



# SB-0052 Sure Power Equalizer and Converter Replacement Procedures

<b>Bulletin Number:</b>	SB-0052	<b>Revision: B</b>	NR	<b>EIC Number:</b>	N/A	<b>Std. Repair Time:</b>	N/A
<b>Application:</b>	2002-2010 Orion V, VII, and NG Models						
<b>Classification:</b>							
Information Letter	<input checked="" type="checkbox"/>	Parts Bulletin	<input type="checkbox"/>	Recall Letter	<input checked="" type="checkbox"/>	NHTSA: 13V-476 (DBNA) and 13E-050(Sure Power)	
Service Manual Update	<input type="checkbox"/>	Operator's Manual Update	<input type="checkbox"/>			Transport Canada: 2013-336	

## 1.0 INTRODUCTION

This repair bulletin is in support of one the following Recall notices already sent to your organization:

- NHTSA recall reference: 13V-476 (DBNA),13E-050 (Sure Power).
- Transport Canada recall reference: 2013-336 (DBNA).

Operators can choose to install parts accordingly on Orion buses utilizing this instruction.

As indicated in our recall notice, in order to initiate this recall, to order parts and arrange labor reimbursement, affected Operators should call the Sure Power recall team at 1-855-450-3594 to make arrangements as well as confirm shipping directions.

## 2.0 PARTS REQUIREMENTS

Description	Hardware Specification	QTY.
Hex Head Cap Screw Stainless Steel	1/4-20x1.25	6
Flat Washers Stainless Steel	1/4"	12
Nyloc Nut Stainless Steel	1/4-20	6
Contact Sure Power for Equalizer and Converter replacements and applicability: <ul style="list-style-type: none"> <li>• Phone: 1-855-450-3594</li> <li>• E-mail: recalldc@cooperindustries.com</li> </ul>		
Equalizer application: Orion V and Orion NG	Converter Application: Orion VII	

### 3.0 SAFETY PRECAUTIONS

- Follow workshop safety procedures before starting work on the bus.
- Follow all safety procedures outlined in the applicable DBNA service manual.

### 4.0 ORION V SURE POWER EQUALIZER PROCEDURE

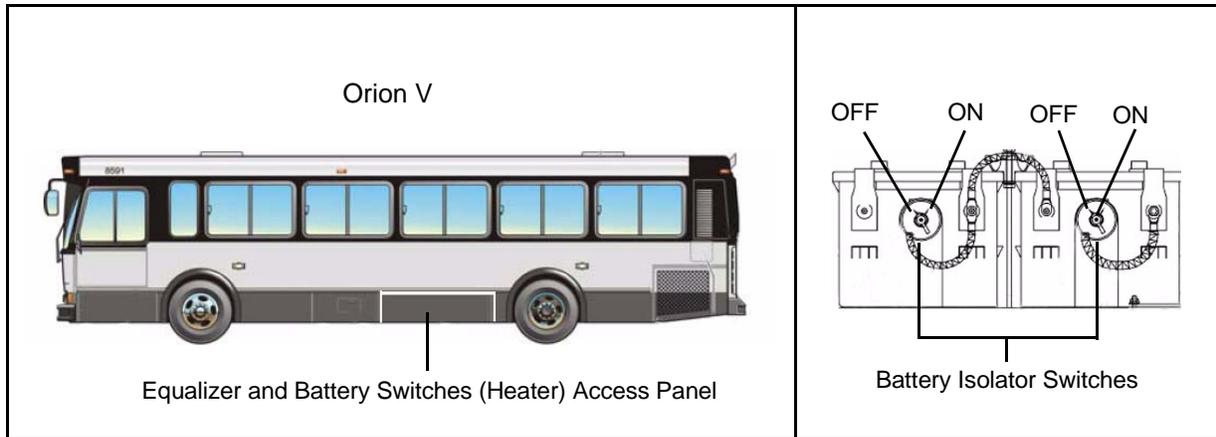


Figure 1-1 Orion V Equalizer Access Panel/Battery Isolator Switches

### Removal

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**CAUTION !**

Failure to turn the battery isolator switches to the OFF position can lead to personal injury and/or electrical component damage.

