



**POLARIS**

# TECHNICAL SERVICE BULLETIN

Date: February 27, 2018

Expiration Date: February 1, 2020

## GEM

Bulletin Number: L-18-01-B

Model Years: 2016-2018

Safety Bulletin

**Service Bulletin**

Service Alert Fax

*This Service Bulletin is located at [www.polarisdealers.com](http://www.polarisdealers.com) and [www.intl.polarisdealers.com](http://www.intl.polarisdealers.com)*

– Confidential and Proprietary –

**VERSION: R01 (February 27, 2018)**

### IMPORTANT

If you are working with a printed copy, please verify you have the most current version of these instructions.

## SUBJECT: 2016-2018 GEM AUX BATTERY INSTALL AND BMC REFLASH

### PURPOSE:

GEM has determined that the BMC on 2016-2018 GEM vehicles built before January 23, 2018 is performing tasks during off-time that can potentially drain the constant 12v supply.

To address this concern, GEM is releasing this service bulletin to advise dealers to add an auxiliary battery to applicable vehicles, reflash the BMC to the latest software, and test the traction batteries (non-EPS vehicles with lead-acid batteries).

### AFFECTED MODELS:

Model Year	Models	Vehicle Identification Number (VIN) Range
2016-2018	e2	Reference "Unit Inquiry" on the dealer website or the Service Bulletin list on the STOP site to lookup affected units.
	e4	
	e6	
	eLXD	

### CUSTOMER NOTIFICATION:

Dealers are required to review their sales records and make arrangements with customers for Bulletin completion. In addition to consumer units, dealers are required to correct any affected units in their inventory. Polaris will not be mailing a notification letter to consumers affected by this Bulletin.

## WARRANTY CLAIM / PARTS INFORMATION:

Bulletin parts are excluded from the standard RMA policy and cannot be returned. An Initial Recommended Order Quantity has not been provided for this bulletin. Use Quantity Ordered to Date and the Open VIN List from the STOP site to determine an order amount that's right for your dealership. For more details, refer to University of Polaris training course "Polaris Item Availability and Daily Ordering" and click on "Bulletin Ordering Training".

2016-2018 GEM e2, e4, e6, eLXD (non-EPS vehicles with lead-acid batteries)	
<b>Bulletin #</b>	L-18-01-B
<b>Claim Type</b>	SB (Service Bulletin)
<b>Labor Allowance</b>	1.7 hours (102 minutes)
<b>Part Number / Description</b>	4014770 (QTY 1) BATTERY, 12V 2883630 (QTY 1) K-BTRY, 12V, AUX
<b>Parts Availability</b>	Available to order
<b>University Of Polaris Video Training Requirement</b>	NO <sup>1</sup>

<sup>1</sup> Polaris does not require one person from a dealership to be certified before parts ordering may occur and two people from a dealership to be certified before warranty claims may be processed.

## ACCESSORY REMOVE & REPLACE LABOR:

Polaris will cover labor for the removal and installation of accessories required to complete the bulletin work. Follow the steps below to obtain reimbursement.

### For accessory removal and installation up to 30 minutes of labor

Enter the actual labor time for the removal and installation into the Accessory R&R Min Field on the bulletin claim.

### For accessory removal and installation over 30 minutes of labor:

1. Start a new Ask Polaris Case, Service & Warranty Question > Authorization: Non-Cosmetic & Polaris ESC or Authorization: Out of Warranty.
2. Enter your contact information and VIN, along with miles and hours into the applicable fields.
3. Enter "L-18-01-B" in the CONCERN and CAUSE fields. In the CORRECTION field, enter "ACCESSORY REMOVAL AND INSTALLATION".
4. Enter warranty fail codes 128/500/307.
5. Add part 0000541, quantity 1
6. Attach photos of the vehicle and accessories sufficient to support the labor time requested.
7. Submit the case to Polaris.

## BULLETIN CONTACT LIST & SCHEDULING TOOL:

A scheduling tool is available for dealers to keep a record of customers contacted and scheduled for bulletin repairs. This optional tool provides visibility for your dealership and will be helpful to track the status of scheduled service. For more information, log in to <http://www.universityofpolaris.com>

## WARRANTY COVERAGE PERIOD:

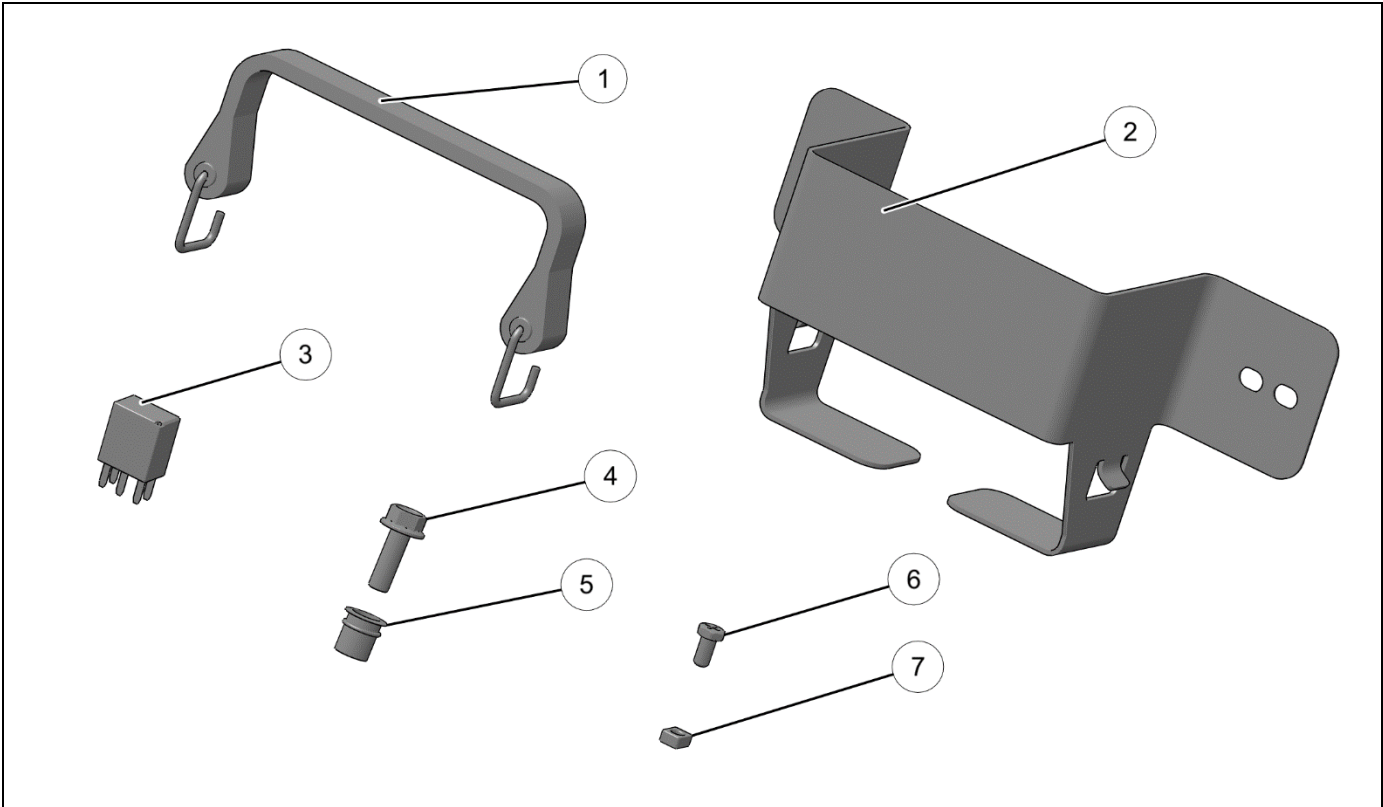
This Bulletin will begin February 27, 2018. This bulletin expires February 1, 2020.

