



Valid for:
BOZ 32-4M



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1 Models described

These repair instructions describe how to repair the following models:

Model	Material number
BOZ 32-4M	7 202 51 .. .



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

Lists of spare parts and exploded views can be found in the FEIN electronic information system.

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!



INFORMATION

Read the operating instructions for the product before carrying out the 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** must 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

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4 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.



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



Tools, lubricants and auxiliary substances required

6 Tools, lubricants and auxiliary substances required

6.1 Standard tool

Cross-tip screwdriver	PH2
Torx	T20
Slotted screwdriver	
Long-nosed pliers	
Socket head wrench set	
Soldering station	
Circlip pliers	
Plastic hammer	
Arbor press	
Slide hammer	
Sleeve	54 mm inner diameter, 64 mm inner diameter; 28 mm outer diameter, 105 mm height; 31 mm inner diameter, 37 mm outer diameter, 105 mm height; 54 mm outer diameter; 26 mm inner diameter; 28 mm outer diameter; 11 mm inner diameter, 18 mm inner diameter
Support	26 mm diameter

6.2 Special tool

Assembly aid	6 41 22 121 01 0
Drawing-off socket cap	6 41 04 150 00 0
Chuck cone	26 mm diameter
	6 41 07 026 00 0

6.3 Lubricants and auxiliary substances

Transmission grease	3 13 49 079 00 0	270 g	Gearbox
Loctite 648	0 90 00 600 60 7		Armature



7 Test and diagnostics options

Not currently available.

8 Removal

8.1 Removing the additional handle



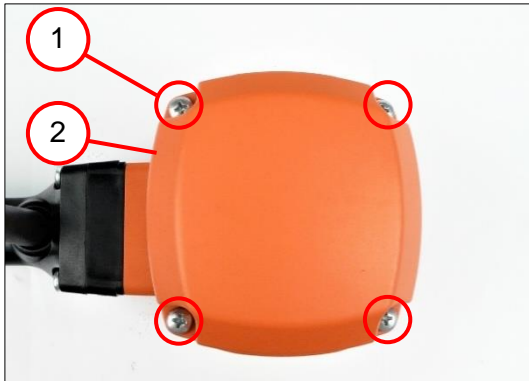
1. Unscrew the additional handle (1).



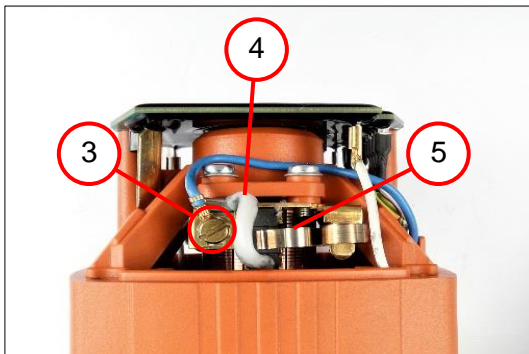
8.2 Removing the carbon brushes

Tools:

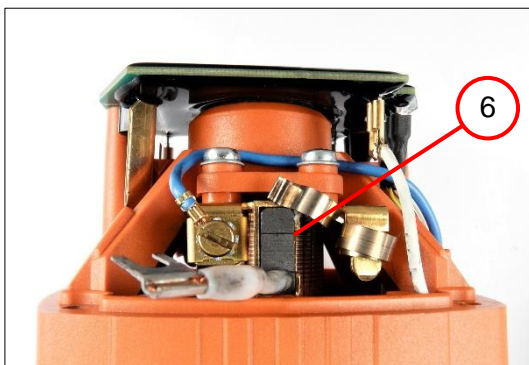
- PH2 cross-tip screwdriver
- Slotted screwdriver



1. Unscrew the four sheet metal screws (1).
2. Remove the cover (2).



3. Loosen the screw (3).
4. Disconnect the cable (4).
5. Lift the spring (5) to one side.



6. Remove the carbon brush (6).
7. Repeat steps 3 to 6 on the opposite side of the machine.

8.3 Removing the motor housing

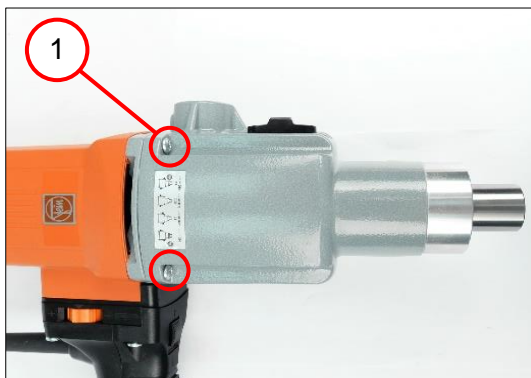
8.3.1 Removing the gearbox housing

Steps that must be completed:

- Removing the carbon brushes

Tools:

- PH2 cross-tip screwdriver



1. Unscrew the two screws (1).
2. Repeat step 1 on the opposite side of the machine.



3. Remove the gearbox housing (2).

8.3.2 Removing the electronics

Steps that must be completed:

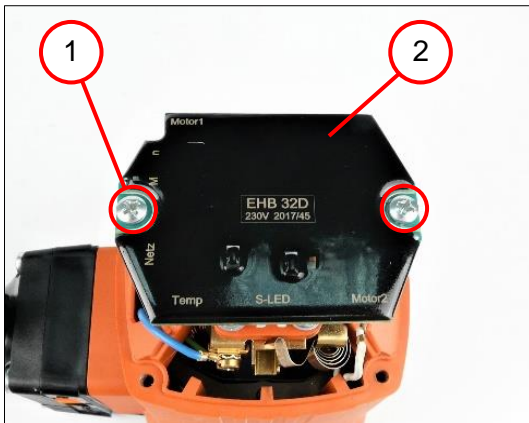
- Removing the carbon brushes

Tools:

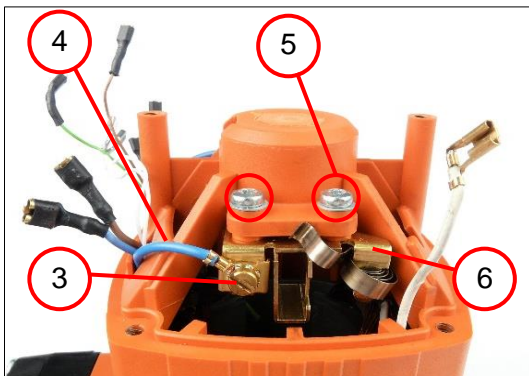
- Long-nosed pliers
- PH2 cross-tip screwdriver
- Torx T20



1. Remove all plug connections from the electronics.



2. Unscrew the two screws (1).
3. Remove the electronics (2).



4. Unscrew the screw (3).
5. Remove the cable (4).
6. Unscrew the two screws (5).
7. Remove the brush holder (6).
8. Repeat steps 4 to 7 on the opposite side of the machine.

