

**BBS(E)1100**

**Special Tools  
Require**

- Forcing discs

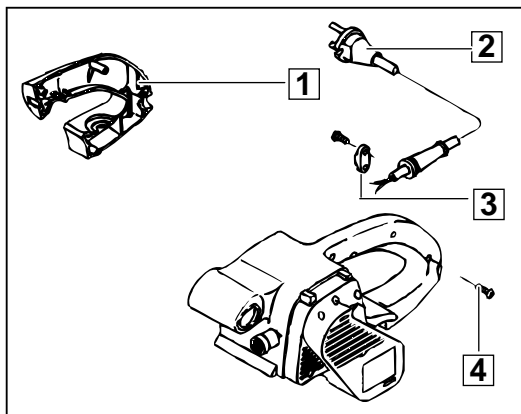
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**Important!**

- 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****Detaching the  
handle cover**

- 1 Loosen all five screws (4) and remove the handle cover (1).
- 2 Unscrew the strain relief (3).
- 3 Remove the connection cable (2) from the handle shell.



1

**Detaching the  
toothed belt,**

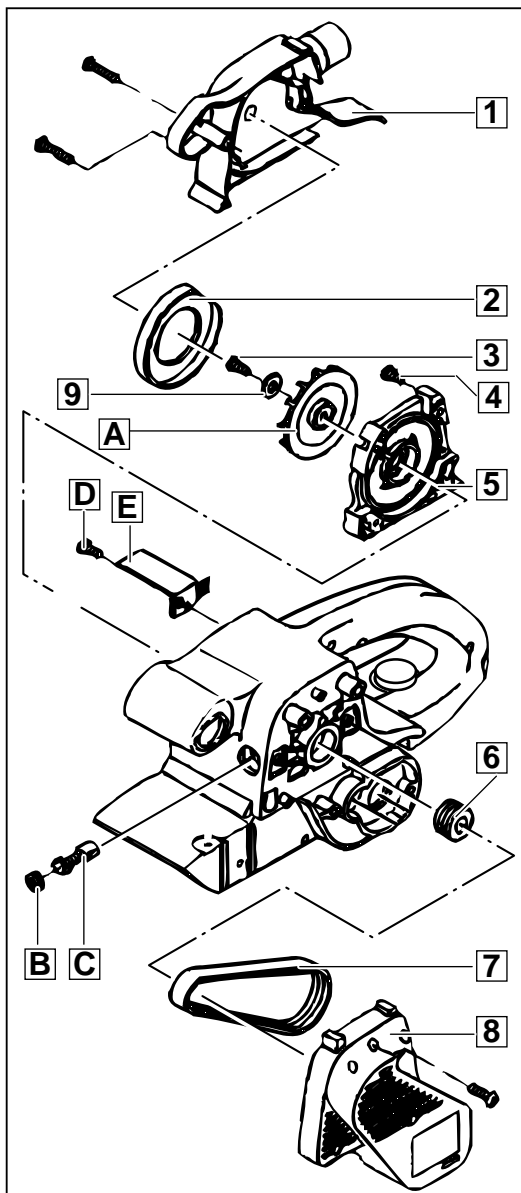
- 1 Unscrew the blower cover (1).
- 2 Remove the air deflector ring (2).
- 3 Unscrew the centric screw (3) of the fan (A) and remove the sealing washer (9).

☞ At the same time, steady the fan (A) for support.

**Removing the  
carbon brushes**

- 4 Remove the fan (A).
- 5 Loosen four screws (4) and remove the bearing end plate (5).
- 6 Remove the belt guard (8) and lever off/ twist off the toothed belt (7).
- 7 Unscrew the two brush holder caps (B) and remove the carbon brushes (C) on both sides.
- 8 Loosen the screw (D) and remove the triac (E).
- 9 Unscrew the pulley (6) with aid of a pipe wrench (put a piece of cloth in between). At the same time, carefully steady the armature, or remove the armature from the machine.

