



Service Bulletin

File in Section: -

Bulletin No.: PIP5201

Date: May, 2014

PRELIMINARY INFORMATION

Subject: Cold Start Misfires MIL P0300

Models: 2012 Chevrolet Volt

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition/Concern

A customer may complain of misfires or rough running on cold start up. There may also be a current or history P0300.

Recommendation/Instructions

Record any failure record information and history misfire counts.

Verify there are no DTCs other than P0300 stored.

Observe the scan tool Crankshaft Position Resync Counter parameter.

The Resync Counter parameter should remain at 0 during all operating conditions, and while manipulating the related harnesses and connectors between the crankshaft position sensor and the ECM.

Verify that there is no water intrusion in related connectors, terminals, and components.

Record compression and cylinder leakage readings first while the ECT temp is at or close to the ECT temp stored in the failure record for the P0300. (Typically at cold start)

Verify correct fuel system pressure.

Inspect the heated oxygen sensors (HO2S) for contamination from fuel, silicon, or the incorrect use of RTV sealant.

The sensors may have a white powdery coating resulting in a high, but false, signal voltage, which gives a rich exhaust indication.

Inspect the spark plugs for incorrect heat range, coolant or oil fouling, carbon tracking, cracks or insulator fractures at the tip.

Inspect the exhaust system components for internal or external physical damage or restricted 3-way catalysts.

Install a known good ignition coil pack assembly and move the spark plug and fuel injector from the misfiring cylinder to different cylinders for validation. (Be sure to move each component to a different cylinder)

Test for coolant contamination into the cylinders.

To inspect for this concern, add coolant dye to the coolant system, run engine up to operating temperature.

Pressurize the cooling system and then allow the engine to cool, inspect the suspect cylinder with a bore scope / black light for evidence of coolant dye.

Do not confuse residual fuel on the piston crown for coolant.

Some fuel residue may be present and can be mistaken as coolant (this is the reason for the cooling system Dye to be added).

Use black light to confirm the liquid is coolant.

Check for broken valve springs or excessive valve train component wear.

Perform 04-06-04-047L (TOP TIER Detergent Gasoline) and then retest for the concern.

Check for excessive carbon buildup in the combustion chambers or on the valves.

Clean the chambers with top engine cleaner, if necessary following the latest version of PIP3146D: (Rough Idle Crank No Start Extended Crank Or Misfire When Cold Due To Sticking Valves Or Excessive Carbon On Top Of The Valves and retest for the cold misfires).

At times it may be necessary to remove the cylinder head for inspection or removal of excessive carbon.

If the condition persists, replace the cylinder head assembly and retest.

Warranty Information

The correction for this concern may be one of several repairs described above. For vehicles repaired under warranty, please use the appropriate warranty labor operation based on the original cause in addition to well documented straight time.

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.