



Applies to:

WSG 8-115 (C); WSG 8-125 (C); WSG 12-125P (C); WSG 11-125 (C);
WSG 11-150 (C); WSG 15-125P (C); WSG 17-125P (C); WSG 17-125PS (C);
WSG 17-150P (C); WSG 17-70INOX (C)

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1 Models described

These repair instructions describe how to repair the following models:

Model	Material number
WSG 8-115 (C)	7 222 34
WSG 8-125 (C)	7 222 35
WSG 12-125P (C)	7 222 36
WSG 11-125 (C)	7 222 37
WSG 11-150 (C)	7 222 38
WSG 15-125P (C)	7 222 39
WSG 17-125P (C)	7 222 40
WSG 17-125PS (C)	7 222 41
WSG 17-150P (C)	7 222 42
WSG 17-70INOX (C)	7 222 43





2 Technical data

Technical data

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

Troubleshooting

Troubleshooting for all devices can be found in the FEIN electronic information system.

Specific test specifications and measured values

Up-to-date test data for all devices can be found in the FEIN electronic information system.

Special tools, lubricants and auxiliary substances

The special tools catalogue and the lubricants and container sizes available from FEIN 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.





3 Symbols used

	Refers to measures for avoiding the risk of injuries.
	Refers to information or instructions that should be followed. Non-observance can result in damage or malfunctions.
	Read the operating instructions.
	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!



INFORMATION

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 relevant 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.

Disclaimer

The content of this documentation has been carefully reviewed and produced to the best of our knowledge. C. & E. Fein GmbH assumes no responsibility for the completeness, relevance, quality or correctness of the information provided.

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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





6 Tools, lubricants and auxiliary substances required

6.1 Standard tools

Slotted screwdriver	small
Plastic hammer	
Torx	T15 T20
Punch	6 mm diameter
Arbor press	
Ball bearing support	19 mm; 26 mm
Sleeve	35 mm inner diameter 19 mm outer diameter 14 mm inner diameter 42 mm outer diameter 30 mm inner diameter 20 mm outer diameter 15 mm inner diameter 27 mm outer diameter 15 mm inner diameter
4x round material	20 mm in diameter Length 60 mm

6.2 Special tools

Drawing-off socket cap		64104150008
Chuck cone	19 mm diameter	64107019007
	26 mm diameter	64107026000
Drawing-off plate		64102069007
Pipe		64101002004
Assembly aid		64122121010
Pressure piece		64122003000

6.3 Lubricants and auxiliary substances required

WSG 8-115 (C); WSG 8-125 (C); WSG 12-125P (C); WSG 11-125 (C); WSG 11-150 (C); WSG 15-125P (C); WSG 17-125P (C)

Grease	04010101004	21 g	Gearbox
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WSG 17-125PS (C); WSG 17-150P (C); WSG 17-70INOX (C)

Grease	04010101004	29 g	Gearbox
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7 Test and diagnostics options

Currently unavailable.



8 Disassembly

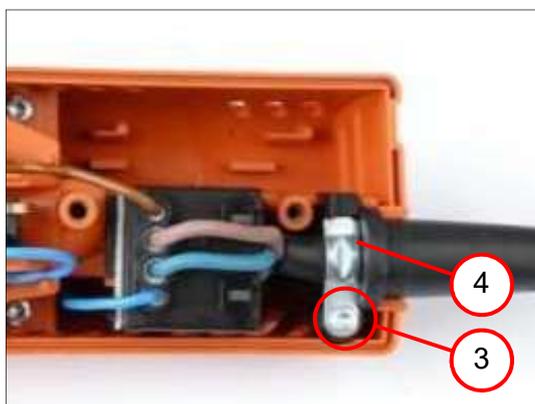
8.1 Quick mains cable replacement

Tools:

- Torx T15
- Assembly aid



1. Unscrew the two screws (1).
2. Remove the cover (2).

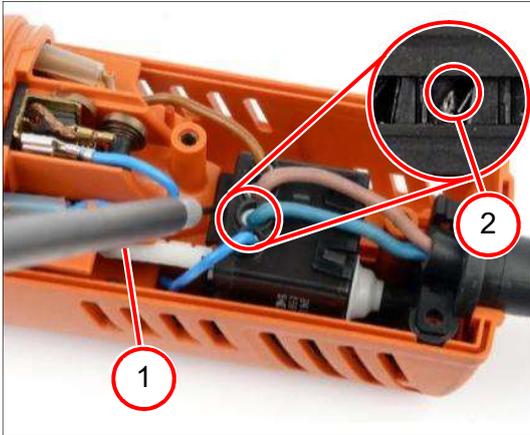


3. Unscrew the screw (3).
4. Remove the cable clamp (4).

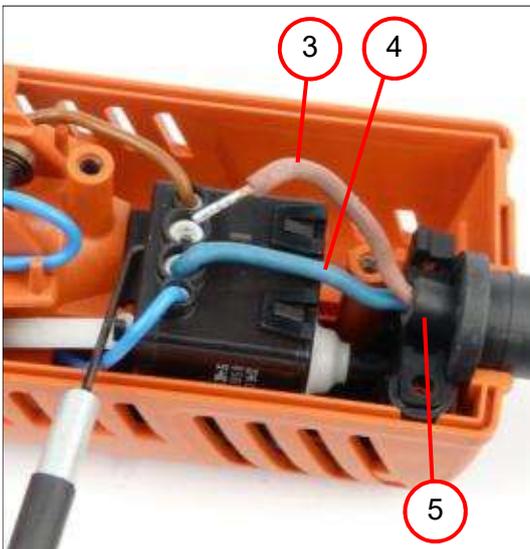


5. Remove the cover (5).

8.1 Quick mains cable replacement



6. Position the hook (1) in the opening (2).



7. Turn the hook and remove the cable (3).
8. Turn the hook and remove the cable (4).
9. Remove the cable with the plug (5).