## FEEDBACK FORM:

A feedback form has been created for the technician to provide POLARIS with an overall satisfaction rating for the instructions, provide comments on your experience or upload pictures/videos from a specific repair. This feedback form is viewable on a mobile device by scanning the QR code shown or by clicking [HERE](#) if viewing this document electronically.



## KIT CONTENTS (P/N 2883630)



REF	PART DESCRIPTION	PART NUMBER	QTY
①	STRAP, BATTERY	2635371	1
②	RELAY	4011284	1
③	BATTERY BRACKET	5261942-458	1
④	M8 X 1.25 X 25 SCREW	7518514	2
⑤	M8 X 1.25 RIVET NUT	7547788	2
⑥	M6 X 1 X 12 SCREW	7520056	2
⑦	M6 X 1 NUT	7547732	2
	CABLE-EPS, POSITIVE, FUSED (NOT SHOWN)	4016543	1
	CABLE-EPS, NEGATIVE (NOT SHOWN)	4016544	1
	PANDUIT STRAP (NOT SHOWN)	7080492	6

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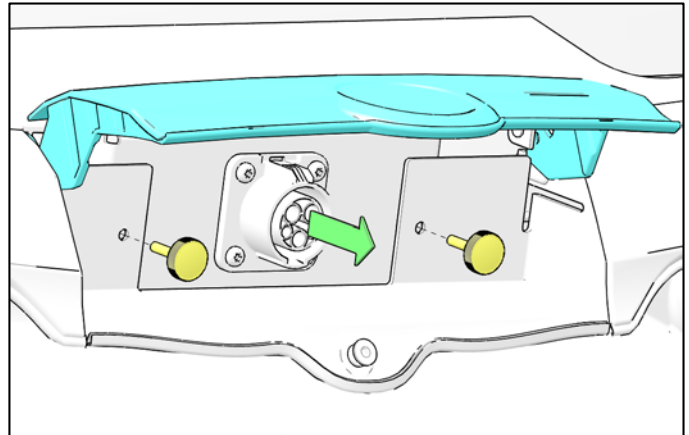
## L-18-01-B PROCEDURE:

### PART 1: AUXILIARY BATTERY INSTALL

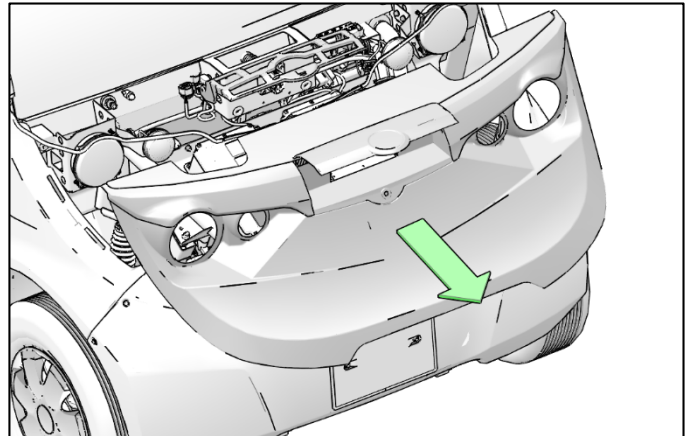
#### Tools Required:

- Philips head screwdriver
- Ratchet wrench
- 13mm socket
- 10mm socket
- Side cutter
- Rivet nut tool, with M8 mandrel

1. With the vehicle parked on a flat surface, turn the key to the off position and engage parking brake.
2. Remove two hood screws located under the charge port.



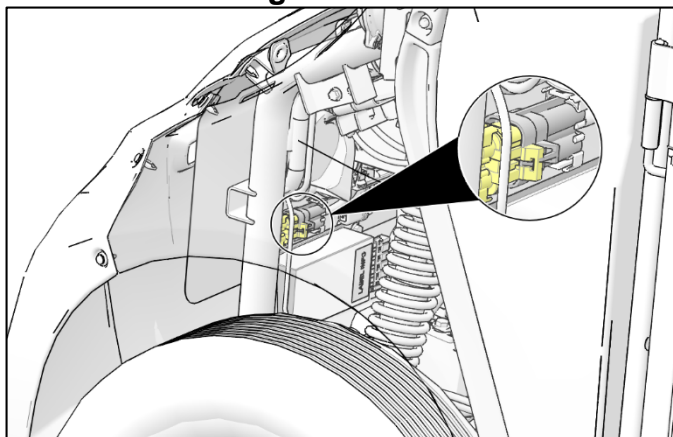
3. With the hood parallel with the ground, pull the hood forward to release it from the grommets. Carefully lift the hood away from the vehicle.



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4. Disconnect power at Service Disconnect.

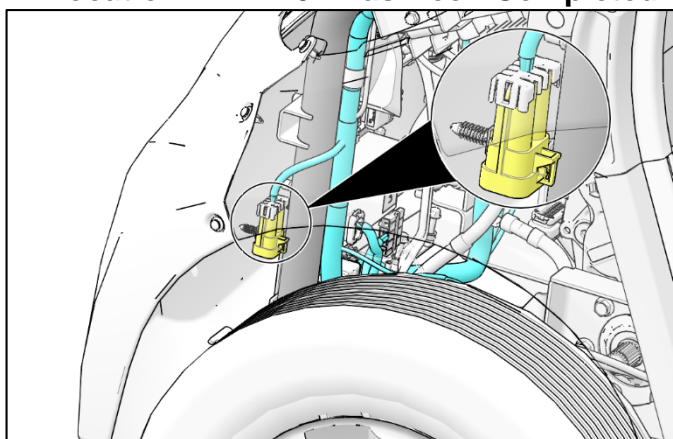
**Original Location:**



**CAUTION**

Electrical shock or circuit damage may occur if the service disconnect is not disconnected.

**Location If L-17-04 Has Been Completed:**



**NOTE**

If bulletin L-17-04 has been completed on the vehicle, the service disconnect can be found mounted vertically on the opposite side of the frame tube.

