

**WSG 8-115; 8-125; 12-125P; WSG 11-125; WSG 15-125P; WSG 15-125PS; WSG 15-150P; WSG 15-70Inox**

## **Repair instructions**





## **Contents**

- 1. Models described**
- 2. Technical data**
- 3. Notes and requirements**
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## WSG 8-115; 8-125; 12-125P; WSG 11-125; WSG 15-125P; WSG 15-125PS; WSG 15-150P; WSG 15-70Inox



### 1. Models described

These instructions describe how to repair the following models:

Model	Order number
WSG 8-115	7 221 73 00 23 0
WSG 8-125	7 221 74 00 23 0
WSG 12-125P	7 221 75 00 23 0
WSG 11-125	7 221 77 00 23 0
WSG 15-125P	7 221 78 00 23 0
WSG 15-125PS	7 221 80 00 23 0
WSG 15-150P	7 221 82 00 23 0
WSG 15-70Inox	7 221 84 00 23 0



## **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](http://www.fein.com)



### **3. Notes and requirements**

#### **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 employers' liability insurance associations are to be observed when commissioning.

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

**Outside Germany, the provisions applicable in the relevant country must be observed!**



## 4. Tools required

### Standard tools

Plastic hammer	
Slotted screwdriver (small)	
Torx screwdriver	T15; T20
Punch	
Arbor press	
Ball bearing support	19 mm; 26 mm
Sleeves	<ul style="list-style-type: none"> <li>• 35 mm inner diameter</li> <li>• 14 mm inner diameter 19 mm outer diameter</li> <li>• 30 mm inner diameter 42 mm outer diameter</li> <li>• 15 mm inner diameter 20 mm outer diameter</li> <li>• 15 mm inner diameter 27 mm outer diameter</li> </ul>
4x round material	Diameter 20 mm; length = 60 mm

### Special tools

Drawing-off socket cap	6 41 04 150 00 8
Chuck cone, 19 mm	6 41 07 019 00 7
Chuck cone, 26 mm	6 41 07 026 00 0
Drawing-off plate	6 41 02 069 00 7
Pipe	6 41 01 002 00 4
Assembly aid	6 41 22 121 01 0
Pressure piece	6 41 22 003 00 0



## **5. Lubricants and auxiliary substances required**

### **Lubricants**

**WSG 8-115; WSG 8-125; WSG 12-125P;  
WSG 11-125; WSG 15-125P**

Grease	0 40 101 01 00 4	21 g	Gearbox
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**WSG 15-125PS; WSG 15-150P;  
WSG 15-70Inox**

Grease	0 40 101 01 00 4	29 g	Gearbox
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### **Auxiliary substances**

Loctite 573	Compensating disc
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## 6. Disassembly

### Disassembling housing cover



1. Unscrew two screws (1) and take off bottom part of cover (2).

#### Tools:

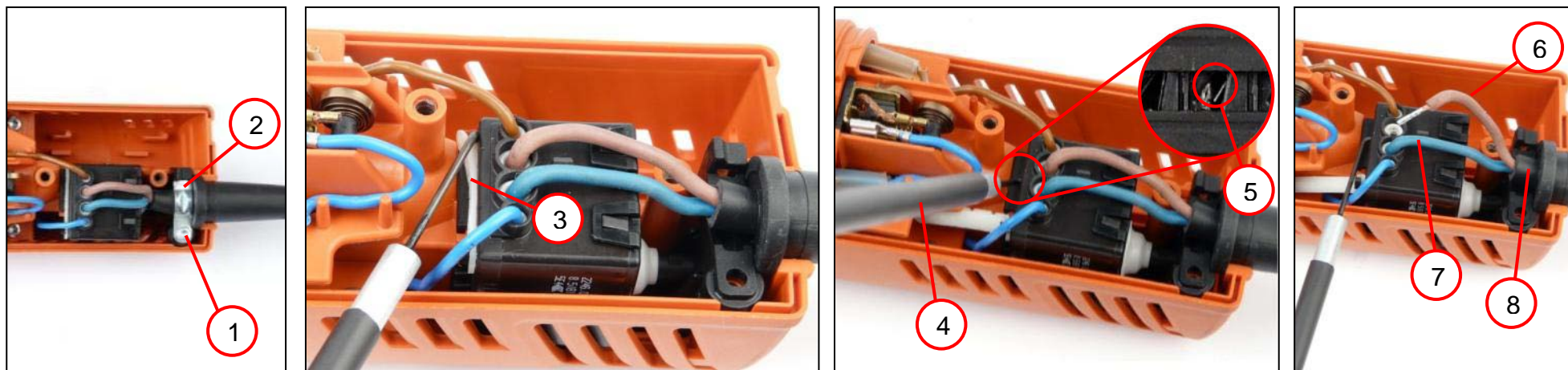
- Torx T15





## 6. Disassembly

### Speedy mains cable replacement



1. Unscrew screw (1) and remove cable clamp (2).
2. Pull off cover (3).
3. Slide hook (4) into opening (5).
4. Turn hook and take out cable (6).
5. Turn hook and take out cable (7).
6. Remove cable (8) with plug

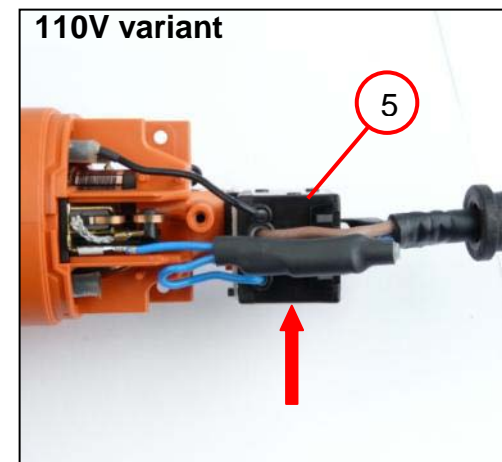
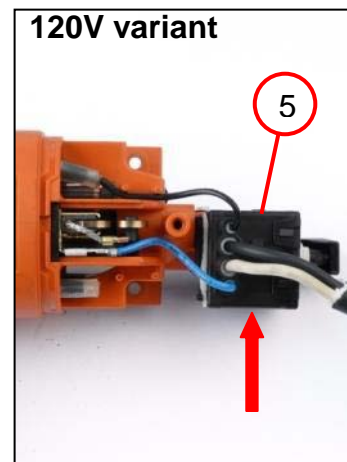
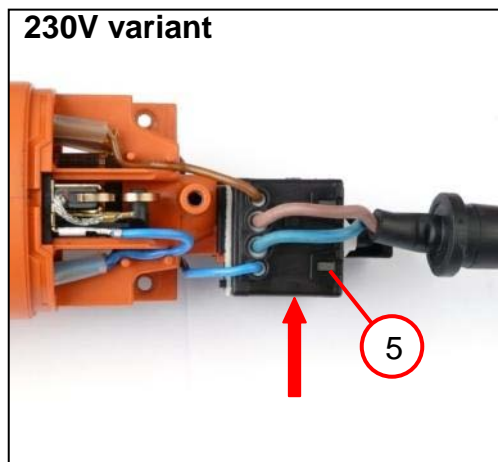
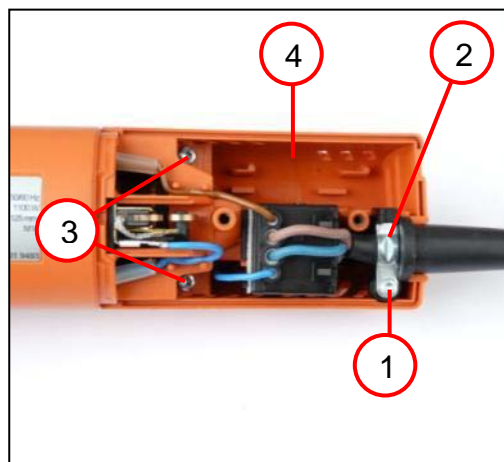
#### Tools:

- Torx T15
- Assembly aid



## 6. Disassembly

Disassembling switch (applies to: WSG 8; WSG 11)



1. Unscrew screw (1) and remove cable clamping piece (2).
2. Unscrew two screws (3) and take off upper part of cover (4).
3. Slide switch (5) out of holder.

### Tools:

- Torx T15



## 6. Disassembly

Disassembling switch (applies to: WSG 8-115; WSG 11)



1. Open rubber cover (1).
2. Open spring clips by turning with a small slotted screwdriver.
3. Remove the four stranded wires (2).

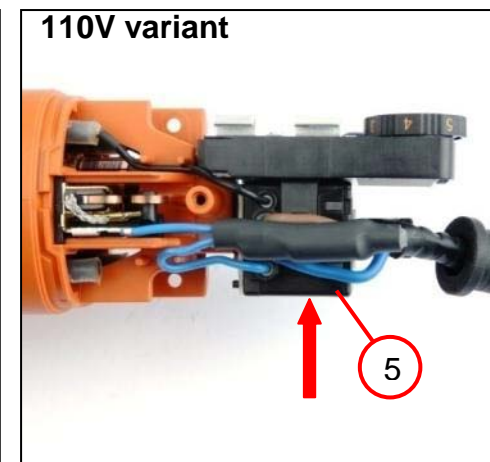
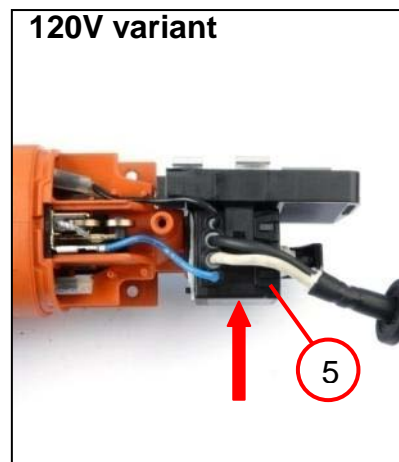
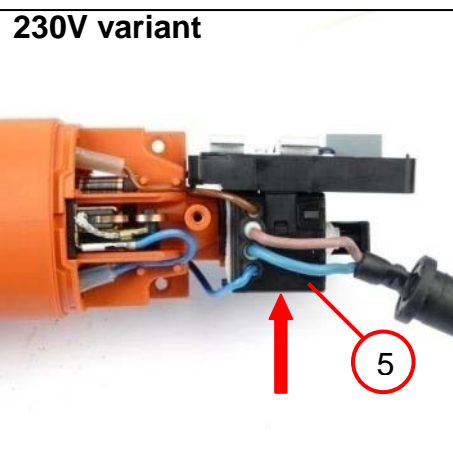
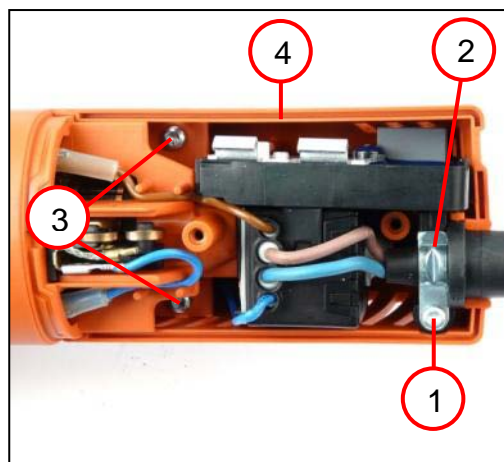
### Tools:

- Slotted screwdriver (small)



## 6. Disassembly

Disassembling switch (applies to: WSG 12; WSG 15)



1. Unscrew screw (1) and remove cable clamping piece (2).
2. Unscrew two screws (3) and take off upper part of cover (4).
3. Slide switch (5) out of holder.

