

**Special Tools
Require**

- Pin-type face spanner

4931 5990 26

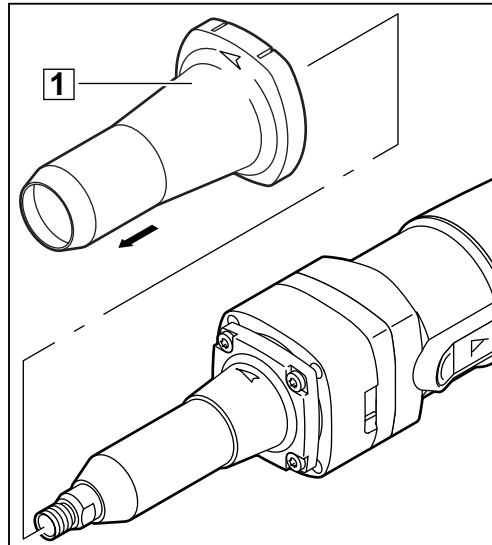
Important!

- Before beginning the maintenance work, perform an initial check with a high voltage test according to VDE (see chapter Electrical and Mechanical Test Instructions).
- Before all repair work, pull the power plug from the socket!

Disassembly

Machines with a long spindle: 1 Pull the sleeve (1) off towards the front.

Remove the sleeve



1

Machines with a long spindle: 1 Loosen the four screws (4) and remove the complete bearing neck (3).

Disassembling the spindle

2 Remove the nut (1) with the provided face spanner. Steady the grinding spindle (5) using a fork wrench (SW15) for support.

3 Remove the collet (2).

4 Unscrew the coupling (C), using a pair of Seeger circlip ring special pliers A2 (see illustration).



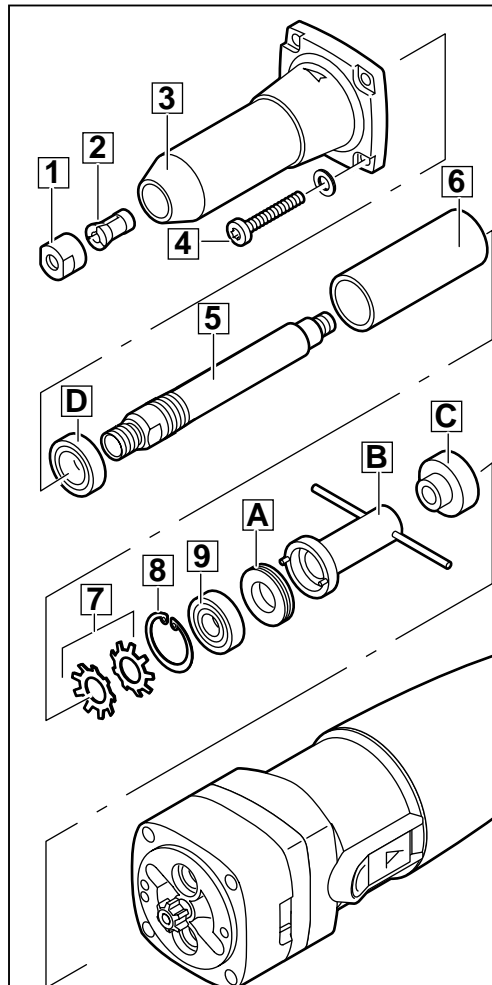
Steady the grinding spindle (5) for support.

☞ The coupling (C) has a right-handed thread!

5 Remove the following parts:

- nut (A) (use the pin-type face spanner (B)),
- ball bearing (9) (press out),
- locking ring (8),
- two springs (7),
- distance sleeve (6),
- grinding spindle (5).

6 Press off the bearing (D) over the thread of the grinding spindle (5).

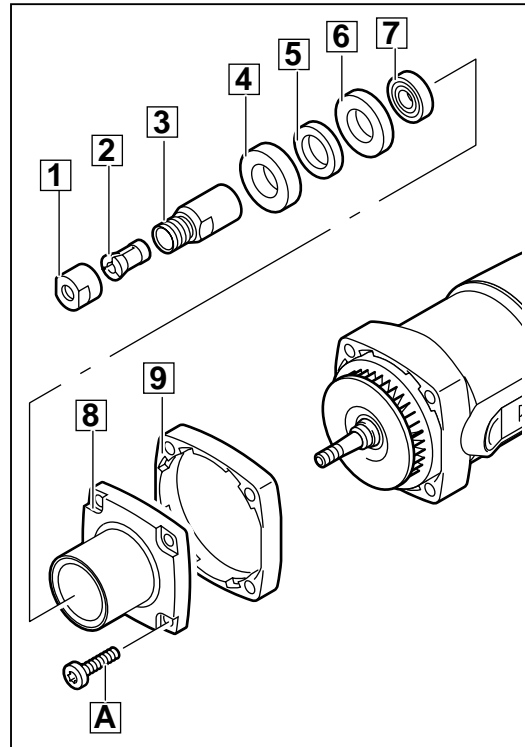


2

Machines with a short spindle:

Disassembling the spindle

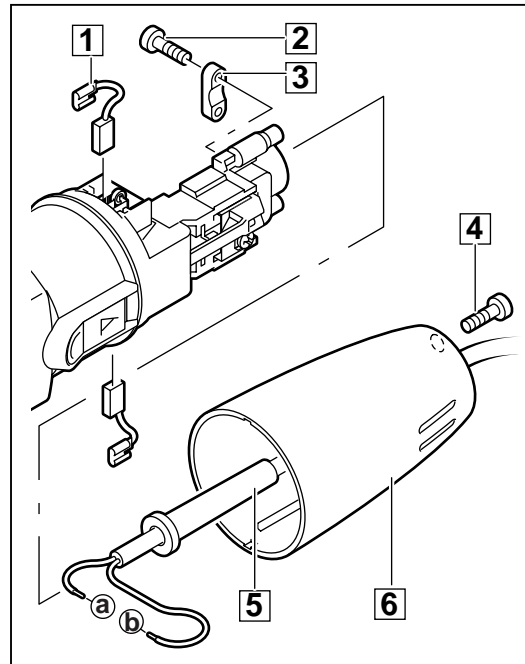
- 1 Loosen four screws (A) and remove the flange (8).
- 2 Remove the nut (1) with the provided face spanner. Steady the grinding spindle (3) using a fork wrench for support
- 3 Remove the collet (2).
- 4 Remove the following parts:
 - spindle sleeve (3),
 - seal ring (4),
 - felt ring (5),
 - spacer (6),
 - ball bearing (7) (press it out).
- 5 In case the machine has an intermediate flange: This flange (9) has to be removed.



2

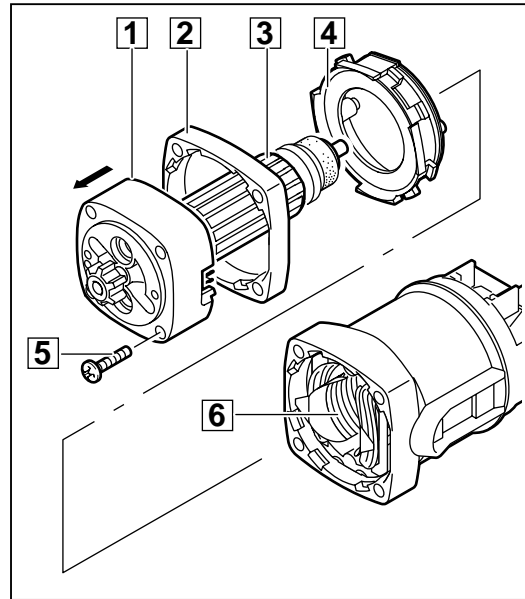
Removing the housing cap and the carbon brushes

- 1 Loosen two screws (4) and pull the housing cap (6) backwards.
- 2 Branch the mains cable (5) off and remove the screw (2) from the cable collar (3).
- 3 On both sides, branch the carbon brushes (1) off and remove them.



3

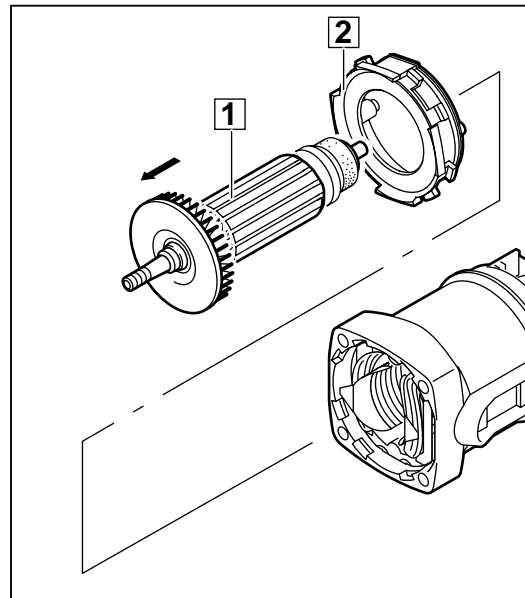
- Machines with a long spindle:**
- 1 Remove four screws (5).
 - 2 Pull the entire armature assembly (3) with the bearing end plate (1) from the field (6).
- Removing the bearing end plate and the armature**
- 3 **Machines with intermediate flange:** Also remove the intermediate flange (2).
 - 4 Remove the air deflector ring (4).