5. Remove rear deck.

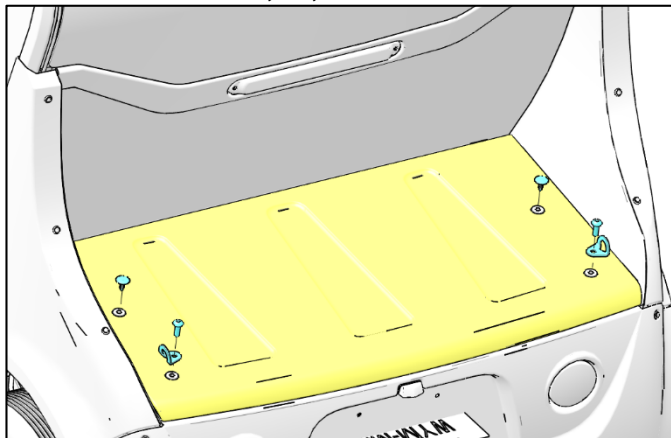
For e2, e4, and e6 models: remove any rear accessory option, and then lift off the rear deck.

**NOTE**

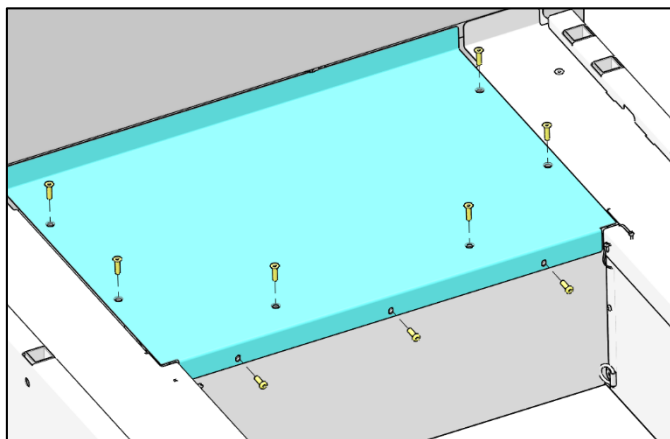
Refer to the service manual for accessory removal.

For eLXD models: Remove nine fasteners retaining rear deck.

**e2,e4,e6 Models:**



**eLXD Models:**



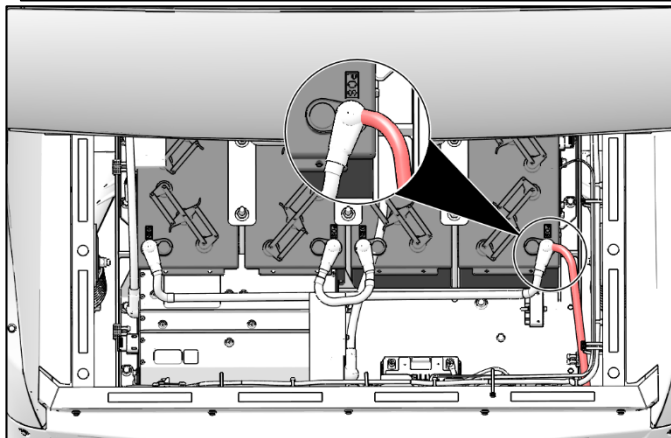
6. Disconnect red 10-gauge 12V wire, and 0-gauge battery cable from rear battery pack by removing 13mm fastener. Leave the 0-gauge battery cable disconnected.

**NOTE**

Four flooded batteries shown.

**CAUTION**

Electrical shock or circuit damage may occur if the battery pack is not disconnected.



7. Cut cable tie on right hand frame rail.



8. Route red 10-gauge 12V wire and cable tie as shown.

**NOTE**

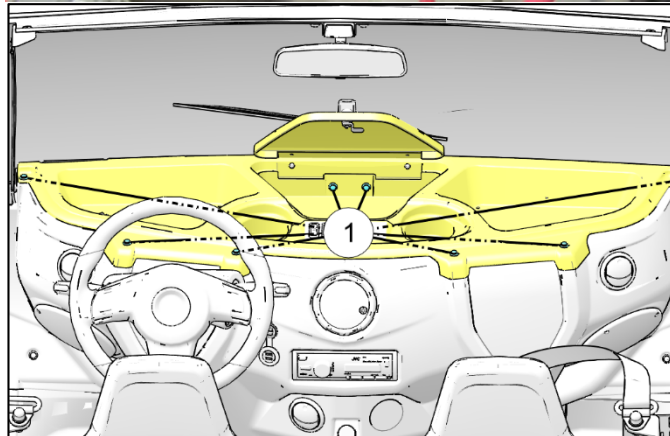
This wire will not be connected anymore.



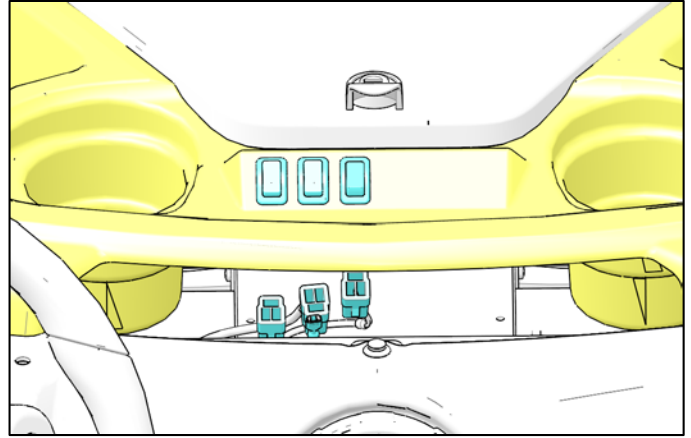
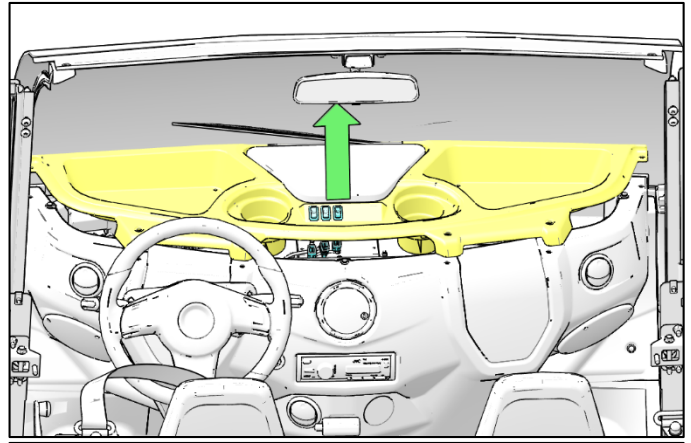
9. Remove eight push pins ① from upper dash.

**NOTE**

Two push pins are located inside the glove box.



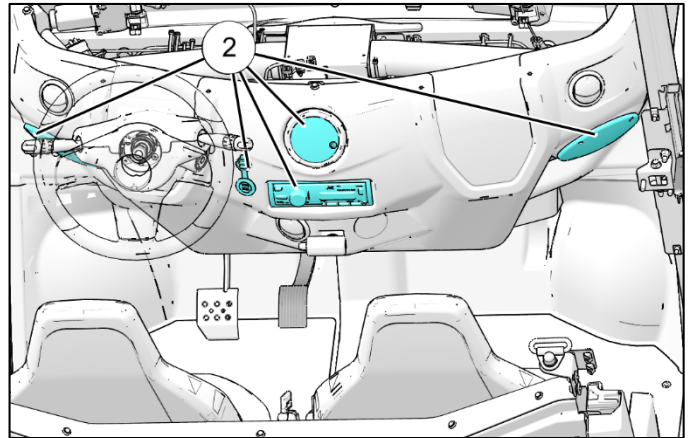
10. Lift upper dash to access and disconnect electrical connectors and remove from vehicle.



