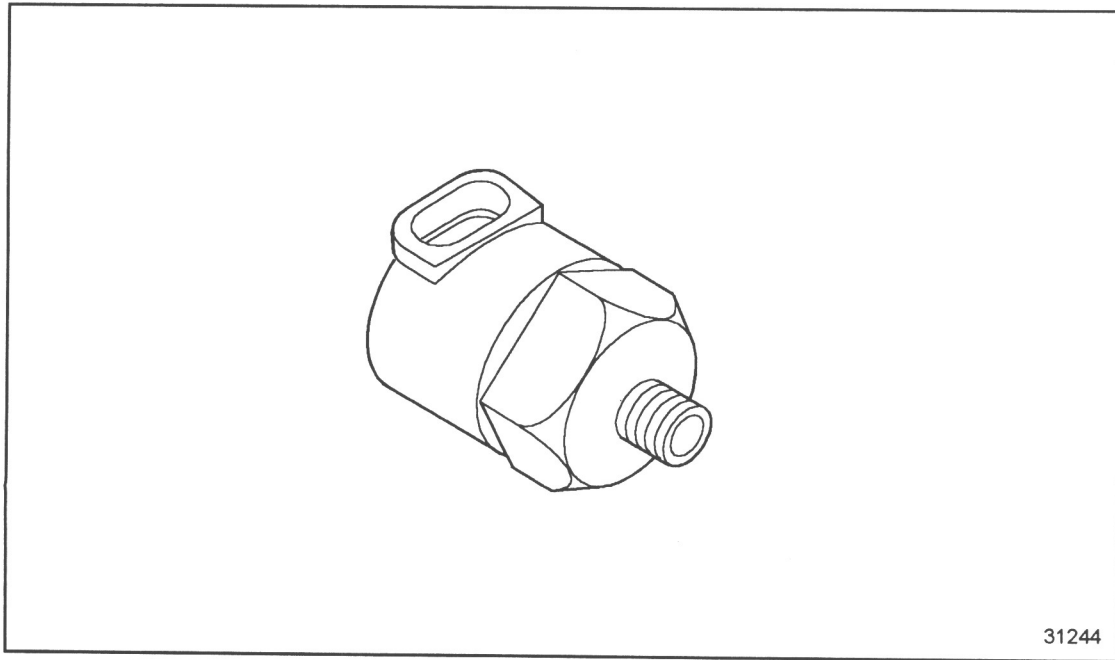


36 FLASH CODE 36 – OPS LOW

Section	Page
36.1 DESCRIPTION OF FLASH CODE 36	36-3
36.2 SAE J1587 EQUIVALENT CODE FOR FLASH CODE 36	36-3
36.3 TROUBLESHOOTING FLASH CODE 36	36-3



31244

Figure 36-1 Oil Pressure Sensor

36.1 DESCRIPTION OF FLASH CODE 36

Flash Code 36 indicates that the engine Oil Pressure Sensor (OPS), see Figure 36-1, input to the ECM has dropped below 5% (normally < 0.25 volts) of the sensor supply voltage.

This diagnostic condition is typically:

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

36.2 SAE J1587 EQUIVALENT CODE FOR FLASH CODE 36

The SAE J1587 equivalent code for Flash Code 36 is p 100 4, oil pressure circuit low.

36.3 TROUBLESHOOTING FLASH CODE 36

The following procedure will troubleshoot Flash Code 36.

36.3.1 Multiple Code Check

Perform the following steps to check for multiple codes.

1. Plug the diagnostic data reader (DDR) into the diagnostic data link (DDL).
2. Turn vehicle ignition switch ON.
3. Turn vehicle ignition OFF.
4. Read active codes.
 - [a] If flash code 100/4 and no other codes were logged, refer to section 36.3.2.
 - [b] If flash code 100/4 was logged and none 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, 73/3 or 4, 94/3 or 4, 100/3, refer to section 36.3.2.
 - [c] If flash code 100/4 and any 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, 73/3 or 4, 94/3 or 4, 100/3, refer to section 90.1.