4

- Machines with a short spindle:**
- 1 Remove the armature (1) from the field.
 - 2 Remove the air deflector ring (2).


Removing the armature



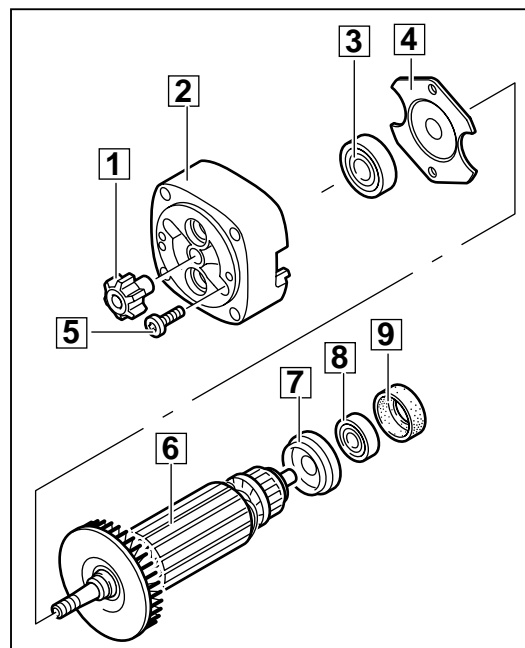
4

- Machines with a long spindle:**
- 1 Unscrew the driver (1) from the armature shaft while steadying the armature (6) for support.

Removing the armature

 The driver (1) has a right-handed thread!

- 2 Remove the armature (6).
- 3 Remove two screws (5) from the bearing end plate (2) and detach the following parts:
 - bearing cover (4),
 - ball bearing (3) (press out).
- 4 Remove the following parts from the armature (6):
 - rubber sleeve (9),
 - ball bearing (8) (press off),
 - insulating disc (7).

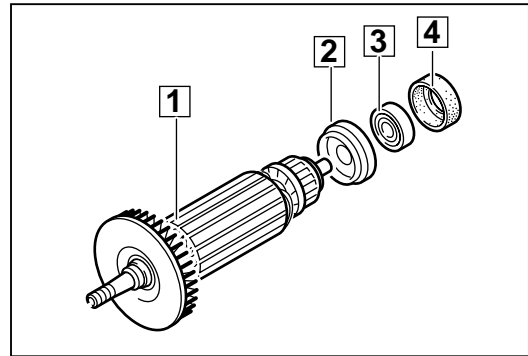


5

Machines with short sleeve: 1 Remove the following parts from the armature (1):

- rubber sleeve (4),
- ball bearing (3) (press off),
- insulating disc (2).

Removing the armature

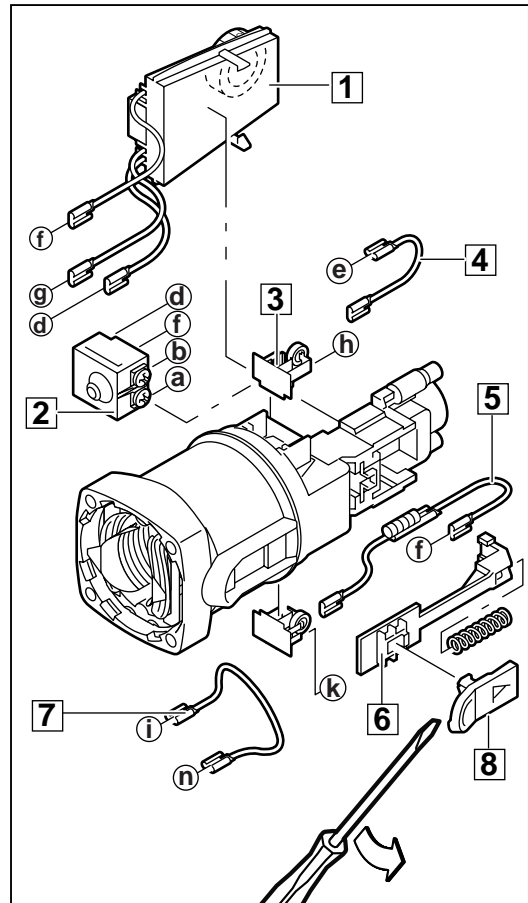


5

Machines with speed pre-selection:

