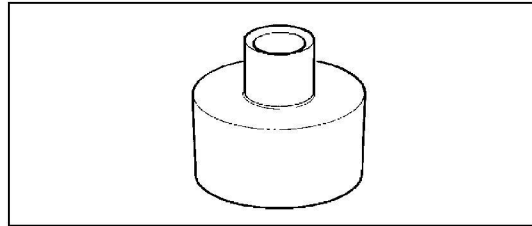


Service tools needed

- For dismantling/assembling the inclined shaft bearing assembly:
Id-no. 9170 3023 30



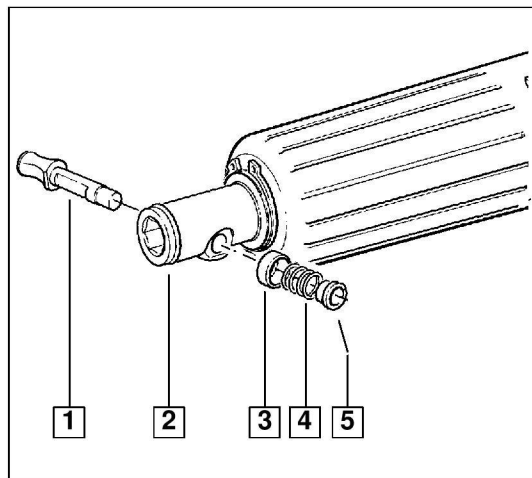
Important!

- Before maintenance carry out an introduction examination with high voltage check according to VDE (see chapter Electrical and Mechanical Test Instruction).
- Always disconnect the plug from the socket before carrying out any work on the machine.

Dismantling

Removing the tool locking mechanism

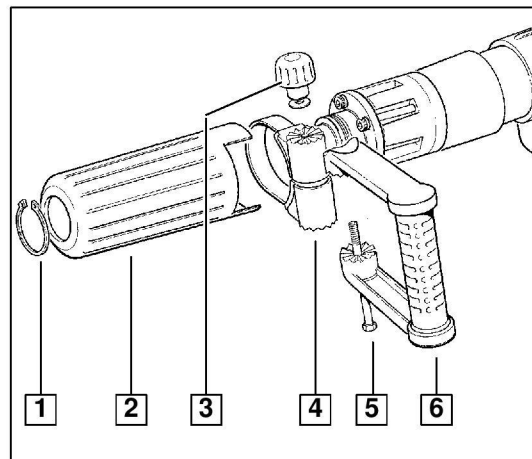
- 1 Expel the latch bar (1) with aid of a hammer and a mandrel from the nosepiece.
- 2 Remove the latch retainer (5), the spring (4), and the spring cover (3).



1

Removing the front handle

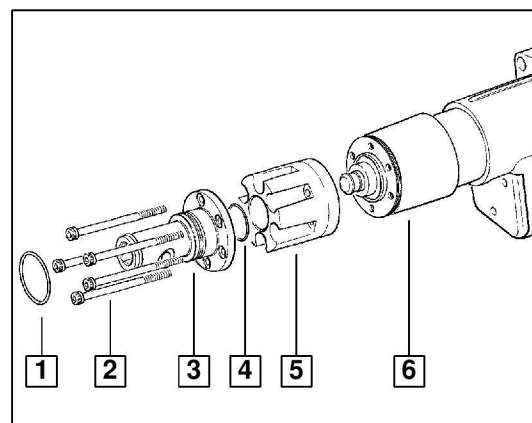
- 1 Remove the circlip (1).
- 2 Unscrew the knob (3) and remove it together with the washer. Remove the screw (5).
- 3 Remove the front handle grip (6).
- 4 Remove the nose cap (2).
- 5 Remove the strap casting (4).



2

Dismantling the nosepiece


- 1 Remove the six Allen screws (2).
- 2 Remove the nosepiece (3) together with the anvil housing (5) from the hammer case (6).
- 3 Remove the nosepiece from the hammer case.
- 4 Remove the O-rings (1 and 4).

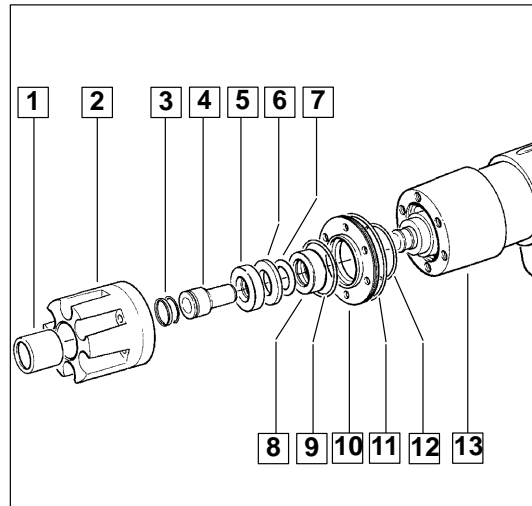


3

Dismantling the anvil assembly

- 1** Remove the catcher housing (8), the rubber ring (7), and the recoil absorber (6) from the anvil housing (2).
- 2** Expel the anvil (4) together with the recoil ring (5) from the housing (2) by hitting it lightly with a hammer.
- 3** Remove the location ring (10) and the O-rings (11 and 12) from the hammer case (13).
- 4** Remove the O-ring (9) from the anvil housing (2), place this upon a press table, and press the liner (1) from the housing using a mandrel.


 Only remove the liner if it is damaged or badly worn. Only let authorized personnel with proper tools remove the liner.

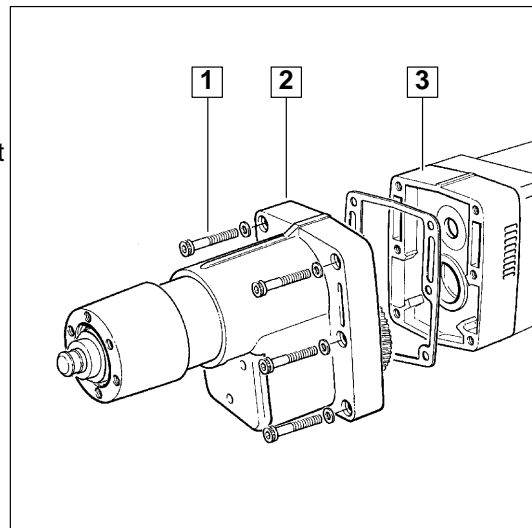


4

Removing the hammer case

- 1** Remove the six Allen screws (1) together with the washers.
- 2** Remove the hammer case (2) from the bearing housing (3).


