37 FLASH CODE 37 – FPS HIGH

Section **Page**

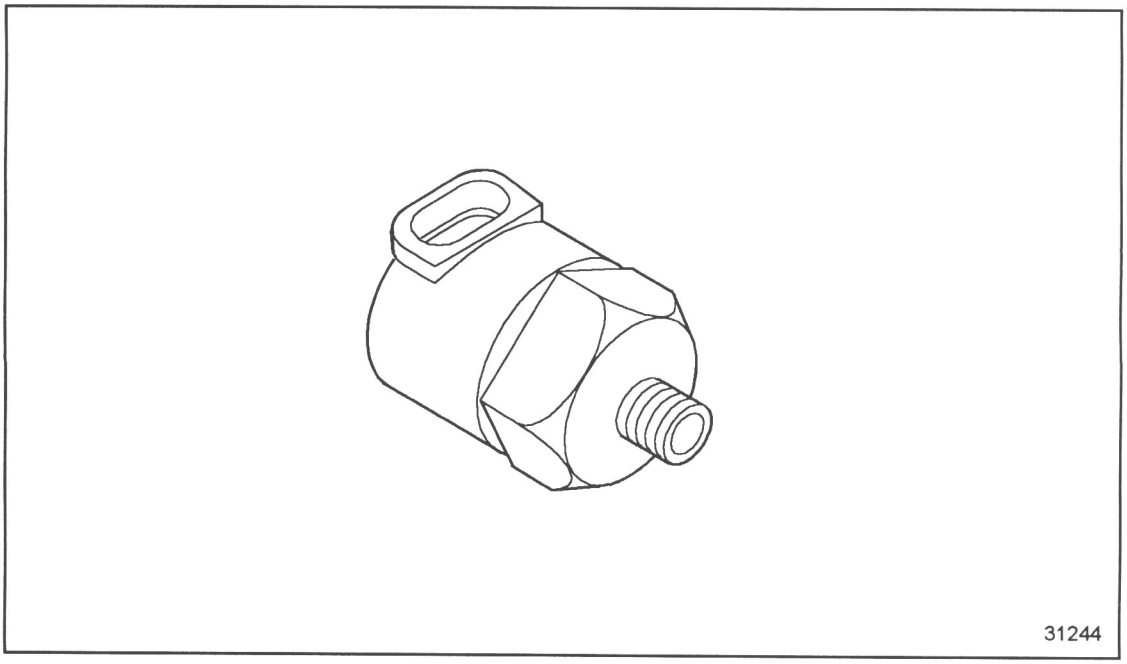

Figure 37–1 Fuel Pressure Sensor

37.1 DESCRIPTION OF FLASH CODE 37

Flash Code 37 indicates that the engine Fuel Pressure Sensor (FPS), see Figure 37–1, input to the ECM has exceeded 95% (normally > 4.75 volts) of the sensor supply voltage.

This diagnostic condition is typically:

- ❑ Open sensor return circuit
- ❑ Sensor signal circuit is shorted to the sensor +5 volt supply

NOTE:
Require fuel pressure > 60 psi.

37.2 SAE J1587 EQUIVALENT CODE FOR FLASH CODE 37

The SAE J1587 equivalent code for Flash Code 37 is p 094 3.

37.3 TROUBLESHOOTING FLASH CODE 37

The following procedure will troubleshoot Flash Code 37.

37.3.1 Multiple Code Check

Perform the following steps to check for multiple codes.

1. Turn ignition ON.
2. Plug the diagnostic data reader (DDR) into the diagnostic data link (DDL).
3. Read active codes.
   [a] If active code 94/3 was logged, and no other codes were logged, refer to section 37.3.2.
   [b] If active code 94/3 and any or all of the following codes were logged, 110/3 or 4, 174/3 or 4, 175/3 or 4, 101/3 or 4, 102/3 or 4, 100/3 or 4, 94/4, 73/3 or 4, refer to section 90.1.

37.3.2 Sensor Check

Perform the following steps to check the sensor.

1. Turn ignition switch OFF.
2. Disconnect FPS connector. See Figure 37–2.
3. Turn ignition ON.
4. Start and run engine.
5. Select Engine Temperature (COOLANT TEMP & OIL) on DDR.
6. Warm up engine until engine temperature reading is greater than 60°C (140°F).
7. Leave engine running at idle after warm–up. Run for five minutes.
8. Read active codes.
   [a] If active code 94/3 and any other codes were logged, refer to section 37.3.5.
   [b] If active code 94/4 and any other codes except 94/3 were logged, refer to section 37.3.3.

