

Vehicle: 2003 CHEVROLET SILVERADO 1500: LS 5.3L V8 (Z) L59-FLEX-FI-N

Content: Code P0300 : Random/Multiple Cylinder Misfire Detected

### System Description

The powertrain control module (PCM) uses information from the crankshaft position (CKP) sensor and the camshaft position (CMP) sensor in order to determine when an engine misfire is occurring. By monitoring variations in the crankshaft rotation speed for each cylinder, the PCM is able to detect individual misfire events. A misfire rate that is high enough can cause the 3-way catalytic converter (TWC) to overheat under certain driving conditions. The malfunction indicator lamp (MIL) will flash ON and OFF when the conditions for TWC overheating are present. If the PCM detects a misfire rate sufficient to cause emission levels to exceed mandated standards, DTC P0300 will set.

### Conditions for Running the DTC

DTC P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P0125, P0128, P0220, P0315, P0335, P0336, P0341, P0342, P0343, P0502, P0503, P1114, P1115, P1120, P1258 are not set.

The engine speed is between 450-5,000 RPM.

The ignition voltage is between 10-18 volts.

The engine coolant temperature (ECT) is between -7 and +130°C (19-266°F).

The fuel level is more than 10 percent.

The throttle angle is steady within 1 percent.

The antilock brake system (ABS) and the traction control system are not active.

The transmission is not changing gears.

The A/C clutch is not changing states.

The PCM is not in fuel shut-off or decel fuel cut-off mode.

The PCM is not receiving a rough road signal.

### Conditions for Setting the DTC

The PCM is detecting a crankshaft rotation speed variation indicating a misfire sufficient to cause emission levels to exceed mandated standards.

### Action Taken When the DTC Sets

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Thickness variation of the brake rotors

The drive shaft not balanced

Worn or damaged accessory drive belt

There may be more or less cylinders actually misfiring than indicated by the scan tool.

Spray water on the secondary ignition components using a spray bottle. Look and listen for arcing or misfiring.

If there are multiple misfires on only one bank, inspect the fuel injector and ignition coil, power and ground circuits for that bank.

### Test Description

The number below refers to the step number on the diagnostic table.

If the actual CKP variation values are not within the learned values, the misfire counters may increment.

Step	Action	Values	Yes	No
1	Did you perform the Diagnostic System Check?	--	Go to <a href="#">Step 2</a>	Go to Diagnostic System Check
<a href="#">2</a>	<p><b>Important</b></p> <p>You must perform the crankshaft position (CKP) system variation learn procedure before proceeding with this diagnostic table.</p> <p>Start the engine.</p> <p>Allow the engine to idle or operate within the conditions listed in the Freeze Frame/Failure Records.</p> <p>Monitor all of the Misfire counters with the scan tool.</p> <p>Are any of the Misfire current counters incrementing?</p>	--	Go to <a href="#">Step 3</a>	Go to Diagnostic Aids
3	Are any other DTCs set?	--	Go to Diagnostic Chart Index	Go to <a href="#">Step 4</a>
4	Can any abnormal engine noise be heard?	--	Check engine Mechanical	Go to <a href="#">Step 5</a>

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8	<p><b>Important</b></p> <p>An erratic or inconsistent spark is considered a no spark.</p> <p>Turn OFF the ignition.</p> <p>Disconnect the spark plug wire from the spark plug that corresponds to the Misfire Current counters that were incrementing.</p> <p>Install the <u>J 26792</u> Spark Tester.</p> <p>Start the engine.</p> <p>Does the spark jump the tester gap?</p>	--	Go to <u>Step 10</u>	Go to <u>Step 9</u>
9	<p>Remove the spark plug wire for the affected cylinders.</p> <p>Inspect the spark plug wire. Measure the resistance of the spark plug wire with a DMM.</p> <p>Is the spark plug wire resistance less than the specified value?</p>	700ohms	Go to Electronic Ignition (EI) System Diagnosis under "Systems Tests"	Go to <u>Step 19</u>
10	<p>Remove the spark plug from the cylinder that indicated a misfire.</p> <p>Inspect the spark plug.</p> <p>Does the spark plug appear to be OK?</p>	--	Go to <u>Step 11</u>	Go to <u>Step 12</u>
11	<p>Exchange the suspected spark plug with another cylinder that is operating properly.</p> <p>Operate the vehicle under the same conditions that the misfire occurred.</p> <p>Did the misfire move with the spark plug?</p>	--	Go to <u>Step 18</u>	Go to <u>Step 15</u>
12	Is the spark plug oil or coolant fouled?	--	Check Engine Mechanical	Go to <u>Step 13</u>
13	Is the spark plug gas fouled?	--	Go to <u>Step 16</u>	Go to <u>Step 14</u>
14	Did the spark plug show any signs of being cracked, worn, or improperly gapped?	--	Go to <u>Step 17</u>	Go to <u>Step 15</u>

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21	<p>Operate the vehicle at the specified value for 4 minutes.</p> <p>Operate the vehicle within the Conditions for Running the DTC P0420 or P0430 as specified in the supporting text. Refer to <u>DTC P0420 or P0430</u> .</p> <p>Does the DTC run and pass?</p>	2500 RPM	Go to <u>Step 22</u>	Go to <u>DTC P0420 or P0430</u>
22	<p>Clear the DTCs with a scan tool.</p> <p>Turn OFF the ignition for 30 seconds.</p> <p>Start the engine.</p> <p>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> <p>Did the DTC fail this ignition?</p>	--	Go to <u>Step 2</u>	Go to <u>Step 23</u>
23	<p>Observe the Capture Info with a scan tool.</p> <p>Are there any DTCs that have not been diagnosed?</p>	--	Go to Diagnostic Chart Index	System OK