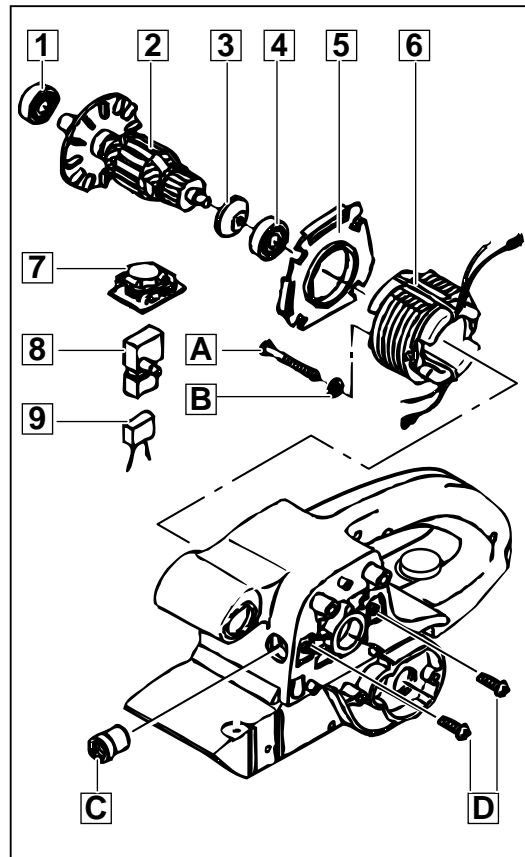
☞ The pulley has a left-handed thread!



2

**Removing the field and the armature**

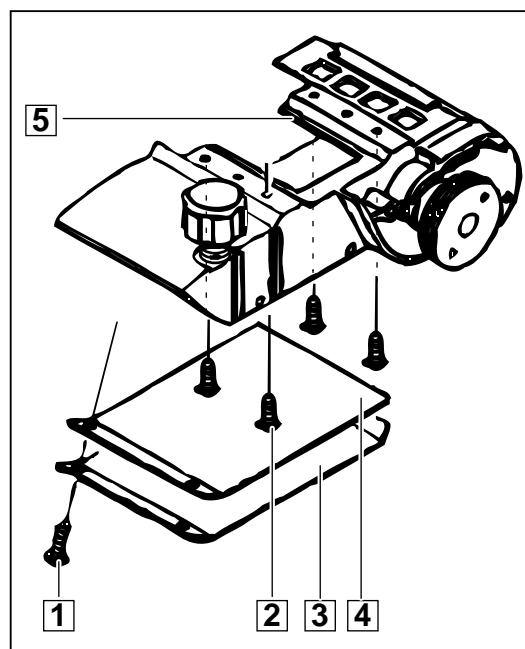
- 1 Pull out the armature (2) and remove the air deflector ring (5).
- 2 Press off two ball bearings (1) and (4) from the armature (2) with aid of the forcing discs (service tool).
- 3 Remove the seal ring (3).
- 4 Loosen both field screws (A) and remove the spring washers (B). Branch off the field (6) and remove it.
- 5 The switch (8) and the capacitor (9) can now be removed from the housing shell.  
**Only applicable for BBSE 1100:**  
Remove the electronic element with torque setting wheel (7) from the housing shell.
- 6 Loosen both screws (D) and remove the carbon brush holders (C) on both sides.



3

**Detaching the spring steel sheet**


- 1 Loosen two screws (1).
- 2 Remove the spring steel sheet (3) and the support for the sand belt (4).
- 3 Unscrew the four screws (2) through the openings in the absolute unit.
- 4 Remove the absolute unit (5) from the motor housing.



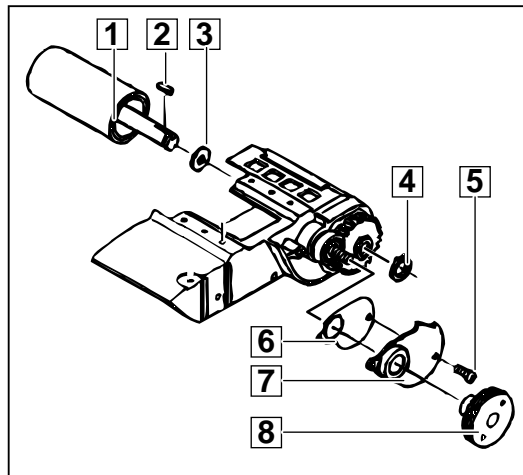
4

**Detaching the driving roll**

- 1 Remove the pulley (8) with a spanner wrench. Steady the driving roll (1) with another wrench.