Removing the electronic component

- 1 Remove the brush holders (3) from both sides,
- 2 Branch off wires (4), (5) and (7), and remove the switch (2).
- 3 Lever the slider (8) off, using a screwdriver.
- 4 Remove the guide piece (6) with the pressure spring.
- 5 Branch the electronic component (1) off and remove it.

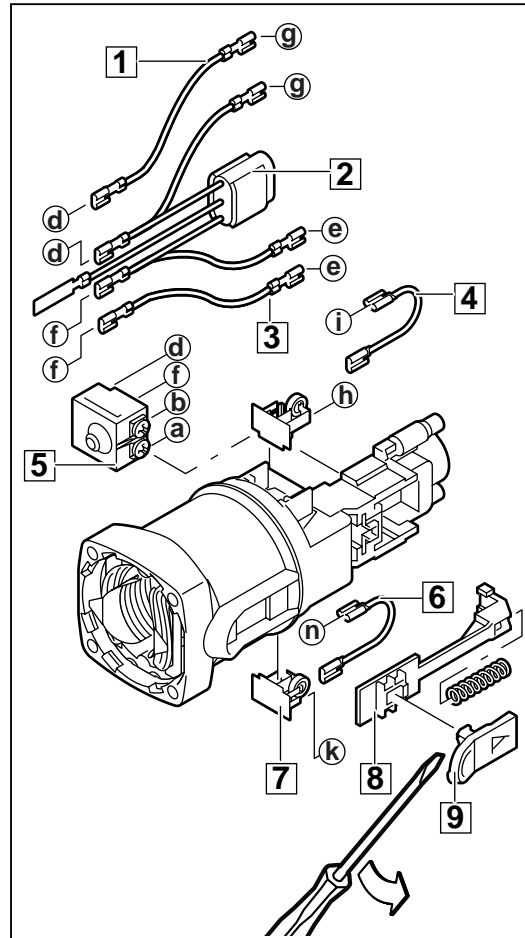


6

Machines with constant speed:

Removing the electronic components

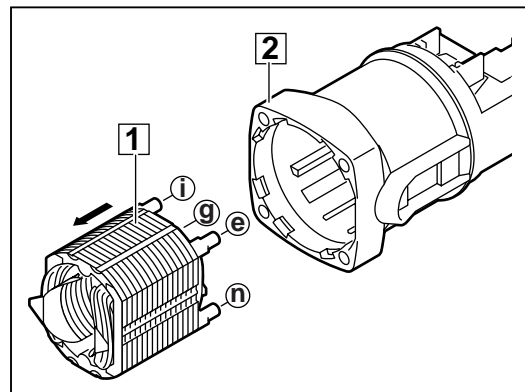
- 1 Remove the brush holders (7) from both sides.
- 2 Branch off wires (4) and (6).
- 3 Branch off the wire from the switch (5) and remove the switch (5).
- 4 Lever off the slider (9) with aid of a screwdriver and remove the guide piece (8) with the pressure spring.
- 5 **When disassembling the 220 V - 240 V model:**
Additionally remove the capacitor (2).
- 6 **When disassembling the 110 V model:**
Additionally branch off wires (1) and (3).



6

Detaching the field

- 1 Remove the field (1) from the motor housing (2).
 ⚡ If necessary, tap the motor housing (2) with a plastic hammer for support.



7

Maintenance

General	It is recommended that maintenance be performed on the machine at regular intervals or when the carbon brushes switch off at the latest.
Cleaning	Clean all parts – with the exception of the electrical parts – with cold cleaning agent. Caution! No cleaning agent should penetrate into the bearing. Clean the electrical parts with a dry brush.
Check for wear	Check the disassembled parts for wear (visual inspection) and replace worn parts.
Electrical tests	Before reassembling, perform an electrical test on all relevant parts (see chapter Electrical and Mechanical Test Instructions).
Lubrication	Each time maintenance is performed, the machine is to be lubricated as stated in the lubrication plan. After the machine is fully disassembled, completely remove the old grease and replace with new grease. The grease must be applied to the machine as indicated in the lubrication plan.

