



PRELIMINARY INFORMATION

Subject: BAS+ (HYBRID) eAssist Generator Control and Battery Module Exchange Process

**Models: 2012 Buick LaCrosse
2012 Buick Regal
eAssist HYBRID (equipped with RPO HP6)**

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 Generator Control and Battery Module, for the eAssist Buick LaCrosse and Buick Regal (GM part number 24259770) is being placed on restriction through the GM Technical Assistance Center (TAC).

Note: Please review all of the information provided below prior to contacting the 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.

This P/I will explain the Generator Control and Battery Module Exchange Program for the eAssist Buick LaCrosse. 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 this new high voltage Generator Control and Battery Module assembly including service diagnostics, repair procedures, and accelerated root cause analysis for continuous improvements.

During the initial exchange period, components inside the Generator Control and Battery Module assembly will not be replaced. As feedback and component analysis is understood, components inside the Generator Control and Battery Module will be released and this exchange P/I will be updated. Do not remove any Generator Control and Battery Module assembly covers during this exchange period unless instructed to do so by TAC or GM engineering. The Generator Control and Battery Module assembly must be returned unopened unless specifically instructed by TAC or GM engineering. This P/I will also be revised to announce the end of the Generator Control and Battery Module Exchange program at a later date.

Recommendation/Instructions:

Important: DO NOT CLEAR 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 Generator Control and Battery Module, the servicing eAssist technician must provide TAC with a detailed customer complaint, conditions, diagnostic trouble codes (DTCs), and other useful information as outlined below.

Caution: Ensure all High Voltage safety procedures are followed. Failure to follow the procedure exactly as written may result in serious injury or death.

Caution: 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.

Failure to follow the procedures exactly as written may result in serious injury or death. Please, 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, capture snapshot stored data, and test drive vehicle with GDS and MDI and capture a snap shot of the Hybrid Powertrain Control Module and BECM data when condition occurs. See 07-07-30-010 for correct snap shot data collection. TAC may request that you e-mail the snapshots to them. Reminder: DO NOT clear codes prior to capturing data and calling TAC.
2. If DTCs are not present, refer to Hybrid/EV Controls - Symptoms - Hybrid Controls (Doc ID: 2596135) in SI.
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 provide instructions for ordering an exchange battery assembly unit to your dealership if necessary.
5. Disable the high voltage system. Refer to High Voltage Disabling (Doc ID 2595458).
6. Remove the Generator Control and Battery Module Assembly. Refer to Generator Control and Battery Module Replacement and Shipping Preparation (Doc ID 2667688).
7. 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,
 - parts department fax number,
 - generator control and battery module serial number
8. The generator control and battery module serial number tag that is located on the side of the assembly cover. Locate the tag and record the 16 digit identification number. The assembly ID number is starts with a "20T" indicator (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 GDS. Access the Battery Energy Control Module and look under the identification information section and the sixteen digit number 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 ordering a battery.
9. Install the Generator Control and Battery Module Assembly. Refer to Generator Control and Battery Module Replacement and Shipping Preparation (Doc ID 2667688).
10. Charge pack to at least 30% SOC by driving or idling the vehicle @ 1500 RPM.

Note: The HVIL switch/ HV access 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 connection should be covered with UL[®] listed, or equivalent, insulation tape rated at a minimum of 600V for return shipping.

Caution: 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 Generator Control and Battery Module flat.
2. Store the Generator Control and Battery Module in an environmentally protected area.
3. Maintain the Generator Control and Battery Module at room temperature.
4. Protect the Generator Control and Battery Module from exposure to liquids.
5. Protect the Generator Control and Battery Module from physical damage.
6. Store the 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)



2688041

SHIPPING PREPARATION:

1. Disable the high voltage at the generator control and battery module. Refer to High Voltage Disabling
2. Remove the Generator Control and Battery Module from the vehicle as outlined in Generator Control and Battery Module Replacement in SI.
3. Tighten any fasteners that were loosened or removed during Generator Control and Battery Module removal to the original torque specification.
4. Write the TAC case reference number on the generator control and battery module assembly 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. The Manual Service Disconnect (MSD) is properly retained in the open position with a zip tie.
8. Place the generator control and battery module into the plastic shipping bag and original shipping container.
9. Place the completed "BATTERY PRODUCT FEEDBACK FORM" (included in the container containing the new Generator Control and Battery Module) along with a copy of the repair order with any technician comments, inside the shipping container with the failed battery.
10. Secure shipping container to the shipping pallet with reusable straps.



2688033

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.

Note: Do not return the battery in any container other than the container that the new/refurbished battery was delivered in.

3. Complete the required hazardous goods shipping paperwork (302C form)
4. 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 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. Do NOT return batteries to the ESC in Canada.