 The pulley (8) has a right handed thread!

- 2 Loosen the two screws (5). Remove the gear box cover (7) and the gasket (6).
- 3 Remove the locking ring (4) with special pliers.
- 4 Remove the driving roll (1) with the spring (2) and the washer (3).

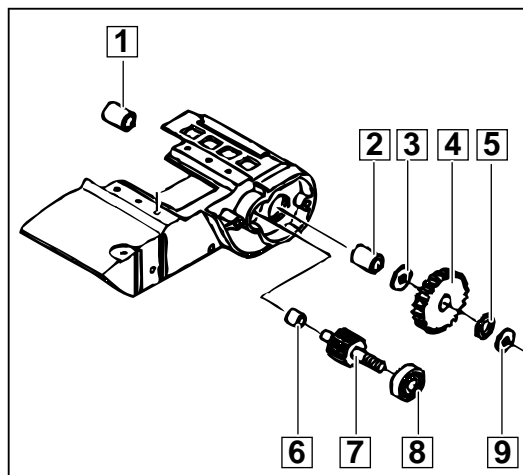


5

**Detaching the pinion**

- 1 Expel the pinion (7) with ball bearing (8) and sleeve (6) by hitting the edge of the housing lightly with a plastic hammer. This will also bring out the gear (4).

- 2 Pull the sleeve (6) from the pinion (7).
- 3 Press off the ball bearing (8) from the pinion (7).
- 4 Remove the ring (9), the disc (5) and the washer (3).
- 5 Extract the bearing sleeves (1) and (2) with a suitable interior extractor.




6

**Removing the T-screw**

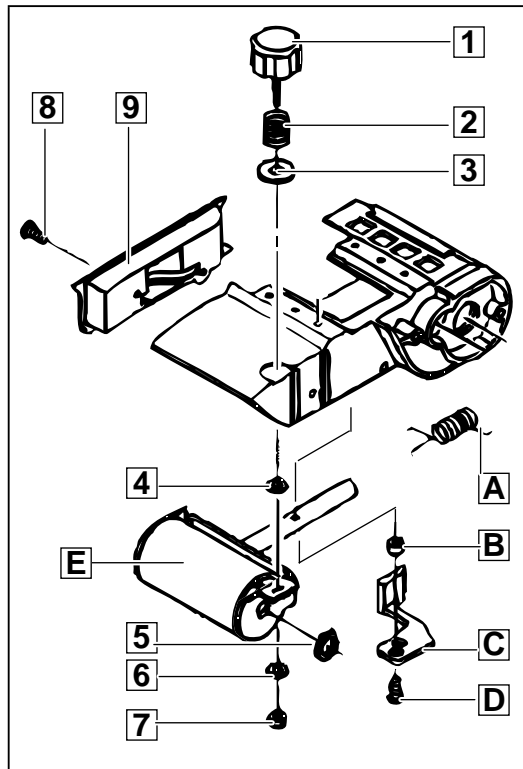
- 1 Unscrew the nut (7) with a socket spanner (SW7). Remove the sealing washer (6).
- 2 Unscrew the T-screw (1).
- 3 Remove the sealing washer (4), the backing flange (3) and the spring (2). Remove the ring (5).

- 4 Loosen the screw (D) and remove the tension lever (C) as well as the distance sleeve (B).

- 5 Remove the steering roller (E) with the spring (A).

 The steering roller is under spring pressure!