 Attention! Make sure you lose no parts that might fall from the machine!

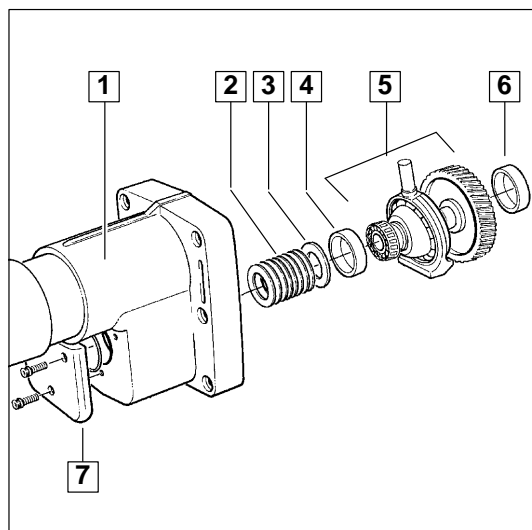


5

Removing the inclined shaft bearing assembly

- 1** Pull the complete inclined shaft bearing assembly (5) from the hammer case (1).
- 2** Remove the outer ring (6) from the inclined shaft bearing assembly.
- 3** Remove the outer ring (4), the washer (3), as well as the eight disc springs (2) from the hammer case (1).

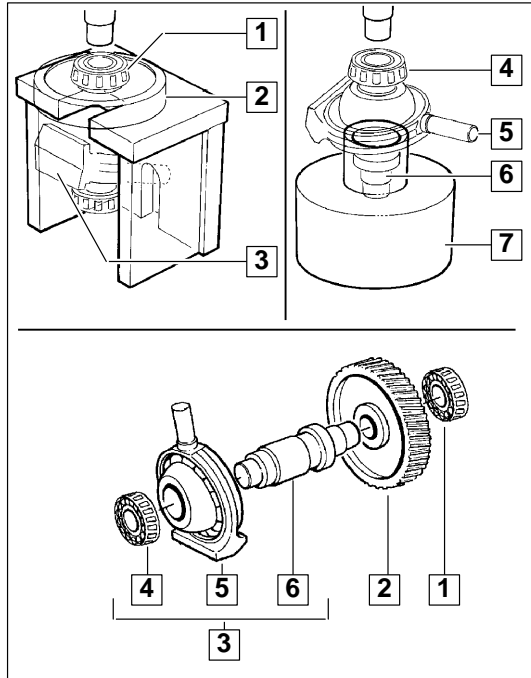
 In case that the outer ring is stuck in the hammer case, unscrew and remove the edn cap (7) and press the ring out from this side.



6

Dismantling the inclined shaft bearing assembly

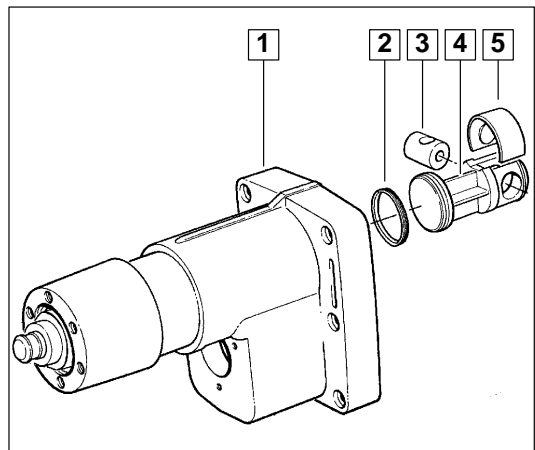
- 1** Press the complete inclined shaft bearing assembly (3) from the taper roller bearing (1) and the gear (2).
- 2** Turn the inclined shaft bearing assembly over and press the taper roller bearing (4) and the layshaft (6) from the inclined shaft bearing with the service tool (7) (9170 3023 30), as shown in illustration.



7

Removing and dismantling the piston

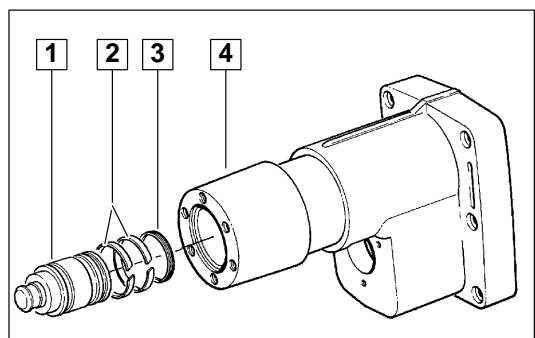
- 1** Remove the piston (4) from the hammer case (1). If necessary, hit the case lightly with a plastic hammer.
- 2** First remove the bearing clip (5) from the piston, then take out the gudgeon pin (3).
- 3** Remove the nu-lip-seal (2) with a screwdriver.



8


Removing the striker

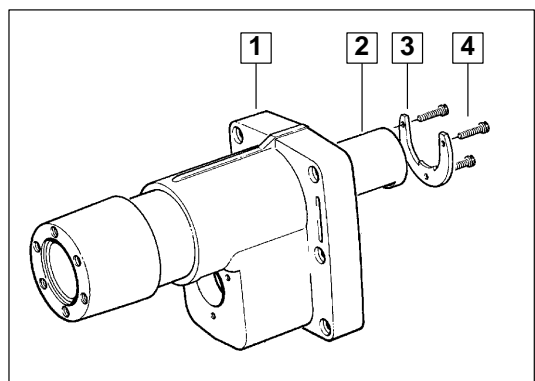
- 1** Loosen the striker (1) by hitting the hammer case (4) lightly with a plastic hammer and remove it.
- 2** Remove the nu-lip-seal (3) as well as the two striker bearing clips (2) from the striker.