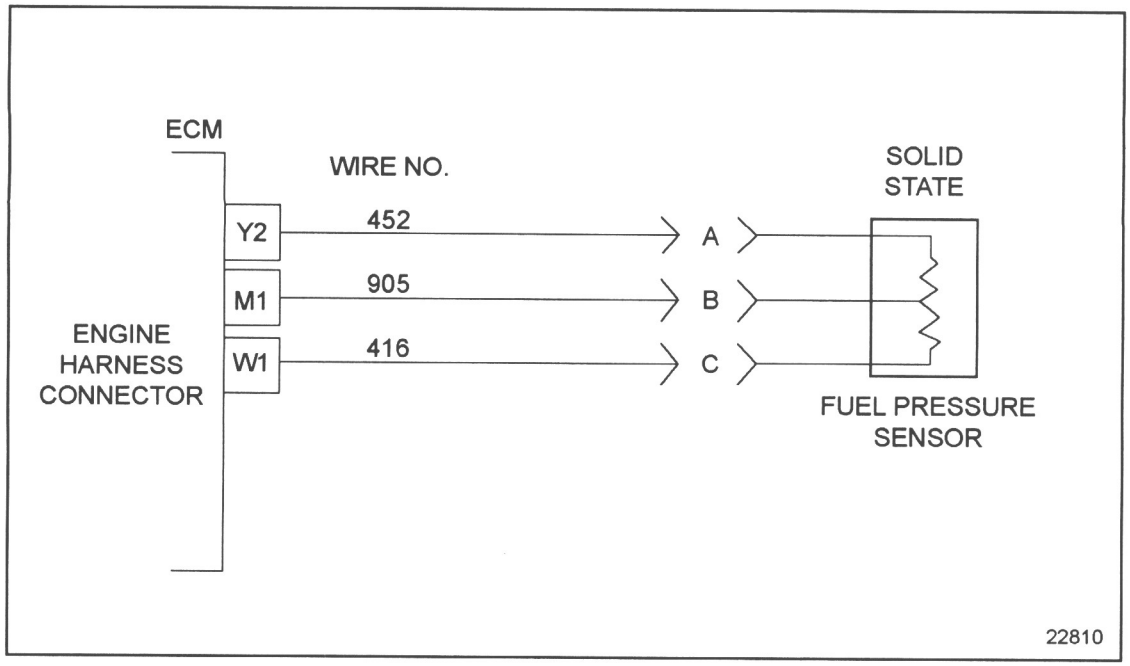

Figure 37–2 Engine Harness Connector to Fuel Pressure Sensor

37.3.3 Return Circuit Check

Perform the following steps to check the return circuit.

1. Turn vehicle ignition OFF.
2. Disconnect the engine harness connector at the ECM.
3. Install a jumper wire between pins A and B of the FPS harness connector.
4. Measure resistance between sockets M1 and Y2 on the engine harness connectors.
   [a] If resistance measurement is less than or equal to 5 Ω, refer to section 37.3.4.
   [b] If resistance measurement is greater than 5 Ω, or open, the return line (#452) is open. Repair the open and refer to section 37.3.9.

37.3.4 Check Fuel Pressure Sensor Connectors

Perform the following steps to check the FPS connectors.

1. Inspect terminals at the FPS connectors (both the sensor and harness side) for damage: bent, corroded, and unseated pins or sockets.
   [a] If the terminals and connectors are damaged, repair them and refer to section 37.3.9.
   [b] If the terminals and connectors are not damaged, replace the FPS and refer to section 37.3.9.

37.3.5 Check for Short

Perform the following steps to check for a short.

1. Turn ignition OFF.
2. Disconnect the engine harness connectors at the ECM.
3. Measure resistance between sockets W1 and M1 on the engine harness connector.
   [a] If the resistance measurement is greater than 100 Ω or open, refer to section 37.3.6.
   [b] If the resistance measurement is less than or equal to 100 Ω, the signal line(#905) is shorted to the engine +5 volt line (#416). Repair the short and refer to section 37.3.9.

37.3.6 Check for Short to Battery +

Perform the following steps to check for a short to battery.