Lubrication chart:

- Daub with 2 g of Notropen LX 500 grease (Order No.: 4931 325 583).

Machines with a long spindle


Machines with a short spindle

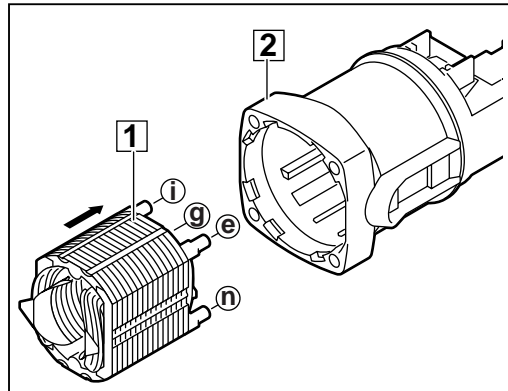
Torques	Housing screws in plastic	1.9 Nm
	Fastening screws gear box	1.8 Nm
	Screws in metal	2.5 Nm

Assembly

Mounting the field

- 1 Insert the field (1) into the motor housing (2).

 If necessary, tap the field (1) with a plastic hammer for support.

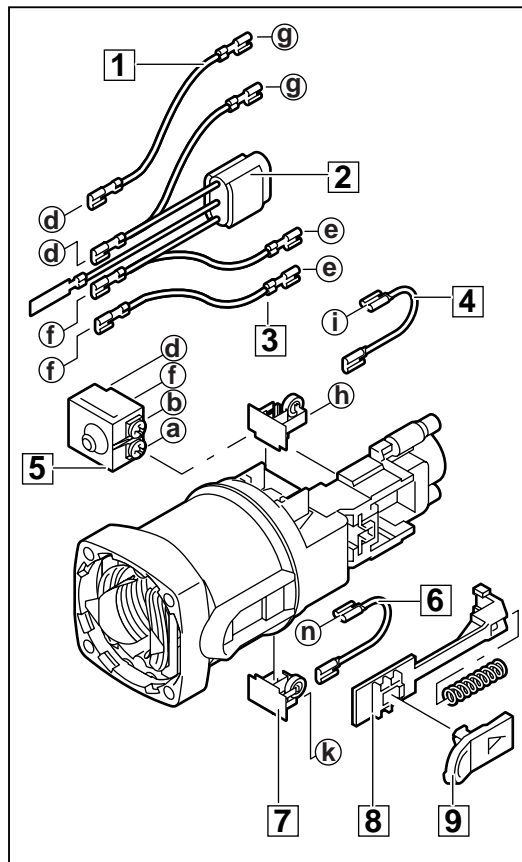


1

Machines with constant speed:

Mounting the electronic components

- 1 When assembling the 110 V model:
Connect the wires (1) and (3).
- 2 When assembling the 220 V - 240 V model:
Insert the capacitor (2) and connect it.
- 3 Insert the switch (5) and connect it.
- 4 Connect wires (4) and (6).
- 5 Insert the pressure spring into the guide piece (8). Insert the guide piece (8) into the machine. Mount the slider (9).
- 6 Insert the brush holders (7) on both sides.

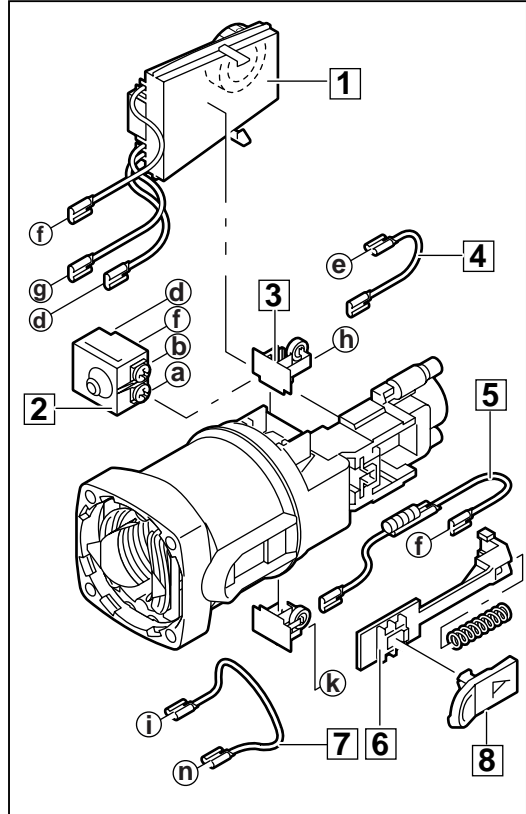


2

Machines with speed pre-selection:

Mounting the electronic component

- 1 Insert the electronic component (1) and connect it.
- 2 Connect the wires (4), (5) and (7), insert the switch (2) and connect it.
- 3 Insert the pressure spring into the guide piece (6) and insert the guide piece (6) into the machine.
- 4 Mount the slider (8).
- 5 On both sides, insert the brush holders (3).

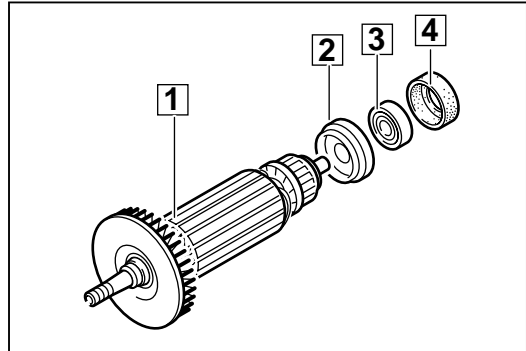


2

Machines with a short spindle:

Assembling the armature

- 1 Mount the following parts on the armature (1):
 - insulating disc (2),
 - ball bearing (3) (press on),
 - rubber sleeve (4).

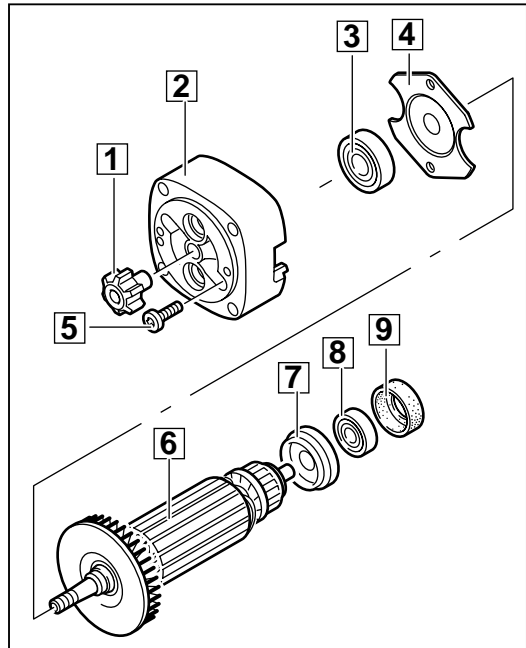


3

Machines with a long spindle:

Assembling the armature

- 1 Mount the following parts on the armature (6):
 - insulating disc (7),
 - ball bearing (8) (press on),
 - rubber sleeve (9).
- 2 Press the ball bearing (3) into the bearing end plate (2). Insert the bearing cover (4).
- 3 Fix the bearing end plate (2) with the bearing cover (4) with two screws (5).
- 4 Insert the assembled armature (6) into the bearing end plate (2) and screw the driver (1) onto the armature shaft, steadying the armature (6) for support.

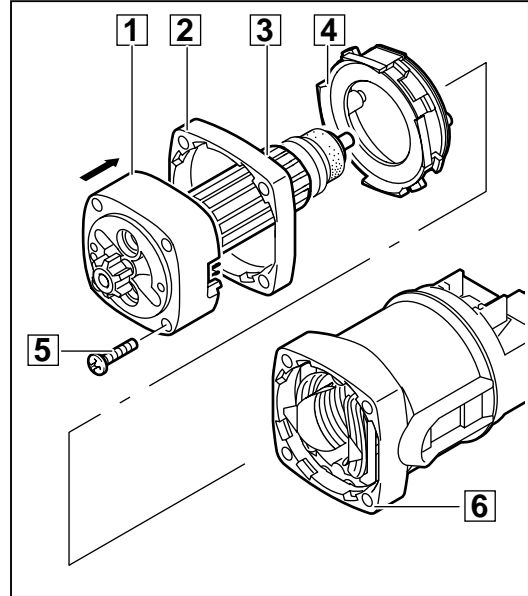


3

Machines with a long spindle:

Inserting the bearing end plate with the armature

- 1** Insert the air deflector ring (4) into the motor housing (6).
- 2** **Machines with intermediate flange:** Additionally insert the intermediate flange (2).
- 3** Insert the armature assembly (3) with the bearing end plate (1) into the field.
- 4** Fix the bearing end plate with four screws (5) on the motor housing (6).