8.2 Removing the housing

8.2.1 Removing the cover

Tools:

- Torx T15
- Assembly aid



1. Unscrew the two screws (1).
2. Remove the cover (2).

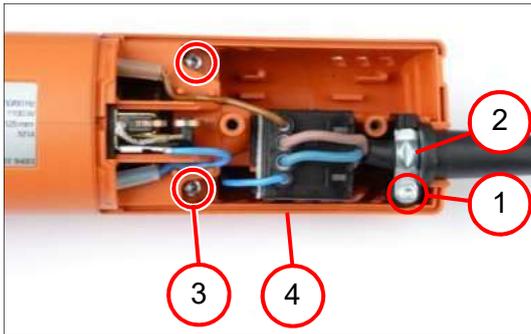
8.2.2 Disassembling the switch (WSG 8; WSG 11)

Steps that must be completed:

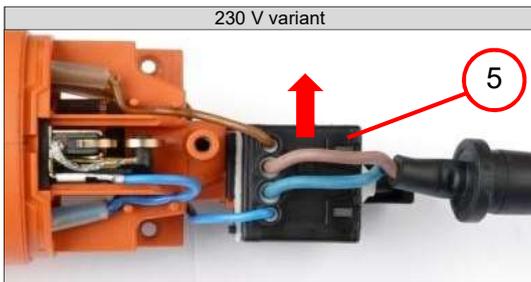
- Removing the cover

Tools:

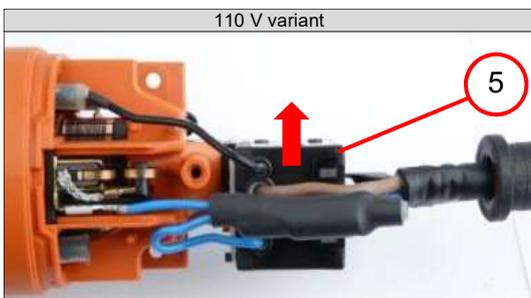
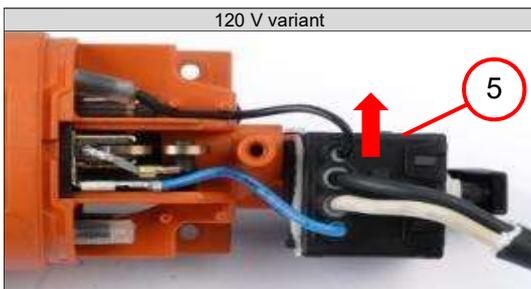
- Torx T15
- Slotted screwdriver (small)



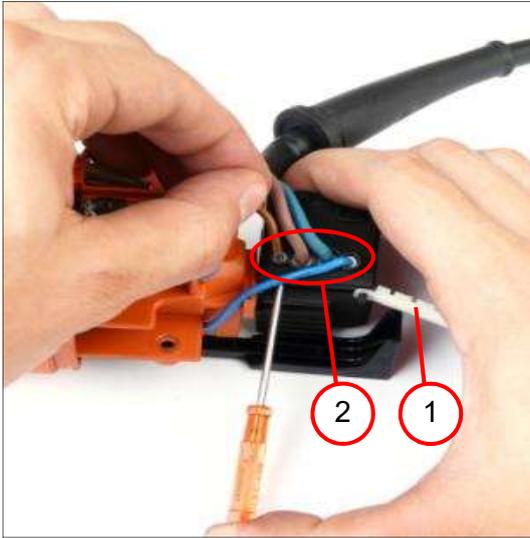
1. Unscrew the screw (1).
2. Remove the cable clamp (2).
3. Unscrew the two screws (3).
4. Remove the cover (4).



5. Remove the switch (5).



8.2.2 Disassembling the switch (WSG 8; WSG 11)



6. Remove the rubber cover (1).
7. Open the spring terminals by turning them.
8. Remove the four strands (2).

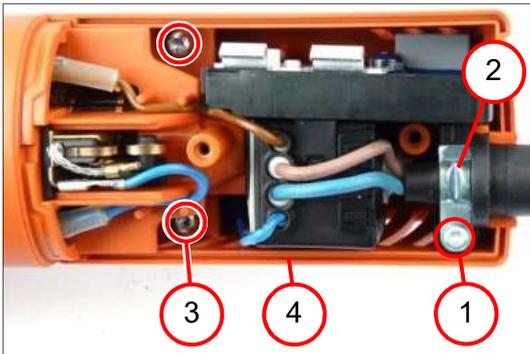
8.2.3 Disassembling the switch (WSG 12; WSG 15; WSG 17)

Steps that must be completed:

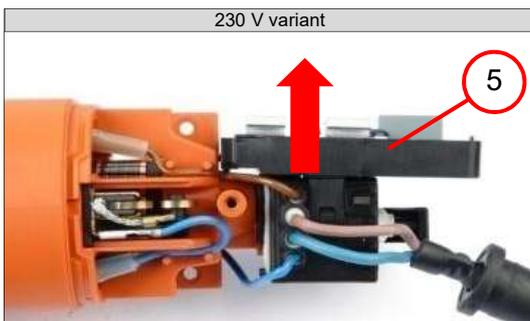
- Removing the cover

Tools:

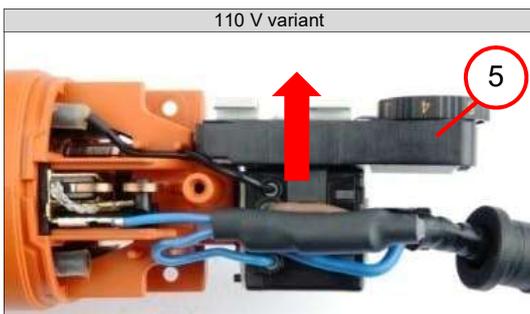
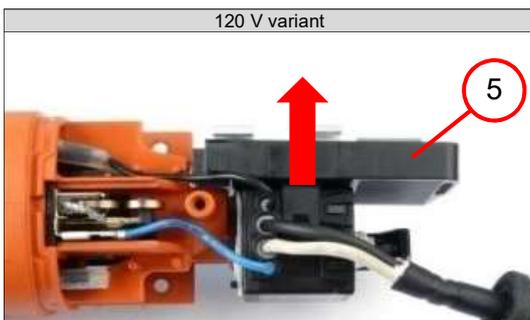
- Torx T15
- Slotted screwdriver (small)