1. Remove both fuses to the ECM.
2. Disconnect the vehicle harness and 5-way power connectors at the ECM. See Figure 37-3.
3. Measure resistance between socket M1 on the engine harness connector and socket B3 of the vehicle harness connector, and between M1 and the 5-way power harness sockets A and C.
   [a] If the resistance measurement is greater than 1,000 Ω or open, refer to section 37.3.8.
   [b] If the resistance measurement is less than or equal to 1,000 Ω, a short exists between sockets where less than 1,000 Ω was measured. Repair short and reinsert fuses. Refer to section 37.3.9.

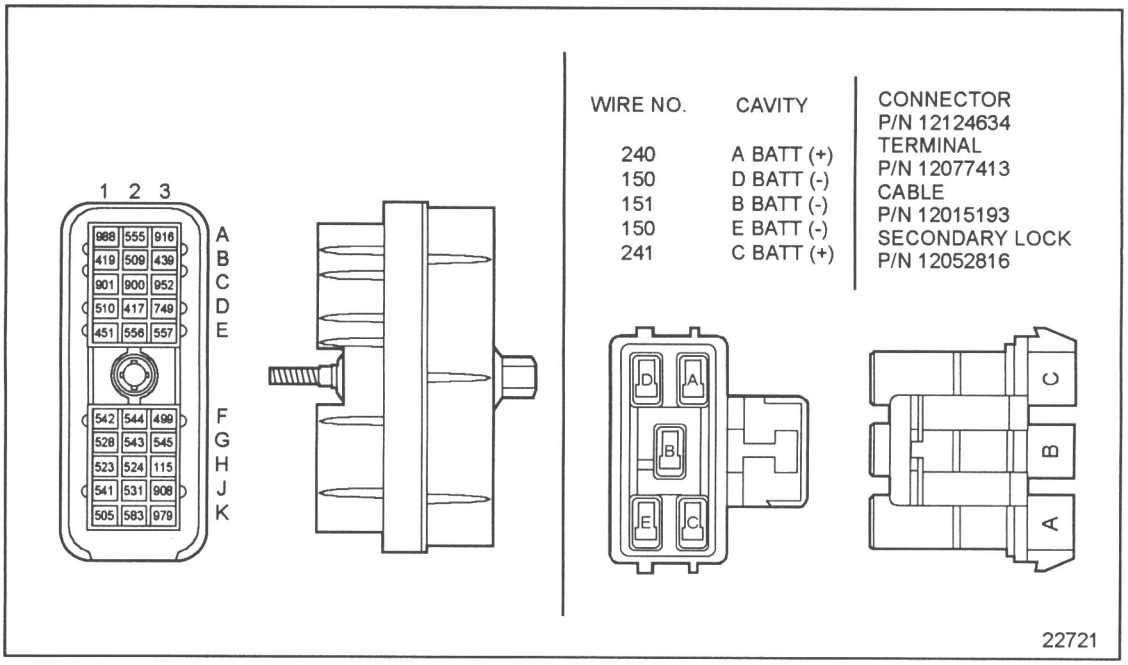

Figure 37-3 ECM Vehicle Interface Harness Connector

37.3.7 Final Check

Perform the following steps to do a final check.

1. Reconnect all connectors.
2. Turn vehicle ignition ON.
3. Clear codes.
4. Start and run the engine for one minute.
5. Stop engine.
6. Check DDR for codes.
   [a] If no codes are logged, troubleshooting is complete.
   [b] If active code 94/3 is logged, reprogram the ECM. Refer to section 37.3.9.
   [c] If any codes except code 94/3 are logged, refer to section 9.1.

37.3.8 Check ECM Connector

Perform the following steps to check the ECM connector.

1. Inspect terminals at the ECM connector (both the ECM and harness side) for damage: bent, corroded, and unseated pins or sockets.
   [a] If terminals and connectors are damaged, repair them. Refer to section 37.3.9.
   [b] If terminals and connectors are not damaged, replace the FPS. Refer to section 37.3.7.

37.3.9 Verify Repairs

Perform the following steps to verify repairs.

1. Turn ignition switch OFF.
2. Reconnect all connectors.
3. Turn ignition ON.
4. Clear codes.
5. Start and run the engine for one minute.
6. Stop engine.
7. Check DDR for codes.
   [a] If no codes are logged, no further troubleshooting is required.
   [b] If code 94/3 is not logged, and other codes are logged, refer to section 9.1.
   [c] If code 94/3 is logged, and other codes are logged, all system diagnostics are complete. Please review this section from the first step to find the error. Refer to section 37.3.1.