

# DESCRIPTION AND OPERATION

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## **FUEL BURNING HEATER (FBH)**

### **DESCRIPTION**

#### **General**

A Fuel Burning Heater (FBH) is used to compensate for the lower operating temperatures of Diesel engines by heating engine coolant before it enters the heater matrix. For a detailed description of FBH operation, refer to the ***Heating and Ventilation*** section of the Workshop manual.

### **OPERATION**

#### **General**

Feed from the positive battery terminal (C0192) is supplied to fusible link 1 of the engine compartment fuse box (C0632) on an R wire. Fusible link 1 is connected in series with fuse 5, which is also located in the engine compartment fuse box. Fuse 5 (C0576) provides a constant battery feed to the Fuel Burning Heater (FBH) (C0926) on a PN wire. The FBH (C0926) is earthed on a B wire.

When the engine is running, the alternator (C0226) provides the Engine Control Module (ECM) (C0606) a Pulse Width Modulated (PWM) signal on a U wire. When the ECM (C0331) receives this signal it provides a feed to the FBH temperature sensor (C0714) on an NY wire. The FBH temperature sensor measures ambient air temperature, and is a normally open switch.

If an ambient air temperature of below 5 °C is measured, the FBH temperature sensor closes. The ECM feed can now flow across the sensor (C0714) to the FBH (C0925) on an SG wire. On receiving this feed, the FBH will power the FBH pump.

The FBH (C0925) sends a PWM signal to the FBH pump (C0920) on a WU wire. By varying the frequency of the pulses, the FBH can control the pump to operate at one of three speeds. The pump (C0920) is earthed on a B wire.

#### **Diagnostic Socket**

The FBH can be interrogated using TestBook or T4 via the diagnostic socket. The diagnostic socket (C0040) is connected to the FBH (C0925) by a K wire.