9

Removing the barrel

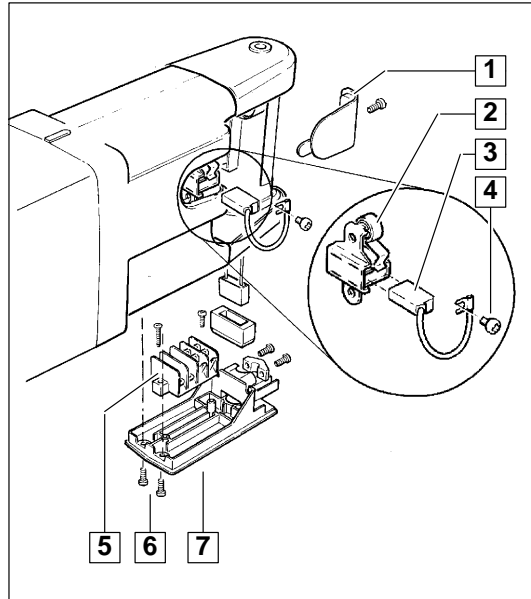
-  The barrel (2) should only be removed if damaged or badly worn.
- 1** Release the three screws (4) from the barrel retainer (3) and remove it.
 - 2** Press the barrel (2) from the hammer case (1).



10

Removing the carbon brushes and the electric supplies

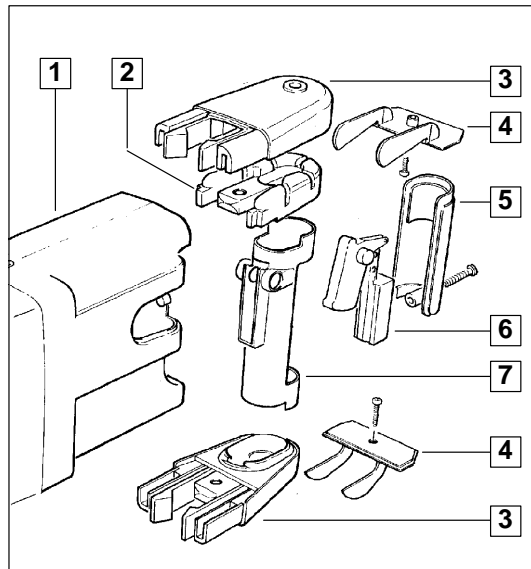
- 1** Unscrew and remove both brush covers (1) from the motor housing.
- 2** Push the spring (2) aside with a pair of pliers and pull the carbon brushes (3) from their holders.
- 3** Release the locating screws (4) and remove the carbon brushes with the lead.
- 4** Release the two securing screws (6) and remove the terminal bracket (7).
- 5** Disconnect the leads from the terminal block (5) and remove it.



11

Dismantling the rear handle assembly

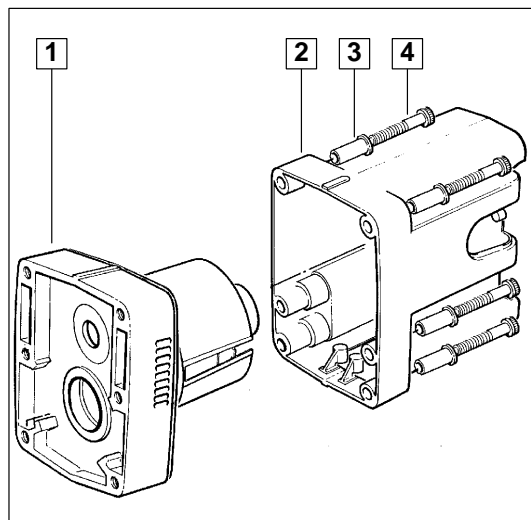
- 1** Release the screws of the handle locking plates (4), lift the plate with a screwdriver, and remove it.
- 2** Lever off the handle support (3) with a screwdriver and remove the rear handle from the housing.
- 3** Remove the handle support (3) and the handle support rubbers (2) from the rear handle front (7).
- 4** Unscrew and remove the rear handle grip (5).
- 5** Depress the locking button of the switch (6) and remove the switch from the rear handle front (7).



12

Separating the motor housing from the bearing housing

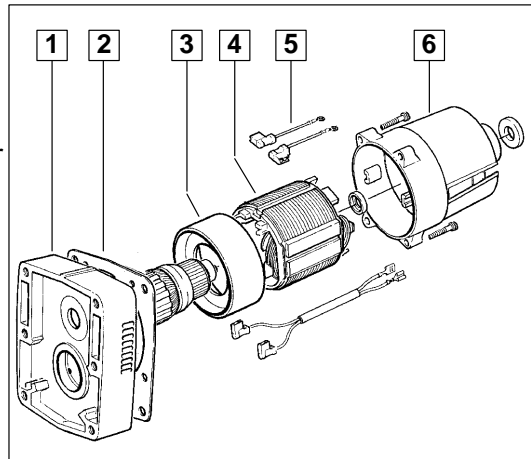
- 1** Remove the six Allen screws (4) and remove them together with the inserts (3).
- 2** Separate the motor housing (2) from the bearing housing (1).



13

Dismantling the field case

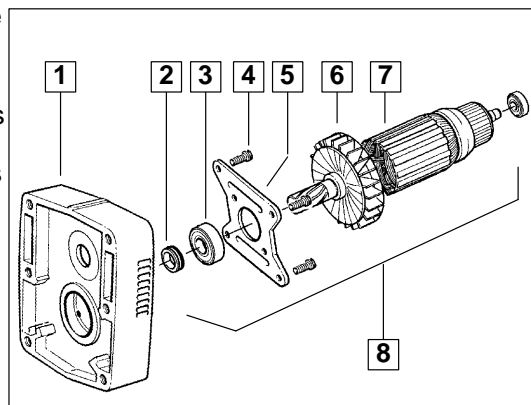
- 1 Remove the brush lead assembly (5).
- 2 Release the four Allen screws and remove the field case (6) from the bearing housing (1).
- 3 Tap the field case (6) lightly with a hammer and remove it from the field coil (4).
- 4 Remove the baffle gasket (2).
- 5 Pull the baffle (3) from the field case and remove the field coil (4) from the case (if necessary, tap it lightly to remove).