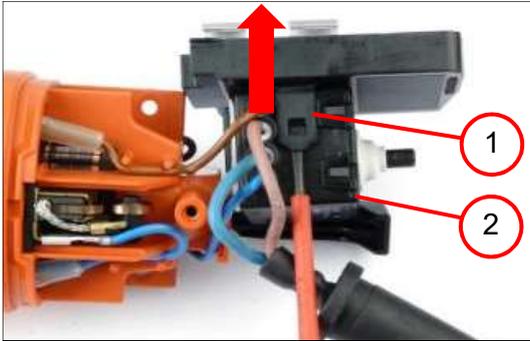
1. Unscrew the screw (1).
2. Remove the cable clamp (2).
3. Unscrew the two screws (3).
4. Remove the cover (4).



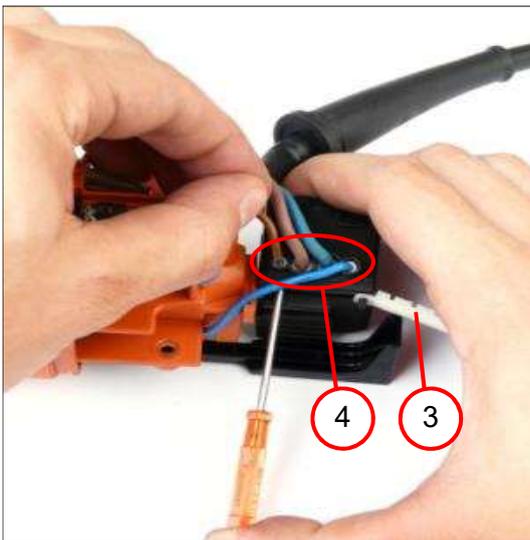
5. Remove the switch (5).



8.2.3 Disassembling the switch (WSG 12; WSG 15; WSG 17)



6. Lift the hook (1) on each side of the switch and remove the electronics (2).



7. Remove the rubber cover (3).
8. Open the spring terminals by turning them.
9. Remove the four strands (4).

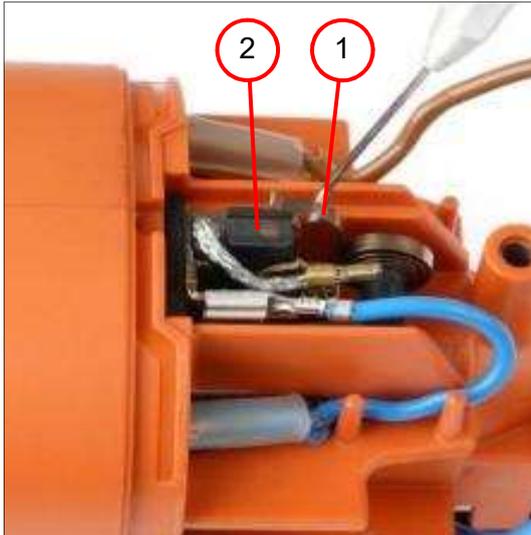
8.2.4 Removing the carbon brushes

Steps that must be completed:

- Removing the cover

Tools:

- Assembly aid



1. Lift up the spring (1).
2. Remove the carbon brush (2).

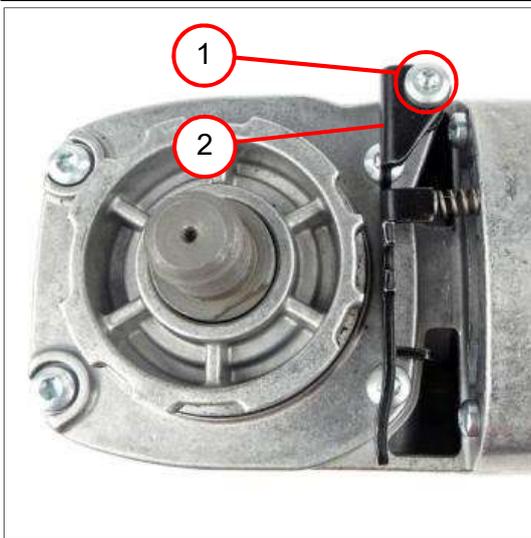
8.2.5 Removing the gearbox housing

Steps that must be completed:

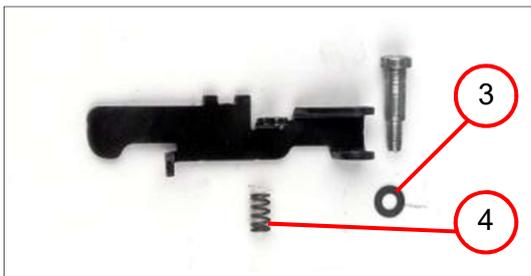
- Removing the cover
- Removing the switch
- Removing the carbon brushes

Tools:

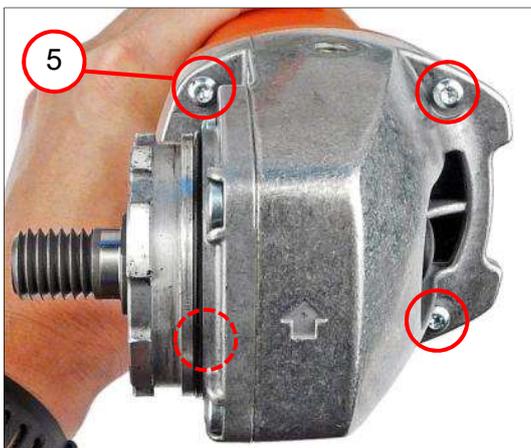
- Torx T20
- Torx T15



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



3. Remove the disc (3).
4. Remove the spring (4).



5. Unscrew the four screws (5).

8.2.5 Removing the gearbox housing



6. Remove the gearbox housing (1).

8.3 Removing the motor

8.3.1 Removing the stator

Steps that must be completed:

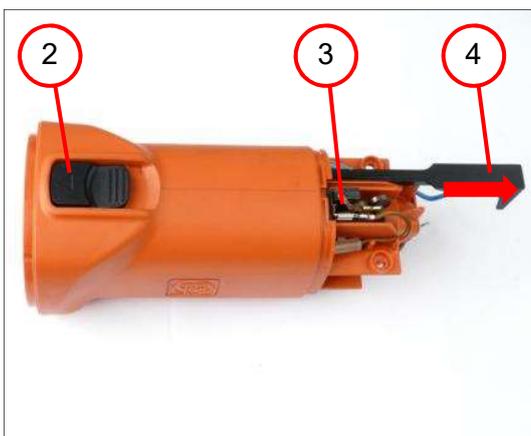
- Removing the cover
- Removing the switch
- Removing the carbon brushes
- Removing the gearbox housing

Tools:

- Torx T20
- Torx T15
- Plastic hammer



1. Remove the air guide ring (1).



2. Remove the slide switch (2).
3. Remove the carbon brush holder (3).
4. Repeat step 3 on the opposite side of the machine.
5. Remove the control rod (4).

8.3.1 Removing the stator



6. Remove the stator (1).



8.3.2 Removing the armature

Steps that must be completed:

- Removing the cover
- Removing the switch
- Removing the carbon brushes
- Removing the gearbox housing

Tools:

- Plastic hammer



1. Remove the armature (1).

8.3.3 Disassembling the armature

Steps that must be completed:

- Removing the cover
- Removing the switch
- Removing the carbon brushes
- Removing the gearbox housing
- Removing the armature

Tools:

- Punch, 6 mm diameter
- Arbor press
- Drawing-off plate 641002069007
- Pipe 64101002004
- Drawing-off socket cap 64104150008
- Chuck cone
26 mm 64107026000
19 mm 64107019007



1. Remove the bearing bush (1).



2. Remove the bevel pinion (2).



8.3.3 Disassembling the armature



3. Remove the deep groove ball bearing (1).
4. Remove the plate (2).
5. Remove the deep groove ball bearing (3).



6. Remove the magnet (4).

i INFORMATION

The plastic sleeve is included in the following machine types:
WSG 12; WSG 17

i INFORMATION

The magnet is destroyed during removal and must be replaced.



8.4 Removing the gearbox

8.4.1 Removing the bearing plate

Tools:

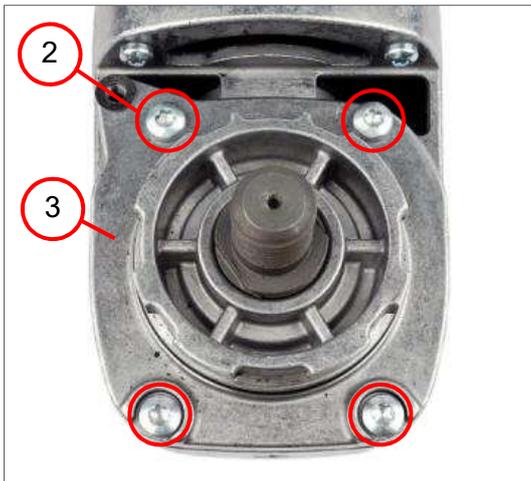
- Torx T20



1. Remove the sealing ring (1).

 INFORMATION

The sealing ring (1) is destroyed during removal and must be replaced.



2. Unscrew the four screws (2).
3. Remove the bearing plate (3).



4. Remove the washer(s) (4).

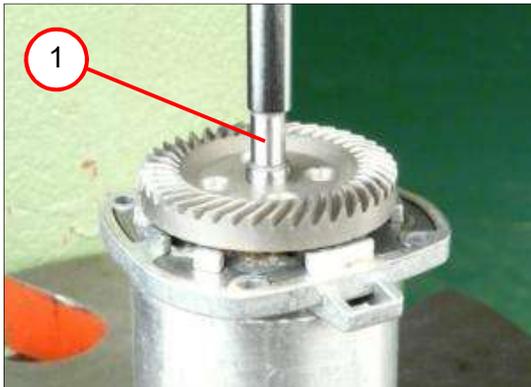
8.4.2 Disassembling the bearing plate

Steps that must be completed:

- Removing the bearing plate

Tools:

- Punch, 12 mm diameter
- Torx T15
- Arbor press
- Sleeve
35 mm inner diameter
14 mm inner diameter
19 mm outer diameter
- 30 mm inner diameter
42 mm outer diameter



1. Press out the shaft (1).



2. Remove the disc (2).
3. Unscrew the three screws (3).
4. Remove the plate (4).

8.4.2 Disassembling the bearing plate



5. Press out the deep grooved ball bearing (1).

8.4.3 Disassembling the gearbox housing

Steps that must be completed:

- Removing the cover
- Removing the switch
- Removing the carbon brushes
- Removing the gearbox housing
- Removing the bearing plate

Tools:

- Slotted screwdriver



1. Remove the air guide ring (1).

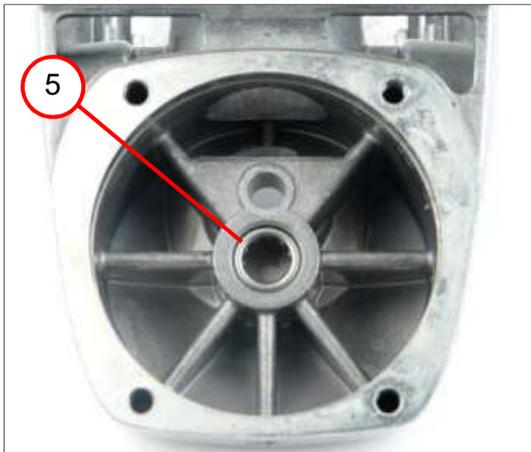


2. Remove the pushbutton (2).

8.4.3 Disassembling the gearbox housing



3. Remove the spiral spring (1).
4. Remove the sealing ring (2).
5. Remove the bolt (3).

** INFORMATION**

Only remove the needle sleeve (4) if necessary.

