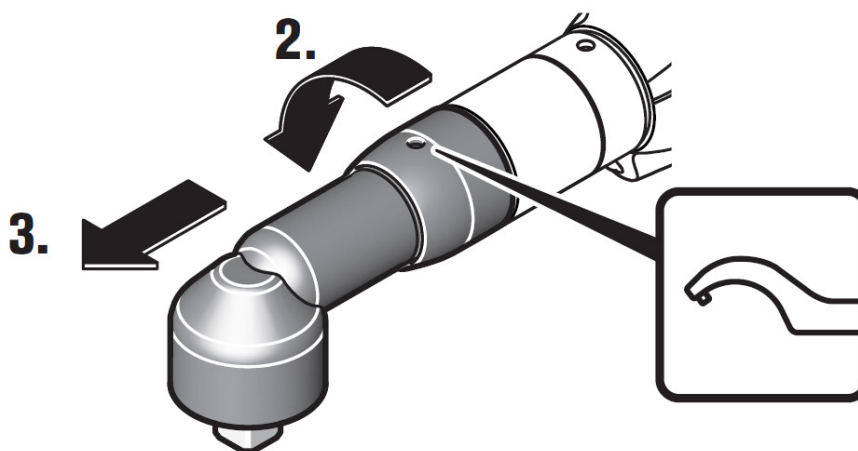
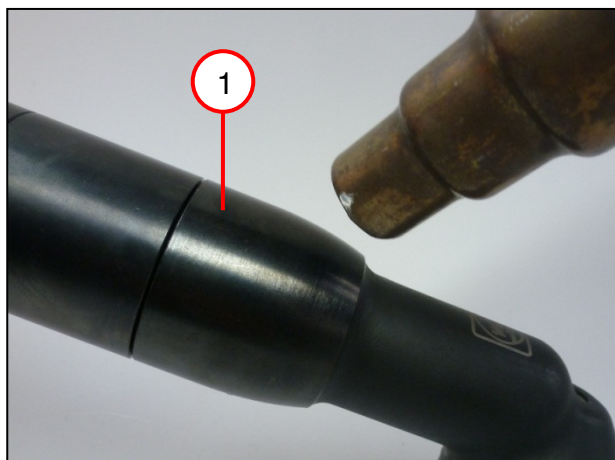


Not yet available.



Removal

Removing the angled head



1. Heat up the thread-locking fluid.
2. Release the sleeve (1).
3. Pull off the angled head.

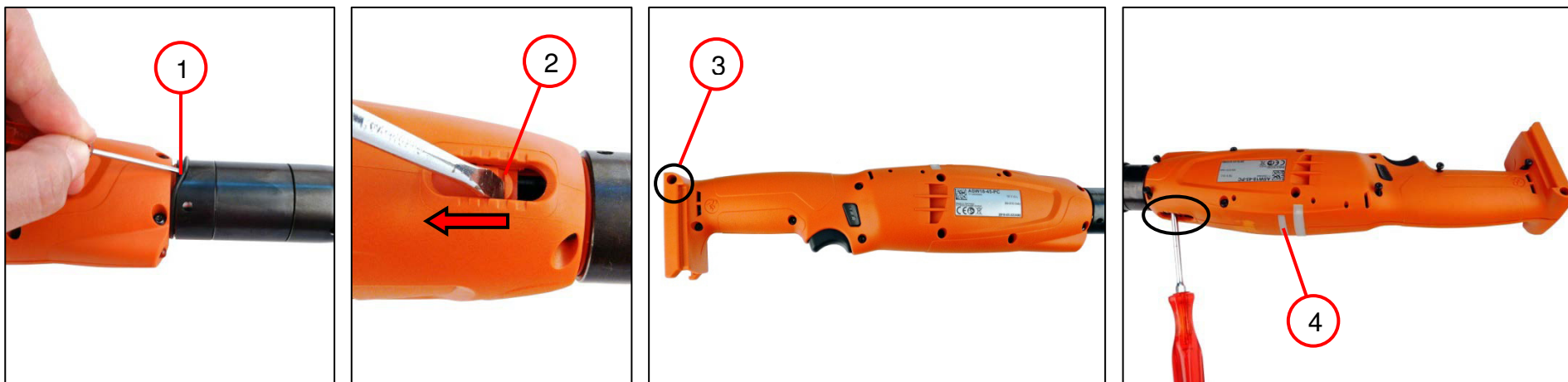
Tools:

- Hot air gun
- Hook and pin wrench (d = 4 mm)



Removal

Removing the motor housing



1. Remove the sealing ring (1).
2. Slide back the cover (2).
3. Unscrew the eleven screws (3).
4. Remove the motor housing (4).
 - ☞ Place screwdriver between clutch and housing.

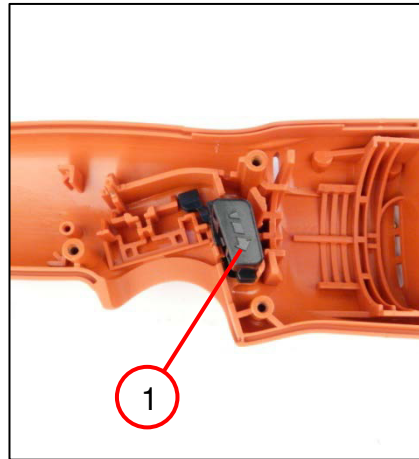
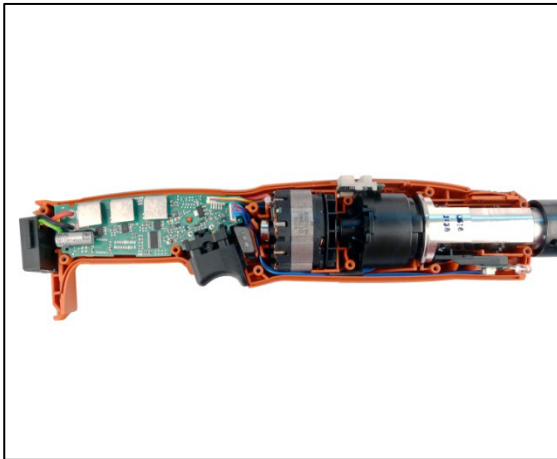
Tools:

- Flat-head screwdriver 40x2
- Flat-head screwdriver 90x4.5
- Torx T10



Removal

Removing the gearbox housing

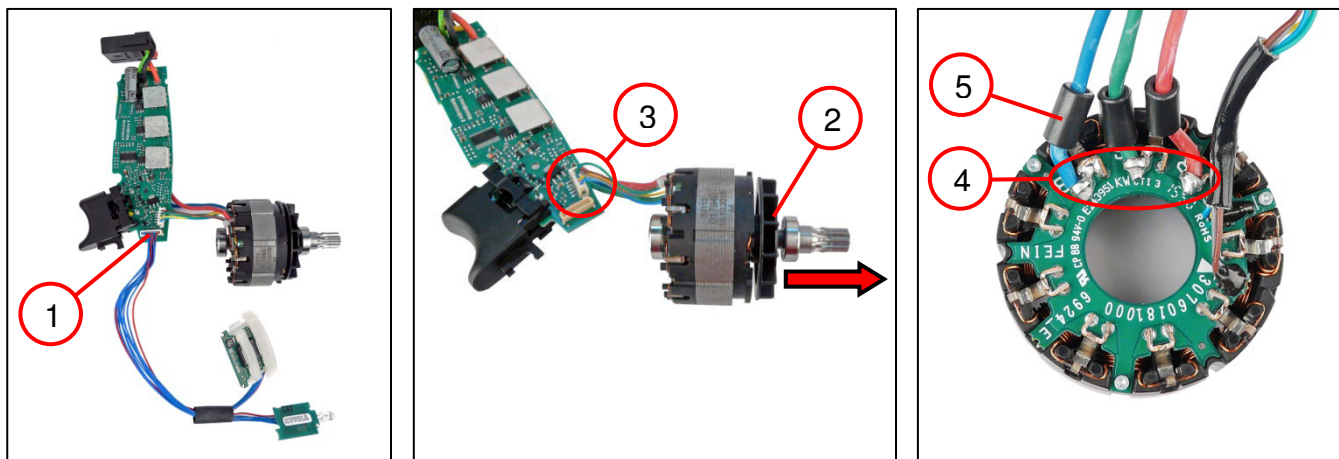


1. Remove all components.
2. Remove the toggle switch (1).



Removal

Removing the electronics



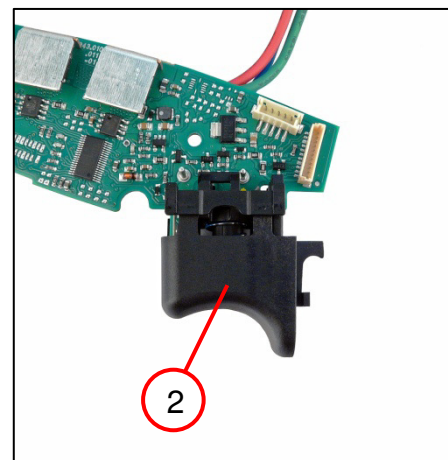
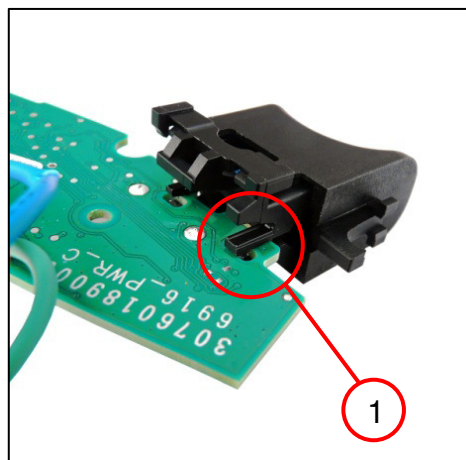
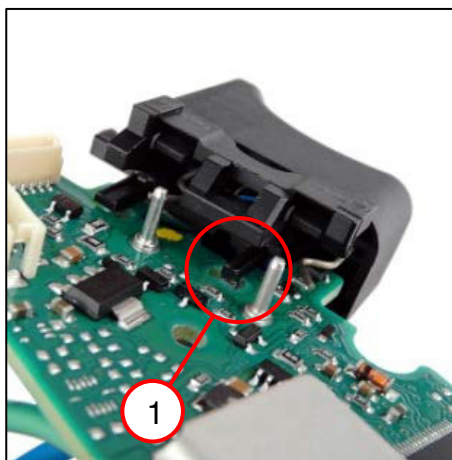
1. Pull off the plug (1).
2. Remove the rotor (2).
3. Pull off the plug (3).
4. Unsolder the three cables (4).
5. Remove the three ferrite cores (5).

Tools:

- Soldering station

Removal

Removing the electronics

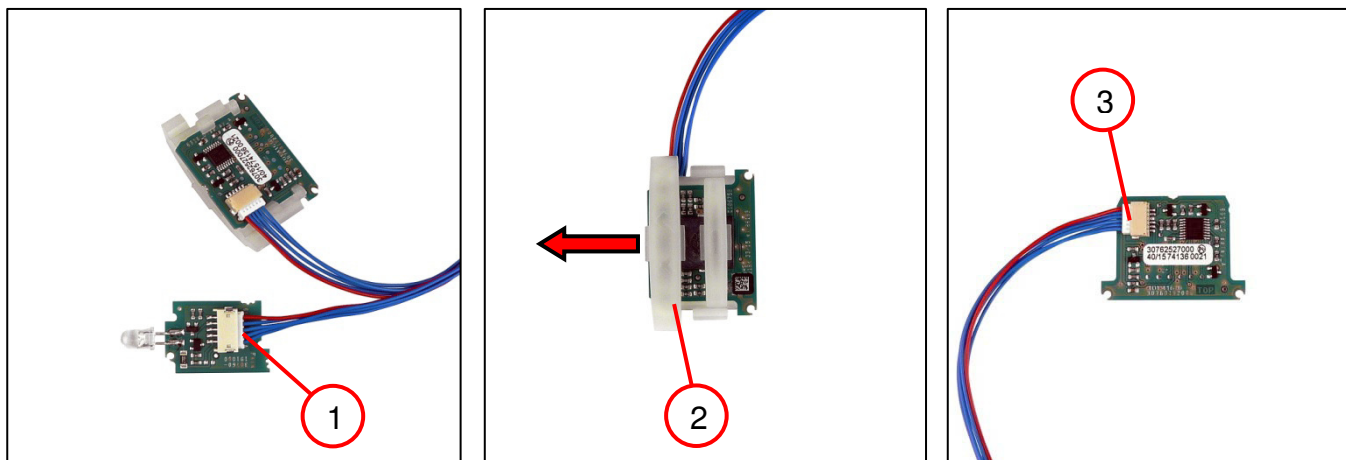


1. Lift the hook (1) on each side.
2. Pull off the switch (2).



Removal

Removing the electronics

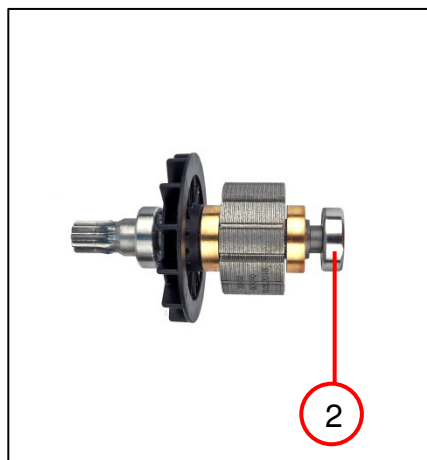
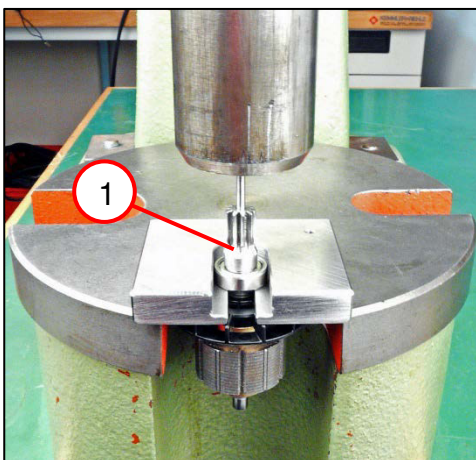


1. Remove the plug (1).
2. Remove the cover (2).
3. Remove the plug (3).



Removal

Removing the rotor



1. Press down the grooved ball bearing and the gear-wheel [N = 10] (1).
2. Remove the grooved ball bearing (2).

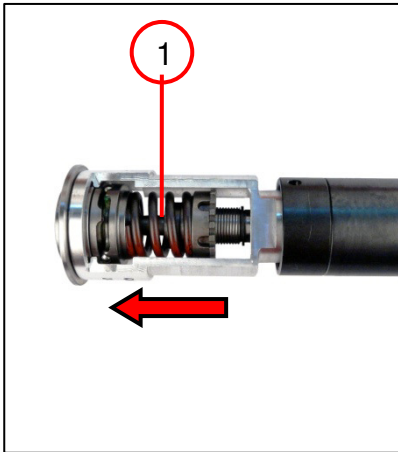
Tools:

- Arbor press
- Drawing-off plate
- Punch, dia. 4 mm



Removal

Removing the tool holder



1. Remove clutch (1).



Removal

Disassembling the clutch



1. Remove the circlip (1).
2. Remove the adjusting ring (2) [left-handed thread].
3. Remove the ring (3).
4. Remove the spring (4).

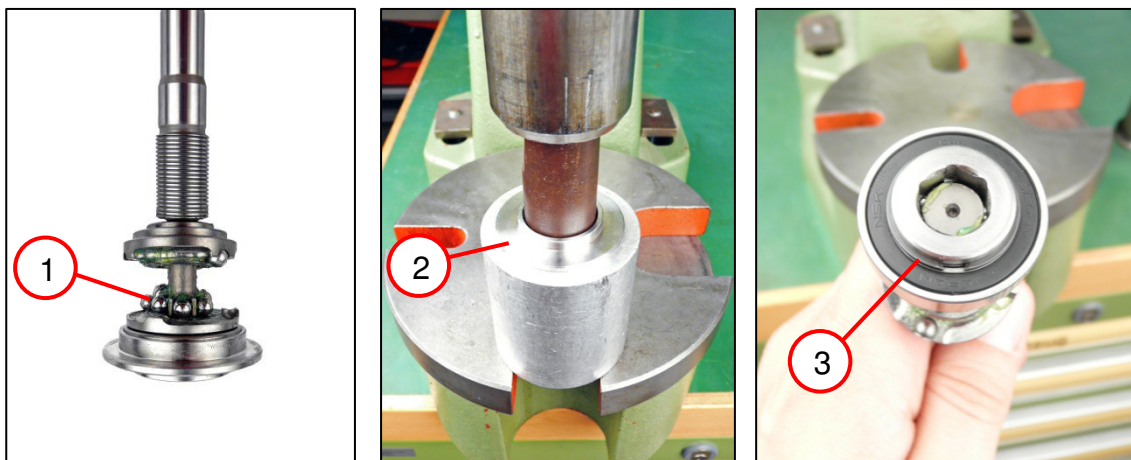
Tools:

- Circlip pliers
- Torque adjusting spanner



Removal

Disassembling the clutch



1. Remove the nine balls (1).
2. Remove the flange (2).
3. Remove the circlip (3).

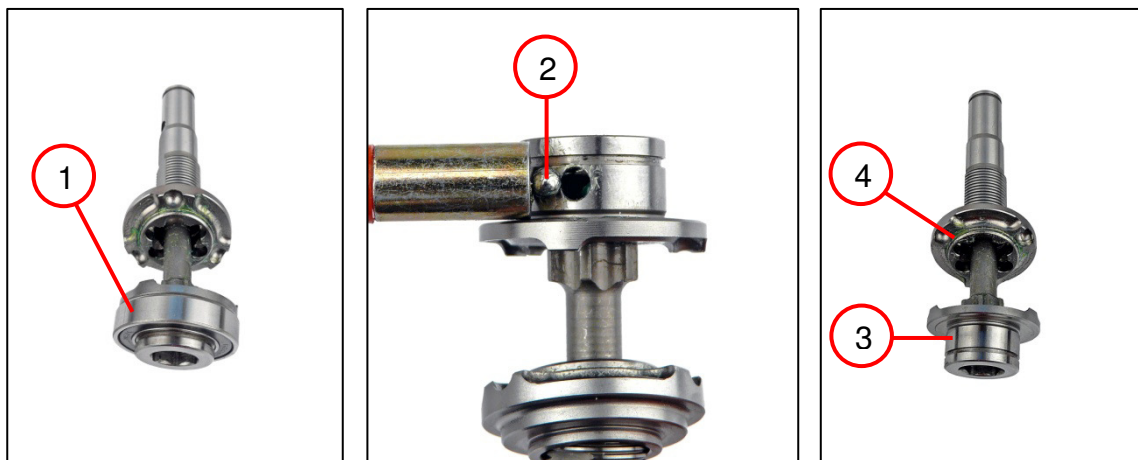
Tools:

- Forceps
- Arbor press
- Sleeve
50 mm outer diameter
36 mm inner diameter
- Bolt with 20 mm diameter
- Circlip pliers



Removal

Disassembling the clutch



1. Remove the grooved ball bearing (1).
2. Remove the nine balls (2).
3. Remove the clutch ring (3).
4. Remove the clutch ring (4).

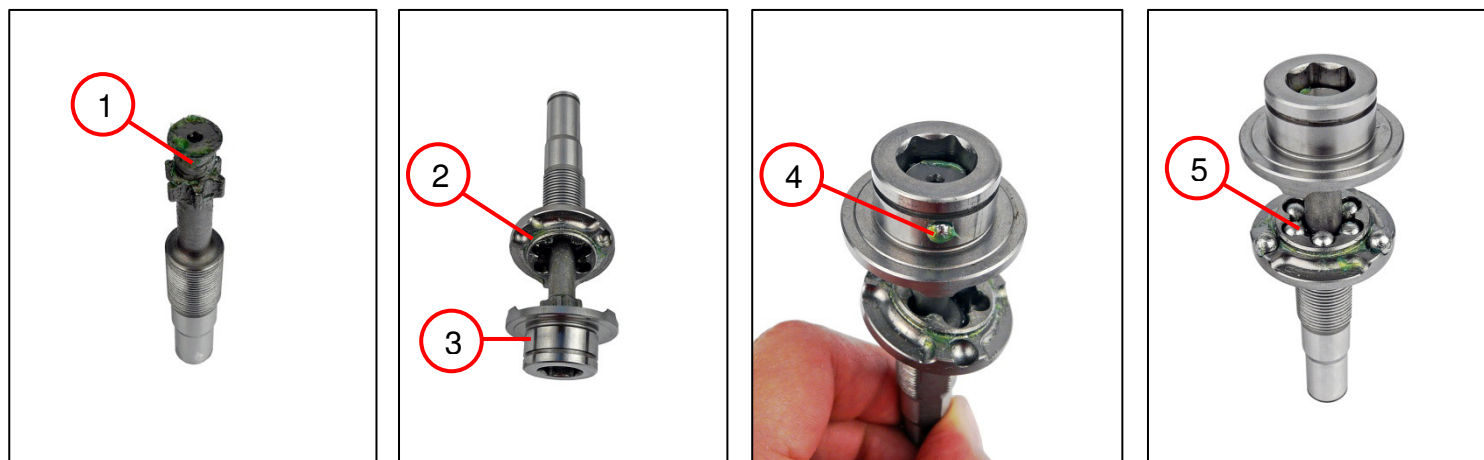
Tools:

- Drawing-off socket cap
- Clamping sleeve, dia. 32 mm
- Bar magnet



Fitting

Assembling the clutch



1. Grease the tool holder (1).
2. Position the clutch ring (2).
3. Position the clutch ring (3).
4. Grease the nine balls [d = 4 mm].
5. Insert the nine balls [d = 4 mm] (4).
6. Grease the nine balls [d = 5 mm].
7. Insert the nine balls [d = 5 mm] (5).

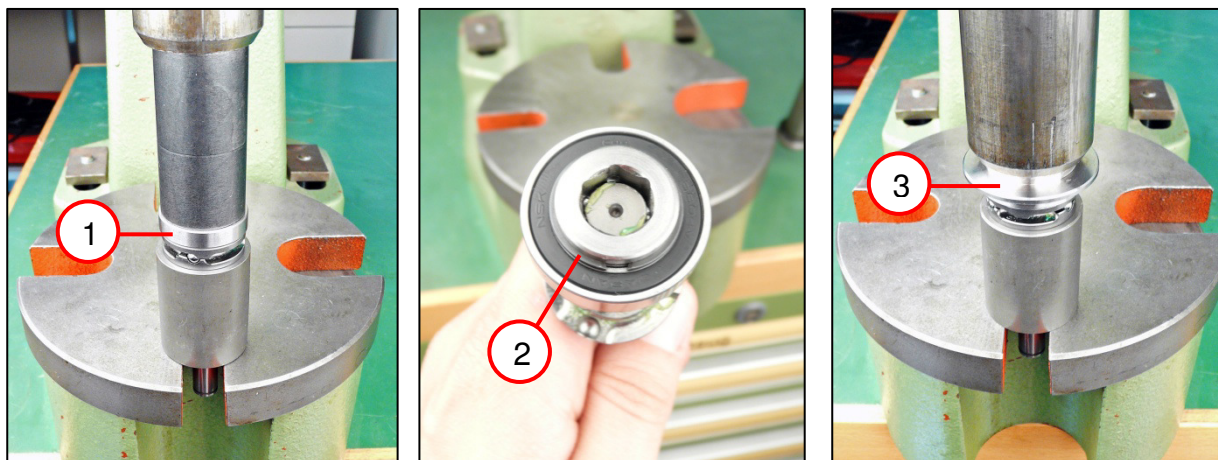
Tools:

- Forceps



Fitting

Assembling the clutch



1. Press on the grooved ball bearing (1).
2. Fit the circlip (2).
3. Press on the flange (3).

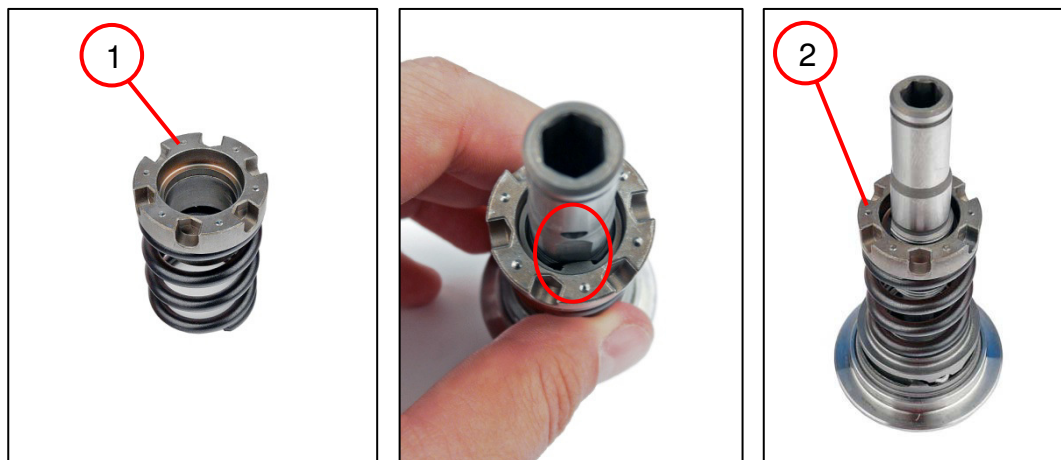
Tools:

