



Service Bulletin

PRELIMINARY INFORMATION

Subject: **BAS+ (HYBRID) eAssist Drive Motor Generator Battery Module (Powerpack) or Drive Motor Generator Battery Section Exchange Process And Order Instructions**

Models: **2012 - 2015 Buick Lacrosse, Regal**
2013 - 2014 Chevrolet Malibu ECO
2014 Chevrolet Impala
All equipped with eAssist (RPO HP6)

This PI was superseded to update Part Information and Administrative Details. Please discard PIC5520L.

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

Condition/Concern

As part of our ongoing quality improvement process, effective June 13, 2011 the Drive Motor Generator Battery Module and Drive Motor Generator Battery Sections for the 2012 - 2015 Buick LaCrosse, Buick Regal, 2013 - 2014 Chevrolet Malibu ECO and 2014 Chevrolet Impala with eAssist are being placed on restriction through the General Motors Technical Assistance Center (TAC).

This P/I will explain the Exchange Program for all models listed above. It is expected that this exchange program will remain in effect for a minimum of 12 months.

Product teams continually seek valuable information for engineering improvements. This exchange program is also designed to gain important feedback on the Drive Motor Generator Control and Battery Module Assembly or Battery Sections regarding service diagnostics, repair procedures, and accelerated root cause analysis for continuous improvements.

After obtaining a case number and authorization through TAC, the TAC Consultant will call the dealer's local Electronic Service Center (ESC) to order the Drive Motor Generator Battery Module (Powerpack) or Drive Motor Generator Battery Sections 1 and 2.

Recommendation/Instructions

Important: DO NOT ATTEMPT TO REPROGRAM SOFTWARE OR CLEAR ANY DTCs PRIOR TO CAPTURING DATA AND CALLING TAC

Prior to calling TAC, please, completely follow diagnosis guidelines and obtain all required information as provided in the Recommendation/Instructions portion of this PI. This will minimize the time spent on the telephone and prevent the need for multiple calls to TAC. Guidelines for honoring this exchange program are being strictly enforced. To obtain a replacement Powerpack or Battery Sections, the servicing eAssist technician must provide TAC with a detailed customer complaint, conditions, diagnostic trouble codes (DTCs), Freeze Frame/Failure Records and other useful information as outlined below

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:

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

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

- Safety glasses with appropriate side shields when within 15 meters (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 with leather protectors at all times when working with the high voltage battery assembly, whether the system is energized or not

Danger: Ensure all High Voltage safety procedures are followed. Failure to follow the procedures exactly as written may result in serious injury or death. Have an eAssist trained hybrid technician follow the diagnostic procedures below prior to contacting TAC

1. If DTCs are present and procedure gives direction to remove internal components; STOP, record Freeze Frame/Failure Record stored data, view vehicle wide DTCs and Module ID information with GDS2. Any data reviewed will be included in your GDS2 Session Log. If possible, test drive vehicle with GDS2 and MDI connected to capture data from the Hybrid Powertrain Control Module (HPCM) 14V Power Module and Battery Energy Control Module (BECM) Voltage menus, including any other menus as needed, when condition occurs. See the latest version of PIP4902 for instructions on GDS2 data collection and how to email the log to TAC. TAC may request that you email the Session Log to them.
2. If DTCs are not present, refer to Hybrid/EV Controls - Symptoms - Hybrid Controls in G.S.I.
3. If any diagnostic procedure gives direction to remove internal components, stop and call TAC, internal components should not be removed at this time.
4. Upon review of the diagnosis, TAC will establish a case reference number and will call the dealer's local ESC to order the Powerpack or Battery Sections for your dealership if necessary.
5. The dealership should provide any important shipping instructions and the TAC Consultant will confirm the shipping information with the dealership that is requesting the order.
6. Disable the high voltage system. Refer to G.S.I. for the High Voltage Disabling Procedure.
7. Remove the Powerpack or Battery Sections as required. Refer to Generator Control and Battery Module Replacement and Shipping Preparation.
8. Prior to contacting TAC, make sure you know:
 - The name of the parts department manager or another contact in parts department who will be handling the battery pack
 - The parts department fax number
 - The Powerpack serial number (Battery Identification Number)
9. The Battery Identification Number (BIN) tag is located on the side of the assembly cover. Locate the tag and record the 16 digit Battery Identification Number. The BIN number begins with digits "20T" (See Photo Below). If the Generator Control and Battery Module is not out of the vehicle yet, you can find the assembly ID number by installing the MDI and using GDS2. Access the Battery Energy Control Module menu and look under the ID Information section for the sixteen digit number. It will be listed under the parameter: Hybrid Battery Pack Identification Number. You will need to record the serial number and supply it to TAC when requesting a Powerpack or Battery Sections.



10. Once received, install the Drive Motor Generator Control and Battery Module Assembly
11. Refer to G.S.I. for Programming and Setup Procedures under the Control Module Reference Table for Modules K59/107A GCM (HPCM/DMCM) and K16 BECM.
12. Charge pack to at least 30% SOC by driving or idling the vehicle. Review the GDS2 data to ensure the charging system is operational.
13. Refer to G.S.I. Generator Control and Battery Module Replacement and Shipping Preparation.