6. Remove the needle sleeve (4).

9 Assembly

9.1 Fitting the gearbox

9.1.1 Assembling the gearbox housing



1. Insert the spiral spring (1) and the bolt (2) with sealing ring (3).



2. Fit the pushbutton (4).



3. Position the air guide ring (5).

9.1.2 Assembling the bearing plate

Tools:

- Arbor press
- Sleeve
15 mm inner diameter
27 mm outer diameter
- 15 mm inner diameter
20 mm outer diameter
- Torx T15

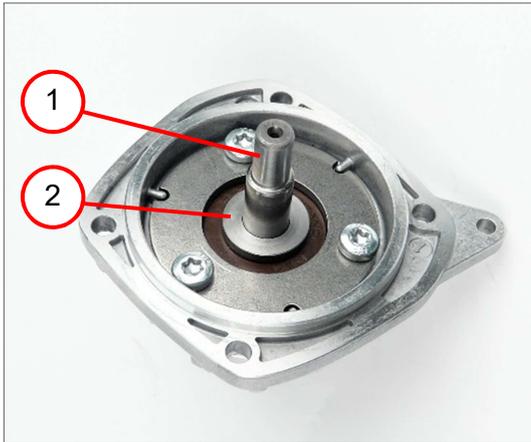


1. Press in the deep grooved ball bearing (1).



2. Position the plate (2).
3. Screw in the three screws (3) [2.4 N].

9.1.2 Assembling the bearing plate



4. Press in the shaft (1).
5. Position the disc (2).



6. Press in the gearwheel (3).
7. Coat the sealing ring (4) with oil.
8. Position the sealing ring (4).

 INFORMATION

Use a new sealing ring for each fitting.

9. Position the washer(s) (5).

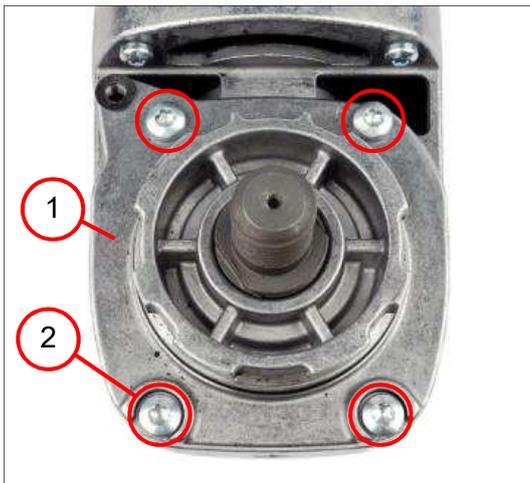
9.1.3 Positioning the bearing plate

Steps that must be completed:

- Fitting the gearbox housing
- Assembling the bearing plate

Tools:

- Torx T20



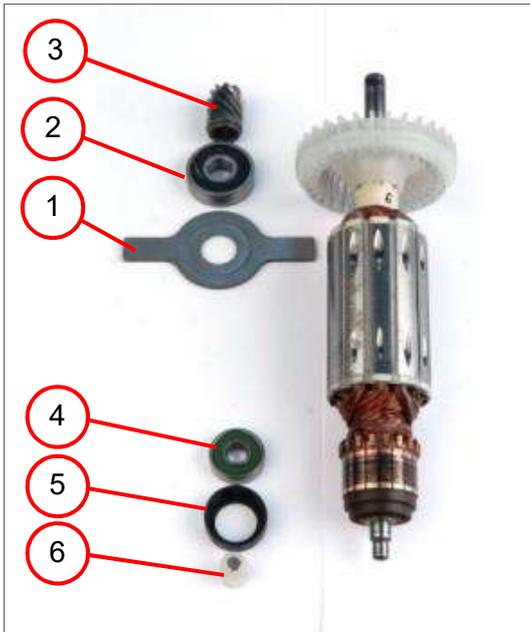
1. Position the bearing plate (1).
2. Screw in the four screws (2) [2.4 Nm].

9.2 Fitting the motor

9.2.1 Assembling the armature

Tools:

- Torx T20



1. Position the plate (1).
2. Press on the grooved ball bearing (2).
3. Press on the bevel pinion (3).
4. Press on the grooved ball bearing (4).

INFORMATION

Use a new magnet for each fitting.

NOTE!

Damage to the magnet.
The magnet can be damaged by excessive force.
Carefully press on the magnet.

5. Press on the magnet (5).
6. Position the bearing bush (6).

9.2.2 Fitting the armature

Steps that must be completed:

- Fitting the gearbox housing
- Assembling the bearing plate
- Positioning the bearing plate
- Assembling the armature



INFORMATION

The plate must lie in the recess of the air guide ring.

1. Press in the armature (1).

NOTE!

Damage to the gearbox and/or the motor.