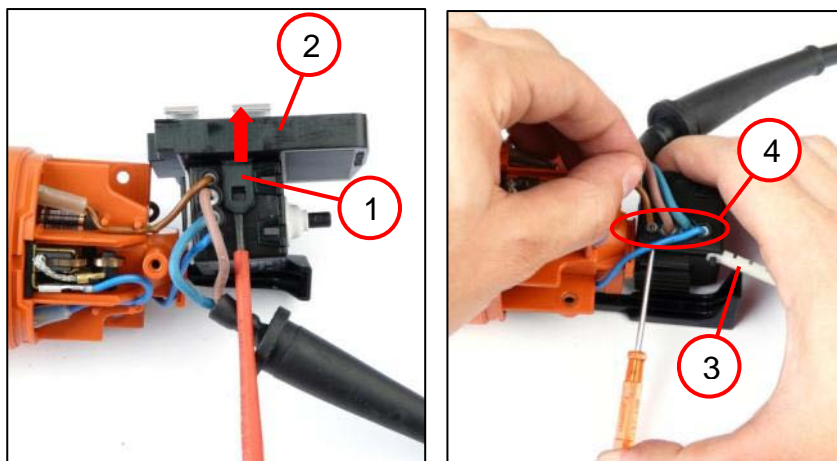
### Tools:

- Torx T15



## 6. Disassembly

Disassembling switch (applies to: WSG 12; WSG 15)



1. Lift hook (1) on both sides of switch and pull off electronics (2).
2. Open rubber cover (3).
3. Open spring clips by turning with a small slotted screwdriver.
4. Remove the four stranded wires (4).

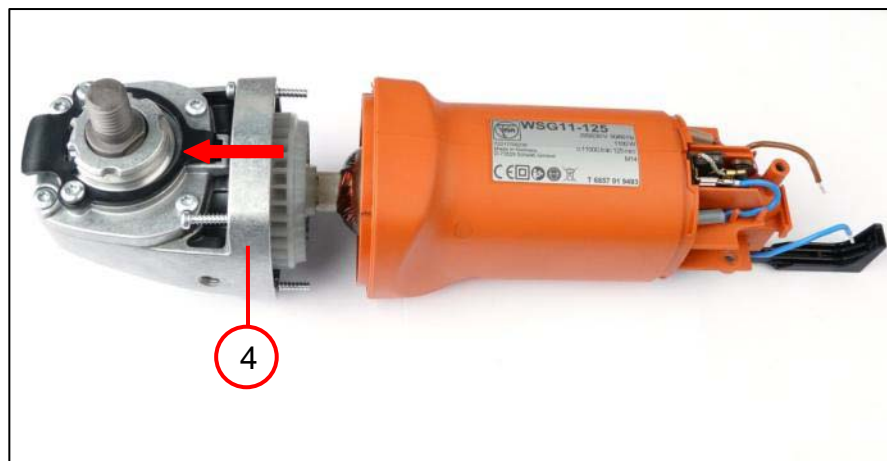
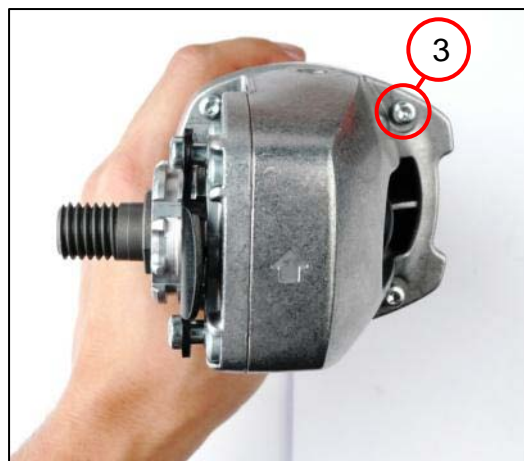
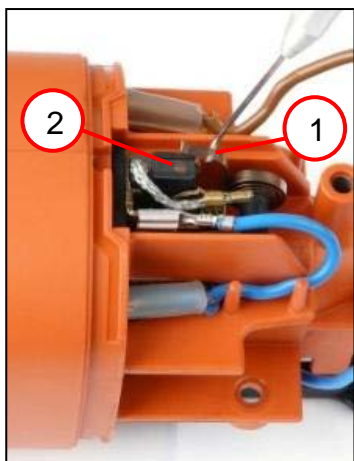
### Tools:

- Slotted screwdriver (small)



## 6. Disassembly

### Disassembling stator



1. Pry tension spring (1) off carbon brush (2).
2. Pull out carbon brush (2).
3. Unscrew the four screws (3).
4. Pull gearbox housing (4) with armature out of housing.

#### Tools:

- Assembly aid
- Torx T15





## 6. Disassembly

### Disassembling stator

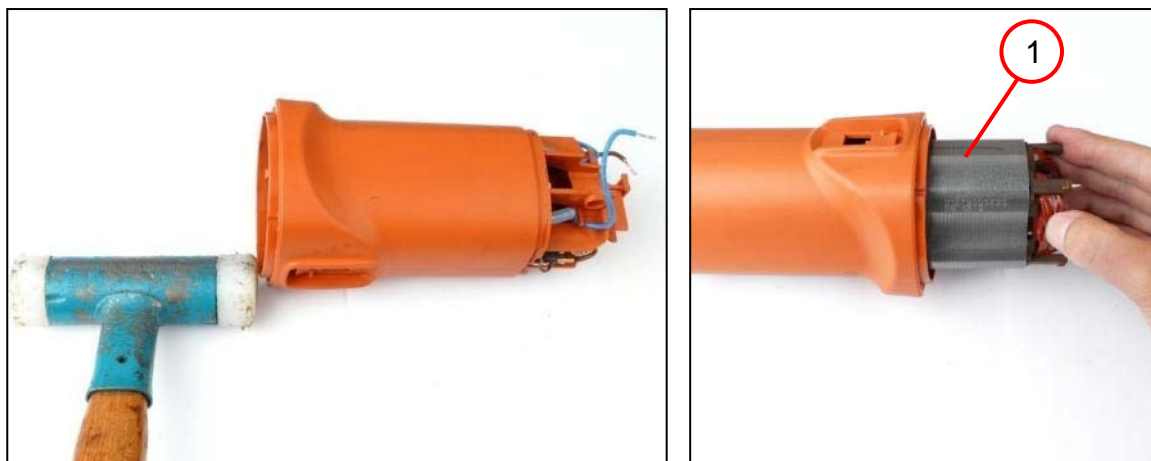


1. Remove air guide ring (1).
2. Lift up slide switch (2) and remove.
3. Remove two carbon bushes holders (3).
4. Pull out control rod (4).



## 6. Disassembly

### Disassembling stator



1. Remove stator (1).

#### Tools:

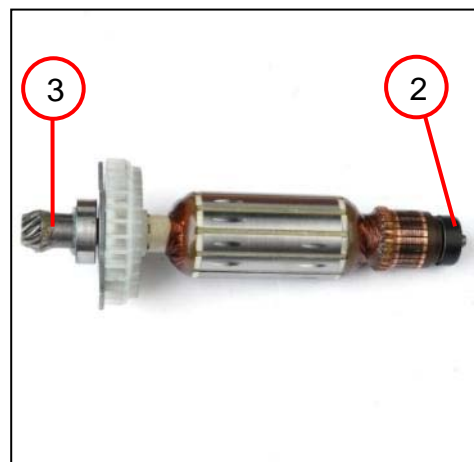
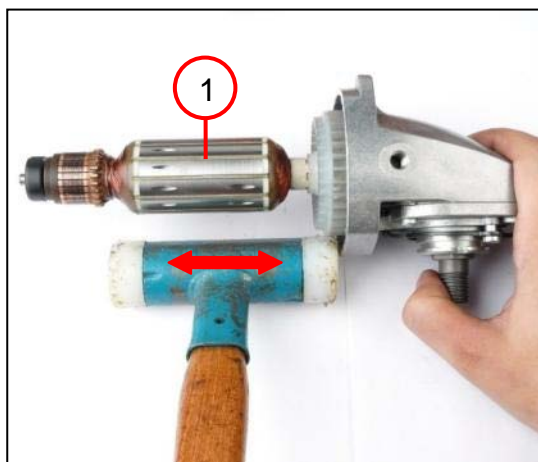
- Plastic hammer





## 6. Disassembly

### Disassembling armature



1. Use a plastic hammer to remove armature (1).
2. Remove bearing bush (2).
3. Remove bevel pinion (3).

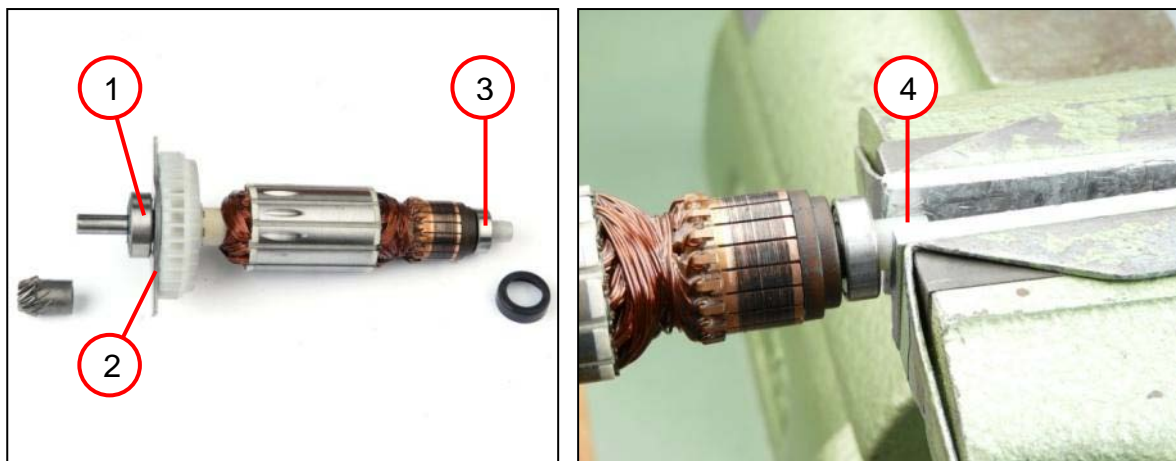
#### Tools:

- Plastic hammer
- Punch
- Arbor press
- Drawing-off plate  
6 41 02 069 00 7
- Pipe  
6 41 01 002 00 4



## 6. Disassembly

### Disassembling armature



1. Remove grooved ball bearing (1).
2. Remove plate (2).
3. Remove grooved ball bearing (3).
4. Pull off magnet (4).
  - ☞ The plastic sleeve is included in the following tool types:  
WSG 12; WSG 15
  - ☞ The magnet is destroyed during disassembly and has to be replaced.

