

FSC 500 QSL; FSC 1.7; FSC 1.7 Q

Repair instructions





- 1. Models described**
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- 3. Notes and requirements**
- 4. Tools required**
- 5. Lubricants and auxiliary substances required**
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1. Models described

These repair instructions describe how to repair the following models:

Model	Order number
FSC 1.7 Q	7 229 48
FSC 1.7	7 229 49
FMM 500 QSL	7 229 55



2. Technical data

Technical data

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

Test data

Up-to-date test data for all models can be found on the FEIN Extranet (Customer Service → Repair Guides).

Lubricants

The lubricants and 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

Arbor press

Hot air gun

Fitter's hammer

Punch 5 mm; 6 mm

Slotted screwdriver

Slotted screwdriver (small)

Vice

Torx T15; T20

Sleeve 8 mm inner diameter
~19 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

Extractor tool

- Thread ring 6 41 14 031 03 0
- Chuck cone 6 41 14 031 01 0
- Screw 6 41 07 013 02 1
- Bolt 6 41 07 013 03 7

Press-in fixture 6 41 22 127 00 0

Assembly aid 6 41 22 121 01 0

Assembly aid 6 41 22 122 00 0



5. Lubricants and auxiliary substances required

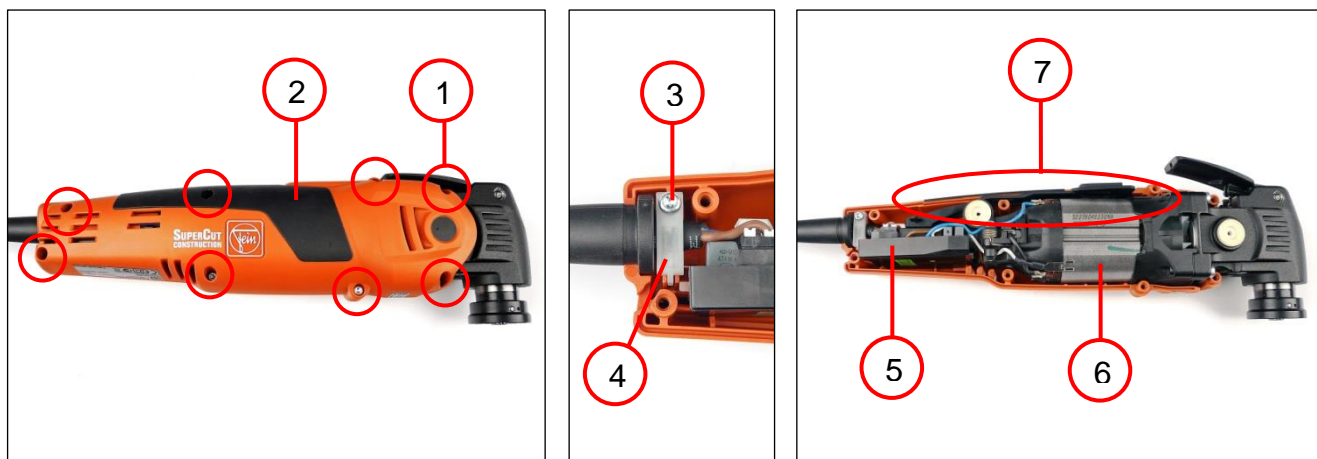
Lubricants

Grease	0 40 12 803 00 0	4 g	Tool head
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6. Disassembly

Removing the motor housing



1. Unscrew the eight screws (1).
2. Remove the motor housing (2).
3. Unscrew the screw (3).
4. Remove the cable clamping piece (4).
5. Take out the electronics (5), the tool head with field coil (6) and the slide switch (7).

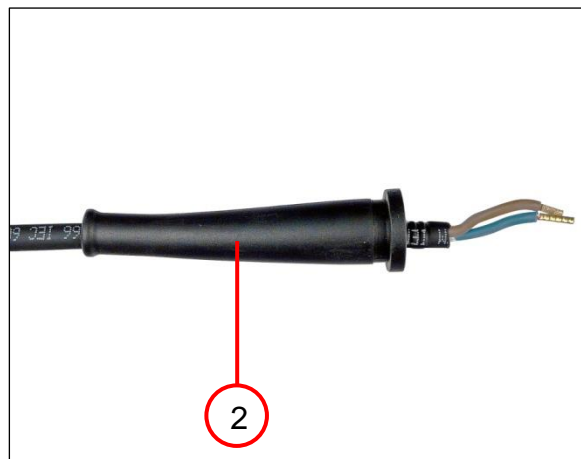
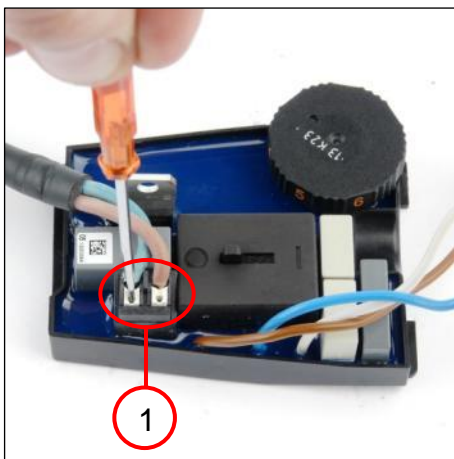
Tools:

- Torx T15



6. Disassembly

Removing the motor housing



1. Push down the cable clamps (1) and remove the cables.
2. Remove the cable grommet (2).

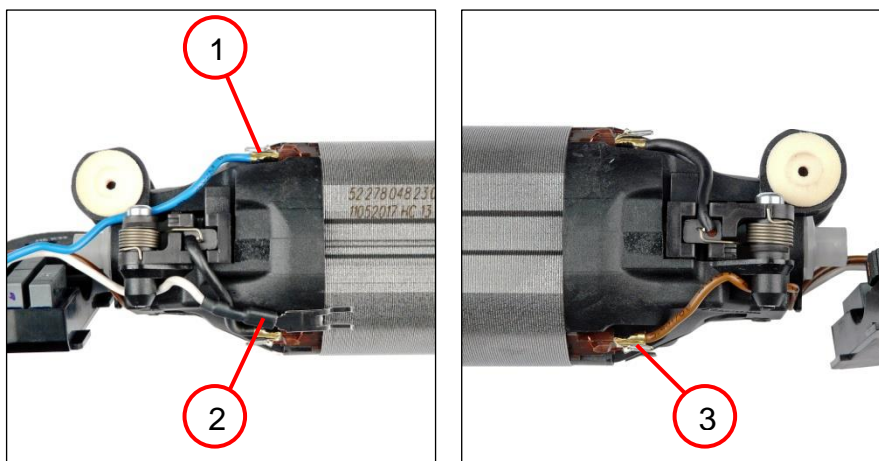
Tools:

- Slotted screwdriver (small)



6. Disassembly

Removing the electronics



IMPORTANT!

Damage to the stator

Removing or fitting the stator incorrectly can damage the stator.

☞ When pulling out the cables, do not push the connections inwards.

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

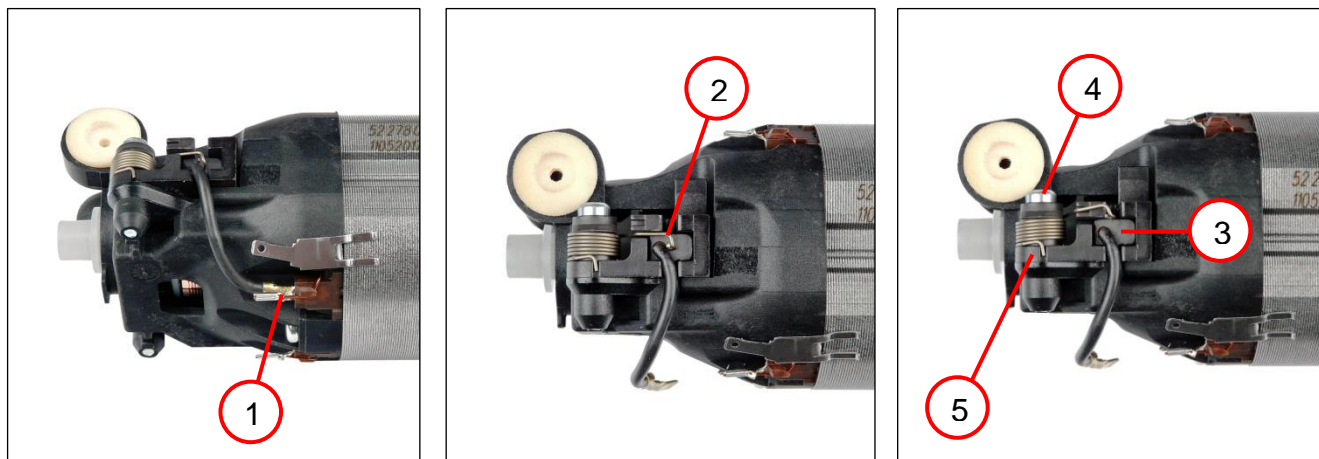
Tools:

- Slotted screwdriver (small)



6. Disassembly

Disassembling carbon brushes and carbon bushes holders (on both sides)



IMPORTANT!