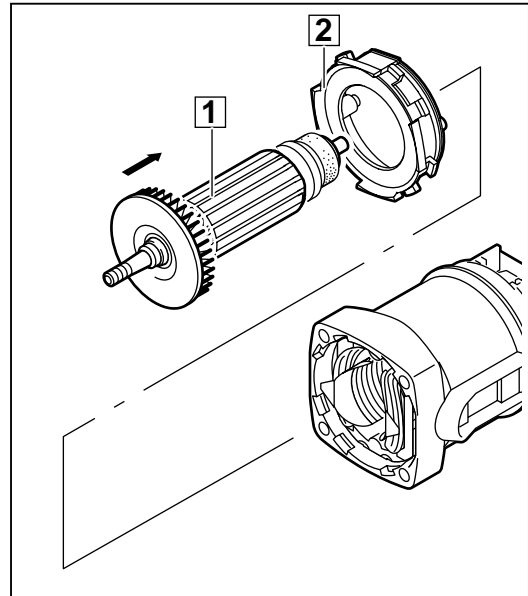


4

Machines with a short spindle:

Inserting the armature

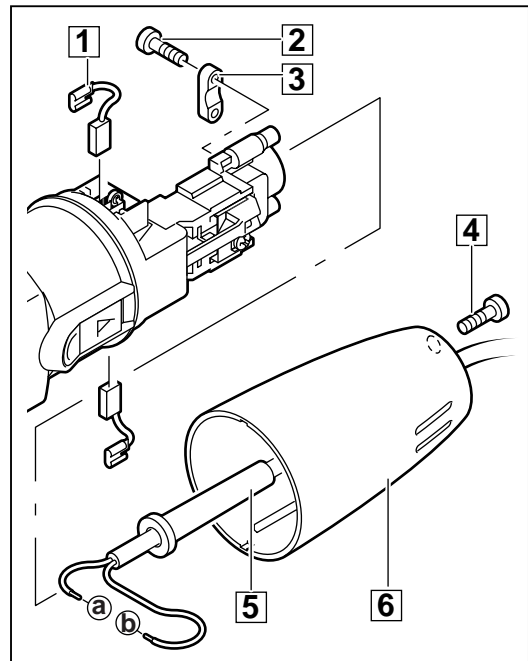
- 1** Mount the air deflector ring (2).
- 2** Insert the armature (1) into the field.



4

Mounting the housing cap and the carbon brushes

- 1** Insert the carbon brushes (1) on both sides and connect them.
- 2** Connect the mains cable (5) and secure it with the cable collar (3) and the screw (2).
- 3** Push the housing cap (6) over and fasten it with two screws (4).

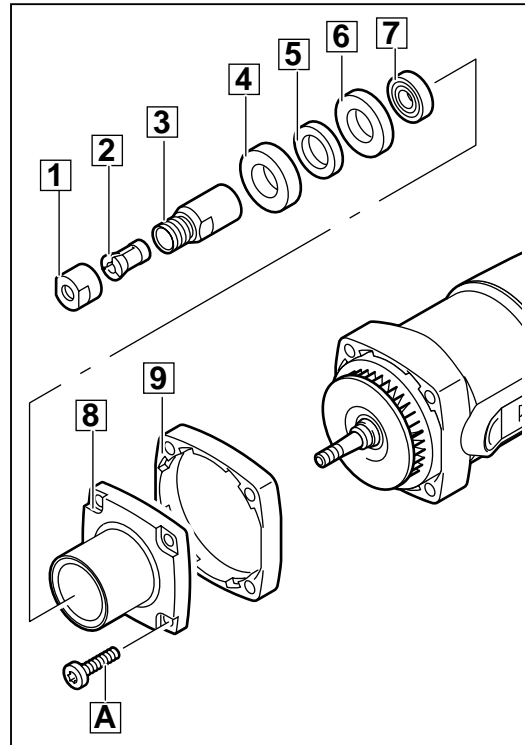


5

Machines with a short spindle:

Mounting the spindle

- 1 Machines with intermediate flange:**
Put on the intermediate flange (9).
- 2** Press the ball bearing (7) into the flange (8).
- 3** Mount the following parts on the spindle sleeve (3):
– seal ring (4),
– felt ring (5),
– spacer (6).
- 4** Screw the spindle sleeve (3) onto the armature shaft.
- 5** Mount the collet (2) into the spindle sleeve (3).
- 6** Screw the nut (1) onto on the spindle sleeve (3) with the provided wrench. Steady the spindle sleeve (3) for support.
- 7** Put the flange (8) on and fasten it with four screws (A).

