SPN 4236 or 4238

Suspect Parameter Number (SPN) and Failure Mode Indicator (FMI) Description

<table>
<thead>
<tr>
<th>SPN</th>
<th>FMI</th>
<th>Description</th>
<th>Possible Causes</th>
</tr>
</thead>
</table>
| 4236| 7   | Bank A Short Term Fuel Trim Fault | • Vacuum leaks  
• Leaking fuel injectors  
• Poor fuel quality  
• Restricted exhaust  
• Restricted air intake  
• Engine mechanical issues |
| 4238| 7   | Bank B Short Term Fuel Trim Fault |                                                       |

Circuit Description

The engine control module (ECM) uses the signals from the pre-catalyst oxygen sensors to determine the proper air/fuel ratio providing the best possible combination of performance and emissions. A SPN will set if the ECM is required to adjust the air/fuel ratio greater than the allowable limit.

Conditions to Run SPN

The SPN runs continuously during closed loop operation.

Conditions to Set SPN

SPN 4236–7 Bank A Short Term Fuel Trim Fault

The ECM detects Bank A is operating above or below the allowable air/fuel adjustment limits.

SPN 4238–7 Bank B Short Term Fuel Trim Fault

The ECM detects Bank B is operating above or below the allowable air/fuel adjustment limits.
**Action Taken When SPN Sets**

**SPN 4236–7 Bank A Short Term Fuel Trim Fault**

- The ECM will turn ON the malfunction indicator light (MIL)
- 4236 is a Type B SPN

**SPN 4238–7 Bank B Short Term Fuel Trim Fault**

- The ECM will turn ON the malfunction indicator light (MIL)
- 4238 is a Type B SPN

**Diagnostic Reference**

- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.
- Perform the Diagnostic System Check prior to using this diagnostic.
- Test for intermittent or poor connections.
- Review Schematics and Connector End Views to locate test points.
- Review the SPN Type, Indicator Lamp Definitions, and Conditions to Clear the SPN/Indicator Lamp.

**Diagnostic Tips**

- Verify there are no vacuum leaks
- Verify the exhaust is not restricted
- Verify the air inlet is not restricted
- Test for intermittent or poor connections.

**Required Tools**

- Terminal Test Probe Kit
- Fused Jumper
- Digital Multi-meter
Circuit Diagnostics

WARNING! To prevent bodily injury or death, stay away from hot engine surfaces and rotating engine components.

1. Verify there are no other fault codes present.
   - If any other fault codes are present, refer to the proper diagnostic and repair the condition.
   - If no other fault codes are present, go to step 2

2. Ignition ON, engine OFF, with an Electronic Service Tool verify the Baro sensor parameter is within the range for the current altitude.
   - If not within range, refer to SPN 108 for further diagnosis.
   - If within range, go to step 3

3. Engine at idle, verify the MAF sensor parameter is between 2-6 g/s at idle.
   - If not between 2-6 g/s, refer to SPN 132 for further diagnosis.
   - If between 2-6 g/s, go to step 4

4. Inspect and verify none of the following conditions exist:
   - Vacuum hoses for splits, kinks, improper connection
   - Low fuel condition
   - Poor fuel quality
   - Bent, kinked, leaking, or missing exhaust components
   - Restricted or leaking air inlet system
   - Clogged or missing air filter
   - Vacuum leaks at intake manifold, injectors, or throttle body
   - EVAP canister and hoses missing, loose, or cracked
• Leaking canister purge valve
• Leaking crankcase ventilation system
• Excessive fuel in crankcase or contaminated oil
• Excessive fuel pressure
• Leaking or restricted fuel injectors

➢ If all conditions test normal, test the engine for a mechanical condition.