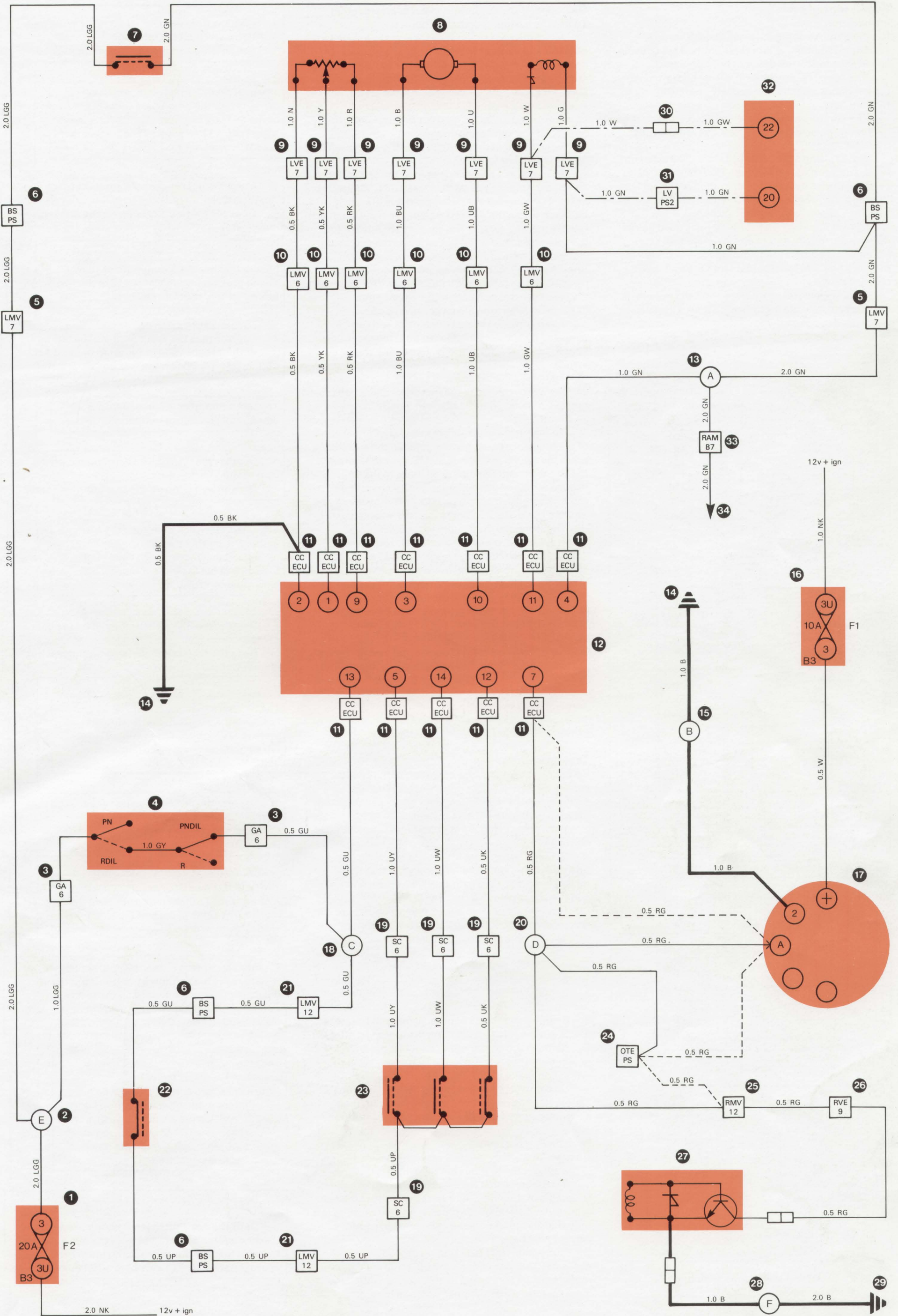




Speed control system

Contents	Specific application	Pages							
		Rolls-Royce		Corniche / Corniche II	Bentley Eight	Mulsanne	Mulsanne S	Turbo R	Continental
		Silver Spirit	Silver Spur						
Speed control system									
Component location		24-2	24-2	24-2	24-2	24-2	24-2	24-2	24-2
Wiring diagram		24-3	24-3	24-3	24-3	24-3	24-3	24-3	24-3
Test procedure		24-4	24-4	24-4	24-4	24-4	24-4	24-4	24-4



Speed control system

Introduction

It is the purpose of the automatic speed control system to maintain, within close limits, a set cruising speed selected by the driver.