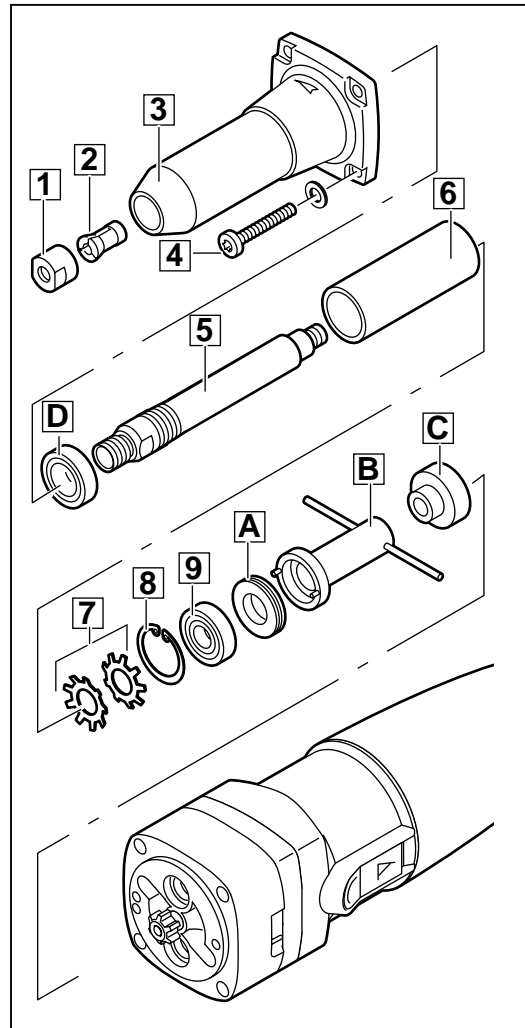


6

Machines with a long spindle:

Mounting the spindle

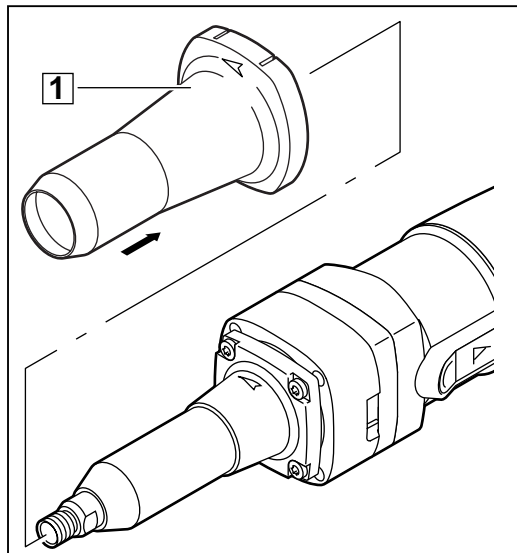
- 1** Press the ball bearing (D) onto the grinding spindle (5). Put the distance sleeve (6) on and insert the grinding spindle and the distance sleeve together into the bearing neck (3).
- 2** Mount the following parts:
– insert two springs (7) (insert them opposite each other, as shown in illustration),
– locking ring (8),
– ball bearing (9) (press in),
– nut (A) (fasten it with the pin-type face spanner (B)).
- 3** Screw the coupling (C) down.
- 4** Insert the collet (2) into the grinding spindle.
- 5** Fasten the nut (1) with the provided key. Steady the grinding spindle (5) for support.
- 6** With four screws (4), fasten the assembled bearing neck (3) to the machine.
 ➔ Fasten the four screws (4) crosswise with identical torques (= 2.5 Nm)!



6

Machines with a long spindle: 1 Put the sleeve (1) on the machine.

Fastening the sleeve



7

Test Run Test run the machine and pay attention to noises.

Let the machine run-in.

Electrical Test Perform an electrical test on the machine (see chapter Electrical and Mechanical Test Instructions).