14

Dismantling the armature

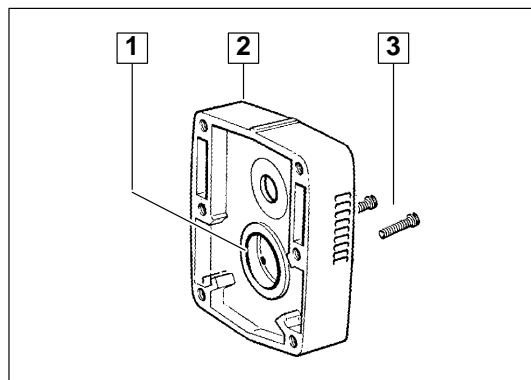
- 1 Remove the four Allen screws (4). Tap the bearing housing lightly to loosen the armature assembly (8) and remove it.
- 2 Place the armature assembly upon a press and press the O-ring (2), the front ball bearing (3), the bearing clamp plate (5), as well as the fan (6) from the armature.



15

Removing the outer ring of the taper roller bearing

- 1 Remove the two short screws from the armature-facing side of the bearing housing (2) and replace them by a pair of longer screws (3). The outer ring (1) is then pushed out from the bearing housing.



16

Maintenance

General

It is recommended to submit the tool to maintenance after every 150 work hours, if the hammer mechanism gets weak, or if the carbon brushes switch off. When carrying out maintenance all parts of the maintenance set 9170 3168 90 must be exchanged.

Cleaning

With the exception of the electrical parts all parts must be cleaned with cold cleanser. **Attention!** No cleanser must enter the encapsulated bearings. Clean the electrical parts with a dry brush.

Abrasion test

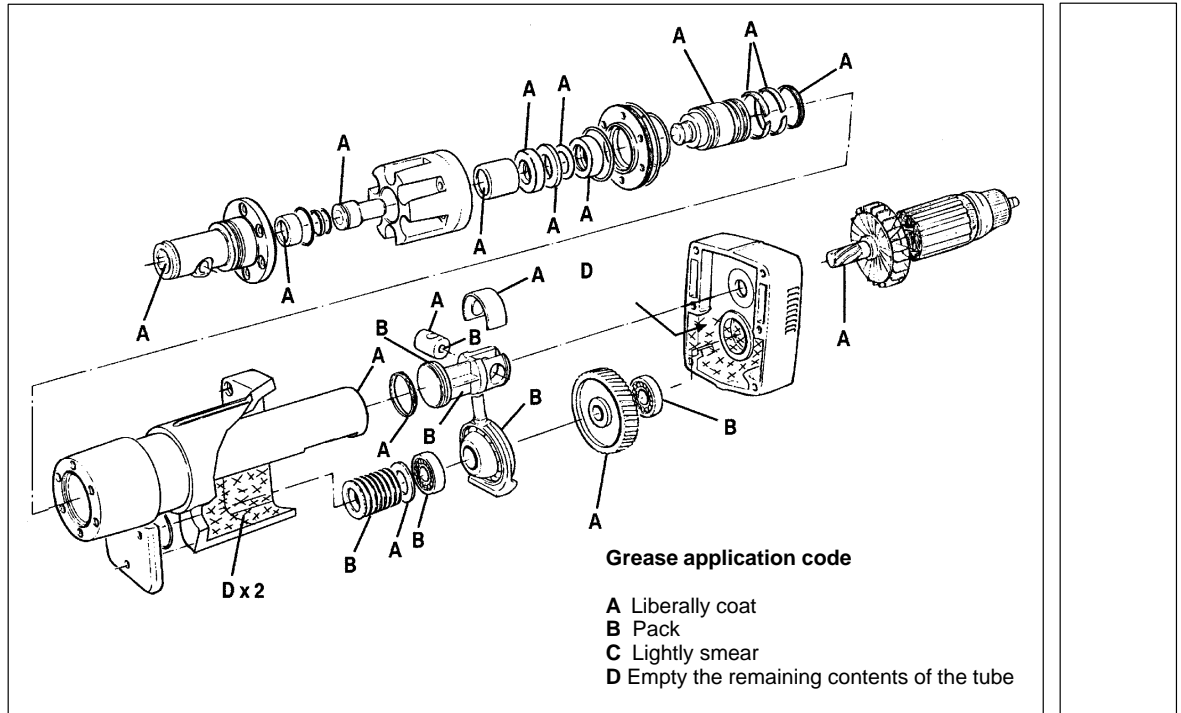
Check the dismantled parts for abrasion (visual check) and exchange if necessary.