Damage to the stator

Removing or fitting the stator incorrectly can damage the stator.

☞ When pulling out the cables, do not push the connections inwards.

1. Disconnect the cable (1).
2. Lift the spring (2) to one side.
3. Remove the carbon brush (3).
4. Unscrew the screw (4).
5. Remove the carbon brush holder (5).

Tools:

- Assembly aid
- Torx T15



6. Disassembly

Removing the stator



1. Remove the two pressure pieces (1) [on both sides].
2. Remove the magnet (2).
 ☞ Replace the old magnet with a new one after every removal.
3. Unscrew the four screws (3).
4. Pull stator (4) off tool head.

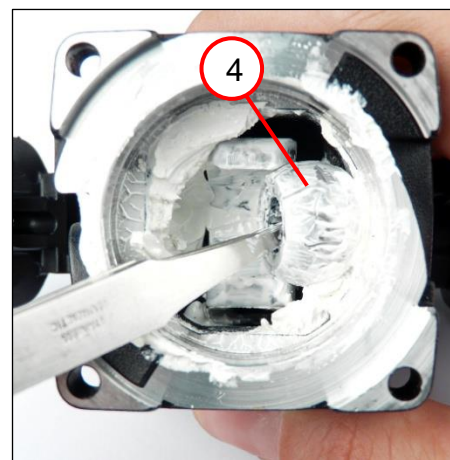
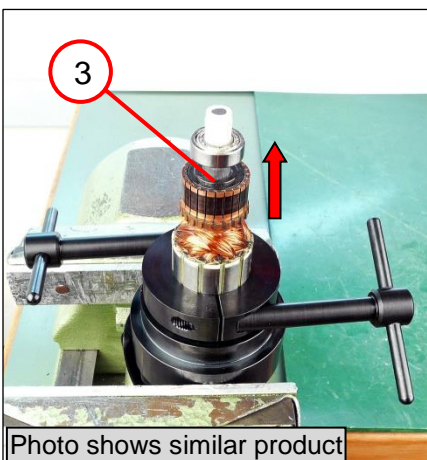
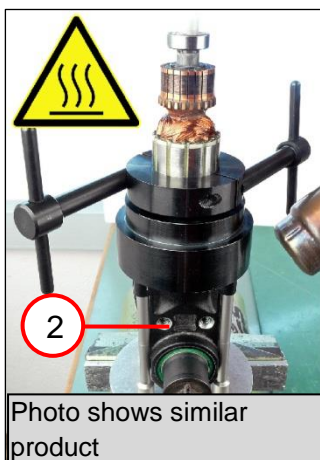
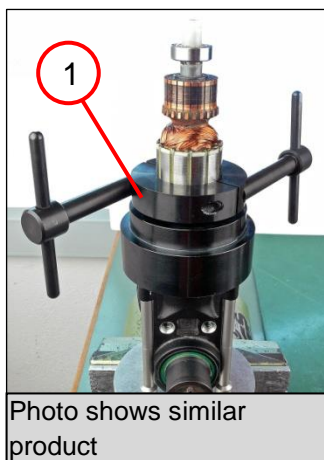
Tools:

- Torx T20
- Slotted screwdriver



6. Disassembly

Removing the tool head



1. Place extractor tool (1) on armature.
2. Heat tool head (2) with hot air gun [600 °C] on right and left sides at an angle of 45 degrees for 10 seconds.
3. Pull armature (3) out of tool head.
4. Remove the needle bearing (4).

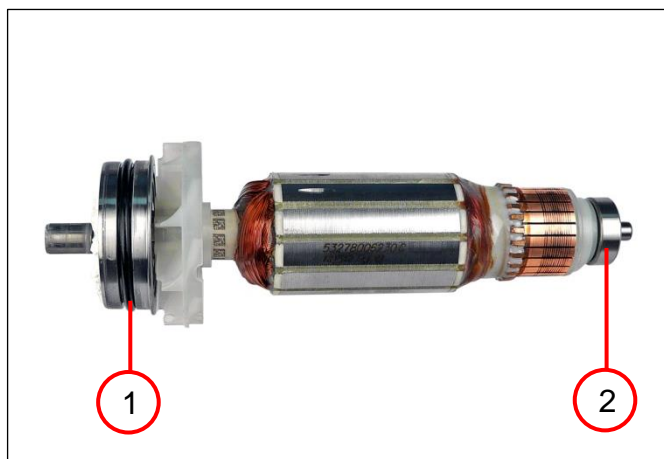
Tools:

- Press-in fixture
- Extractor tool
- Hot air gun
- Vice



6. Disassembly

Removing the armature



NOTE

Grooved ball bearing and sealing ring must be replaced after disassembly!