The speed control system will be energized when the ignition is switched on and will operate in any forward gear.

The controls for the system are mounted on the gear range selector lever and are marked CANCEL, RESUME, and SET.

Any cruising speed from 48 km/h (30 mile/h) up to speeds in excess of 161 km/h (100 mile/h) may be selected to give satisfactory operation of the system.

Warning Always ensure that the legal maximum speed limits are not exceeded.

It is not intended that the system be used below 48 km/h (30 mile/h) and at approximately 40 km/h (25 mile/h) it automatically disengages, although the memory function incorporated into the system remains active.

A safety feature incorporated into the system, is that immediately the footbrake is applied the system becomes disengaged.

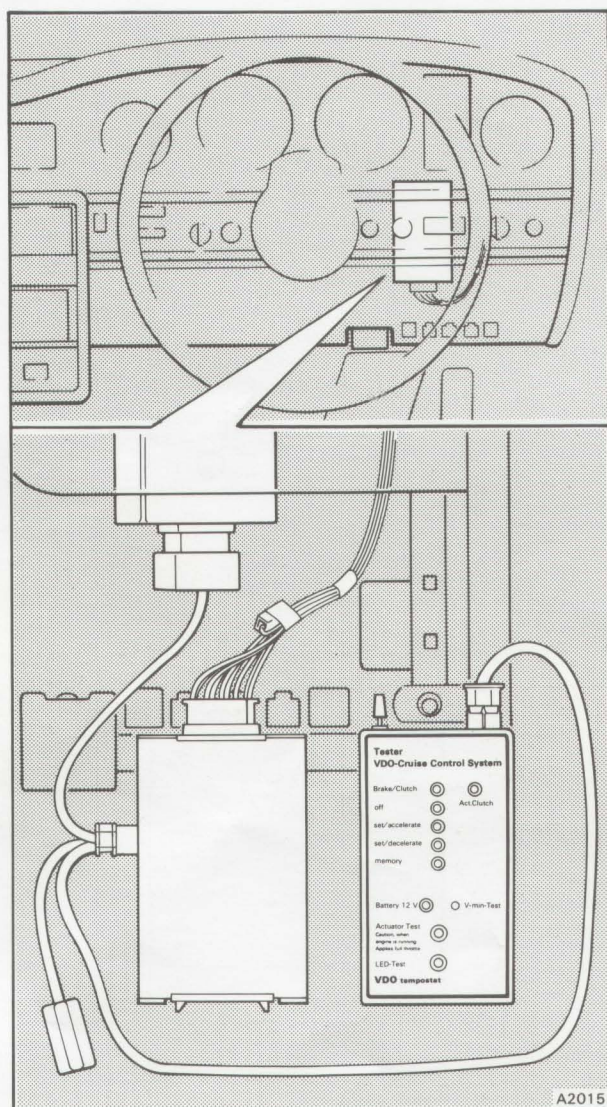


Fig. 24-1 Connecting the test box

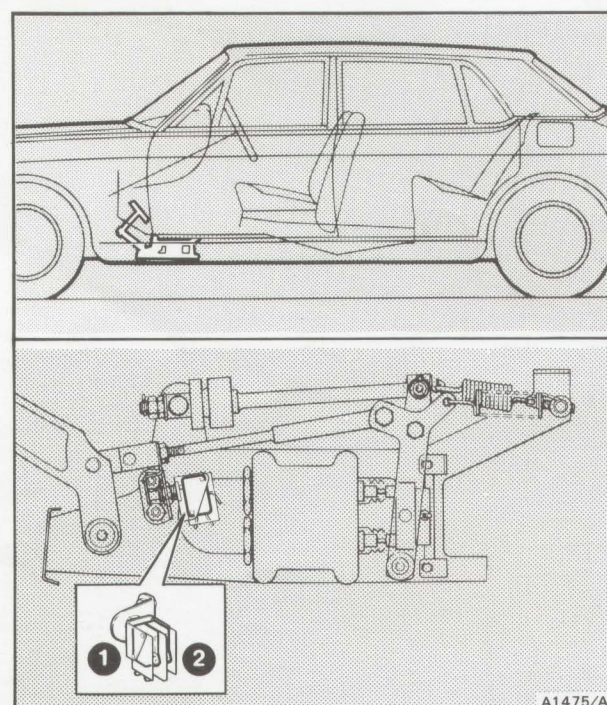


Fig. 24-2 Brake and stop lamps switches

- 1 Brake switch
- 2 Stop lamps switch

Operation of the automatic speed control system

To use the system proceed as follows.