#### Tools:

- Drawing-off socket cap  
6 41 04 150 00 8
- Chuck cone, 26 mm  
6 41 07 026 00 0
- Chuck cone, 19 mm  
6 41 07 019 00 7



## 6. Disassembly

### Disassembling gearbox housing



1. Remove air guide ring (1).
2. Unscrew the four screws (2) and remove spring.
3. Remove spring (3).
4. Take off bearing plate (4).
5. Remove compensating disc(s) (5).

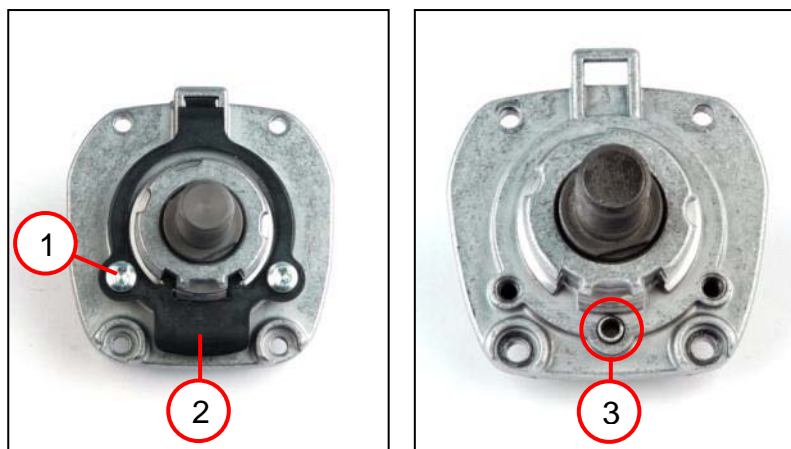
#### Tools:

- Torx T20



## 6. Disassembly

### Disassembling gearbox housing



1. Unscrew two screws (1).
2. Remove lever (2).
3. Remove spiral spring (3).

#### Tools:

- Torx T20



## 6. Disassembly

### Disassembling gearbox housing



1. Use a slotted screwdriver to remove pushbutton (1).
2. Remove spiral springs and bolt with sealing ring.
3. Remove needle sleeve (2).
4. Press out shaft (3).

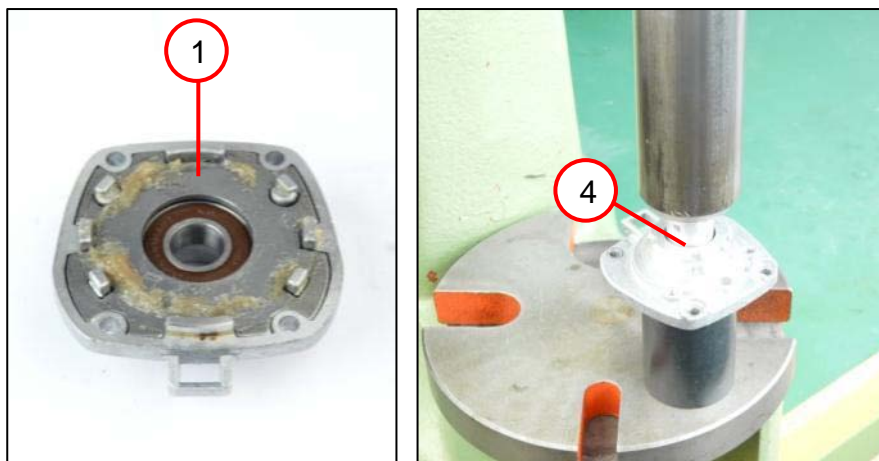
#### Tools:

- Arbor press
- Punch
- Sleeve with 35 mm inner diameter



## 6. Disassembly

### Disassembling gearbox housing



1. Remove plate (1).
2. Press out grooved ball bearing (2).

#### Tools:

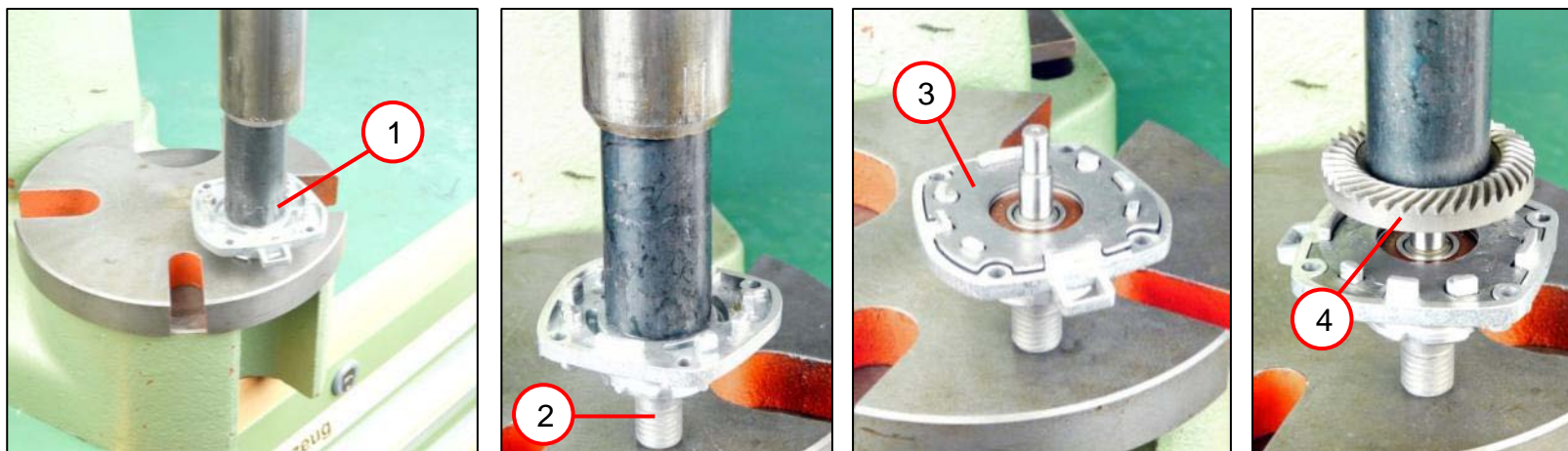
- Arbor press
- Sleeve  
14 mm inner diameter  
19 mm outer diameter
- Sleeve  
30 mm inner diameter  
42 mm outer diameter





## 7. Assembly

### Assembling gearbox housing



1. Press grooved ball bearing (1) into bearing plate.
2. Press in shaft (2).
3. Insert plate (3).
4. Press gear-wheel (4) onto shaft.

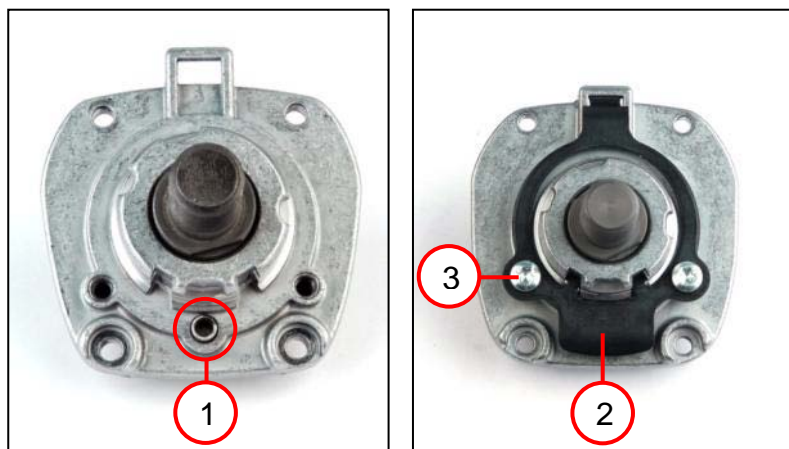
#### Tools:

- Arbor press
- Sleeve  
15 mm inner diameter  
27 mm outer diameter
- Sleeve  
15 mm inner diameter  
20 mm outer diameter



## 7. Assembly

### Assembling gearbox housing



1. Insert spiral spring (3).
2. Place lever (2) on bearing plate and screw down with two screws (3) [2.4 Nm].

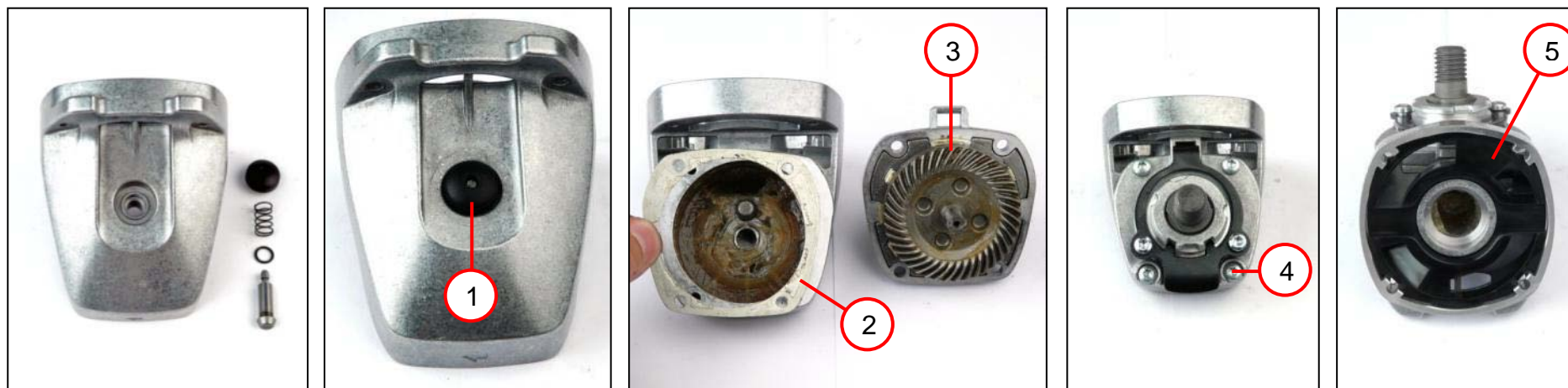
#### Tools:

- Torx T20



## 7. Assembly

### Assembling gearbox housing

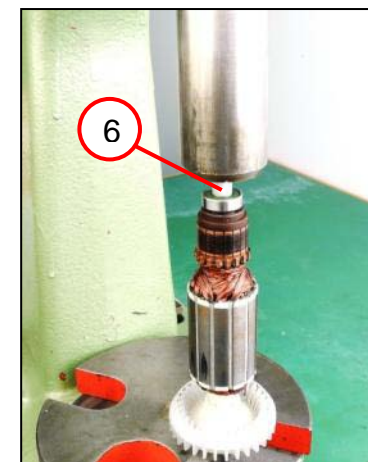
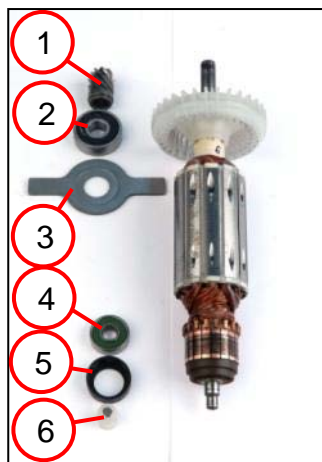


1. Insert spiral springs and bolt with sealing ring.
2. Assemble pushbutton (1).
3. Coat both sides of compensating disc(s) (2) with Loctite 573 and position on gearbox housing.
  - ☞ After disassembly, the compensating disc must always be replaced with a new one.
4. Place bearing plate (3) on gearbox housing.
5. Screw bearing plate down to gearbox housing with four screws (4).
  - ☞ Tighten the four screws to 2.4 Nm.
6. Insert air guide ring (5) in gearbox housing.