1. Remove the sealing ring (1).
2. Pull off the grooved ball bearing (2).

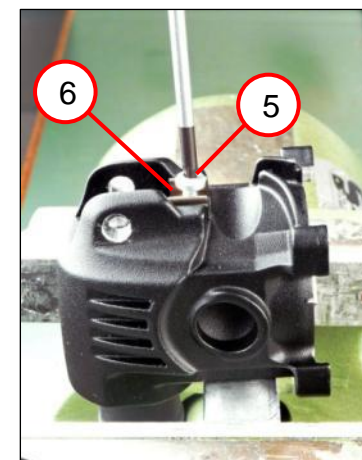
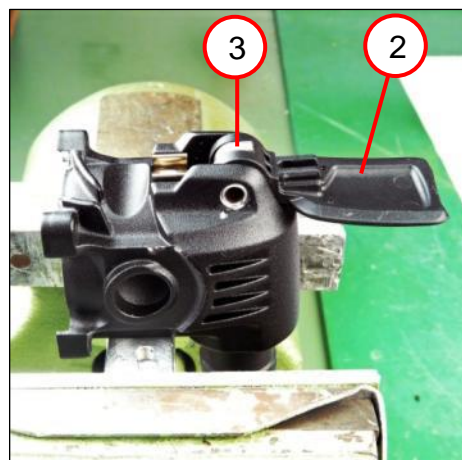
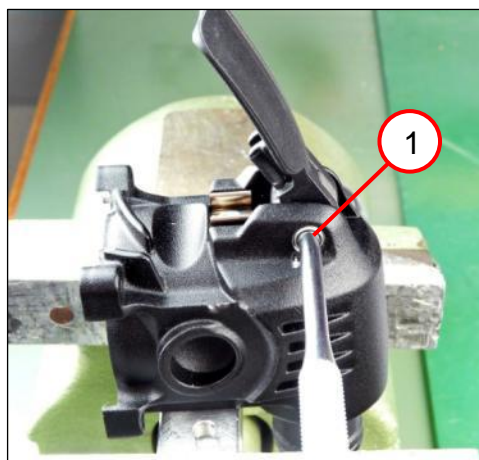
Tools:

- Drawing-off socket cap
- Chuck cone 19 mm



6. Disassembly

Removing the tool head



1. Remove the straight pin (1).
2. Remove lever (2) and eccentric ring (3).
3. Remove the two bushes (4).
4. Unscrew the fillister head screw (5).
5. Remove the locking spring (6).

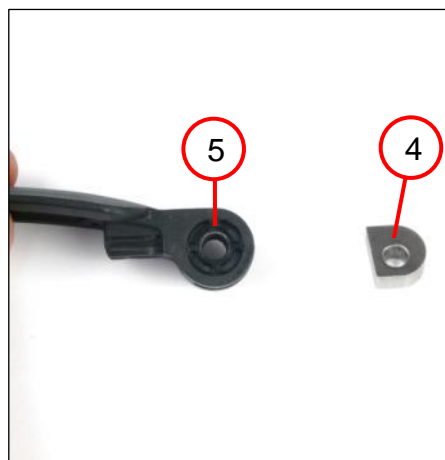
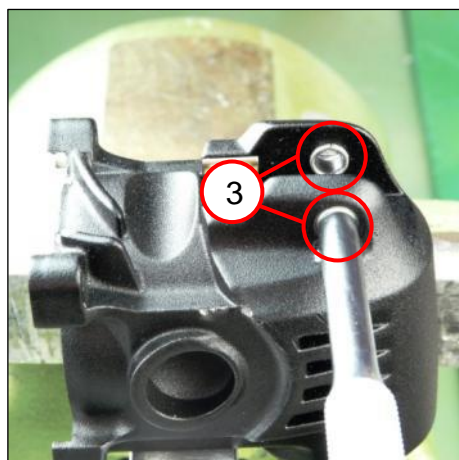
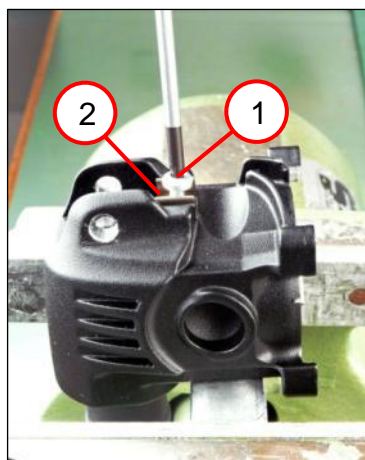
Tools:

- Assembly aid
6 41 22 122 00 0
- Vice
- Punch 5 mm
- Punch 6 mm
- Fitter's hammer
- Torx T20



7. Assembly

Fitting the tool head



1. Position locking spring (1) and secure with fillister head screw (2).
2. Fit two bushes (3).
 ☞ Press in bushes until they are flush with the inside.
3. Insert lever (4) and eccentric ring (5).
4. Press in the straight pin (6).

