Service Bulletin

Bulletin No.: 23-NA-151
Date: May, 2024

INFORMATION

Subject: **Hybrid/EV Battery, High Priority DTCs, Potential Loss of Isolation, Vehicle Handling and RESS Shipping Requirements**

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
BrightDrop	Zevo 600	2022	2024	—	—	All	All
	Zevo 400	2024					
Cadillac	LYRIQ	2023					
Chevrolet	Blazer EV	2024					
	Equinox EV						
	Silverado EV						
GMC	HUMMER EV	2022					
	HUMMER EV SUV	2024					

Involved Region or Country	North America, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Egypt, Europe, Cadillac Korea (South Korea), GM Korea Company, Japan, Palestine, Israel, Middle East, Kazakhstan, Australia/New Zealand
Information	This bulletin and criteria within are to determine the internal state of the High Voltage Battery and core return shipping method. If a vehicle arrives with any of the DTCs on the list, additional checks need to occur to give proper direction on vehicle storage and repair instructions and must be documented in a TAC Case. In the event a High Voltage Battery needs replacement, perform the service instruction steps (1-9) if any of the following DTCs listed are set as current before starting a TAC case for High Voltage Battery order authorization. DTCs: P0AA6, P0AA7, U359E, U2220, U2221, U2222, U2223, U2224, U2225, U2226, U2227, U2228, U2229, U222A, U222B, U222C, U222D, U222E, U222F, U2230, U2231, U2232, U2233, U2234, U2235, U2236, U2237, U1666, U1667, U2426, U2427, U2BFC, P1C34, U35B5.

Service Procedure

Danger: **Failure to use the proper Personal Protective Equipment and failure to carefully follow these procedures may result in serious injury or death.**
Important: Service agents must comply with all International, Federal, State, Provincial, and/or Local laws applicable to the activities it performs under this bulletin, including but not limited to handling, deploying, preparing, classifying, packaging, marking, labeling, and shipping dangerous goods. In the event of a conflict between the procedures set forth in this bulletin and the laws that apply to your dealership, you must follow those applicable laws.

Important: This technical service bulletin (TSB) can only be completed by certified repair facilities who have met all specific training, tool and equipment requirements pertaining to the vehicle Brand and Model serviced. Repairs must be performed by a technician who has successfully completed the required training.
Important: Please review the data thoroughly. GM will not authorize core return shipment requests without proper review, which could lead to non-return core fee charges. It is essential to complete all steps outlined below and provide data to TAC for review and further direction, to avoid delays in the pick-up the high voltage battery core and prevent any duplication of work.
Note: Steps outlined below can also be found on Center of Learning Course # 59520.14V.

https://www.centerlearning.com/catalog/edit.asp?iQueryID1=40&sFieldName1=sStuffedCriteria&iDatatypeID1=2&iFilterID1=1&sCriteria1=tCourse%2EsCourseName%3ATCourse%2EsCourseNumber%3ATCourse%2EmCourseDescription%2C7%2C2%2C59520%2E14V%7CtSortType%2EiSortTypeID%2C1%2C1%2C3%7CbActive%2C1%2C1%2C1&iResultSet1=1&iSectionID1=1&iPageID1=269&sPageName1=%2E%2E%2Fcatalog%2Findex%2Easp&iQueryID2=30&sFieldName2=tCourse%2EiCourseID&iDatatypeID2=25&iFilterID2=1&sCriteria2=25920&iResultSet2=1&iSectionID2=1&iPageID2=0&sPageName2=%2E%2E%2Fcatalog%2Fedit%2Easp&iRecordCount=2

https://www.centerlearning.com/VOD/vod_player.asp?iCourseID=25920

1. Verify any of the following conditions: DTCs U2BFC or P1C34 are set as current or history, the customer heard abnormal noises, or if the vehicle experienced a loss of propulsion while driving? If yes, report results to TAC as additional review will be necessary to help determine stability.

   Notes/Findings:

2. Provide a clear and thorough description of the concern from the customer. Was the vehicle towed because of a no start concern or loss of propulsion?

   Notes/Findings:

3. Verify any of the following DTCs are set as current; P0AA6, P0AA7, U359E, U2220, U2221, U2222, U2223, U2224, U2225, U2226, U2227, U2228, U2229, U222A, U222B, U222C, U222D, U222E, U222F, U2230, U2231, U2232, U2233, U2234, U2235, U2236, U2237, U1666, U1667, U2426, U2427, or U35B5 set as current or history.

   Notes/Findings:

4. Visually inspect and document the coolant level in the high-voltage battery surge tank (Fig 1) and document via photo. Inform TAC if coolant has previously been added.