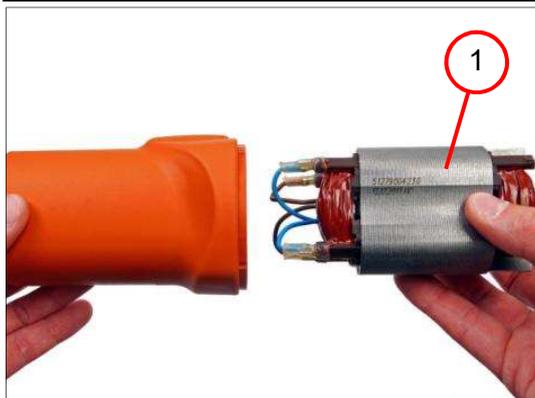
The axial displacement of the armature leads to damage to the gearbox and/or the motor.

If the armature can be pulled out of the gearbox head by hand, the gearbox housing must be replaced.

9.2.3 Fitting the stator

Tools:

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



1. Position the stator (1).

i	INFORMATION
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Ensure that the stator (1) is in the correct position.
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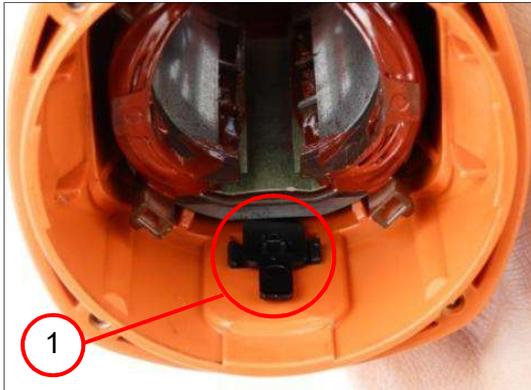


2. Press in the stator (1).



3. Position the control rod (2).
4. Position the slide switch (3).

9.2.3 Fitting the stator



5. Hook the control rod onto the slide switch (1).



6. Position the air guide ring (2).

9.3 Fitting the housing

9.3.1 Fitting the gearbox housing

Steps that must be completed:

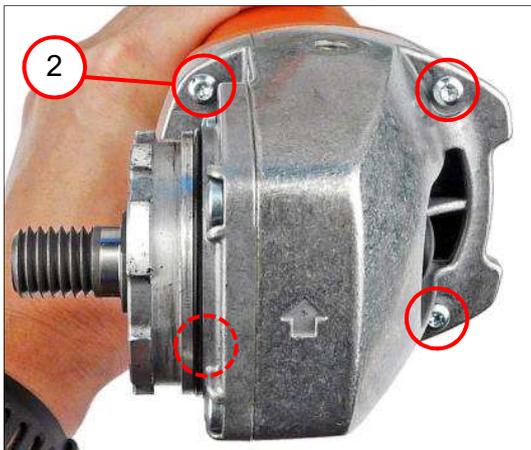
- Fitting the gearbox housing
- Assembling the bearing plate

Tools:

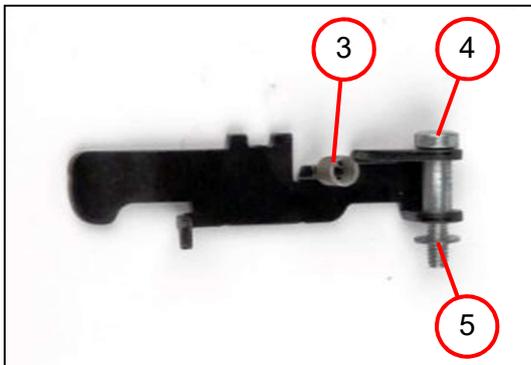
- Torx T20



1. Position the gearbox housing (1).

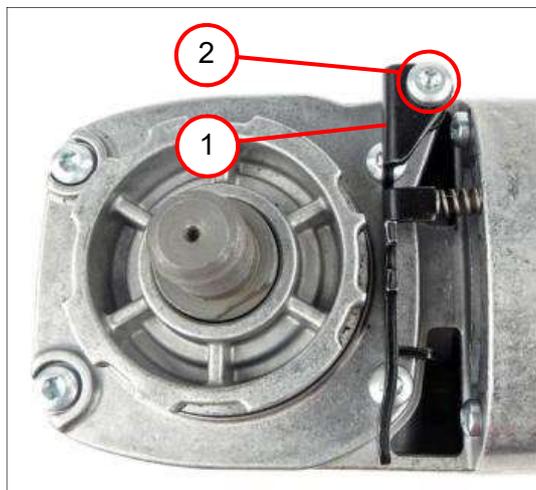


2. Screw in the four screws (2) [2.7 Nm].



3. Position the spring (3).
4. Position the screw (4).
5. Position the disc (5).

9.2.3 Fitting the stator



6. Position the lever (1).

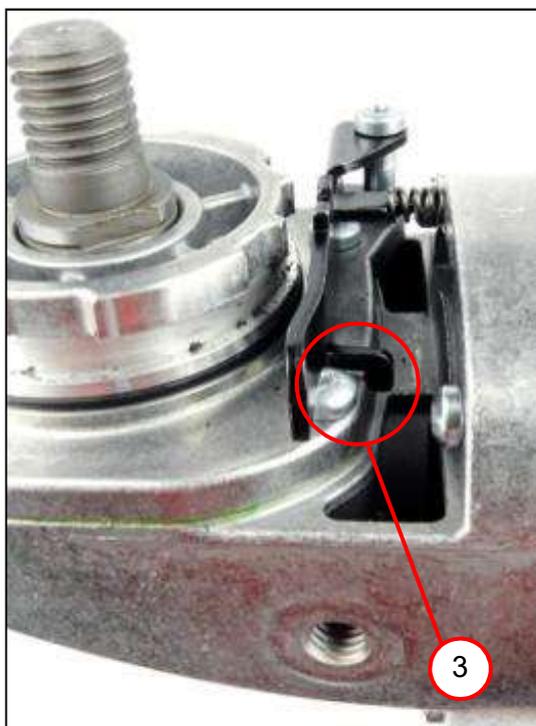
**INFORMATION**

The screw (2) is a self-tapping screw.
Screw in the screw perpendicular to the bearing plate.

