

DTC P0200

CIRCUIT DESCRIPTION

The control module enables the appropriate fuel injector pulse for each cylinder. Ignition voltage is supplied to the fuel injectors. The control module controls each fuel injector by grounding the control circuit via a solid state device called a driver. The control module monitors the status of each driver. If the control module detects an incorrect voltage for the commanded state of the driver, DTC P0200 sets.

DTC DESCRIPTOR

This diagnostic procedure supports the following DTC:
DTC P0200 Injector Control Circuit

CONDITIONS FOR RUNNING THE DTC

- The engine speed is more than **400 RPM** .
- The ignition voltage is between **6-18 volts** .

CONDITIONS FOR SETTING THE DTC

- The powertrain control module (PCM) detects an incorrect voltage on a fuel injector control circuit.
- The condition exists for **5 seconds** .

ACTION TAKEN WHEN THE DTC SETS

- The control module illuminates the malfunction indicator lamp (MIL) on the second consecutive ignition cycle that the diagnostic runs and fails.
- The control module records the operating conditions at the time the diagnostic fails. The first time the diagnostic fails, the control module stores this information in the Failure Records. If the diagnostic reports a failure on the second consecutive ignition cycle, the control module records the operating conditions at the time of the failure. The control module writes the operating conditions to the Freeze Frame and updates the Failure Records.

CONDITIONS FOR CLEARING THE MIL/DTC

- The control module turns OFF the malfunction indicator lamp (MIL) after 3 consecutive ignition cycles that the diagnostic runs and does not fail.
- A current DTC, Last Test Failed, clears when the diagnostic runs and passes.
- A history DTC clears after 40 consecutive warm-up cycles, if no failures are reported by this or any other emission related diagnostic.
- Clear the MIL and the DTC with a scan tool.

DIAGNOSTIC AIDS

- Performing the Fuel Injector Coil Test may help to isolate an intermittent condition. Refer to Fuel Injector Coil Test. [See: Powertrain Management\Computers and Control Systems\Testing and Inspection\Component Tests and General Diagnostics](#)
- For an intermittent condition, refer to Intermittent Conditions. [See: Powertrain Management\Computers and Control Systems\Testing and Inspection\Initial Inspection and Diagnostic Overview\Diagnostic Strategies\Intermittent Conditions](#)

TEST DESCRIPTION

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check – Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	<ol style="list-style-type: none"> 1. Clear the DTCs with a scan tool. 2. Idle the engine at the normal operating temperature. 3. Monitor the misfire current counters with a scan tool. Are any of the misfire current counters incrementing?	Go to Step 4	Go to Step 3
3	<ol style="list-style-type: none"> 1. Observe the Freeze Frame/Failure Records for this DTC. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. Did the DTC fail this ignition?	Go to Step 4	Go to Diagnostic Aids
4	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the injector which displays the highest number of misfire current counters. 3. Turn ON the ignition, with the engine OFF. 4. Probe the ignition 1 voltage circuit of the fuel injector with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 5	Go to Step 13
5	<ol style="list-style-type: none"> 1. Connect the J 34730-405 Injector Test Lamp between the control circuit of the fuel injector and the ignition voltage circuit of the fuel injector. 2. Start the engine. Does the test lamp flash?	Go to Step 6	Go to Step 7
6	Did the DTC fail this ignition?	Go to Step 12	Go to Step 10
7	Does the test lamp remain illuminated?	Go to Step 9	Go to Step 8
8	Test the fuel injector control circuit for a short to voltage or for an open. Did you find and correct the condition?	Go to Step 16	Go to Step 12
9	Test the fuel injector control circuit for a short to ground. Did you find and correct the condition?	Go to Step 16	Go to Step 15
10	Test for an intermittent and for a poor connection at the fuel injector. Did you find and correct the condition?	Go to Step 16	Go to Step 11
11	<ol style="list-style-type: none"> 1. Apply Dielectric compound GM P/N 12377900 (Canadian P/N 10953529) to the fuel injector electrical connector. 2. Reconnect the fuel injector connector. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. Did the DTC fail this ignition?	Go to Step 14	Go to Step 16
12	Test for an intermittent and for a poor connection at the powertrain control module (PCM). Did you find and correct the condition?	Go to Step 16	Go to Step 15

Steps 1-12

Step	Action	Yes	No
13	<p>Important</p> <p>The INJ fuse also supplies voltage to the ignition coil modules. If the fuse is open, inspect all related circuits and components for a short to ground.</p> <p>Repair the open or short to ground in the ignition 1 voltage circuit of the fuel injector.</p> <p>Is the repair complete?</p>	Go to Step 16	—
14	<p>Replace the fuel injector.</p> <p>Did you complete the replacement?</p>	Go to Step 16	—
15	<p>Replace the PCM.</p> <p>Did you complete the replacement?</p>	Go to Step 16	—
16	<ol style="list-style-type: none"> 1. Clear the DTCs with a scan tool. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. <p>Did the DTC fail this ignition?</p>	Go to Step 2	Go to Step 17
17	<p>Observe the Capture Info with a scan tool.</p> <p>Are there any DTCs that have not been diagnosed?</p>	Go to Diagnostic Trouble Code (DTC) List - Vehicle in Vehicle DTC Information	System OK

Steps 13-17

The numbers below refer to the step numbers on the diagnostic table.

5. This step verifies that the PCM is able to control the fuel injector.

This step tests if a ground is constantly being applied to the fuel injector.