## 7. Assembly

### Assembling armature



1. Slide plate (3) onto armature.
2. Press grooved ball bearing (2) onto armature.
3. Press grooved ball bearing (4) onto armature.
4. Press bevel pinion (1) onto armature.
5. Carefully press magnet (6) onto armature.
  - ☞ The magnet is included in the following tool types:  
WSG 12; WSG 15.
  - ☞ The magnet must be replaced each time the armature is assembled.
6. Slide bearing bush (5) over ball bearing.

#### Tools:

- Arbor press
- Ball bearing support  
19 mm; 26 mm



## 7. Assembly

### Assembling armature

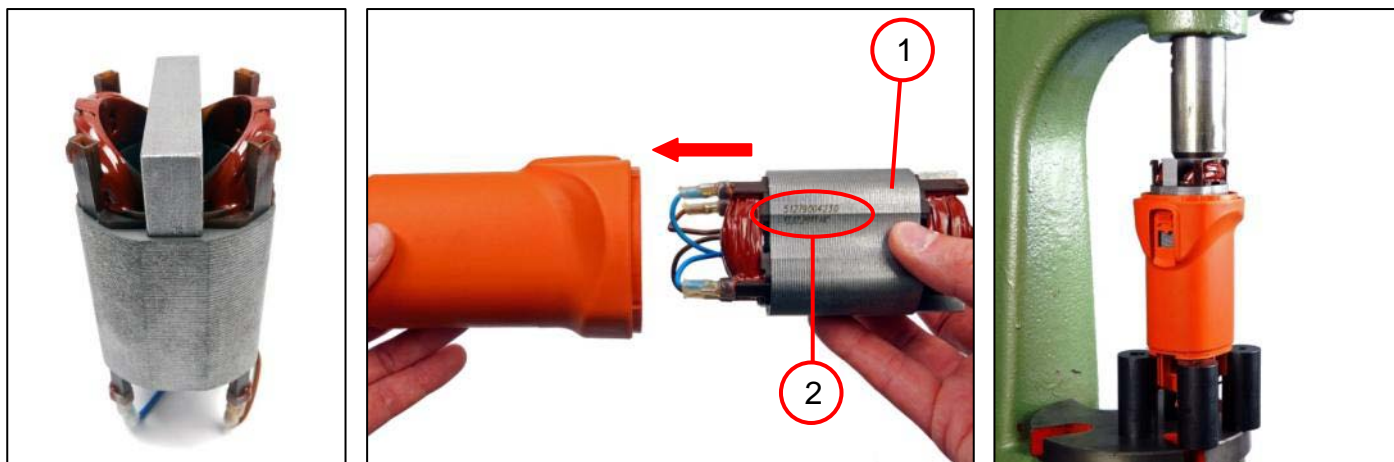


1. Press armature into gearbox housing.
  - ☞ Ensure that plate lies in air guide ring's recess.
  - ☞ When assembled, it must no longer be possible for the armature to be pulled out in an axial direction by hand.  
If the armature can be pulled out by hand, the gearbox housing must be replaced.



## 7. Assembly

### Assembling the stator



1. Press stator (1) into motor housing in correct position.  
☞ Use ID number (2) to align stator.

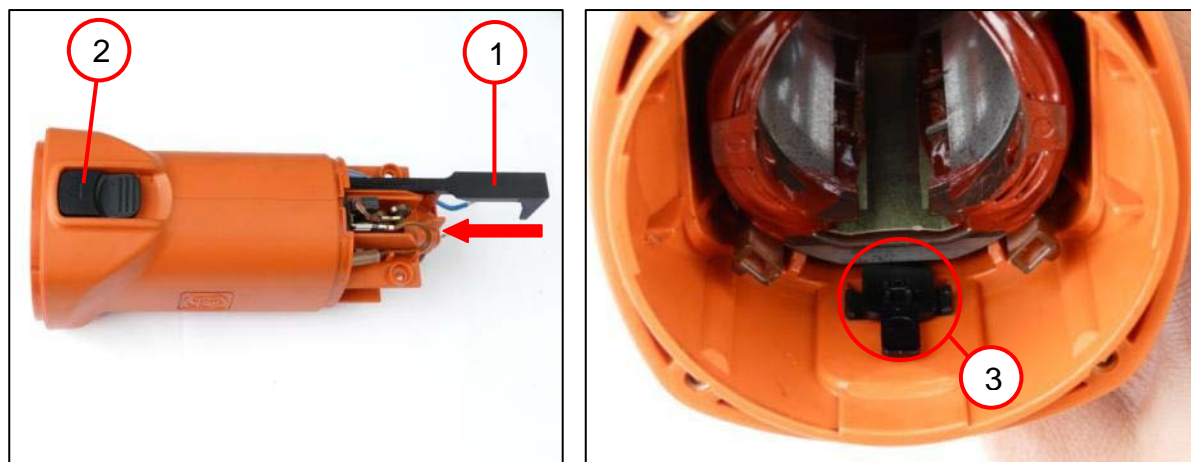
#### Tools:

- Arbor press
- Pressure piece
- 4x round material  
20 mm in diameter;  
length = 60 mm



## 7. Assembly

### Assembling the stator



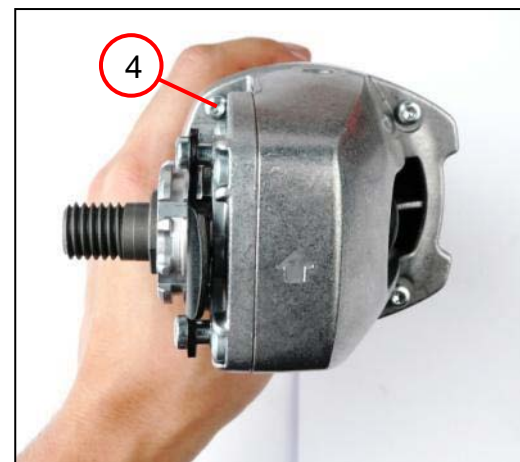
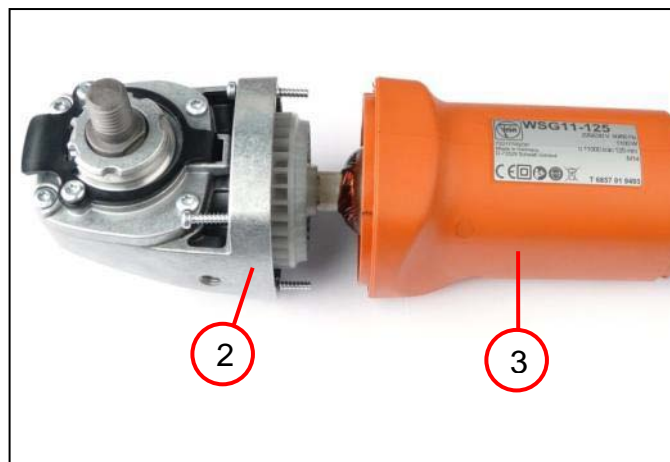
1. Slide control rod (1) into motor housing.
2. Assemble slide switch (2).
3. Hook control rod onto slide switch (3).





## 7. Assembly

### Assembling gearbox head



1. Insert air guide ring (1) in motor housing.
2. Slide gearbox housing (2) with armature (3) into motor housing (3).
3. Screw down gearbox housing with four screws (4) [2.7 Nm].

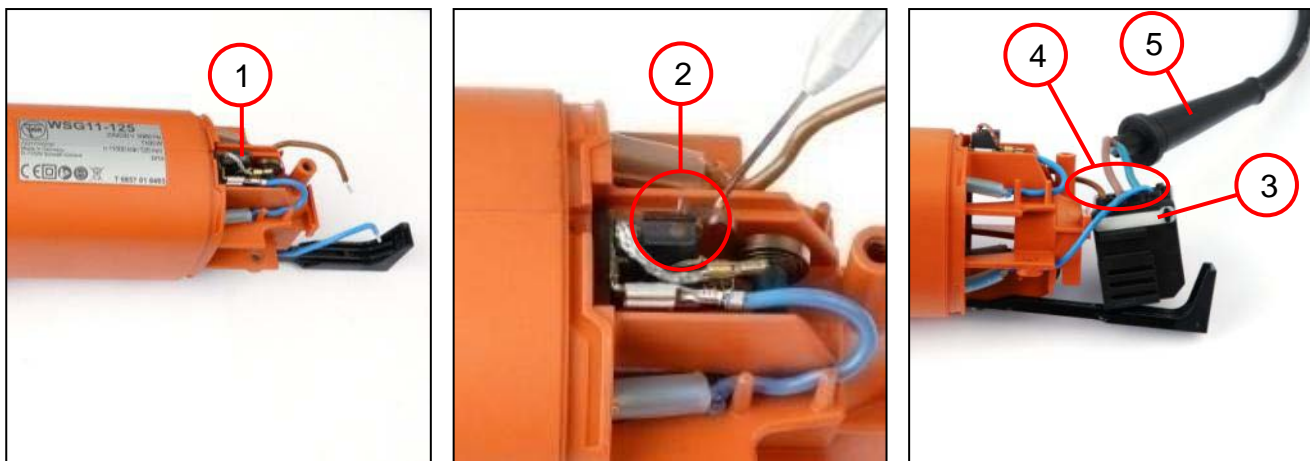
#### Tools:

- Torx T15



## 7. Assembly

### Assembling switch and electronics



1. Assemble carbon brushes (1) and connect.
2. Place springs (2) of carbon brush holder on carbon brush.
3. Close rubber cover (3) on switch.
4. Connect stranded wires of stator (4) and supply cable (5) to switch.  
☞ For connecting stranded wires, see chapter 8 Connection diagram.

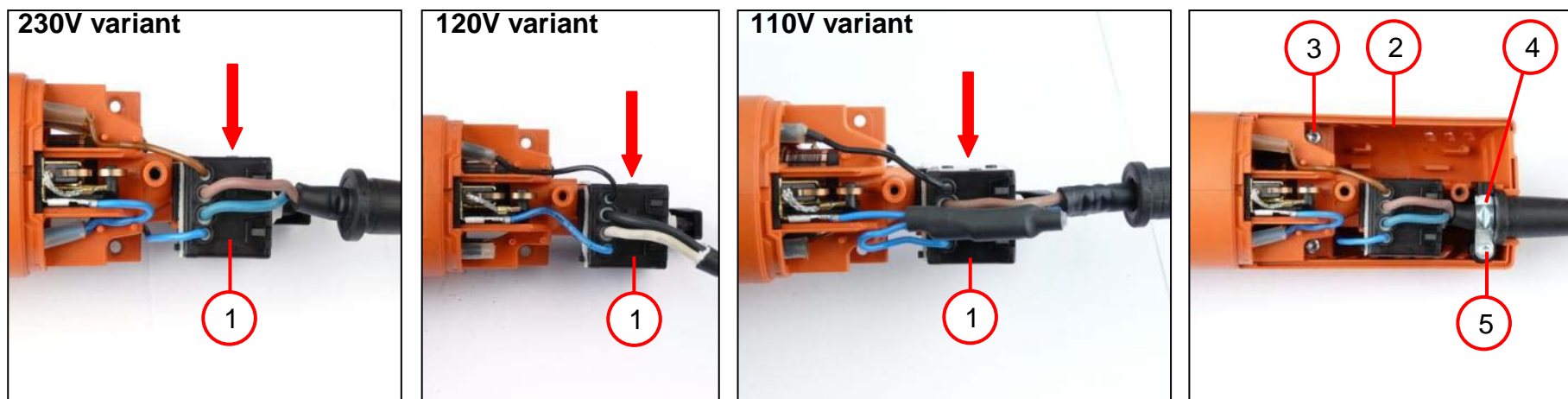
#### Tools:

- Assembly aid



## 7. Assembly

Assembling switch and electronics (applies to: WSG 8-115; WSG 8-125; WSG 11-125)



1. Slide switch (1) on to motor housing.
2. Fit control rod on switch.
3. Fit upper part of cover (2).
4. Tighten two screws (3) [1.5 Nm].
5. Position supply cable.
6. Place cable clamping piece (4) on supply cable.
7. Tighten screw (5) [1.5 Nm].

