Grinding

34130579060
Printed in Germany

Repair instructions

Applies to:

CCG 18-115 BLPD SEC; CCG 18-125 BLPD SEC

Contents

Contents

1 Models described

These repair instructions describe how to repair the following models:

Model	Material number
CCG18-115 BLPD SEC	7 120 09 .. …
CCG18-125 BLPD SEC	7 120 08 .. …

2 Technical data

Technical data

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

Special tools

The special tools catalogue can be found in the FEIN electronic information system.

Lubricants and auxiliary substances

The lubricants catalogue can be found in the FEIN electronic information system.

Lists of spare parts

Lists of spare parts and exploded views are available online in our spare parts catalogue, which can be accessed via the FEIN website.

Connection diagram

The connection diagram can be found in the FEIN electronic information system.

Documents required for further repair work

- FEIN lubricants catalogue
- FEIN special tools catalogue
- All relevant service communications

3 Symbols used

	Refers to measures for avoiding the risk of injuries.
	Caution: danger of crushing.
	Caution: danger of cutting.
	ESD warning symbol to identify electrically sensitive components and parts.
	Refers to information or instructions that should be followed. Non-observance can result in damage or malfunctions.
	Read the operating instructions.
	This spare part must always be replaced after disassembly.
	Indicates notes that provide information or instructions that may provide a better understanding and contribute to the more effective use of the product.
	Part of the navigation interface.

4 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!

 Read the operating instructions for the product before carrying out any repair work.

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.

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

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

The relevant accident prevention regulations are to be observed during commissioning.

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

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5 Safety instructions

5.1 Structure

Signal word for the danger classification.

Type and source of the danger.

Possible consequences.

Measure that must be taken in order to avoid this danger.

5.2 Danger classification

Warning

This warning refers to a dangerous situation. If the situation is not avoided, this may result in severe injuries or death.

Warning!

Type and source of the danger.

Possible consequences.

Measure that must be taken in order to avoid this danger.

Caution

This warning refers to a potentially dangerous situation. If the situation is not avoided, this may result in slight or minor injuries. This may also be used as a warning against material damage.

Caution!

Type and source of the danger.

Possible consequences.

Measure that must be taken in order to avoid this danger.

Please note

Indicates a potentially harmful situation. If this situation is not avoided, the product or an object in its environment could be damaged.

Please note:

Type and source of the danger.

Damage to the product or its environment.

Measure that must be taken in order to avoid this danger.

5.3 Information

Indicates notes that provide information or instructions that may provide a better understanding and contribute to the more effective use of the product.

Information

Tip

5.4 ESD protection

Damage from electrostatic charge.

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

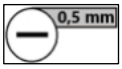
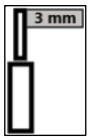
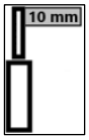
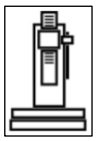
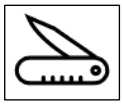
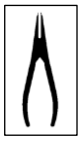
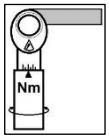
Only perform assembly/disassembly work on electronics at a workstation with ESD protection.

ESD

Avoiding the failure of electronics

6 Tools, lubricants and auxiliary substances required

6.1 Standard tools

Torx screwdriver	T 6	
Torx screwdriver	T 10	
Torx screwdriver	T 20	
Slotted screwdriver	0.5	
Open-ended spanner	10 mm	
Punch	5 mm	
Punch	10 mm	
Arbor press		
Blade		
Circlip pliers	Outer ring	
Circlip pliers	Inner ring	
Torque wrench		

6.2 Special tools

Press-in fixture	SW0067	

6.3 Lubricants and auxiliary substances required

Grease	SM0001	23 g	Gearbox

7 Test and diagnostics options

Test data

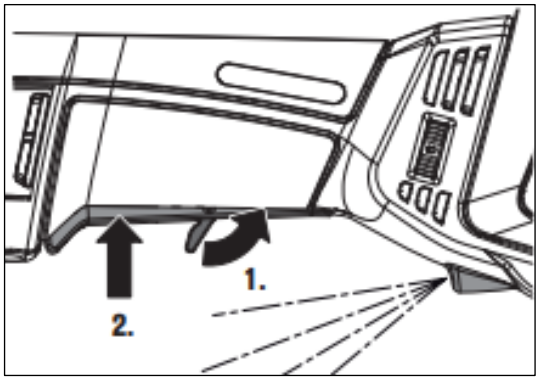
The permitted parameters for the machine can be found in the FEIN electronic information system.

7.1 Handle diagnostics

Problem	Possible cause	Measures
Machine does not start	Defective handle Electronics defective	Check the handle

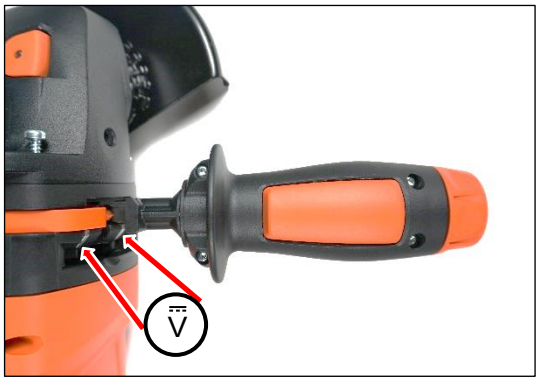
Steps that must be completed:

- Battery fully charged



1. Power up the machine.

INFORMATION
LED does not light up -> Electronics
LED lights up -> Voltage test handle

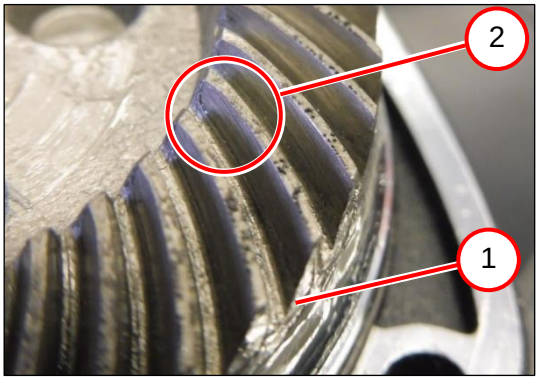


2. Check the voltage on the contacts.

INFORMATION
The voltage is less than 3 V -> Electronics
The voltage is 3 to 3.5 V -> Handle

7.2 Gearbox diagnostics

Problem	Possible cause	Measures
Gear backlash too large	Worn clutch Worn bevel gearing	Check the clutch

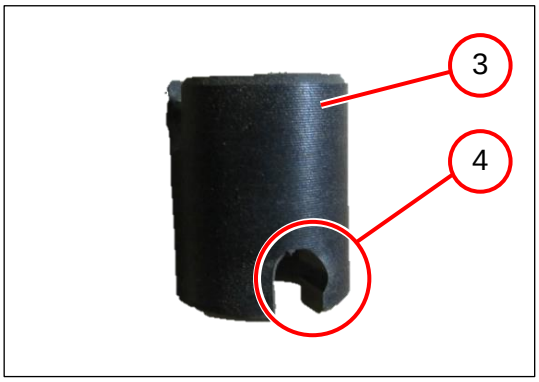


1. 8.1 Remove the gearbox housing.
2. Check the bevel gearing (**1**).

