Service Bulletin

Bulletin No.: 19-NA-187
Date: August, 2019

INFORMATION

Subject: Diagnostic Tip to Identify Engine Misfiring and/or Malfunction Indicator Lamp (MIL) Illuminated - DTC P0300 Setting

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Chevrolet	Silverado	2017	2018			L5P	
	Silverado 2500/3500	2019	2020				
	Silverado 4500/ 5500/6500	2019	2019			L5D	
GMC	Sierra	2017	2018			L5P	
	Sierra 2500/3500	2019	2020				

Involved Region or Country	North America and Israel
Condition	Some customers may comment on one or more of the following conditions: • MIL illuminated • Engine misfire Some technicians may find DTC P0300 set in the Engine Control Module (ECM).
Cause	This condition may be caused by a weak cylinder.
Correction	Refer to the Service Procedure below to help identify which cylinder is misfiring.

Service Procedure

If there is any difficulty identifying a misfiring cylinder, it may be useful to graph the Cylinder Balance Test in GDS2. **Do Not** rely on this test as the ONLY means of identifying a weak cylinder.

The balance test should only run when the misfire is present in the engine. Graph the engine RPM as well as each injector command. It is recommended to perform the test a minimum of three times with three different balance tests while looking for the consistency.

The example below is from an engine that has a misfire on cylinder #1. It is recommend when setting up the graph, use the following settings:

GDS 2

Parameters Minimum and Maximum Values

Parameter Name	Min	Max
Engine Speed	450.0	750.0
Cylinder 8 Injector Command	-0.15	1.8
Cylinder 7 Injector Command	-0.15	1.8
Cylinder 6 Injector Command	-0.15	1.8
Cylinder 5 Injector Command	-0.15	1.8
Cylinder 4 Injector Command	-0.15	1.8
Cylinder 3 Injector Command	-0.15	1.8
Cylinder 2 Injector Command	-0.15	1.8
Cylinder 1 Injector Command	-0.15	1.8

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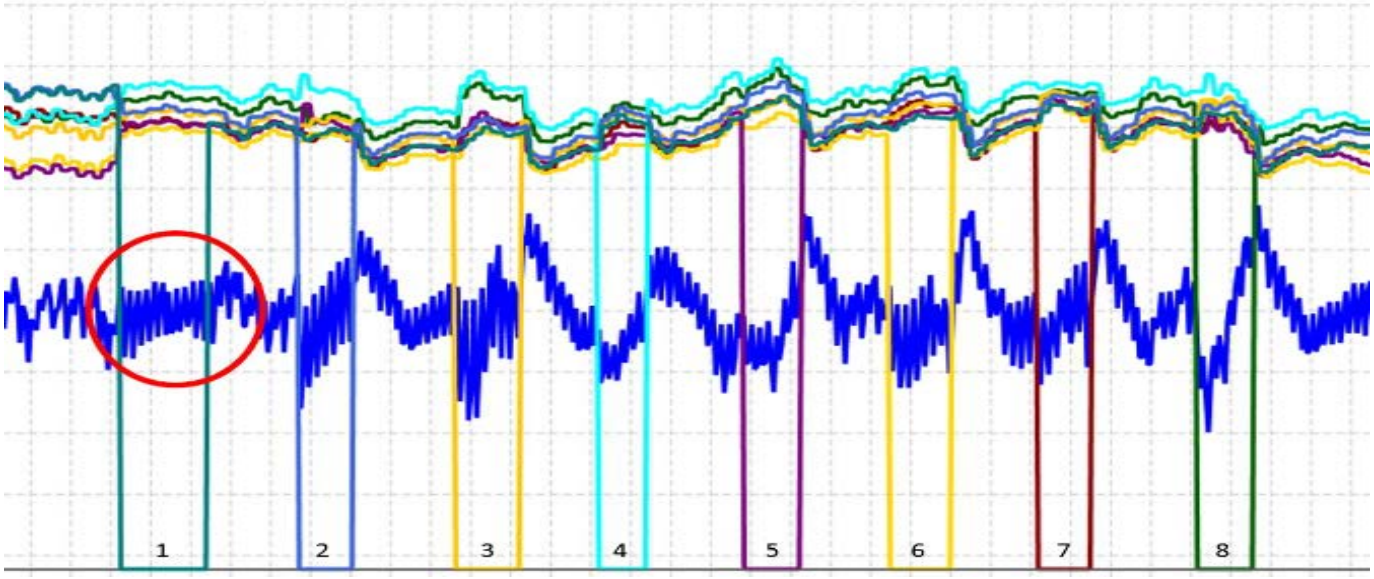
The most important thing is that the RPM line is visible and not covered by the injector command lines. All three graphs below, each injector was cancelled in order, 1 – 8.