### Tools:

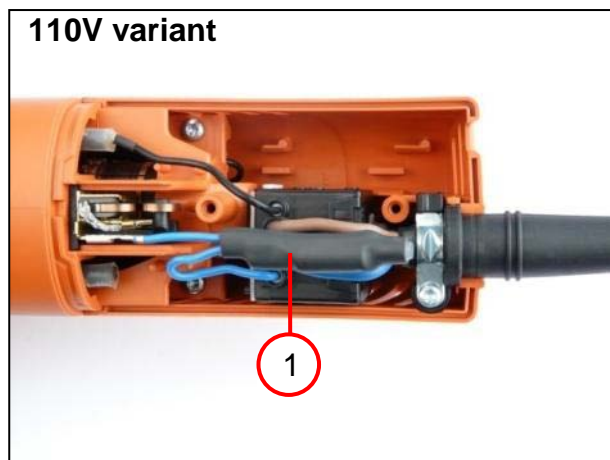
- Torx T15





## 7. Assembly

### Assembling switch and electronics (applies to: WSG 8; WSG 11)



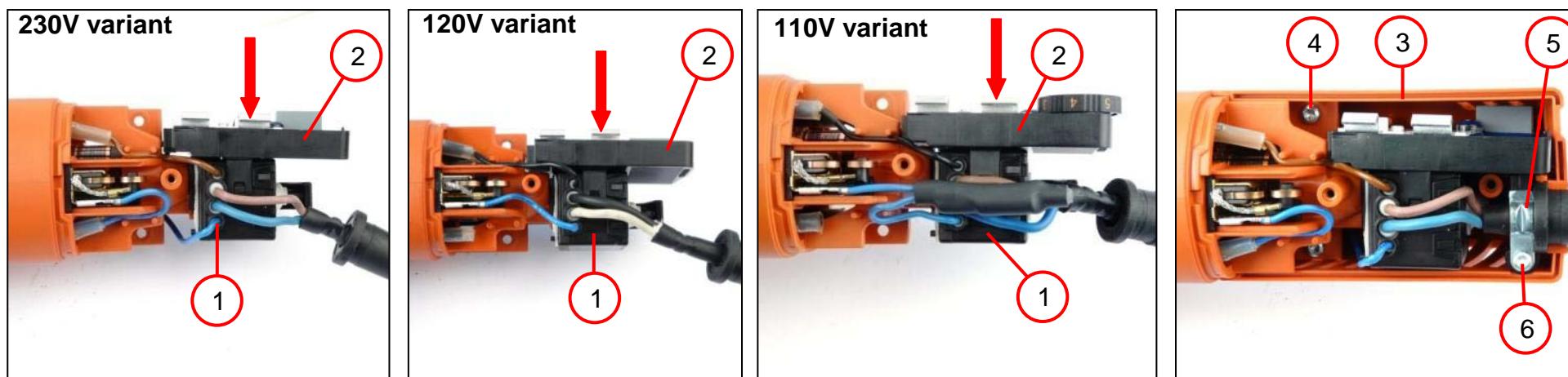
#### NOTE

If tools are fitted with a choke (1), ensure that the choke is positioned between the supply cable's stranded wires. Failure to do so may mean that upper part of cover cannot be fitted correctly.



## 7. Assembly

### Assembling switch and electronics (applies to: WSG 12; WSG 15)



1. Slide switch (1) on to motor housing.
2. Attach electronics (2) onto switch until they engage.
3. Fit control rod on switch.
4. Fit upper part of cover (3).
5. Tighten two screws (4) [1.5 Nm].
6. Position supply cable.
7. Place cable clamping piece (5) on supply cable.
8. Tighten screw (6) [1.5 Nm].

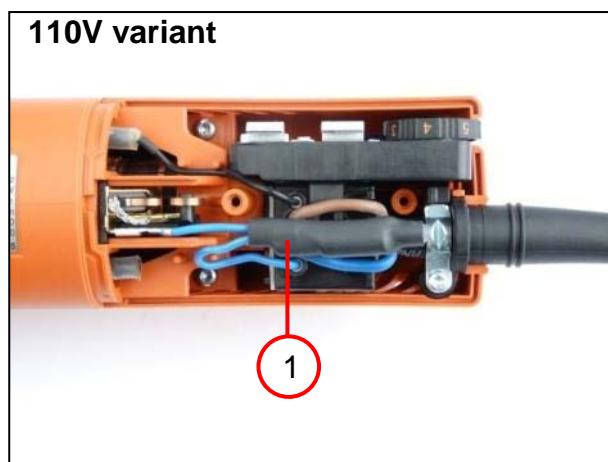
#### Tools:

- Torx T15



## 7. Assembly

Assembling switch and electronics (applies to: WSG 12; WSG 15)



### NOTE

If tools are fitted with a choke (1), ensure that the choke is positioned between the supply cable's stranded wires. Failure to do so may mean that upper part of cover cannot be fitted correctly.



## 7. Assembly

### Fitting the housing cover



1. Place lower part of cover (1) on upper part of cover.
2. Fasten lower part of cover with the two screws (2) [1.5 Nm].

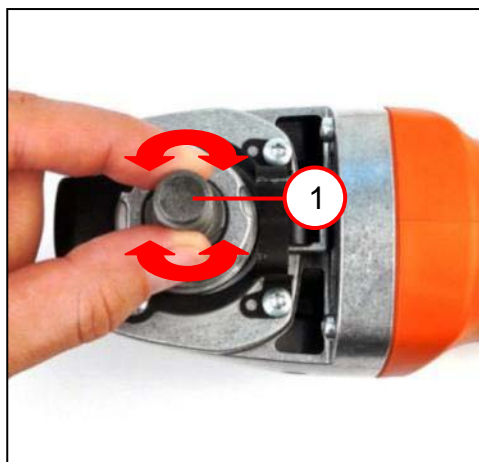
#### Tools:

- Torx T15



## 7. Assembly

### Setting gearbox clearance



1. Perform a test run.
2. Check gearbox clearance by turning shaft (1).
3. If there is no gearbox clearance, a second disc must be placed between bearing plate and gearbox housing [see page 25 "Assembling gearbox"].



## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

Schémade connexion

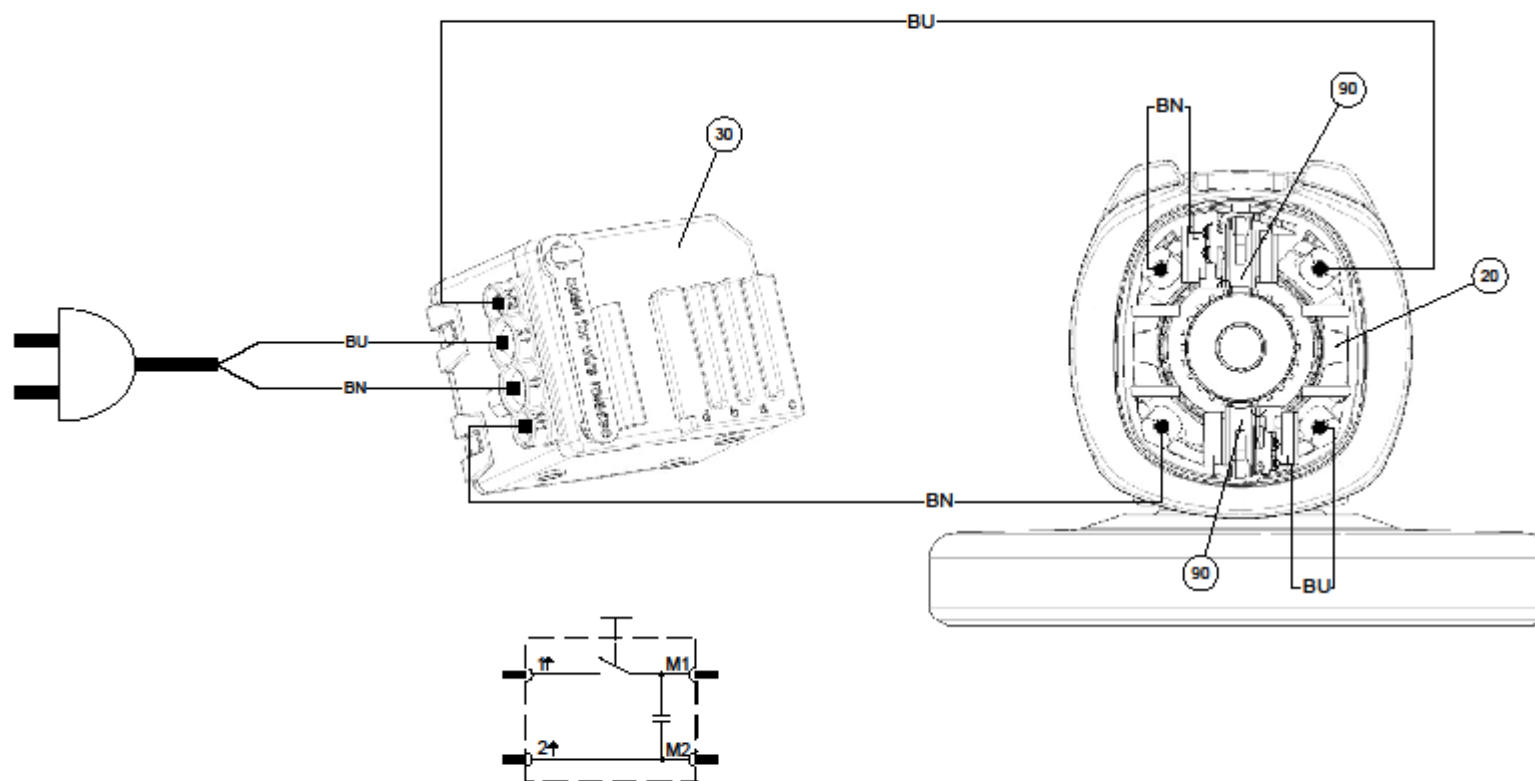
Схема соединений

接线图

7 221 73 – WSG8-115 / 220V – 230V 50/60Hz

7 221 74 – WSG8-125 / 220V – 230V 50/60Hz

7 221 77 – WSG11-125 / 220V – 230V 50/60Hz



# WSG 8-115; 8-125; 12-125P; WSG 11-125; WSG 15-125P; WSG 15-125PS; WSG 15-150P; WSG 15-70Inox



## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 75 – WSG12-125P / 220V – 230V 50/60Hz