INFORMATION

Signs of wear (**2**) -> Bevel gearing

No signs of wear (**2**) -> 8.2 Remove the clutch



3. Check the clutch (**3**).

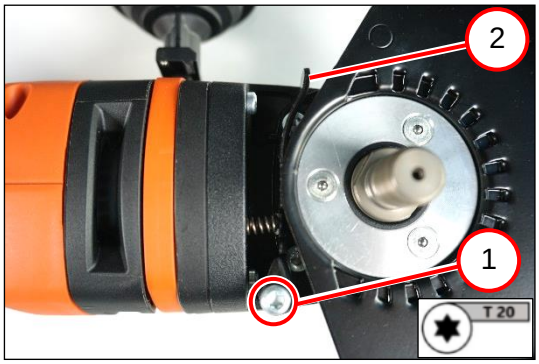
INFORMATION

Signs of wear (**4**) -> Clutch

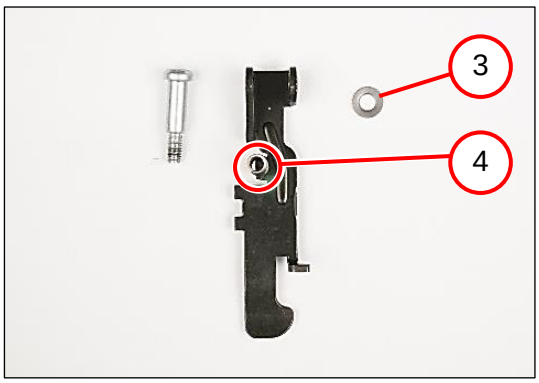
8 Disassembly

8.1 Removing the gearbox housing

8.1.1 Removing the lever



1. Unscrew the screw (**1**).
2. Remove the lever (**2**).

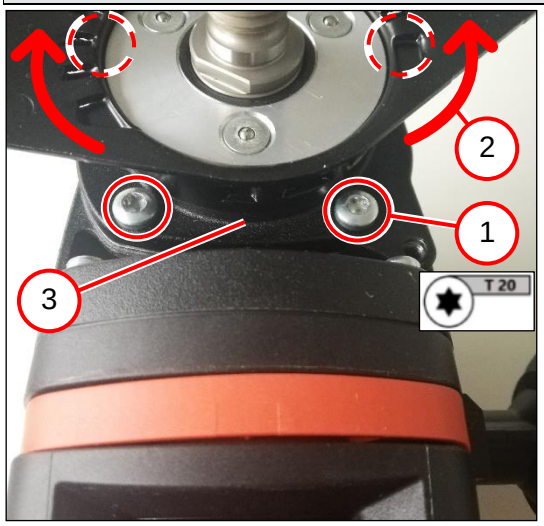


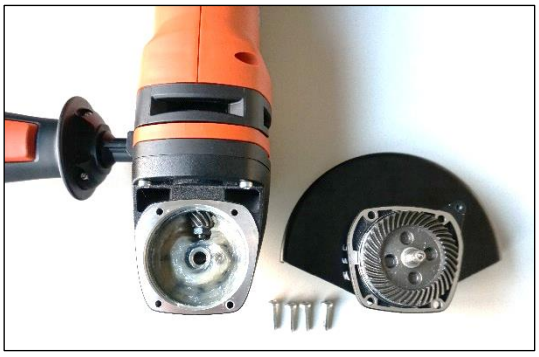
3. Remove the washer (**3**).
4. Remove the spring (**4**).

8.1.2 Removing the bearing plate

Steps that must be completed:

- Removing the lever





1. Unscrew the four screws (**1**).

INFORMATION

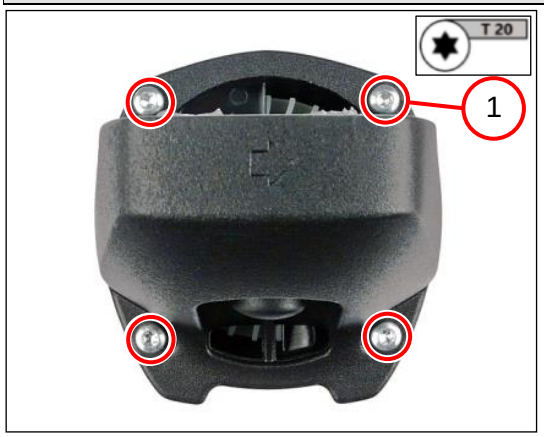
Turn the safety hood (**2**) to reach the screws.

2. Remove the bearing plate (**3**).

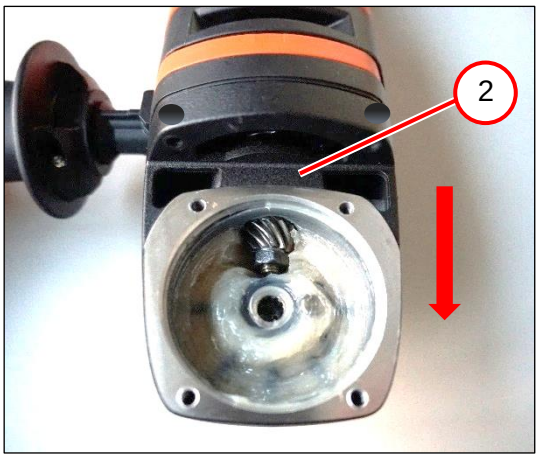
8.1.3 Removing the gearbox housing

Steps that must be completed:

- Removing the bearing plate



1. Unscrew the four screws (**1**).

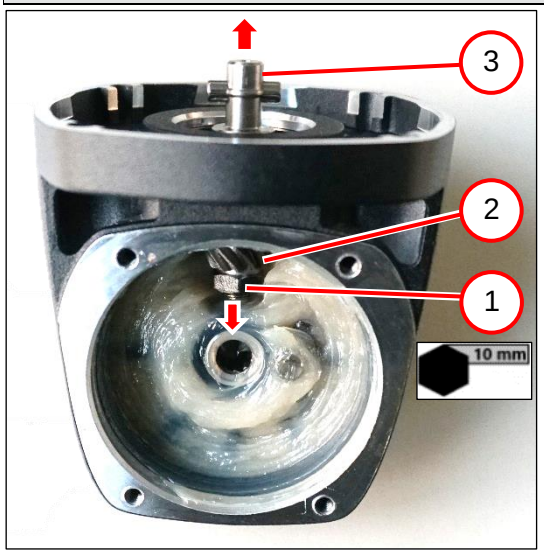


2. Remove the gearbox housing (**2**).

8.1.4 Disassembling the drive shaft

Steps that must be completed:

- Removing the gearbox housing

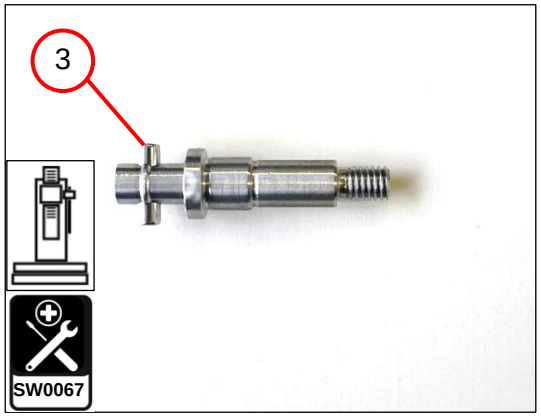


1. Unscrew the nut (**1**).

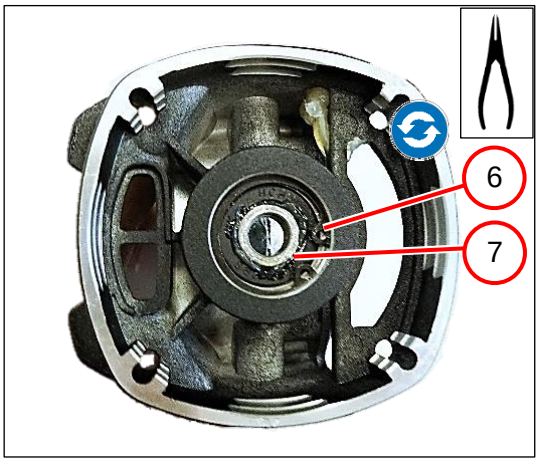
INFORMATION

Secure the shaft (**3**) against rotation.