36.3.2 Sensor Check

Perform the following steps to check the sensor.

1. Turn ignition switch OFF.
2. Disconnect OPS connector and install a jumper wire between sockets B and C of the OPS harness connector. See Figure 36-2.
3. Turn ignition ON.
4. Read active codes.
5. If active codes 100/3 or 4 were logged, proceed with the following:
 - [a] If active code 100/4 and any other codes were logged, refer to section 36.3.4.
 - [b] If code 100/3 and any other codes except 100/4 were logged, refer to section 36.3.3.
6. If active codes 100/3 or 4 were not logged, warm up engine until either codes are logged or the engine temperature (COOLANT TEMP or OIL TEMP or DDR) has been greater than 60°C (140°F) for one minute.
 - [a] If active code 100/4 and any other codes were logged, refer to section 36.3.4.
 - [b] If code 100/3 and any other codes except 100/4 were logged, refer to section 36.3.3.

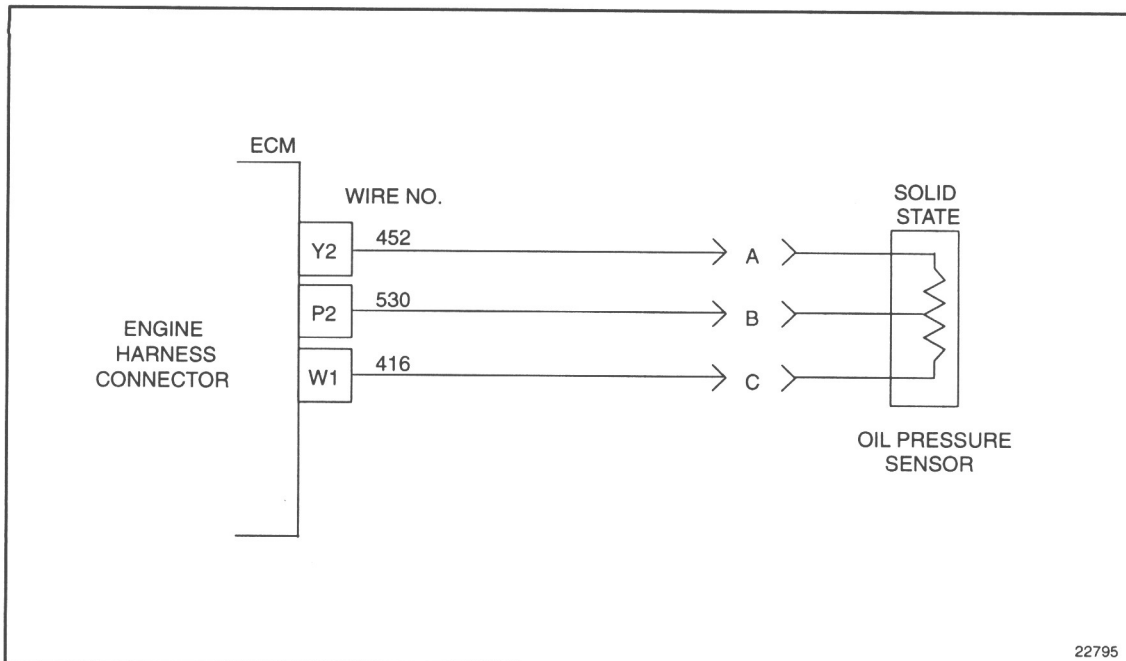


Figure 36-2 Engine Harness Connector to Oil Pressure Sensor

36.3.3 Check Oil Pressure Sensor Connectors

Perform the following steps to check the OPS connectors.

1. Turn ignition OFF.
2. Check terminals at the OPS 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 36.3.12.
 - [b] If the terminals and connectors are not damaged, replace the OPS. Refer to section 36.3.12.

36.3.4 Check for +5 Volts

Perform the following steps to check for +5 volts.

