SECTION L-7 Part C
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WORKSHOP INSTRUCTIONS

MOTOR CYCLE ELECTRIC HORN

MODEL HF 1849

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MOTOR CYCLE ELECTRIC HORN

MODEL HF1849

1. GENERAL

Model HF1849 is produced in various paint finishes and in the de luxe form has a chromium-plated front rim. The operation of the horn is based on the simple trembler principle. When the horn push is pressed, current flows through the closed contacts of the contact breaker and energises the coil. The coil core is thus magnetised and attracts a leafspring-suspended armature towards an adjustable push rod attached to the diaphragm and tone disc. Movement of the armature opens the contact breaker each time the armature is drawn into the coil, de-energising the magnet system and causing the cycle to be repeated at a frequency determined by the characteristics of the diaphragm and the spring leaves.

The diaphragm and tone disc are coupled by an adjustable push rod. The vibrating armature impinging on this push rod sets the diaphragm and tone disc into vibration, the diaphragm at a relatively low frequency and the tone disc at a higher frequency. These two sets of vibrations combine together with their various harmonics to give the horn its characteristic note.

2. MAINTENANCE

No internal maintenance is required. Externally, all that is required is an occasional inspection of the horn circuit cables and the fixing bolts.

3. SERVICING

If the horn fails to operate, or operates unsatisfactorily, first carry out the following external checks:

(*a*) Examine the cables of the horn circuit, renewing any that are badly worn or chafed. Ensure that all connections are clean and tight and that the connecting nipples are firmly soldered to the cables.

(*b*) Check that the bolts securing the horn bracket are tight and that the body of the horn does not foul any other fixture.

After making a thorough external check remove the horn cover, secured by a single screw, and examine the cable connections inside the horn.

Examine the contact breaker contacts. If they are burned or blackened, clean them with a very fine file, then wipe with a petrol-moistened cloth.

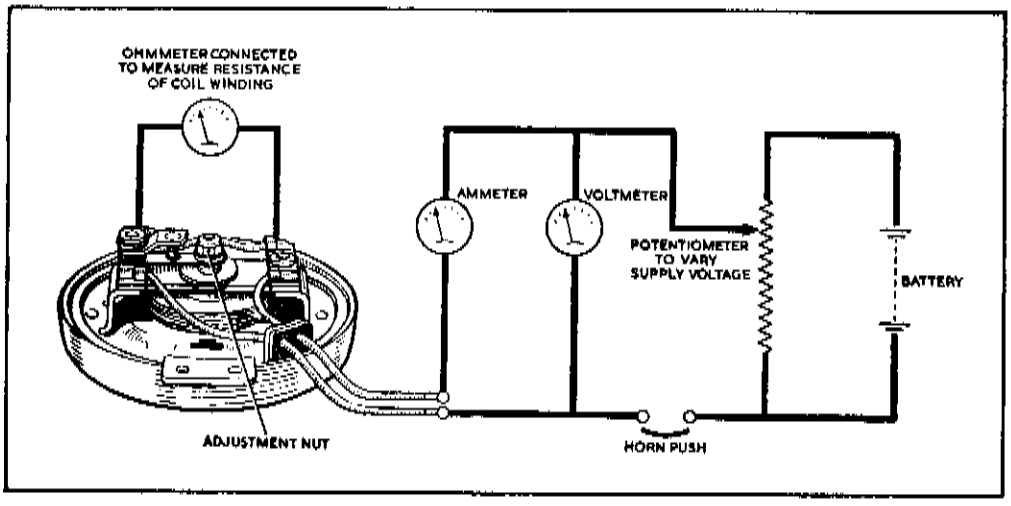

Fig. 1
Horn test, circuit connections

After cleaning the contacts, connect the horn in a test circuit as shown in Fig. 1, and check the horn performance.

Use 1st. grade instruments for measuring voltage and current when checking and, if necessary, adjusting the horn performance. A horn in correct adjustment has a current consumption of 2½—3 amps.

Horn Adjustment

Remove the cover nut, dished identification washer, lock nut, washer, push rod, tone disc and spacer.

Energise the horn at 4 volts, using a pure D.C. supply —not rectified A.C. Turn the adjustment nut on the armature stem until the armature buzzes and a current reading of 2 amps. is given.

Loosely refit the push rod, spacer, tone disc, washer and lock nut. Raise the supply voltage to 6 volts and screw in the push rod until the horn operates. Tighten the push rod lock nut before testing the horn after each adjustment. Test the horn over a voltage range from 6 to 8 volts when a clear steady note should be obtained. Make the final tests for performance with the dished identification washer and tone disc cover nut in position.

If the contacts are so worn that correct adjustment is not possible, then the body plate assembly must be renewed.

Coil Testing

If, when the horn is energised with the cover removed, the ammeter (see Fig. 1) gives an indication of a short or open circuit, check the horn coil. Connect an ohm meter, or other suitable test instrument, between the two coil supply cables. The resistance of the coil should be approximately 0.35—0.40 ohms.

If the coil is burnt out, the windings will show visible signs of overheating.

A fault in the coil necessitates the renewal of the complete body plate assembly. Do not attempt to remove the coil from the assembly.

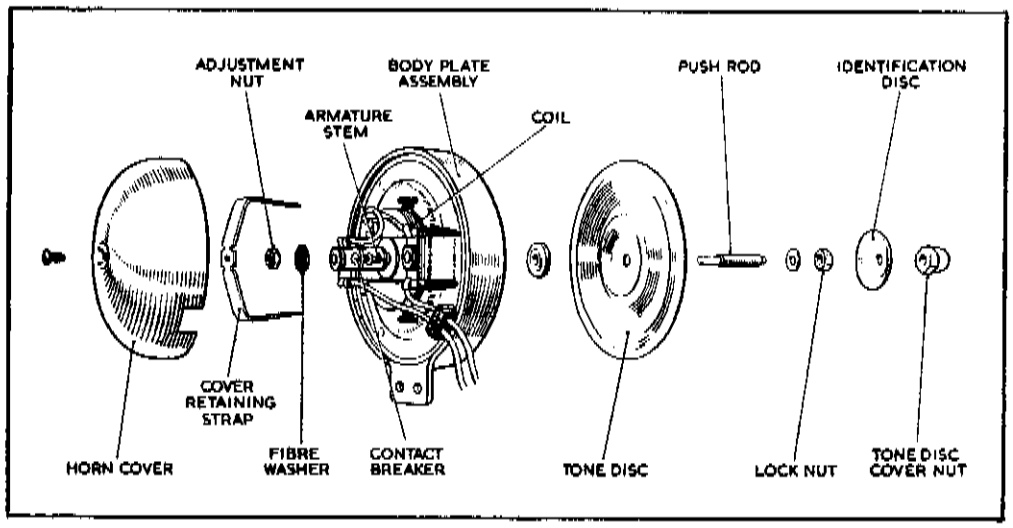

Fig. 2
Horn, dismantled