

LUCAS WORKSHOP INSTRUCTIONS

MOTOR CYCLE BATTERIES

MODELS ML9E AND MLZ9E

Supplementary Information to Section L-4 Part A

Models ML9E and MLZ9E are six-volt units and two are connected in series to give twelve volts on machines fitted with starting motors. The battery containers are moulded in translucent polystyrene through which the acid can be seen. A coloured line (usually blue) denoting the maximum filling level is plainly marked on the outside of the containers. When the battery is being charged, either on the machine or on the bench, the electrolyte level may rise above this line but will return to it during off-charge periods. During these latter periods, the upper surfaces of the plates are wetted by capillary attraction.

N.B. Unlike previous battery practice, ML9E and MLZ9E batteries must not be topped-up to the separator guard but only to the coloured line.

The tops of the containers are so designed that when the covers are in position the special anti-spill filler plugs are sealed in a common venting chamber. Gas from the filler plugs leaves this chamber through an elbow-shaped vent pipe union which can be inserted in one of four alternative sealed outlets. Polythene tubing may be attached to the vent pipe union to lead the corrosive fumes away from any parts of the machine where they might cause damage.

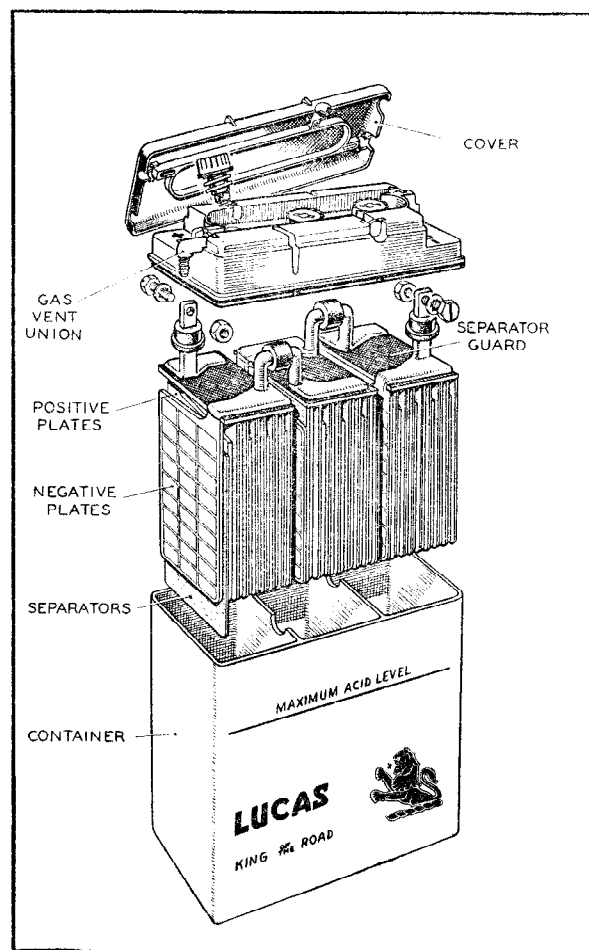
Heavy duty, nut-and-bolt fixing terminals are isolated from the venting chamber.

Internally, the batteries consist of three cell packs with separators formed from a dry inert micro-porous material. The use of this material means that a weaker filling acid can be used compared with the acid-diluting wet wood separators formerly employed, as in models LVW, PUW, RUW and GUW. Guards are fitted across the cell packs to protect the top edges of the separators from damage by battery filler nozzles, etc.

Model ML9E is supplied either dry and uncharged or filled and charged while model MLZ9E is supplied dry-charged. The differing procedures necessary when preparing each type for service are given in Section L-4 Part A while certain filling and soaking instructions peculiar to model MLZ9E are given at the end of these notes.

TECHNICAL DATA

1. Nominal voltage: 6
2. No. of plates: 9 per cell
3. Volume of electrolyte: 125 c.c. per cell
4. Amp.-hr. capacity: 12 at 10-hour rate
13 at 20-hour rate
5. Initial charge current (ML9E only): 1.0 ampere
6. Recharge current (and MLZ9E freshening charge): 1.5 amperes
7. Specific gravity of electrolyte (corrected to 60°F., 15.5°C.) for filling both uncharged and dry-charged batteries:—
 - (a) In climates ordinarily below 90°F. (32.2°C.) use acid of 1.270 s.g. (corrected to 60°F.)
 - (b) In climates ordinarily above 90°F., use acid of 1.210 s.g.



Battery, dismantled view

P.T.O.



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8. Preparation of 1.270 and 1.210 s.g. electrolyte:—

(a) To prepare 1.270 s.g. electrolyte, slowly pour ONE PART by volume of 1.835 S.G. SULPHURIC ACID into 2.8 PARTS of DISTILLED WATER

(b) To prepare 1.210 s.g. electrolyte, the required ratio of acid to water is 1:4

9. Height, Width, Depth: $5\frac{3}{8}$ " (13.65 cm.), $4\frac{1}{8}$ " (12.22 cm.), $2\frac{3}{8}$ " (6.03 cm.)

10. Weight, dry: 5 lb. (2.27 kg.)

FILLING AND SOAKING MLZ9E BATTERIES

Discard the vent hole sealing tapes.

Pour into each cell pure dilute sulphuric acid of appropriate specific gravity to **the coloured line denoting the maximum filling level** and allow the battery to stand for at least one hour. Thereafter, keep the acid just level with the coloured line by topping-up with distilled water.

