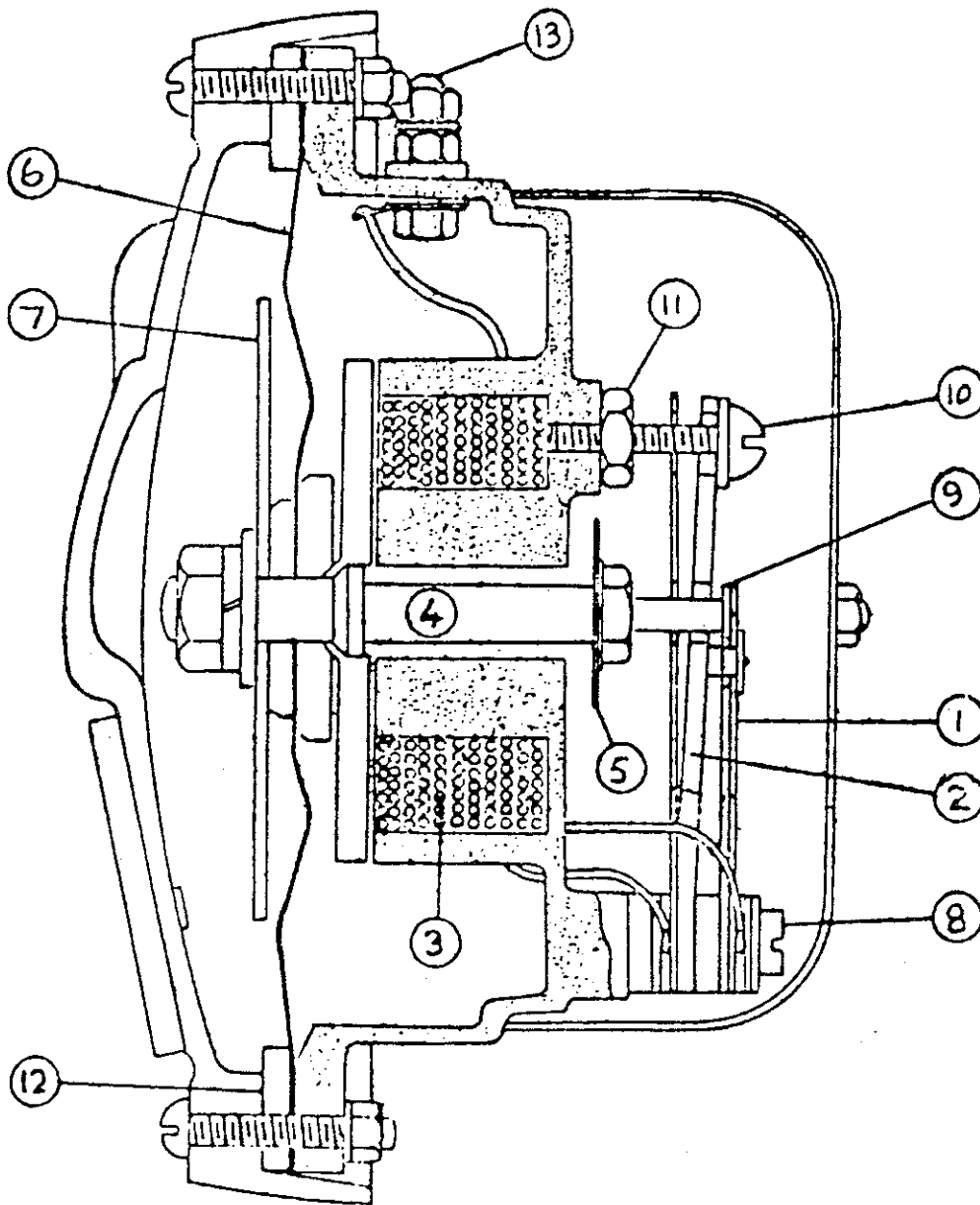


5.8 Electric Horns



THE SCOTT-KLAXON HORN

Mike Keighley

The Scott-Klaxon horn was fitted to Scott motor cycles in the 1930s. Featuring a brass Scott 'Go-No Go' gauge logo and the image of a squirrel on the alloy front cover, or bezel, it must have been almost unique on British motor cycles at a time when many manufacturers were providing the popular Lucas 'Altette' horn as part of the original