- Arbor press
- Sleeve
32 mm outer diameter
21 mm inner diameter
- Sleeve
32 mm outer diameter
26 mm inner diameter



Fitting

Assembling the clutch

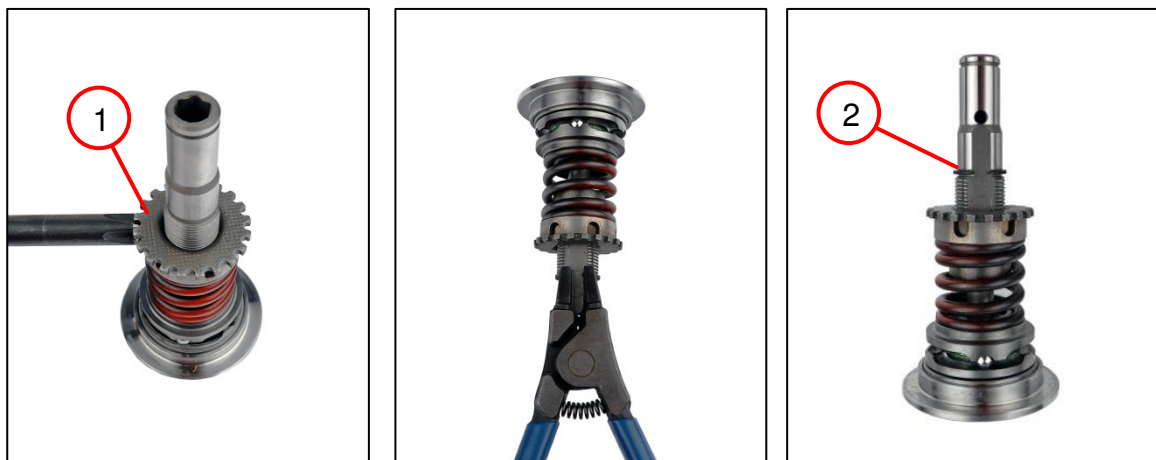


1. Position the ring (1).
2. Position the ring with the spiral spring (2).



Fitting

Assembling the clutch



1. Fit the adjusting ring (1) [left-handed thread].
2. Fit the circlip (2).

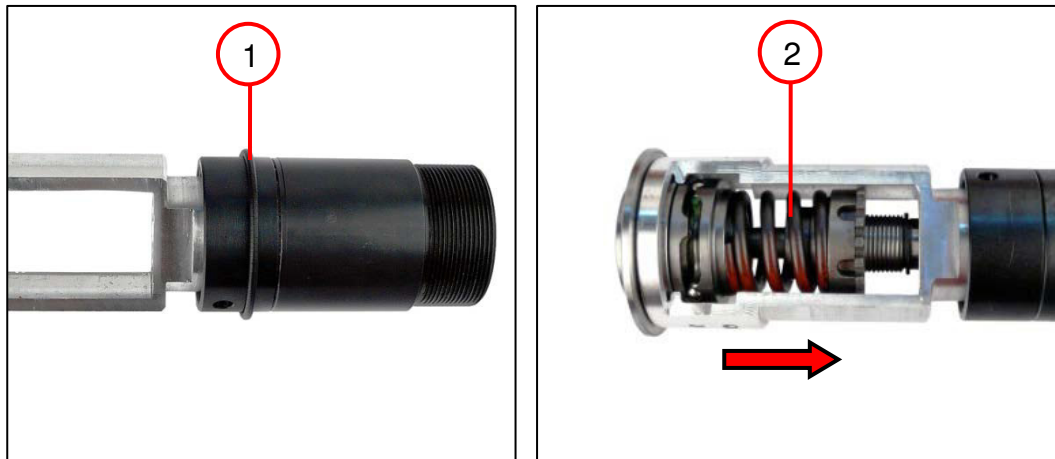
Tools:

- Torque adjusting spanner
- Circlip pliers



Fitting

Assembling the clutch

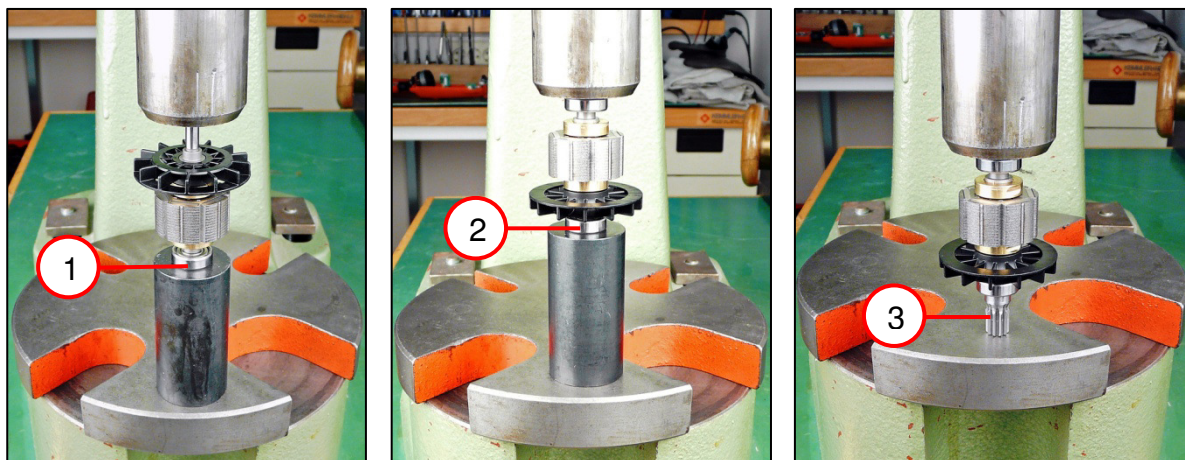


1. Position the sealing ring (1).
2. Insert the clutch (1).



Fitting

Fitting the rotor



1. Press on the grooved ball bearing (1).
2. Press on the grooved ball bearing (2).
3. Press on the gear-wheel [N = 10] (3).

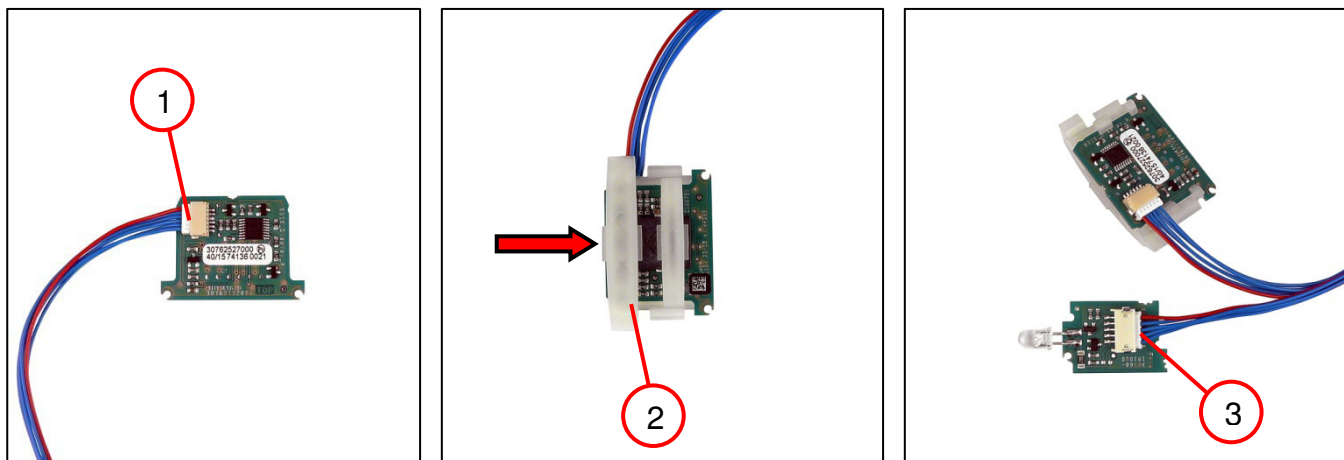
Tools:

- Arbor press
- Sleeve
16 mm outer diameter
6 mm inner diameter



Fitting

Fitting the electronics



WARNING!

