BRAKE WARNING LIGHT

General information 70.00.00

Warning light function

1 An amber warning light marked 'BRAKE' is provided on the instrument panel on models for certain territories only.

2 The following brief description of the warning light function is intended as a guide to aid in brake system fault diagnosis.

3 The warning light is in series circuit with one or more of the following warning indicator switches to provide a visual indication of brake lining wear, hydraulic fluid leakage or servo vacuum loss, depending on the particular equipment provided on the vehicle:-

- a A servo mounted vacuum switch which indicates lack of vacuum assistance at the brake servo.
- b A pedal-box mounted pedal travel switch to give an indication of excess pedal travel caused by brake shoe wear or minor hydraulic leakage.
- c A chassis mounted pressure differential switch which indicates fluid leakage in the front or rear brake hydraulic systems.
- d A dash mounted test switch which is push button operated. Failure of the bulb to illuminate on being tested could indicate a faulty bulb or earth connection.

Fault diagnosis—Brake warning light 'ON'

General

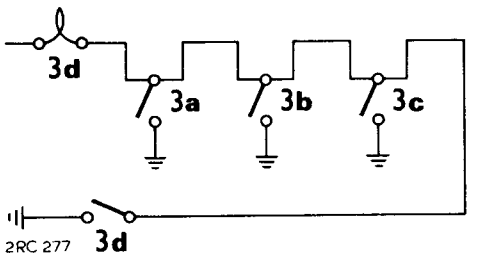
4 The brake warning light circuit is energised with the ignition switched 'ON' only.

5 The warning indicator switches are normally on open circuit and short the circuit to earth, to illuminate the brake warning light, when the switches are closed (refer to the accompanying schematic circuit diagram).

Procedure—Ignition switch 'ON'—test button fully out from dash.

6 Servo vacuum switch-Petrol models (for Diesel models, see item 7).

- a Ensure vacuum is available at the switch by checking the hose connections for soundness, then running the engine for a short period during which engine overrun conditions are obtained, that is, throttle opened then allowed to quickly close.
- b With vacuum available, if the brake warning light remains 'ON', disconnect the electrical leads at the vacuum switch and connect together the leads, using a slave Lucar male connector blade.
- c If the light is extinguished, the vacuum switch is faulty and must be replaced. If the warning light remains 'ON', leave the leads connected together and proceed to the next switch in the circuit.

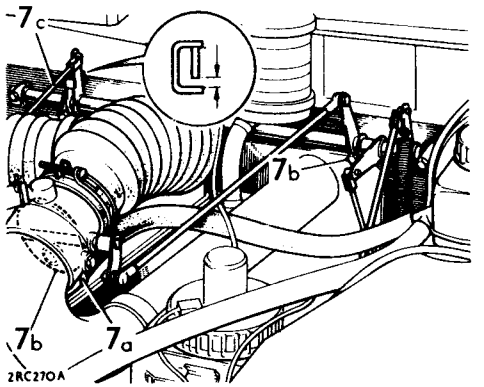


7 Servo vacuum switch—Diesel models.

General

Before faulting the servo vacuum switch on diesel models, check the following items a to c for correct operation:-

- a Remove the hose and unscrew the non-return valve from the underside of the inlet manifold. Check for the valve sticking closed by blowing with the mouth into the hose connector end of the valve (do not use high pressure air); the air should pass through freely. Renew the valve to rectify.
- b Remove the air inlet hose from the inlet manifold and check that the manifold butterfly valve is fully closed with the accelerator linkage in the idle position. Adjustment is made at the pinch bolt which secures the butterfly valve linkage to the accelerator cross-shaft.



- c If adjustment is required, observe that the space between the front and rear arms of the forked shaft, which actuates the distributor pump linkage, provides a 'lost motion' period during which the accelerator cross-shaft rotates but the pump linkage does not. Set the pump linkage at the cross-shaft pinch bolt such that the butterfly valve will open in advance of the pump linkage.
- d When the foregoing items are satisfactory, carry out the switch checking sequence described in item 6. If a replacement switch does not effect a cure for the warning light 'ON' condition, check the actual depression present in the inlet manifold at overrun conditions, using a suitable gauge interposed between the inlet manifold and the vacuum reservoir tee-piece. Opening and closing the throttle sharply several times with the engine running should enable a depression of at least 15 in Hg. to be registered on the gauge, this being sufficient to actuate the servo vacuum switch.

8 Brake pressure differential switch.

- a Disconnect the switch leads and interconnect them to remake the circuit.
- b If the warning light remains 'ON', proceed to check the next switch in the circuit; if the light is extinguished, check for hydraulic system leakage which would cause the differential switch plunger to displace to one end.

NOTE: On dual braking systems, the hydraulic fluid reservoir is divided into two compartments. On 88 models, the front compartment supplies the rear brakes and the rear compartment the front brakes; on 109 models, however, the reverse applies and the front compartment supplies the front brakes, the rear compartment supplies the rear brakes. A difference in fluid levels may indicate which system is leaking. Fluid leaks must be rectified before centralising the switch.

- c To centralise the differential switch plunger, bleed a brake line in the pressurised system (front or rear as applicable) use very slow pedal travel and observe the brake warning light. Immediately the warning light is extinguished, keep a light pressure on the pedal and close the bleed nipple.

9 Pedal travel switch

- a Check that the switch is set (by means of the locknut on the mounting bracket) to operate within 111 to 117 mm (4.37 to 4.60 in.) pedal travel movement towards the floor.
- b Disconnect the switch leads and interconnect them to remake the circuit.
- c If the warning light remains on, renew the switch.