87 FLASH CODE 87 – PGS SENSOR LOW

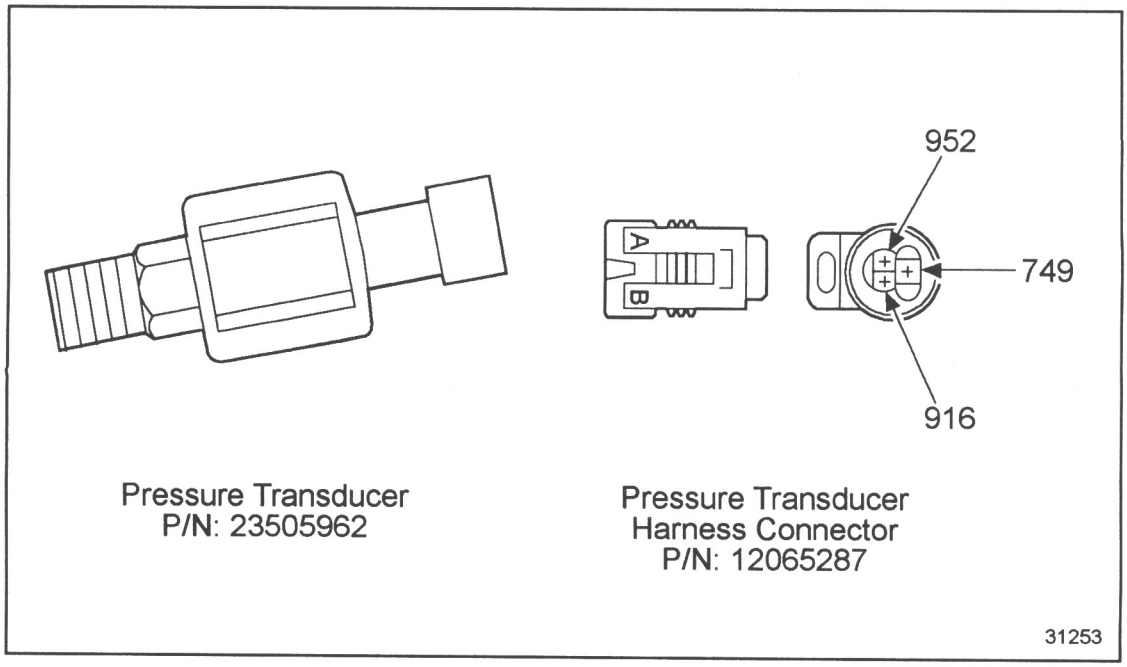

Figure 87–1 Pressure Transducer

87.1 DESCRIPTION OF FLASH CODE 87

Flash Code 87 indicates pump pressure sensor input voltage low.

The signal volts dropped below 5% (normally = <.25 volts) of the sensor supply. For pressure transducer and connector, see Figure 87-1.

87.2 SAE J1587 EQUIVALENT CODE FOR FLASH CODE 87

The SAE J1587 equivalent code for Flash Code 87 is p 073/4.

87.3 TROUBLESHOOTING FLASH CODE 87

The following procedure will troubleshoot Flash Code 87.

87.3.1 Multiple Code Check

Perform the following steps to check for codes.

1. Turn vehicle ignition ON.
2. Plug in DDR. Read the codes.
   [a] If codes p 73/4, 100/3 or 4, 102/3 or 4, 110/3 or 4, 174/3 or 4 or 175/3 or 4 are logged, refer to section 91.1.
   [b] If code 073/4 is logged and no other codes are logged, refer to section 87.3.2.
   [c] If code 073/4 is logged, and none of the following codes are logged: 100/3 or 4, 102/3 or 4, 110/3 or 4, 174/3 or 4 or 175/3 or 4, refer to section 87.3.2.

87.3.2 Sensor Check

Perform the following steps to check the sensor.

1. Turn ignition OFF.
2. Disconnect the pump pressure sensor connector and install a jumper between sockets B and C of the pump pressure sensor transducer connector.
3. Turn ignition ON.
4. Start engine and operate the Pressure Governor System (PGS) in the PRESSURE mode.
5. Read active codes.
   [a] If code p 73/3 and any other code except p 73/4 display, check to ensure the ECM and PGS sensor connectors are wired properly. If wired properly, refer to section 87.3.3.
   [b] If code p 73/4 and any other codes display, refer to section 87.3.4.

87.3.3 Check Pressure Governor System Sensor Connectors

Perform the following steps to check the pressure governor system (PGS) sensor connectors.

1. Turn ignition OFF.
2. Inspect terminals at the pump pressure sensor connectors (sensor and harness side) for damaged, bent, corroded, and unseated pins or sockets.
   [a] If the terminals and connectors are not damaged, replace the PGS sensor. Refer to section 87.3.7.
   [b] If the terminals and connectors are damaged, repair them. Refer to section 87.3.7.

87.3.4 Check for Short to Return

Perform the following steps to check for a short.

1. Turn ignition OFF.
2. Remove jumper wire.
3. Remove vehicle interface harness connector (30-pin).
4. Turn ignition ON.
5. Measure resistance between C3 (#952) and D3 (#749).
   [a] If the measured resistance is less than 1,000 Ω, the wires are shorted to each other. Replace the harness.
   [b] If the measured resistance is greater than 1,000 Ω, refer to section 87.3.5.

87.3.5 Check for Short to Battery (–)

Perform the following steps to check for a short to the battery (–).

1. Measure resistance between D3 (#749) and battery ground.
   [a] If the measured resistance is less than 1,000 Ω, the #749 wire is shorted to the battery. Replace the harness and refer to section 87.3.7.
   [b] If the measured resistance is greater than 1,000 Ω, refer to section 87.3.6.

87.3.6 Check for 5 Volt Open

Perform the following steps to check for a 5 volt open.

1. Plug in the 30–pin connector for the vehicle sensor harness.
2. Turn ignition ON.
3. Measure voltage between cavity B (#952) and A (#916) of the transducer connector.
   [a] If the measurement is less than 4.5 volts, wire #916 is open. Repair the open or replace the harness. Refer to section 87.3.7.
   [b] If the measurement is between 4.5 and 5.5 volts, the signal wire (#749) is open. Repair the wire and refer to section 87.3.7.

87.3.7 Verify Repairs

Perform the following steps to verify repairs.

1. Plug in all connectors.
2. Start and run the engine.
3. Plug in DDR and read the codes.
   [a] If no codes are logged, troubleshooting is complete.
   [b] If code p 073/4 is logged, review this section to find the error. Then, contact Detroit Diesel Technical Services.