Damage from electrostatic charging.

Failure to comply with the safety regulations for ESD protection may cause damage to the electronics.

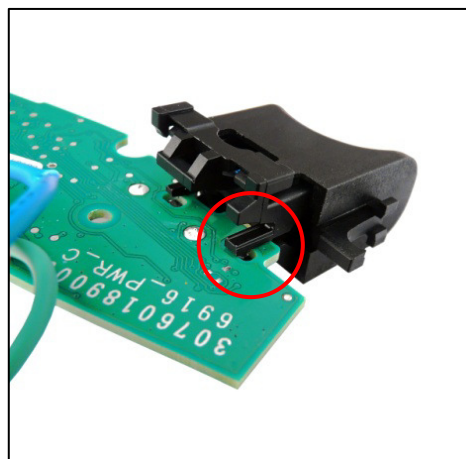
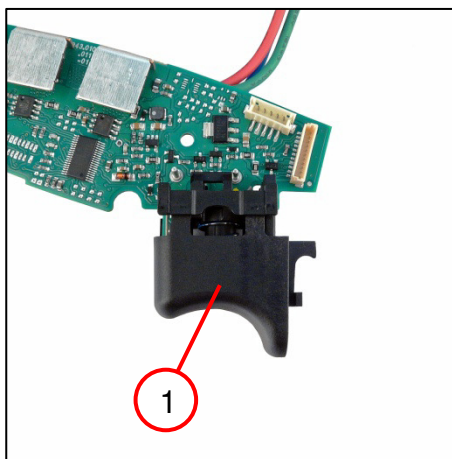
☞ Only perform assembly/disassembly work on electronics on a workstation with ESD protection.

1. Connect the plug (1).
2. Slide on the cover (2).
3. Connect the plug (3).



Fitting

Fitting the electronics



WARNING!

Damage from electrostatic charging.

Failure to comply with the safety regulations for ESD protection may cause damage to the electronics.

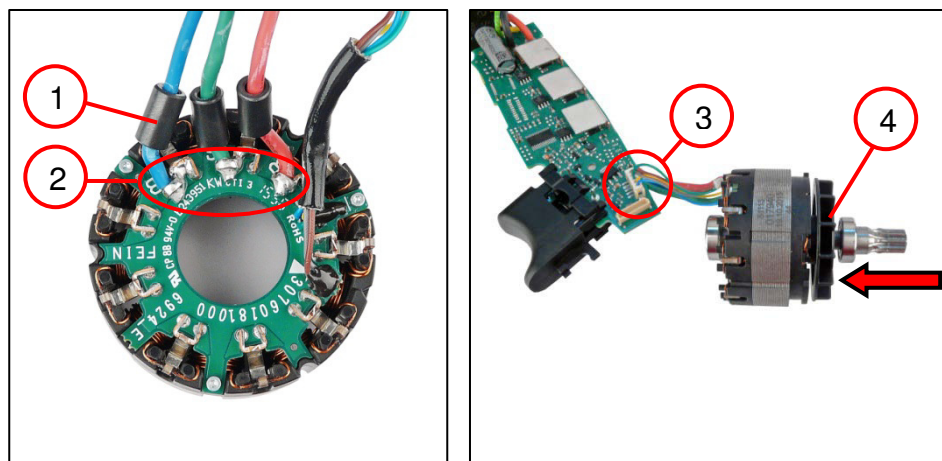
☞ Only perform assembly/disassembly work on electronics on a workstation with ESD protection.

1. Fit the switch (1).



Fitting

Fitting the electronics



WARNING!

Damage from electrostatic charging.

Failure to comply with the safety regulations for ESD protection may cause damage to the electronics.

- ☞ Only perform assembly/disassembly work on electronics on a workstation with ESD protection.

Tools:

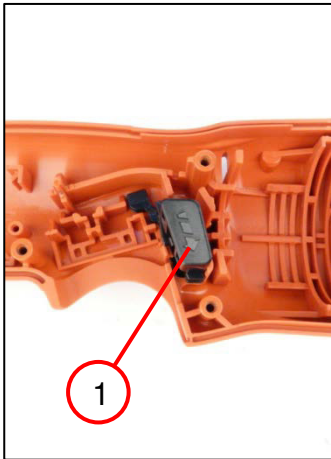
- Soldering station

1. Position the three ferrite cores (1).
2. Solder the three cables (2) as shown in the connection diagram.
3. Connect the plug (3).
4. Position the rotor (4).



Fitting

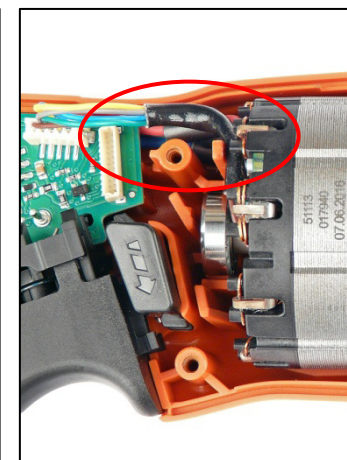
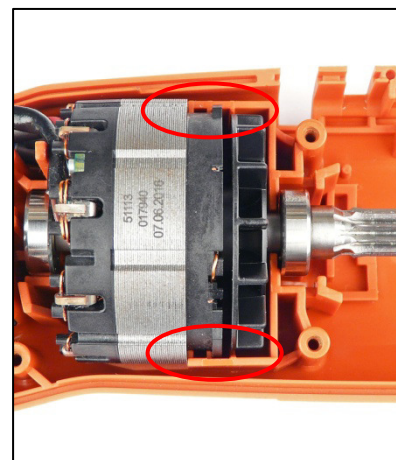
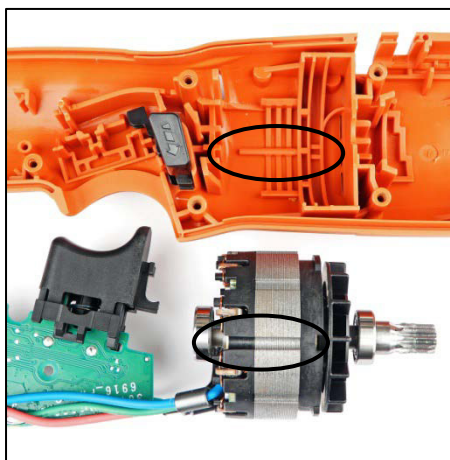
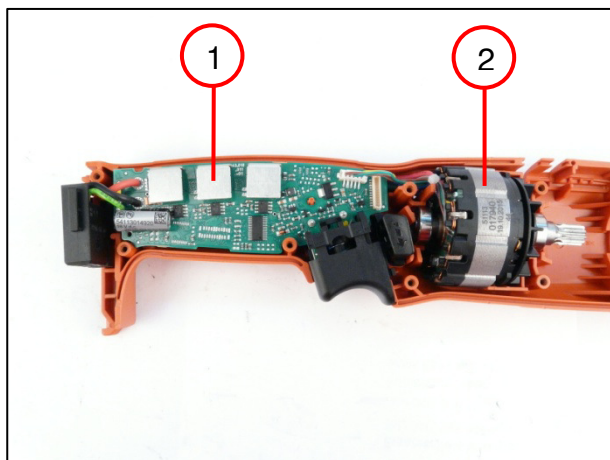
Fitting the motor housing



