

Disassembly and Assembly of Generator

Job No.

15 — 13

Disassembly:

1. Unscrew the closing band on the collector side and remove it.
2. Lift the pressure springs of the carbon brushes, pull both carbon brushes half-way up and support them with the springs.
3. Unscrew the through screws (armature housing screws) for the bearing caps.
4. Take the drive bearing with the armature out of the armature housing. The ball bearing on the collector side is taken out of the housing at the same time.

Note: The cap on the drive side is held in position in the housing by means of a nose, a groove and a bore.

5. Unscrew the fixing screw of the exciter coil at the brush holder.
6. Take off the collector bearing cap.
7. Fix the armature in a vise or in a clamping support, using special jaws. Unscrew the hexagon nut in front of the fan belt pulley. Then remove the pulley together with lock washer and take out the Woodruff key.
8. If the ball bearings have to be replaced, press the armature on the drive side out of the drive bearing cap with an arbor press and a suitable pad.
9. Unscrew the two cheese-head screws and take off the nameplate.

10. Press the ball bearing out of the bearing cap.

Note: Pay attention to the sealing plates!

11. Pull the bearing on the collector side off the armature shaft with a suitable puller.

Checking:

12. Check the collector. The surface must be uniformly smooth, grey-black in color and free from dust, oil and grease. Dirty segments must be cleaned with a clean, gasoline-soaked rag and well dried.

Note: There must be no charred spots on the collector.

13. Check the collector for eccentricity. Eccentric or scored collectors should be lightly turned-off. Under no circumstances must emery cloth or a file be used. When turning, do not remove more material from the collector than is absolutely necessary to obtain a perfectly smooth surface. The smallest permissible diameter of the collector is 31.50 mm. After turning-off, the segments must be sawn out approx. 0.5 to 0.8 mm with a collector saw (e. g., Bosch EFAW 10).

The segments can also be sawn out with a special tool (Fig. 15 — 13/1).

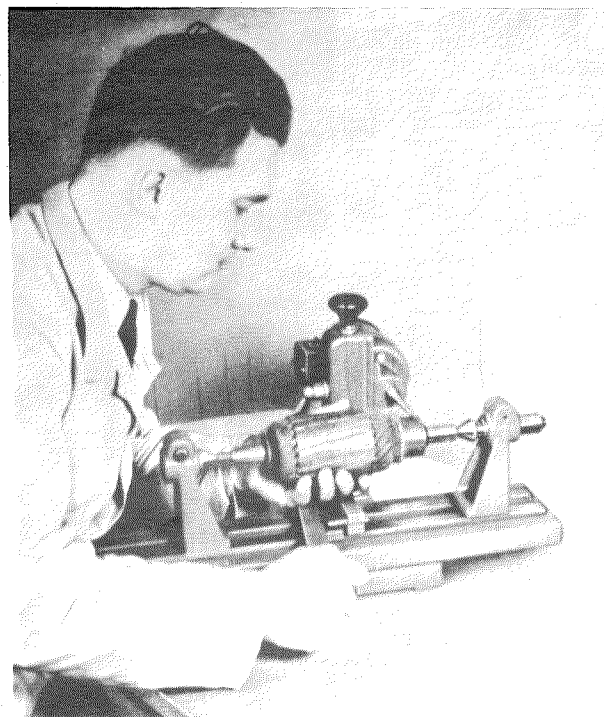


Fig. 15 — 13/1

After this, the collector must once more be turned-off with a stock reduction of 0.1 mm. Do not use the same turning tool for rough-turning and finish-turning and only use carbide-tipped tools (Widia). The maximum permissible run-out for the collector is 0.03 mm; that for the laminations, 0.05 mm. Check the bindings of the armature winding. The winding head diameters must not be greater than the diameter of the armature; the bindings must be in perfect condition.

14. Check the armature and the exciter coil for short-circuit in windings and short-circuit to ground (see Job No. 15 — 5).

Note: The check is made in the same way as in the case of the starter.

15. Remove any dirt and oil from the carbon brushes with a clean rag. Badly worn carbon brushes must be replaced.

Place the carbon brushes in the brush holders and check for free movement.

16. Check the pressure springs for the carbon brushes and if necessary, replace them. This check can be made with the Bosch Spring Scale EF 1244. The brush pressure should be 450—600 grams.

Assembly:

17. Assembly is the reverse of the disassembly procedure. When assembling, grease the ball bearings with Bosch Grease Ft 1 v 22 (blue).

Note: The armature must not rub against the pole pieces or the exciter coil.

18. After assembly, the generator must be checked with its appropriate regulator on the test stand (see Job No. 15 — 16).