SECTION K—5
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LUCAS

Quality

EQUIPMENT

WORKSHOP INSTRUCTIONS

ELECTRIC HORN

MODEL HF1849

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ELECTRIC HORN

MODEL HF 1849

1. GENERAL

This horn is of the 'high frequency' type and operates on the trembler bell principle, its internal self-interrupting circuit consisting of a coil connected in series with a pair of normally-closed armature-actuated contacts. The armature is carried centrally on a pair of parallel leaf springs and, when in vibration, strikes against an adjustable push rod to which a diaphragm and a tone disc are coupled. This sets the diaphragm and tone disc into vibration, the tone disc vibrating at a higher frequency than the diaphragm. These two vibrations combine, together with their respective harmonics, to produce the characteristic note of the horn.

2. MAINTENANCE

(a) INSPECTION OF CABLES AND FIXING BOLTS

Occasionally inspect the horn circuit wiring and renew any defective cables. See that all connections are secure.

Check the fixing bolts and tighten as necessary. See that the horn is clear of all adjacent fixtures.

(b) CONTACT BREAKER SETTING

Service experience has shown that a small adjustment to the contact setting may be needed at infrequent intervals, in order to restore performance. An owner can do this as follows:

Remove the screw, domed cover, gasket seating and retaining strap from the rear of the horn.

Depress the horn push and slowly turn the adjustment nut with a 2BA spanner in an anti-clockwise direction until the best performance is obtained. Only a very small amount of movement will normally be necessary.

Note: It is very important that the push rod adjustment of tuning, i.e. the slotted end of the push rod and its locking nut observable in the centre of the tone disc, is never disturbed unless the horn is dismantled. The relevant workshop tuning instructions, which require special equipment, are given in para. 4(b), overleaf.

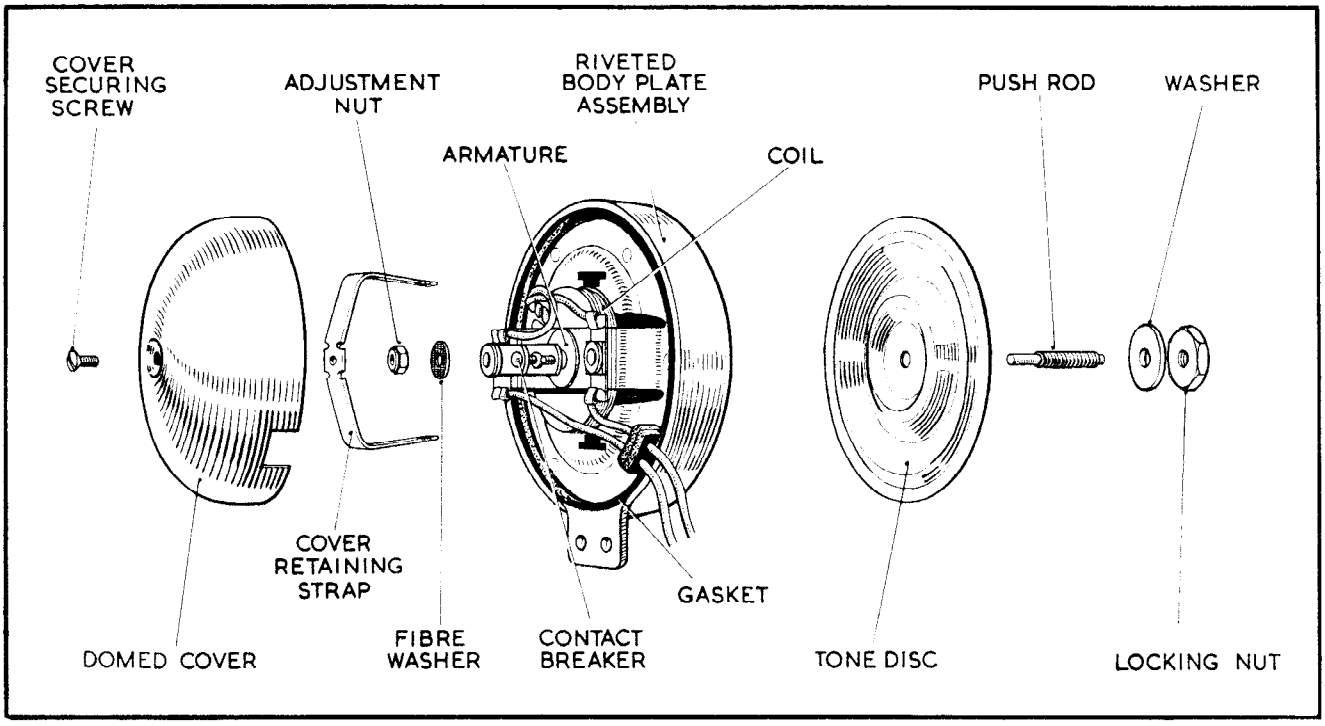

Fig. 1
Horn, dismantled for tuning

3. DESIGN DATA

	6-volt units	12-volt units
(a) Resistance of operating coil:	0.35—0.40 ohm	0.85—0.9 ohm
(b) Current consumption at nominal voltage:	3.0—4.0 amp.	2.5—3.5 amp.