1. Position the toggle switch (1) in the lower motor housing.

Fitting

Fitting the motor housing

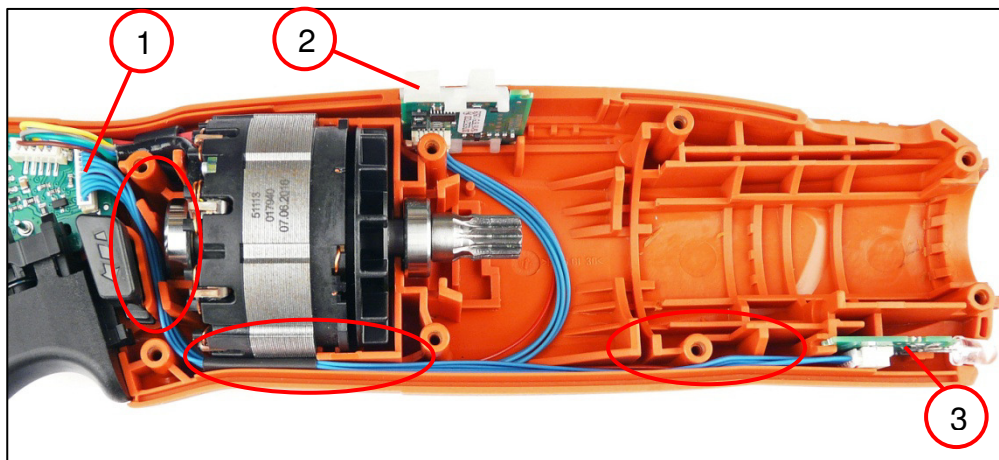


1. Position the electronics (1).
2. Correctly position the stator (2).



Fitting

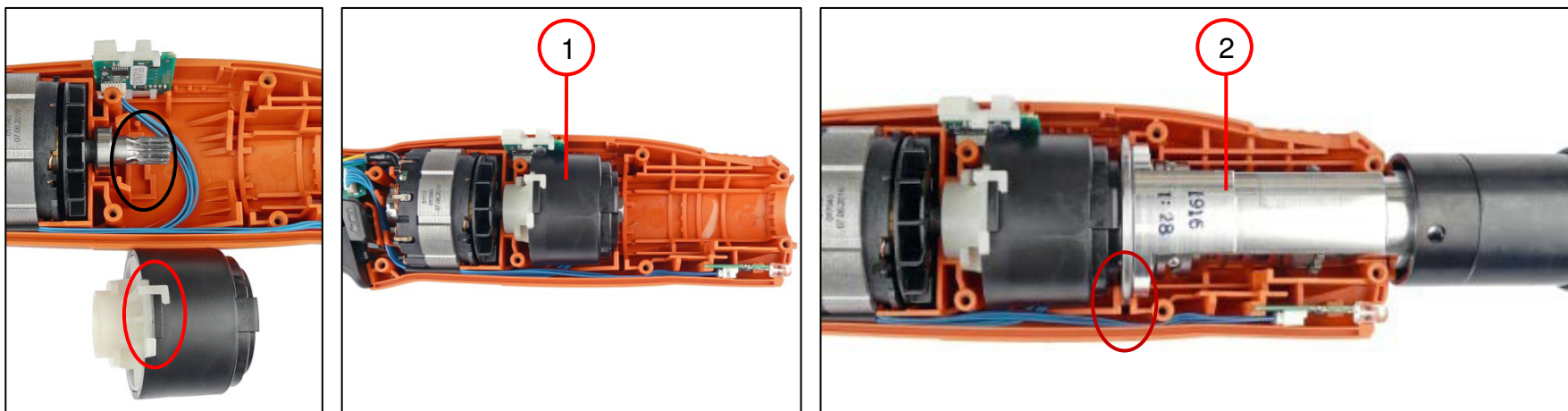
Fitting the motor housing



1. Connect the cable harness (1).
2. Route the cable harness.
3. Position the electronics (2).
4. Position the electronics (3).

Fitting

Fitting the motor housing

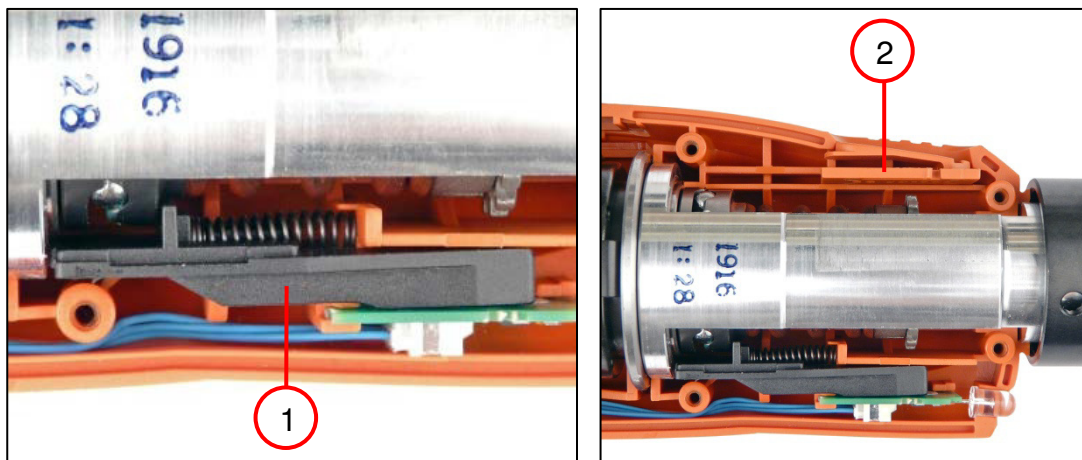


1. Correctly position the gearbox (1).
2. Correctly position the gearbox (2).



Fitting

Fitting the motor housing

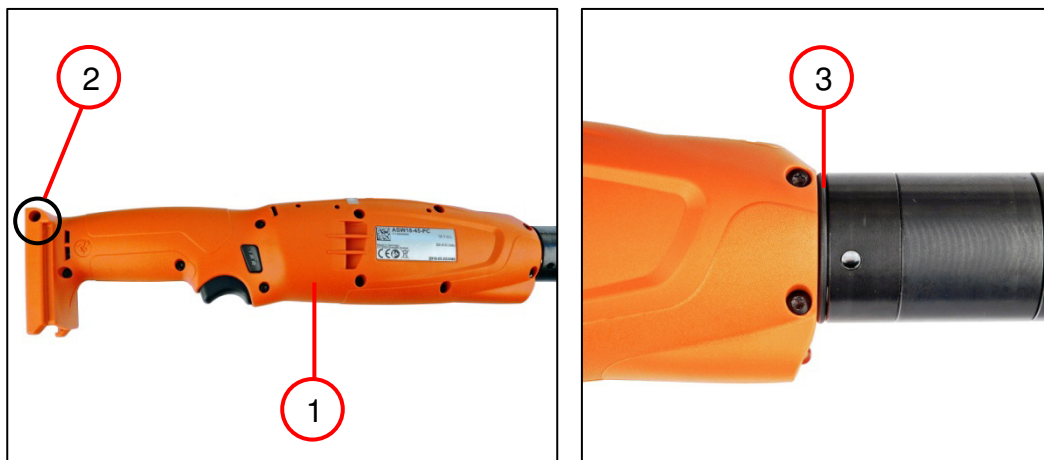


1. Position the slide switch (1).
2. Position the cover (2).



Fitting

Removing the motor housing



1. Position the motor housing (1).
2. Screw in the 11 screws (2).
3. Position the sealing ring (3).

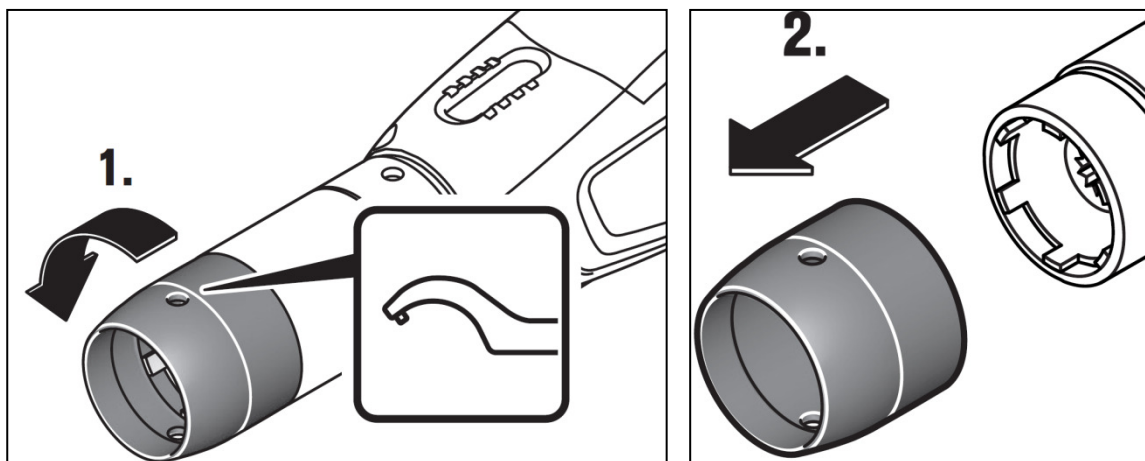
Tools:

- Torx T10



Fitting

Fitting the angled head



1. Release the sleeve.
2. Turn the sleeve towards the bottom.

Tools:

- Hook and pin wrench
(d = 4 mm)



Fitting

Fitting the angled head



PLEASE NOTE:

There must be no trace of grease left on the thread and it must be dry.