**INFORMATION**

Position the stop (3) as shown.

7. Screw in the screw (2) [2.15 Nm].



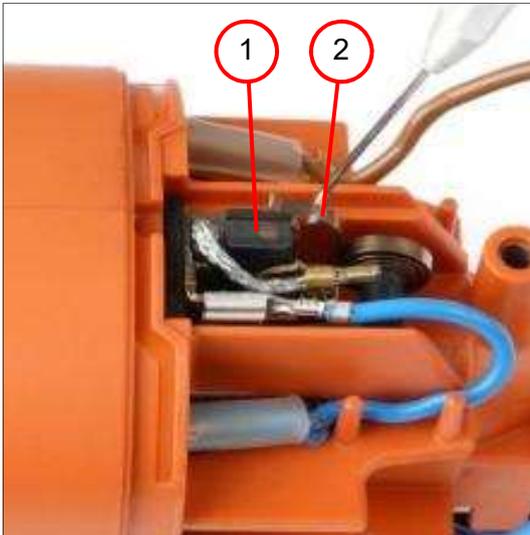
9.3.2 Positioning the carbon brushes

Steps that must be completed:

- Fitting the gearbox housing
- Assembling the bearing plate
- Positioning the bearing plate
- Assembling the armature
- Fitting the armature
- Fitting the stator
- Fitting the gearbox housing

Tools:

- Assembly aid



1. Position the carbon brush (1).
2. Position the spring (2).

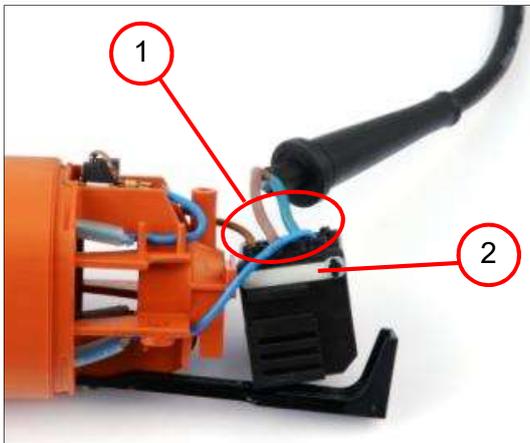
9.3.3 Assembling the switch (WSG 8; WSG 11)

Steps that must be completed:

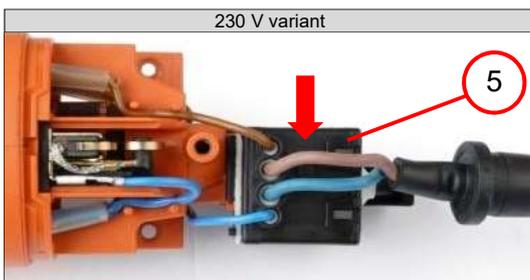
- Fitting the gearbox housing
- Assembling the bearing plate
- Positioning the bearing plate
- Assembling the armature
- Fitting the armature
- Fitting the stator
- Fitting the gearbox housing

Tools:

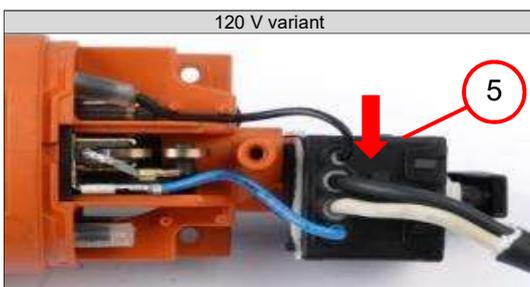
- Assembly aid



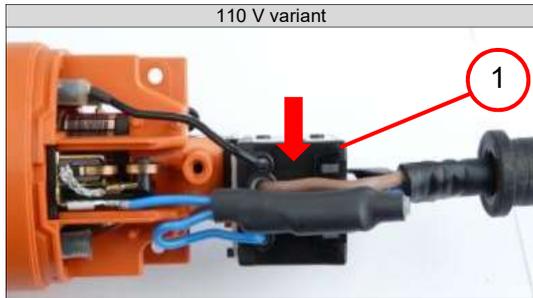
1. Connect the cables (1).
2. Position the rubber cover (2).



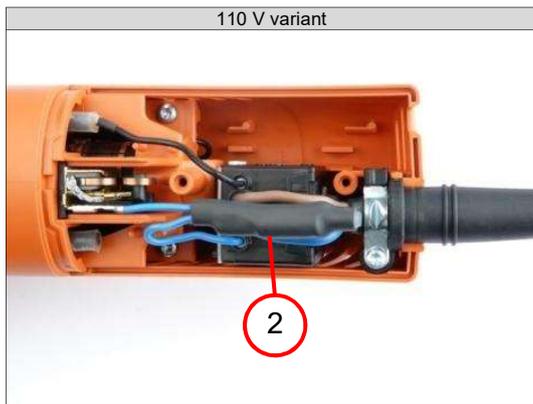
3. Position the switch (3).



9.3.3 Assembling the switch (WSG 8; WSG 11)

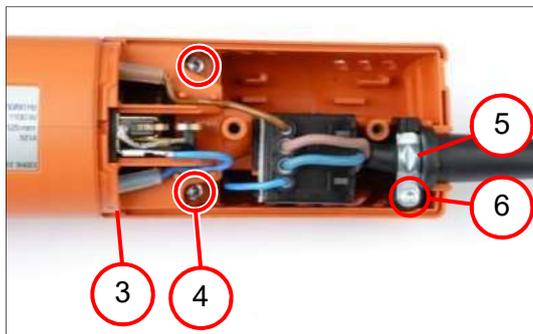


4. Position the switch (1).



i INFORMATION

For machines with a choke (2), make sure that the choke is placed between the strands of the supply cable. The upper part of the cover cannot be fitted correctly if the choke is not placed correctly.