2. Remove the bevel gear (**2**).
3. Remove the shaft (**3**).



4. Press out the pin (**4**).



5. Remove the circlip (**6**).

Information

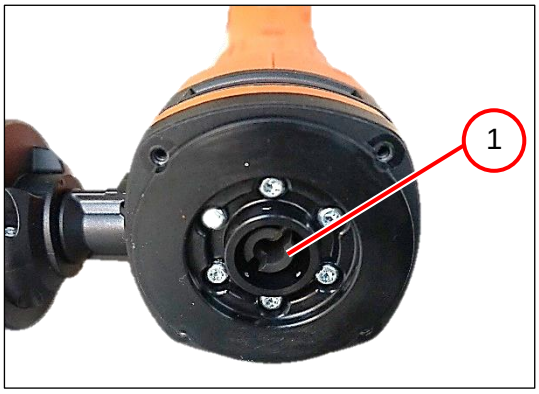
Use a new circlip for assembly each time.

6. Remove the grooved ball bearing (**7**).

8.2 Removing the clutch

Steps that must be completed:

- Removing the gearbox housing



1. Remove clutch (**1**).

8.3 Removing the handle

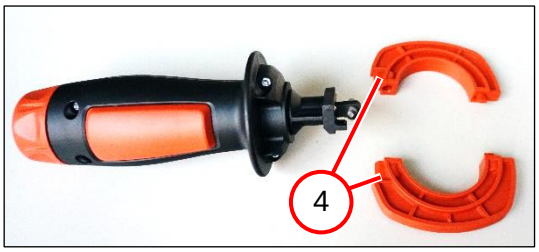
8.3.1 Removing the handle

Steps that must be completed:

- Removing the gearbox housing

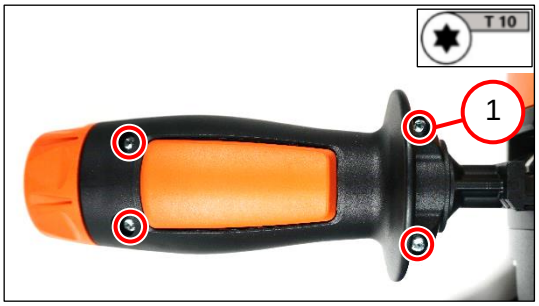
1. Unscrew the six screws (**1**).

2. Remove the intermediate gear box (**2**).
3. Remove the handle (**3**).

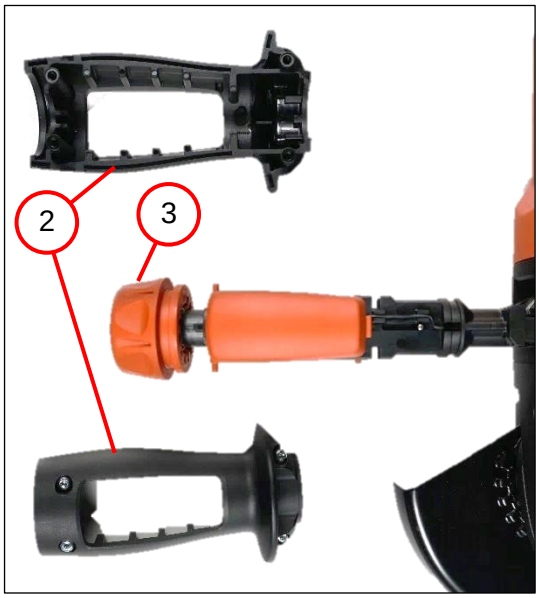


4. Remove the two bearing shells (**4**).

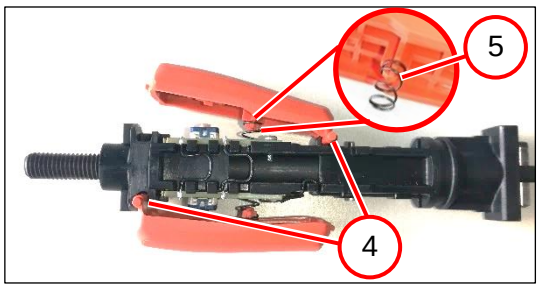
8.3.2 Removing the handle



1. Unscrew the four screws (**1**).



2. Remove the handle shells (**2**).
3. Unscrew the nut (**3**).

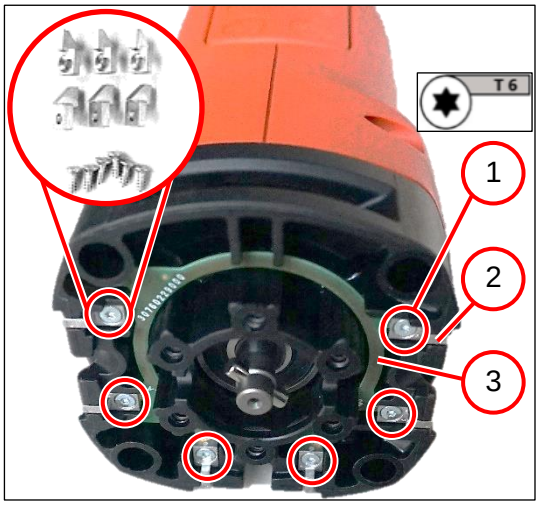


4. Remove the two switch rails (**4**).
5. Remove the two springs (**5**).

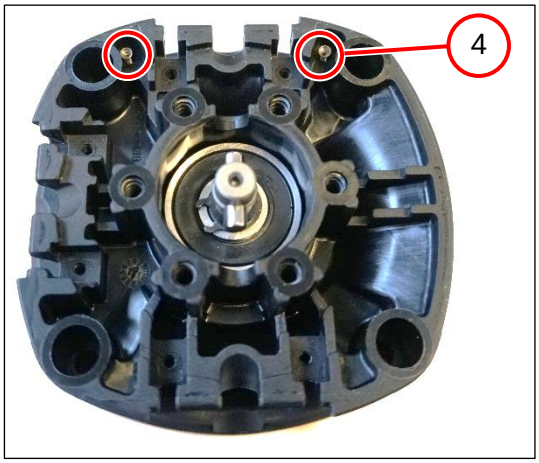
8.4 Removing the circuit board

Steps that must be completed:

- Removing the handle



1. Unscrew the six screws (**1**).
2. Remove the six contact blocks (**2**).
3. Remove the circuit board (**3**).



4. Remove the two springs (**4**).

8.5 Disassembling the motor housing

8.5.1 Removing the motor housing

Steps that must be completed:

- Removing the handle

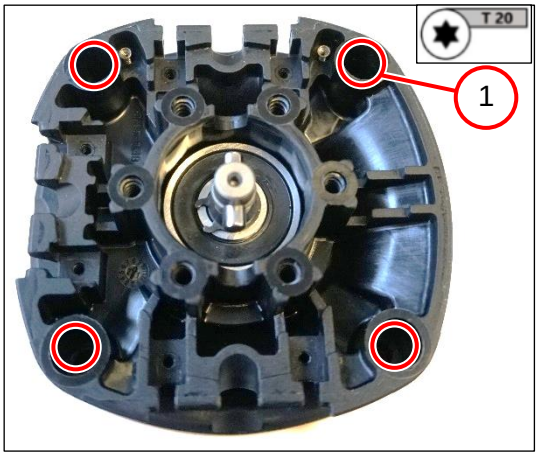
1. Cut through the label (**1**).

2. Cut through the label (**2**).

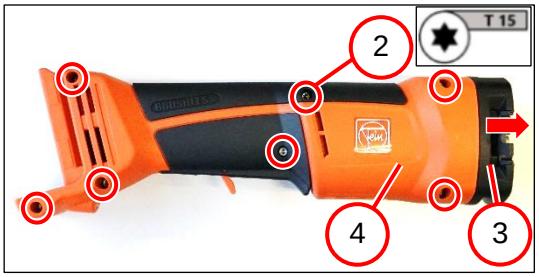
3. Cut through the label (**3**).