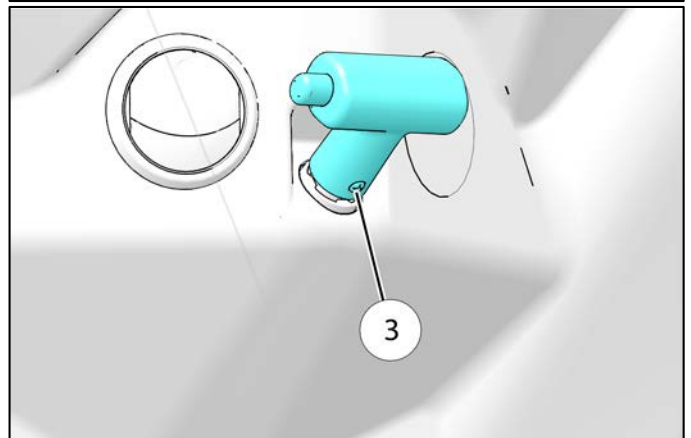
11. Remove dome light electrical connection as well as any other accessory electrical connections in the lower dash ②.

**NOTE**

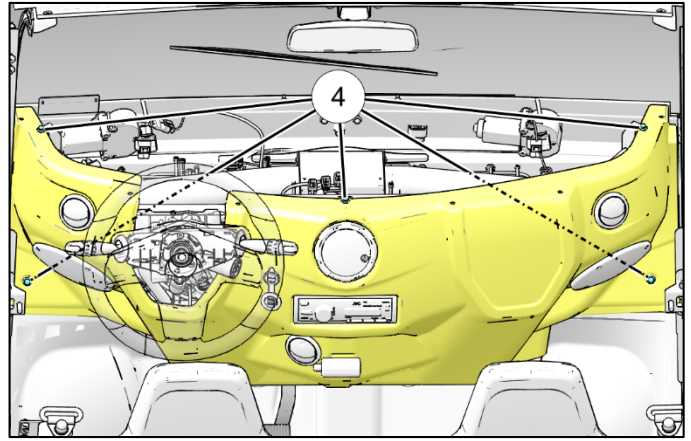
If equipped with a stereo, remove mounting screw on the back side of the unit.



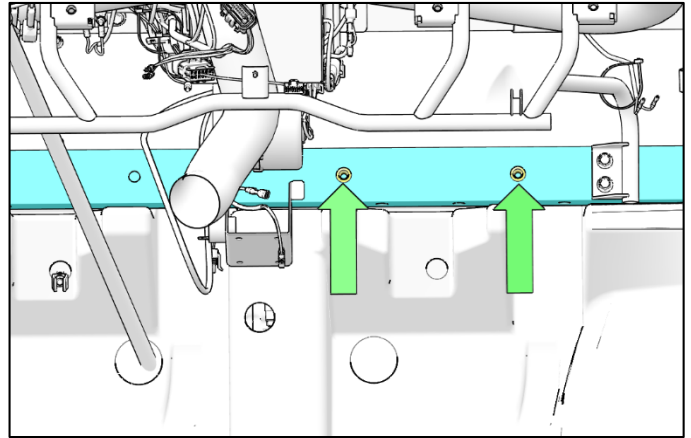
12. Remove screw ③ from parking brake handle and remove handle.



13. Remove five lower dash fasteners ④ and remove from vehicle.



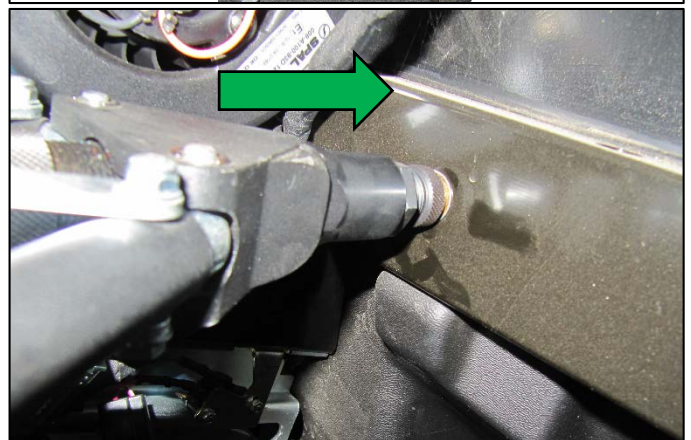
14. Locate two holes in right hand side of lower dash where the rivet nuts are to be installed.



15. Thread rivet nut (PN 7547788) fully onto the rivet nut tool.

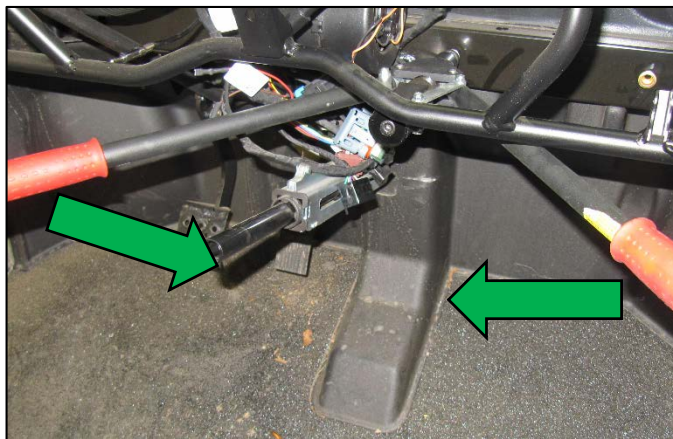


16. Insert the rivet nut into lower dash extension support.



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17. Extend handles out to widest point.
18. Compress the handles fully one time.
19. Thread the tool out of the rivet nut.
20. Repeat steps 15-19 for the remaining hole.



**NOTE**

If a rivet nut tool cannot be obtained, the rivet nuts can be installed with an alternative method. Using fastener (PN **7518514**) and an oversized nut, hold the nut stationary with a box wrench and tighten the fastener until the rivet nut is fully installed in the lower dash.



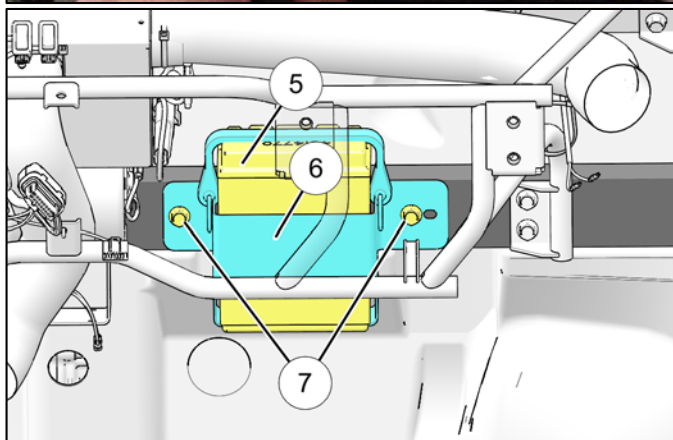
21. Install 12V battery (5) (PN **4014770**) with bracket (6) (PN **5261942**) into rivet nuts using two 13mm fasteners (7) (PN **7518514**). Torque to specification.

