



Service Bulletin

File in Section: -

Bulletin No.: PIP4686D

Date: October, 2013

PRELIMINARY INFORMATION

Subject: 2-Mode (HYBRID) Diagnosing Slip Stall At A Stop Surge Lack Of Power Poor Fuel Economy with or without DTC P061B P0AFA P0BBD

Models: 2009-2013 Cadillac Escalade 2-Mode Hybrid
2009-2013 Chevrolet Silverado and GMC Sierra 2-Mode Hybrid
2008-2013 Chevrolet Tahoe and GMC Yukon 2-Mode Hybrid
All Equipped With RPO HP2

This PI was superseded to update model years and recommendations. Please discard PIP4686C.

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

Condition/Concern

1. Customers may comment that the service hybrid system lamp comes on and technicians may find DTC P061B stored as current or history.
2. Some customers may comment on any one of or a combination of engine stall at a stop, lacks power on acceleration, surge while driving, engine flare, transmission slip, poor or lower fuel economy or reduced EV range/limited electric propulsion since completion of recent Techline (TIS) Sequential Programming.
3. P0BBD may be stored with or without DTCs P061B P0AFA. If this scenario occurs make certain that the Drive Motor Battery was not run low on charge due to a no start concern before condemning the Drive Motor Battery (i.e. fuel, ignition, grounds or 12V system lowvoltage, etc.).

Note: Check that the vehicle contains the latest TIS Sequential Programming Calibrations before releasing the vehicle. If updates are needed, follow the instructions below before proceeding with programming.

Recommendation/Instructions

Important: : Ensure that there are not any other concerns affecting the Internal Combustion Engine (ICE) operation. (If ICE runs poorly due to a fuel or ignition concern resulting in extended cranking or poor drivability, those concerns may cause P061B to set and should be addressed prior to ordering or replacing the Hybrid Battery).

Recommendation for Symptom 1:

- During the following procedure, please record any reason that would inhibit an auto start or autostop event.
- If the vehicle has a DTC P061B resetting as a current DTC and the concern can be duplicated, drive the vehicle in EV mode (electric mode) for 1 to 2 minutes while taking a snapshot of the BECM battery data. Allow ICE to restart and run for 30 seconds and then shutoff again or capture the data when the DTC sets.
- If the vehicle has a DTC P061B stored in history and the DTC is either intermittent or difficult to duplicate, take a snap shot of the BECM data during the following drive cycle. Drive the vehicle in EV mode for 1 to 2 minutes. Allow ICE to restart and run for no longer than 30 seconds. While capturing the snapshot, ensure the vehicle has transitioned from EV to ICE mode at least 4 times.
- Save the snap shot to TIS2WEB, using the latest version of TSB 07-07-30-010B. E-mail the snap shot through TIS2WEB to the General Motors Technical Assistance Center (tacsnapshot@gm.com) making sure to include the vehicle VIN number, TAC case number and PIP4686A in the subject line of the e-mail. Contact TAC and open a TAC case and reference this PI number.

Recommendation for Symptom 2: IMPORTANT! Perform the charge procedure below: DO NOT use the Jump Assist procedure!

Charge Procedure (Complete after the vehicle has been sitting (key off) for at least one hour):

- 2.1 Connect Tech 2.
- 2.2 Turn key to engine on position.

- 2.3 Read SOC and Pack Calculated Voltages from the TECH 2.
- 2.3.1 Is the SOC above 50% and the pack voltage below 302Volts? If yes to both, proceed directly to step 2.4. If no, continue below:
- 2.3.2 Refer to SI and follow normal vehicle and transmission diagnosis, also reference PIP4751.
- 2.4 Read the pack temperature from the TECH 2.
- 2.4.1 Is the pack temperature above 104F (40C) degrees? If yes, continue below. If no, proceed directly to step 2.8.
- 2.5 Connect a battery charger to the 12v battery.
- 2.6 With the TECH 2, command pack fan to on until pack temperature is no more than 95F (35C) degrees.
- 2.7 Disconnect the 12 volt battery charger and proceed with next step.
- 2.8 Start the engine and monitor the hybrid battery state of charge (SOC) and the battery temp using the Tech 2.
- 2.9 Leave the vehicle in park with the hood open. Apply the throttle to maintain a range of engine RPM from 2600 to 2800 (approximately 16% throttle position), while monitoring the tachometer and battery SOC (from Tech 2).
- 2.10 Continue charging with your foot on the throttle until a minimum of 68-70% SOC is reached.

Important: If the pack temperature reaches 113F (45C) degrees during the charge procedure, stop the procedure and connect a battery charger to the 12 volt battery. Turn the ignition on with the engine off and then command the pack fan on (using the TECH2) until pack temperature is no more than 95F (35C) degrees. Continue with the charge procedure and monitor pack temp until 68-70% SOC is achieved.

Note: DO NOT exceed 30 Minutes of engine run time during the charge procedure.

- 2.11 After the charge procedure has been completed (70% SOC), turn the ignition off. The negative battery cable must be removed from the 12v battery within 1 minute of turning the ignition off. Leave the 12 volt battery disconnected for 2 minutes which will reset the SOC back to 60%.
- 2.12 Allow the vehicle to cool for 30-60 minutes.
- 2.13 Drive the vehicle for 30 minutes in both city and highway drive cycles.
- 2.14 After the 30 minute drive cycle, evaluate the vehicle for the customer concern.

Evaluation:

- 2.15 If the concern is no longer present, the vehicle can be returned to the customer.
- 2.16 If the concern is still present, repeat the entire recharge procedure a second time. Do NOT perform the entire charge procedure more than twice.
- 2.17 If the concern is still present after the second time, refer to SI for diagnosis of the transmission for a possible clutch slip or other vehicle related concern also reference the latest version of PIP4751.

Important: When sending snap shots to TAC if the VIN, TAC Case, and PI numbers are not correctly placed in the subject line of the e-mail, the message will be deleted from the database.

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.