



# Service Bulletin

## PRELIMINARY INFORMATION

**Subject:** SERVICE HIGH VOLTAGE CHARGING SYSTEM Message Displayed on Driver Information Center (DIC), Hybrid/EV Charging System Disabled, DTCs Set

**Models:** 2013 Chevrolet Volt  
Vehicles Built Prior to February 5, 2013

### Condition/Concern

Some customers may comment that the **SERVICE HIGH VOLTAGE CHARGING SYSTEM** message is displayed in the Driver Information Center (DIC). They may also comment that they cannot complete a plug-in hybrid battery charging event. This is the result of the charging system being disabled under these conditions.

Upon investigation the Technician may observe on a scan tool a minimum of two of the following DTCs set:

- **DTC P0AA6:** Hybrid/EV Battery Voltage System Isolation Lost
  - **DTC P1AE6:** Battery Energy Control Module Hybrid/EV Battery Voltage Isolation Sensor Circuit
  - **DTC P1F0E:** Battery Charging Voltage System Isolation Lost
  - **DTC P1FFB:** Hybrid/EV Battery Pack Coolant Level Sensor Circuit
  - **DTC P1FFC:** Hybrid/EV Battery Pack Coolant Level Sensor Circuit Low Voltage
  - **DTC P1FFD:** Hybrid/EV Battery Pack Coolant Level Sensor Circuit High Voltage
  - **DTC P1FFE:** Hybrid/EV Battery Pack Coolant Level Low
  - **DTC P1FFF:** System Isolation / Coolant Level Sensor Fault - Hybrid/EV Battery Charging System Disabled
- ⇒ If DTC P0AA6, P1AE6, P1F0E, P1FFB, P1FFC, P1FFD, or P1FFE are set, DTC P1FFF will also be set.

This Condition/Concern may be caused by incomplete solder joints within (internal, cannot be seen) the drive motor battery coolant level sensor resulting in intermittent sensor operation.

### Recommendation/Instructions

**Danger:** Before working on any high voltage system, be sure to wear the following Personal Protection Equipment:

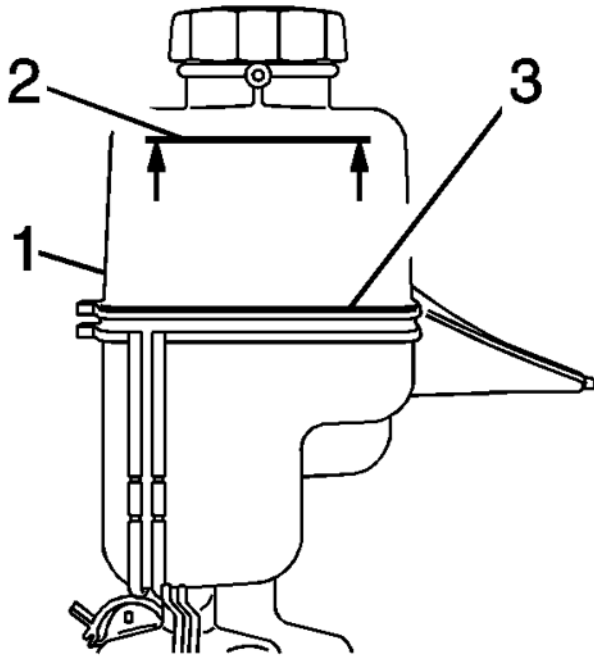
- Safety glasses with appropriate side shields when within 50 feet of the vehicle, either indoors or outdoors.
- Certified and up-to-date Class "0" Insulation gloves rated at 1000V with leather protectors.
  - Visually and functionally inspect the gloves before use.
  - Wear the Insulation gloves at all times when working with the high voltage battery assembly, whether the system is energized or not.

**Failure to follow the procedure exactly as written may result in serious injury or death.**

If the above Condition/Concern is encountered, perform the following actions:

**Danger:** BEFORE conducting ANY repair to this high voltage cooling system, it is necessary to determine/verify whether any high-voltage system faults exist. If any high-voltage faults exist, follow published DTC diagnostics/repair procedures PRIOR to performing any cooling system repairs. Failure to correct High Voltage Faults before working on the high voltage cooling system could result in personal injury or death.

1. Perform the Diagnostic System Check - Vehicle.
  - ⇒ If DTC P0AA6, P1AE6 or P1F0E are set, Go to Diagnostic Trouble Code (DTC) List - Vehicle in SI.
  - ⇒ If DTC P1FFB, P1FFC, P1FFD or P1FFE are set, Go to Step 2.
2. Turn the Vehicle Power **OFF**.
3. Remove **ALL** keyless entry transmitters from the vehicle and secure them in a location outside and away from the vehicle.
4. Raise and support the hood with the prop rod.