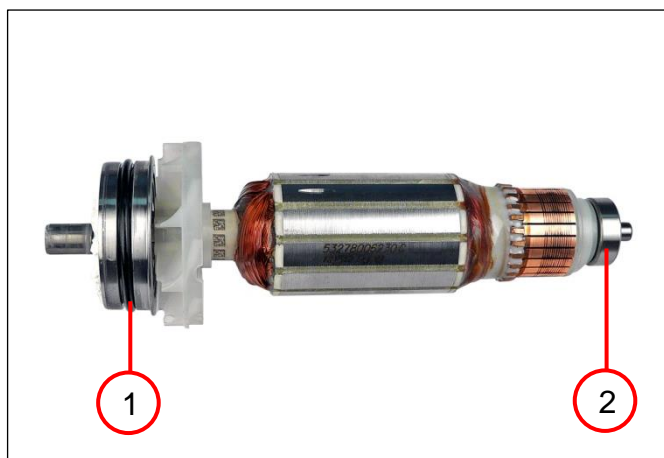
Tools:

- Assembly aid
6 41 22 122 00 0
- Vice
- Punch 5 mm
- Punch 6 mm
- Fitter's hammer
- Torx T20



7. Assembly

Fitting the armature



NOTE

Grooved ball bearing and sealing ring must be replaced after disassembly!

1. Apply a layer of grease to the sealing ring.
2. Fit the sealing ring (1).
3. Press on the grooved ball bearing (2).

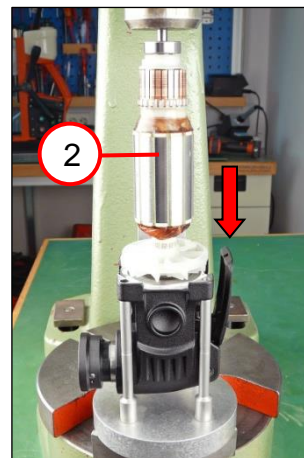
Tools:

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



7. Assembly

Fitting the tool head



1. Fill the tool head with 4 g of grease.
2. Centre the fork in the tool head.
3. Position the needle bearing (1).
4. Thread the armature into the needle bearing.
5. Press armature (2) into tool head.
6. Turn on armature and check whether the tool holder is moving correctly.

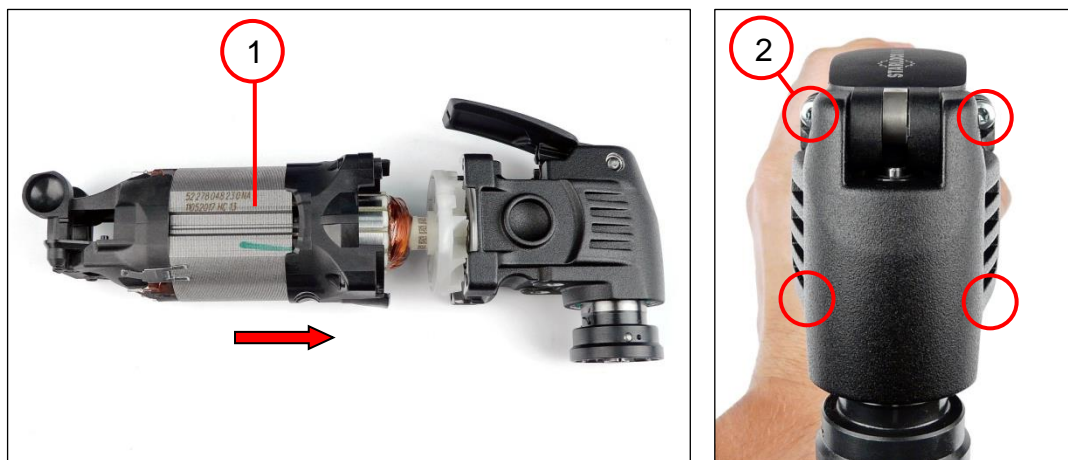
Tools:

- Grease
- Arbor press
- Press-in fixture



7. Assembly

Fitting the stator



1. Fit the stator (1) in the correct position.
2. Screw in the four screws (2) [$2.1 \pm 0.1\text{Nm}$].

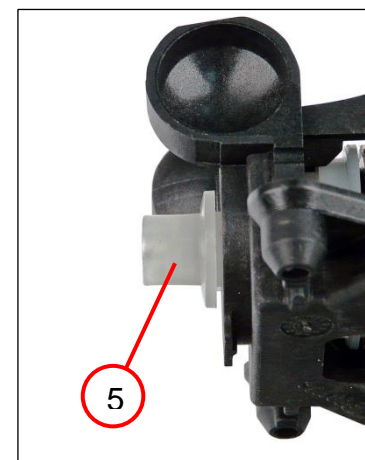
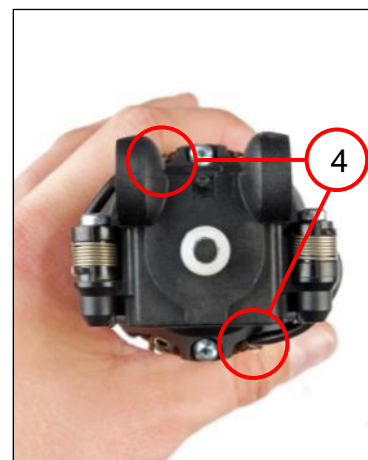
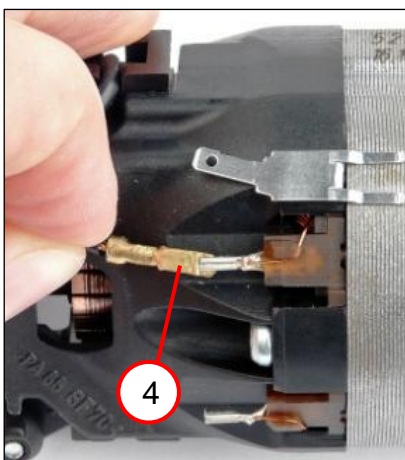
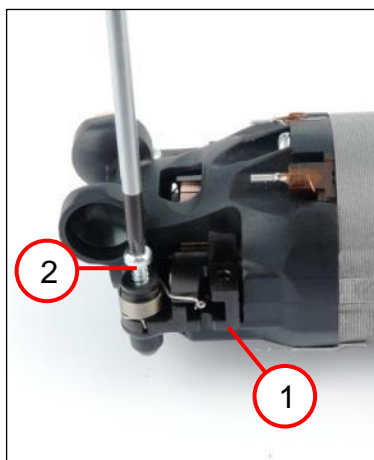
Tools:

- Torx T20



7. Assembly

Assembling carbon brush (on both sides)



1. Place carbon brush holder (1) on the stator and secure with screw (2) [$1.5 \pm 0.1 \text{ Nm}$].
 2. Insert carbon brush (3) in correct position in carbon brush holder and fit spring.
 3. Connect the carbon brush to stator (4) as shown in the connection diagram.
 4. Fit the magnet (5).
- ☞ Replace the old magnet with a new one during every fitting.

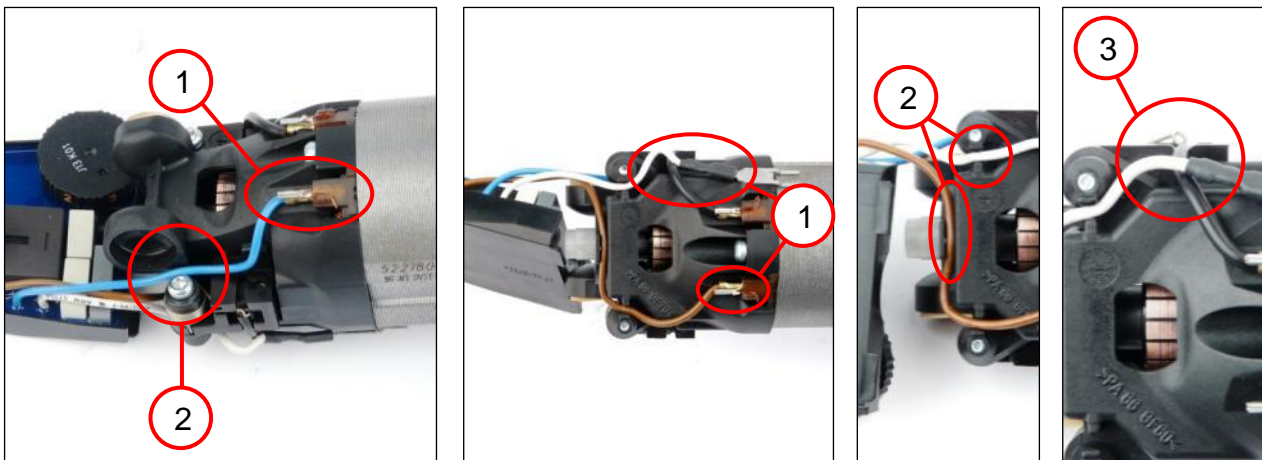
Tools:

- Torx T15



7. Assembly

Fitting the electronics



1. Connect the three cables (1) to the stator as shown in the connection diagram.
2. Route cables in the cable guides (2) provided for them.
 - ☞ Ensure that the carbon brush's cable can move (3).

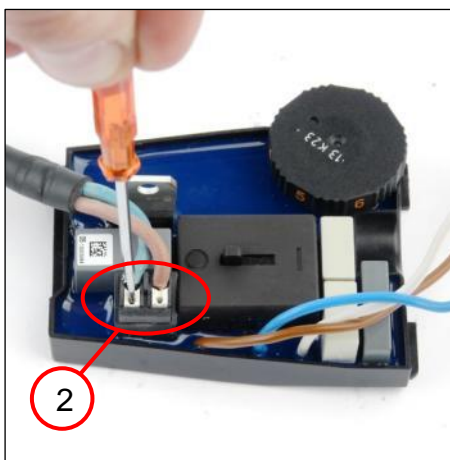
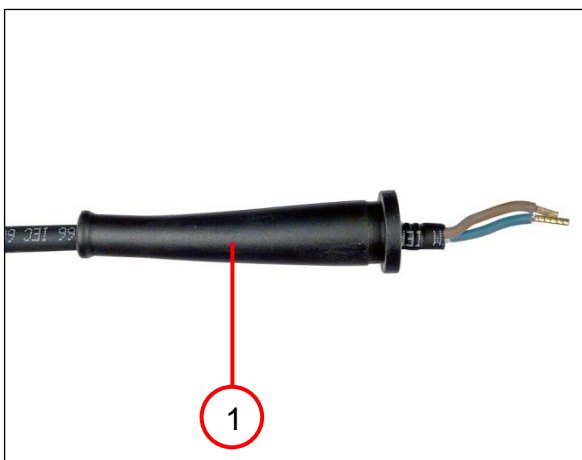
Tools:

- Slotted screwdriver (small)



7. Assembly

Fitting the electronics



1. Position the cable grommet (1).
2. Push down the cable clamps (2) and connect the supply cable as shown in the connection diagram.

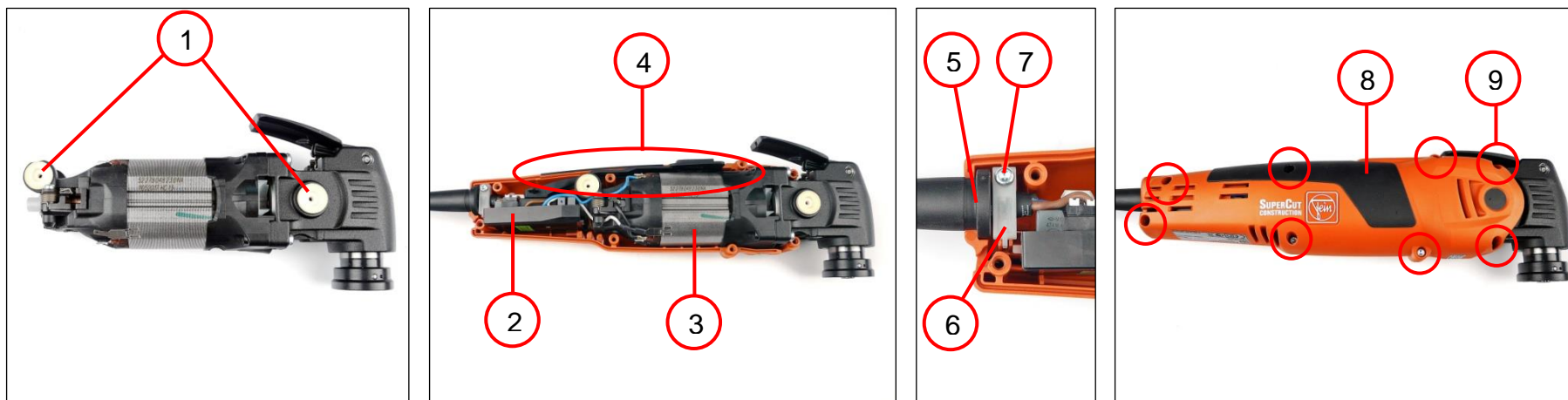
Tools:

- Slotted screwdriver (small)



7. Assembly

Fitting the motor housing



1. Position the two pressure pieces (1) [on both sides].
2. Insert the electronics (2), the tool head with field coil (3) and the slide switch (4).
3. Position the cable grommet (5).
4. Position the cable clamping piece (6).
5. Screw in the screw (7) [1.5 ±0.1Nm].
6. Position the motor housing (8).
7. Screw in the eight screws (9) [1.5 ±0.1Nm].

