



# Preliminary Information

## PIC6239F Bolt EV (BEV2) High Voltage Battery Exchange and Internal Parts Process

### Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Chevrolet	Bolt EV	2017 - 2018	All	All	All	All
Involved Region or Country	North America					
Condition	As part of our ongoing quality improvement process effective as of 11/11/2016, the Drive Motor Battery and internal parts for the 2017 Bolt EV are being placed on restriction through the General Motors Technical Assistance Center (TAC). The dealership must call TAC to establish a TAC case number and authorization to order the Rechargeable Energy Storage System (RESS) or any of the internal components listed below. TAC or Engineering will then provide guidance if internal components should be replaced or if the RESS should be replaced. If it is to be replaced, TAC will contact the Battery Service Center (BSC) to order the Drive Motor Battery.					
Cause	New battery case will be reviewed by TAC and Engineering					

### Correction

**NOTE: The High voltage battery Part Number should NOT be entered on the Warranty Claim. The Chevrolet Bolt EV Drive Motor Battery may also be referred to as the Rechargeable Energy Storage System (RESS).**

Please review all of the information provided below prior to contacting the General Motors Technical Assistance Center (TAC) @ 877-446-8227 (U.S.) or in Canada 1-800-263-7740 (English) or 1-800-263-7960 (French) to review case details.

**IMPORTANT: Prior to calling TAC, please make sure to collect the required information and complete the diagnosis provided in the recommendations portion of this PI. Completing the diagnostics and obtaining all required information will minimize downtime, multiple calls to TAC, misdiagnosis, or unnecessary component replacement.**

1. Do not clear codes prior to capturing data. GDS2 Session Log Freeze Frame & Failure Records should be reviewed prior to clearing any DTCs or performing any programming. Regardless if DTCs are current, history or G.S.I. repair procedure gives direction to remove any internal components or perform programming,
2. It may be necessary to road test the vehicle through several drive cycles with GDS2 installed in an attempt to capture relevant data in the GDS2 Session Log while attempting to duplicate the concern.
3. The GDS2 Session Log should include a Vehicle Wide DTC Check with Module ID Information, any relevant failure records, and module data from the Hybrid Powertrain Control Module 2 (HPCM 2), Battery Energy Control Module (BECM) while attempting to duplicate the customer's concern in certain conditions or driving habits. TAC or Engineering may request that you e-mail the GDS2 Session Logs to them for immediate review.
4. This information, along with the Battery Identification Number (BIN) and the 4 digit battery capacity number, will be needed for the TAC Consultant prior to ordering the battery. The battery pack 4 digit capacity code is located in the HPCM 2 under the voltage data list. You may need the latest version of GDS 2 to see this 4 digit code.
5. If the battery is not out of the vehicle yet, you can find the BIN by installing the MDI and using GDS2. Access the BECM Module Information and look under the identification information section and the sixteen digit number will be listed under the GDS2 parameter:

Hybrid/EV Battery Pack Identification Number (BIN). You will need to record the BIN and supply it to TAC when ordering a battery. The battery also has a 16 digit Battery Identification Tag (B.I.N.) that is located on the right side of the battery. You can locate the tag and record the B.I.N. upon removal.

The following items should be reviewed and followed by the dealership technician.

- Do not remove the Drive Motor Battery assembly unless instructed to do so by TAC or Engineering.
- A GDS2 Session Log with Freeze Frame Data, Vehicle Wide DTC Check with Module ID Information, any Battery Energy Control Module (BECM) or HPCM2 data menus, will normally be requested by TAC or Engineering.
- Guidelines for honoring this exchange program are being strictly enforced. To obtain a replacement Drive Motor Battery, the servicing Bolt EV technician must provide customer complaint and conditions as mentioned in this document.
- If the failure is due to one of the non-serviceable components, the battery will be exchanged.
- Whenever performing battery repairs it is imperative that fasteners are torqued to specification and that G.S.I. procedures are followed.

**DANGER: Always perform the High Voltage Disabling procedure prior to servicing any High Voltage component or connection. Personal Protection Equipment (PPE) and proper procedures must be followed. The High Voltage Disabling procedure will perform the following tasks:**

1. Identify how to disable high voltage.
2. Identify how to test for the presence of high voltage.
3. Identify condition under which high voltage is always present and personal protection equipment (PPE) and proper procedures must be followed.