5. Position the cover (3).
6. Screw in the two screws (4) [1.5 Nm].
7. Position the cable clamp (5).
8. Screw in the screw (6) [1.5 Nm].

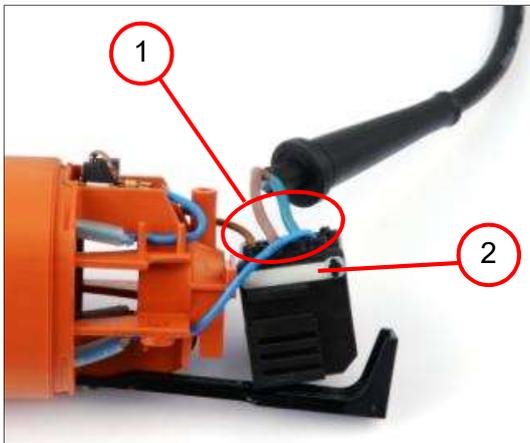
9.3.4 Assembling the switch (WSG 12; WSG 15; WSG 17)

Steps that must be completed:

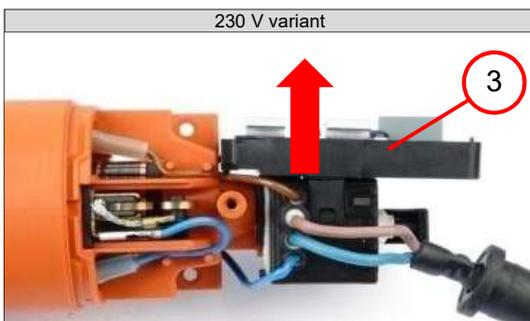
- Fitting the gearbox housing
- Assembling the bearing plate
- Positioning the bearing plate
- Assembling the armature
- Fitting the armature
- Fitting the stator
- Fitting the gearbox housing

Tools:

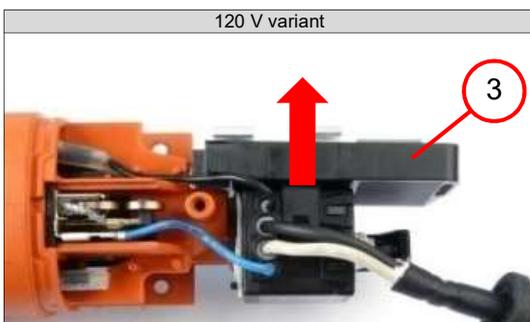
- Assembly aid



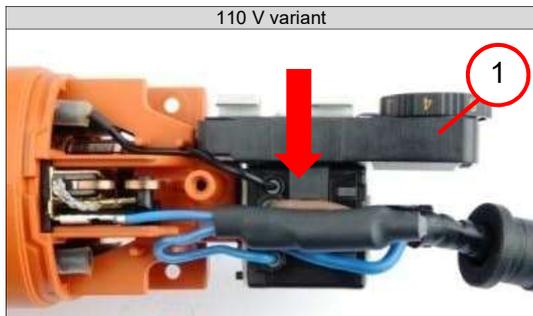
1. Connect the cables (1).
2. Position the rubber cover (2).



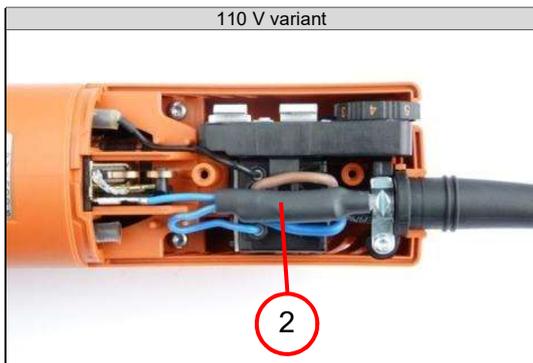
3. Position the switch (3).



9.3.4 Assembling the switch (WSG 12; WSG 15; WSG 17)

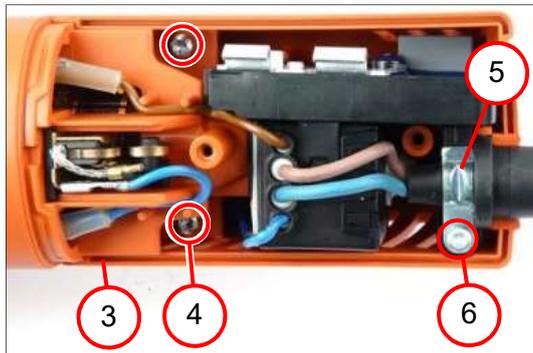


4. Position the switch (1).



i INFORMATION

For machines with a choke (2), make sure that the choke is placed between the strands of the supply cable. The upper part of the cover cannot be fitted correctly if the choke is not placed correctly.



5. Position the cover (3).
6. Screw in the two screws (4) [1.5 Nm].
7. Position the cable clamp (5).
8. Screw in the screw (6) [1.5 Nm].

9.3.5 Fitting the cover

Steps that must be completed:

- Fitting the gearbox housing
- Assembling the bearing plate
- Positioning the bearing plate
- Assembling the armature
- Fitting the armature
- Fitting the stator
- Fitting the gearbox housing
- Fitting the switch

Tools:

- Torx T15
- Assembly aid



1. Position the cover (1).
2. Screw in the two screws (2) [1.5 Nm].

9.4 Setting gearbox clearance



1. Perform a test run.
2. Check gearbox clearance by turning the shaft (1).
3. If there is no gearbox clearance, a second disc must be placed between the bearing plate and the gearbox housing.



10 Inspection following repairs

Always: Visual inspection
Speed check
Insert tool
Testing
(e. g., demo material 1 87 20 198 00 0)

Mains-operated machines: Electrical safety test

If restart lock present: Check restart lock

Brake function available: Brake function check

HF angle or die grinder: Running direction check