8.3.3 Removing the handle

Tools:

- PH2 cross-tip screwdriver



1. Unscrew the two screws (1).
2. Repeat step 1 on the opposite side of the machine.



3. Unscrew the screw (2).
4. Remove the handle half shell (3).

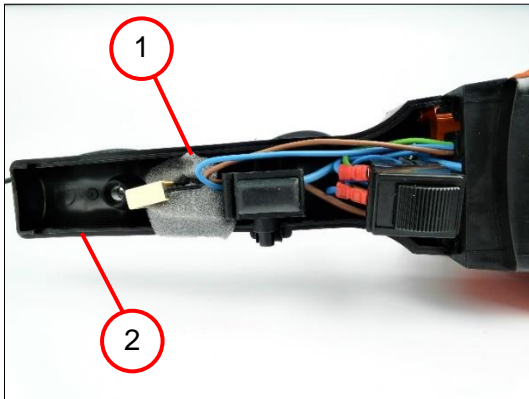
8.3.4 Removing the electronic components

Steps that must be completed:

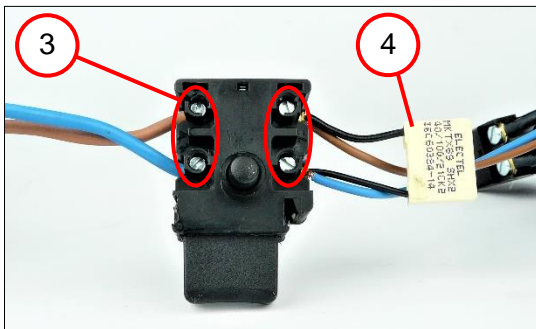
- Removing the handle

Tools:

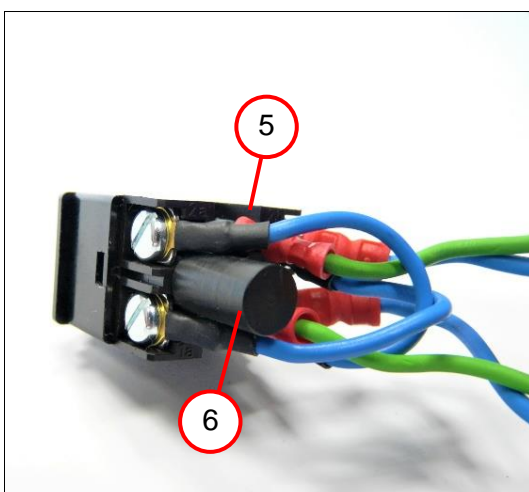
- Slotted screwdriver



1. Remove the two pressure pieces (1).
2. Remove all electronic components from the handle half shell (2).



3. Unscrew the four screws (3).
4. Remove the capacitor (4).
5. Remove all of the cables.



6. Unscrew all six screws from the toggle switch (5).
7. Remove all of the cables from the toggle switch (5).
8. Remove the bolt (6).

8.3.5 Removing the stator

Steps that must be completed:

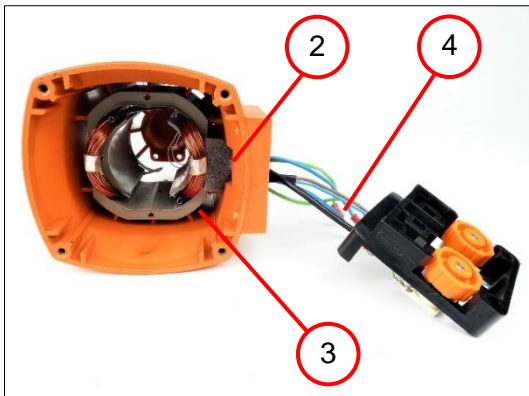
- Removing the carbon brushes
- Removing the electronics

Tools:

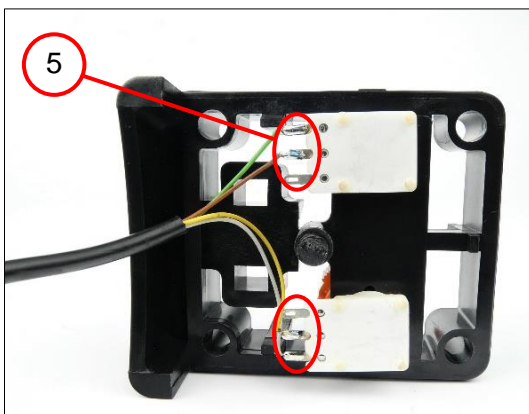
- PH2 cross-tip screwdriver
- Soldering station



1. Remove the air guide ring (1).



2. Remove the pressure piece (2).
3. Remove the stator (3).
4. Remove the connecting cable (4) from the motor housing.



5. Unsolder the cables (5).

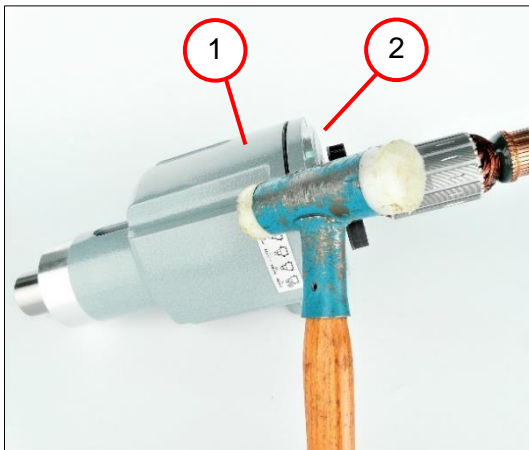
8.3.6 Removing the intermediate gear box

Steps that must be completed:

- Removing the carbon brushes
- Removing the gearbox housing

Tools:

- Plastic hammer



1. Remove the gearbox housing (1) from the intermediate gearbox (2).

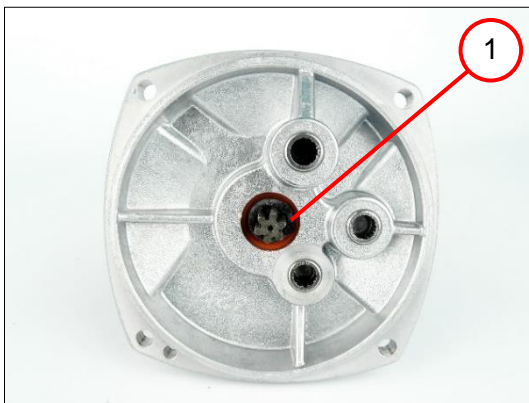
8.3.7 Removing the intermediate gear box

Steps that must be completed:

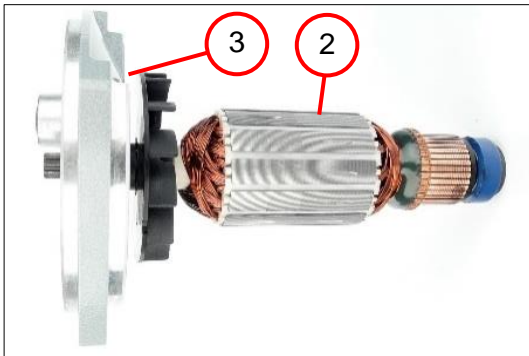
- Removing the carbon brushes
- Removing the gearbox housing
- Removing the intermediate gear box

Tools:

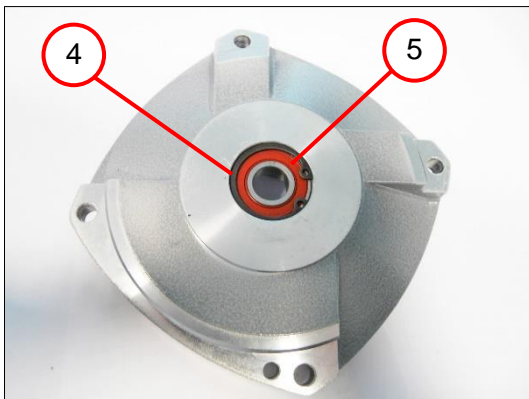
- Circlip pliers
- Arbor press



1. Remove the circlip (1).



2. Press the armature (2) out of the intermediate gearbox (3).



3. Remove the circlip (4).
4. Press out the grooved ball bearing (5).



INFORMATION

The grooved ball bearing (5) is damaged during removal and must be replaced.

8.3.8 Removing the armature

Steps that must be completed:

- Removing the carbon brushes
- Removing the gearbox housing
- Removing the intermediate gear box
- Removing the intermediate gear box

Tools:

- Circlip pliers
- Arbor press
- Drawing-off socket cap
- Chuck cone, dia. 26 mm



1. Remove the bearing bush (1).



2. Remove the ring magnet with the ball bearing (2).
3. Remove the disc (3).



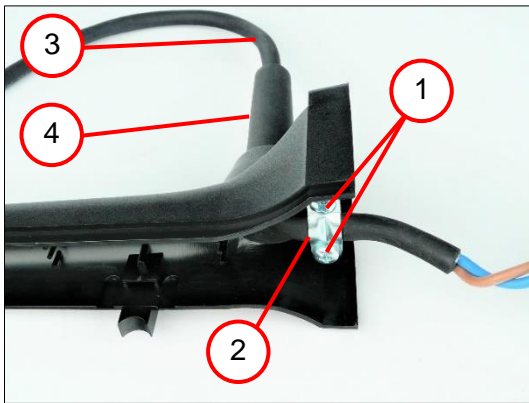
8.3.9 Removing the network cable

Steps that must be completed:

- Removing the carbon brushes
- Removing the handle
- Removing the electronic components
- Removing the electronics
- Removing the stator

Tools:

- PH2 cross-tip screwdriver



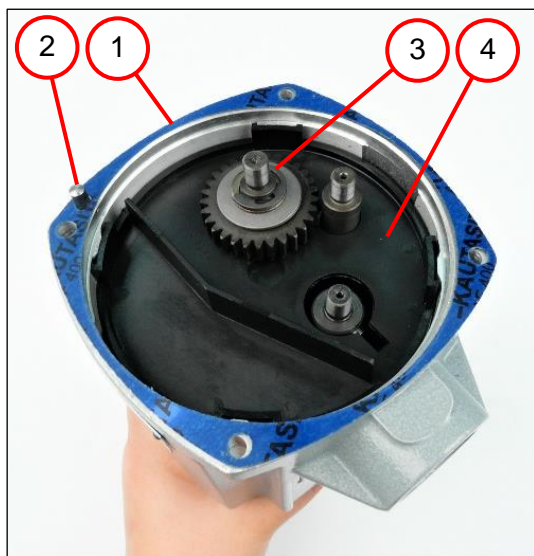
1. Unscrew the two screws (1).
2. Remove the cable clamping piece (2).
3. Remove the cable (3).
4. Remove the cable grommet (4).

8.4 Removing the gearbox housing

8.4.1 Removing the gearbox parts

Steps that must be completed:

- Removing the carbon brushes
- Removing the gearbox housing
- Removing the intermediate gear box



1. Remove the seal (1).
2. Remove the bolt (2).
3. Remove the clutch (3).
4. Remove the covering plate (4).

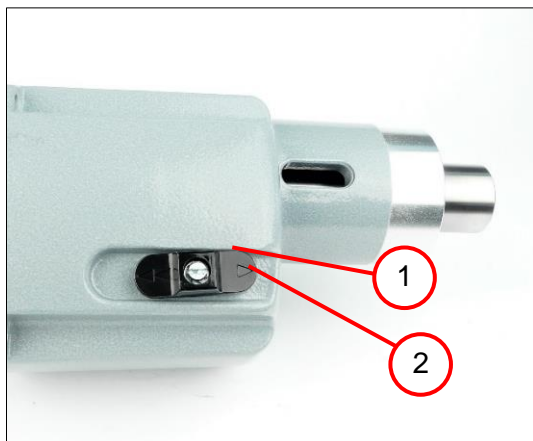
8.4.2 Removing the switch pushbutton

Steps that must be completed:

- Removing the carbon brushes
- Removing the intermediate gear box

Tools:

- Slotted screwdriver



1. Unscrew the screw (1).
2. Remove the switch pushbutton (2).
3. Repeat steps 1 and 2 on the opposite side of the machine.

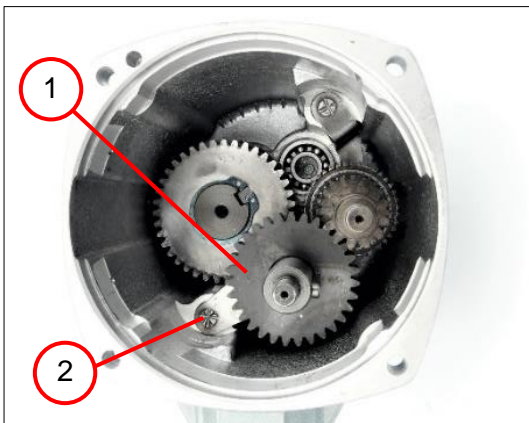
8.4.3 Removing the clutch and shafts

Steps that must be completed:

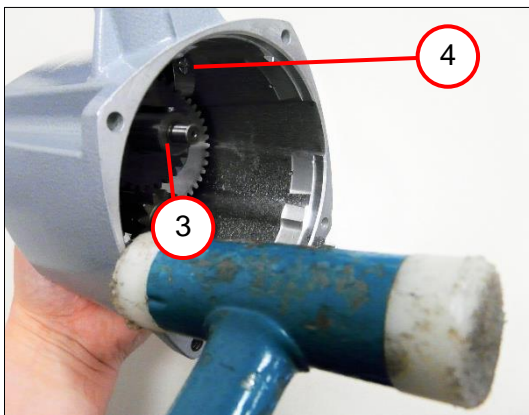
- Removing the carbon brushes
- Removing the intermediate gear box

