

WSG 7-100; WSG 7-115; WSG 7-115 (A); WSG 7-115 PT; WSG 7-125

Repair instructions





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1. Models described

These repair instructions describe how to repair the following models:

Model	Order number
WSG 7-100	7 221 96
WSG 7-115	7 221 97
WSG 7-115 (A)	7 221 98
WSG 7 115 PT	7 222 31
WSG 7-125	7 222 65



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



3. 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!



4. Tools required

Standard tools

PH2 cross-tip screwdriver
 Flat-nose pliers
 Slotted screwdriver
 Plastic hammer
 Hot air gun
 Socket wrench
 Socket wrench insert 10 mm
 Punch
 2x flat material
 Arbor press
 Puller 6-10 mm
 Sleeves

Dia. 9 mm; dia. 17 mm

2 mm

- 55 mm inner diameter
65 mm outer diameter
- 45 mm inner diameter
62 mm outer diameter
- 32 mm inner diameter
40 mm outer diameter

Special tools

Drawing-off socket cap	6 41 04 150 00 8
Chuck cone 19 mm	6 41 07 019 00 7
Assembly aid	6 41 22 121 01 0
Pressure piece	6 41 22 128 00 0



4. Tools required

Standard tools

Sleeves

- 22 mm inner diameter
33 mm outer diameter
- 17 mm inner diameter
33 mm outer diameter
- 9 mm inner diameter
22 mm outer diameter
- 12 mm inner diameter
22 mm outer diameter
- 16 mm inner diameter
30 mm outer diameter

Bolt

Dia. 18 mm



5. Lubricants and auxiliary substances required

Lubricants

Grease	0 40 12 901 00 0	10 g	Gearbox housing
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6. Removal

Removing the cover



1. Unscrew the screw (1).
2. Pull off the cover.

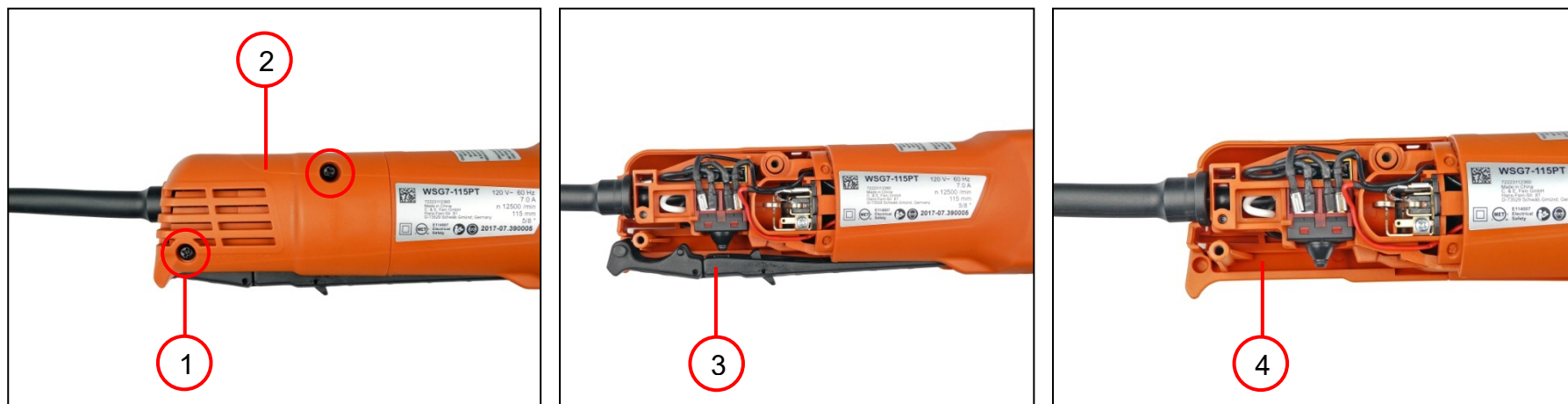
Tools:

- PH2 cross-tip screwdriver



6. Removal

Removing the cover [applies to: WSG 7-115 PT]



1. Unscrew the two screws (1).
2. Remove the cover (2).
3. Remove the control rod (3).
4. Remove the cover (4).

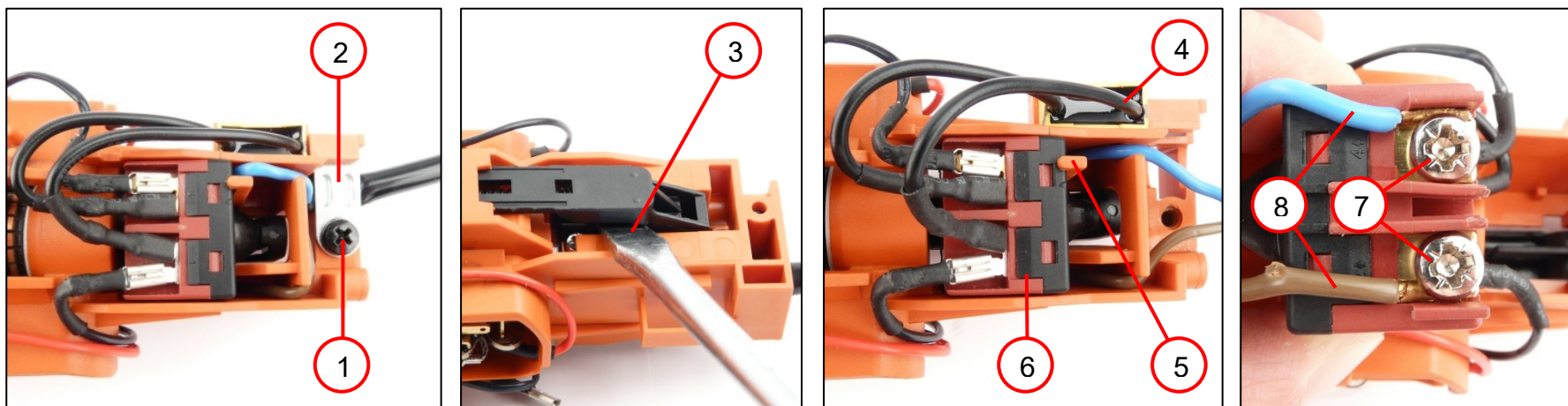
Tools:

- PH2 cross-tip screwdriver



6. Removal

Removing the cable with plug



1. Unscrew the screw (1).
2. Remove the cable clamping piece (2).
3. Prise out the control rod (3).
4. Pull out the capacitor (4).
5. Slide the lock (5) to the side.
6. Pull out and turn the switch (6) on the cable with plug.
7. Unscrew the screws (7).
8. Remove the cable with plug (8).

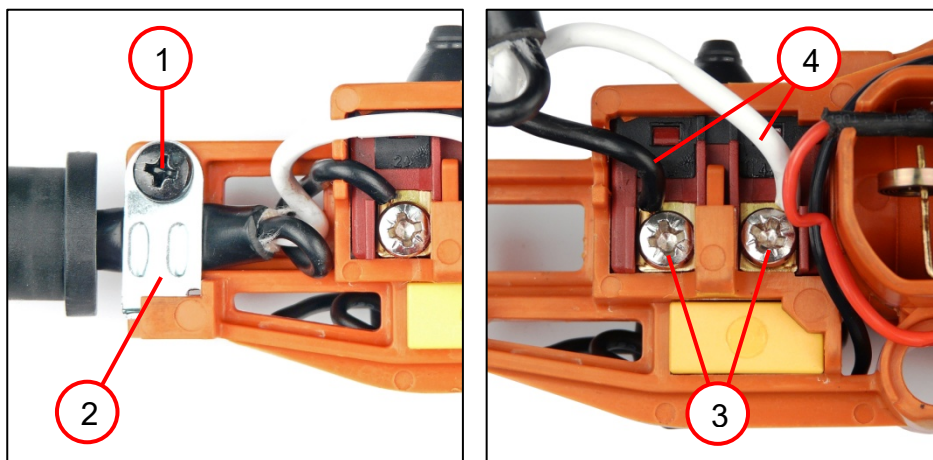
Tools:

- Flat-nose pliers
- PH2 cross-tip screwdriver
- Slotted screwdriver



6. Removal

Removing the cable with plug [applies to: WSG 7-115 PT]



1. Unscrew the screw (1).
2. Remove the cable clamping piece (2).
3. Unscrew the two screws (3).
4. Remove the cable with plug (4).