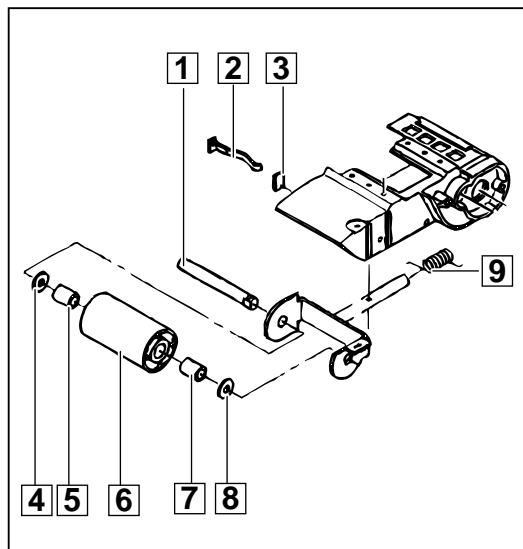
- 6 Loosen both screws (8) and remove the cover (9).



7

**Dismantling the steering roller**

- 1 Pull out the steering roller axis (1) and remove the spring (9).
- 2 Detach the steering roller (6) and the washers (4) and (8).
- 3 Extract the bearing sleeves (5) and (7) with a suitable interior extractor.
- 4 Remove the guide (3) and the spring (2).



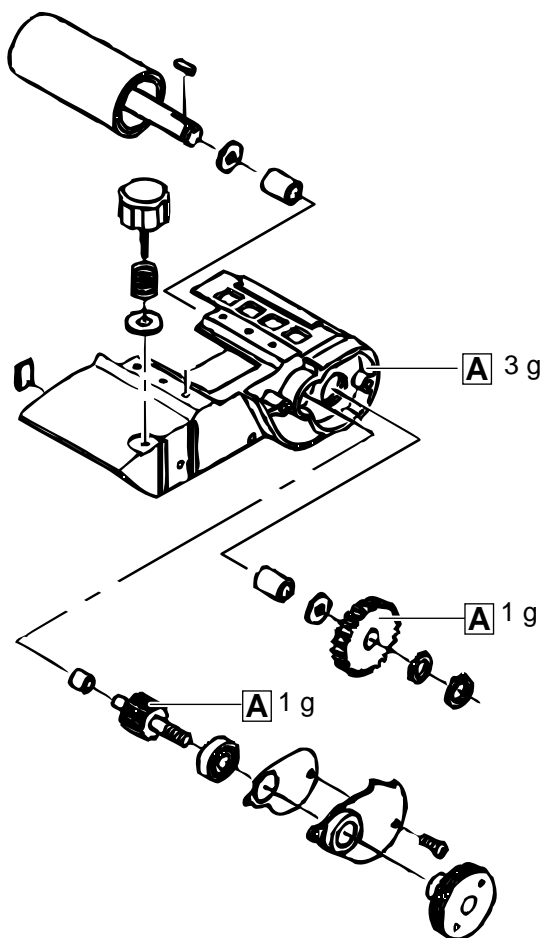
## Maintenance

<b>General</b>	It is recommended to submit the machine to maintenance after the carbon brushes have switched off.
<b>Cleaning</b>	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.
<b>Check for wear</b>	Check the disassembled parts for wear (visual inspection) and replace worn parts.
<b>Electrical tests</b>	Before reassembling, perform an electrical test on all relevant parts (see chapter Electrical and Mechanical Test Instructions).
<b>Lubrication</b>	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.