Move the gear range selector lever to the D range position and accelerate the car until the desired cruising speed is indicated on the speedometer. Then, engage the speed control by briefly depressing the switch marked SET. The accelerator pedal can then be released and the car will maintain the selected cruising speed under all road conditions within the limits of the engine performance.

Adjustment of the selected cruising speed can be accomplished as follows.

To cruise at a higher speed than the one already selected, depress the switch marked SET. Whilst the switch is depressed the car's speed will gradually increase. When the desired cruising speed is attained, release the SET switch. The car may slightly exceed the selected speed when the switch is released but will quickly settle down to the set cruising speed. Should a small increase in speed be required, this can be achieved by tapping the SET switch. The speed of the car will increase by approximately 1 km/h (0.5 mile/h) each time the switch is tapped.

Alternatively, a higher cruising speed can be achieved by accelerating the car until the required speed is attained, then briefly depressing the SET switch.

To reduce the set cruising speed, decrease the car's speed by means of the footbrake and when the desired cruising speed is reached, briefly depress the SET switch.

To regain the set cruising speed after application of the footbrake pedal has disengaged the system, press the switch marked RESUME. This memory of the last set speed remains at all times in the unit, despite temporary disengagement by operation of the footbrake pedal, until the gear lever is moved out of a forward drive position or the ignition is switched off.

To disengage the system without using the footbrake pedal, press the switch marked CANCEL.

To resume cruising at the previously selected speed, press the RESUME switch. Should the speed of the car have fallen below 40 km/h (25 mile/h) during the period of disengagement, it will be necessary to accelerate the car to a speed in excess of 40 km/h (25 mile/h) before pressing the RESUME switch to engage the system.

The speed control system may be overridden by the accelerator pedal, for example when overtaking, but will automatically return to the originally selected speed once the pedal is released. On downhill gradients, the selected cruising speed could be exceeded as there would be no automatic selection of a lower gear ratio to give engine braking.

Test procedures

If a fault is reported in the operation of the speed control system, it is recommended that before carrying out the fault finding procedure using test box RH 9883, two facts are established.

First, ensure that the speedometer is operating correctly.

Second, ensure that the stop lamps switch is operating/functioning satisfactorily i.e. stop lamp bulbs illuminate, then extinguish when the brake pedal is depressed and released.

On completion of this fault finding procedure it is recommended that the car is road tested to ensure satisfactory operation of the system.

Connecting the test box (see fig. 24-1)

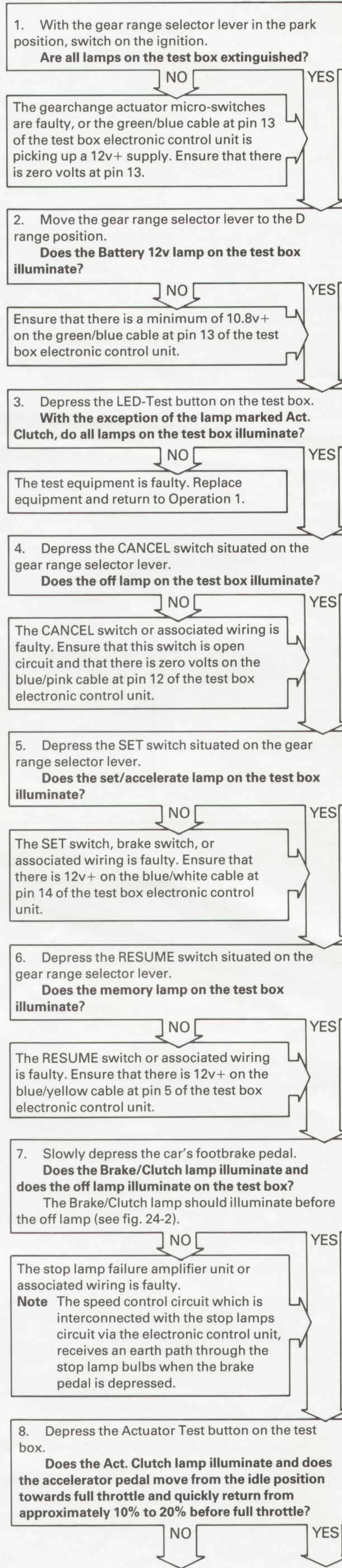
1. Ensure that the parking brake is firmly applied.
2. Remove the interior lamps fuse B5 at main fuseboard F1.
3. Ensure that fuse B3 at main fuseboard F1 is intact.
4. Ensure that fuse B3 at main fuseboard F2 is intact.
5. Remove the starter relay (refer to Section 4).
6. Remove the driver's lower trim panel (refer to Workshop Manual TSD 4700, Chapter S).
7. Disconnect the speed control loom plug from the car's electronic control unit and connect it to the electronic control unit of the speed control test box.