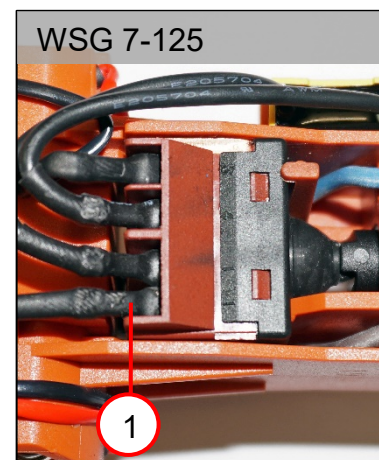
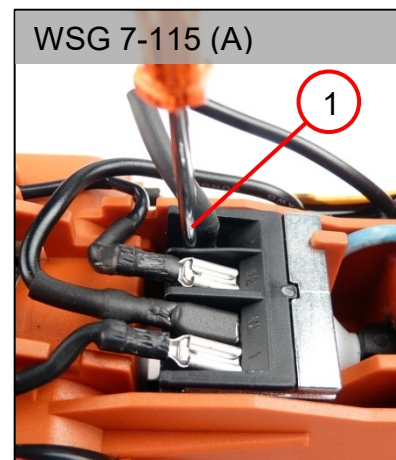
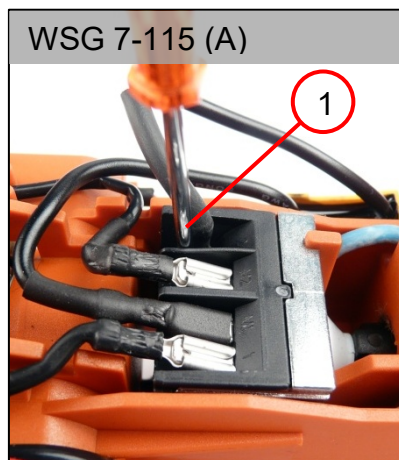
Tools:

- PH2 cross-tip screwdriver



6. Removal

Removing the switch



1. Pull off the four female push-on connectors (1).

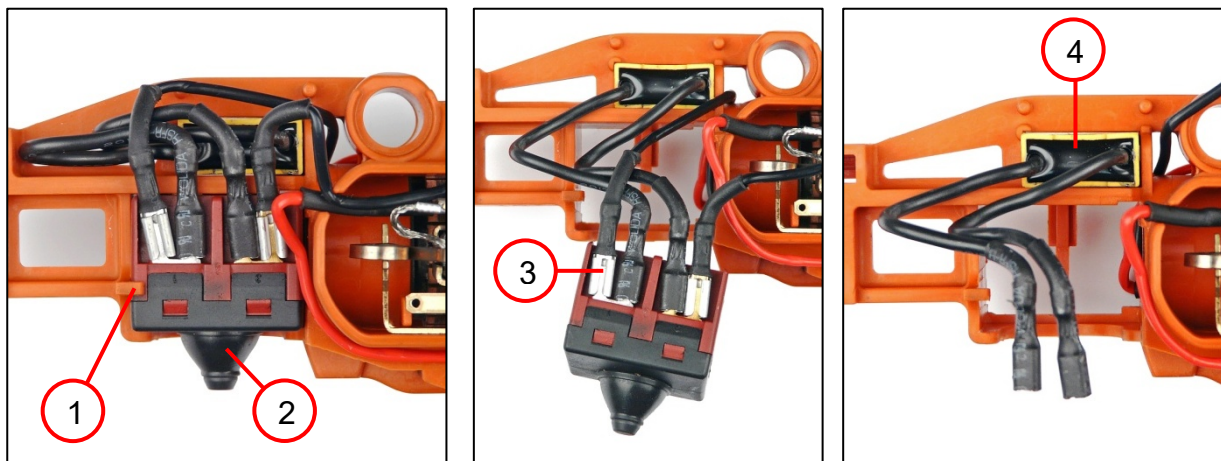
Tools:

- Flat-nose pliers
- Slotted screwdriver



6. Removal

Removing the switch [applies to: WSG 7-115 PT]



1. Slide the lock (1) to the side.
2. Remove the switch (2).
3. Pull off the four female push-on connectors (3).
4. Pull out the capacitor (4).

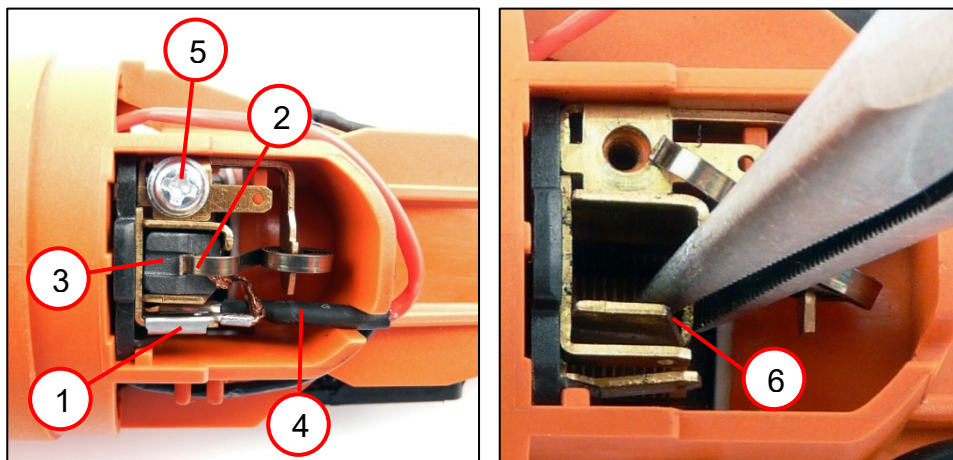
Tools:

- Flat-nose pliers



6. Removal

Removing the brush holder



1. Pull off the female push-on connector (1) of the carbon brush.
2. Lift up the tension spring (2) from the carbon brush (3).
3. Pull the carbon brush (3) off the brush holder.
4. Pull off the female push-on connector (4).
5. Unscrew the screw (5).
6. Pull out the brush holder (6) with the flat-nose pliers.

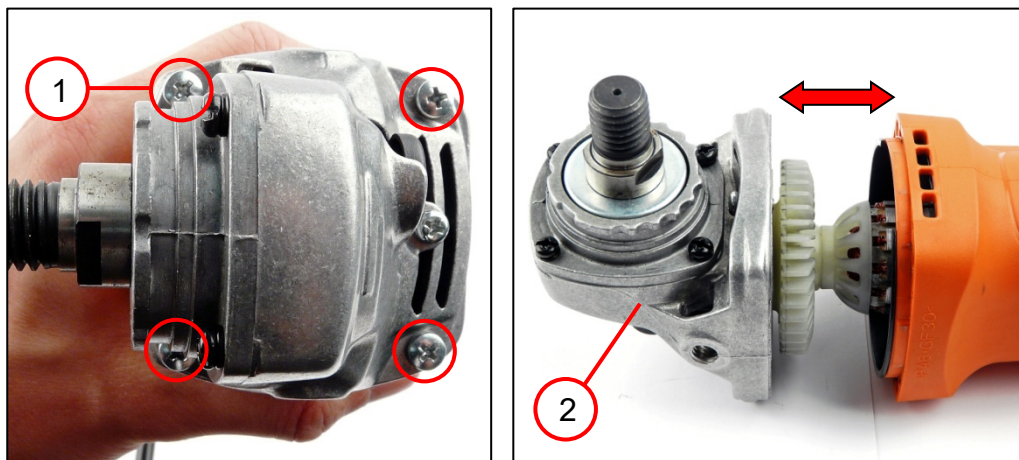
Tools:

- Flat-nose pliers
- Assembly aid
- PH2 cross-tip screwdriver
- Slotted screwdriver



6. Removal

Removing the armature



1. Unscrew the screws (1).
2. Pull the gearbox housing (2) with armature out of the motor housing.

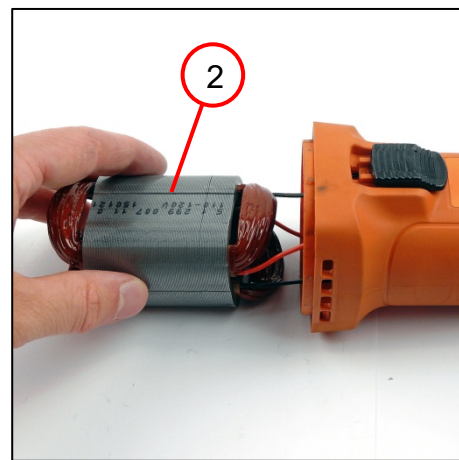
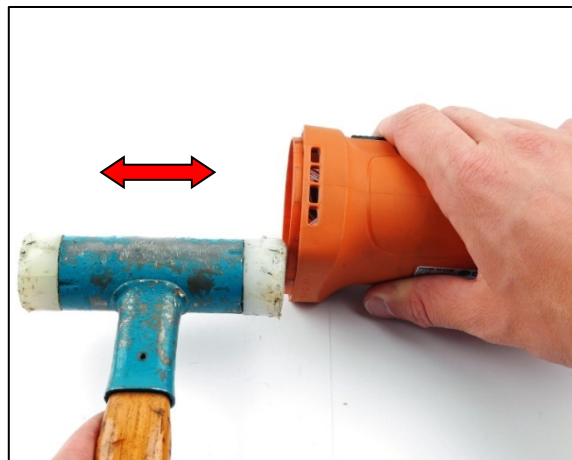
Tools:

- PH2 cross-tip screwdriver



6. Removal

Removing the stator



1. Pull the air guide ring (1) off the motor housing.
2. Remove the stator (2).

Tools:

- Plastic hammer



6. Removal

Removing the slide switch

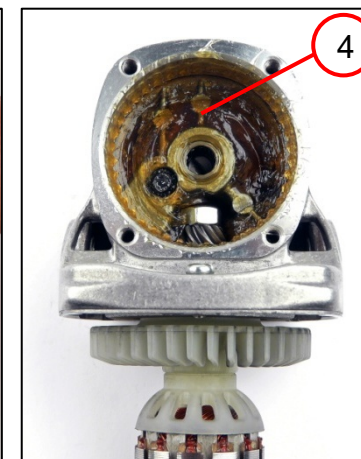
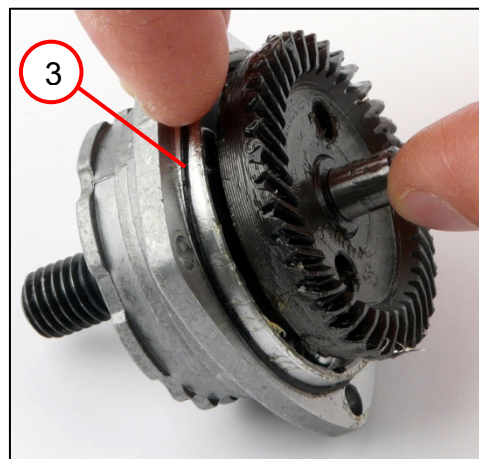
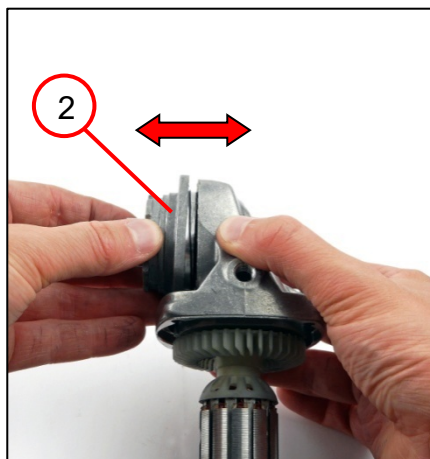
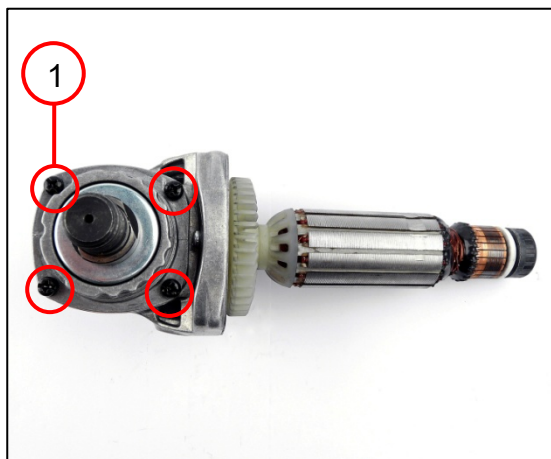


1. Remove the slide switch (1) from the control rod.
2. Pull the control rod (2) out of the motor housing.



6. Removal

Removing the bevel gear



1. Unscrew the screws (1).
2. Pull the bevel gear (2) off the gearbox housing.
3. Remove the sealing ring (3).
4. Completely remove the grease (4).

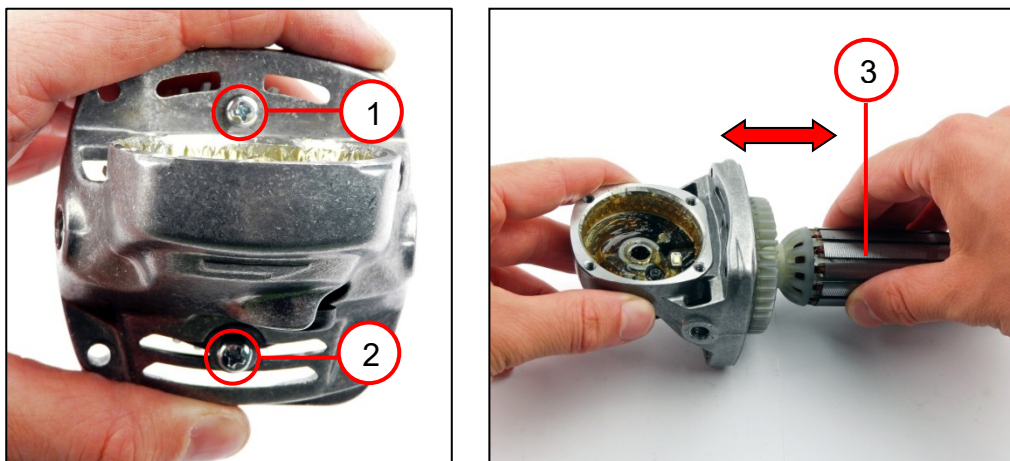
Tools:

- PH2 cross-tip screwdriver



6. Removal

Removing the bevel gear



1. Unscrew the screws (1) and (2).
🔧 Replace the screw (1) during fitting.
2. Pull the armature (3) off the gearbox housing.

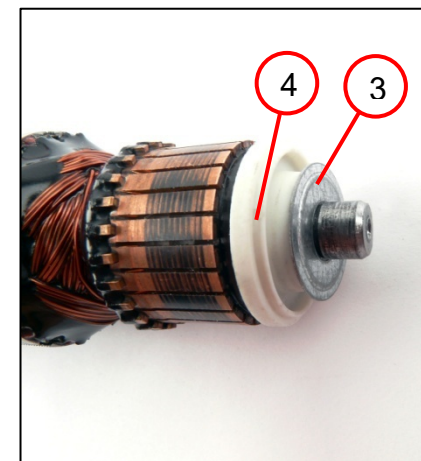
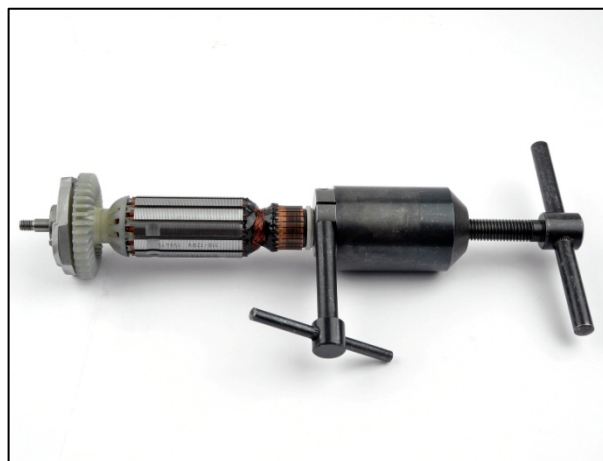
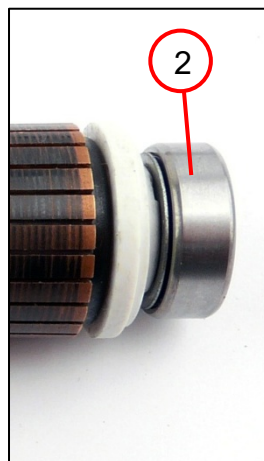
Tools:

- PH2 cross-tip screwdriver



6. Removal

Removing the armature



1. Remove the bearing bush (1).
2. Pull off the grooved ball bearing (2).
3. Remove the disc (3).
4. Remove the insulating ring (4).

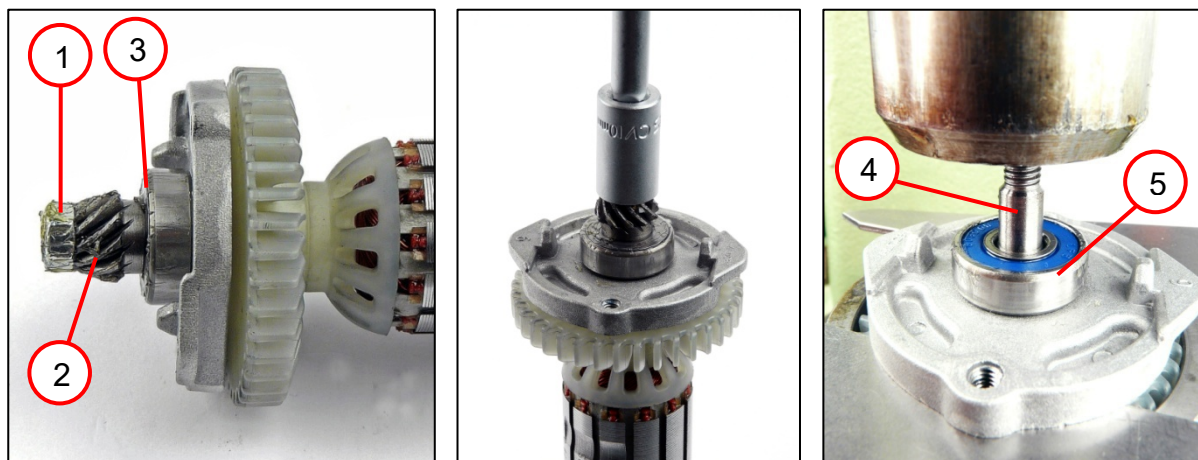
Tools:

- Drawing-off socket cap
- Chuck cone 19 mm



6. Removal

Removing the armature



1. Unscrew the hex nut (1).
2. Pull off the gear-wheel [z=11] (2).
3. Remove the disc (3).

Please note

Risk of breakage at the plate due to load.

☞ Do not support the plate on the lugs.

4. Press the armature (4) out of the plate.
5. Remove the grooved ball bearing (5).

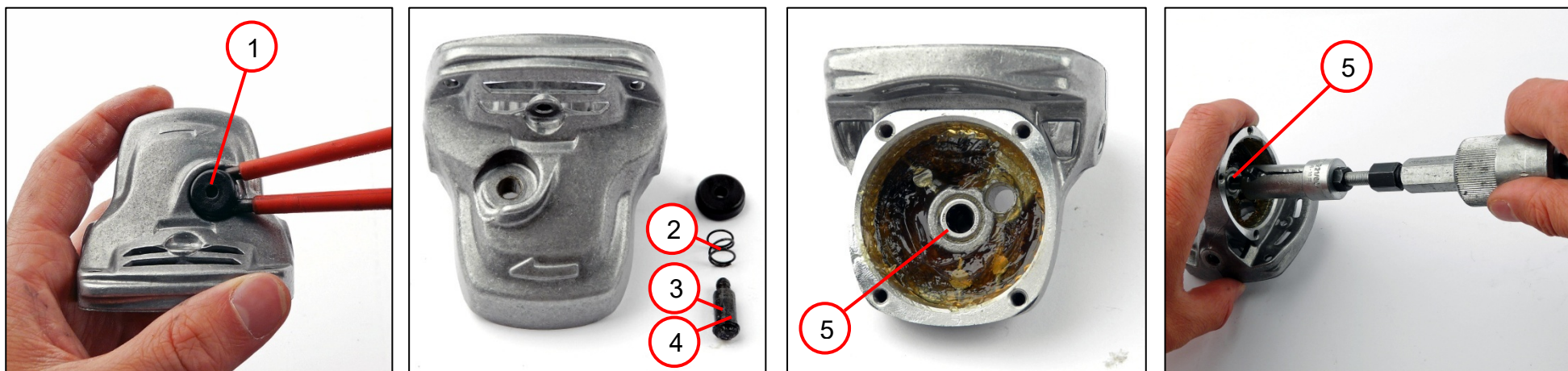
Tools:

- Socket wrench
- Socket wrench insert 10 mm
- Arbor press
- 2x flat material
- Sleeve 55 mm inner diameter 65 mm outer diameter



6. Removal

Removing the pushbutton



1. Remove the pushbutton (1).
2. Remove the spiral spring (2) and the bolt (3) with sealing ring (4).

Please note!