4. SERVICING

(a) FAULT LOCATION

(i) *Wiring, Connections and Fixing Bolts*
Inspect the horn circuit wiring and internal connections of the horn.
Check the fixing bolts and tighten as necessary.

(ii) *Contact Breaker Contacts*
Examine the contact breaker and, if necessary, clean the contacts using a fine grade silicon carbide paper. Afterwards, remove any dust particles with a clean fluffless petrol-moistened cloth.

(b) TUNING

Tuning is effected in two stages. First, the contact breaker must be set and, secondly, the push rod. The instruments and test circuit required are shown in Fig. 2.

(i) *Contact Breaker Setting*
Remove the frontal locking nut, washer and tone disc.

Note: De-luxe horns carry a domed nut and a dished identification disc, in addition to the frontal locking nut and washer.

Unscrew and withdraw the push rod.

Remove the small screw at the rear of the horn and withdraw the domed cover and gasket seating.

Release and remove the cover retaining strap.

Clamp the horn by its mounting bracket in the normal upright position.

Connect the horn as shown in Fig. 2 and adjust the potentiometer to provide a supply source of 4 volts for 6-volt horns, or 8-volts for 12-volt horns.

Turn the contact breaker adjustment nut with a 2BA spanner until the buzzing point is found. This position is critical and occurs when the contacts are just about to open.

Refit the domed cover.

(ii) *Push Rod Setting*
Refit the push rod, tone disc, washer and locking nut, finger-tight only.

Set the potentiometer to the nominal voltage of the horn.

Screw in the push rod until a good clear note is obtained when the horn push is depressed.

Tighten the locking nut and recheck. A 6-volt horn must operate on 4 volts and give a good clear note on 8 volts. A 12-volt horn must give a good clear note on 10, 12, and 14 volts.

Note: Only pure direct current must be used when testing horns. Rectified alternating current is not suitable.

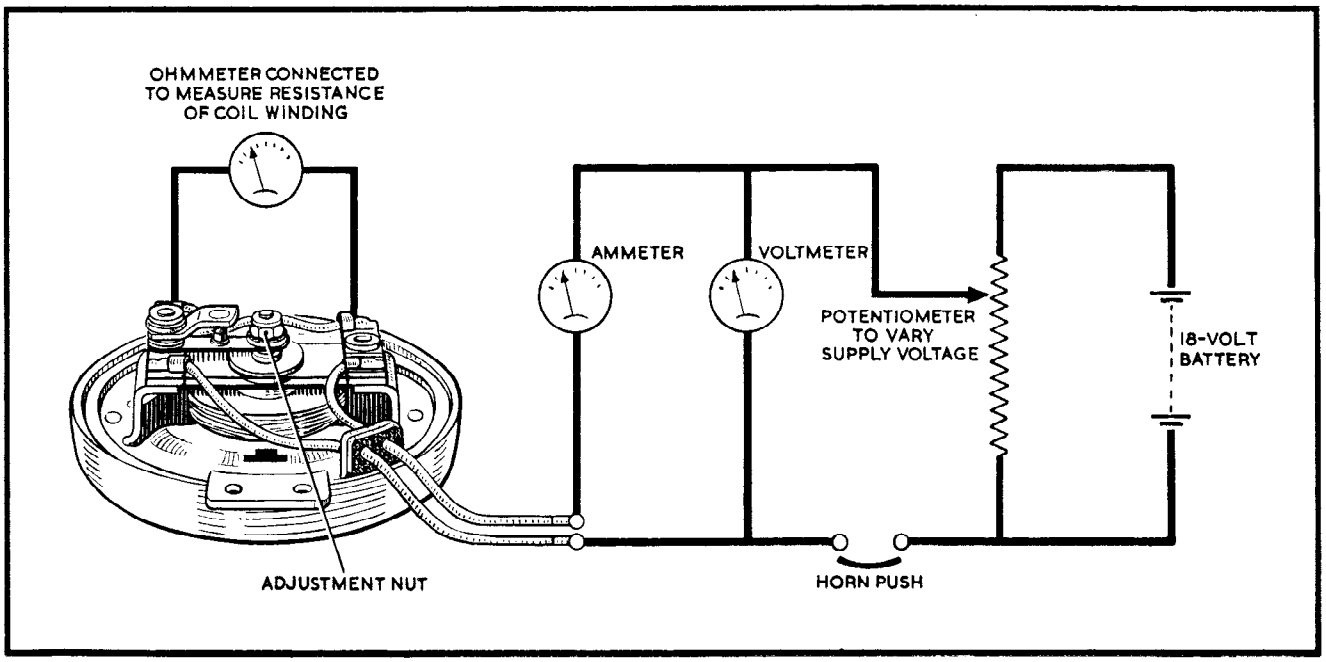

Fig. 2
Test circuit