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## INSTRUMENT PANEL

### DESCRIPTION

The instrument panel, mounted on the steering column tube carries the speedometer, engine high coolant temperature and low air pressure (front brakes, rear brakes and auxiliary reservoirs) warning lamps. The gear selector switch — with the exception of direct air shift models—is mounted to the left of the panel; an extension on the right carries the horn button, direction indicator and dipswitches. Later models incorporate a dash-mounted panel with additional air and fuel gauges, warning lights and controls.

### ELECTROMAG SPEEDOMETER

#### DESCRIPTION

The Electromag speedometer consists of two units, the transmitter and the indicator.

The transmitter, gearbox mounted, consists of a die cast frame supporting a shaft on which are carried two slip-rings and a commutator-like interruptor or rotary switch.

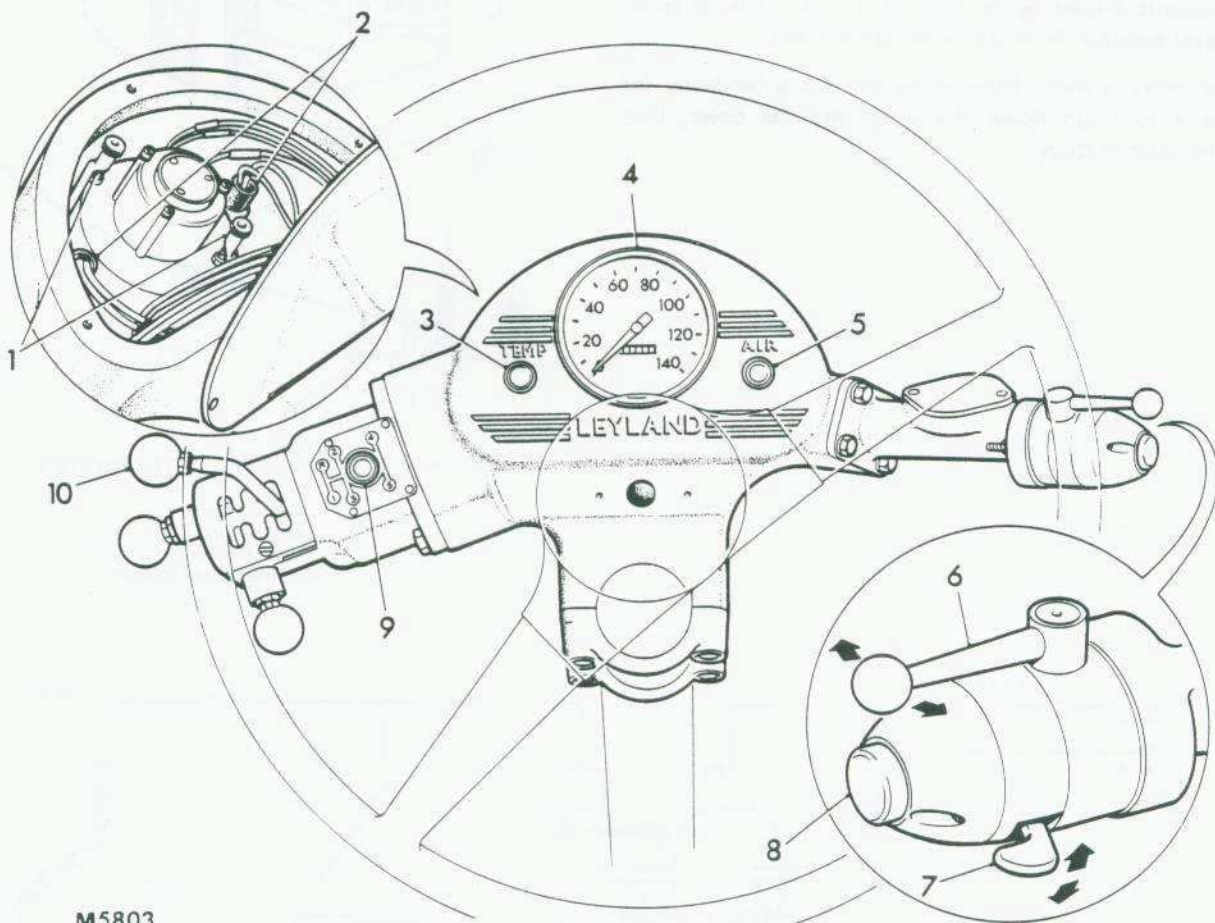
Brushes are fixed to the frame and carry the current from the batteries via the slip-rings and the interruptor to the three output terminals, the assembly being protected by a waterproof cover.