The gearbox housing can be damaged if the puller is fitted incorrectly.

☞ Apply the puller above the rollers of the needle bearing.

3. Pull off the needle bearing (5).

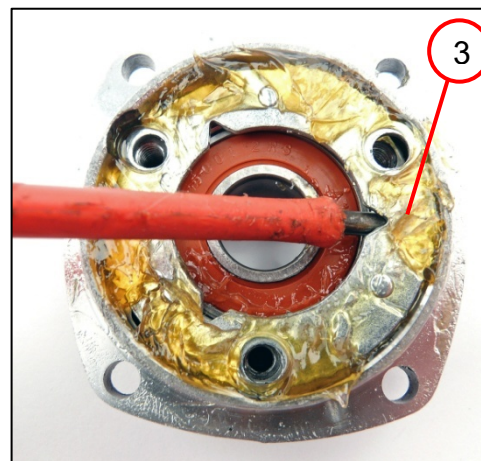
Tools:

- 2x slotted screwdrivers
- Puller 6-10 mm



6. Removal

Removing the bevel gear (plate)



1. Press out the shaft (1).
2. Remove the gear-wheel [z=39].
3. Unscrew the screws (2).
 ☞ Replace the screws (2) during fitting.
4. Remove the plate (3).
5. Press out the grooved ball bearing (4).
6. Completely remove the grease.

Tools:

- | | |
|--|--|
| - Arbor press | - Slotted screwdriver |
| - Punch with 9 mm diameter | - Punch with 17 mm diameter |
| - Sleeve
45 mm inner diameter
62 mm outer diameter | - Sleeve
32 mm inner diameter
40 mm outer diameter |
| - PH2 cross-tip screwdriver | |



6. Removal

Removing the bevel gear (shaft)



1. Press the disc (1) off the shaft.

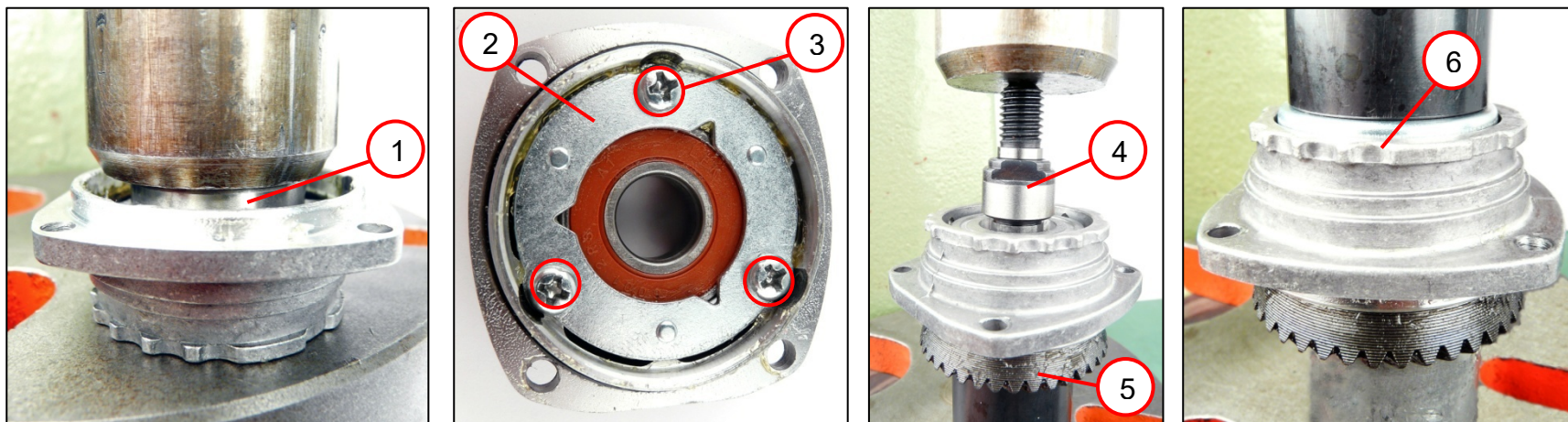
Tools:

- Arbor press
- Sleeve
22 mm inner diameter
33 mm outer diameter



7. Fitting

Fitting the bevel gear (plate) (Applies to: WSG 7-100)



1. Press in the grooved ball bearing (1).
2. Insert the plate (2) in the correct position.
3. Screw in the screws (3) [1.6 ^{+0.2} Nm].
 ⚠ Replace the screws (3) during fitting.
4. Press in the shaft (4) and the gear-wheel [z=39] (5).
5. Press in the disc (6).

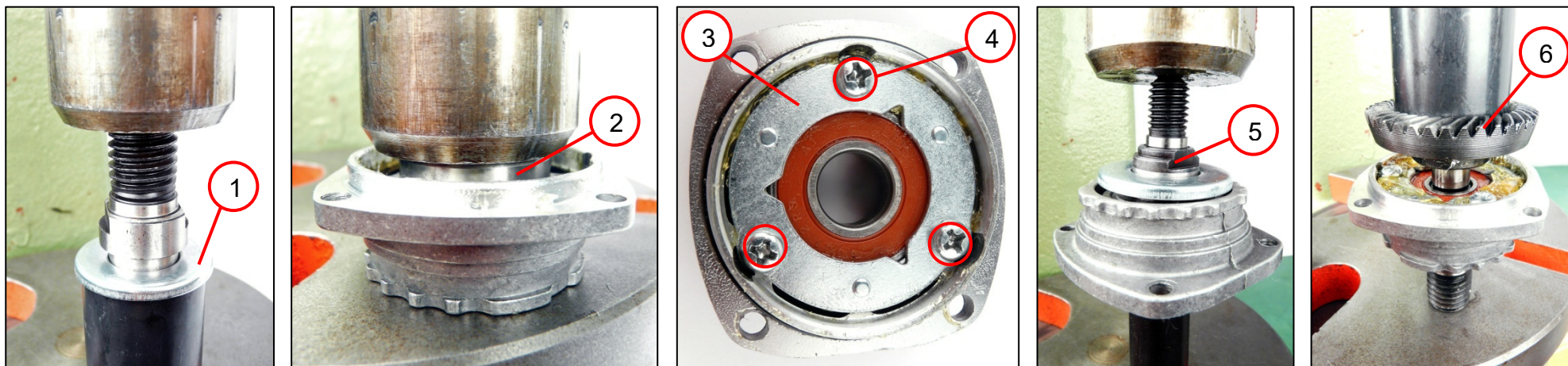
Tools:

- Arbor press
- Torque screwdriver
- PH2 bit
- 2x sleeves
 16 mm inner diameter
 30 mm outer diameter



7. Fitting

Fitting the bevel gear (plate) (Applies to: WSG 7-115)



1. Press the disc (1) onto the shaft.
2. Press in the grooved ball bearing (2).
3. Insert the plate (3) in the correct position.
4. Screw in the screws (4) [1.6 ^{+0.2} Nm].
 ☞ Replace the screws (4) during fitting.
5. Press in the shaft (5).
6. Press in the gear-wheel [z=39] (6).

Tools:

- Arbor press
- Sleeve
12 mm inner diameter
22 mm outer diameter
- Torque screwdriver
- PH2 bit



7. Fitting

Fitting the pushbutton



1. Press the needle bearing (1) into the gearbox housing.
2. Insert the spiral spring (2) and the bolt (3) with sealing ring (4).
3. Fit the pushbutton (5).

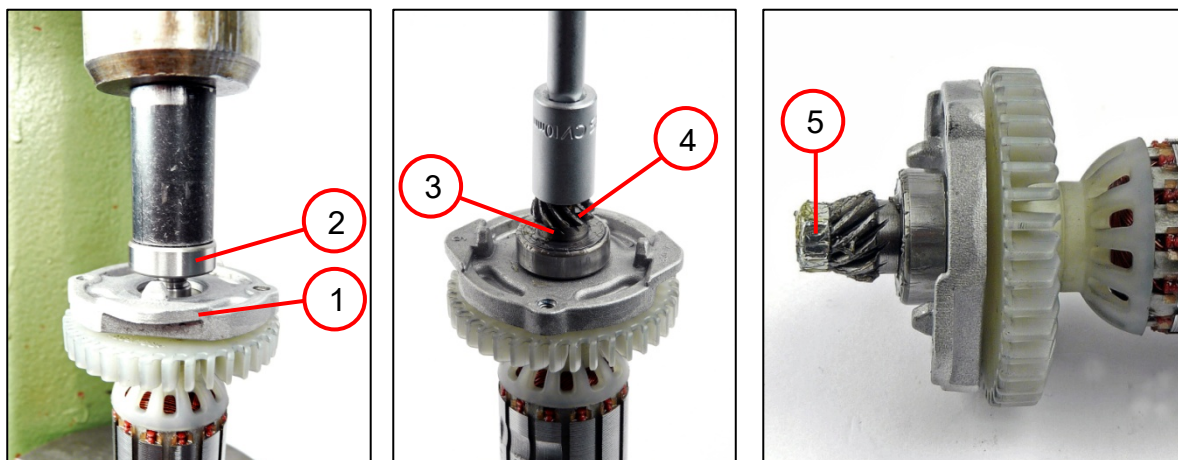
Tools:

- Arbor press
- Bolt with 18 mm diameter



7. Fitting

Fitting the armature



1. Slide the plate (1) onto the armature in the correct position.
2. Press the grooved ball bearing (2) onto the armature.
3. Slide the disc (3) onto the armature.
4. Slide the gear-wheel [z=11] (4) onto the armature.
5. Screw down the nut (5) [$1.6^{+0.2}$ Nm].