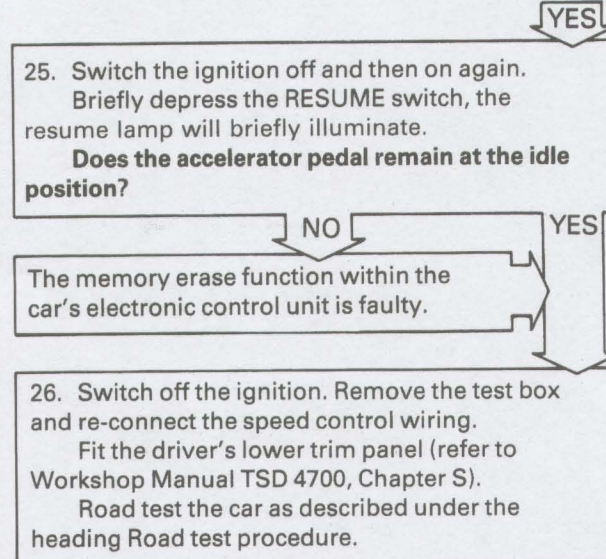
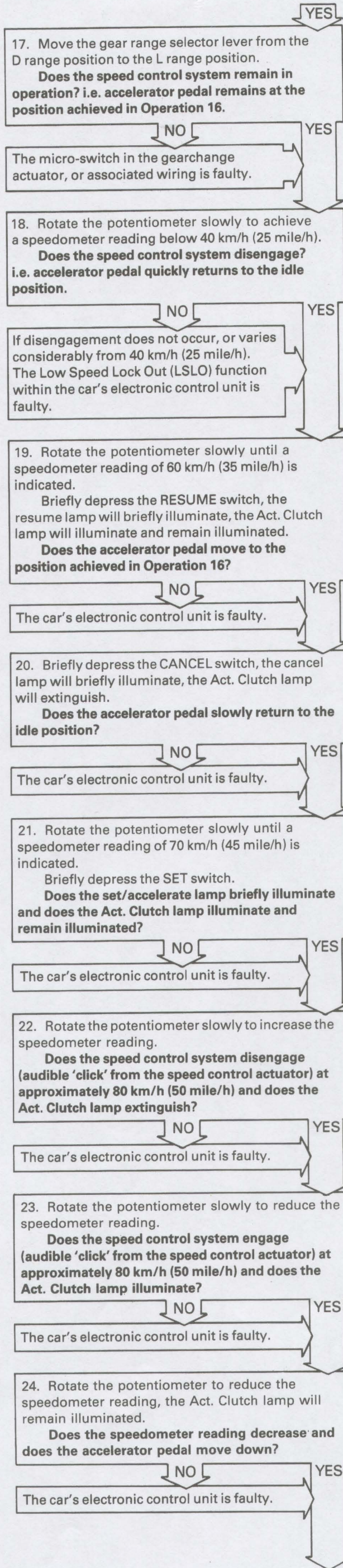
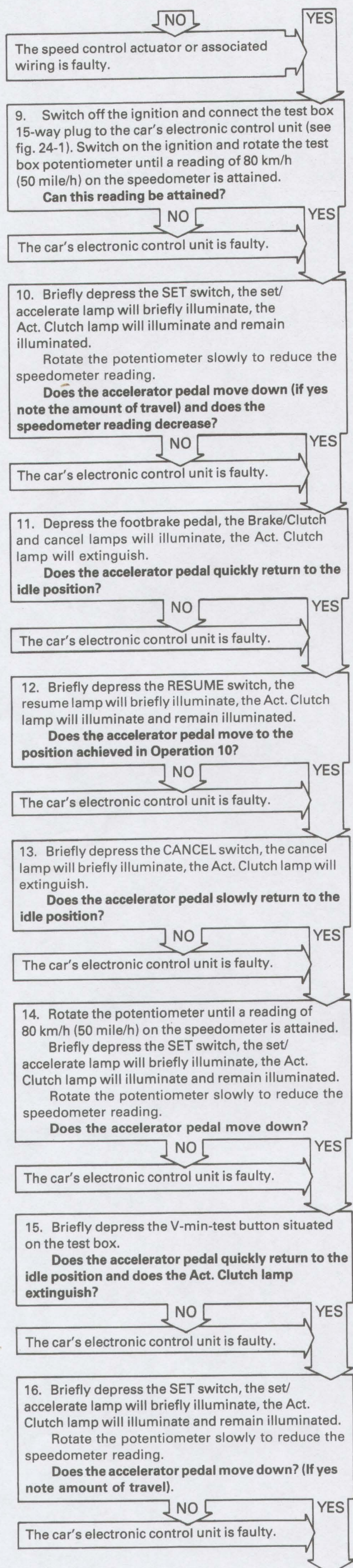
Fault finding procedure