Electrical test

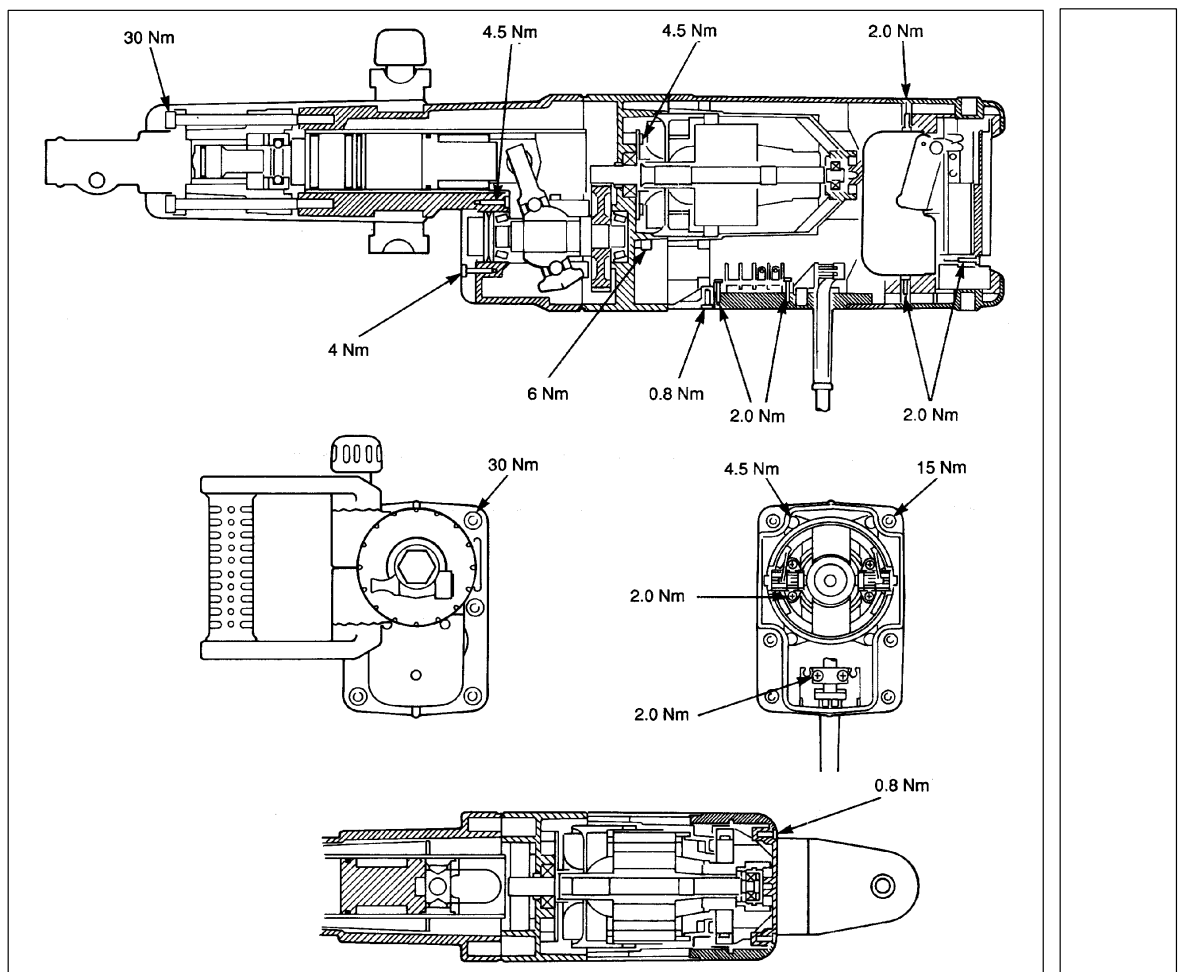
Before assembly submit all relevant parts to an electrical examination (see chapter Electrical and Mechanical Test Instruction).

Lubrication

At each maintenance the tool must be lubricated as shown in the lubrication chart. After having dismantled the entire tool remove the used grease completely and replace by new grease. For assembly a total of 350 g of grease is necessary. Please pay attention to the following lubrication chart:



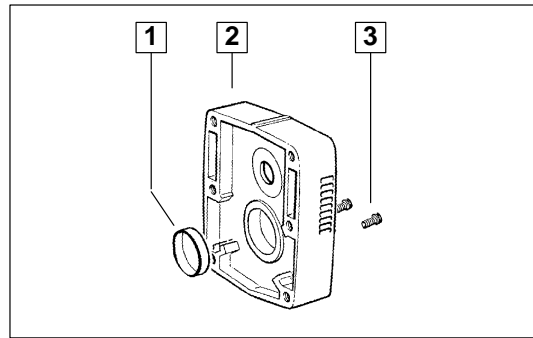
Torque



Assembly

Pressing the outer ring of the taper roller bearing into the bearing housing

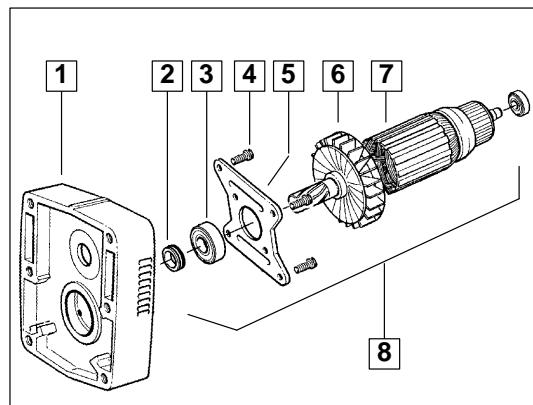
- 1 Replace the original screws (3) to the armature-facing side of the bearing housing (2).
- 2 Place the housing onto a press and press in the outer ring (1).



1

Assembling and replacing the armature assembly

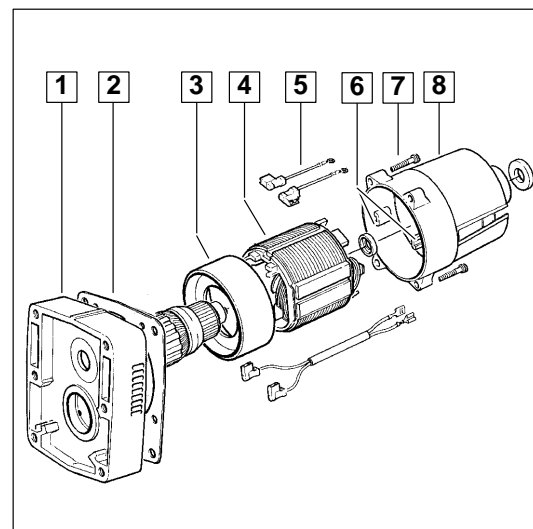
- 1 Fit the fan (6), the bearing clamp plate (5), the front ball bearing (3), and the O-ring (2) to the armature (7), and press it in with a service tool.
- 2 Fit the complete armature into the bearing housing (1). If necessary, tap the housing lightly with a hammer.
- 3 Fit the bearing clamp plate (5) to the bearing housing and secure with the four screws (4).