Tools:

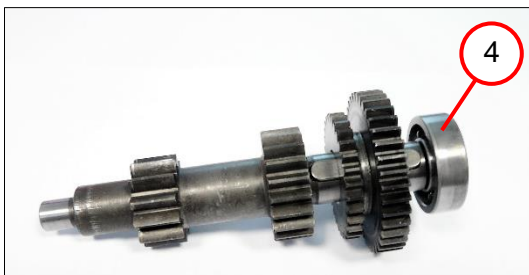
- Circlip pliers
- Arbor press
- Sleeve
54 mm inner diameter, 64 mm outer diameter;
28 mm outer diameter, 105 mm height;
31 mm inner diameter, 37 mm outer diameter, 105 mm height



1. Remove the shaft with disc (1).
2. Remove the selector shaft (2).

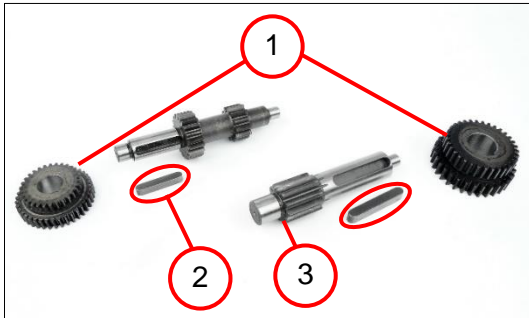


3. Remove the shaft (3).
4. Remove the selector shaft (4).

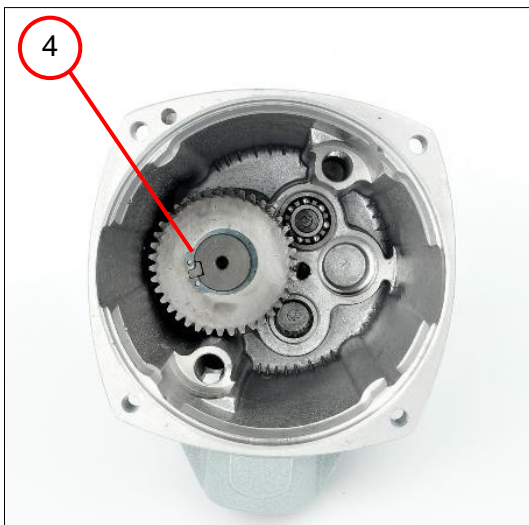


5. Remove the bearing (5).

8.4.3 Removing the clutch and shafts



6. Remove each gear-wheel (1) from the shaft.
7. Remove each feather key (2) from the shaft.
8. Remove the disc (3).



9. Remove the circlip (4).

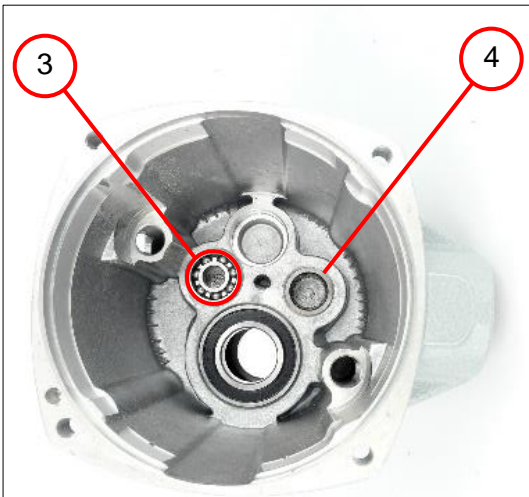


10. Press out the shaft.
11. Remove the gear-wheel with feather key.
12. Remove the disc.

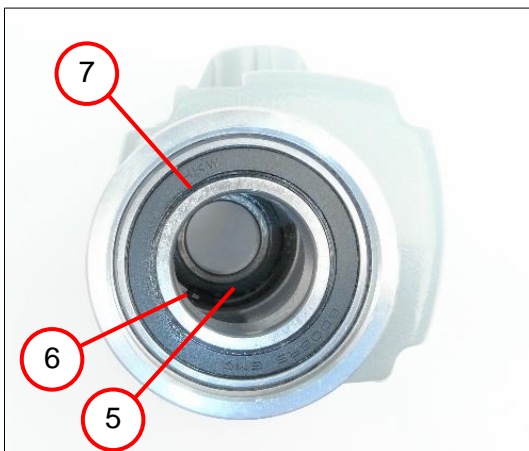
8.4.3 Removing the clutch and shafts



13. Remove the circlip (1).
14. Remove the disc (2).



15. Pull off the grooved ball bearing (3).
16. Pull off the needle bearing (4).



17. Press out the grooved ball bearing (5).
18. Remove the circlip (6).
19. Press out the grooved ball bearing (7).

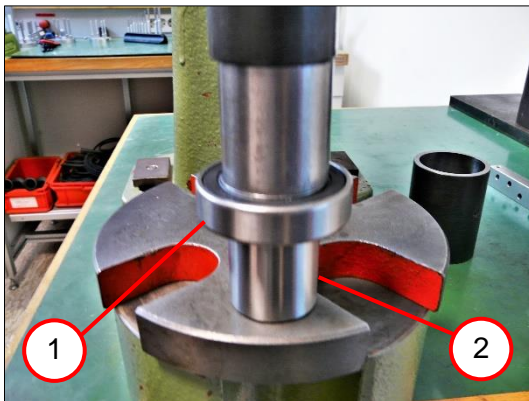
9 Fitting

9.1 Fitting the gearbox housing

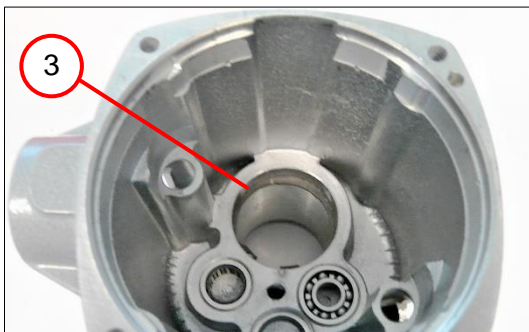
9.1.1 Fitting the clutch and shafts

Tools:

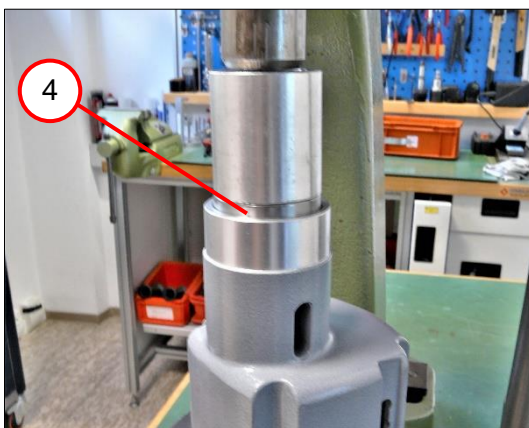
- Arbor press
- Sleeve
54 mm outer diameter;
26 mm inner diameter, 28 mm outer diameter
- Circlip pliers



1. Press the grooved ball bearing (1) onto the shaft (2).

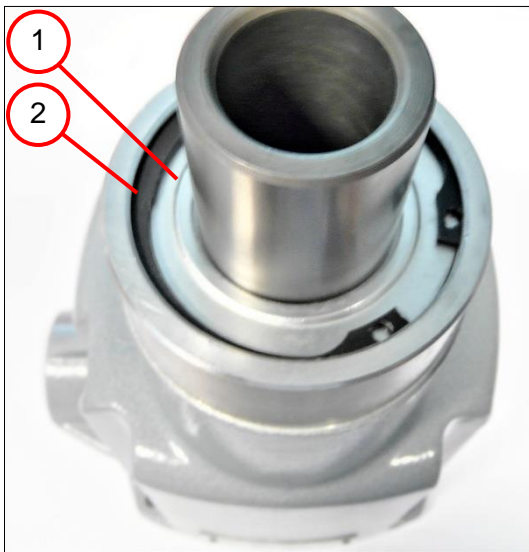


2. Position the circlip (3).



3. Press in the shaft (4).
4. Position the disc.

9.1.1 Fitting the clutch and shafts



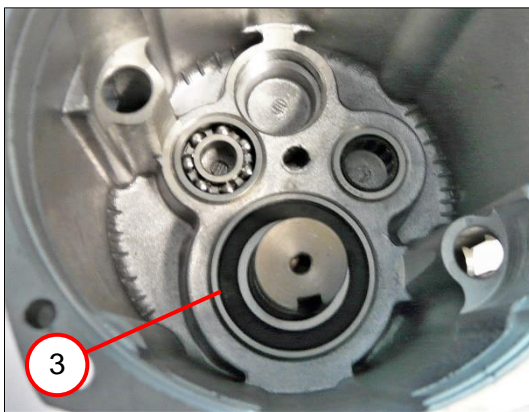
5. Position the disc (1).



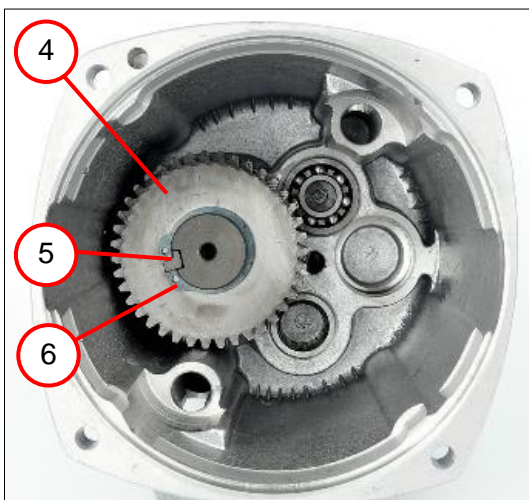
INFORMATION

Note the position of the disc.
The projection must point upwards.

6. Position the circlip (2).



7. Press in the grooved ball bearing (3).

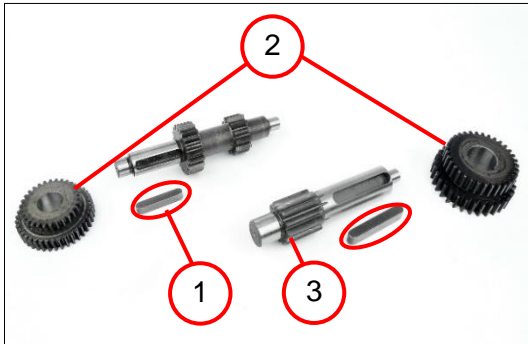


8. Press in the gear-wheel (4).

9. Press in the feather key (5).

10. Position the circlip (6).

9.1.1 Fitting the clutch and shafts



11. Position each of the feather keys (1).

12. Position each of the gear-wheels (2).



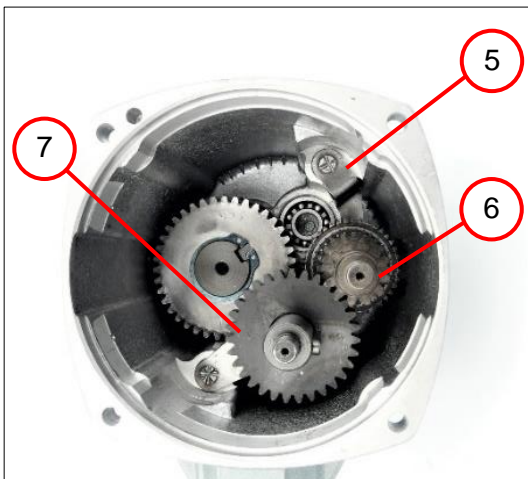
INFORMATION

Note the position of the gear-wheels.

13. Position the disc (3).



14. Press the grooved ball bearing (4) onto the shaft.



15. Position the two selector shafts (5).

16. Position the shaft (6).

17. Position the shaft (7).



INFORMATION

Note the position of the selector shafts.

18. Fill the gearbox with 180 g grease.

9.1.2 Fitting the switch pushbutton

Steps that must be completed:

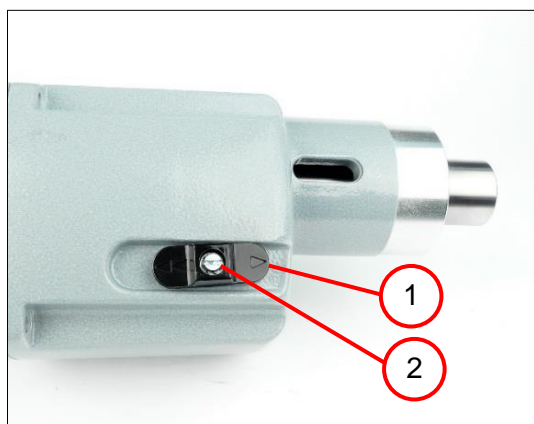
- Fitting the clutch and shafts

Tools:

- Slotted screwdriver



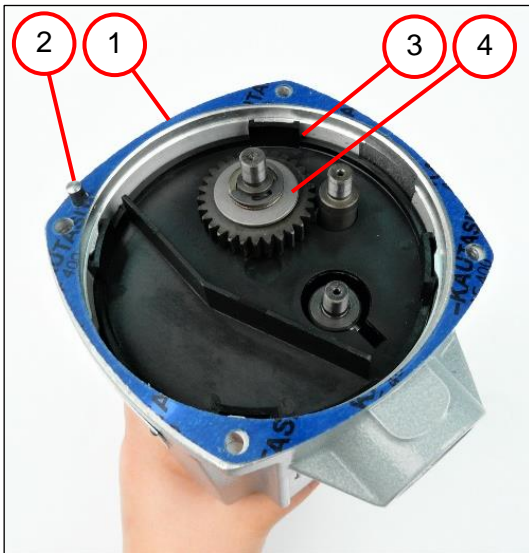
1. Position the switch pushbutton (1).
2. Screw in the screw (2).
3. Repeat steps 1 and 2 on the opposite side of the machine.



