



Preliminary Information

PIP5628G Diagnostic Aids for Gas Engine Misfire/rough running with DTC P0300-P0308 and/or DTC P050D

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
All	All	2000 - 2024	All	All	All Gas Engines	All

Involved Region or Country	North America
Condition	If you encounter a vehicle with DTC P0300 - P0308 and/or P050D use GDS and save the freeze frame records. use the freeze frame and customer verification work sheet to duplicate the concern with GDS.
Cause	Gas Engine misfire.

Correction:

If (after you complete SI diagnostics for the specific concern) you determine it is necessary to call TAC for a misfire or P0300 - P0308 and/or P050D concern. Please provide the following Misfire template information, and have GDS2 or scan tool and PICO information available when contacting TAC, to allow our agents to better assist you in fixing the concern right the first time.

Misfire template

What codes are set ? (Please record ALL DTC's)

What cylinder or cylinders are misfiring?

Can the misfire be duplicated? (If intermittent it would be helpful to duplicate with GDS in the vehicle)

When does the engine misfire?

Diagnostic for misfires

Perform the relative compression test within the PICO NVH or Oscilloscope software, SI Document number 5518386 can be referenced for this procedure.

What are your results?

Do you have a tunable engine ? Yes/No

Be prepared to send your results in along with your stored GDS session

If it fails do a cylinder leakage test, was a leak observed? - and if so, where (intake, exhaust, crankcase) - if you didn't have a leak, then explore for valve train issues or the possibility of a bent connecting rod

If it passes the relative test, you're dealing with an ignition or a fuel delivery issue etc. and then use a flow chart to determine direction etc.

- 1. Spark (Electronic ignition system diagnosis)

- 2. Check the supply ignition voltage to the ignition module/coil assemblies, and also to the fuel injectors
- 3. Complete a Spark plug inspection (inspect for anything abnormal)
- 4. **Did you perform the fuel injector balance test with GDS? - if so what were the results? Are you chasing a rich or lean issue? Does the data agree with the results of your test? (its rich on what bank) so do you have excessive injector drop on bank? for best results, perform the AFIT procedure! As the procedure in GDS should only be used as a preliminary test and the results should not determine injector replacement especially if you have a low or no flow injector**
- 5. Note the fuel trims, **what are the values and on what bank ? compare actual MAF vs Calculated air flow**
- 6. Check for a possible fuel quality issue (especially if there is an issue of cold engine hard start and/ or an engine misfire on all cylinders).

Have you completed a crankshaft variation learn?

Have you checked for any abnormal engine noise possibly related to the misfire?

Be sure to capture a GDS2 session log of the engine misfire.

Version History

Version	8
Modified	02/18/2019 - Created on 02/05/2020 - Updated Model Year. 05/20/2020 - Update corrective action 10/08/2020 - Update to add 2021 MY 10/21/2021 - Update the direction 12/14/2021- Update to change the title 04/24/2023 - Update to add 2023 model year and information to repair information. 08/10/2023 - Update to 2024 model year, title and cause.