equipment. The Klaxon company was founded in America at the turn of the century and after World War One set up production facilities in Europe. Discussion with a specialist in pre-war electrical vehicle horns seems to suggest that the Klaxon horns supplied to Shipley were manufactured in both England and France, with the exception of the alloy bezel and brass badge, these probably being obtained from elsewhere and may have been fitted by Scotts themselves.

Operation

Figure 1 shows a part-sectioned drawing of the horn, on which some lines have been omitted in the interest of clarity. Before the horn-button is pressed the two contact breaker fingers (1) and (2) are in the closed position. When the horn button is pressed, current flows through the contact breaker and the coil (3), which is energised. This moves the armature (4) towards the contact breaker and in lifting the top finger (1) breaks the current flow. The coil de-energises and the spring (5) (the securing screws of which are not shown in the drawing) and the diaphragm (6) pulls the armature back to the original position, thus closing the contact breaker and whilst the horn button remains pressed, repeating the cycle. The diaphragm (6) and the tone disc (7) amplifies the noise produced by the rapid movement of the armature to provide the horn sound.

The horn is generally reliable, but adjustments to achieve the best tone may be required after a long period of service or out of use. If the noise level has reduced or is intermittent, it does not necessarily mean that the unit has failed. A burnt-out coil is fairly rare, but the performance of the horn may have deteriorated if certain components have become loose (or seized) or if the points of the contact breaker are dirty, burnt, fused together or just out of adjustment. Usually a bench test will reveal if the trouble is in the motor-cycle wiring loom, such as a broken wire, faulty or corroded connections or a defective horn button.

Adjustments

To gain access to the rear of the horn remove the dust cover, which is secured by a single 2BA nut. Before carrying out adjustments check that all nuts and screws are tight and that the points of the contact breaker are in good condition and clean. If necessary, access to the points is achieved by removing the screws (8) (only one is shown in the drawing, the other is behind it, out of sight) to partially dismantle the contact breaker stack. Check that the Paxolin leaf (9) is in good condition, particularly at the point where it is struck by the armature. Adjustment is effected by turning the screw (10), secured by lock-nut (11), clockwise to open the points and anti-clockwise to close. Turn the adjusting screw until a satisfactory sound can be obtained and then, with an ammeter in the test bench circuit, note the current reading which must not exceed 3-4 amps. If the components in the rear of the horn are in order, but a satisfactory sound still cannot be achieved, it is possible that the fault lies in the front. Remove the six bezel screws, the bezel and steel ring (12) together with the nut on the end of the armature. This will allow the tone disc, diaphragm and washer and spacers to be removed; make a note of the order in which the various washers and spacers dismantle and in particular record if there are any shims behind the diaphragm. Check that the diaphragm is sound, free from cracks, splits and excessive corrosion. The coil must be a snug fit in the housing and the two wires related to it in good condition and

not earthing against the body. Ensure that the insulated bushes through which pass the terminal screws (13) (only one shown on the drawing) are present and in good condition. Reassemble in the reverse order, making sure that the armature nut is tight with the spring washer fully closed up. It is important that the diaphragm is evenly clamped up by the six bezel screws and nuts if a satisfactory horn sound is to be achieved. If the original bezel screws are worn out they can be replaced by 4BA stainless, the heads of which will take a polish and look like chrome. If a sound still cannot be produced it probably means that the insulation of the coil has deteriorated to the point of failure, in which case a new coil will be necessary. For most of us this will be a job for the specialist and such services are currently available from advertisers in the classic and vintage motor-cycling press.