   Notes/Findings:

Note: The Data in steps 5-7 can also be found in K16 – Battery Energy Control Module -> Data Display -> Hybrid/Electric Vehicle Battery Pack Thermal Stability Data.

5. Observe and record the Battery Energy Control Module parameter(s); K16 – Battery Energy Control Module -> Data Display -> High Voltage Isolation Data -> Most Recent Isolation Resistance – Pack & (Pack 2 if equipped).

   Notes/Findings:

6. Observe and record the Battery Energy Control Module parameter(s); K16 – Battery Energy Control Module -> Data Display -> Hybrid/Electric Vehicle Battery Pack Temperature Data -> Hybrid/Electric Vehicle Battery Pack Thermal Event Gas Sensor and Hybrid/Electric Vehicle Battery Pack Thermal Event Gas Sensor 2 in PPM (Parts Per Million).

   Notes/Findings:

7. Observe and record the Battery Energy Control Module parameter(s); K16 – Battery Energy Control Module -> Data Display -> Hybrid/Electric Vehicle Battery Module Temperature Data -> Hybrid/Electric Vehicle Battery Interface Control Module 1 thru Module 24 (if equipped).

   Notes/Findings:

Note: Record Top 3 Maximum Value or if all Similar provide average temperature.

8. Start a TAC case and upload session log per Document ID: 6385557 / PIP4902 and reference this bulletin. Additionally, provide any previous diagnosis work performed based on the DTC(s) set or inability to collect the data.

   Notes/Findings:

9. Move Vehicle to stable location to store vehicle while waiting direction to repair. Document via photo and upload to the TAC case. The recommended method for moving the vehicle would be with HVSL pulled, Service Mode in neutral until directed otherwise.

Note: Additional information or steps may be requested based on the information provided from steps 1-9 listed above. If instructed by TAC, perform the following steps at time of High Voltage Battery replacement. Do NOT submit a core pickup request unless given approval by TAC.

10. Follow SI Procedure for RESS removal, Hybrid/Electric Vehicle Battery Pack Removal and Installation.

11. After High Voltage Battery removal, inspect the High Voltage Connectors at the High Voltage Battery for corrosion, moisture, and/or soot. (Fig 2) Take photos of the vehicle side HV connectors and High Voltage Battery connection headers. Attach photos to TAC Case. Refer to the SI Procedure for High Voltage System Inspection.

    Notes/Findings:

Note: If corrosion or moisture is observed, stop all work and call TAC.

12. After High Voltage Battery removal, heck for High Voltage at the Hybrid/Electric Vehicle Battery Pack X1 through X7 (as equipped) by following High Voltage Disabling – High Voltage Disable Confirmation Table – A4 Hybrid/EV Battery Pack in Service Information.

    Notes/Findings:

Note: If more than 3V is found, stop all work and call TAC.

13. After High Voltage Battery removal, remove the High Voltage Battery Pressure Equalizer Vent Deflector(s) and/or Battery Inspection plug (if equipped) (Fig 3). Using a cotton swab or paper towel to swab inside the enclosure for moisture or coolant. Take photos and attach to TAC case.

    Notes/Findings:

Note: If fluid is observed, stop all work and call TAC.

14. Evacuate residual coolant from the High Voltage Battery. Refer to the SI Procedure for Hybrid/ Electric Vehicle Battery Pack Replacement and Shipping Preparation.

    Notes/Findings:

Note: If unable to remove coolant from the High Voltage Battery, stop all work, and call TAC.

15. Vacuum test the High Voltage Battery coolant circuit. See Hybrid Battery Pack Coolant Passage Leak Test. Attach photos to the TAC case.

    Notes/Findings:

Note: If the High Voltage Battery coolant circuit does not hold vacuum, stop all work, and call TAC.

16. Pressure test the High Voltage Battery coolant circuit (Only complete if passes vacuum test). See Hybrid Battery Pack Coolant Passage Leak Test . Attach photos to the TAC case.

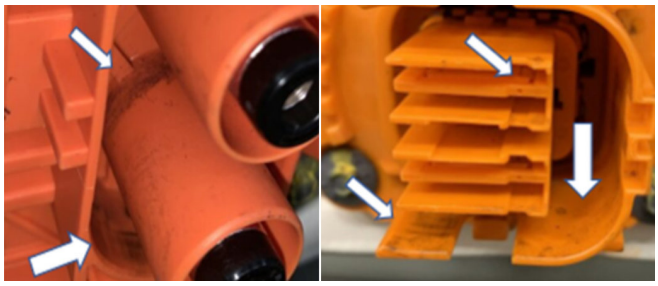
    Notes/Findings:

Note: If the High Voltage Battery coolant circuit does not hold pressure, stop all work, and call TAC.