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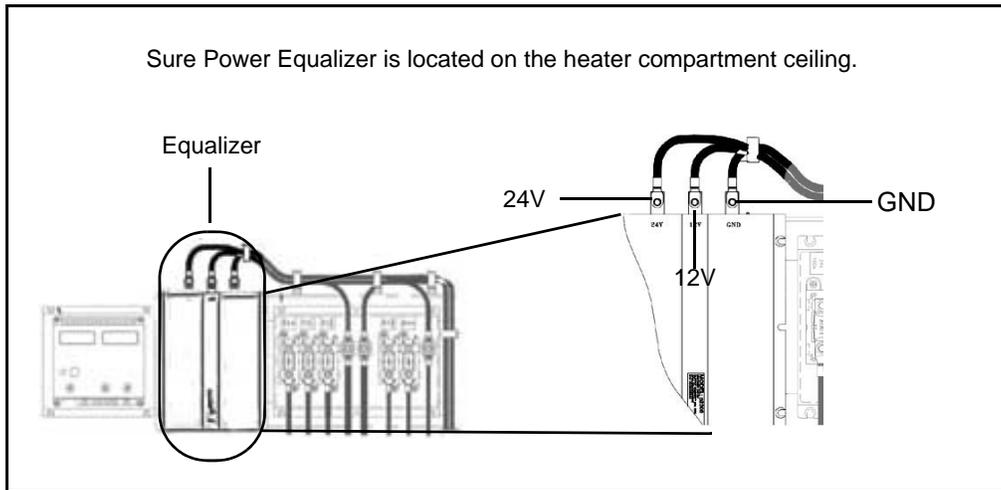
1. Open the equalizer and battery switch access panel located on the road side of the vehicle. **See Figure 1-1.**
2. Turn the battery isolator switches to the "OFF" position. **See Figure 1-1**

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**CAUTION !**

Failure to reassemble the equalizer cables to the correct orientation can cause personal injury and/or electrical component failure.

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**Figure 1-2 Orion V Sure Power Equalizer Location**

3. Reference mark equalizer cable connections. **See Figure 1-2.**
4. Disconnect equalizer cable connections and retain hardware.
5. Remove equalizer mounting hardware and discard.
6. Remove equalizer from vehicle.

## Installation

1. Install equalizer onto mounting area (See **Figure 1-2**) using the following replacement hardware:

Description	Hardware Specification	Quantity
Hex Head Cap Screw Stainless Steel	1/4-20x1.25	6
Flat Washers Stainless Steel	1/4"	12
Nyloc Nut Stainless Steel	1/4-20	6
Contact Sure Power for Equalizer and Converter replacements and applicability: <ul style="list-style-type: none"> <li>• Phone: 1-855-450-3594</li> <li>• email: recalldc@cooperindustries.com</li> </ul>		
Sure Power Equalizer application: Orion V and Orion NG	Sure Power Converter Application: Orion VII	

**FIGURE 1-3 MOUNTING HARDWARE**

2. Install equalizer connections to the referenced marked positions and torque to 110 inlbs (12.4 NM). **See Figure 1-2.**
3. Turn the battery isolator switches to the ON position.
4. Close the battery switch access panel. **See Figure 1-1.**
5. Return the vehicle to service.

## 5.0 ORION VII SURE POWER CONVERTER PROCEDURE

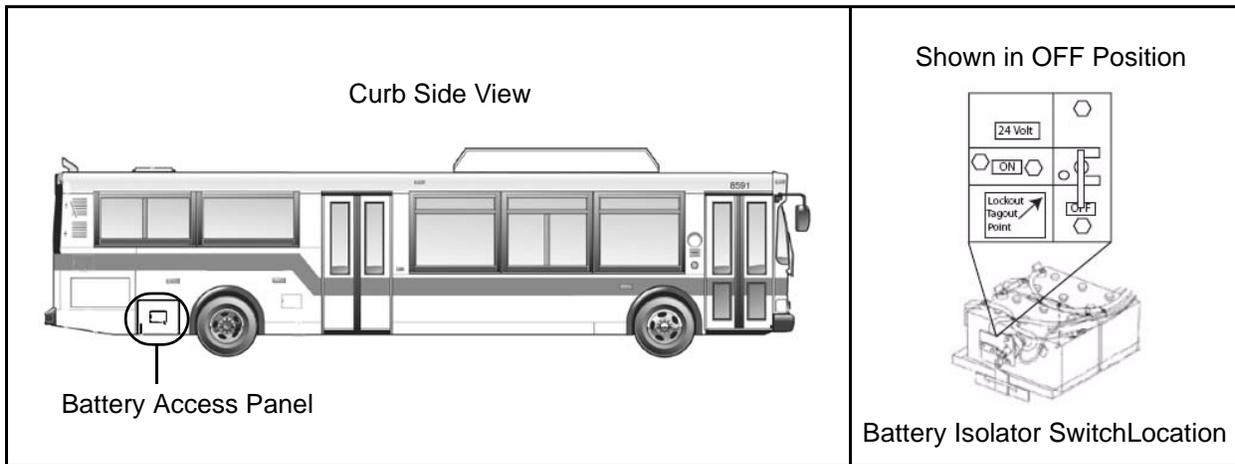


Figure 1-4 Orion VII Battery Isolator Switch Location

### Removal

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**CAUTION !**

Failure to turn the battery isolator switch to the OFF position can lead to personal injury and/or electrical component damage.