9.1.3 Fitting the gearbox parts

Steps that must be completed:

- Fitting the clutch and shafts
- Fitting the switch pushbutton



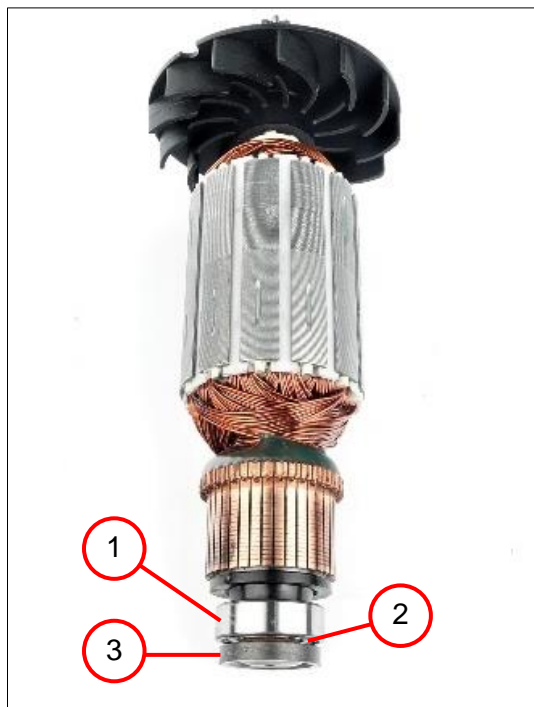
1. Position the seal (1).
2. Position the bolt (2).
3. Position the covering plate (3).
4. Position the clutch (4).
5. Fill the gearbox with 90 g grease.

9.2 Fitting the motor housing

9.2.1 Fitting the armature

Tools:

- Arbor press
- Circlip pliers



1. Press on the grooved ball bearing (1).
2. Position the disc (2).
3. Coat the ring magnet (3) with Loctite 648.



INFORMATION

Note the position of the ring magnets.

4. Position the ring magnet (3).

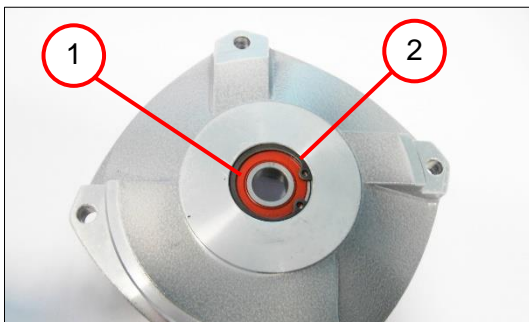
9.2.2 Fitting the intermediate gearbox

Steps that must be completed:

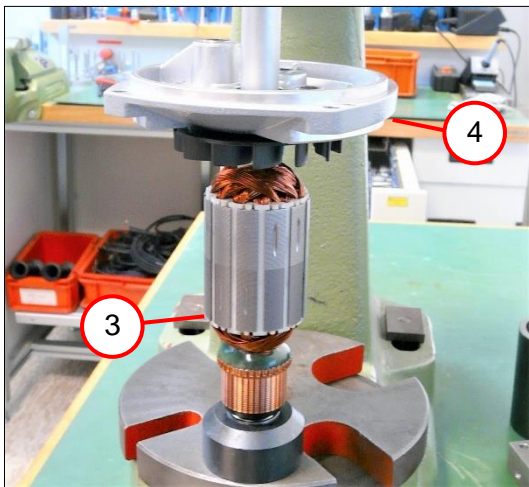
- Fitting the armature

Tools:

- Arbor press
- Sleeve
11 mm inner diameter, 18 mm outer diameter
- 26 mm diameter support



1. Press in the grooved ball bearing (1).
2. Position the circlip (3).

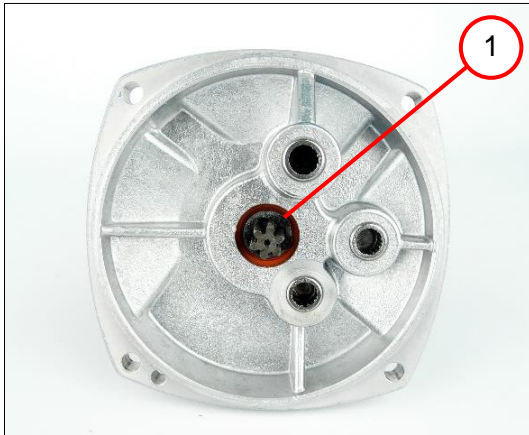


3. Press the armature (3) into the intermediate gearbox (4).



4. Position the bearing bush (5).

9.2.2 Fitting the intermediate gearbox



5. Position the circlip (1).

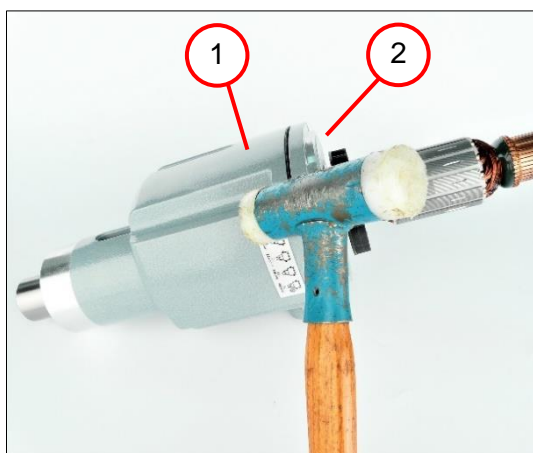
9.2.3 Positioning the intermediate gearbox

Steps that must be completed:

- Fitting the clutch and shafts
- Fitting the switch pushbutton
- Fitting the gearbox parts
- Fitting the armature
- Fitting the intermediate gearbox

Tools:

- Plastic hammer

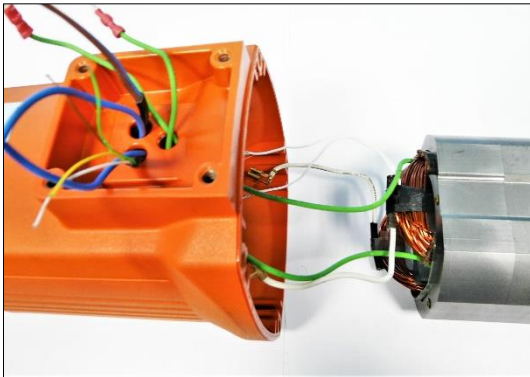


1. Fit the gearbox housing (1) with the intermediate gearbox (2).

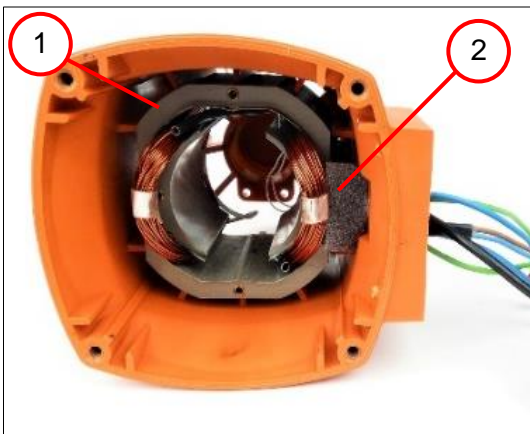
9.2.4 Fitting the stator

Tools:

- Soldering station
- PH2 cross-tip screwdriver



1. Position all of the cables.



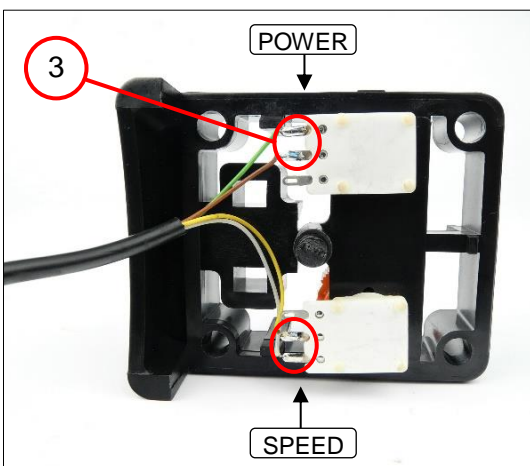
2. Position the stator (1).



INFORMATION

Note the position of the stator.

3. Position the pressure piece (2).

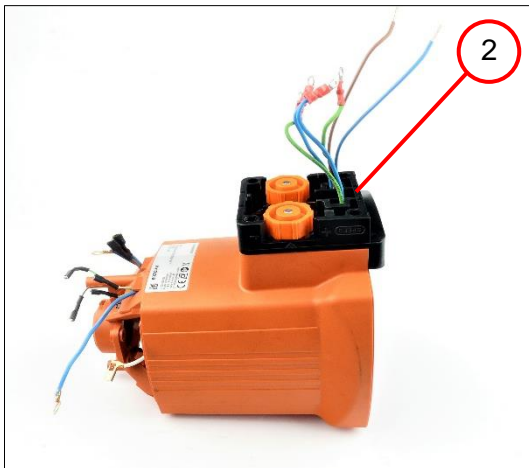


4. Solder the cables (3).

9.2.4 Fitting the stator



5. Position the air guide ring (1).



6. Position the speed setting switch (2).

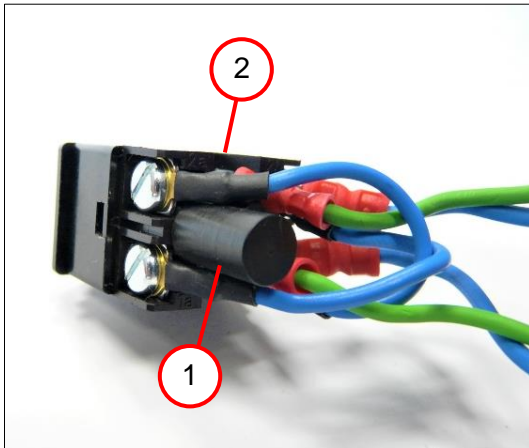
9.2.5 Fitting the electronic components

Steps that must be completed:

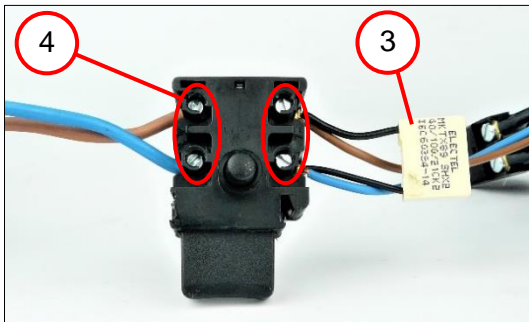
- Fitting the stator

Tools:

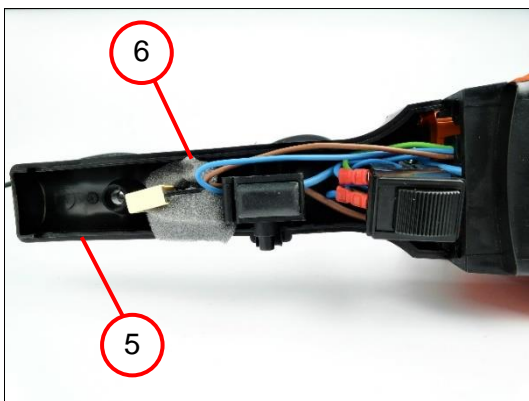
- Slotted screwdriver



1. Position the bolt (1).
2. Connect the cables to the toggle switch (2) as shown in the connection diagram.
3. Screw the six screws into the toggle switch (2).



4. Connect the cables as shown in the connection diagram.
5. Position the capacitor (3).
6. Screw in the four screws (4).



7. Position all of the electronic components in the handle half shell (5).
8. Position the two pressure pieces (6).

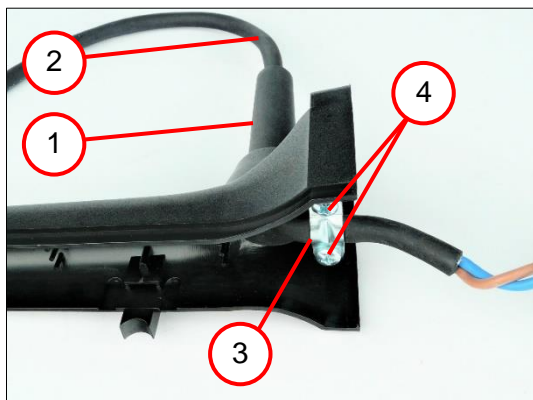
9.2.6 Fitting the network cable

Steps that must be completed:

- Fitting the stator

Tools:

- PH2 cross-tip screwdriver



1. Position the cable grommet (1).
2. Position the cable (2).
3. Position the cable clamping piece (3).
4. Screw in the two screws (4).