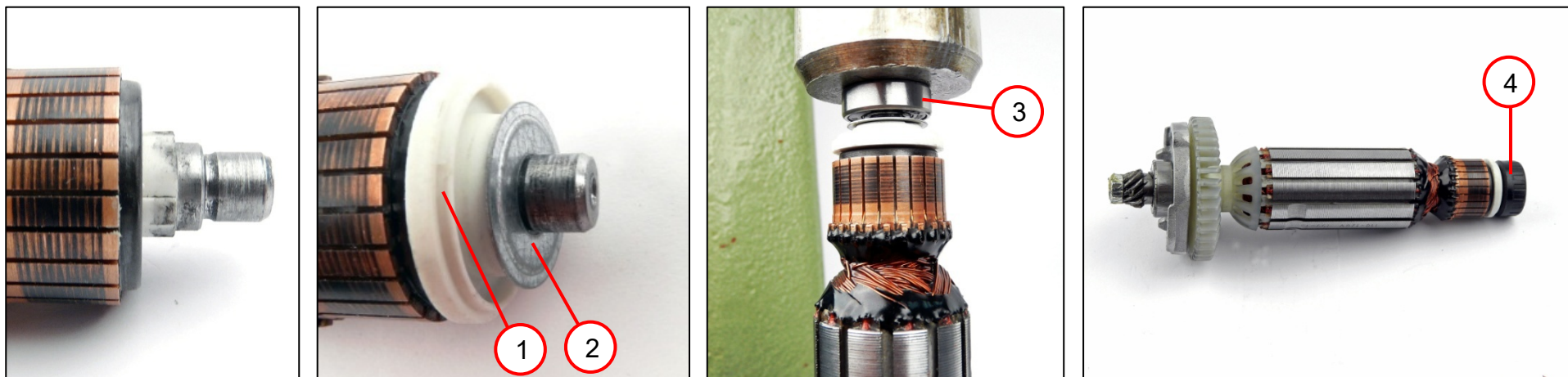
Tools:

- Arbor press
- Sleeve
9 mm inner diameter
22 mm outer diameter
- Torque wrench
- Socket wrench insert
10 mm



7. Fitting

Fitting the gearbox housing and armature



1. Slide the insulating ring (1) onto the armature in the correct position.
2. Slide the disc (2) onto the armature in the correct position.
3. Press the grooved ball bearing (3) over the inner ring onto the armature.
4. Slide the bearing bush (4) over the grooved ball bearing.

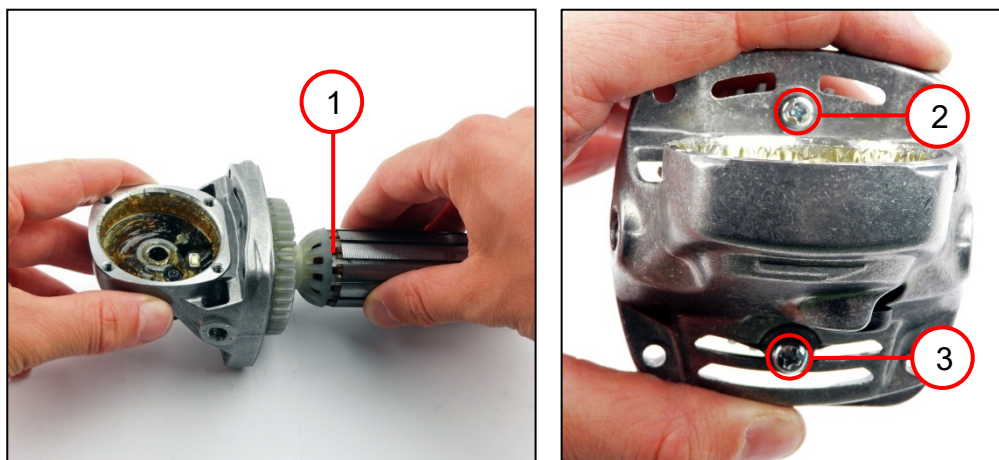
Tools:

- Arbor press



7. Fitting

Fitting the bevel gear



1. Slide the armature (1) into the gearbox housing in the correct position.
2. Screw in the screws (2) [$l=10\text{ mm}$] [$1.6^{+0.2}\text{ Nm}$] and (3) [$l=18\text{ mm}$] [$1.4^{+0.2}\text{ Nm}$].
☞ Replace the screw (2) during fitting.

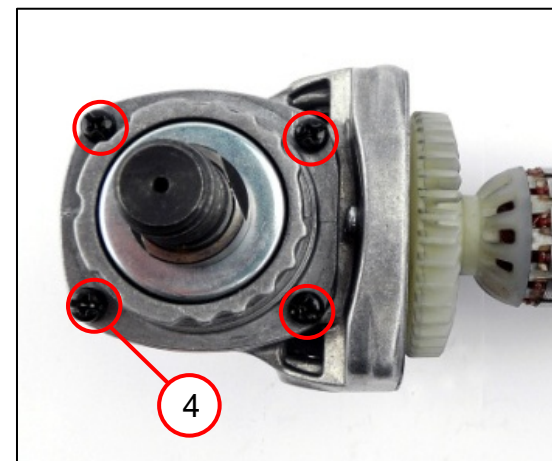
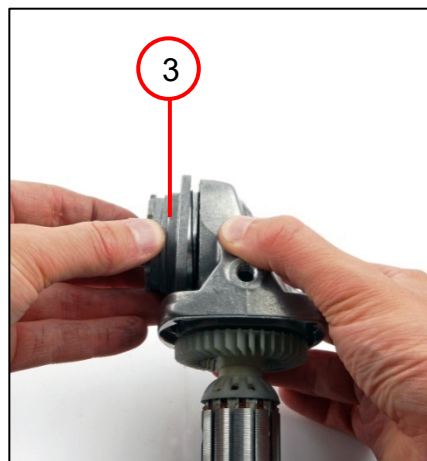
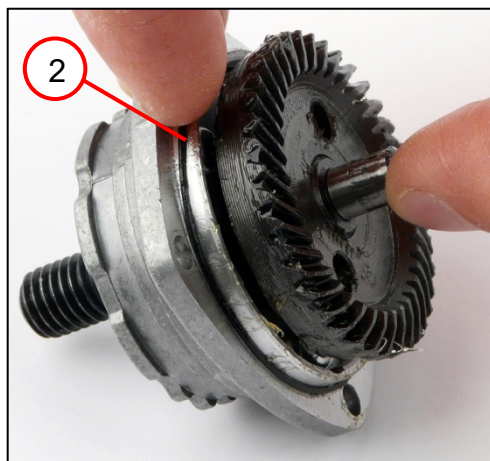
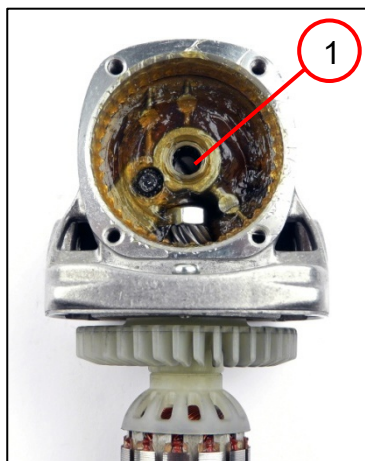
Tools:

- Torque screwdriver
- PH2 bit



7. Fitting

Fitting the bevel gear



1. Fill the gearbox housing (1) with grease.
2. Insert the sealing ring (2).
3. Slide the bevel gear (3) into the gearbox housing.
4. Screw in the screws (4) [$1.4^{+0.2}$ Nm].