7 221 76 – WSG12-125PQ / 220V – 230V 50/60Hz

7 221 78 – WSG15-125P / 220V – 230V 50/60Hz

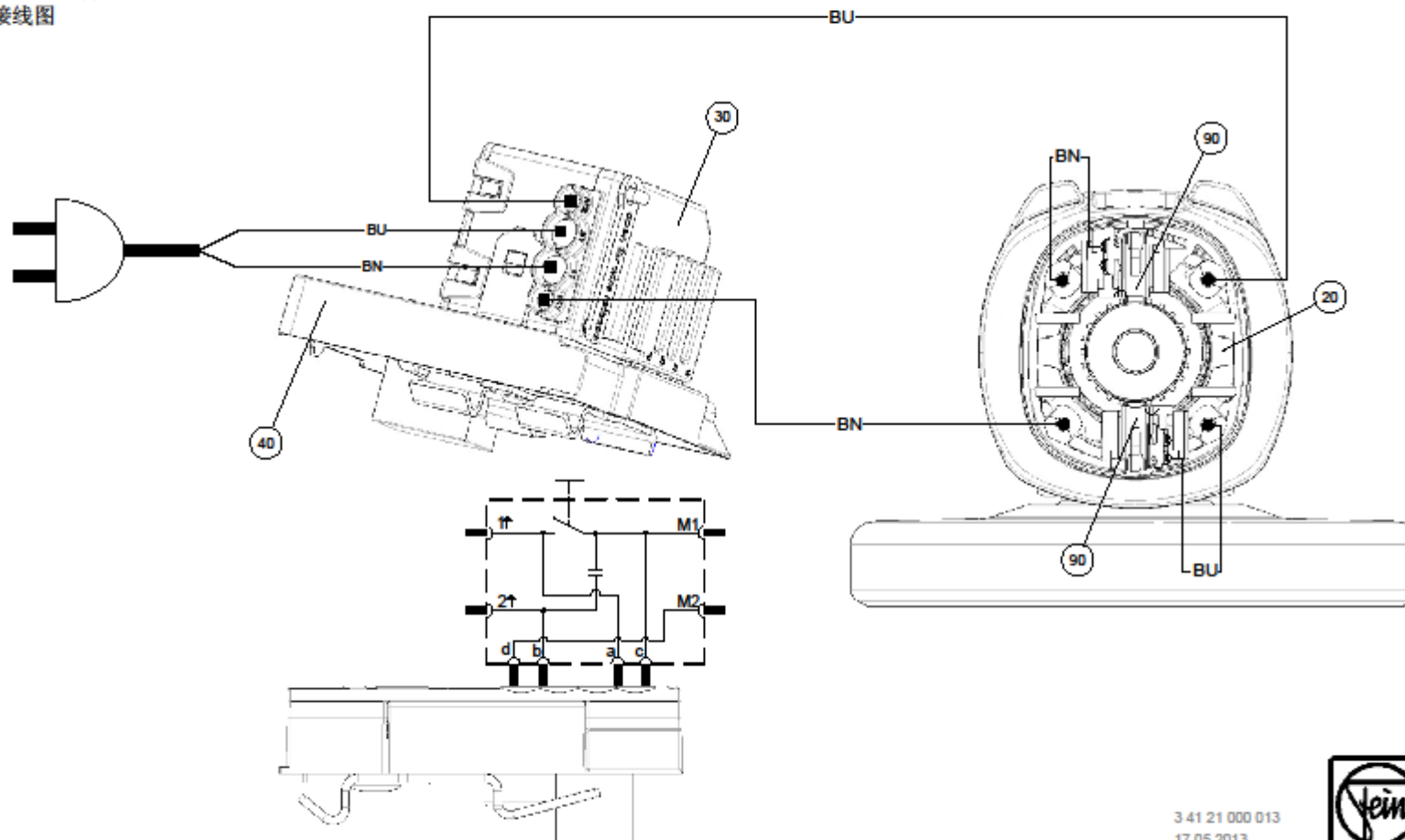
7 221 79 – WSG15-125PQ / 220V – 230V 50/60Hz

7 221 80 – WSG15-125PS / 220V – 230V 50/60Hz

7 221 81 – WSG15-125PSQ / 220V – 230V 50/60Hz

7 221 82 – WSG15-150P / 220V – 230V 50/60Hz

7 221 83 – WSG15-150PQ / 220V – 230V 50/60Hz





## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

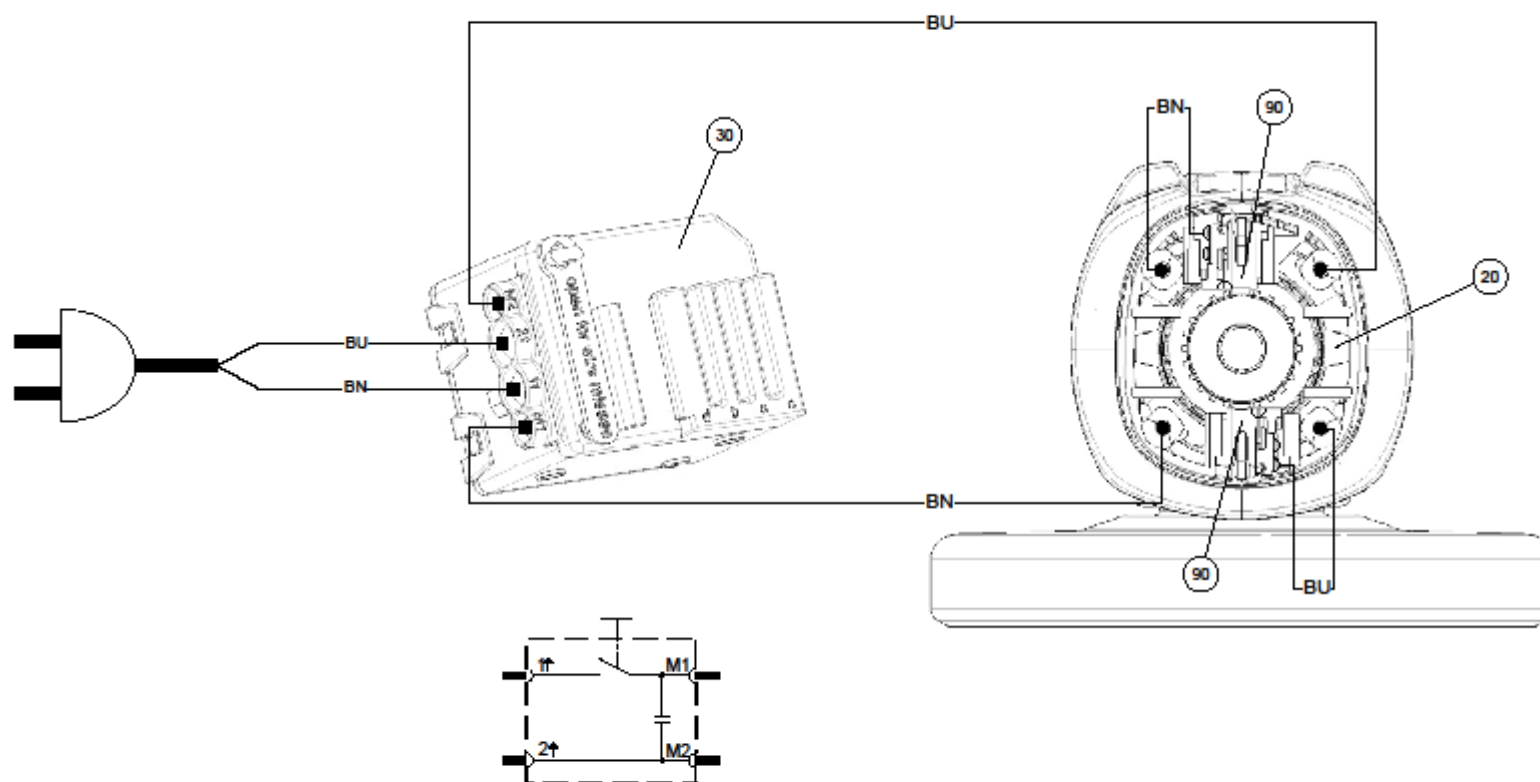
Schémade connexion

Схема соединений

接线图

7 221 73 – WSG8-115 / 100V – 110V 50/60Hz

7 221 74 – WSG8-125 / 100V – 110V 50/60Hz







## 8. Connection diagram

### Anschlussplan

Connection diagram

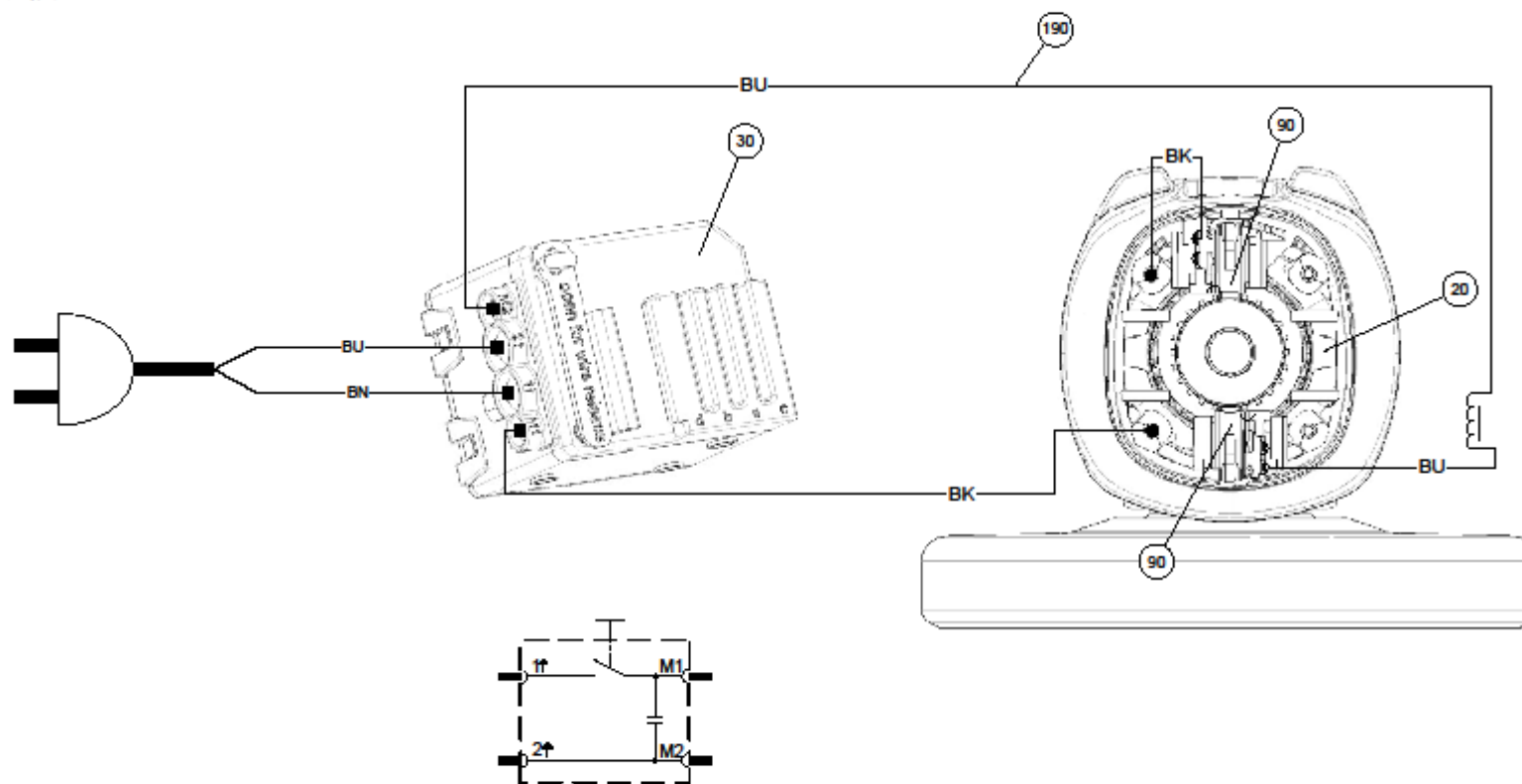
Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 77 - WSG11-125 / 100V - 110V 50/60Hz