Note: Failure to return the battery will result in the dealership being debited the entire warranty claim (parts and labor) as well as assessment of an (Need the right name for this fee) for the value of the failed pack. This environmental fee is substantial (\$3,000) and will only be assessed if the battery is not returned.

US ONLY – Parts Return Request (WPC) - A Special Parts Return Request will be faxed to you with proper shipping instructions. Do NOT wait for the warranty claim to be paid before returning the failed used battery.

Please follow WPC guidelines below:

1. Do NOT send a Generator Control and Battery Module back without a Special Parts Return Request.
2. Do NOT send the Generator Control and Battery Module back to the ESC.
3. Do NOT return the 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. Dealers need to place a new envelope inside the battery with completed "BATTERY PRODUCT FEEDBACK FORM" including the TAC Case #, along with a copy of the Job Card (RO) including the technician's comments, DTC's, and diagnostics. It is recommended that this be taped to the Generator Control and Battery Module inside the shipping container. Failure to place this information both outside and inside the Generator Control and Battery Module shipping container may delay the processing of your return. Do not ship a Generator Control and Battery Module back without an official WPC Request.

Note: Failure to return the battery by the due date will result in the dealership being debited the entire warranty claim (parts and labor) as well as assessment of an environmental fee for the value of the failed pack. This environmental fee is substantial (\$3,000) and will only be assessed if the battery is not returned in the WPC time frame.

Note: If you do not receive the WPC Special Part Request, contact Julie Cumo at 248-371-9939 (for French speaking dealers call PQC 1-866-654-7654) to obtain the proper paper work in order to return the failed Generator Control and Battery Module.

SHIPPING PREPARATION:

1. Disable the high voltage at the Generator Control and Battery Module. Refer to High Voltage Disabling
2. Remove the Generator Control and Battery Module from the vehicle as outlined in Generator Control and Battery Module Replacement in SI.
3. Tighten any fasteners that were loosened or removed during Generator Control and Battery Module removal to the original torque specification.
4. Write the TAC case reference number on the Generator Control and Battery Module assembly 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. The Manual Service Disconnect (MSD) is properly retained in the open position with a zip tie.
8. Place the Generator Control and Battery Module into the plastic shipping bag and original shipping container and attach the completed return shipping tag to the Generator Control and Battery Module.

SHIPPING INSTRUCTIONS:

1. Place a copy of the Special Parts Return Request, repair order with technician comments, and the completed "BATTERY PRODUCT FEEDBACK FORM" 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.
2. Secure shipping container to the shipping pallet with reusable straps.



2688033

3. Label the outside of the shipping container with the Part Return request number and the TAC case reference number. Refer to the Corporate Bulletin Number 99-00-89-019 for detailed shipping information.
4. Contact UPS Freight 1-800-333-7400 for pick-up of removed battery. If lift gate service is necessary, please request it at the time of arranging pick-up service.
5. 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 Generator Control and Battery Module Third Party Prepaid Freight Collect with appropriate paperwork to:

GM Warranty Parts Center
45 Northpointe Drive
Orion, MI 48359

Parts Information:

No Part Number should be entered for exchange components. Applicable miscellaneous items 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.

Warranty Information:

Labor Operation: N5866

Description: Generator Control and Battery Module Replacement

Labor Time: Use Published Labor Operation Time

Parts Allowance: \$250

Add: Administrative Allowance 0.2 hr

Add: Road test - Data snapshot 0.3 hr

GM Service Parts Operations
 6300 Grand Pointe Dr., Grand Blanc, MI 48439

GM eAssist Generator Control and Battery Module Assembly
 Exchange Program

PRODUCT FEEDBACK FORM

Complete the feedback form before performing the High Voltage Disabling Procedure and removing the battery from the vehicle. Using a scan tool where appropriate, record the following information/data.

TAC Case # _____

VIN # _____

List All DTC Numbers _____

List All Symptoms _____

Note: Scan Tool Screen prints containing the following information will be accepted in lieu of completing the table below. The information below can be found in the following module data displays: Hybrid Powertrain Control Module under Hybrid Data list, Battery Energy Control Module under Voltage Data 269864 the Drive Motor Control Module under Drive Motor Control Module 1 data list.

Scan Tool Parameter	Control Module	Data List	Value Displayed	Units Displayed
Hybrid/EV Battery Pack Voltage	Hybrid Powertrain Control Module	Hybrid Data		Volts
Hybrid/EV Battery Pack State-of-Charge	Hybrid Powertrain Control Module	Hybrid Data		%
Hybrid/EV Battery Pack Charge Remaining	Drive Motor Control Module	Drive Motor Control Module 1		Amps
Hybrid/EV Battery Pack Low Resolution Current Sensor	Battery Energy Control Module	Voltage Data		%

plete each step. If the condition exhibited is resolved to be performed.