2

Assembling the field case

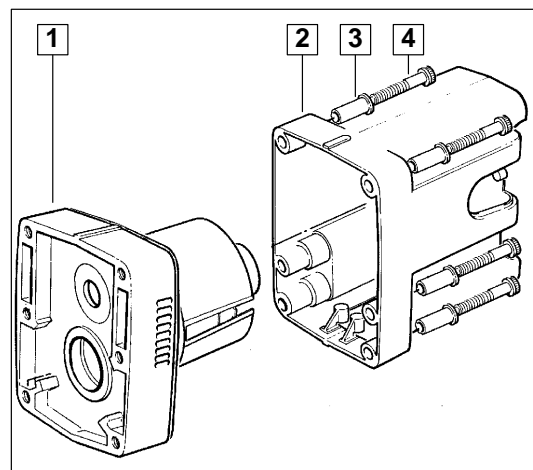
- 1 Before assembly make sure that the field location rubbers (6) fit properly in the field case (8).
- 2 Insert the field coil (4) into the field case (8).
- 3 Fit the baffle (3) to the field case.
- 4 Replace the baffle gasket (2) on the field case. Ensure proper fit!
- 5 Place the field case over the armature and fit it to the bearing housing (1).
- 6 Secure the field case with the bearing housing with the four screws (7).



3

Fitting the motor housing

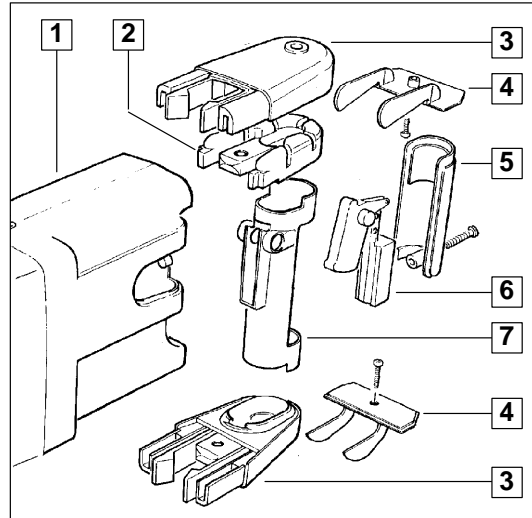
- 1 Fit the motor housing (2) to the bearing housing (1).
- 2 Replace the six Allen screws (4) together with the inserts (3) and tighten them.



4

Assembling the rear handle assembly

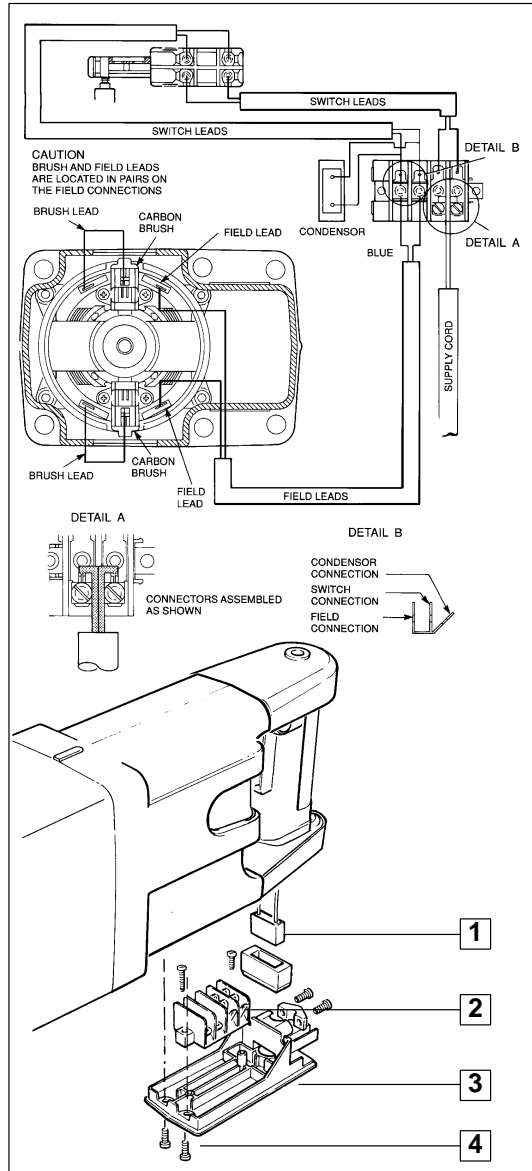
- 1 Insert the connection lead into the lower opening of the rear handle front (7) and lock the switch (6) by depressing the locking button and the pusher at the same time.
- 2 Now insert the switch such that the pusher and the locking button fit through the corresponding reliefs.
- 3 Unlock the locking button by depressing the pusher.
- 4 Fit and secure the rear handle grip (5). Make sure the leads are not jammed.
- 5 Fit the support rubbers (2) and place the handle support (3) over it. Take care that the leads are in the right position.
- 6 Now replace the fitted rear handle assembly to the motor housing until locked.
- 7 Insert the two handle locking plates (4) until they engage, then secure them with screws.



5

Mounting the switch terminals

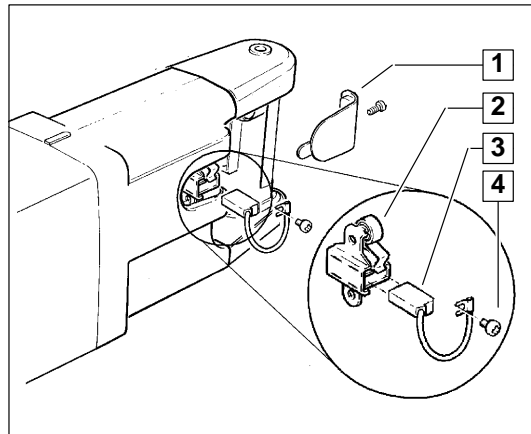
- 1 Connect the cables to the terminal block (2) as shown in illustration.
- 2 Push the brush leads (1) into the housing towards the carbon brushes and connect them.
- 3 Fit the terminal bracket (3) to the housing and secure it with the screws (4).