17. Place the High Voltage Battery in the provided DDR Crate & move to stable location. Recommended outside away from buildings, vehicles, and foot traffic. Report results to TAC for Engineering review.

Important: The provided crates are intended/rated for reuse and must be handled with care. Do not expose the crate to rain, snow or any other environment that will cause moisture related damage.

Figure 1	 6522019



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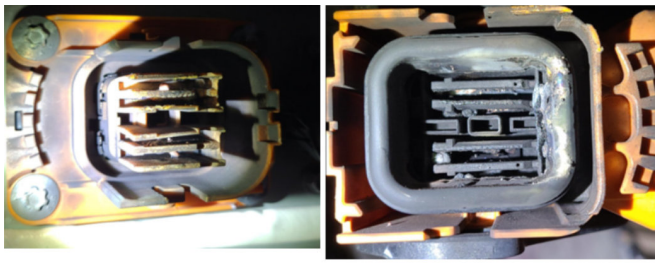

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Figure 2 Soot Examples

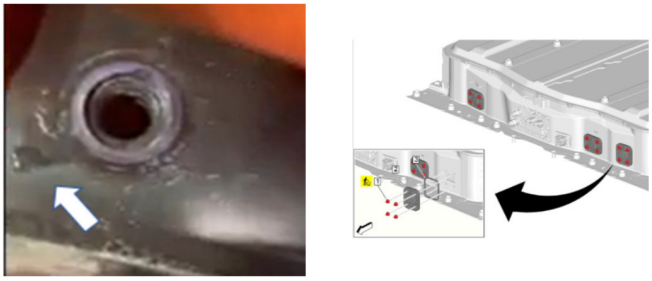

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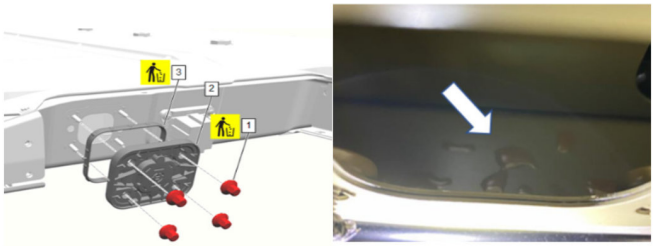
Figure 3 Liquid and Moisture Examples



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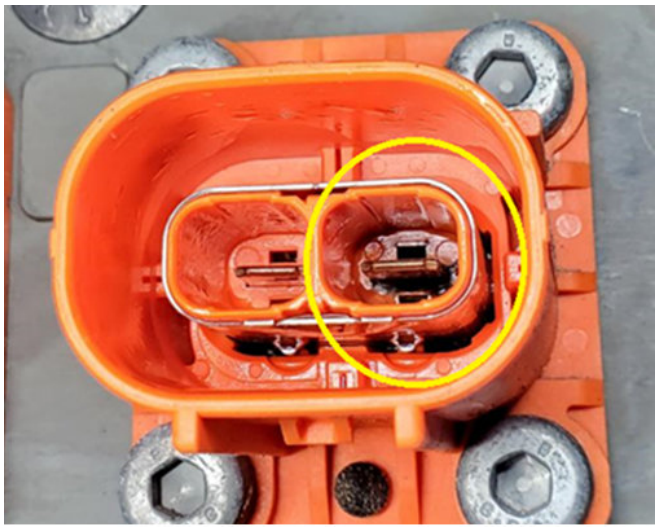
Other Examples	 6522018

Warranty Information

For vehicles repaired under the Bumper-to-Bumper coverage (Canada Base Warranty coverage), use the following labor operation. Reference the Applicable Warranties section of Investigate Vehicle History (IVH) for coverage information.

Labor Operation	Description	Labor Time
5080398*	Hybrid/EV Battery Inspection & Transportability Assessment	1.0 hr
*This is a unique Labor Operation for bulletin use only.		

Version	5
Modified	Released September 05, 2023 Revised October 17, 2023 – Updated Model Years, Added Steps 8-12 and added Warranty Information. Revised January 16, 2024 – Added Illustrations, Updated Steps, 2022 Model Year Zevo 600 and 2024 Zevo 400. Revised March 14, 2024 – Added Europe and Updated information throughout the entire bulletin. Revised May 23, 2024 – Added Equinox EV model, updated Involved Region or Country and multiple steps under Service Procedure.