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1. Open the battery access panel located on the curbside of the vehicle. **See Figure 1-4.**
2. Turn the battery isolator switch to the OFF position. **See Figure 1-4.**

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**CAUTION !**

Failure to reassemble the converter cables to the correct orientation can cause personal injury and/or electrical component failure(s).

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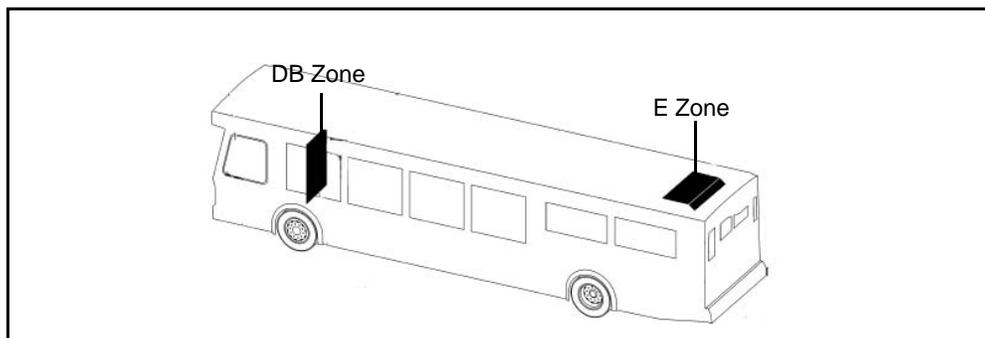


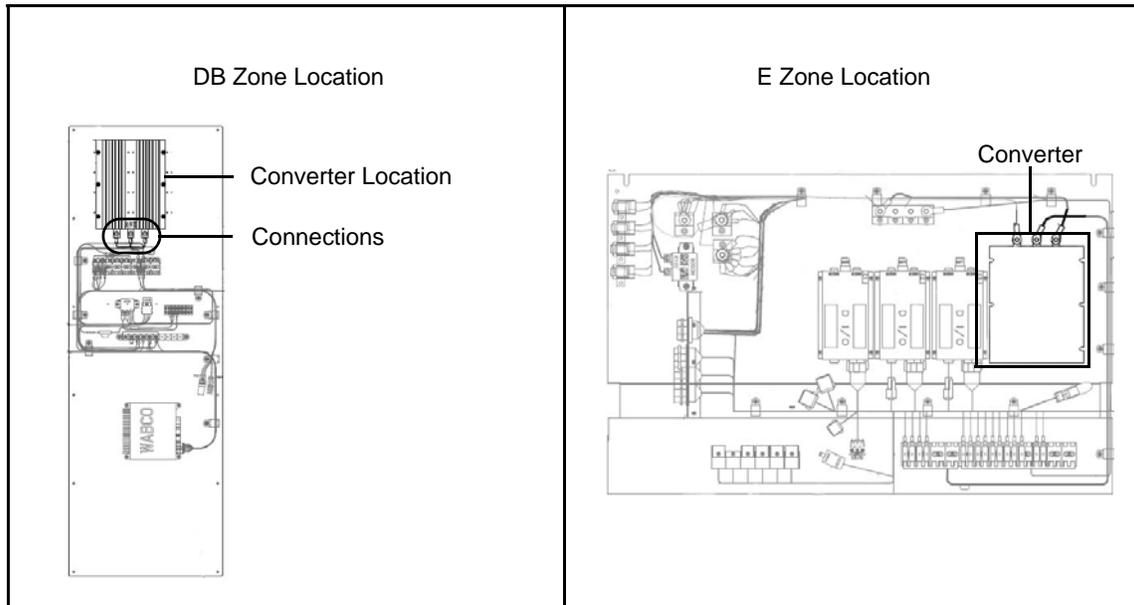
Figure 1-5 Orion VII Converter Access Panels

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 **NOTE**

**Sure Power Orion VII converters are located in either the DB Zone or the E Zone**

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**Figure 1-6 Orion VII Sure Power Converter Locations**

3. Access the interior bus panels to locate applicable converter. **See Figure 1-5.**

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**CAUTION !**

**Failure to reassemble the converter cables to the correct orientation can cause personal injury and/or electrical component failure.**

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4. Reference mark the converter cables.
5. Remove cable hardware and retain.
6. Remove converter mounting hardware and discard.
7. Remove converter.