Observe all workshop safety precautions in addition to the special precautions detailed in Section 2.

It is essential that the electrical system of the car is capable of providing 12.5 volts throughout the test procedure. To achieve this the car battery must be in a fully charged condition and connected to a **low current** type battery charger.

Throughout this fault finding procedure it is necessary to check voltage. When doing so a multi-meter must be connected in accordance with the manufacturer's instructions.





Road test procedure

The following road test procedure is recommended to enable both safety and functional checks of the speed control system to be carried out. When carrying out this test procedure select a traffic free length of road and ensure that the road is free from any potential hazards.

1. Ensure that the throttle linkage is correctly set (refer to Workshop Manual TSD 4737, Engine Management Systems, Chapter K).
2. Ensure that there is between 0.254 mm and 1.27 mm (0.010 in and 0.050 in) of free play at the speed control actuator linkage (see fig. 24-3). Adjust if necessary.
3. Operate the accelerator pedal to ensure that the operation of the throttle linkage and actuator linkage is not obstructed.
4. Apply the parking brake, then apply the footbrake and start the engine. Move the gear range selector lever to the D range position.
Ensure that the engine speed does not increase.
5. Accelerate the car to 70 km/h (45 mile/h). Holding this speed steady for three to four seconds, briefly depress the SET switch.
Ensure that the car cruises at a constant speed of 70 km/h $\pm$ 3 km/h (45 mile/h $\pm$ 2 mile/h).
6. Briefly apply the footbrake pedal.
Ensure that the car decelerates.
7. Briefly depress the RESUME switch. The memory within the electronic control unit should automatically function to return the speed of the car to 70 km/h (45 mile/h).
8. Briefly depress the CANCEL switch.
Ensure that the car decelerates.
9. Briefly depress the RESUME switch. The memory within the electronic control unit should automatically function to return the speed of the car to that set in Operation 5.
10. Tap the SET switch four to five times.
Ensure the speed of the car increases by approximately 1 km/h (0.5 mile/h) per tap.
11. Briefly depress the CANCEL switch.
Ensure that the car decelerates.
12. Accelerate the car to 50 km/h (30 mile/h). Holding this speed steady for three to four seconds, briefly depress the SET switch.
Ensure that the car cruises at a constant speed of 50 km/h $\pm$ 3 km/h (30 mile/h $\pm$ 2 mile/h).
13. Accelerate the car to 80 km/h (50 mile/h). Holding this speed steady for three to four seconds, briefly depress the SET switch.
Ensure that the car cruises at a constant speed of 80 km/h $\pm$ 3 km/h (50 mile/h $\pm$ 2 mile/h).
14. Increase the speed of the car by depressing the SET switch. Release the switch when a speed of 100 km/h (60 mile/h) is reached.
Ensure that the car cruises at a constant speed of 100 km/h $\pm$ 3 km/h (60 mile/h $\pm$ 2 mile/h).