**NOTE**

Tube removed for viewing purposes.

**TORQUE**

Auxiliary Battery Bracket Fasteners:  
**18 lb-ft (25 Nm)**



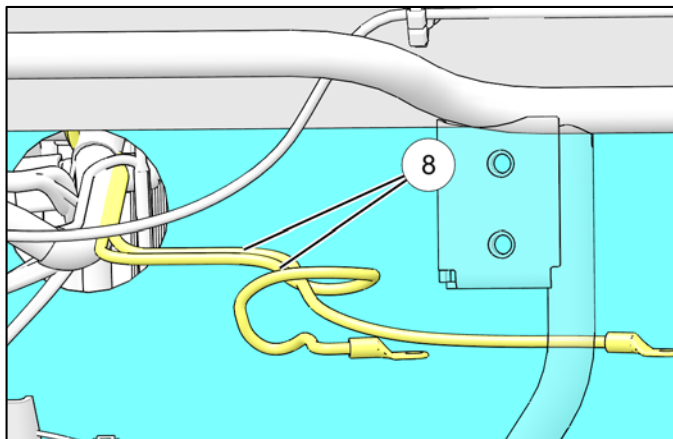
22. Install battery strap.

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23. Route auxiliary battery cables (8) through firewall opening.

**IMPORTANT**

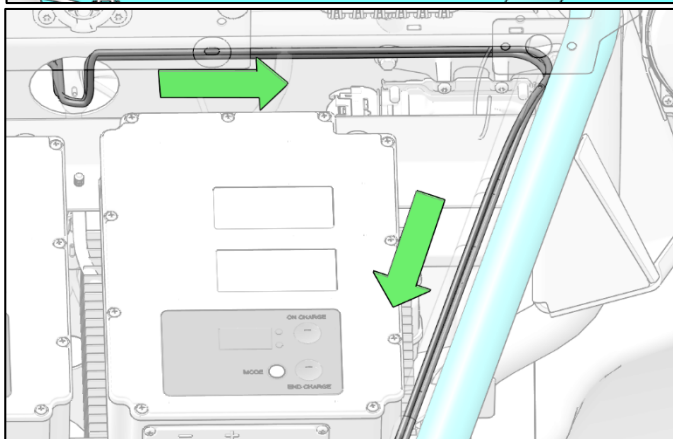
Do NOT connect battery cables to the Auxiliary Battery at this time.



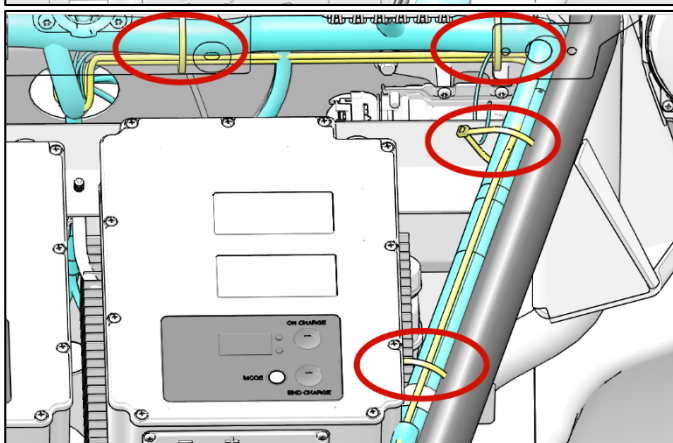
24. Route the auxiliary battery cables along the main harness towards the left front frame tube and down towards the front of the vehicle.

**NOTE**

View is from front of vehicle.



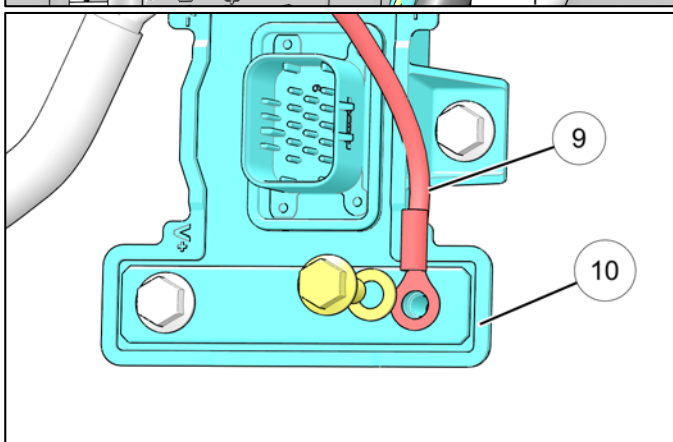
25. Cut four existing cable ties retaining the main harness and replace with new cable ties with the auxiliary battery cables included.



26. Remove the red 10-gauge 12V wire (9) from "+" terminal of the BMC (10) by removing 10mm fastener.

**NOTE**

Retain the hardware from the BMC.

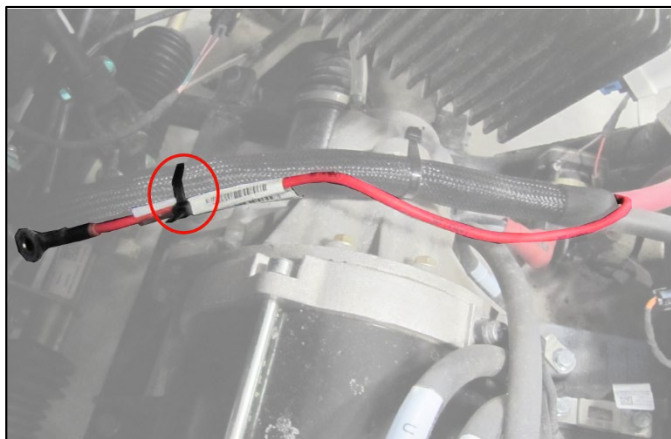


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27. Route the red 10-gauge wire that was previously connected to the BMC “+” terminal as shown and cable tie to the main harness.

**NOTE**

This red 10-gauge wire will not be used anymore.



28. Connect the new positive auxiliary battery cable (11) to BMC “+” terminal as shown.

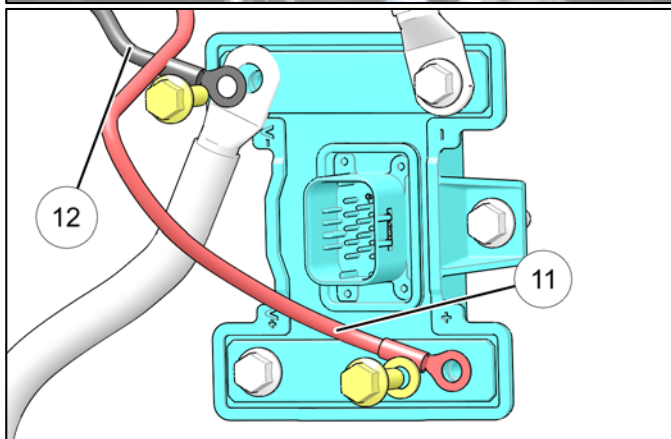
**TORQUE**

BMC Terminal Bolts:  
**8 lb-ft (11 Nm)**

29. Disconnect the fastener on the BMC “V-” terminal and reinstall with the new negative auxiliary cable (12) along with all other cables that were mounted to the terminal as shown.