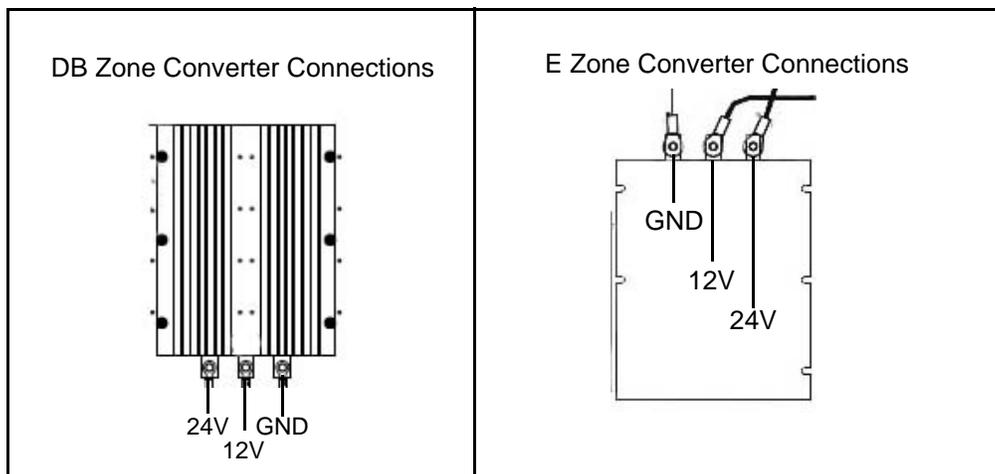
**Installation**

1. Install converter onto mounting area (See **Figure 1-6**) using the following replacement hardware:

Description	Hardware Specification	Quantity
Hex Head Cap Screw Stainless Steel	1/4-20x1.25	6
Flat Washers Stainless Steel	1/4"	12
Nyloc Nut Stainless Steel	1/4-20	6
Contact Sure Power for Equalizer and Converter replacements and applicability: <ul style="list-style-type: none"> <li>• Phone: 1-855-450-3594</li> <li>• email: recalldc@cooperindustries.com</li> </ul>		
Sure Power Equalizer application: Orion V and Orion NG	Sure Power Converter Application: Orion VII	

**FIGURE 1-7 MOUNTING HARDWARE**

2. Install converter connections to the referenced marked positions and torque to 110 in.lbs (12.4 NM). See **Figure 1-8**.



**Figure 1-8 Orion VII Sure Power Converter Connections**

3. Close and secure access panels.
4. Turn the battery isolator switches to the ON position. See **Figure 1-8**.
5. Return vehicle to service.

## 6.0 ORION NG SURE POWER EQUALIZER PROCEDURE

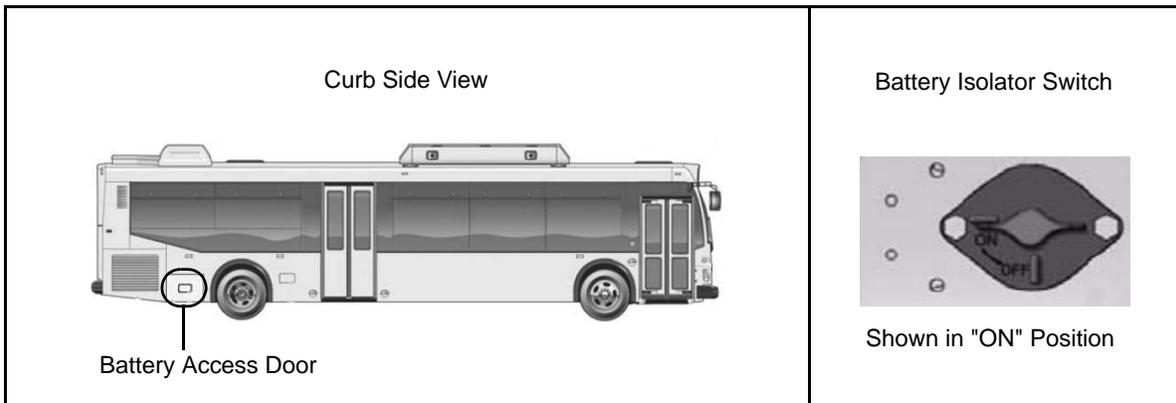


Figure 1-9 Orion NG Battery Isolator Switch Location

### Removal

**CAUTION !**

Failure to turn the battery isolator switch to the OFF position can lead to personal injury and/or electrical component damage.