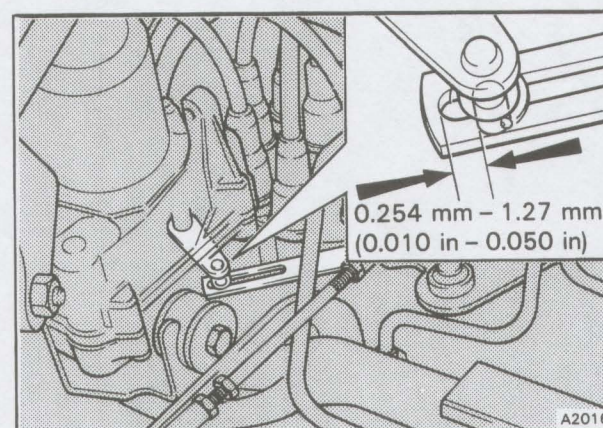
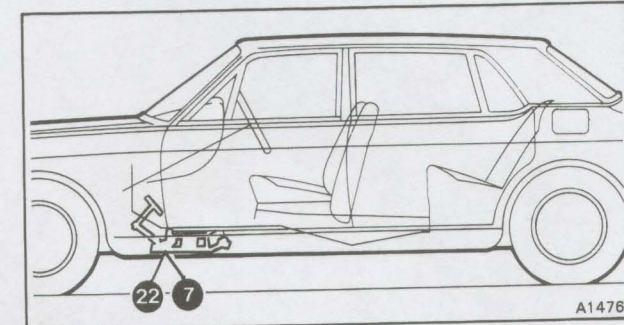
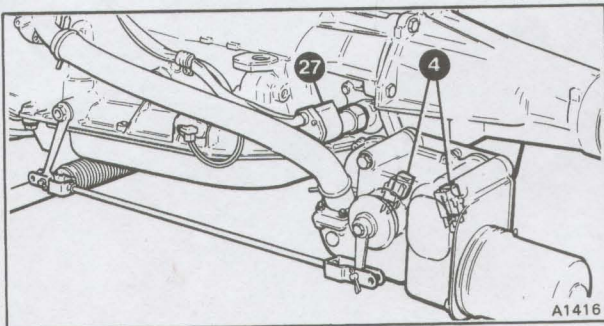
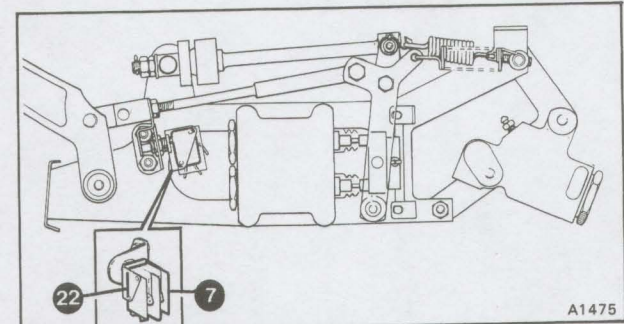
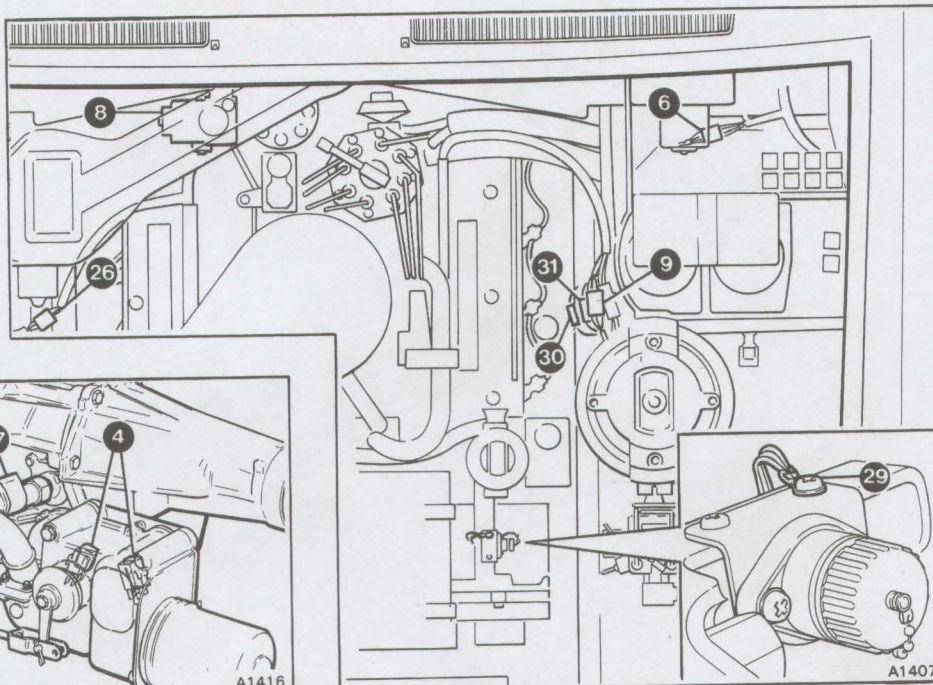