Tools:

- Degreaser (e.g. brake cleaner)

1. Degrease the surface of the thread (1).
2. Rub the thread surface dry.
3. Blow compressed air onto the thread surface.



Fitting

Fitting the angled head

**PLEASE NOTE:**

There must be no trace of grease left on the thread and it must be dry.

Tools:

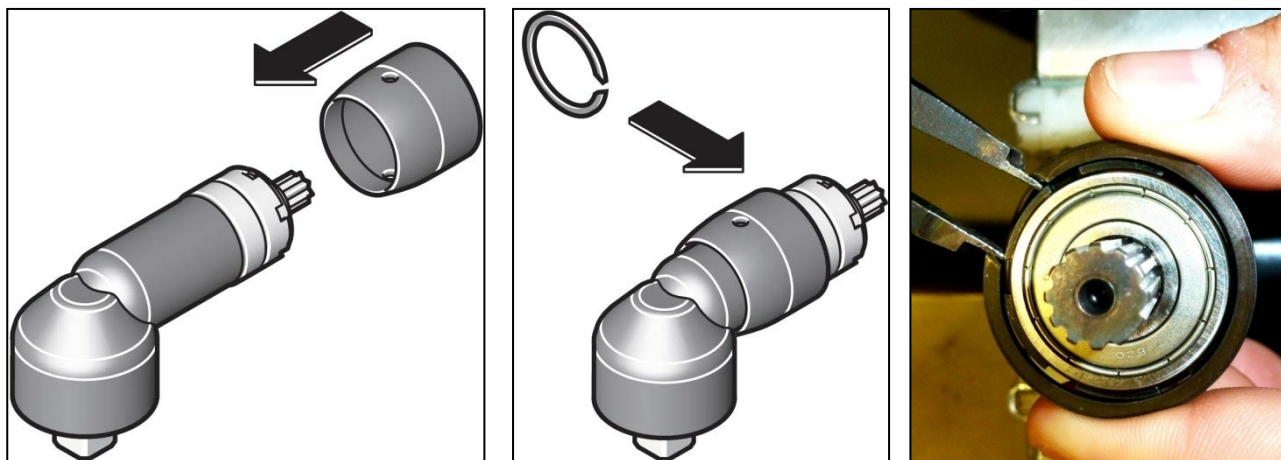
- Degreaser (e.g. brake cleaner)

1. Degrease the surface of the thread (1).
2. Rub the thread surface dry.
3. Blow compressed air onto the thread surface.



Fitting

Fitting the angled head



1. Connect the sleeve to the angled head.
2. Fit the circlip.

Tools:

- Pliers for snap rings for use on shafts



Fitting

Fitting the angled head



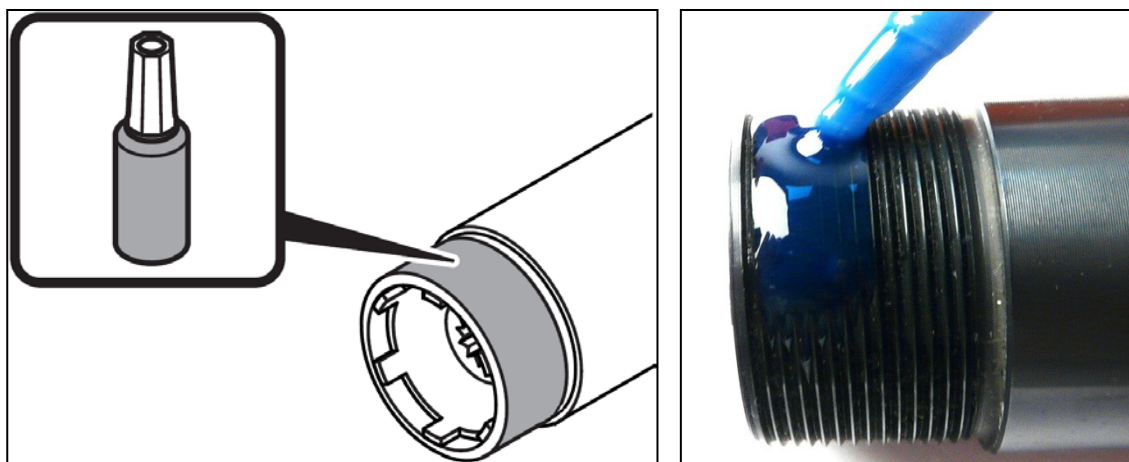
Recommendation:

Pliers for snap rings for use on shafts



Fitting

Fitting the angled head



PLEASE NOTE:

To ensure that the threaded connection does not loosen under high stress, use a high-strength thread-locking fluid (e.g. Loctite 638).

Tools:

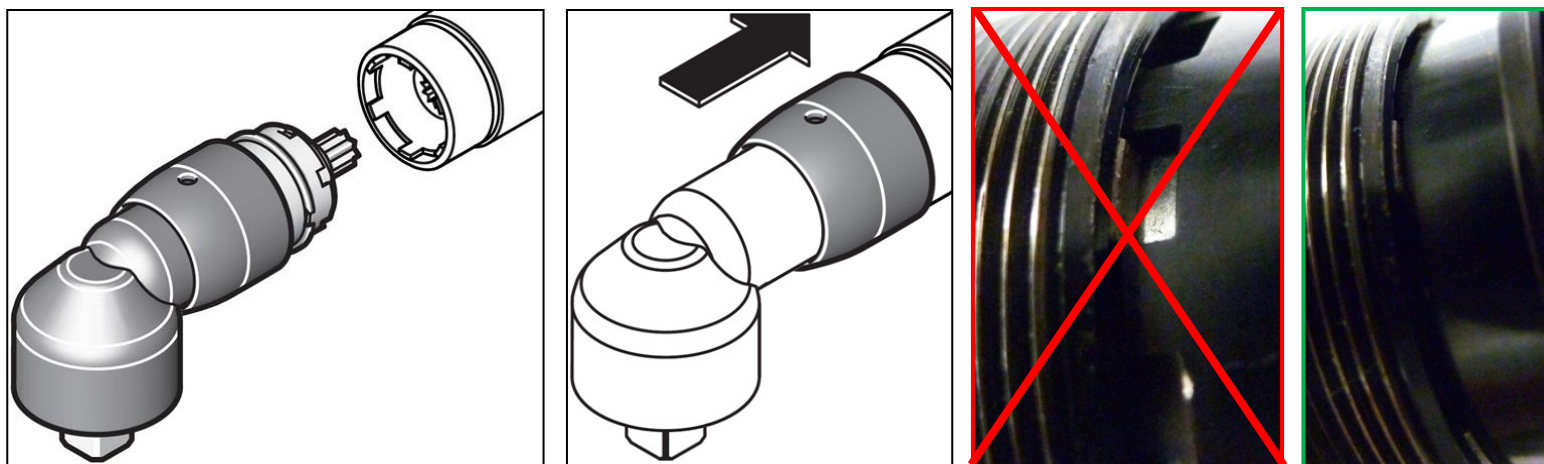
- Thread-locking fluid (e.g. Loctite 243)

1. Apply thread-locking fluid (at least 0.5 g) to the thread.
 - ☞ Make sure that at least three thread turns are coated.