Information

Only for versions 712009**09**940 and 712008**09**940



4. Unscrew the four screws (**1**).

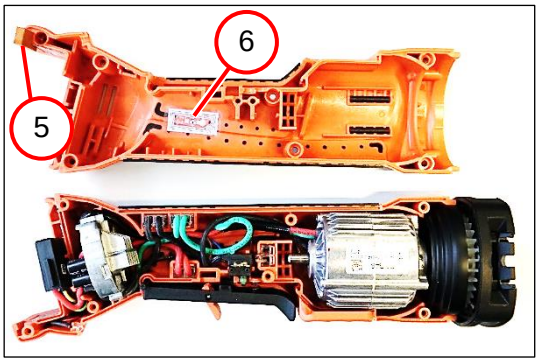


5. Unscrew the seven screws (**2**).

Information

Before opening the motor housing, pull out the intermediate bearing (**3**) by approx. 5 mm.

6. Remove the housing half (**4**).



7. Remove the pressure piece (**5**).

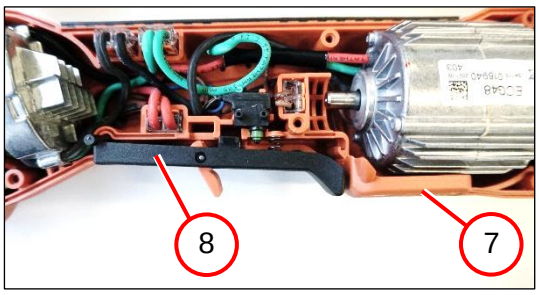
Information

When the motor housing is replaced, the RFID chip (**6**) also has to be changed and registered.

8.5.2 Removing the switch rail

Steps that must be completed:

- Removing the motor housing

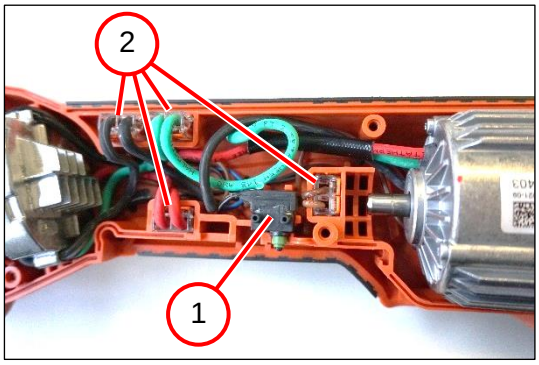


1. Remove the cover (**7**).
2. Remove the switch rail (**8**).

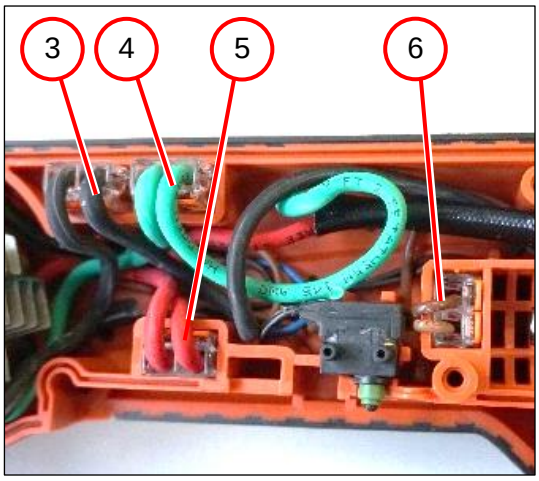
8.5.3 Removing the motor

Steps that must be completed:

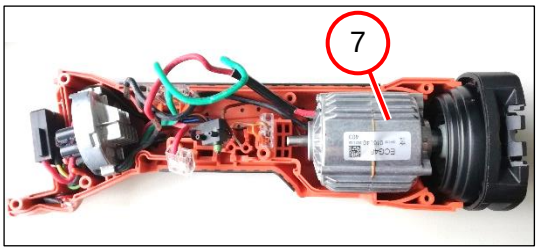
- Removing the switch rail



1. Remove the switch (**1**).
2. Remove the terminals (**2**).



3. Remove the cable (**3**).
4. Remove the cable (**4**).
5. Remove the cable (**5**).
6. Remove the cable (**6**).

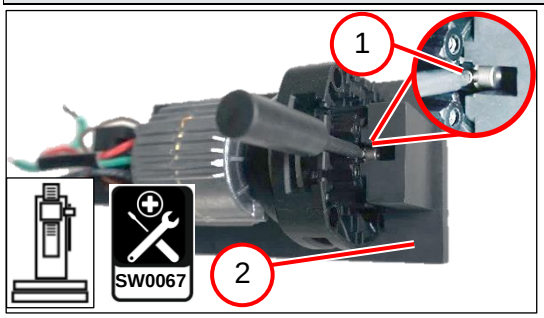


7. Remove the motor (**7**).

8.5.4 Disassembling the intermediate bearing

Steps that must be completed:

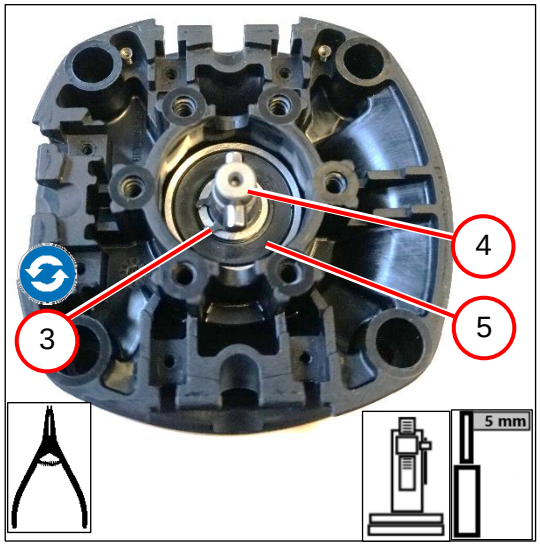
- Removing the motor



1. Press out the pin (**1**).

Information

Press out the pin (**1**) in the assembly device SW0067 (**2**).



2. Remove the circlip (**3**).

Information

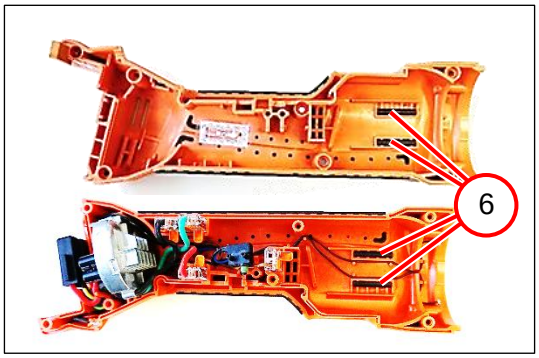
Use a new circlip for assembly each time.

3. Press out the shaft (**4**).
4. Remove the bearing (**5**).

8.5.5 Removing dampers

Steps that must be completed:

- Removing the motor

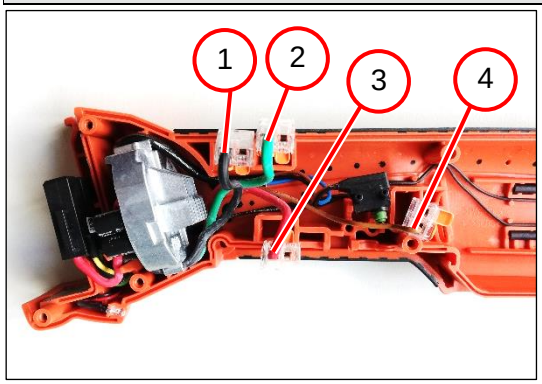


1. Remove the four dampers (**6**).

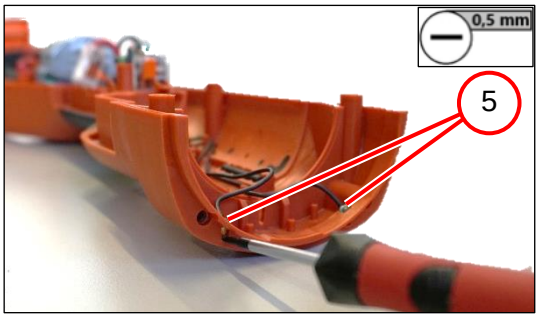
8.5.6 Removing the electronics

Steps that must be completed:

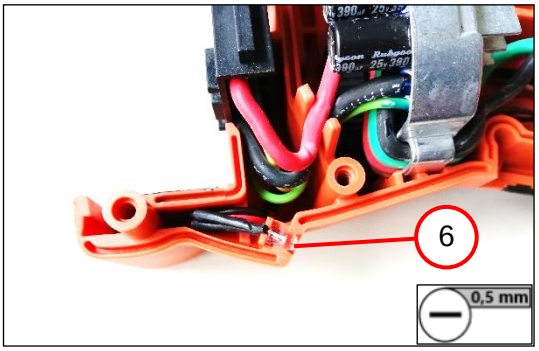
- Removing the motor



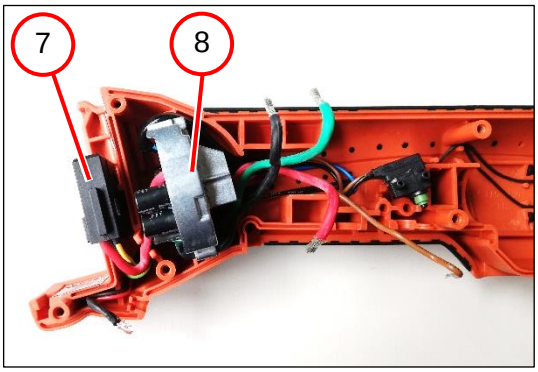
1. Remove the cable (**1**).
2. Remove the cable (**2**).
3. Remove the cable (**3**).
4. Remove the cable (**4**).



5. Remove the two contacts (**5**).



6. Remove the LED (**6**).

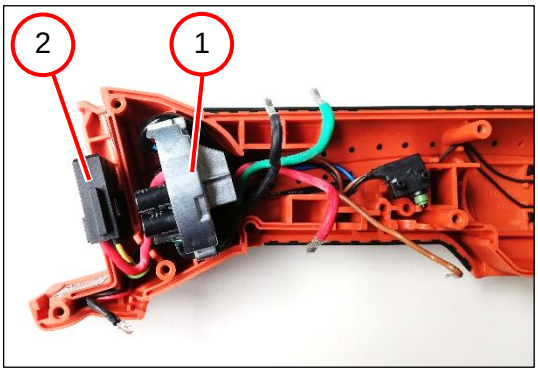


7. Remove the plug (**7**).
8. Remove the electronics (**8**).

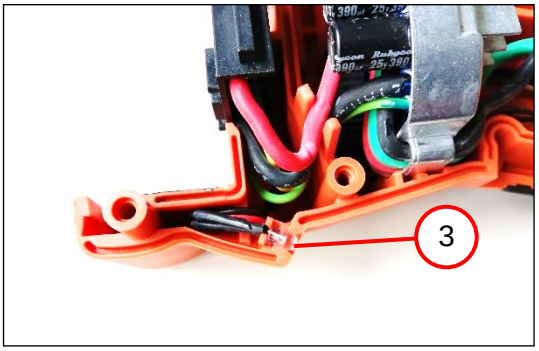
9 Assembly

9.1 Assembling the motor housing

9.1.1 Positioning the electronics



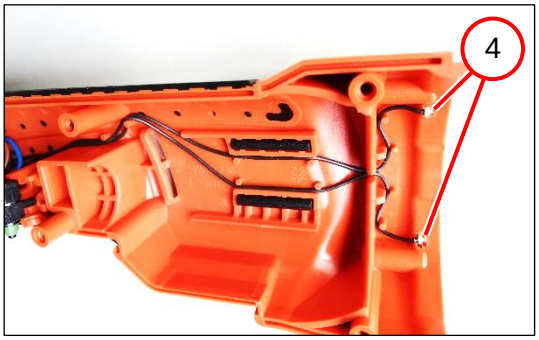
1. Position the electronics (**1**).
2. Position the plug (**2**).



3. Position the LED (**3**).

Note!

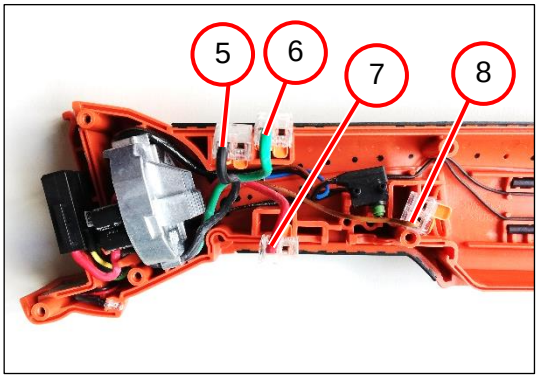
The cables must not be kinked or pinched.
Danger of short circuit or line break.
Make sure that the cables are routed correctly.



4. Position the two contacts (**4**).

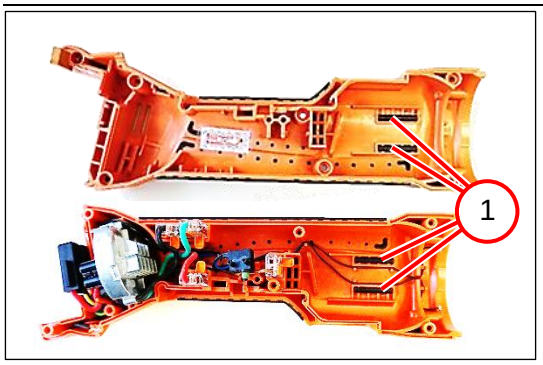
Note!

The cables must not be kinked or pinched.
Danger of short circuit or line break.
Make sure that the cables are routed correctly.



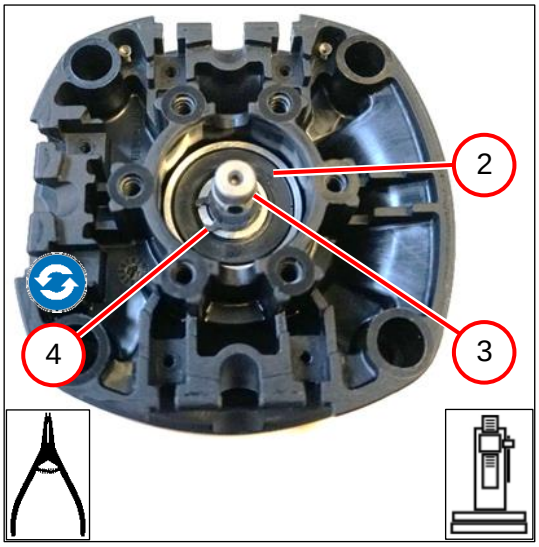
5. Position the cable (**5**).
6. Position the cable (**6**).
7. Position the cable (**7**).
8. Position the cable (**8**).

9.1.2 Positioning the dampers



1. Position the four dampers (**1**).

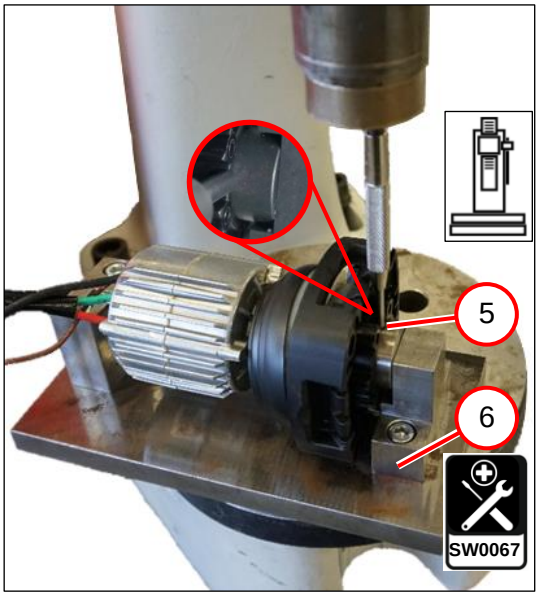
9.1.3 Assembling the intermediate bearing



1. Position the bearing (**2**).
2. Press the intermediate bearing onto the shaft (**3**).
3. Position the circlip (**4**).