The indicator comprises a self-starting synchronous motor which consists of a stator and rotor. The motor is embodied in the indicator housing which is also the frame for the magnetic speed indicating system, the mileage counter and its associated gearing.

There are three connections to each indicator numbered 1, 2 and 3, the transmitter having corresponding terminals, also + and — supply connections. Failure to connect these up correctly can result in reversal of the indicator.

In the event of failure of the instrument the only procedure recommended by the manufacturer is substitution of the suspect component. Faulty instruments should be replaced or returned to the manufacturer for repair.

Some vehicles are fitted with Icknield speedometer and generator. Speedometers may be calibrated in mph or kph — ensure that replacement units are of same type as unit removed.



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FIG. 1. INSTRUMENT PANEL (COLUMN MOUNTED)

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| 1. Clamp nut                          | 6. Switch, direction indicator       |
| 2. Lamp, speedometer                  | 7. Switch — headlamp — main beam/dip |
| 3. Warning lamp — coolant temperature | 8. Horn button                       |
| 4. Speedometer                        | 9. Indicator lamp                    |
| 5. Warning lamp — low air pressure    | 10. Gear selector                    |

## 2 Instruments

**NOTE:** If a replacement transmitter is fitted, it is essential that the gear ratio is exactly the same as the original unit. This ratio is corrected for each type of vehicle, having taken into account axle ratio and size of tyres fitted. Any deviation from the original ratio, no matter how slight, will affect the speed and distance readings of the speedometer.

### REMOVAL AND REFITMENT

#### TRANSMITTER

##### Remove

The speedometer transmitter is retained by a clamp screw which engages with a circumferential groove in the drive housing. To remove the transmitter the screw must be completely withdrawn using a screwdriver with an accurately fitting blade.

##### Refit

When replacing the transmitter lightly grease the shaft extension and the drive housing. Ensure that the shaft key has entered the keyway in the drive housing before attempting to replace the clamp screw.

**NOTE:** Rubber protective covers on transmitters and other components should be so positioned that the leads enter, wherever possible, from below the component.

If the entry is made from above there is a tendency for moisture to drain down the leads into the cover, thus causing deterioration.