Note: The Generator Control Module Cable Cover (Manual Service Disconnect Cover) should remain with the vehicle and not be returned with the battery assembly. The MSD switch on the power pack should be zip tied in the open position and the high voltage 3 phase cable connections and 12V cable connector should be covered with UL® listed, or equivalent, insulation tape rated at a minimum of 600V for return shipping.

Danger: The high voltage (HV) battery must be protected when outside of the vehicle. This is why the battery must be immediately placed inside the plastic shipping bag and the original shipping container.

STORAGE GUIDELINES:

1. Store the Drive Motor Generator Control and Battery Module flat on a level surface.
2. Store the Drive Motor Generator Control and Battery Module in an environmentally protected area.
3. Maintain the Drive Motor Generator Control and Battery Module at room temperature
4. Protect the Drive Motor Generator Control and Battery Module from exposure to liquids.

5. Protect the Drive Motor Generator Control and Battery Module from physical damage.
6. Store the Drive Motor Generator Control and Battery Module in a limited-access area

CANADA ONLY- Parts Return Request (Core Return) - For dealers in Canada, the return of failed batteries will be handled through the existing core return process. (Type 4 return)

SHIPPING PREPARATION:

1. Disable the high voltage at the Drive Motor Generator Control and Battery Module. Refer to High Voltage Disabling
2. Remove the Drive Motor Generator Control and Battery Module from the vehicle as outlined in Generator Control and Battery Module Replacement in G.S.I.
3. Tighten any fasteners that were loosened or removed during Drive Motor Generator Control and Battery Module removal to the original torque specification.
4. Write the TAC case reference number on the Drive Motor Generator Control and Battery Module in a visible location
5. Write the TAC case reference number on the repair order.
6. Ensure that tape with UL® listed, or equivalent, insulation tape rated at a minimum of 600v covers the high voltage 3 phase cable connections and the 12 volt DC cable connection.
7. Ensure the Manual Service Disconnect (MSD) is properly retained in the open position with a zip tie
8. Place the Drive Motor Generator Control and Battery Module into the plastic shipping bag and original shipping container
9. Place a copy of the completed repair order with any technician comments, inside the shipping container with the failed battery.
10. Close the top lid and adhere using the two Velcro straps



CANADA DEALER 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. 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.
3. Secure shipping container to the shipping pallet with reusable straps

Note: DO NOT return the battery in any container other than the container that the new/refurbished battery was delivered in.
4. Complete the required hazardous goods shipping paperwork (302C form).
5. Leave the labeled container 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 pickup 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).
6. DO NOT return batteries to the ESC in Canada.

US ONLY – Parts Return Request

- You will be contacted with a Special Parts Return Request and proper shipping instructions within two weeks.

PLEASE FOLLOW GUIDELINES BELOW:

1. DO NOT send a Drive Motor Generator Control and Battery Module back without a Special Parts Return Request.
2. DO NOT send the Drive Motor Generator Control and Battery Module back to the ESC.

- DO NOT return the Drive Motor Generator Control and Battery Module in any other container than the container that the new/refurbished battery was delivered in. The removed unit must be returned complete in the original exchange shipping container.

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. Do not ship a Generator Control and Battery Module back without an official Request.

Note: If you do not receive the return paper work, Call GM CCA Logistics: 855-654-7157 (shipper prompt #1) to obtain the proper paper work in order to return the failed battery Module.

U.S. DEALER SHIPPING INSTRUCTIONS:

- Refer to the Lithium Ion (Li Ion) Battery Warranty Return Process in Global Connect listed under Parts / Process and Policy / G_0000176282 for detailed shipping information
- Place a copy of the Special Parts Return Request, repair order with technician comments and place 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.
- Close the top lid and adhere using the two Velcro straps. See photo above
- Label the outside of the shipping container with the Part Return request number and the TAC case reference number.

GM Warranty Parts Center

45 Northpointe Drive

Orion, MI 48359

In the event the HV Battery needs to be recycled, refer to the webpage "General Motors Recycle MyBattery" <http://recyclemybattery.com/> for the latest information.

Parts Information

| YEAR/MAKE/MODEL | COMPONENT CODE | PART NAME | PART NUMBER | QUANTITY |
|---|----------------|--|---------------------------------|----------|
| 2012 Buick LaCrosse, Regal 2013 Chevrolet Malibu Eco | A4 | Generator Control and Battery Module (Powerpack) | 23159968 | 1 |
| 2013-2015 Buick LaCrosse, Regal 2014 Malibu Eco 2014 Chevrolet Impala | A4 | Generator Control and Battery Module (Powerpack) | 23102217 (Replaced by 23159967) | 1 |
| 2012-2015 All Models | C4A/C4B | Generator Battery Sections 1 and 2 | 20813602 | 1 |

Warranty Information

For vehicles repaired under warranty use:

| Labor Code | Description | Labor Time | Part Allowance |
|------------|--|------------------------------------|----------------|
| 5031400 | Generator Control and Battery Module Replacement (Powerpack) | Use Published Labor Operation Time | \$250 |
| 5031050 | Generator Battery Section Replacement | Use Published Labor Operation Time | \$150 |
| Add | Administrative Allowance | .2 Hours | N/A |
| Add | Road Test - GDS2 Session Log | .3 Hours | N/A |

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.

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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