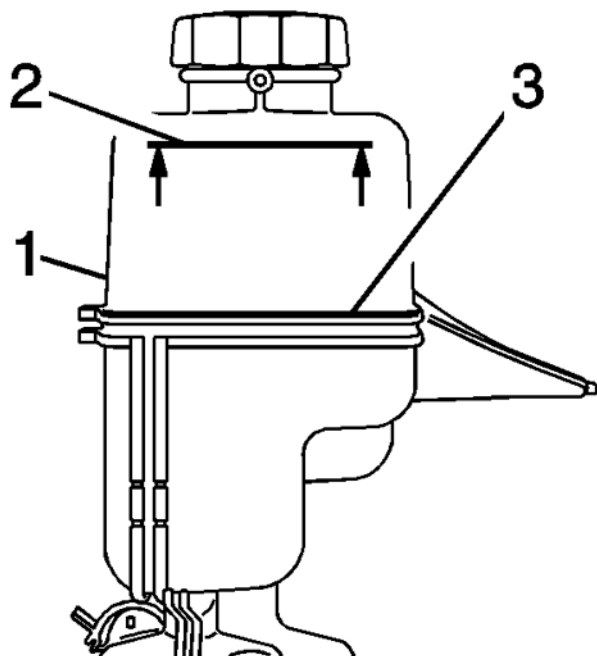


**Notice:** When checking and adjusting the high-voltage (HV) battery surge tank (1) coolant level, disregard the factory level indicator markings (2). The proper coolant level is at or just above the top of the seam (3).

5. Visually inspect the coolant level in the high-voltage battery surge tank (1) and verify that the level is at or just above the seam (3).
  - ⇒ If the HV battery surge tank (1) coolant level is not **at** or **just above** the seam (3), Go to: Hybrid Cooling System Loss of Coolant (Battery) in SI.
  - ⇒ If the HV battery surge tank (1) coolant level is **at** or **just above** the seam (3), Go to Step 6.
6. Remove the front compartment front sight shield. Refer to Front Compartment Front Sight Shield Replacement in SI.
7. Remove the anti-tamper coolant cap bracket and the coolant cap. Refer to Coolant Cap Bracket Replacement in SI.
8. Drain the coolant. Refer to Drive Motor Battery Cooling System Draining and Filling — Draining Procedure in SI.
9. Remove the drive motor battery radiator surge tank. Refer to Drive Motor Battery Radiator Surge Tank Replacement in SI.
10. Remove the drive motor battery coolant level sensor. Refer to Drive Motor Battery Coolant Level Sensor Replacement in SI.
11. Replace the drive motor battery coolant level sensor with a new drive motor battery coolant level sensor, P/N 22922224. Refer to Drive Motor Battery Coolant Level Sensor Replacement in SI.
12. Install the drive motor battery radiator surge tank. Refer to Drive Motor Battery Radiator Surge Tank Replacement in SI.

**Notice:**

- **Always use a Pre-mixed DEXCOOL® (50/50 mixture of DEXCOOL® and deionized water). Always use MORE coolant than necessary. This will eliminate air from being drawn into the cooling system.**
  - **Filling of the Hybrid/EV Battery Pack cooling system due to replacement of any drive motor battery cooling system parts requires the actuation of the Hybrid/EV Battery Pack Coolant Pump Bleed Procedure using the GDS tool.**
13. Fill the drive motor battery cooling system. Refer to Drive Motor Battery Cooling System Draining and Filling — Vac-N-Fill Procedure in SI.
  14. Inspect the concentration of the coolant mixture using the GE-26568 tester.



15. Upon completion of the Hybrid/EV battery pack coolant pump bleed procedure, **adjust** the surge tank coolant level to a position just above the top of the seam (3). Refer to Drive Motor Battery Cooling System Draining and Filling — Removing Excess Coolant From System in SI.
16. Install the coolant cap and the anti-tamper coolant cap bracket. Refer to Coolant Cap Bracket Replacement in SI.
17. Install the front compartment front sight shield. Refer to Front Compartment Front Sight Shield Replacement in SI.
18. Retrieve all of the keyless entry transmitters for the vehicle.
19. Turn the Vehicle Power **ON**.
20. Clear **any** DTCs that may be present with a scan tool.
21. Perform the Diagnostic Repair Verification. Refer to SI.
22. Secure the prop rod. Lower and secure the hood.

## Parts Information

Part Number	Description
22922224	Drive Motor Battery Coolant Level Sensor

## Warranty Information

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
N5946	Drive Motor Battery Coolant Level Sensor Replacement	Use Published Labor Operation Time
Coverage Code: V Chevrolet Volt Battery Components U.S. Voltec Battery Warranty - 8 Years/100,000 Miles Canadian Voltec Battery Warranty - 8 Years/160,000 km		

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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