Information

Use a new circlip for assembly each time.



4. Press in the pin (**5**).

Note!

The pin must be centred in the shaft.

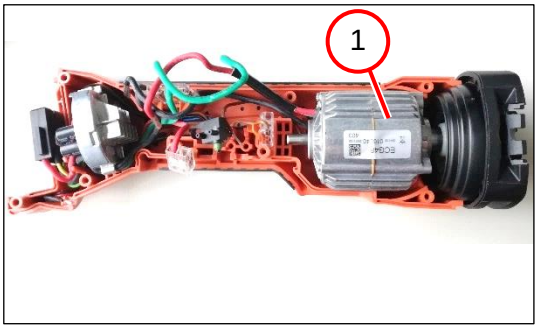
Off-centre assembly causes imbalance during operation and can damage the motor and bearings.

Press the pin into the assembly device SW0067 (**6**) to the stop.

9.1.4 Positioning the motor

Steps that must be completed:

- Positioning the electronics
- Positioning the dampers
- Assembling the intermediate gear box

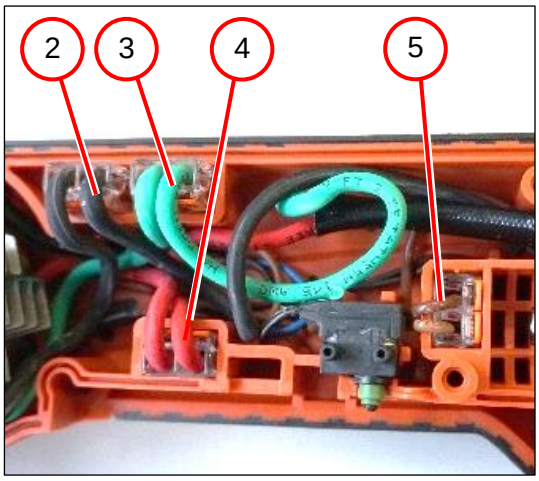


1. Position the motor (**1**).

Information

Note the position of the motor.

Note the mounting position of the motor and the intermediate bearing.



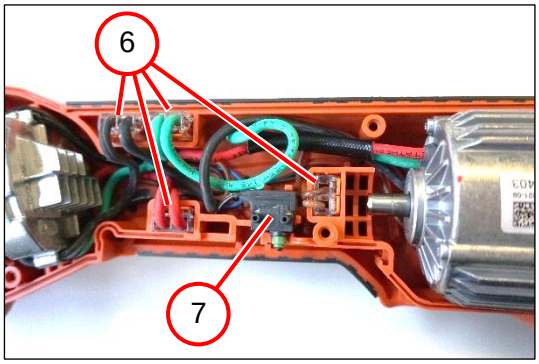
2. Position the cable (**2**).
3. Position the cable (**3**).
4. Position the cable (**4**).
5. Position the cable (**5**).

Note!

The cable connections must not be switched.

Risk of damage to electronics and/or motor.

Observe the connection diagram.



6. Position the terminals (**6**).
7. Position the switch (**7**).

Note!

Cables must not be kinked or pinched.

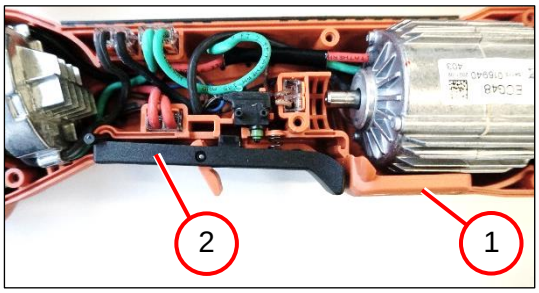
Danger of short circuit or line break.

Make sure that the cables are routed correctly.

9.1.5 Positioning the switch rail

Steps that must be completed:

- Positioning the electronics
- Positioning the motor

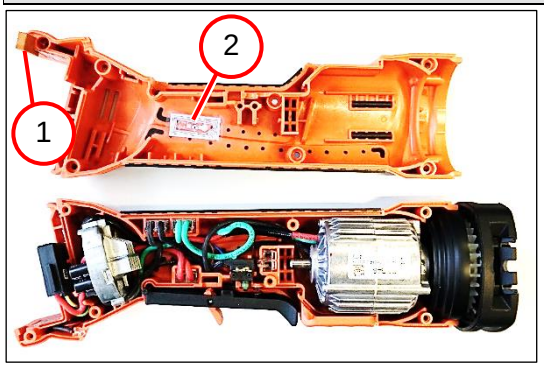


1. Position the switch rail (**1**).
2. Position the cover (**2**).

9.1.6 Positioning the motor housing

Steps that must be completed:

- Positioning the switch rail



1. Position the pressure piece (**1**).

Information

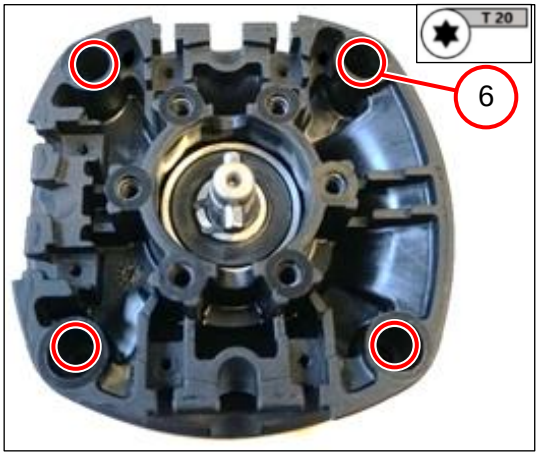
When the motor housing is replaced, the RFID chip (**2**) also has to be changed and registered.

2. Position the housing half (**3**).
3. Position the intermediate bearing (**4**).

Information

The gap must be closed.

4. Screw in the seven screws (**5**) [1.5 Nm].

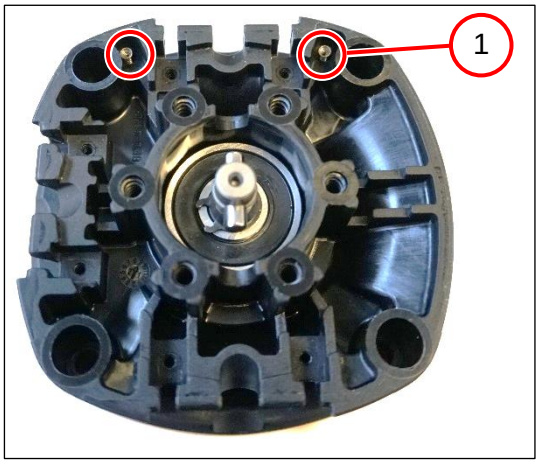


5. Screw in the four screws (**6**) [2.0 Nm].

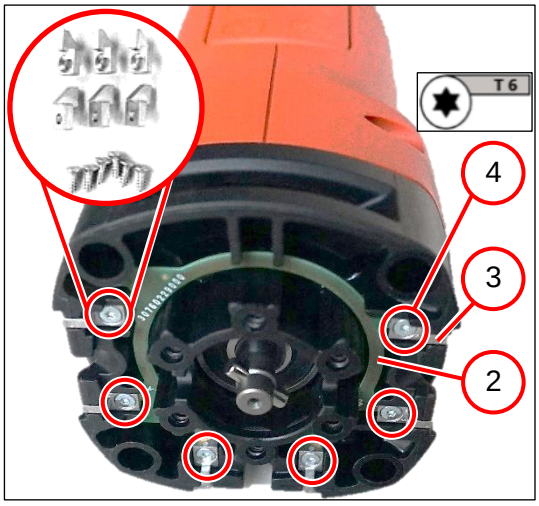
9.2 Assembling the circuit board

Steps that must be completed:

- Assembling the motor housing



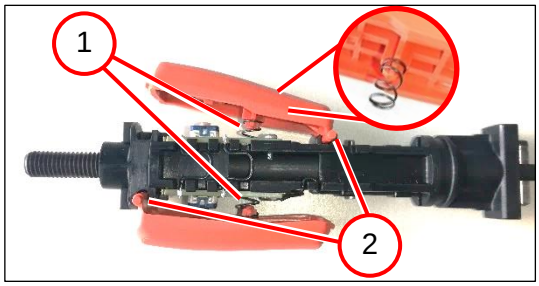
1. Position the two springs (**1**).



