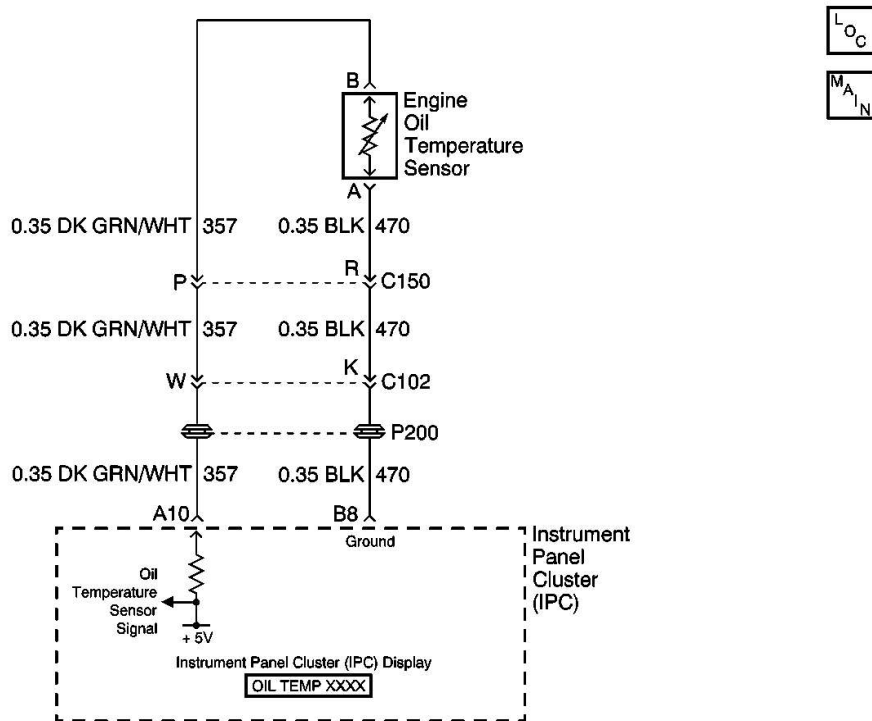


DTC B1542 Oil Temperature Circuit Short to Ground



Circuit Description

The Instrument Panel Cluster (IPC) receives oil temperature information from the oil temperature sensor. The oil temperature sensor is a thermistor type sensor, which will produce high resistance with low engine oil temperature, while low resistance with high engine oil temperature. The IPC supplies a 5 volt reference signal to the oil temperature sensor. When the engine oil is cold, the sensor resistance will decrease, and the IPC reference voltage level will drop. The IPC measures the reference voltage change and displays the calculated value on the gauge.

Conditions for Setting the DTC

- The IPC detects oil temperature above 190°C (374°F).
- The IPC detects a low voltage level (short to ground) in oil temperature sensor signal circuit.
- Condition must be present for 1 second.

Action Taken When the DTC Sets

- Stores a DTC B1542 in the IPC memory.
- Displays oil temperature over 190°C (374°F).
- The IPC will display the HIGH OIL TEMPERATURE REDUCE ENGINE RPM message.

Conditions for Clearing the DTC

- The IPC detects oil temperature less than 190°C (374°F).
- The IPC does not detect a low voltage level (short to ground) in oil temperature sensor signal circuit.
- A history DTC will clear after 50 consecutive ignition cycles if the condition for the malfunction is no longer present.
- Use the IPC clear DTC feature.
- Use a scan tool.

Diagnostic Aids

- The following conditions may cause an intermittent malfunction to occur:
 - An intermittent short to ground in the oil temperature sensor signal circuit.
 - An internal short to ground in the oil temperature sensor.
- If the oil temperature sensor or the oil temperature sensor signal circuit is shorted to ground, the IPC will display a constant oil temperature over 190°C (374°F).

Test Description

The number(s) below refer to the step number(s) on the diagnostic table.

2. Tests the oil temperature normal operating range data using a scan tool.
3. Tests the oil temperature data with the oil temperature sensor disconnected. The scan tool will display Oil Temp data less than -10°C (14°F) with the oil temperature sensor disconnected.
4. Tests the oil temperature data with a jumper between the oil temperature sensor signal and ground circuit. The scan tool will display Oil Temp data over 190°C (374°F) with the oil temperature sensor jumpered.

DTC B1542 -- Oil Temperature Circuit Short to Ground

Step	Action	Value(s)	Yes	No
1	Did you perform the IPC Diagnostic System Check?	--	Go to Step 2	Go to Diagnostic System Check - Instrument Cluster
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the Oil Temp parameter in the IPC data list. Does the scan tool indicate that the Oil Temp parameter is within the specified range?	-10°C (14°F)-190°C (374°F)	Go to Diagnostic Aids	Go to Step 3
	1. Turn OFF the ignition. 2. Disconnect the oil temp. 3. Turn ON the ignition, with the engine OFF.			

3	<p>4. With a scan tool, observe the Oil Temp parameter.</p> <p>Does the scan tool indicate that the Oil Temp parameter is less than the specified value?</p>	-10°C (14°F)	Go to Step 4	Go to Step 5
4	<p>1. Turn OFF the ignition.</p> <p>2. Connect a 3 amp fused jumper wire between the signal circuit of the oil temperature sensor and the ground circuit of the oil temperature sensor.</p> <p>3. Turn ON the ignition, with the engine OFF.</p> <p>4. With a scan tool, observe the Oil Temp parameter.</p> <p>Does the scan tool indicate that the Oil Temp parameter is greater than the specified value?</p>	190°C (374°F)	Go to Step 8	Go to Step 6
5	<p>Test the signal circuit of the oil temperature sensor for a short to ground. Refer to Circuit Testing and Wiring Repairs</p> <p>Did you find and correct the condition?</p>	--	Go to Step 12	Go to Step 9
6	<p>Test the signal circuit of the oil temperature sensor for a short to voltage, a high resistance, or an open. Refer to Circuit Testing and Wiring Repairs</p> <p>Did you find and correct the condition?</p>	--	Go to Step 12	Go to Step 7
7	<p>Test the ground circuit of the oil temperature sensor for high resistance or an open. Refer to Circuit Testing and Wiring Repairs</p> <p>Did you find and correct the condition?</p>	--	Go to Step 12	Go to Step 9
8	<p>Inspect for poor connections at the harness connector of the oil temperature sensor. Refer to Testing for Intermittent and Poor Connections and Connector Repairs</p> <p>Did you find and correct the condition?</p>	--	Go to Step 12	Go to Step 10
9	<p>Inspect for poor connections at the harness connector of the IPC. Refer to Testing for Intermittent and Poor Connections and Connector Repairs</p> <p>Did you find and correct the condition?</p>	--	Go to Step 12	Go to Step 11
10	<p>Replace the oil temperature sensor.</p> <p>Did you complete the replacement?</p>	--	Go to Step 12	--
11	<p>Replace the IPC. Refer to Instrument Panel Cluster (IPC) Replacement .</p> <p>Did you complete the replacement?</p>	--	Go to Step 12	--
	<p>1. Use the scan tool in order to clear the DTCs.</p>			

12	2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	--	Go to Step 2	System OK
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