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

1. Safety glasses with appropriate side shields when within 50 feet of the vehicle, either indoors or outdoors.
2. Certified and up-to-date Class "0" Insulation gloves rated at 1000V with leather protective gloves.

3. Visually and functionally inspect the gloves before use.
4. Wear the Insulation gloves at all times when working with the Drive Motor Battery assembly, whether the system is energized or not. Failure to follow the procedures exactly as written may result in serious injury or death.
1. Call GM TAC to establish a TAC case. The latest version of [PIP4902](#) can be used to email the GDS2 Session Log that may need further review by TAC or Engineering. If a component has been identified as one of the allowable internal battery repairs, instructions will be provided to the dealer. It is imperative that the technician has completed all available Bolt EV training including hands-on training as well as have all the required dealer equipment, and all Personal Protection Equipment (PPE) is up to date.
2. After the data is reviewed, TAC will use a case reference number and order an exchange Drive Motor Battery through the Battery Service Center (BSC) in order to have it shipped to your dealership. TAC will need the dealer's hours of operation, that they have the special tools / equipment and dealership personnel contact information.
3. After verifying that the high voltage systems are disabled, remove battery assembly per SI procedures.

**IMPORTANT: The Battery pack has two ground straps that are attached to the battery. ONLY remove the ground straps that are attached to the battery. The new battery will NOT come with the 2 ground straps already attached.**

**IMPORTANT: The exchange unit will be shipped without coolant. As part of the battery removal process, all coolant should be drained from the drive motor battery.**

Follow G.S.I. procedure for proper coolant type, fill and coolant bleed procedures. After the Battery has been removed from the vehicle (see G.S.I. procedure), and before placement into the shipping container, prepare the battery for return by performing the following:

1. Install Coolant plugs (2) in coolant lines. Coolant plugs can be removed from the new service battery assembly and installed in the returned battery. Additional coolant plugs (GM P/N 22770854) can be ordered if they are needed.
2. Install the Manual Service Disconnect (MSD) Cover. The MSD cover can be removed from the new service battery assembly and installed in the returned battery. Additional MSD covers (GM P/N 22989605) can be ordered if they are needed. The MSD lever should remain with the vehicle and not be returned with the battery assembly.
3. Install the High and Low Voltage Connector Covers. The covers can be removed from the service battery and installed on the returned battery. In order to properly prepare the used battery for shipping and to insure safe shipment, all of the above steps must be followed.

**CAUTION: With the Drive Motor Battery on the EN 48244 Support Table, slowly raise the support table to the vehicle. Use a punch or alignment tool to get the Drive Motor Battery into position. Avoid making contact with the front of the drive motor battery with the body so damage does not occur to the studs that are used to attach the aero panels upon final installation.**

**DANGER: The High Voltage Drive Motor Battery must be protected when outside of the vehicle. This is why the battery must be immediately placed in the original shipping container.**

4. Follow current SI Procedure to complete installation of the Drive Motor Battery.

**IMPORTANT: Programming steps: (Please carefully review steps 1-5).**

1. Perform K16 Drive Motor Generator Battery Energy Control Module (BECM) programming when replacing the Drive Motor Battery. This will also program the Module Balance Boards (MBBs) and Current Sense Module (CSM) which may take approximately four minutes.
2. Turn the ignition off, disconnect all devices, close the door and allow the vehicle to enter a sleep cycle (fully power down) for at least two minutes.
3. After SPS programming the BECM, follow current SI procedure. Using GDS2, select Control Functions, perform the Hybrid / EV Pack Capacity Reset and then Battery Capacity Relearn in Hybrid Powertrain Control Module 2.
4. When SI procedures are complete, you will have to drive the vehicle in Sport Mode with the vehicle in Low Gear for approximately 5 miles (8 km). This will pack the most energy in the battery during charging and regeneration and exercises the coolant valves and pumps. When performing the 5 mile (8 km) drive cycle, drive vehicle in slalom (side to side motion) to purge any air from the battery pack cooling plates. After the drive cycle, check for codes and top off the coolant system.

**IMPORTANT: Low coolant or the incorrect coolant could result in internal battery or coolant heater damage**

5. Follow current SI Procedure to complete installation of the Drive Motor Battery and fully charge Drive Motor Battery before delivering the vehicle to the customer.