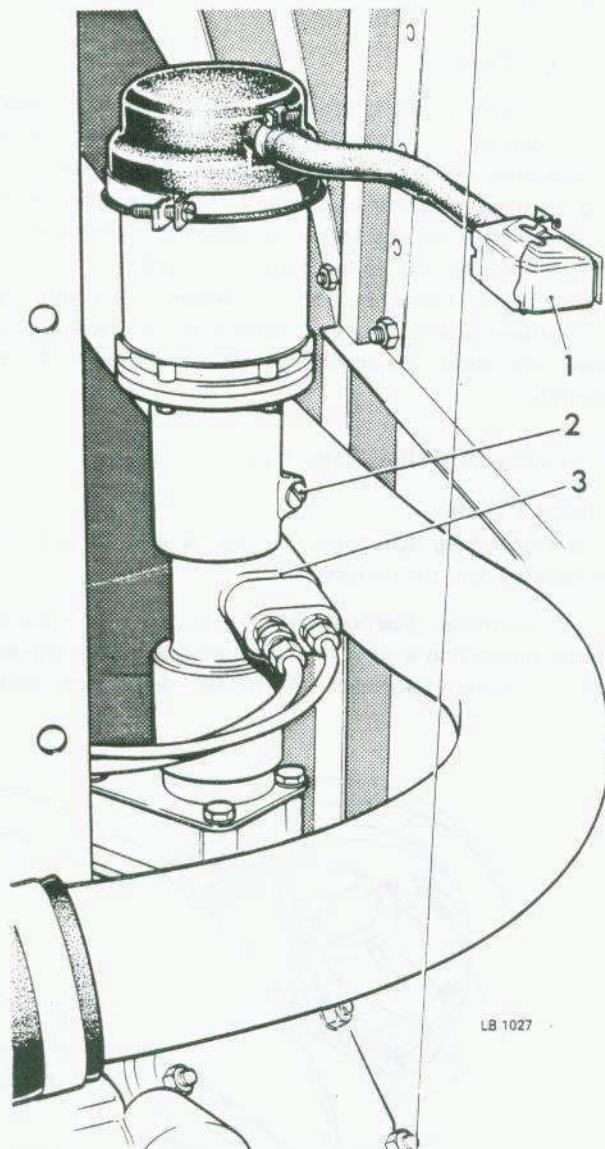


FIG. 2. SPEEDOMETER TRANSMITTER

1. 8-way connector
2. Clamp screw
3. Air control unit — Automatic lubrication

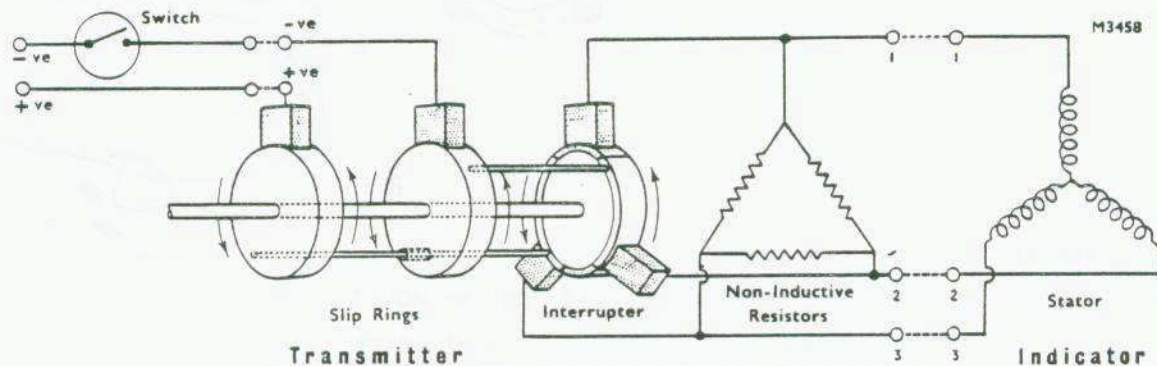


FIG. 3. DIAGRAMMATIC ILLUSTRATION OF ELECTROMAG CIRCUIT

## SPEEDOMETER

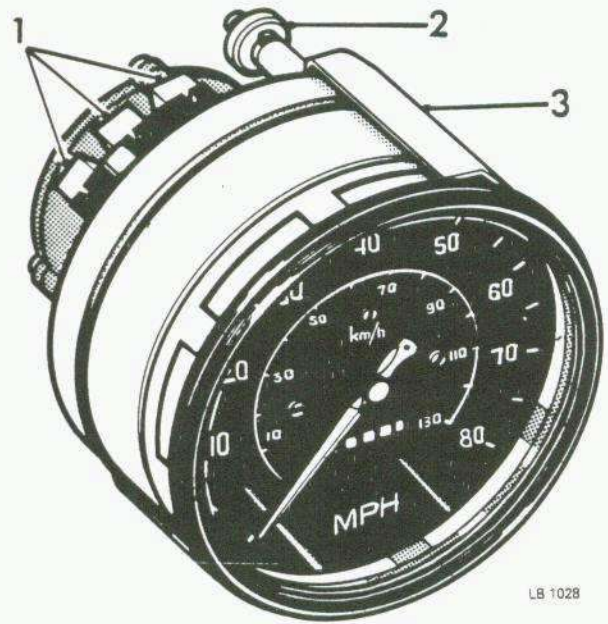
### Remove

After gaining access to the underside of the instrument panel, remove the two knurled nuts and spring washers, Fig. 4, which retain the speedometer clamps. The instrument can now be withdrawn from above and the three leads disconnected.

Instrument lighting bulbs may be removed after unscrewing their respective holders.

### Refit

When replacing, reconnect the leads before refitting the speedometer to the panel.



LB 1028

FIG. 4. SPEEDOMETER (TYPICAL)

1. Wiring terminals
2. Clamp nut
3. Clamp