# WSG 8-115; 8-125; 12-125P; WSG 11-125; WSG 15-125P; WSG 15-125PS; WSG 15-150P; WSG 15-70Inox



## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 75 – WSG12-125P / 100V – 110V 50/60Hz

7 221 76 – WSG12-125PQ / 100V – 110V 50/60Hz

7 221 78 – WSG15-125P / 100V – 110V 50/60Hz

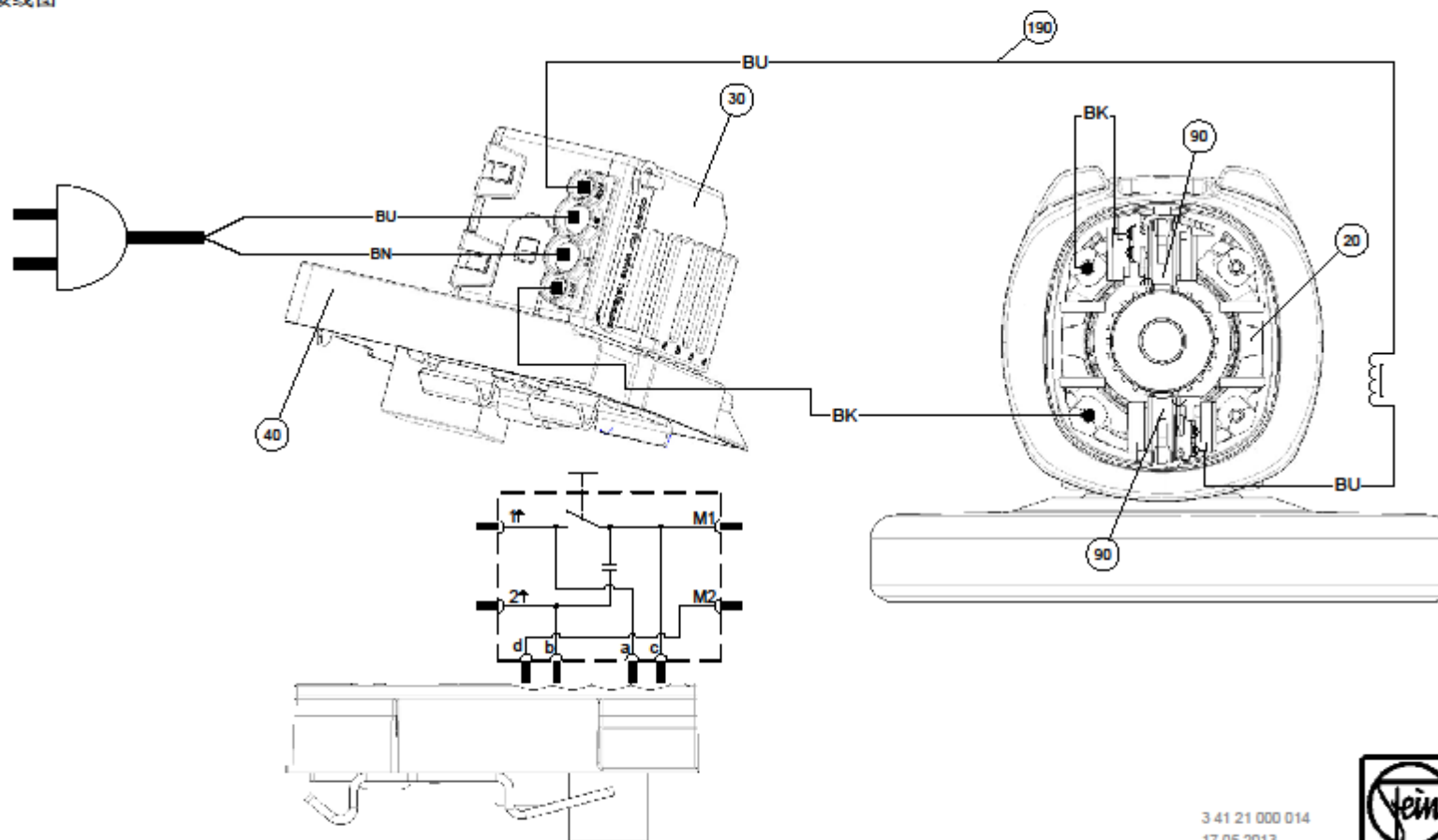
7 221 79 – WSG15-125PQ / 100V – 110V 50/60Hz

7 221 80 – WSG15-125PS / 100V – 110V 50/60Hz

7 221 81 – WSG15-125PSQ / 100V – 110V 50/60Hz

7 221 82 – WSG15-150P / 100V – 110V 50/60Hz

7 221 83 – WSG15-150PQ / 100V – 110V 50/60Hz





## 8. Connection diagram

### Anschlussplan

Connection diagram

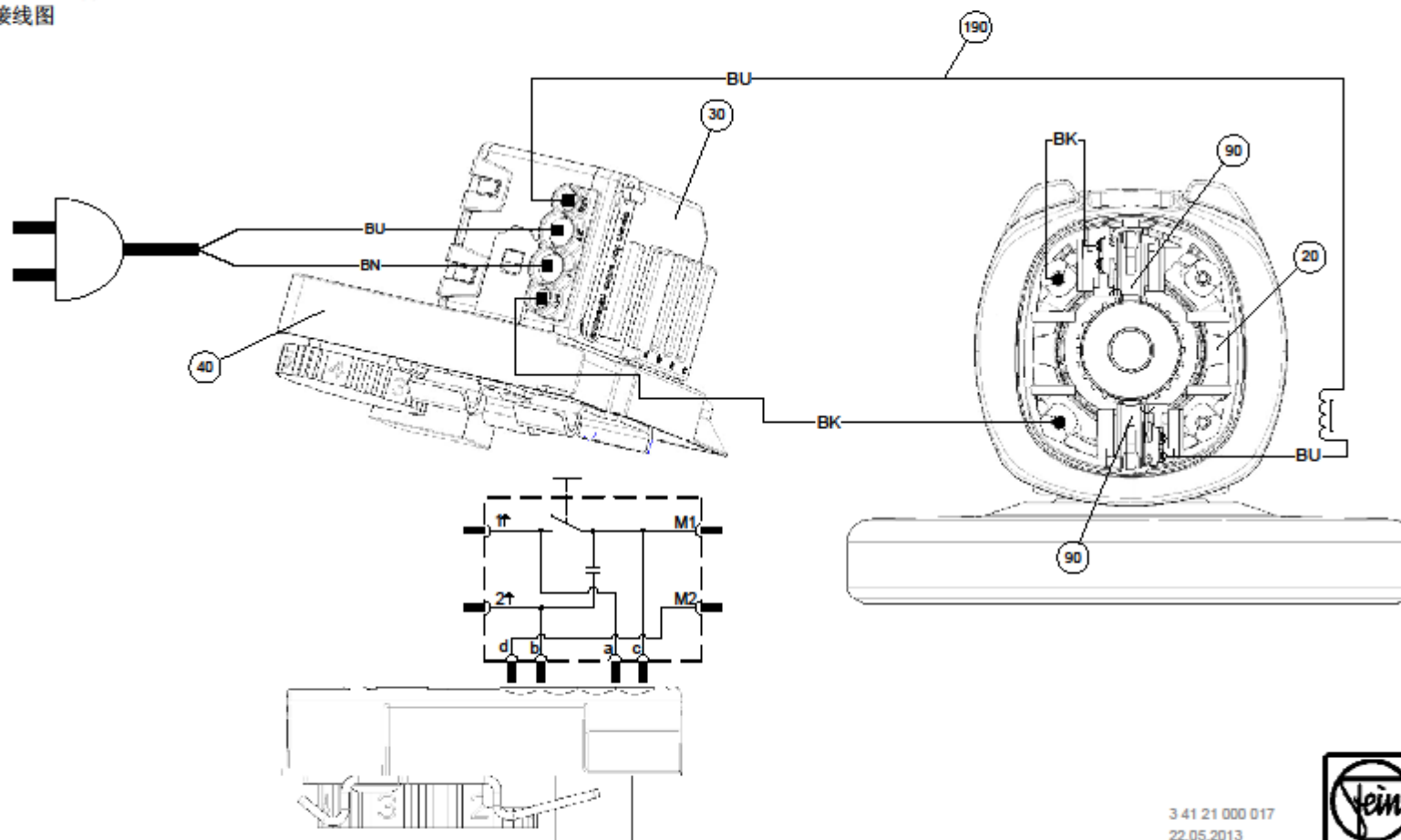
Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 84 – WSG15-70INOX / 100V – 110V 50/60Hz





## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquema conexiones

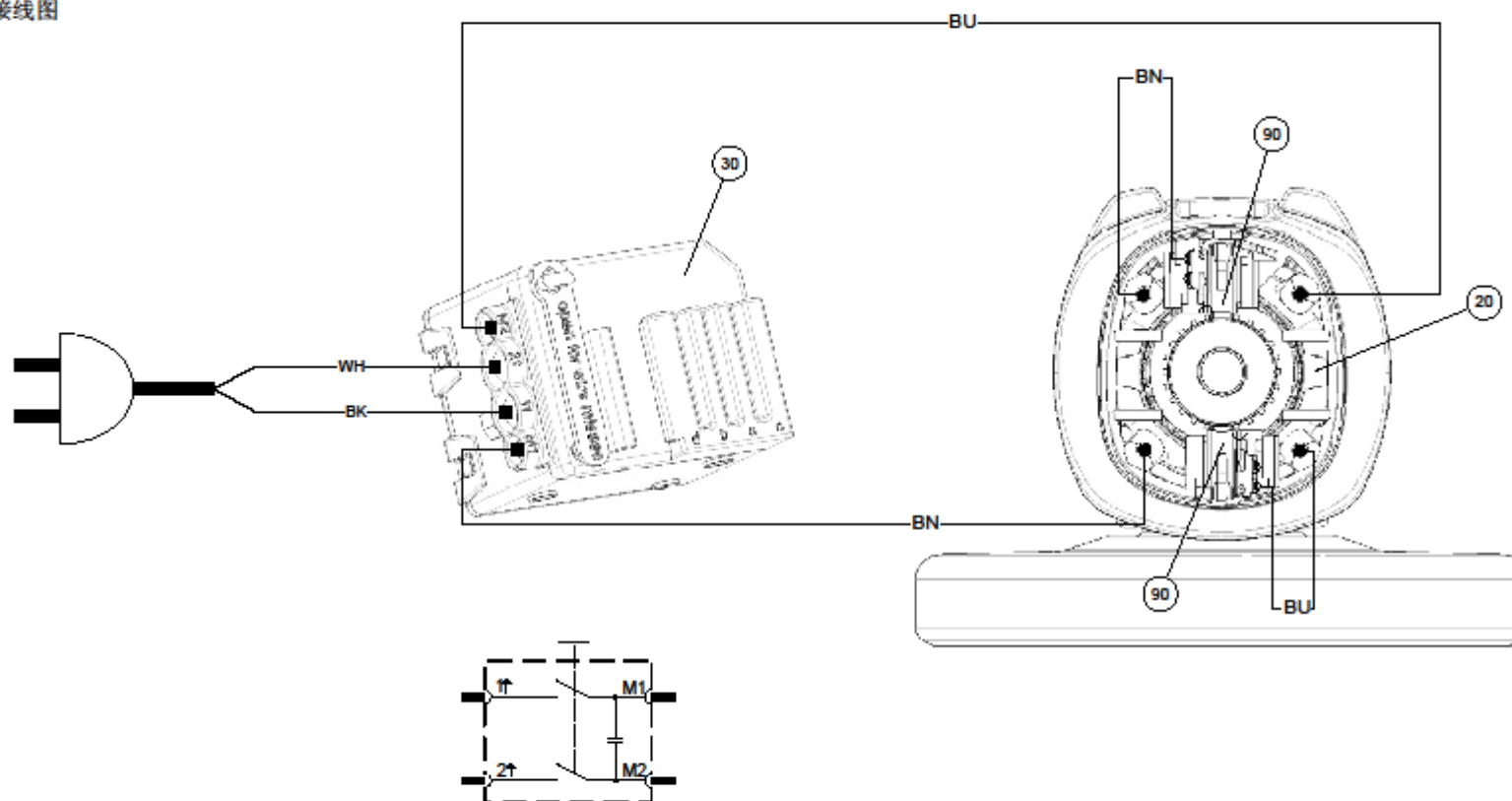
Schéma connexion

Схема соединений

接线图

7 221 73 – WSG8-115 / 120V 60Hz / dc

7 221 74 – WSG8-125 / 120V 60Hz / dc





## 8. Connection diagram

### Anschlussplan

Connection diagram

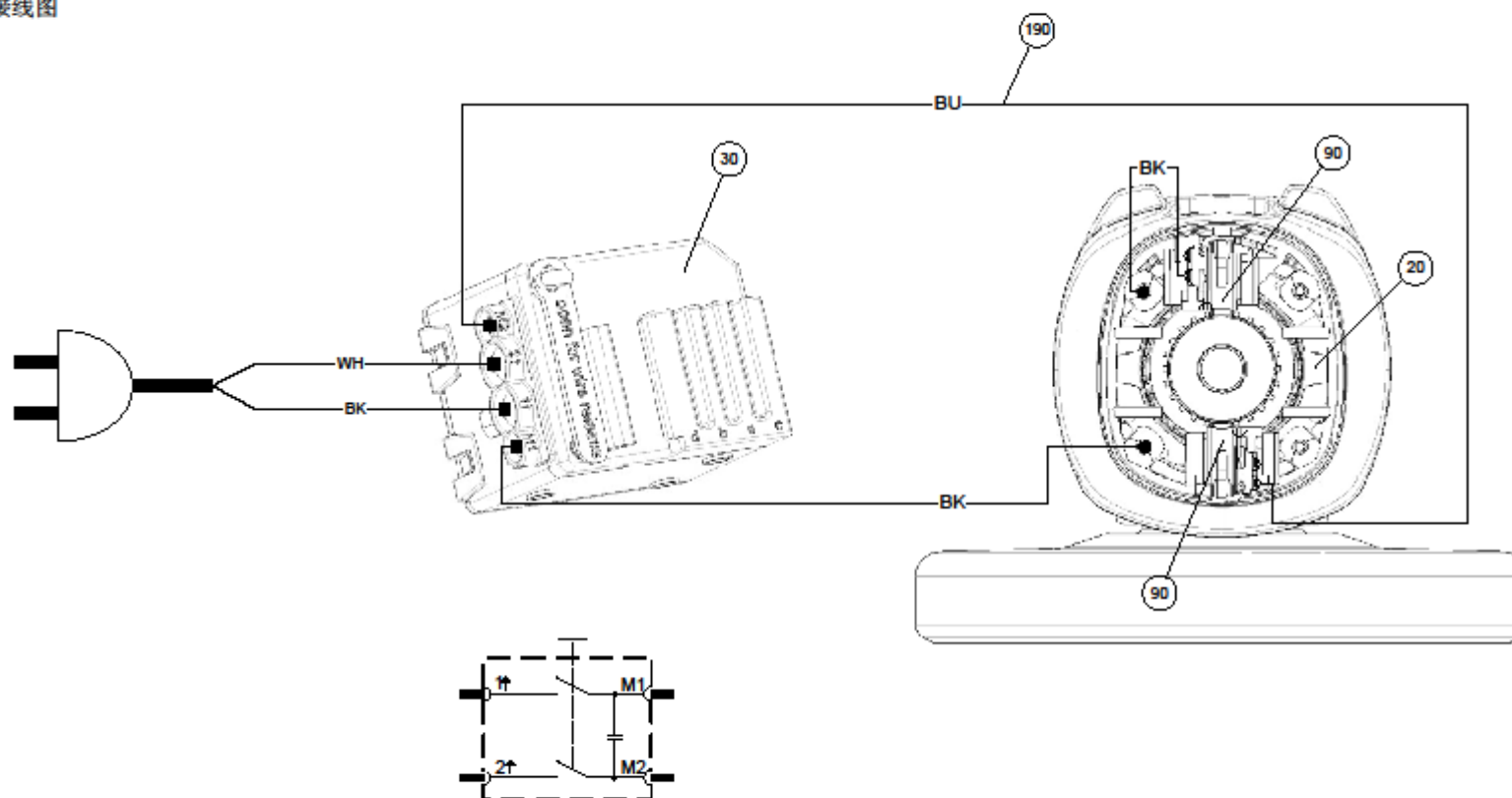
Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 77 – WSG11-125 / 120V 60Hz / dc



# WSG 8-115; 8-125; 12-125P; WSG 11-125; WSG 15-125P; WSG 15-125PS; WSG 15-150P; WSG 15-70Inox



## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 75 – WSG12-125P / 120V 60Hz

7 221 76 – WSG12-125PQ / 120V 60Hz

7 221 78 – WSG15-125P / 120V 60Hz

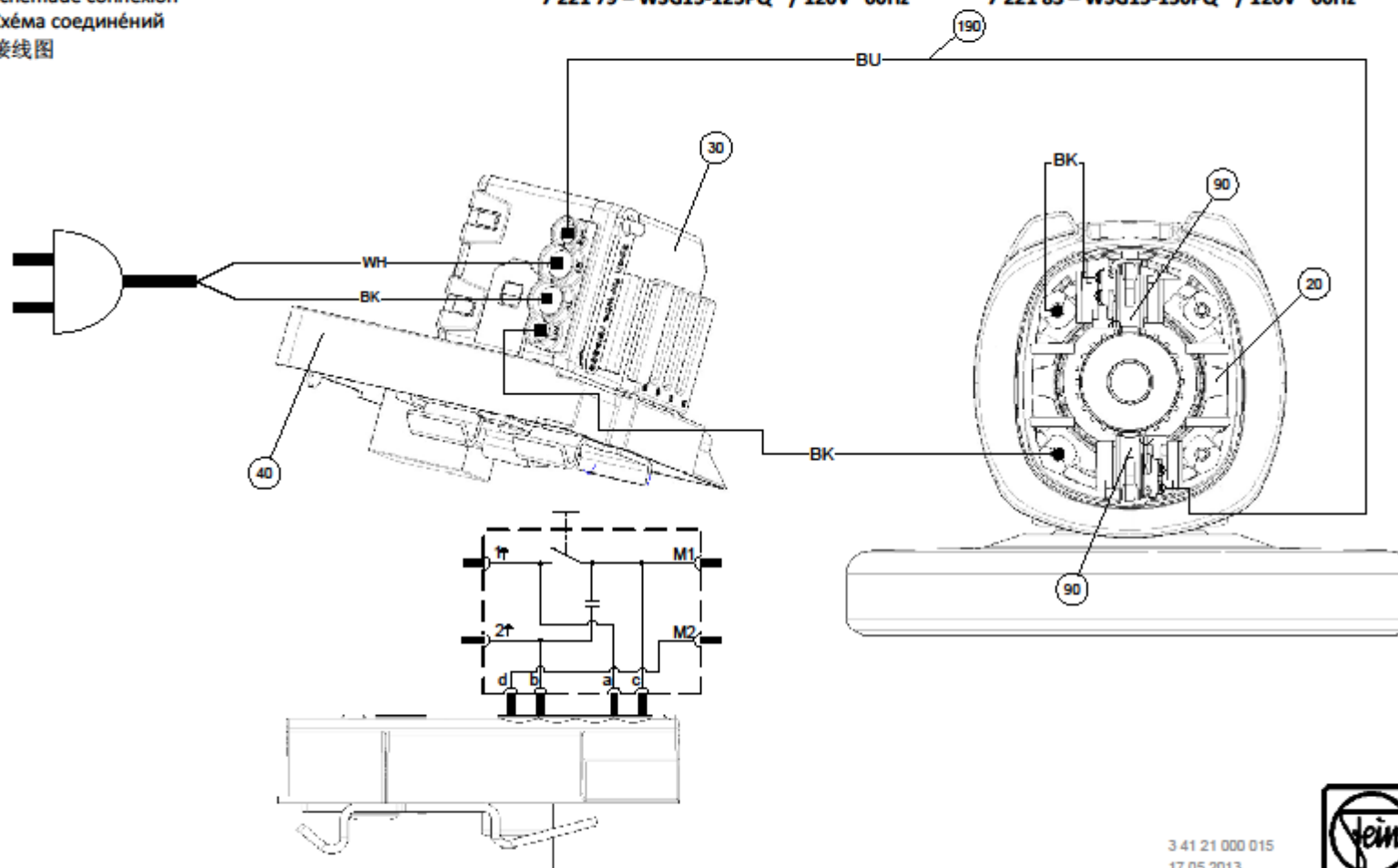
7 221 79 – WSG15-125PQ / 120V 60Hz

7 221 80 – WSG15-125PS / 120V 60Hz

7 221 81 – WSG15-125PSQ / 120V 60Hz

7 221 82 – WSG15-150P / 120V 60Hz

7 221 83 – WSG15-150PQ / 120V 60Hz





## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

Schémade connexion

Схема соединений

接线图

7 221 84 – WSG15-70INOX / 120V 60Hz