**DANGER: The High Voltage Drive Motor Battery must be protected when outside of the vehicle. This is why the battery must be immediately placed in the original shipping container.**

#### **STORAGE GUIDELINES:**

1. Store the Drive Motor Battery flat.
2. Store the Drive Motor Battery in an environmentally protected area.
3. Maintain the Drive Motor Battery at room temperature.
4. Protect the Drive Motor Battery from exposure to liquids.
5. Protect the Drive Motor Battery from physical damage.
6. Store the Drive Motor Battery in a limited-access area.

**DANGER: Failure to follow these guidelines may result in serious injury or death.**

#### **PARTS RETENTION AND RETURNS UNITED STATES SERVICE AGENTS Only**

All Li-Ion drive motor batteries and battery sections need to be returned for possible refurbishment. If the batteries are not returned within 30 days, the dealer will be charged back the value of a replacement battery. These charges are substantial. There are two different ways the Li-Ion drive motor battery or battery section could be returned.

**Note: For Bolt EV Drive Motor Battery returns, please follow the Warranty Parts Center (WPC) process.**

1. **Oklahoma City Determination Center:** If you do not receive a WPC special request within 3 days of completing the repair contact CCA Logistics CCA Logistics (810-866-9300) [SCGMCustomerSupport@xpo.com](mailto:SCGMCustomerSupport@xpo.com). It is expected that the majority of batteries will go thru this process.
2. **Warranty Parts Center (WPC):** A Special Parts Return Request will be faxed or e-mailed to you with proper shipping instructions/location. You must use the BOL that is sent to you. Do NOT wait for the warranty claim to be processed before returning the failed used drive motor battery. WPC guidelines below:

Do NOT send a battery back without a Special Parts Return Request.

DO NOT ship drive motor batteries directly to the WPC.

Do NOT return battery in any other container than the container (cocoon) that the new/refurbished battery was delivered in. The removed unit must be returned complete in the original exchange shipping container. Refer to the specific drive motor battery exchange bulletin in eSI for the vehicle being repaired.

**Note: Failure to return the battery or battery section by the due date will result in the dealership being debited the entire warranty claim (parts and labor) as well as assessment for the value of the failed pack.**

**Note: If you do not receive a direction of where to ship the battery or battery section back, verify that you do not have an existing open WPC Request. If you don't have a WPC Special Part Request via fax or e-mail from WPC, contact CCA Logistics (810-866-9300) [SCGMCustomerSupport@xpo.com](mailto:SCGMCustomerSupport@xpo.com) for shipping instructions and the proper paper work in order to return the failed Drive Motor Battery or battery section.**

**Oklahoma City Determination Center Shipping Instructions:**

**Note: Never ship a damaged or compromised battery without prior approval. All hazardous materials must be shipped in accordance with all local, state, and federal laws.**

1. Disable the high voltage at the drive motor generator battery. Refer to High Voltage Disabling. Refer to eSI.
2. Remove the Drive Motor Battery from the vehicle as outlined in Drive Motor Generator Battery Replacement in eSI.
3. Tighten any fasteners that were loosened or removed during Drive Motor Battery removal to the original torque specification.
4. Remove any plastic shipping plugs or covers from the new unit and install them on the Drive Motor Battery to be returned.
5. Place a copy of the repair order with technician comments, and the completed "Battery Product Feedback Form" into the plastic envelope. The bill of lading and customs papers (for cross border shipments) should also be inserted into the plastic envelope. Remove the original shipping label and attach the plastic envelope with the return shipping label on it to the container.
6. Place the Drive Motor Battery into the shipping container and attach the completed return shipping tag to the Drive Motor Battery Cocoon.

Determination Center Shipping Address  
Spiers New Technologies  
50 NE 42<sup>nd</sup> St  
Oklahoma City, Oklahoma 73105-2201  
Contact Brian Enis (p) 405-274-5911 [☎](tel:405-274-5911)