1. Turn vehicle ignition OFF.
2. Remove jumper wire.
3. Turn ignition ON.
4. Measure voltage on OPS harness connector, socket C (red lead) to socket A (black lead).
 - [a] If the voltage measurement is less than 4 volts, refer to section 36.3.8.
 - [b] If the voltage measurement is greater than 6 volts, refer to section 36.3.10.
 - [c] If the voltage measurement is between 4 and 6 volts, refer to section 36.3.5.

36.3.5 Check for Signal Open

Perform the following steps to check for signal open.

1. Turn the ignition OFF.
2. Disconnect the engine harness connector at the ECM. See Figure 36-3.
3. Install a jumper wire between sockets A and B of the OPS harness connector.
4. Measure resistance between sockets P2 and Y2 on the engine harness connectors.
 - [a] If the resistance measurement is less than or equal to $5\ \Omega$, refer to section 36.3.11.
 - [b] If the resistance measurement is greater than $5\ \Omega$ or open, the signal line(#530) is open. Repair the open and refer to section 36.3.12.

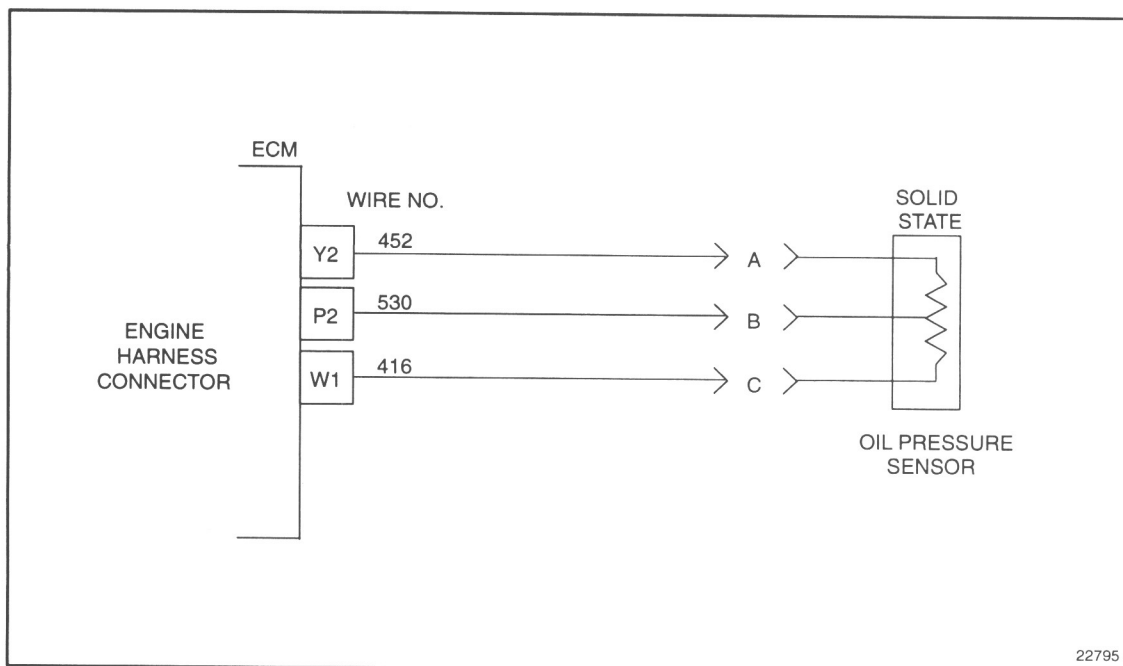


Figure 36-3 Engine Harness Connector to Oil Pressure Sensor

36.3.6 Check for Short

Perform the following steps to check for a short.

1. Remove jumper wire.
2. Measure resistance between socket P2 and a good ground. Also measure resistance between P2 and Y2.
 - [a] If both resistance measurements are greater than 100 Ω or open, replace OPS. Refer to section 36.3.12.
 - [b] If either resistance measurement is less than 100 Ω , the signal line (#530) is shorted to the return line (#452) or battery ground. Repair short and refer to section 36.3.12.