**TORQUE**

BMC Terminal Bolts:  
**8 lb-ft (11 Nm)**



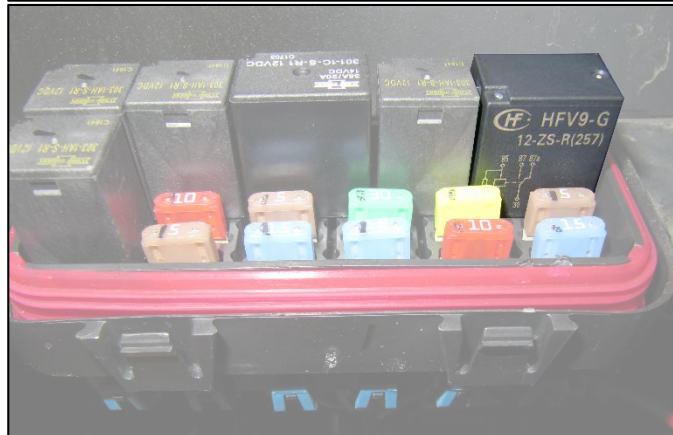
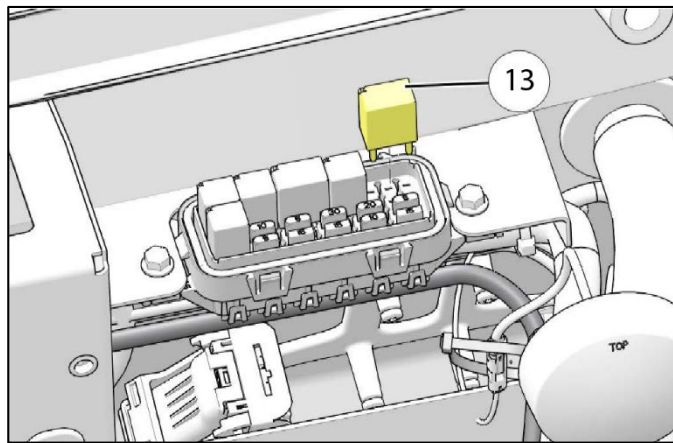
30. Install relay ⑬ to fuse box as shown.

**IMPORTANT**

Vehicle will not charge auxiliary battery if relay is not installed.

**NOTE**

Relay orientation does not matter as long as the diagram and text on the relay faces either the front or rear of the vehicle.



31. Install battery cables onto auxiliary battery and torque to specification.

**TORQUE**

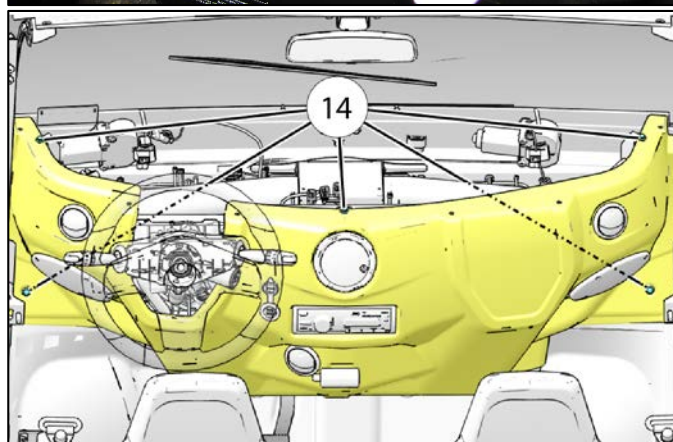
Auxiliary Battery Terminals:  
**60 in-lbs (7 Nm)**

**NOTE**

Route cables as shown to take up excess slack.



32. Reinstall lower dash and push pins ⑭.

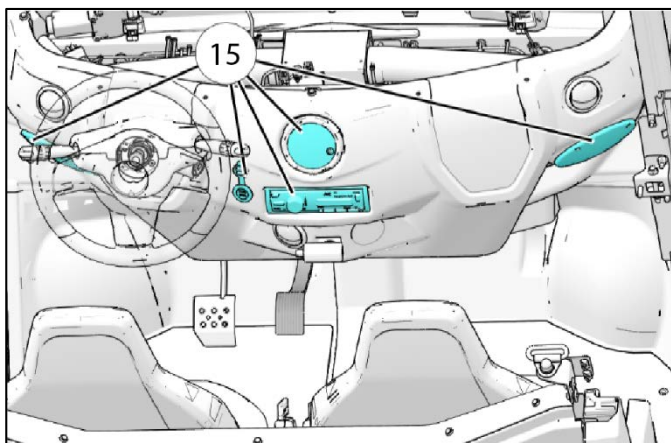


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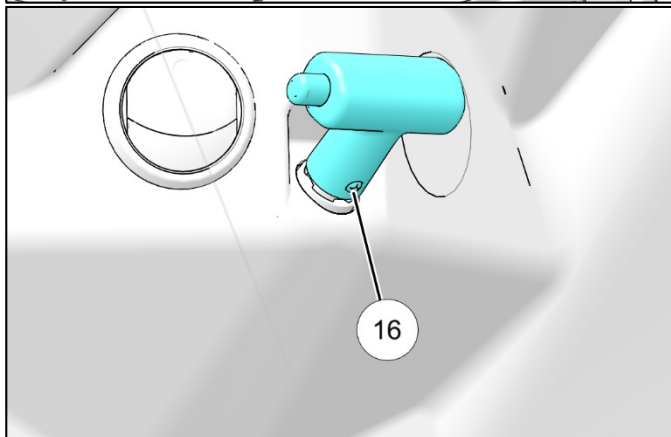
33. Connect all electrical connections ⑮.

**NOTE**

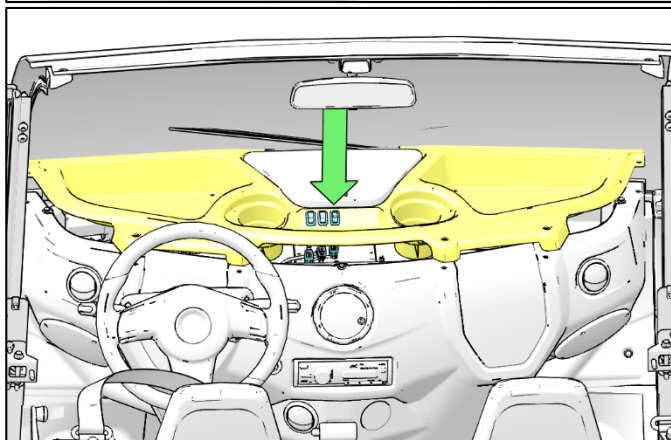
If equipped with a stereo, reinstall mounting screw at the back side of the unit.