**WPC Shipping Instructions:**

1. The Special Parts Request will provide a request number. This request number must be placed in the outside shipping envelope along with the TAC Case number. Dealers need to place a new envelope inside the battery cocoon TAC Case #, along with a copy of the Job Card (RO) including the technician's comments, DTCs, diagnostics, and completed "Battery Product Feedback Form".
2. The bill of lading and customs papers (for cross border shipments) should also be inserted into the outer plastic envelope. Remove the original shipping label and attach the plastic envelope with the return shipping label on it to the container. Failure to place this information both outside and inside the battery shipping container may delay the processing of your return. Do not ship a battery back without an official WPC Request.
3. Label the outside of the shipping container with the Part Return request number and the TAC case reference number. Refer to latest version of [99-00-89-019](#) for detailed shipping information
4. Contact Central Transport at 586-467-1900 [☎](tel:586-467-1900) for pick-up of removed battery. If lift gate service is necessary, please request it at the time of arranging pick-up service. The number is also on the BOL that is sent to you from WPC.
5. Have the driver sign the bill of lading. Retain a copy of the signed bill of lading and attach your copy to the original repair order. This will be your proof of returning the Drive Motor Battery.
6. Ship the battery Third Party Prepaid Freight Collect with appropriate paperwork to address provided.

Once the battery is shipped, please e-mail [julie.cumo@gm.com](mailto:julie.cumo@gm.com) with tracking number and Special Parts Return Request Number

**Canadian Shipping Instructions:**

Canadian Dealers should follow the steps below to return a failed battery:

1. Submit a type 4 core return for the battery. A core return tag along with a core return application will be generated at your servicing PDC and sent to you.
2. Place the core return tag on the outside of the battery container (cocoon).
3. Complete the required return hazardous goods shipping paperwork (302C form)
4. Leave the labeled container (cocoon) along with the necessary shipping documents in the area within your dealership which you would normally use for your material/core returns. The DDS carrier will pick up this battery core along with your normal returns. If your dealership is not serviced by a DDS carrier you will need to return this battery via LTL (similar to how you would return other parts).
5. Affix a 8.5 x 11 flasher on the cocoon with the following information in large bold letters so the DDS carrier can identify the package correctly including the TAC Case #, VIN, destination and description. For example:

Bolt EV Battery TAC case # \_\_\_\_\_ VIN \_\_\_\_\_  
SHIP TO LG (TROY, MI, USA) VIA CROSS DOCK

6. Canadian Dealers do NOT return batteries to the ESC or to the WPC.
7. Contacts: Rob Carlyle – CCA at 905-644-5385 or Kris Muller CCA at 905-644-5159

**CANADIAN SERVICE AGENTS ONLY:**

All Bolt EV batteries must be returned with completed documentation including battery return worksheets with TAC Case Number and VIN.

**NOTE: Failure to return the battery will result in the dealership being debited the entire warranty claim (parts and labor.) For dealers in Canada, the return of failed batteries will be handled as outlined in Parts Bulletin GMP2013-081.**

**PARTS INFORMATION:**

No Part Number should be entered for exchange components. Applicable miscellaneous items such as coolant should be added to the part allowance amount and claimed in the Parts Cost column and not included in the Net Amount (DMN) column of the warranty claim.

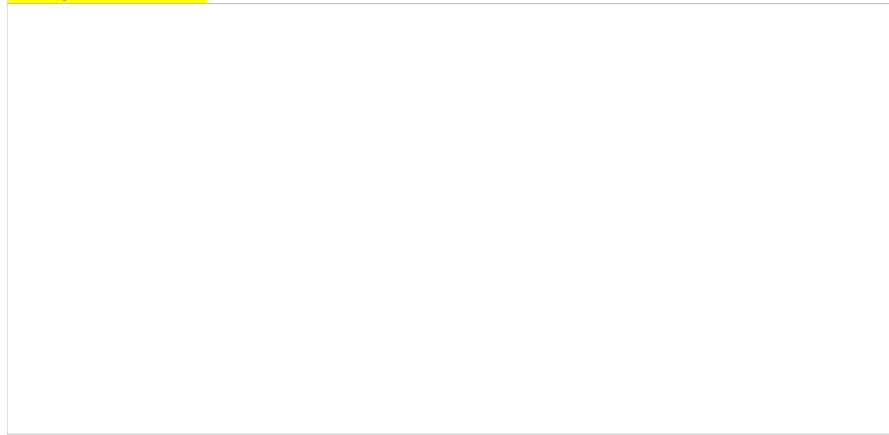
**SHIPPING PREPARATION:**

1. Disable the high voltage at the drive motor generator battery. Refer to High Voltage Disabling.
2. Remove the Drive Motor Battery from the vehicle as outlined in Drive Motor Generator Battery Replacement in G.S.I.
3. Tighten any fasteners that were loosened or removed during Drive Motor Battery removal to the original torque specification.
4. Remove any plastic shipping plugs or covers from the new unit and install them on the Drive Motor Battery to be returned.
5. Write the TAC case reference number on the drive motor battery assembly in a visible location.
6. Write the TAC case reference number on the repair order.
7. Place the Drive Motor Battery on the cradle into the shipping container.
8. Place the completed "Bolt EV Battery Product Feedback Form" (available in Global Connect) inside the crate with the failed battery. Dealers need to place a new envelope inside the battery crate with completed Bolt EV Battery Exchange information including the TAC Case #, along with a copy of the Job Card (RO) including the technician's comments, DTCs, and diagnostics. It is

recommended that this be taped to the battery inside the crate.