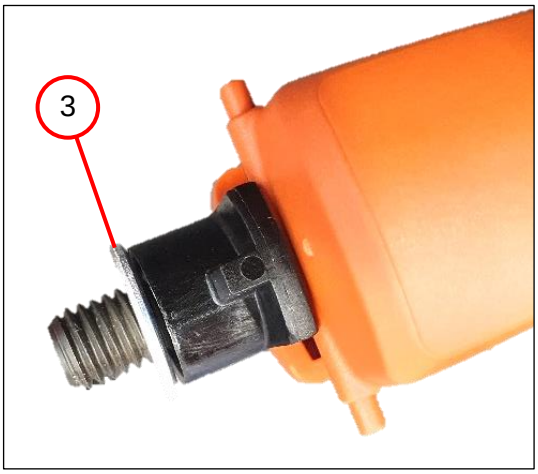
2. Position the circuit board (**2**).
3. Position the six contact blocks (**3**).
4. Screw in the six screws (**4**) [0.45 Nm].

9.3 Assembling the handle

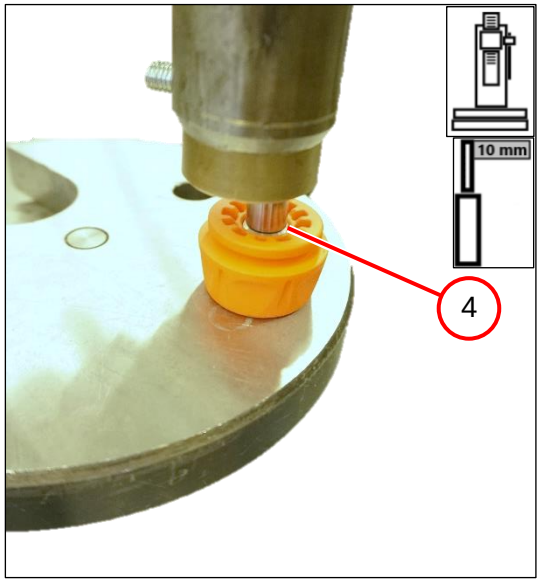
9.3.1 Assembling the handle



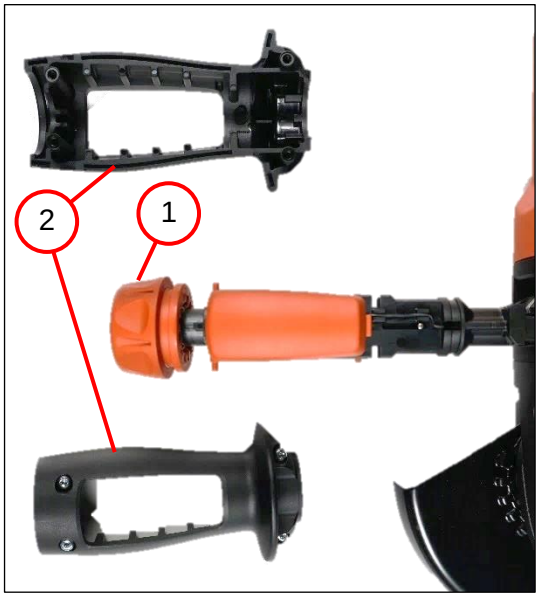
1. Position the two springs (**1**).
2. Position the two switch rails (**2**).



3. Position the washer (**3**).



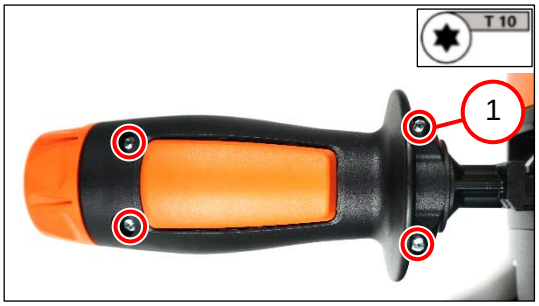
4. Press in the nut (**4**).



5. Screw in the nut (**1**).
6. Position the handle shells (**2**).

Information

Note the bottom and top (recesses for button clips).

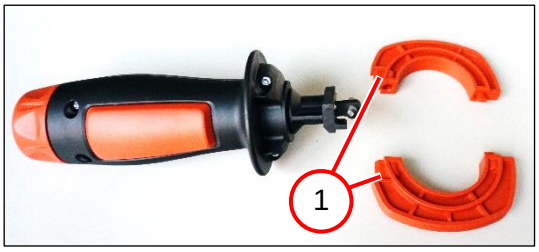


7. Screw in the four screws (**1**) [0.8 Nm].

9.3.2 Positioning the handle

Steps that must be completed:

- Assembling the circuit board
- Assembling the handle



1. Position the two bearing shells (**1**).

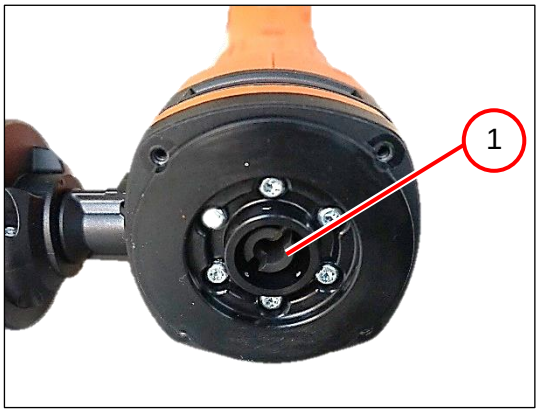
2. Position the handle (**2**).

3. Position the intermediate bearing (**3**).
4. Screw in the six screws (**4**) [2 Nm].

9.4 Positioning the clutch

Steps that must be completed:

- Assembling the handle



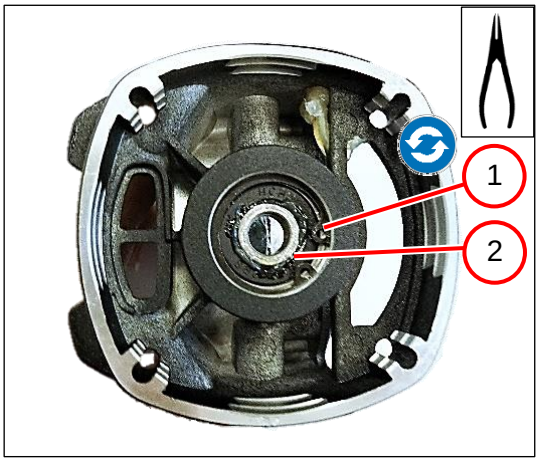
1. Position the clutch (**1**).