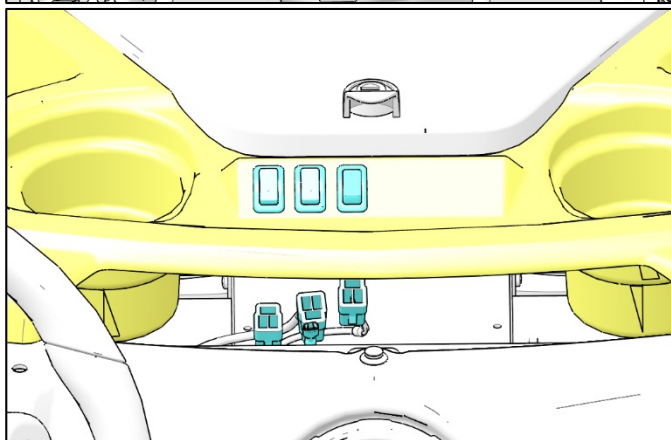
34. Reinstall parking brake handle and screw ⑯.



35. Reinstall upper dash panel.



36. Reconnect dome light and other accessories.

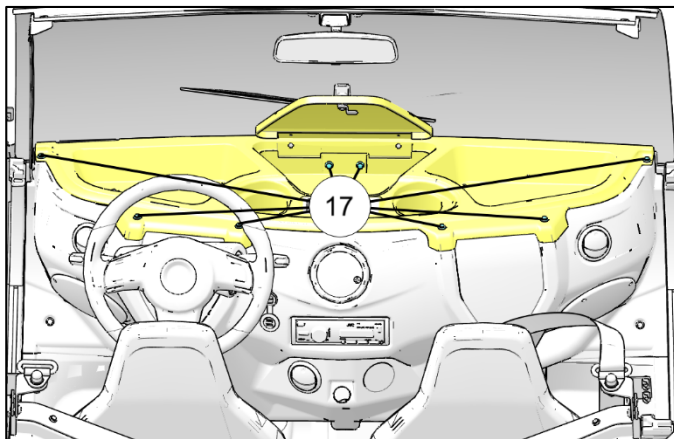


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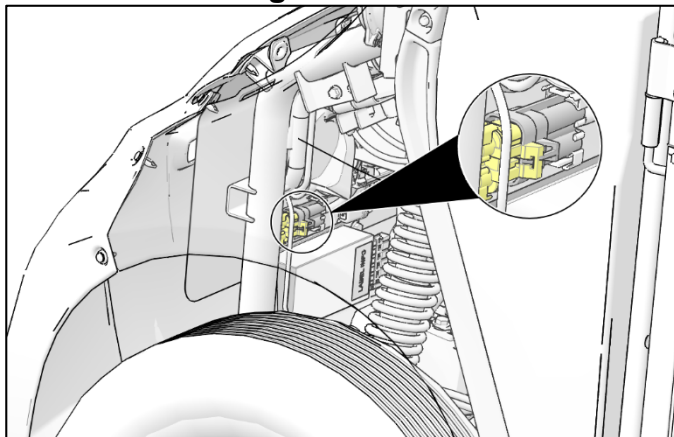
37. Insert eight push pins ⑰ into upper dash.
38. Reconnect battery 0-gauge cable on the right-rear battery pack.

### TORQUE

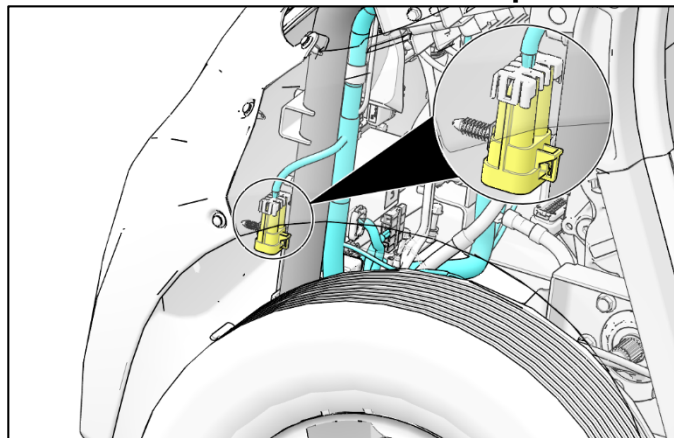
Battery Terminal Fastener:  
**8 ft-lbs (11 Nm)**



**Original Location:**



**Location If L-17-04 Was Completed:**




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## L-18-01-B PROCEDURE:

### PART 2: REFLASH

1. Verify Digital Wrench has been updated to version 3.9 2/18/18 or later, then connect the vehicle to Digital Wrench. Select the appropriate year, make and model if the vehicle does not automatically connect.



2. Click  to access the special test menu.

3. Double click .

4. Select the appropriate "Battery Controller" calibration for the battery pack installed in the vehicle; then click continue.

5. The next screen will provide you with a Request Code. Without closing Digital wrench open [www.polarisdealers.com](http://www.polarisdealers.com)

6. From the Service and Warranty drop-down menu, select "Reflash Authorizations" then enter the Request Code in the text field and click continue.

7. From the calibration drop-down box, select the appropriate "Battery Controller" option for the batteries installed in the vehicle, then fill out the rest of the information on the page, including the VIN and customer info, then click continue. This will provide an Authorization Key to enter in the required field in Digital Wrench.

8. Enter the Authorization Key into the required field in Digital Wrench then click continue. The reflash process will begin.

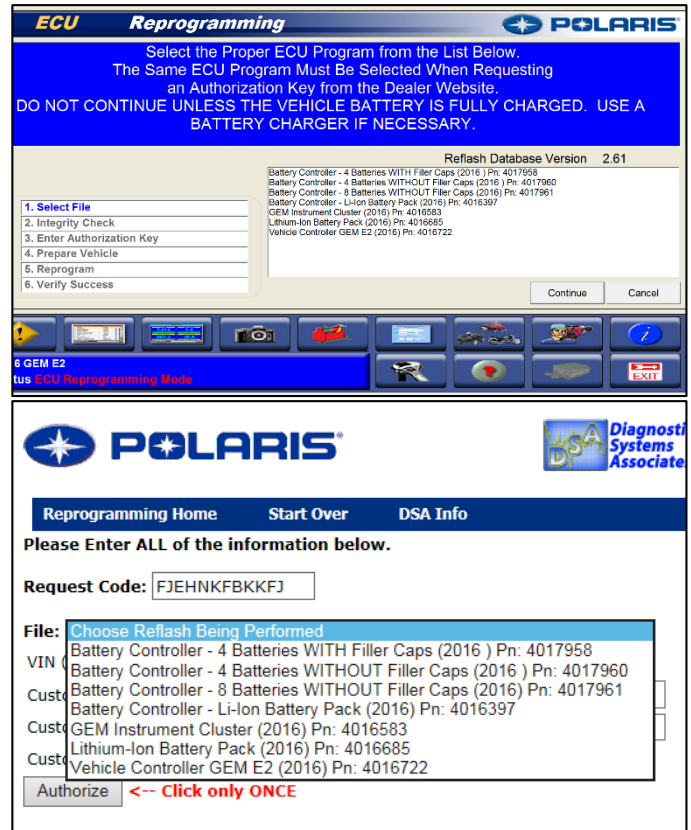
9. Follow the instruction in Digital Wrench exactly as it advises in order to complete the reflash process.