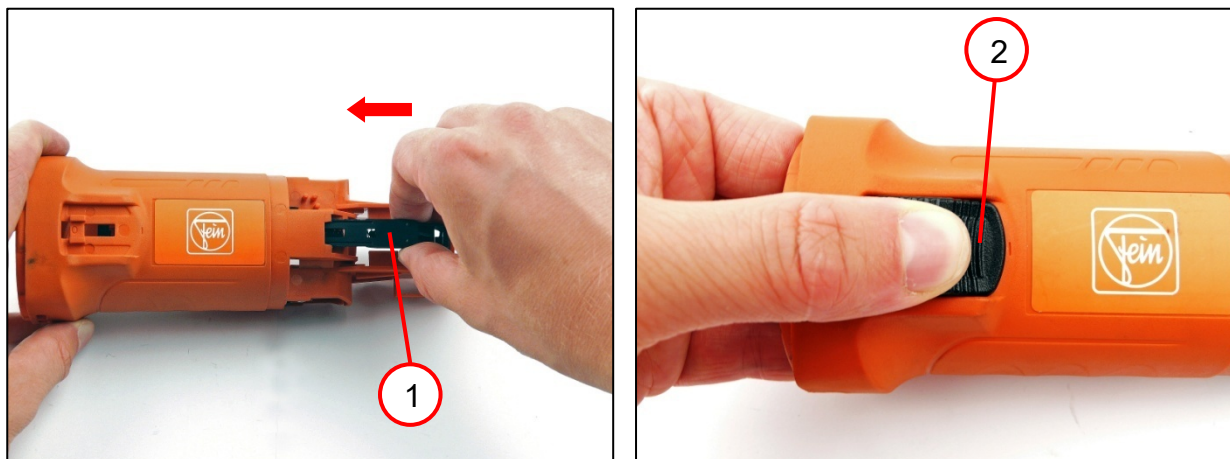
Tools:

- Torque screwdriver
- PH2 bit



7. Fitting

Fitting the slide switch

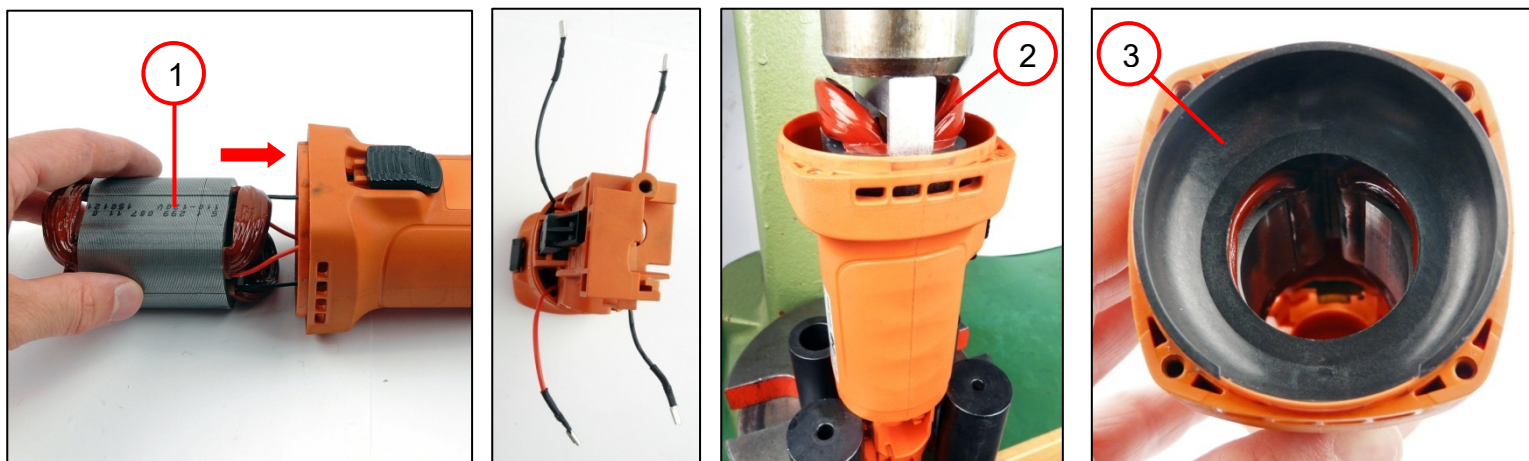


1. Slide the control rod (1) into the motor housing.
2. Clip the slide switch (2) into the control rod.



7. Fitting

Fitting the stator



1. Slide the stator (1) into the motor housing in the correct position.
2. Press the stator (2) into the motor housing in the correct position.
3. Insert the air guide ring (3) into the motor housing in the correct position.

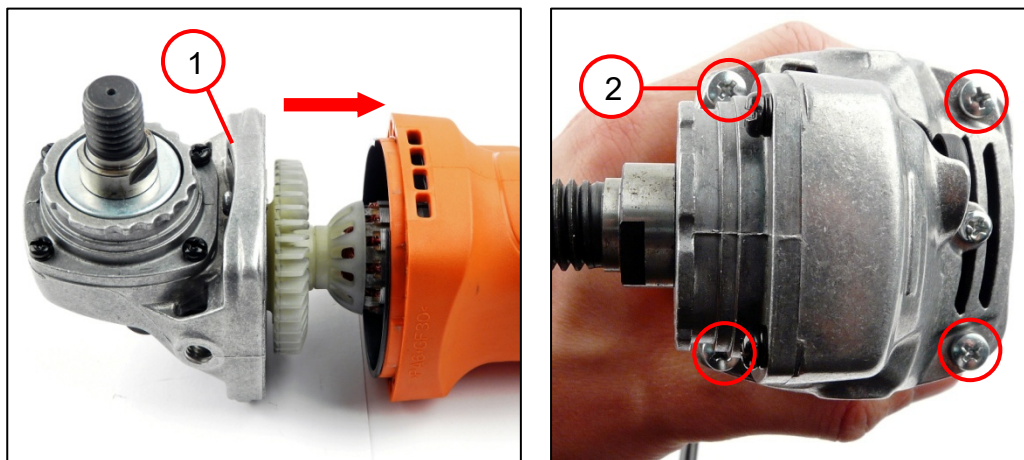
Tools:

- Arbor press
- Assembly aid
- Pressure piece



7. Fitting

Fitting the armature



1. Slide the gearbox housing (1) with armature into the motor housing in the correct position.
2. Screw in the screws (2) [$1.4^{+0.2}$ Nm].

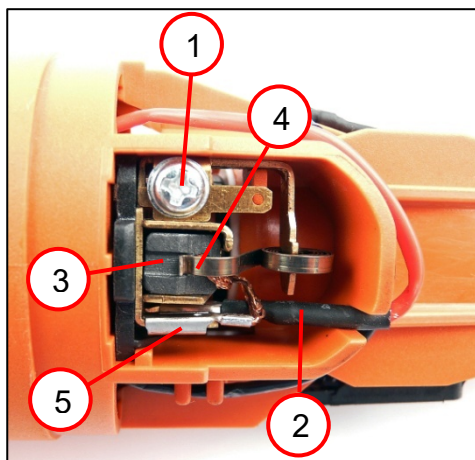
Tools:

- Torque screwdriver
- PH2 bit



7. Fitting

Fitting the brush holder



1. Slide in the brush holder.
2. Screw in the screw (1) [$0.6^{+0.2}$ Nm].
3. Connect the female push-on connector (2) as shown in the connection diagram.
4. Slide the carbon brush (3) into the brush holder in the correct position.
5. Place the tension spring (4) of the carbon brush holder on the carbon brush.
6. Plug in the female push-on connector (5) of the carbon brush.

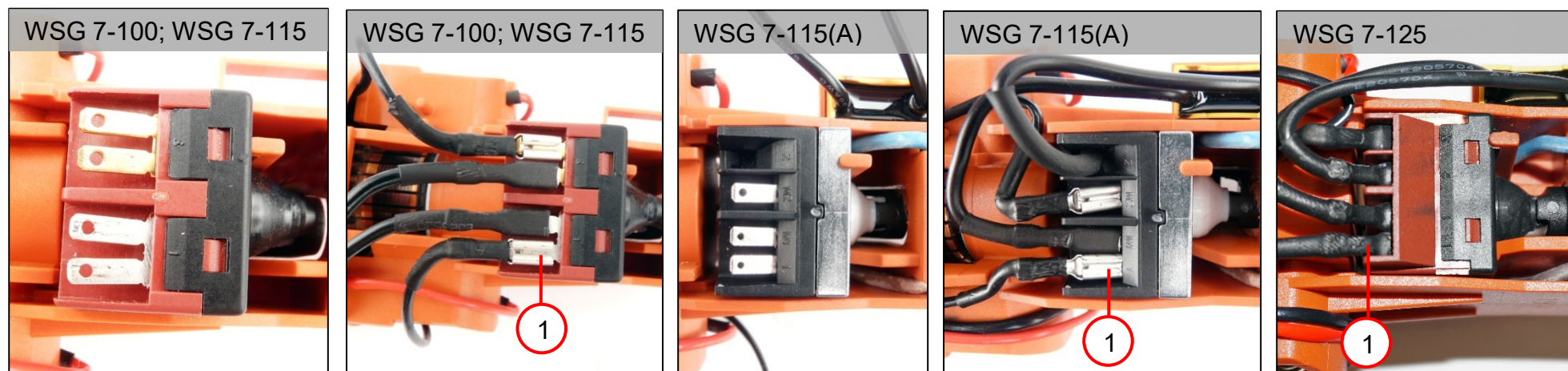
Tools:

- Flat-nose pliers
- Torque screwdriver
- PH2 bit



7. Fitting

Assembling switch



1. Connect the four female push-on connectors (1) as shown in the connection diagram.

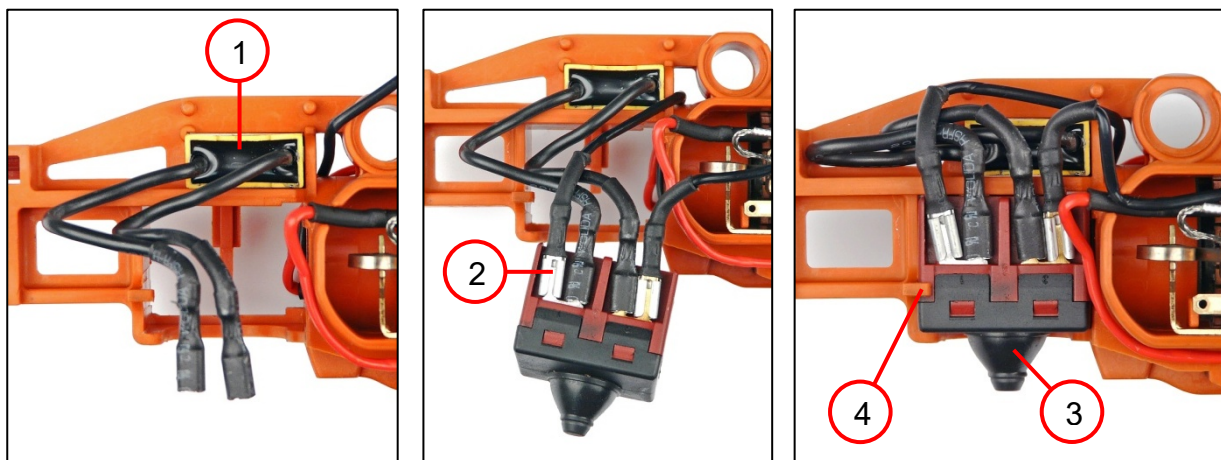
Tools:

- Flat-nose pliers



7. Fitting

Fitting the switch [applies to: WSG 7-115 PT]



1. Slide in the capacitor (1).
2. Connect the four female push-on connectors (2) as shown in the connection diagram.
3. Slide in the switch (3) until the lock (4) engages.