### Legend

**A** Cover with 5g grease Alvania R2.

**A**



### Torques

Screws in plastic

1.5 Nm

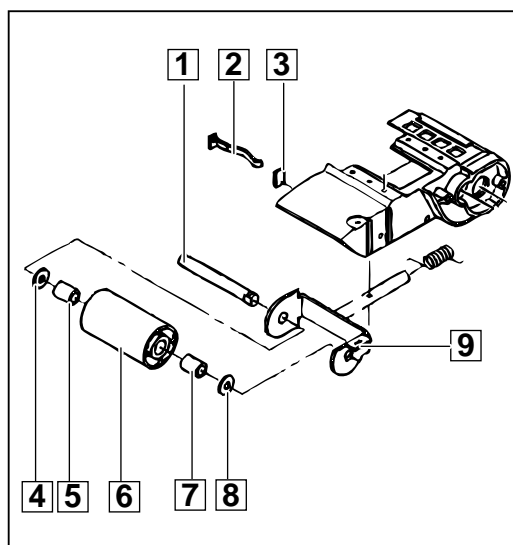
Screws in metal

2.0 Nm

## Assembly

### Assembling the steering roller

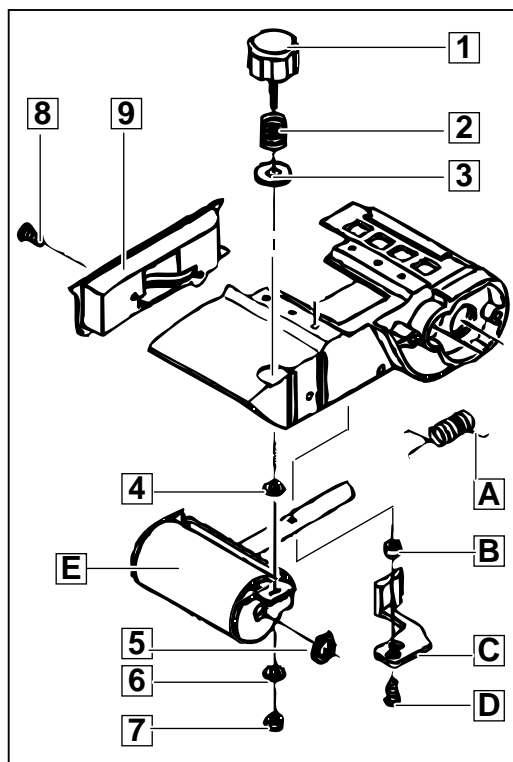
- 1 Mount the guide (3).
- 2 Press the bearing sleeves (5) and (7) into the steering roller (6).
- 3 Insert the steering roller (6) with the washers (4) and (8) into the steering roller support (9).
- 4 Insert the steering roller axis (1).
- 5 Pre-mount the spring (2).



1

### Mounting the T-screw

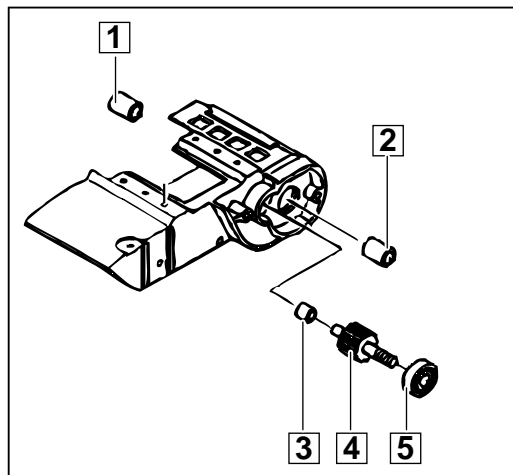
- 1 Insert the cover (9) and fasten it with two screws (8).
- 2 Mount the spring (A) on the steering roller support.
- 3 Insert the T-screw (1) with the spring (2), the backing flange (3), and the sealing washer (4) into the absolute unit.
- 4 Insert the completely assembled steering roller (E) into the absolute unit, and insert the sealing washer (6). Push back the steering roller (e.g. on the edge of a table) and secure the T-screw (1) with the nut (7), using a socket spanner (SW7). Insert the ring (5).
- 5 Insert the distance sleeve (B) and the tension lever (C) and secure them with the screw (D).



2

### Mounting the pinion

- 1 Mount the bearing sleeves (1) and (2) in the absolute unit.
- 2 Press the ball bearing (5) onto the pinion (4) and mount the sleeve (3).
- 3 Insert the completely assembled pinion (4) into the absolute unit. If necessary, press it in.