1. Open the battery access door located on the curb side of the vehicle. See **Figure 1-9**.
2. Turn the battery isolator switch to the OFF position. See **Figure 1-9**

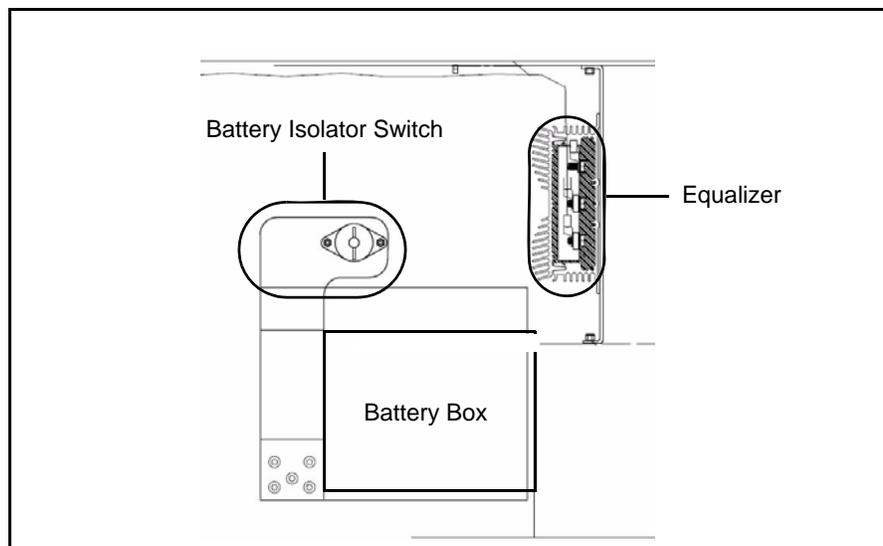
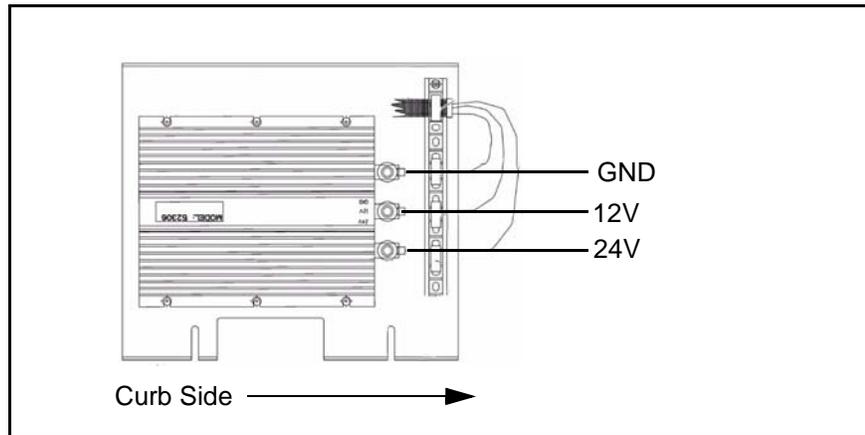


Figure 1-10 Orion NG Sure Power Equalizer Location

3. Locate the battery equalizer in the battery box area. See **Figure 1-10**.



**Figure 1-11 Orion NG Sure Power Equalizer Cable Configuration**

**CAUTION !**

**Failure to reassemble the equalizer cables to the correct orientation can cause personal injury and/or electrical component failure(s).**

4. Reference mark the equalizer cables.
5. Remove equalizer cable hardware and retain.
6. Remove equalizer mounting hardware and discard.
7. Remove equalizer.

**Installation**

1. Install equalizer onto mounting area (See **Figure 1-12**) using the following replacement hardware:

Description	Hardware Specification	Quantity
Hex Head Cap Screw Stainless Steel	1/4-20x1.25	6
Flat Washers Stainless Steel	1/4"	12
Nyloc Nut Stainless Steel	1/4-20	6
Contact Sure Power for Equalizer and Converter replacements and applicability: <ul style="list-style-type: none"> <li>• Phone: 1-855-450-3594</li> <li>• email: recalldc@cooperindustries.com</li> </ul>		
Sure Power Equalizer application: Orion V and Orion NG		

**FIGURE 1-12 MOUNTING HARDWARE**

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**CAUTION !**

**Failure to reassemble the equalizer cables to the correct orientation can cause personal injury and/or electrical component failure(s).**

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2. Install equalizer connections to the referenced marked positions and torque to 100 in.lbs (12.4 NM). **See Figure 1-11**
3. Turn the battery isolator switch to the ON position.
4. Close and secure the battery access door.
5. Return vehicle to service.

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 **NOTE**

**For additional information regarding this work procedure please phone DBNA at: 315-223-6613.**

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