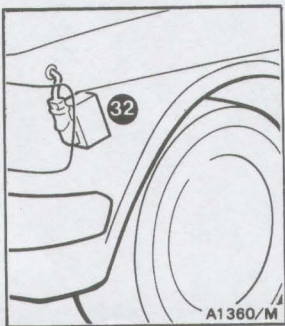
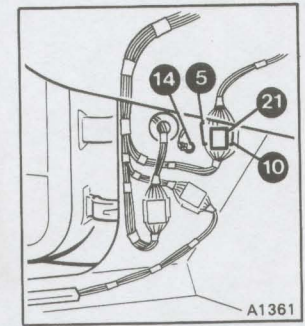
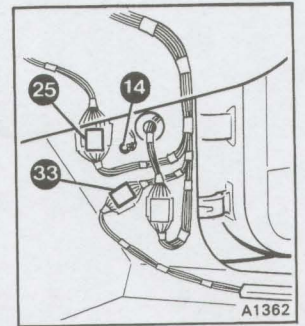
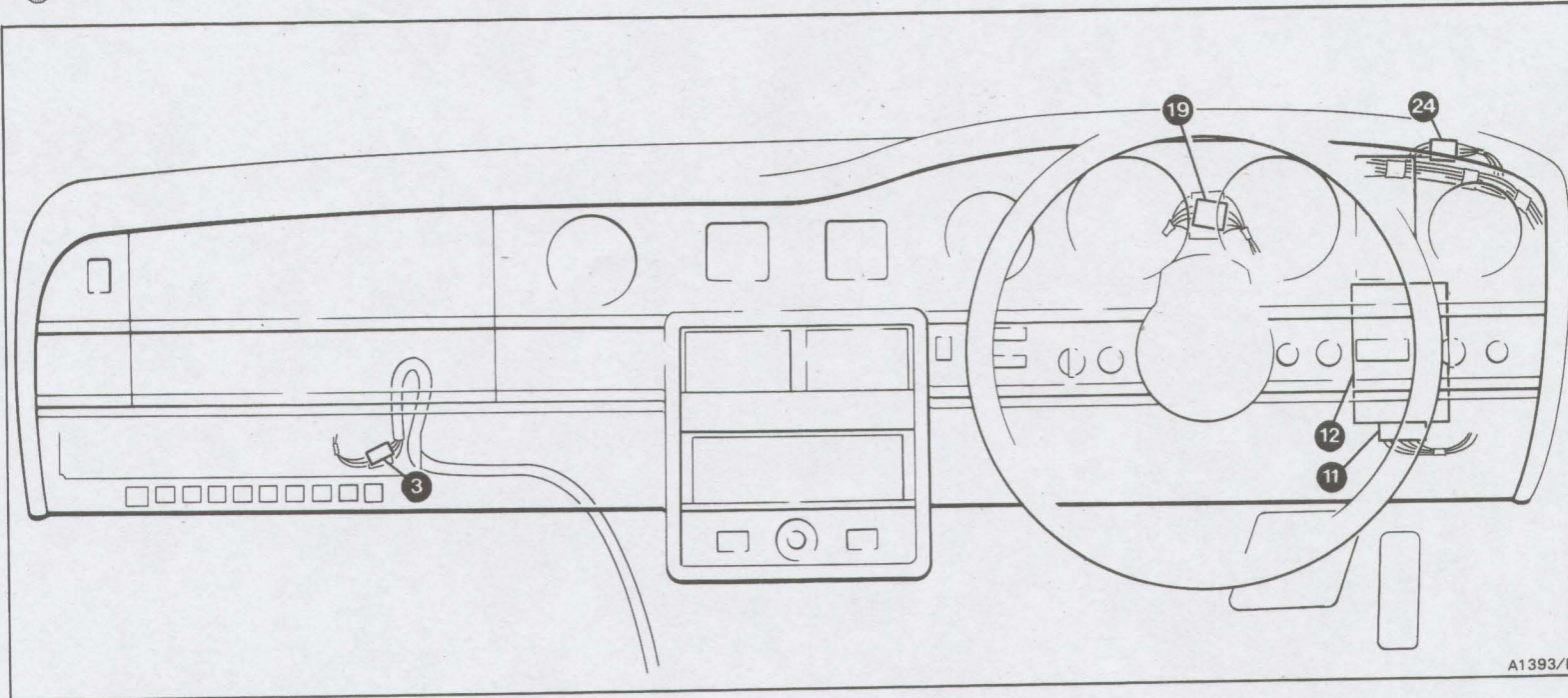


