



# SPECIFICATION OF PRODUCTION INSPECTION

## AND TEST OF LUCAS DYNAMO

Used up to approx. Bentley chassis b400cf

Type: c45pv – n – 12 volts

Norman Geeson

1. The dimensions and appearance shall be in accordance with those specified on drawing RD 3006.
2. Inspect the brush mechanism and make sure that:
  - a. The brushes are perfectly free in their holders.
  - b. The force exerted by the spring measured at the top of the brush is between 36 ozs and 44 ozs.
  - c. The brush springs are quite free so that the full tensions of the springs are exerted on their respective brushes.
  - d. The brush flexibles, and their connections are not in any way damaged, and the insulated terminals are not loose.
  - e. The bedding of the brushes is such that the surface shows signs of making contact, right across its thickness for at least 75% of its width.
  - f. With all brushes lifted, see that the armature revolves freely and does not foul.
3. Lift the earthed brush, disconnect the field coil connection from the holder, and test the insulation of the machine by applying, through a lamp, an alternating voltage, of 200, between the two insulated terminals, and between each terminal and the yoke of the machine.
4. N.B. For the running tests it will be necessary to insert a variable resistance in the field circuit of the dynamo. A second variable carbon resistance is used in the main circuit with which to adjust the terminal volts.
5. With the end cover removed, and the field resistance short circuited, the machine shall now be run on load for 3 and a half hour's at an output of 17 amperes at 13.5 volts at minimum speed to give this output. During this run, the commutator should be free from grease or varnish deposit. Ventilating fan to be fitted to dynamo.
6. Notice should be taken of the brushes in respect of noise. Any undue noise should be investigated and rectified. This run should render the brush-bedding finally satisfactory, and allow time for the machine to heat up and reach a final temperature.
7. Immediately after the termination of the above run, the speed and voltage shall be carefully adjusted until the output of the machine is 17 + .2 amperes at 13.5 volts, when the speed should be measured. This should not exceed 1800 r.p.m.
8. With the dynamo still in the same hot condition it should be verified that running on open circuit it shows a voltage of 13.0 at not more than 1100 r.p.m.
9. The dynamo shall again be run on load and its speed varied up and down with a view to testing for undue mechanical and electrical noise.
10. The dynamo shall now be run up to 5,500 r.p.m. still on load, the field resistance being progressively increased as the speed increases, and shall show no abnormal brush sparking when delivering 14 amperes at 13.5 volts. Further the mechanical vibration due to any want of balance shall not be excessive.
11. Examine also for rubbing armature, slack bearings and final condition of commutator and brush surfaces.



12. The insulation of the machine should be tested whilst still hot by applying through a low C.P. 200 Volt lamp an alternating voltage of 200 between the windings and frame, when the lamp should show no signs of being lighted.