HOW THE GLOW PLUG CONTROL OPERATES

With the master switch in the OFF position there is a constant 12 volt supply from the battery to the glow plug control unit (timer) on the N wire.

When the master switch is turned to position **'II'**, a 12 volt supply from fuse 14 on the G/K wire energises the master relay and passes to earth on the B wire. With the relay energised, the supply from fusible link 3 passes through the relay and on to the control unit on the N/U wire.

The control unit now connects the battery supply to the glow plugs on the N/G wire and the glow plugs start to operate, finding an earth path through the engine. The control unit also sends a supply to the instrument pack on the U/O wire to illuminate the glow plug warning light. The glow plug warning light remains illuminated for 3 to 15 seconds dependent on under bonnet temperature, which is monitored by a sensor located in the control unit. The engine can be started when the light extinguishes.

***Note:** The glow plugs will remain on.*

The length of time the control unit will maintain the battery supply to the glow plugs is dependent on glow plug resistance, which increases with temperature, and under bonnet temperature.

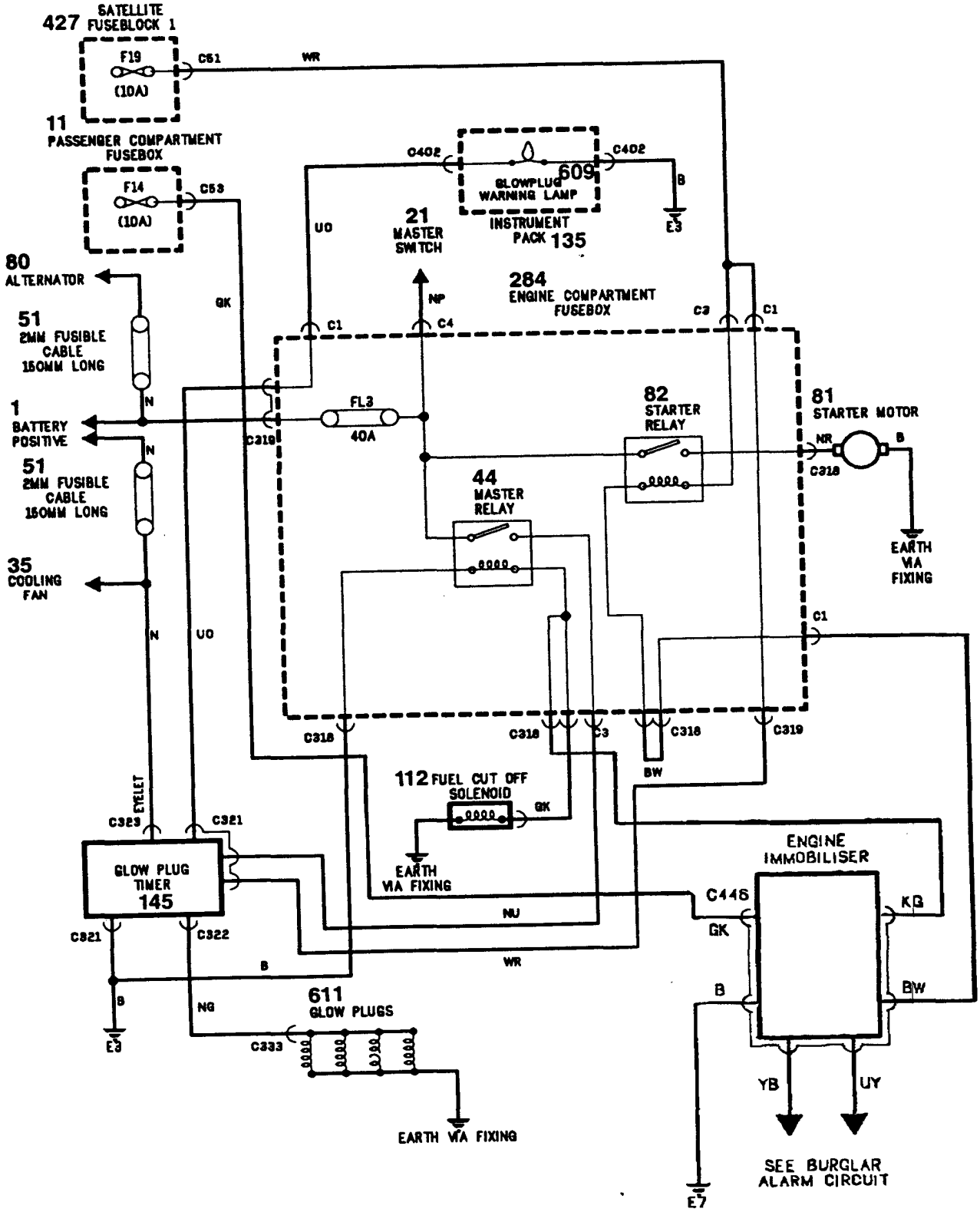
To ensure continuous glow plug operation during engine cranking, the control unit is energised on the W/R wire from passenger compartment satellite fuse 19.

After cranking the control unit will maintain the supply from the battery to the glow plugs on the N/G wire to give a post heat period for at least 10 seconds. The glow plugs are then cut out automatically by the control unit, either at a temperature of 50°C or by the control unit timer after 30 seconds.

HOW THE FUEL CUT OFF SOLENOID OPERATES

When the master switch is turned to position **'II'**, the fuel cut-off solenoid is energised via fuse 14 on the G/K wire. An earth is supplied through the injection pump and engine. When switched off, the solenoid is de-energised and closes the fuel feed to the injection pump thus stopping the engine.

Circuit Diagram - Glow Plugs and Fuel Cut Off Solenoid



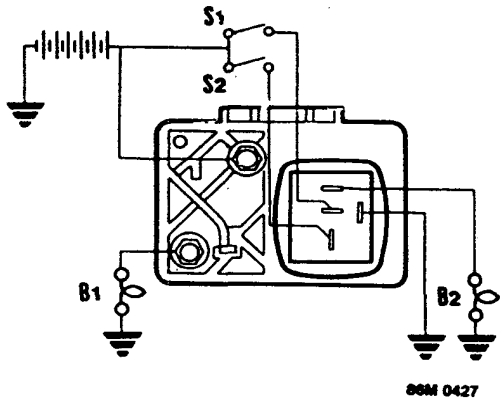
FAULT FINDING GUIDE

Fault	Action
Problem with cold starting.	Check N and N/U supplies to glow plug control unit. Check N/G wire from glow plug control unit to glow plug bus bar connection. Check B wire from glow plug control unit to earth. Check Fuse 14. Master switch at position 'II', check for voltage at fuel cut-off solenoid.
Glow plug warning light inoperative.	Check warning light bulb. Check U/O wire from glow plug control unit and from fusebox to instrument pack.
Poor running after warm-up.	Check for glow plug timer remaining on, voltage at glow plugs.

GLOW PLUG TESTING

Carry out glow plug testing as detailed in the **MECHANICAL FAULT FINDING MANUAL.**

Test 1 - Control Unit (timer)



To test control unit, connect a circuit using two bulbs to a 12v battery as shown:
B1 - 5 watts
B2 - 1.2 watts

1. Close switch S1:
   Bulbs B1 and B2 should light immediately. After a few seconds, B2 should extinguish (time is affected by under bonnet temperature.)
   B1 should extinguish after a further 5 seconds.
2. Close switch S2:
   Bulb B1 should illuminate.
3. Open switch S2:
   Bulb B1 should extinguish.