

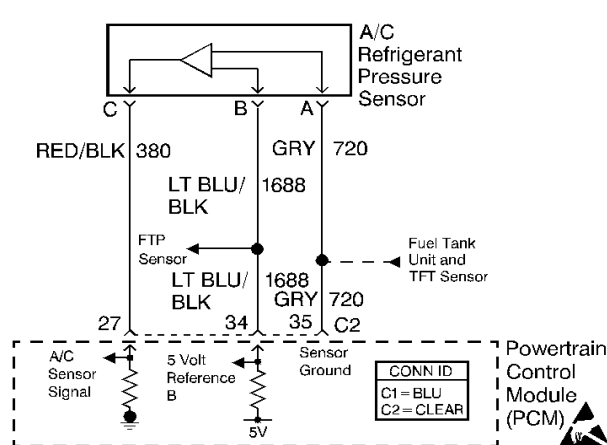
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Document ID# 357269
1999 Pontiac Firebird

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DTC P1639 5 Volt Reference 2 Circuit



Circuit Description

The PCM uses the 5 Volt Reference B circuit as a sensor feed for the A/C Refrigerant Pressure Sensor. The PCM monitors the voltage on the 5 Volt Reference B circuit. If the voltage is out of tolerance, the PCM will set DTC P1639.

Conditions for Running the DTC

The engine is running.

Conditions for Setting the DTC

- The PCM detects a voltage out of tolerance condition on the 5 Volt Reference B circuit.
- Above condition for longer than 10 seconds.

Action Taken When the DTC Sets

- The PCM will illuminate the malfunction indicator lamp (MIL) during the second consecutive trip in which the diagnostic test has been run and failed.
- The PCM will store conditions which were present when the DTC set as Freeze Frame and Failure Records data.

Conditions for Clearing the MIL/DTC

- The PCM will turn OFF the MIL during the third consecutive trip in which the diagnostic has been run and passed.
- The History DTC will clear after 40 consecutive warm-up cycles have occurred without a malfunction.
- The DTC can be cleared by using the scan tool.

Diagnostic Aids

Important:

Inspect the PCM and engine grounds for being secure and clean.

Check for the following conditions:

- Poor connection at PCM - Inspect harness connectors for the following items:
 - Backed out terminals
 - Improper mating
 - Broken locks
 - Improperly formed or damaged terminals
 - Poor terminal to wire connections
- Damaged harness - Inspect the wiring harness for damage.
- If the harness appears to be OK, observe the A/C pressure display on the scan tool while moving connectors and wiring harnesses related to the A/C refrigerant pressure sensor. A change in the A/C pressure display will indicate the location of the fault.

Review the Freeze Frame/Fail Records vehicle mileage since the diagnostic test last failed. This may help determine how often the condition that caused the DTC to be set occurs.

Test Description

Number(s) below refer to the step number(s) on the Diagnostic Table.

10. This vehicle is equipped with a PCM which utilizes an Electrically Erasable Programmable Read Only Memory (EEPROM). When the PCM is being replaced, the new PCM must be programmed.

DTC P1639 - 5 Volt Reference (B) Circuit

Step	Action	Value (s)	Yes	No
1	Did you perform the Powertrain On-Board Diagnostic (OBD) System Check performed?	--	Go to Step 2	Go to Powertrain On Board Diagnostic (OBD) System Check
2	Visually/physically inspect the PCM and engine grounds. Ensure that the grounds are clean and secure. Did you find and correct the condition?	--	Go to Step 11	Go to Step 3
3	1. Ensure that the A/C is OFF. 2. With a scan tool, observe A/C High Side Pressure parameter. Does the scan tool indicate voltage more than the first specified value or less than the second specified value?	4.8 0.1 V	Go to DTC P0530 Air Conditioning (A/C) Refrigerant Pressure Sensor Circuit	Go to Step 4
4	1. Disconnect the A/C refrigerant pressure sensor. 2. Measure the voltage between the 5 volt reference B circuit and the sensor ground circuit using a J 39200 Digital Multimeter.	5.5V		

	Does the voltage measure more than the specified value?		Go to Step 5	Go to Step 7
5	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the PCM. 3. Turn ON the ignition. 4. Measure the voltage between the 5 volt reference B circuit and the PCM ground circuit at the PCM harness connector using a DMM. <p>Does the voltage measure more than the specified value?</p>	5.5V	Go to Step 6	Go to Step 10
6	<p>Repair short to voltage on the 5 volt reference B circuit. Refer to Wiring Repairs .</p> <p>Did you complete the repair?</p>	--	Go to Step 11	--
7	Does the voltage measure less than the specified value?	4.5V	Go to Step 9	Go to Step 8
8	<p>Test for a short to voltage in the 5 volt reference B circuit. Refer to Wiring Repairs .</p> <p>Did you find and correct the condition?</p>	--	Go to Step 11	Go to Step 10
9	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the PCM. 3. Test the 5 volt reference B circuit for a short to ground or a short to the sensor ground circuit. Refer to Wiring Repairs . <p>Did you find and correct the condition?</p>	--	Go to Step 11	Go to Step 10
10	<p>Important:</p> <p>The replacement PCM must be programmed. Refer to PCM Replacement/Programming .</p> <p>Replace the PCM.</p> <p>Did you complete the replacement?</p>	--	Go to Step 11	--
11	<ol style="list-style-type: none"> 1. Use the scan tool in order to record Fail Records and clear DTCs. 2. Operate the vehicle within the Fail Records conditions. <p>Does the DTC reset?</p>	--	Go to Step 2	System OK

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