



# Preliminary Information

## PIP5628F Diagnostic Aids for 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 - 2023  | All  | All | All     | 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.<br>use the freeze frame and customer verification work sheet to duplicate the concern with GDS. |
| Cause                      | 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  | 7   |
| Modified | <p>02/18/2019 - Created on</p> <p>02/05/2020 - Updated Model Year.</p> <p>05/20/2020 - Update corrective action</p> <p>10/08/2020 - Update to add 2021 MY</p> <p>10/21/2021 - Update the direction</p> <p>12/14/2021- Update to change the title</p> <p>04/24/2023 - Update to add 2023 model year and information to repair information.</p> |



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