

Electrical Testing of Generator and Regulator (Three-Element Voltage/Current Regulator)

Job No.

15—16

The testing of the armature and the exciter coil of the generator for short-circuit in windings and short-circuit to ground should be made in the same way as in the case of the starter; this is described in Job-No. 15—5.

A. Testing Electric Leads to Generator in Vehicle

1. Hold the positive lead of a voltmeter on the terminal B + (51) at the regulator and the negative lead on ground and check whether the rated voltage of the battery is shown (Fig. 15—16/1).

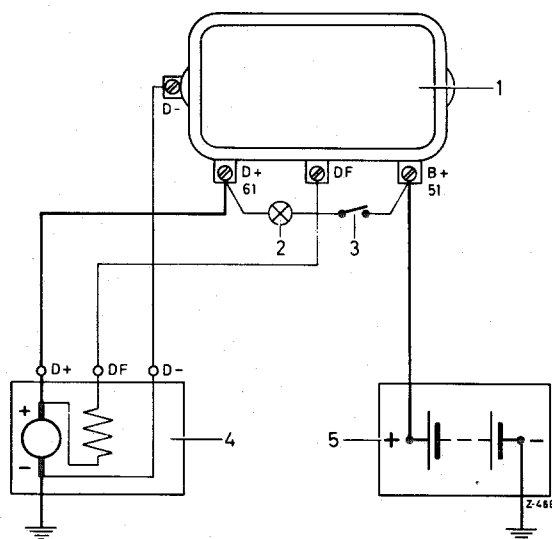


Fig. 15—16/1

- | | |
|-------------------|-------------|
| 1 Regulator | 4 Generator |
| 2 Charging light | 5 Battery |
| 3 Ignition switch | |

2. Switch on the ignition; the charging light must light up.

Note: The charging light is incorporated in the circuit via the ignition switch between the terminal 51 and the terminal 61 of the regulator. It therefore lights up when the ignition is switched on. When the engine is started the light must go out as soon as the voltage of the generator approaches that of the battery.

3. Disconnect the blue cable (Lead No. 72) of the main wiring harness from the terminal D + (61) at the regulator. The charging light must now be extinguished.

If in spite of this the charging light still lights up, this shows that the blue cable has a short-circuit to ground. The short-circuit must be removed or alternatively, the blue cable (Lead No. 72) of the main wiring harness must be re-laid (see Job No. 54—1, Section A, Circuit Diagram of Main Wiring Harness, Cable Sheaf 35).

Note: Any intermittent short-circuit to ground of this cable can easily lead to damage to the regulator and to the generator. In this case, therefore, the generator and also the regulator must be removed and checked.

B. Testing Voltage Regulation of Generator in Vehicle

1. Connect up a voltmeter between the terminal D + (61) and the terminal D— at the regulator (see. Fig. 15—16/1).
2. Start the engine.
3. Disconnect the red cable (Lead No. 54, Cable

Sheaf 35) of the Main Wiring Harness from the terminal B + (51) at the regulator and insulate it.

4. Increase the engine speed until the voltage shown on the voltmeter no longer rises. This