Fig. 24-3 Speed control actuator rod setting

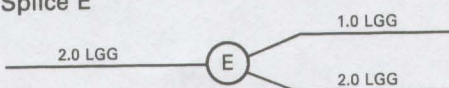


15. Reduce the speed of the car by application of the footbrake pedal to approximately 80 km/h (50 mile/h). Then, briefly depress the RESUME switch. The memory within the electronic control unit should automatically function to return the speed of the car to that set in Operation 14.
16. Briefly depress the CANCEL switch.
Ensure that the car decelerates.
17. Briefly depress the RESUME switch. The memory within the electronic control unit should automatically function to return the speed of the car to that set in Operation 14.
18. Reduce the speed of the car by application of the footbrake pedal to 25 km/h (15 mile/h). Then, briefly depress the RESUME switch.
Ensure that the system does not engage.
19. Bring the car to a halt and move the selector lever to the park position.
20. Move the selector lever to the D range position. Then, accelerate the car to 60 km/h (35 mile/h) and depress the RESUME switch.
Ensure that the system does not engage.
21. Accelerate the car to 80 km/h (50 mile/h). Holding this speed steady for three to four seconds, briefly depress the SET switch.
Ensure that the car cruises at $80 \text{ km/h} \pm 3 \text{ km/h}$ ($50 \text{ mile/h} \pm 2 \text{ mile/h}$).
22. Reduce the speed of the car by application of the footbrake pedal to approximately 65 km/h (40 mile/h). Then, briefly depress the RESUME switch. The memory within the electronic control unit should automatically function to return the speed of the car to that set in Operation 21.
23. Tap the SET switch four to five times.
Ensure that the speed of the car increases by approximately 1 km/h (0.5 mile/h) per tap.
24. To conclude the test procedure, briefly depress the CANCEL switch.
Ensure that the car decelerates.

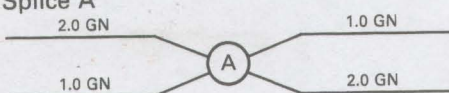


Key to 24-3

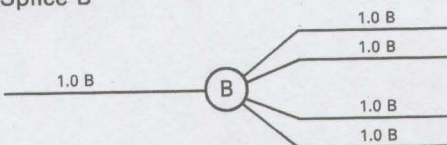
- 1 Fuseboard F2, fuse B3, 20 Amp
- 2 Splice E



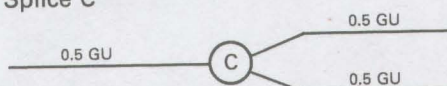
- 3 Gearchange actuator plug and socket 6-way
- 4 Gearchange actuator micro-switches
- 5 Left-hand main to valance loom plug and socket 7-way
- 6 Brake switch loom plug and socket
- 7 Stop lamps switch
- 8 Speed control actuator
- 9 Left-hand valance to engine loom plug and socket 7-way
- 10 Left-hand main to valance loom plug and socket 6-way
- 11 Speed control electronic control unit plug
- 12 Speed control electronic control unit
- 13 Splice A



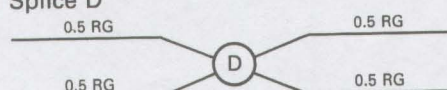
- 14 'A' post earth points
- 15 Splice B



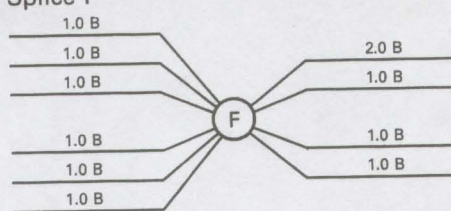
- 16 Fuseboard F1, fuse B3, 10 Amp
- 17 Speedometer
- 18 Splice C



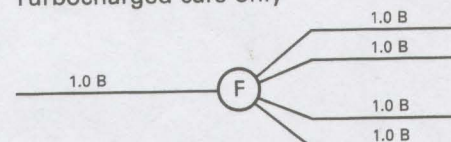
- 19 Steering column plug and socket 6-way
- 20 Splice D



- 21 Left-hand main to valance loom plug and socket 12-way
- 22 Brake switch
- 23 Speed control switch (column)
- 24 'Other than Europe' plug and socket
- 25 Right-hand main to valance loom plug and socket 12-way
- 26 Right-hand valance to engine loom plug and socket 9-way
- 27 Speed signal generator
- 28 Splice F



Turbocharged cars only



- 29 Engine earth point
- 30 Left-hand valance connection
- 31 Left-hand valance plug and socket 2-way
- 32 Knock sensor electronic control unit
- 33 Right-hand 'A' post main to body loom plug and socket 7-way
- 34 To stop lamp failure amplifier (refer to Section 13)

Note — — — Only applicable to Turbocharged cars