36.3.7 Check ECM Connectors

Perform the following steps to check ECM connectors.

1. Check terminals at the ECM harness connector (both ECM and harness side) for damage: bent, corroded and unseated pins or sockets. Check W1, P2 and Y2 terminals and pins at ECM.
 - [a] If the terminals and connectors are damaged, repair them and refer to section 36.3.12.
 - [b] If the terminals and connectors are not damaged, reprogram the ECM. Refer to section 36.3.12.

36.3.8 Check for Open +5 Volt Line

Perform the following steps to check for open +5 volt line.

1. Turn ignition OFF.
2. Disconnect the engine harness connectors at the ECM.
3. Install a jumper wire between pins A and C of the OPS connector.
4. Measure resistance between sockets W1 and Y2 on the engine harness connector.
 - [a] If the resistance measurement is less than or equal to 5 Ω , refer to section 36.3.9.
 - [b] If the resistance measurement is greater than 5 Ω or open, the engine +5 volt line (#416) is open. Repair the open and refer to section 36.3.12.

36.3.9 Check for Short

Perform the following steps to check for a short.

1. Remove jumper wire.
2. Measure resistance between sockets A and C on the OPS harness connector. Also measure resistance between socket C and a good ground.
 - [a] If either resistance measurement is less than or equal to 100 Ω , the engine +5 volt line (#416) is shorted to the return line (#452) or battery ground. Repair the short and refer to section 36.3.12.
 - [b] If the resistance measurement is greater than 100 Ω or open, replace OPS and refer to section 36.3.12.

36.3.10 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 36-4.
3. Measure resistance between socket W1 on the engine harness connector and socket B3 of the vehicle harness connector, and between W1 and the 5-way power harness sockets A and C.
 - [a] If resistance measurement is greater than 100 Ω , or open, replace OPS. Refer to section 36.3.12.
 - [b] If resistance measurement is less than or equal to 100 Ω , a short exists between sockets where less than 100 Ω resistance was read. Repair short and reinsert fuses. Refer to section 36.3.12.