#### TIP

Check your cable's port settings on your computer per the troubleshooting guide in Digital Wrench.

#### NOTE

For any issues with the reflash process, please refer to the troubleshooting guide in Digital Wrench. If problems continue, please contact Technical Service at 1-800-330-9407



**ECU Reprogramming** POLARIS

Select the Proper ECU Program from the List Below.  
The Same ECU Program Must Be Selected When Requesting an Authorization Key from the Dealer Website.  
DO NOT CONTINUE UNLESS THE VEHICLE BATTERY IS FULLY CHARGED. USE A BATTERY CHARGER IF NECESSARY.

Reflash Database Version 2.61

Battery Controller - 4 Batteries WITH Filler Caps (2016 ) Pn: 4017958  
Battery Controller - 4 Batteries WITHOUT Filler Caps (2016 ) Pn: 4017960  
Battery Controller - 8 Batteries WITHOUT Filler Caps (2016) Pn: 4017961  
Battery Controller - Li-Ion Battery Pack (2016) Pn: 4016397  
GEM Instrument Cluster (2016) Pn: 4016583  
Lithium-Ion Battery Pack (2016) Pn: 4016685  
Vehicle Controller GEM E2 (2016) Pn: 4016722

1. Select File  
2. Integrity Check  
3. Enter Authorization Key  
4. Prepare Vehicle  
5. Reprogram  
6. Verify Success

Continue Cancel

6 GEM E2  
tus ECU Reprogramming Mode

**POLARIS** DSA Diagnostic Systems Associate

Reprogramming Home Start Over DSA Info

Please Enter ALL of the information below.

Request Code: FJEHNKFBKKFJ

File: Choose Reflash Being Performed  
VIN Battery Controller - 4 Batteries WITH Filler Caps (2016 ) Pn: 4017958  
Battery Controller - 4 Batteries WITHOUT Filler Caps (2016 ) Pn: 4017960  
Cust Battery Controller - 8 Batteries WITHOUT Filler Caps (2016) Pn: 4017961  
Battery Controller - Li-Ion Battery Pack (2016) Pn: 4016397  
Cust GEM Instrument Cluster (2016) Pn: 4016583  
Lithium-Ion Battery Pack (2016) Pn: 4016685  
Cust Vehicle Controller GEM E2 (2016) Pn: 4016722

Authorize <-- Click only ONCE

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## L-18-01-B PROCEDURE:

### PART 3: TRACTION BATTERIES TEST

1. Reference Team Tip L-12-03-01 for details on various procedures to load-test batteries, and also for Battery Testing Worksheets to record your results.

#### NOTE

If your dealership does not own a discharge machine, or carbon-pile load tester, the Torque-Load Battery test Procedure is recommended, as only a voltmeter is required for test equipment.

#### NOTE

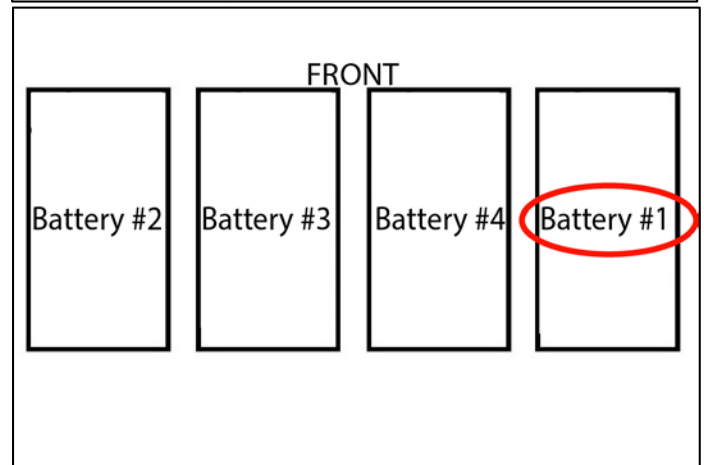
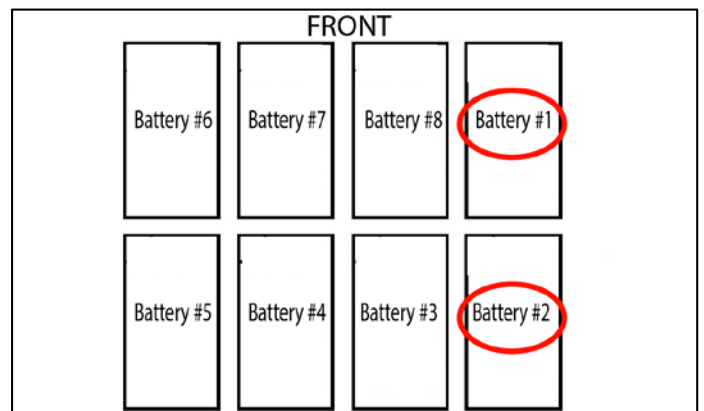
The flat rate for Service Bulletin L-18-01-B has 30 minutes added in for testing the traction batteries.

2. If a battery is found to be faulty, start an Ask Polaris case for preauthorization, and the case will require the following:
  - Vehicle odometer miles, or kilometers.
  - All Fail Code tiers have "Service Bulletin" for the selection (codes 142/279/209)
  - Appropriate battery worksheet from Team Tip L-12-03-01 to be filled out with your test results, including the Starting Voltage of each battery (static voltage), and the Test Voltage (voltage under a load).

#### NOTE

For this concern, batteries suspect for failure would be:

- Battery #1 and / or #2 on vehicles equipped with eight 6V batteries.
- Battery #1 on vehicles equipped with four 12V batteries.



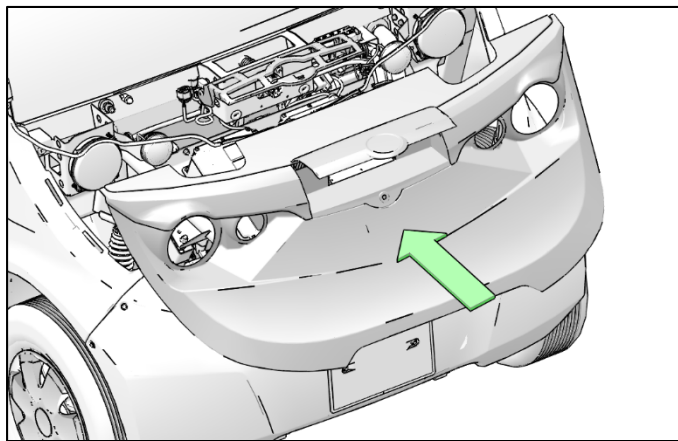
3. Reinstall rear deck.

#### TORQUE

Rear Deck Fasteners:  
**4.4 ft-lbs (6 Nm)**

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4. Keeping the hood parallel with the ground, move hood into grommets until secured.



5. Install two screws under charge port.

**NOTE**

Some vehicles may show a low state of charge after reassembly. If this occurs, plug the vehicle in to complete a full charge and the battery meter should reset.

6. File Bulletin L-18-01-B.