6

Fitting the carbon brushes

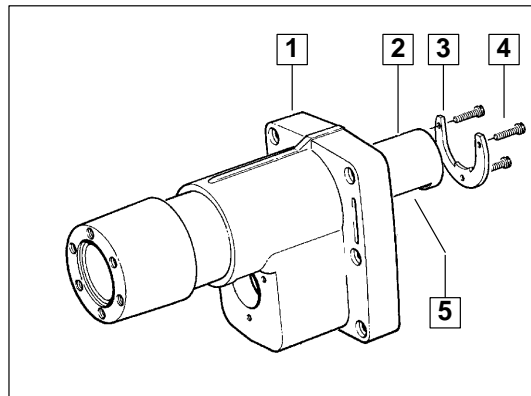
- 1** Pull the spring (2) upwards with a hook and insert the carbon brushes (3). Take care that the carbon brushes face the spring with the bevelled side upwards.
- 2** Secure the cable lug of the carbon brushes with the screw (4).
- 3** Fit and secure both brush covers (1).



7

Mounting the barrel

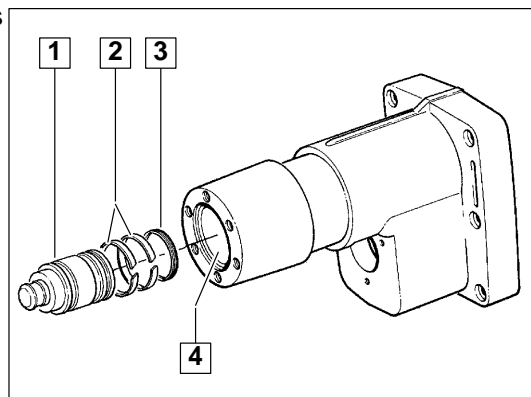
- 1** Fit the barrel (2) such that its opening (5) faces the reception of the inclined shaft bearing assembly.
- 2** Press the barrel in with aid of a service tool.
- 3** Insert the barrel retainer (3), fit and secure it with three screws (4).



8

Fitting the striker

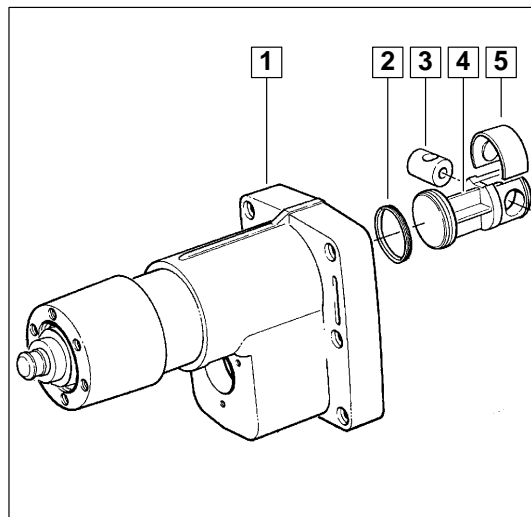
- 1** Break the edges of the striker bearing clips (2) before fitting them to the striker (1).
- 2** Fit the nu-lip-seal (3) and make sure that it is not twisted.
- 3** Insert the striker into the barrel (4).



9

Fitting the piston

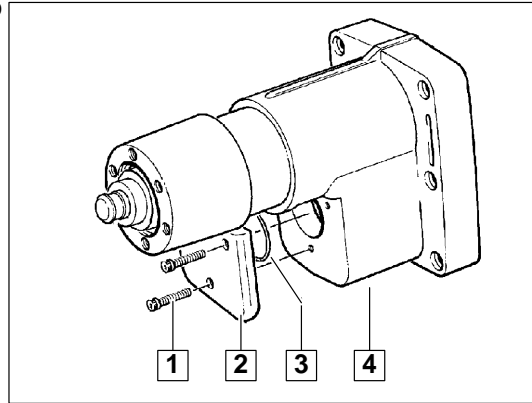
- 1** Fit the nu-lip-seal (2) to the piston (4) and make sure that it is not twisted.
- 2** Insert the gudgeon pin (3) and fit the bearing clip (5).
- 3** Grease the piston and insert it into the barrel.



10

**Mounting the
Edn cap**

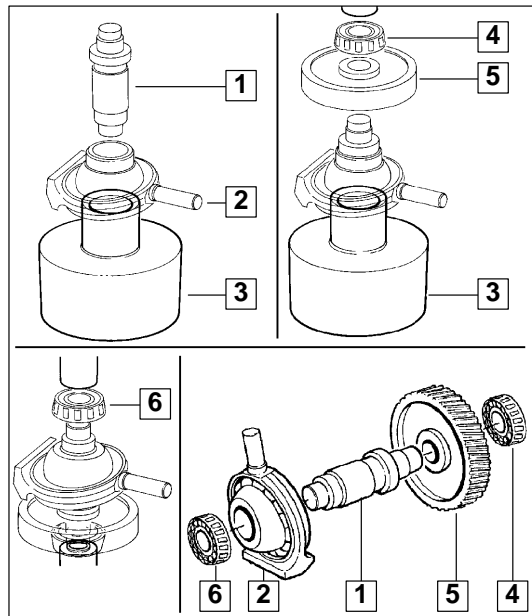
- 1 Fit the O-ring (3) to the edn cap (2), fit it to the hammer case (4), and secure it with the three screws (1).



11

**Assembling the
inclined shaft
bearing
assembly**

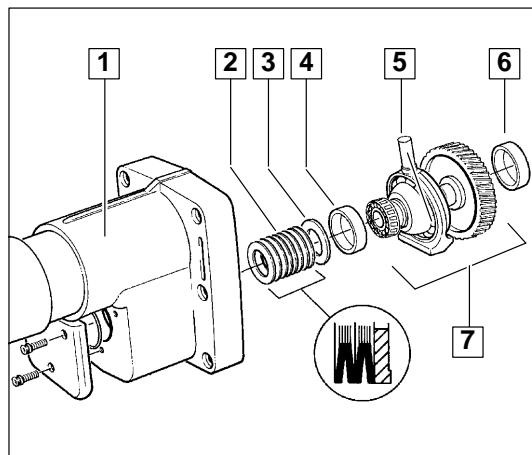
- 1 Place the inclined shaft bearing (2) upon the service tool no. 9170 3023 30 (3) and press in the layshaft (1).
- 2 Turn the inclined shaft bearing over and press the gear (5) and the taper roller bearing (4) on. Grease the taper roller bearings before fitting them.
- 3 Again turn the inclined shaft bearing over and press the taper roller bearing (6) on.