3

**Mounting the driving roll**

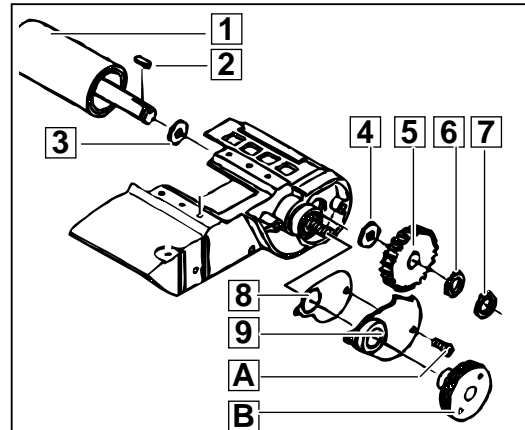
- 1 Insert the driving roll (1) with the spring (2) and the washer (3).  
Fit the washer (4), the gear (5), and the disc (6) and secure them with the locking ring (7).

➔ After mounting the driving roll (1), fill the gear area with grease according to the lubrication chart.

- 2 Fit the gasket (8) and the gear box cover (9) and fasten them with the screw (A).

- 3 Screw down the pulley (B), steadying the driving roll (1) with a spanner wrench.

➔ The pulley (B) has a right handed thread!

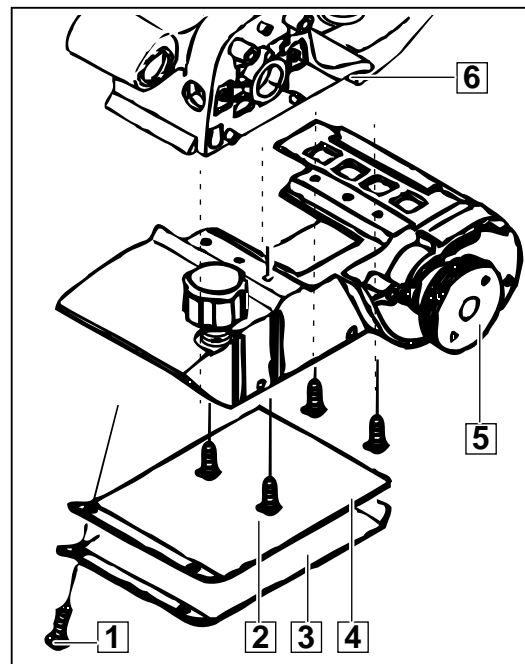


4

**Mounting the spring steel sheet**

- 1 Fasten the complete absolute unit (5) to the motor housing (6) with the four screws (2).

- 2 Fit the support for the sand belt (4) and the spring steel sheet (3) and fasten them with the two screws (1).



5

**Mounting the field and the armature**

- 1 Insert the carbon brush holders (C) and fasten them with the two screws (D).
- 2 Insert the switch (8) and the capacitor (9) into the handle.  
**Only applicable for BBSE 1100:** Insert the electronic element with the torque setting wheel (7) into the housing shell.

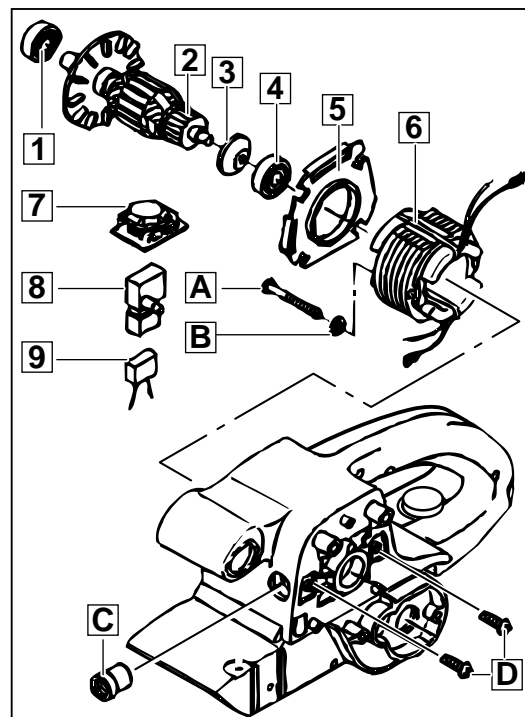
- 3 Insert the field (6) and connect it according to the wiring diagram, and connect the electric elements according to the wiring diagram.

- 4 Fasten the field (6) with two field screws (A) and the spring washers (B).