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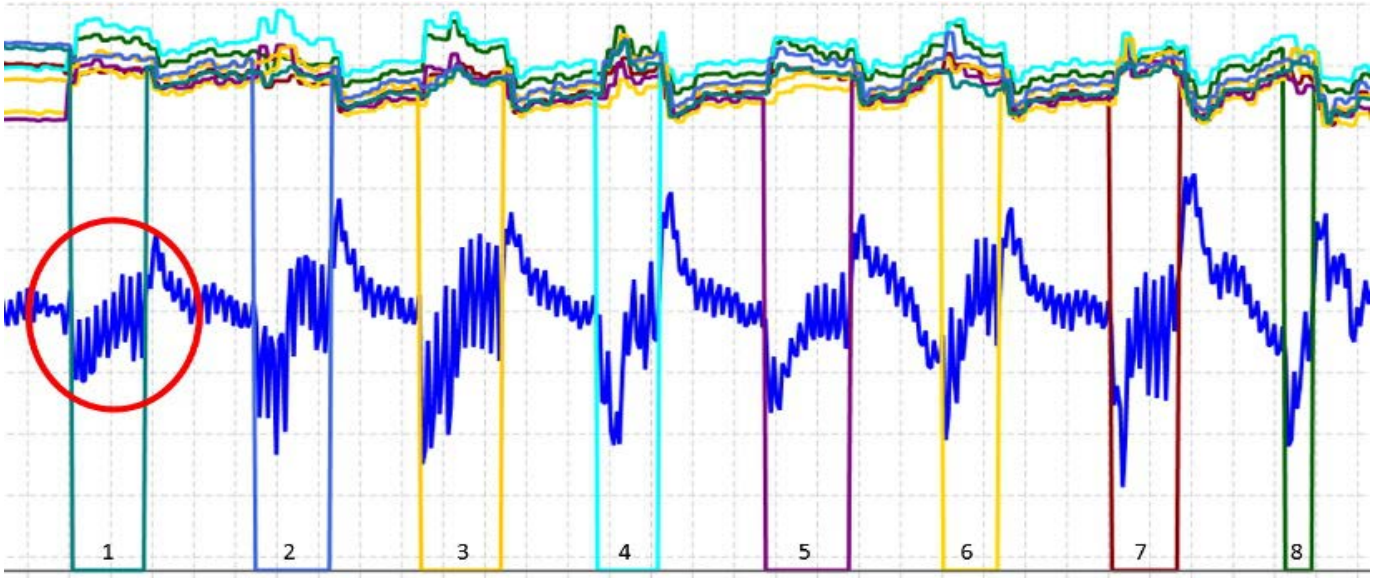
Note that cylinder #1 does not drop the RPM when canceled, when compared to the other cylinders.

⇒ RPM recovery is limited after the cancellation has ended.

⇒ Other cylinders do not have as much of a RPM drop when they are canceled, however the RPM does jump after the cancellation has ended.



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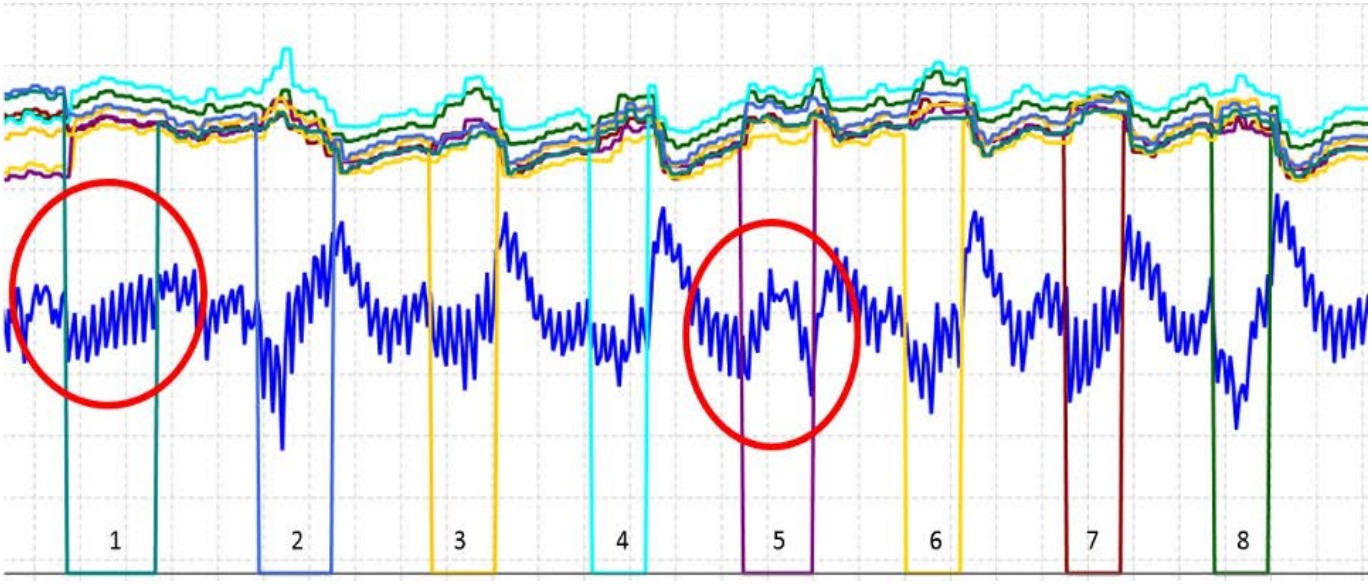
During this second balance test, it appears like cylinder #1 is contributing, however it is less than any of the other cylinders.



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During this final test, it appears that cylinder #5 is not contributing as well as #1. This is one of the main reasons that we must repeat the test to find consistency.

⇒ This vehicle was repaired by replacing #1 fuel injector.

Note: This is not the only tool that should be used to identify a misfiring cylinder, but it can help aid in diagnosing this concern.

Parts Information

No parts are required for this repair.

Version	1
Modified	Released August 23, 2019