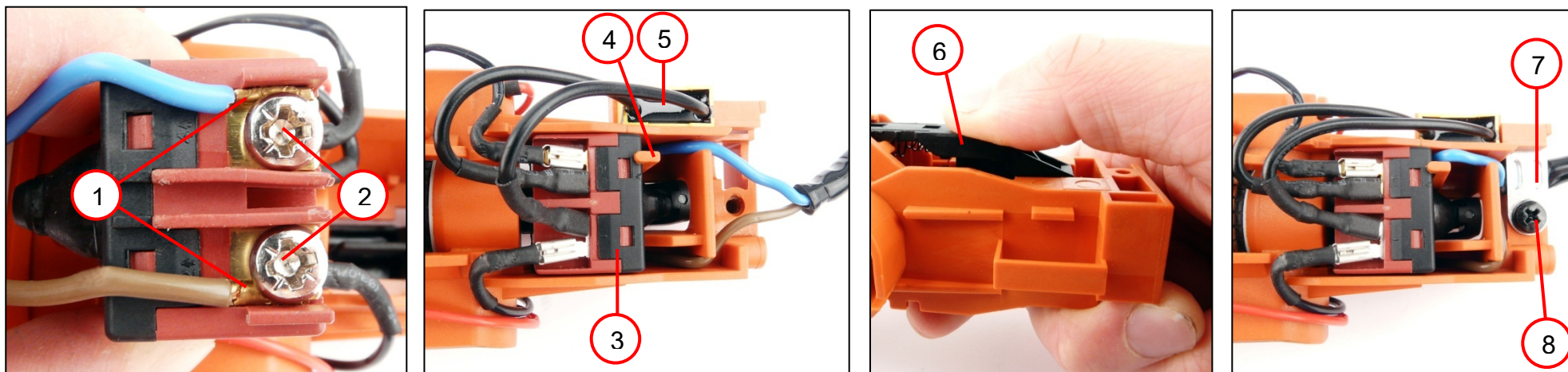
Tools:

- Flat-nose pliers



7. Fitting

Fitting the cable with plug



1. Position the cable with plug (1).
2. Screw in the two screws (2) $[0.5^{+0.1} \text{ Nm}]$.
3. Slide in the switch (3) until the lock (4) engages.
4. Slide in the capacitor (5).
5. Clip the control rod (6) into the switch.
6. Fit the cable clamping piece (7).
7. Screw in the screw (8) $[1.2^{+0.2} \text{ Nm}]$.

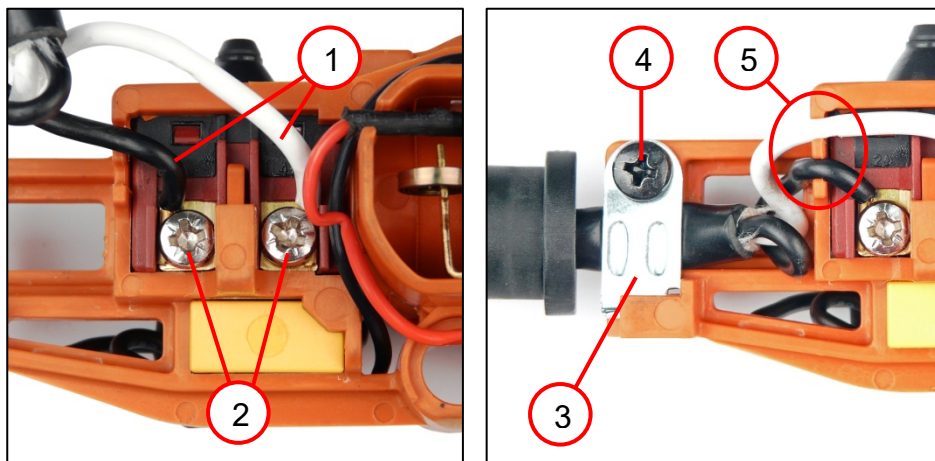
Tools:

- Flat-nose pliers
- Torque screwdriver
- PH2 bit



7. Fitting

Fitting the cable with plug [applies to: WSG 7-115 PT]



1. Position the cable with plug (1).
2. Screw in the two screws (2) [$0.5^{+0.1}$ Nm].
3. Fit the cable clamping piece (3).
4. Screw in the screw (4) [$1.2^{+0.2}$ Nm].
5. Place the cables in the corresponding recesses (5).

Tools:

- PH2 cross-tip screwdriver



7. Fitting

Fitting the cover



1. Slide on the cover.
2. Screw in the screw (1) [$1.2^{+0.2}$ Nm].

Please note!

The machine may be damaged if it is not given a running-in period.

The running-in period after fitting the machine is 5 minutes.

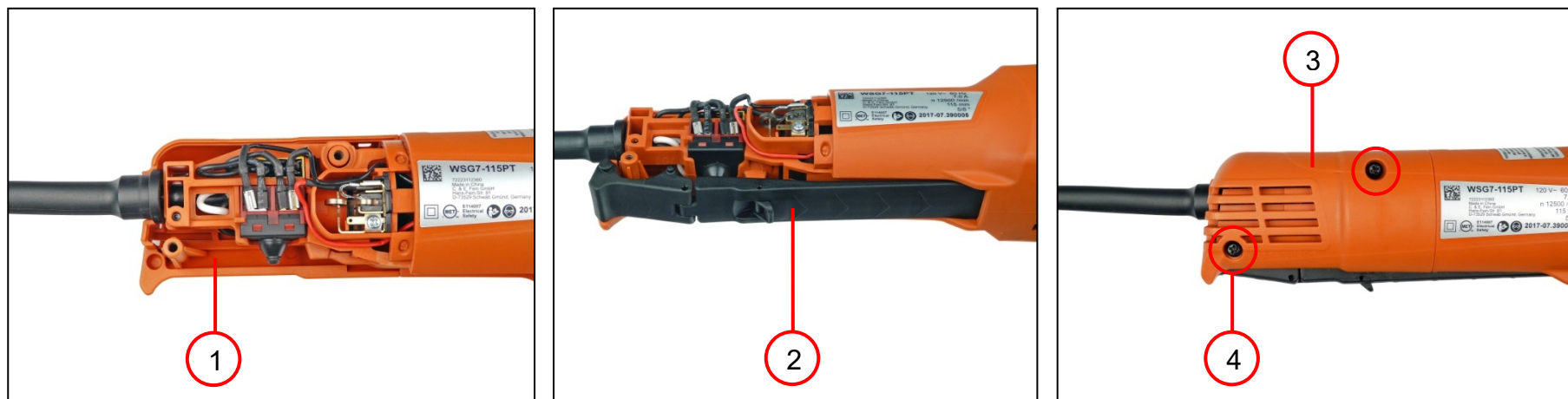
Tools:

- Torque screwdriver
- PH2 bit



7. Fitting

Fitting the cover [applies to: WSG 7-115 PT]



1. Position the cover (1).
2. Position the control rod (2).
3. Position the cover (3).
4. Screw in the two screws (4) [$1.4^{+0.2}$ Nm].

Tools:

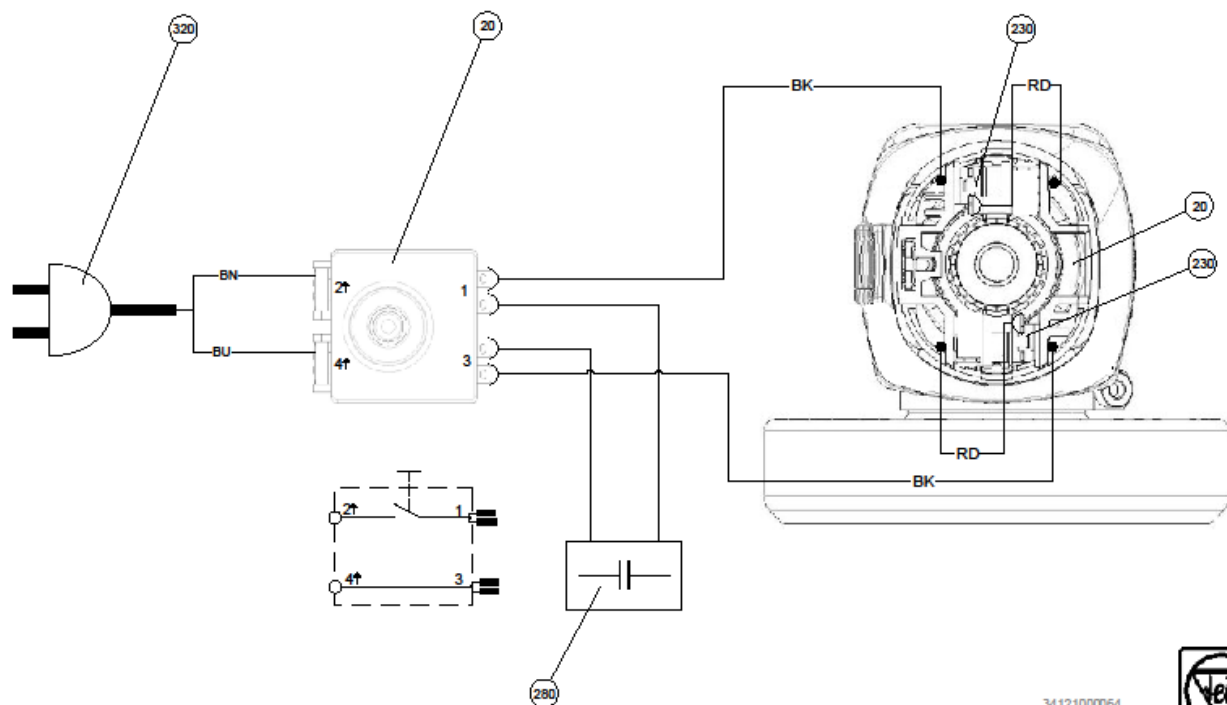
- PH2 cross-tip screwdriver



8. Connection diagram

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

7 221 96 – WSG7-100 / 220V – 230V 50/60Hz
7 221 97 – WSG7-115 / 220V – 230V 50/60Hz



34121000064
05.05.2015





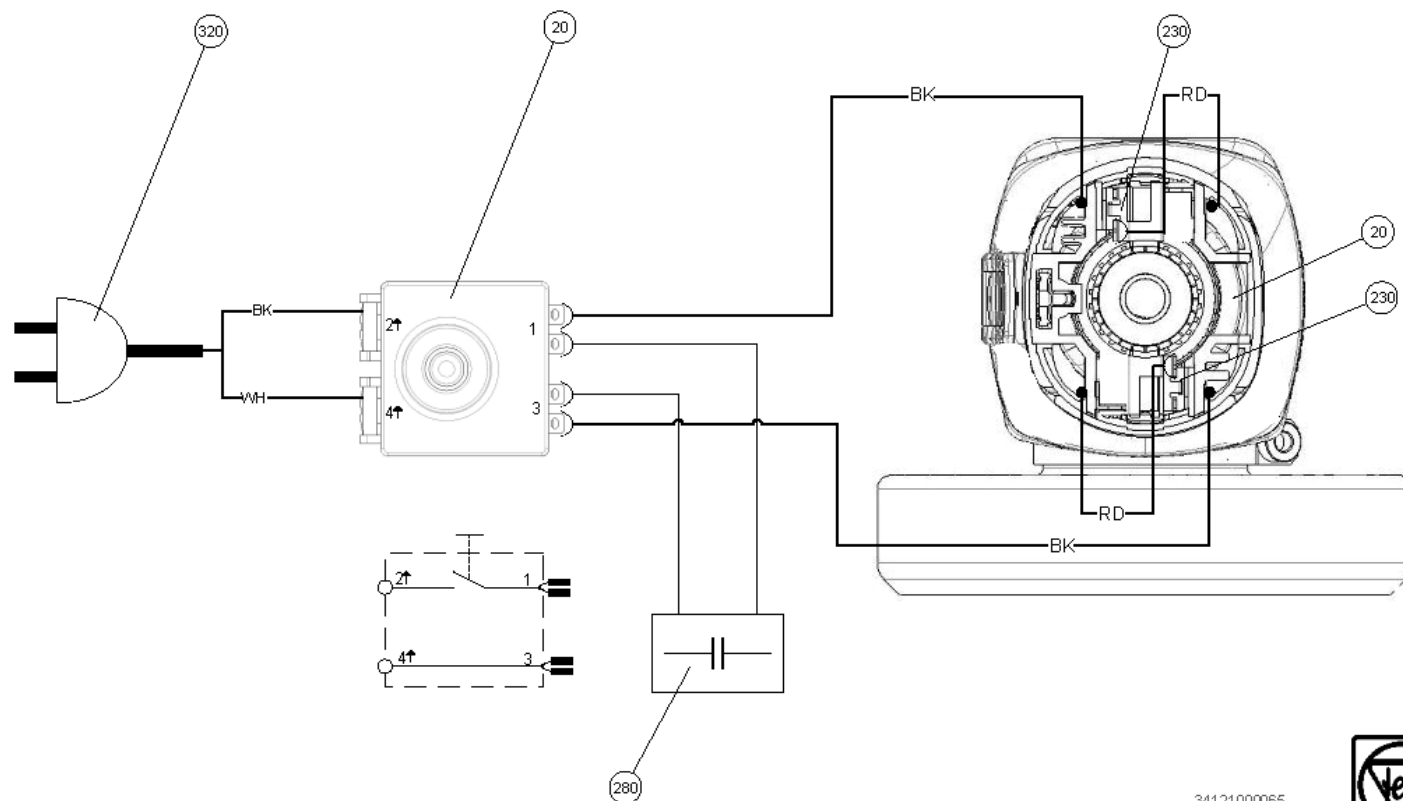
8. Connection diagram

Anschlussplan

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

7 221 97 – WSG7-115 / 120V 60Hz

7 221 31 – WSG7-115 PT/ 120V 60Hz



34121000065
23.10.2017





8. Connection diagram

Anschlussplan

Connection diagram

Esquema de conexiones

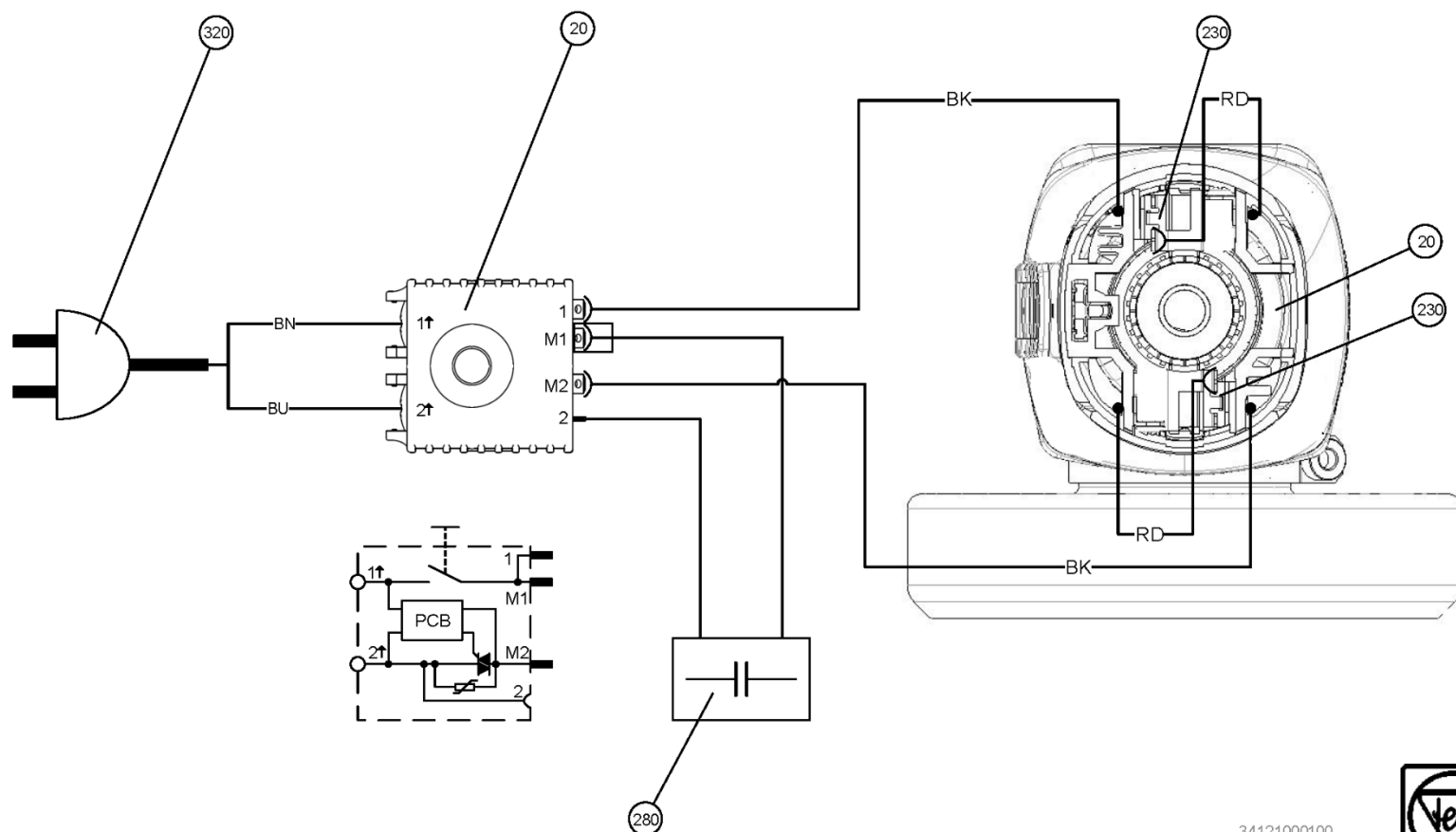
Schéma connexion

Схема соединений

接线图

7 221 98 – WSG7-115(A) / 220V – 230V 50/60Hz

7 222 65 – WSG7-125 / 220V – 230V 50/60Hz



34121000100
02.07.2019