12

**Fitting the
inclined shaft
bearing
assembly**

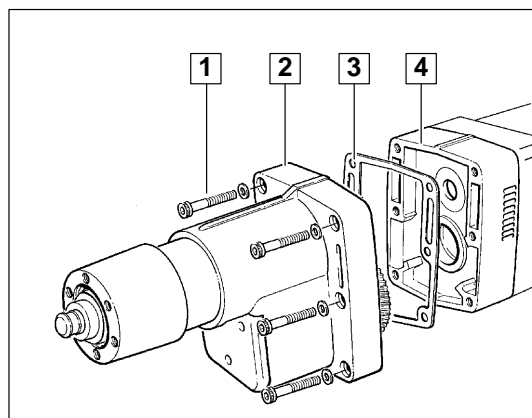
- 1 Insert the eight concave disc springs (2) into the inclined shaft bearing assembly reception of the housing (1) as follows: Concave sides facing downward, 2 facing upward, 2 facing downward, 2 facing upward, grease in between.
- 2 Place the washer (3) on top of the springs.
- 3 Insert the assembled inclined shaft bearing assembly (7) such that the catch (5) of the inclined shaft bearing fits into the boring of the gudgeon pin.
- 4 Fit the outer rings (4 and 6) to the taper roller bearings.



13

**Mounting the
hammer case**

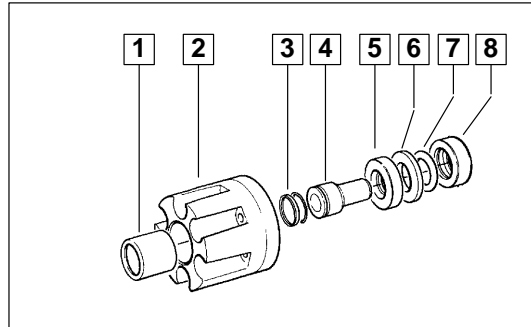
- 1 Fit the gasket (3) to the hammer case (2).
- 2 Fit the completely assembled hammer case (2) to the bearing housing (4) and secure it with the six Allen screws (1) and the washers.



14

Assembling the anvil assembly

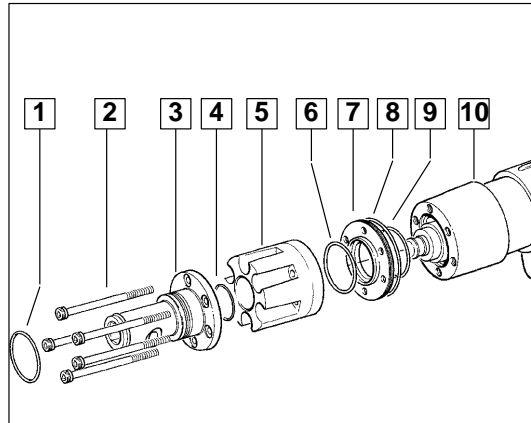
- 1** Press the liner (1) into the anvil housing (2).
- 2** Grease the anvil (4) and replace the O-rings (3) by new ones.
- 3** Insert the anvil into the anvil housing (2) (if necessary tap it lightly with a hammer). Ensure proper fit.
- 4** Fit the recoil ring (5), the recoil absorber (6), the rubber ring (7), and the catcher housing.



15

Fitting the anvil assembly and the nosepiece to the hammer case

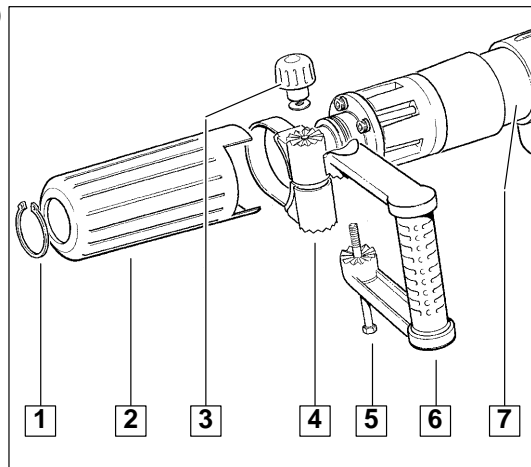
- 1** Fit the slightly greased O-rings (6, 8 and 9) to the location ring (7).
- 2** Fit the location ring (7) to the hammer case (10).
- 3** Fit the anvil assembly (5) over it, align it, then place the nosepiece (3) on top.
- 4** Fit the anvil assembly and the nosepiece to the hammer case (10) and secure them with the six Allen screws (2).



16

Assembling the front handle assembly

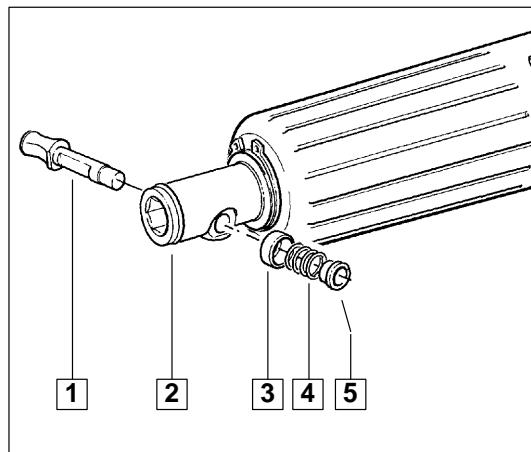
- 1** Fit the strap casting (4) to the guide nut (7) of the hammer case and push the nose cap (2) over of the strap casting.
- 2** Fit the circlip (1).
- 3** Expand the front handle (6) slightly and let it engage over the strap casting (4).
- 4** Fit the screw (5) and the washer and secure it tightly with the knob (3).



17

Fitting the tool locking mechanism

- 1** Insert the latch bar (1) into the boring of the nosepiece (2).
- 2** Place the spring cover (3), the spring (4), and the latch retainer (5) on the latch bar and press the latch bar into the nosepiece by hitting the latch bar with a hammer.



18

Test run and electrical examination

Carry out a test run and check for strange noises.
Carry out an electrical test (see chapter Electrical and Mechanical Test Instruction).