Fitting

Fitting the angled head



PLEASE NOTE:

Connect the angled head such that the lugs fully engage with one another

Tools:

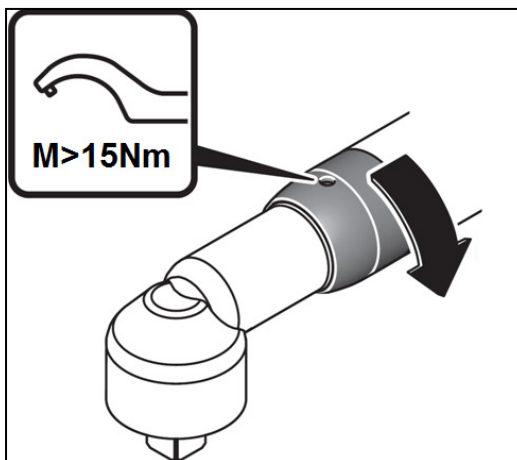
- Thread-locking fluid (e.g. Loctite 243)

1. Connect the angled head.



Fitting

Fitting the angled head



1. Clamp the machine in place.
2. Tighten the sleeve [M > 15 Nm].

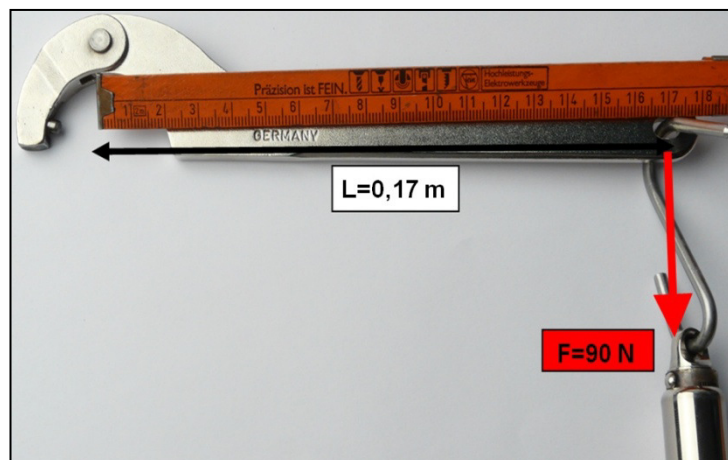
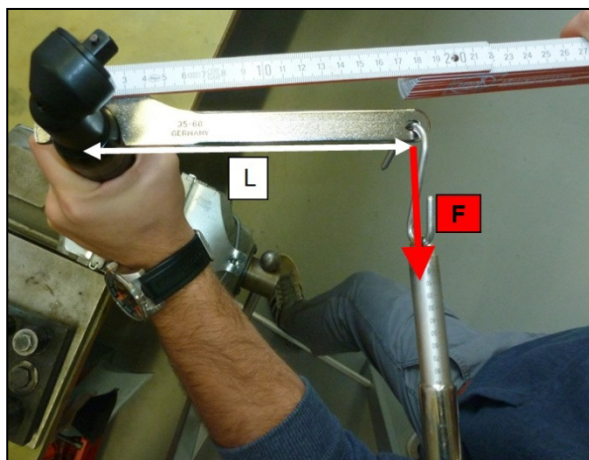
Tools:

- Vice
- Hook and pin wrench (d = 4 mm)



Fitting

Fitting the angled head



Torque calculation:

$$M = F \times L$$

$$M > 15 \text{ Nm}$$

Example calculation:

$$M [\text{Nm}] = F [\text{N}] \times L [\text{m}]$$

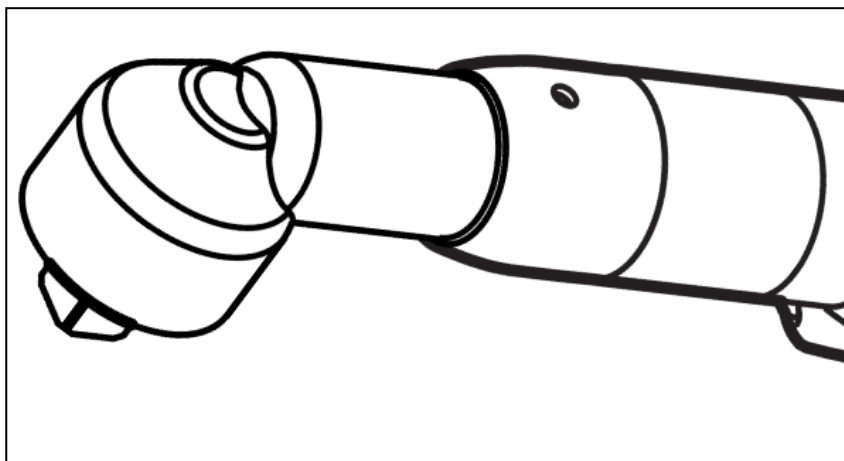
$$M = 90 \text{ N} \times 0.17 \text{ m}$$

$$M = 15.3 \text{ Nm} > 15 \text{ Nm}$$



Fitting

Fitting the angled head



PLEASE NOTE:

Allow the thread-locking fluid to harden for at least 24 hours before operating the machine.

☞ Follow the thread-locking fluid manufacturer's instructions

ASW 18-30-PC; ASW 18-45-PC; ASW 18-60-PC

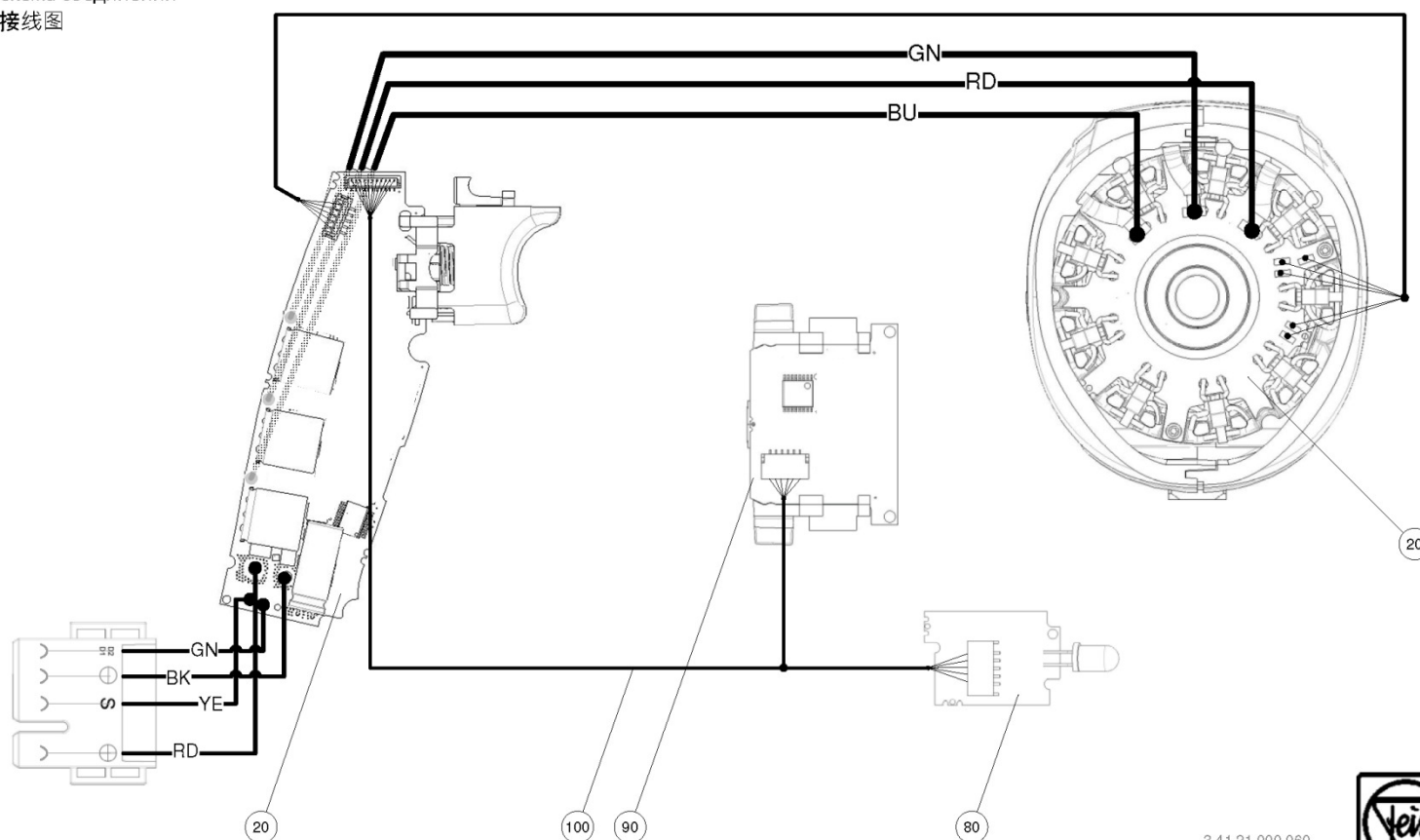


Connection diagram

Anschlussplan

Connection diagram
Esquemade conexiones
Schémade connexion
Схема соединений
接线图

7 112 62 – ASW18-30 14,4V
7 112 63 – ASW18-45 14,4V
7 112 64 – ASW18-60 14,4V



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09.09.2015