- 5 Put the seal ring (3) on the armature (2).

- 6 Press the ball bearings (1) and (4) onto the armature (2).

- 7 Insert the air deflector ring (5) and the completely assembled armature (2) into the housing.

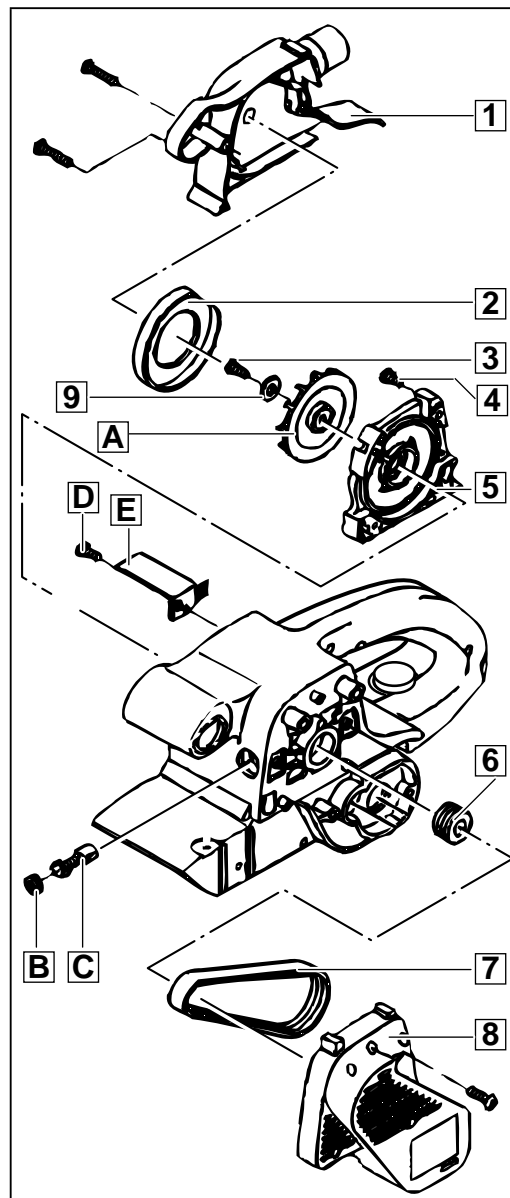


6



**Mounting the toothed belt,  
Mounting the carbon brushes,**

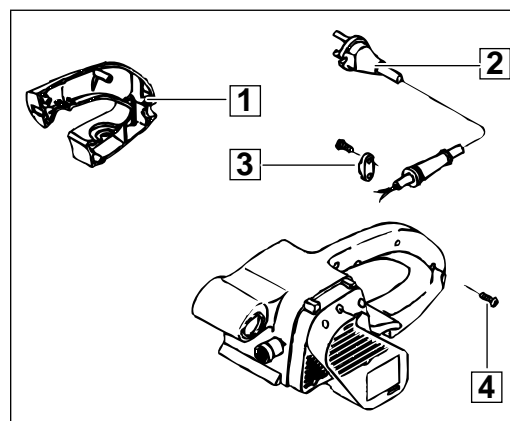
- 1 Screw down the pulley (6) and tighten it manually (not too tight).  
 ☞ The pulley has a left handed thread!
- 2 Insert the carbon brushes (C) and screw down both brush holder caps (B).
- 3 Mount the toothed belt (7).  
 ☞ Mount the toothed belt slantwise.
- 4 Fit the belt guard (8) and fasten it with screws.
- 5 Fasten the bearing end plate (5) with four screws (4).
- 6 Fit the fan (A) and the sealing washer (9) and fasten them with the centric screw (3).  
 ☞ Steady the fan (A) for support.
- 7 Insert the air deflector ring (2).
- 8 Mount the blower cover (1) and fasten it with screws.



7

**Mounting the handle cover**

- 1 Mount the connection cable (2) and the strain relief (3).
- 2 Fit the handle cover (1) and fasten it with the five screws (4).  
 ☞ Take care that no connection cables are squeezed or jammed.



8

**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).