9.5 Assembling the gearbox housing

9.5.1 Assembling the drive shaft

Tools:

- Sleeve 26 mm

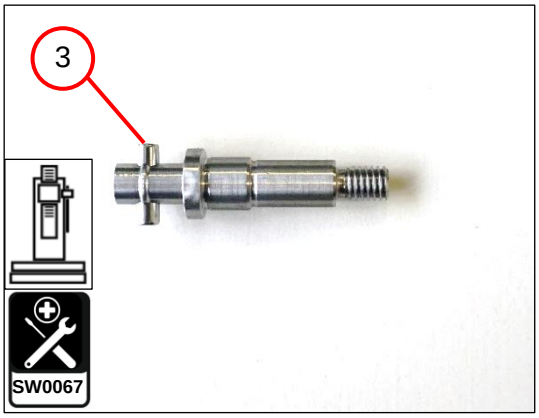


1. Position the grooved ball bearing (**1**).
2. Position the circlip (**2**).

Information

Use a new circlip for assembly each time.

3



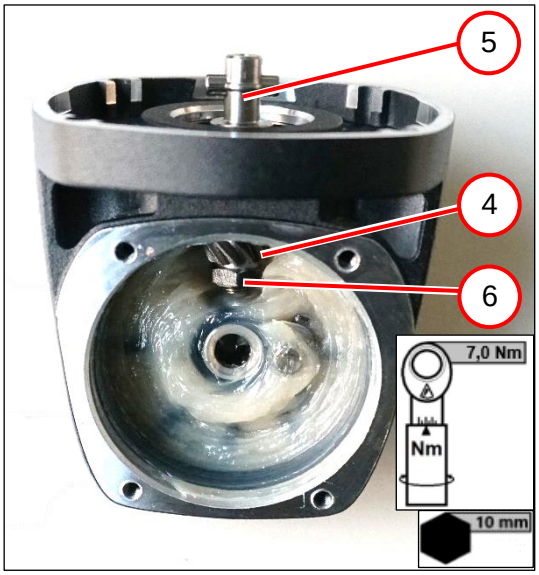
4. Press in the pin (**3**).

Note!

The pin must be centred in the shaft.

Off-centre assembly causes imbalance during operation and can damage the motor and bearings.

Position the mounting device SW0067.



5. Position the bevel gear (**4**).
6. Position the shaft (**5**).
7. Screw in the nut (**6**) [7.0 Nm].

Information

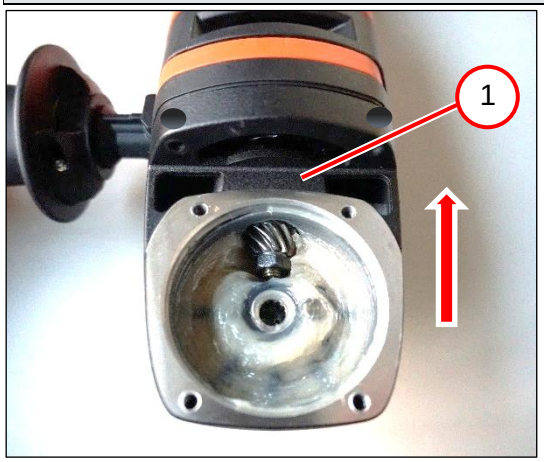
Note the position of the nut (**6**).

Secure the shaft (**5**) against rotation.

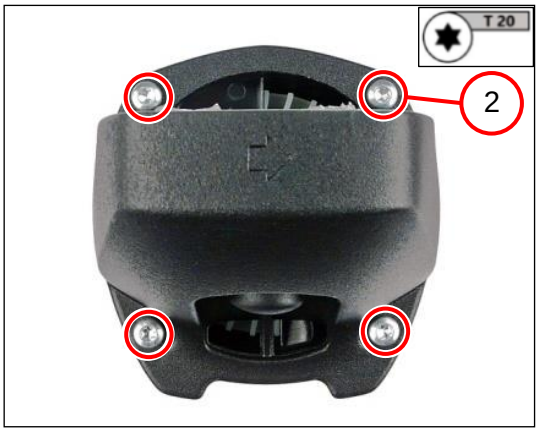
9.5.2 Positioning the gearbox housing

Steps that must be completed:

- Assembling the drive shaft



1. Position the gearbox housing (**1**).

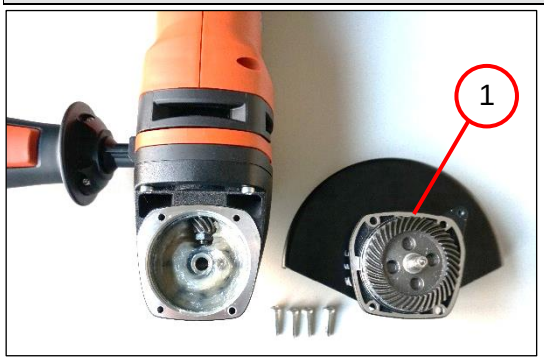


2. Screw in the four screws (**2**) [2.0 Nm].

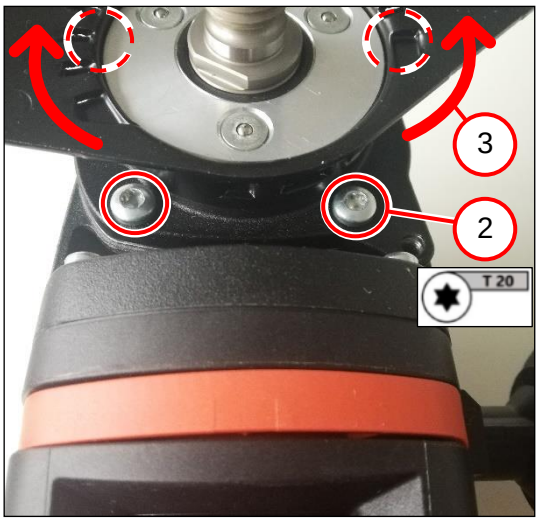
9.5.3 Positioning the bearing plate

Steps that must be completed:

- Positioning the gearbox housing



1. Position the bearing plate (**1**).



2. Screw in the four screws (**2**) [4 Nm].

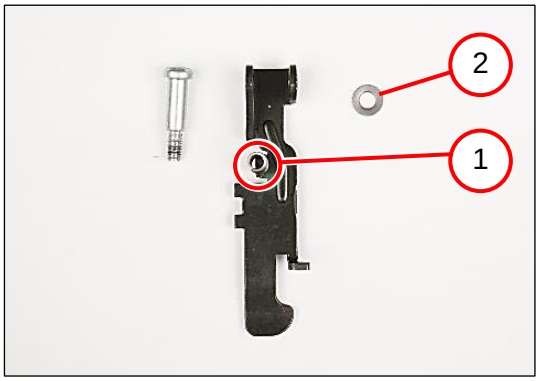
INFORMATION

Turn the safety hood (**3**) to reach the screws.

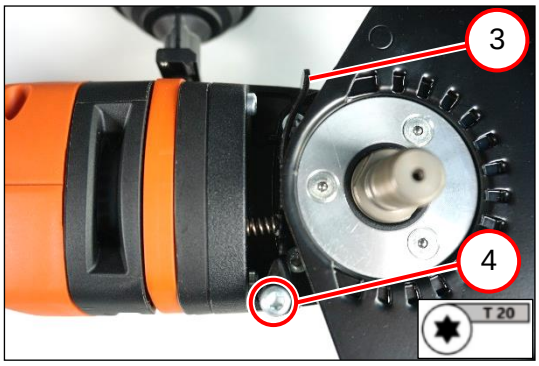
9.5.4 Positioning the lever

Steps that must be completed:

- Positioning the bearing plate



1. Position the spring (**1**).
2. Position the washer (**2**).



3. Position the lever (**3**).
4. Screw in the screw (**4**) [1.8 Nm].

10 Inspection following repairs

A visual and functional check as well as a professional electrical safety test must always be performed after carrying out repair and maintenance work. The regulations and legal requirements applicable in the respective country apply.

Minimum tests recommended for this type of machine:

Grinding (LF + HF angle and die grinder)	
Always:	Visual inspection Speed check Insert tool Testing (Perform cutting test)
Mains-operated machines:	Electrical safety test
If restart lock present:	Check restart lock
Brake function available:	Brake function check
Kickback function provided:	Check shut-off after jerky movement