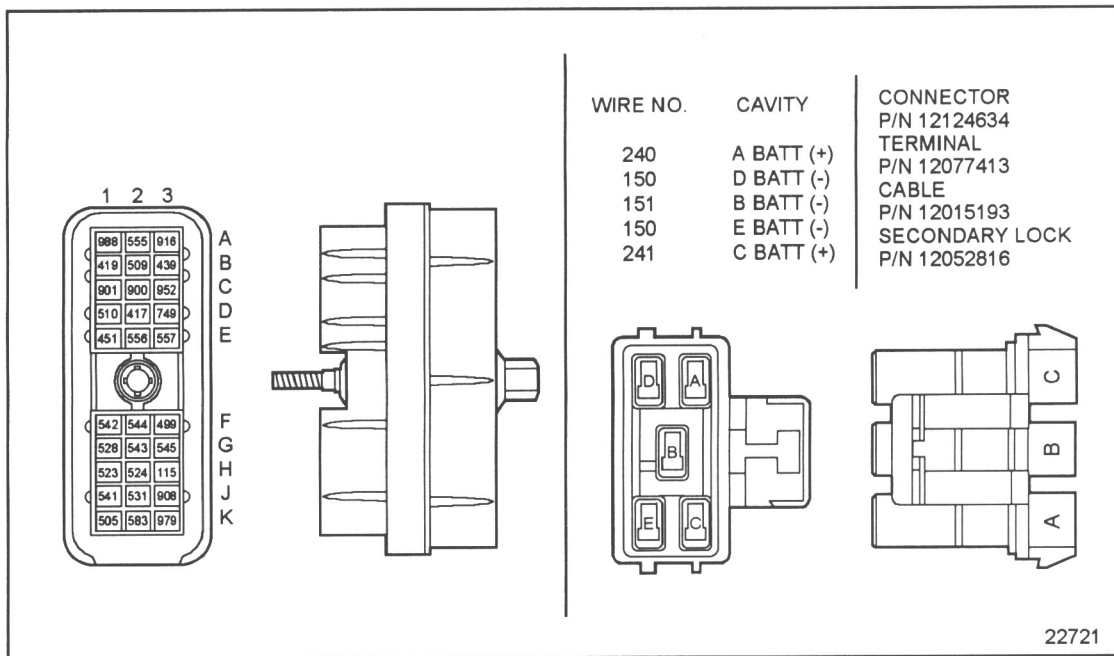


Figure 36-4 ECM Vehicle Interface Harness Connector

36.3.11 Check for Short to Ground

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

1. Turn vehicle ignition OFF.
2. Remove jumper wire.
3. Measure resistance between sockets P2 and Y2 on the engine harness connector. See Figure 36-5.
 - [a] If resistance measurement is greater than 100 Ω , or open, refer to section 36.3.6.
 - [b] If resistance measurement is less than or equal to 100 Ω , the signal line (#530) and return line (#452) are shorted together. Repair the short. Refer to section 36.3.12.

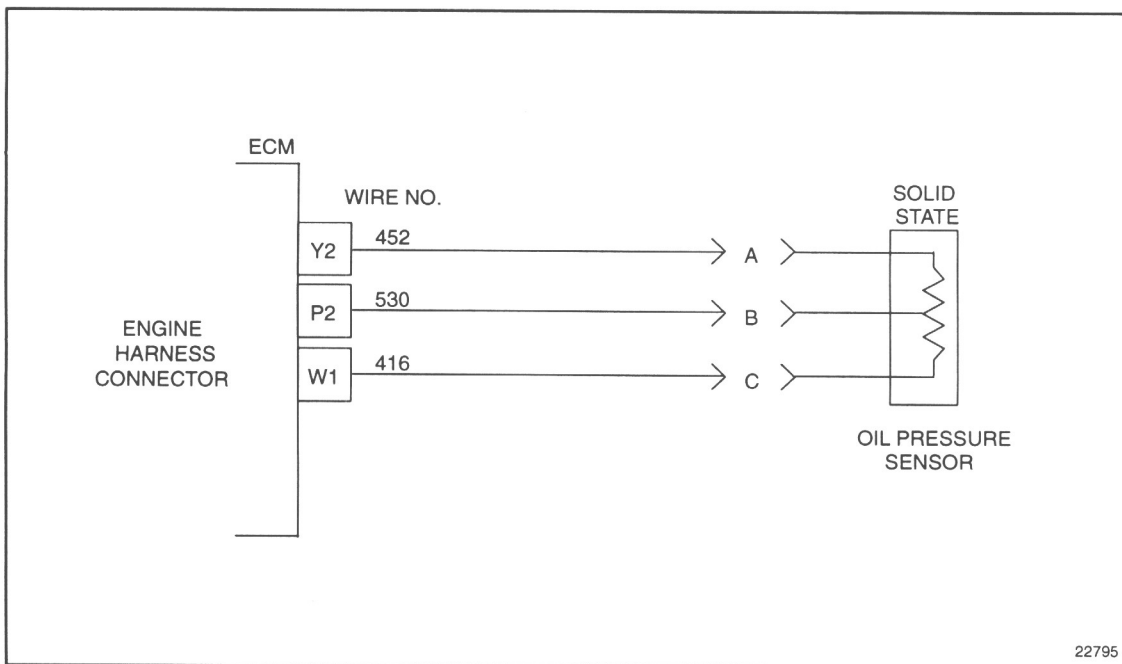


Figure 36-5 Engine Harness Connector to Oil Pressure Sensor

36.3.12 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, troubleshooting is complete.
 - [b] If code 100/4 is not logged, and other codes are logged, refer to section 9.1.
 - [c] If code 100/4 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 36.3.1.