Tools:

- Torx T15



8. Connection diagram

Anschlussplan

Connection diagram

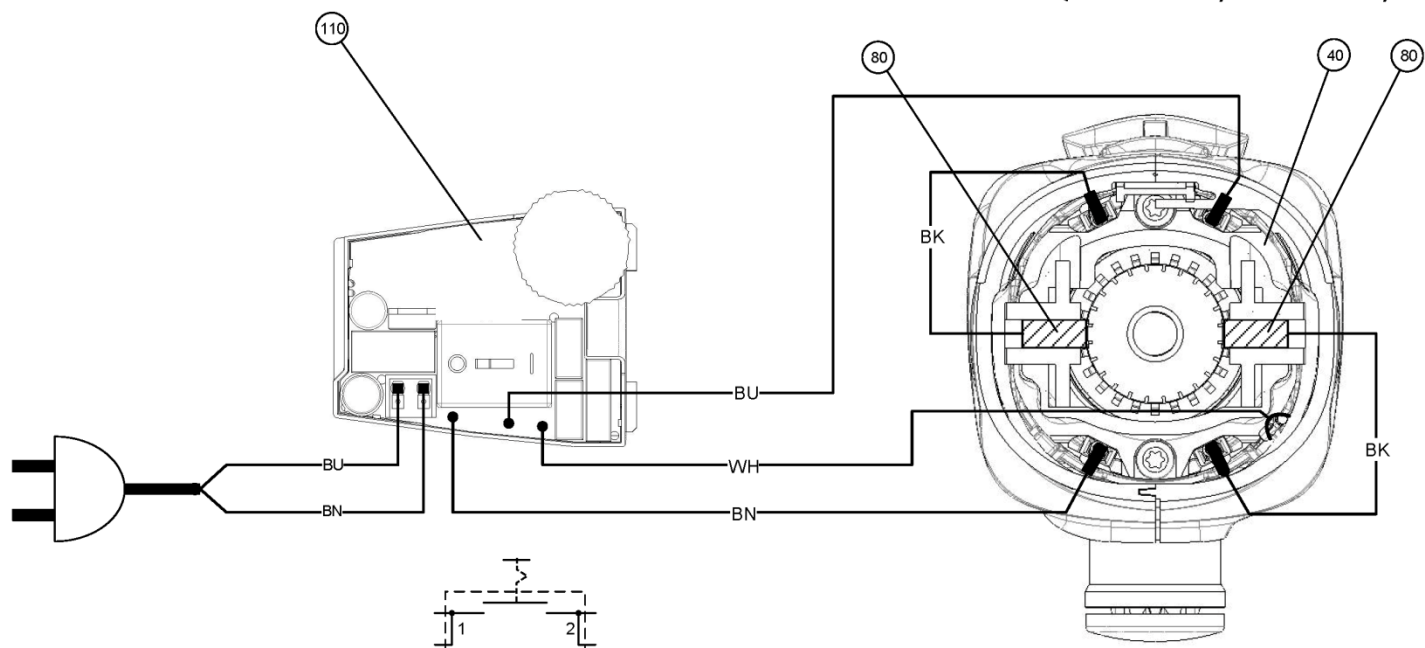
Esquemade conexiones

Schémade connexion

Схэма соединéний

接线图

7 229 42 – FMM350Q	100V - 110V/ 220V - 230V	50/60Hz
7 229 46 – FSC500Q	100V - 110V/ 220V - 230V	50/60Hz
7 229 47 – FSC500	100V - 110V/ 220V - 230V	50/60Hz
7 229 48 – FSC1.7Q	100V - 110V/ 220V - 230V	50/60Hz
7 229 49 – FSC1.7	100V - 110V/ 220V - 230V	50/60Hz
7 229 50 – FMM350Q	100V - 110V/ 220V - 230V	50/60Hz
7 229 55 – FSC500QSL	100V - 110V/ 220V - 230V	50/60Hz



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