9. It is important to package the Drive Motor Battery upon return exactly as the new Drive Motor Battery was received. Zinc-Plated Steel Lag Screws for Wood, 5/16" Diameter, 2-1/2" Length are used to secure the battery pack to the crate base. The dealership must also use banding straps to secure the battery to the container base. The container top or "bonnet" must also be banded to the container base as pictured below. Notify Technical Assistance if banding equipment is not available at the dealership.

**Example of NOT OK**

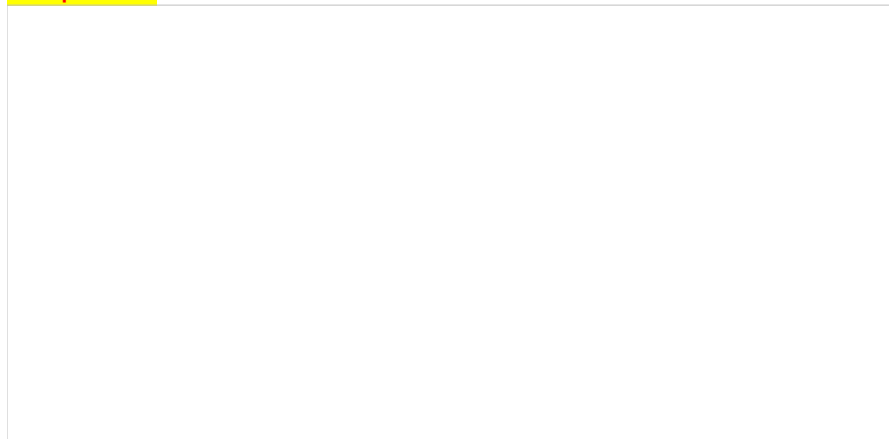


4. Tie strap is not on.

3. Painted outside lines do not Match.

The lid still goes on but the structural rigidity of the cocoon is compromised. If another battery is stacked on top the cocoon with the backwards lid, it could collapse.

**Example of OK**



2. Tie strap is in place and tight.

1. Painted outside lines match.

**Parts Information**

Description	Part Number	QTY
A4 HV Drive Motor Battery		1
S15 Manual Service Disconnect	24281696	1
X21 Manual Service Disconnect Receptacle	24281698	1
300-Volt Battery Positive and Negative Cable (Generator Battery Control Wiring Junction Block to Drive Motor Battery)	42590737	1
High Voltage Connector (X4)	24282790	1
battery connector X4 die casting block	24282788	1
High Voltage Connector (X3)	24282789	1
HV Bat Sens Harness (RH)	24282779	1
HV Bat Sens Harness (LH)	24282781	1
K16 Battery Energy Control Module	24284196	1
Drive Motor Battery Control Module Wiring Harness	24282787	1
HV Battery Module 1 or 3	24282799	1
HV Battery Module 2	24282798	1
HV Battery Module 4	24282797	1
HV Battery Module 5	24282794	1
HV Batt Cooling Manifold - Inlet	24282824	1
HV Batt Cooling Manifold - Outlet	24282823	1
HV Battery Tray	24282818	1
A28 Hybrid/ EV Battery Contactor Assembly	24284564	1
Washer - battery cover seal Spacer	24282832	1

**Warranty Information**

Labor Operation	Description	Labor Time	Net Admin Allowance
5031030	Drive Motor Battery Replacement and Shipping Preparation	Use Published Labor Operation Time	\$500.00

**Version History**

Version	6
	2/1/2017 updated to change shipping Address
Modified	4/10/2017 to update Administrative Details
Modified	5/18/2017 to update return shipping and add 2018 model year
Modified	8/29/2017 to add Canada battery return
Modified	9/25/2017 to update Part Information
Modified	2/1/2018 to updat part number and Administrative Details



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