9.2.7 Fitting the handle

Steps that must be completed:

- Fitting the stator
- Fitting the electronic components
- Fitting the network cable

Tools:

- PH2 cross-tip screwdriver



1. Position the handle half shell (1).
2. Screw in the screw (2).



3. Screw in the two screws (3).
4. Repeat step 3 on the opposite side of the machine.

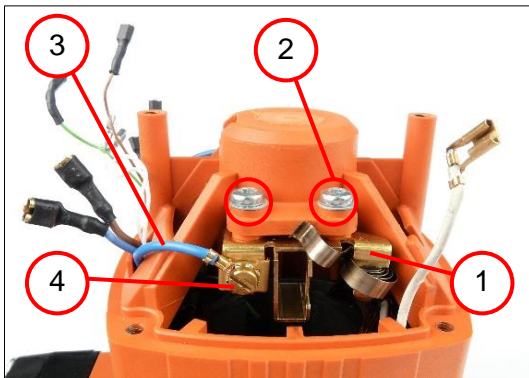
9.2.8 Fitting the electronics

Steps that must be completed:

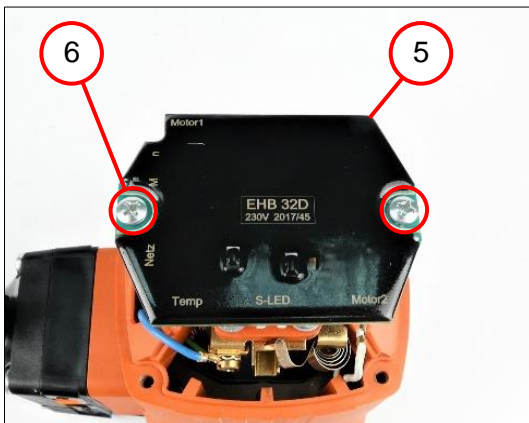
- Fitting the stator

Tools:

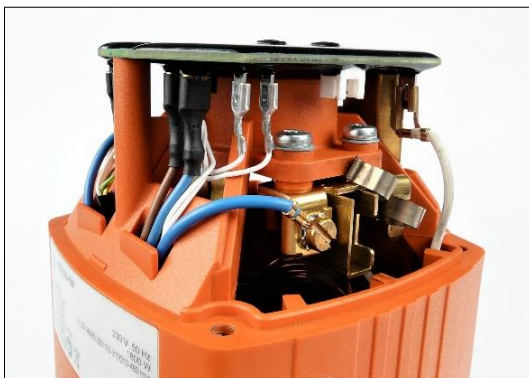
- Torx T15
- PH2 cross-tip screwdriver



1. Position the brush holder (1).
2. Screw in the two screws (2).
3. Position the cable (3).
4. Screw in the screw (4).
5. Repeat steps 1 to 4 on the opposite side of the machine.



6. Position the electronics (5).
7. Screw in the two screws (6).



8. Connect all cables as shown in the connection diagram.

9.2.9 Positioning the gearbox housing

Steps that must be completed:

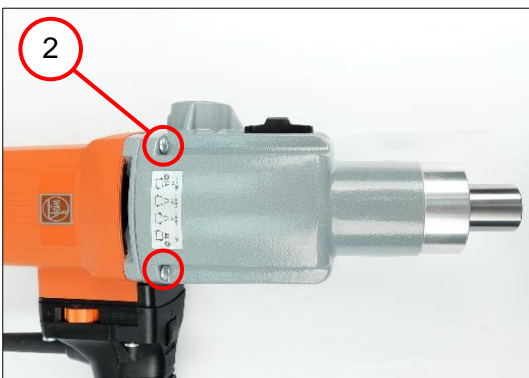
- Fitting the clutch and shafts
- Fitting the switch pushbutton
- Fitting the gearbox parts
- Fitting the armature
- Fitting the intermediate gearbox
- Positioning the intermediate gearbox
- Fitting the stator

Tools:

- PH2 cross-tip screwdriver



1. Position the gearbox housing (1).



2. Screw in the two screws (2).
3. Repeat step 2 on the opposite side of the machine.

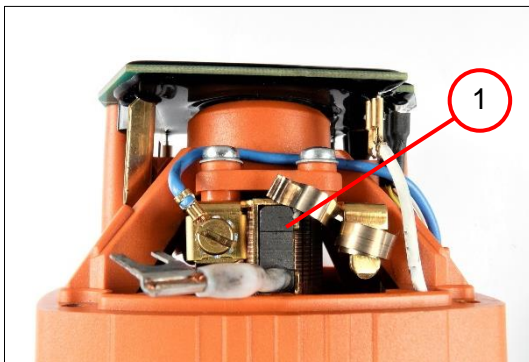
9.3 Fitting the carbon brushes

Steps that must be completed:

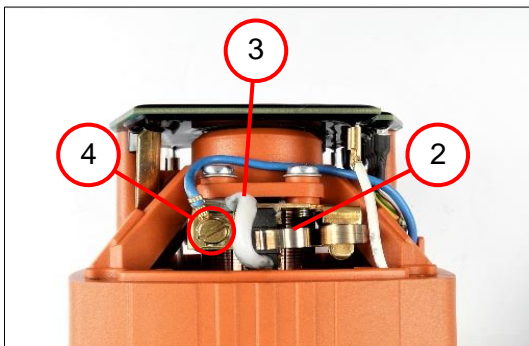
- Fitting the clutch and shafts
- Fitting the switch pushbutton
- Fitting the gearbox parts
- Fitting the armature
- Fitting the intermediate gearbox
- Positioning the intermediate gearbox
- Fitting the stator
- Fitting the gearbox housing

Tools:

- Slotted screwdriver
- PH2 cross-tip screwdriver
- Assembly aid

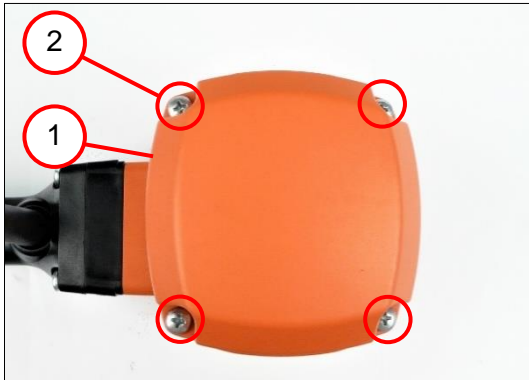


1. Position the carbon brush (1).



2. Position the spring (2).
3. Position the cable (3).
4. Screw in the screw (4).
5. Repeat steps 1 to 4 on the opposite side of the machine.

9.3 Fitting the carbon brushes



6. Position the cover (1).
7. Screw in the four screws (2).



9.4 Fitting the additional handle



1. Screw in the additional handle (1).



10 Inspection following repairs

Not currently available.