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13V-498  
(12 pages)



Timothy J. Nalepka  
Senior Vice President & General Counsel

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**Reliability Driven™**

October 7, 2013

**BY EMAIL AND**  
**BY CERTIFIED MAIL**

Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
Attention: Recall Management Division (NVS – 215)  
1200 New Jersey Avenue, SE.  
Washington, DC 20590

**Re: PART 573 NOTICE RE SURE POWER EQUALIZERS (13E-050)**

Dear Sir or Madam:

I have enclosed Motor Coach Industries, Inc.'s ("MCI") Part 573 Defect and Noncompliance Report. MCI will send its proposed customer notification letter, draft Service Bulletin 401, and sample envelope and mailing label shortly under separate cover.

In the interim, please acknowledge receipt of MCI's report and advise NHTSA's docket number for this matter. Thank you.

Sincerely,  
MOTOR COACH INDUSTRIES, INC.

By: Timothy J. Nalepka  
Senior Vice President &  
General Counsel

Enclosure

Safety Defect and Noncompliance Report Guide for Vehicles  
**PART 573 Defect and Noncompliance Report**

On September 26, 2013, Motor Coach Industries, Inc. decided that a defect which relates to motor vehicle safety exists in the motor vehicles listed below, and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Reports.

Date this report was prepared: **October 7, 2013**

Furnish the manufacturer's identification code for this recall (if applicable):

**MCI Service Bulletin 401**

1. Identify the full corporate name of the fabricating manufacturer of the vehicle being recalled. If the recalled vehicle is imported, provide the name and mailing address of the designated agent as prescribed by 49 U.S.C. §30164.

**Motor Coach Industries, Inc.  
1700 E. Golf Road  
Suite 300  
Schaumburg, IL 60173**

Identify the corporate official, by name and title, whom the agency should contact with respect to this recall.

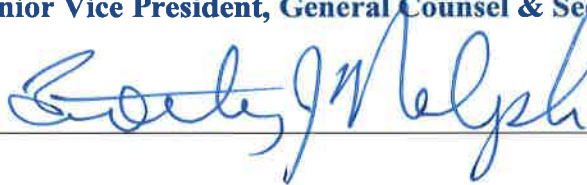
**Jim Macdonald, Executive Director, Engineering**

Telephone Number: **(204) 287-4949** Fax No.: **(204) 478-2877**

Name and Title of Person who prepared this report.

**Timothy J. Nalepka  
Senior Vice President, General Counsel & Secretary**

Signed: \_\_\_\_\_



**I. Identify the Vehicle Models Involved in the Recall**

**2. Identify the Vehicles Involved in the Recall, for each make and model or applicable vehicle line (provide illustrations or photographs as necessary to describe the vehicle), provide:**

**MCI D, E, G, & J series coaches equipped with a Sure Power Inc. (“Sure Power”) battery equalizer identified in the attached September 10, 2013 Product Safety Recall Notice from Sure Power.**

**Make(s):** **MCI**

**Model Years and Models Involved:**

Model Year	Models													Total
	102D3	102DL3	102EL3	102ELS3	D4000	D4005	D4500	D4505	E4500	E4500C	G4500	J4500	J4500C	
2000	33	332	120	12										497
2001	117	131	107	6	319		249		119	5		55		1,108
2002					598		299		59	6		155		1,117
2003					181		561		89	3	2	305		1,141
2004					48		237		39	5	26	312		667
2005					29	6	319	3	29	10		418		814
2006					33	34	384	143	39	5		520	18	1,176
2007					51	39	347	182	48			632	10	1,309
2008					56	15	291	304	37			518		1,221
2009					48	9	241	121	36			396	13	864
2010					26	3	219	221	8			171	3	651
2011					36	7	119	84	14			305		565
2012							2		3					5
<b>Total</b>	<b>150</b>	<b>463</b>	<b>227</b>	<b>18</b>	<b>1,425</b>	<b>115</b>	<b>3,266</b>	<b>1,061</b>	<b>517</b>	<b>34</b>	<b>28</b>	<b>3,787</b>	<b>44</b>	<b>11,135</b>

**Production Dates: Beginning: Jan 2000 Ending: June 2011**

**VIN Range (last five digits):**

<b>52946 – 53196</b>	<b>53198</b>	<b>53200</b>	<b>53202 – 53227</b>	<b>53245 – 53249</b>
<b>53252 – 53254</b>	<b>53259</b>	<b>53262 – 53439</b>	<b>53442</b>	<b>53448</b>
<b>53454 – 53456</b>	<b>53460</b>	<b>54365</b>	<b>53471</b>	<b>53477</b>
<b>53483</b>	<b>53489</b>	<b>53495</b>	<b>53501</b>	<b>53505 – 53519</b>
<b>53539</b>	<b>53545</b>	<b>53551</b>	<b>53557</b>	<b>53563</b>
<b>53569</b>	<b>53574 – 53837</b>	<b>53879 – 54115</b>	<b>54146 – 54306</b>	<b>54309 – 54390</b>
<b>54397 – 54596</b>	<b>54617 – 55112</b>	<b>55114 – 55155</b>	<b>55162</b>	<b>55199</b>
<b>55203</b>	<b>55208 – 55279</b>	<b>55330 – 55543</b>	<b>55550 – 57999</b>	<b>58100 – 59665</b>
<b>59667 – 59859</b>	<b>61301 - 65955</b>			

**Descriptive information which characterizes /distinguishes the recalled vehicles from those model vehicles not included in the recall:**

**The recalled vehicles are model year 2000 through 2012 MCI D,E, G, and J series coaches that are equipped with a Sure Power battery equalizer identified in the attached September 10, 2013 Product Safety Recall Notice from Sure Power.**

**Identify the approximate percentage of the production of all the recalled models manufactured by your company between the inclusive dates of manufacture provided above, that the recalled model population represents. For example, if the recall involved Widgets equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Widgets of all Widgets manufactured during that time period.**

**100% of coaches manufactured during the period noted above.**

## **II. Identify the Recall Population**

**3. Furnish the total number of vehicles recalled potentially containing the defect or noncompliance.**

**Total Number Potentially Affected by the Recall: 11,135 total vehicles (of that amount, 1,119 were sold to Canadian customers)**

**4. Furnish the approximate percentage of the total number of vehicles estimated to actually contain the defect or noncompliance:**

**The percentage is unknown; therefore, all affected vehicles identified in this report will be included in the recall campaign. See attached Defect Information Report filed by Sure Power.**

**Identify and describe how the recall population was determined--in particular how the recalled models were selected and the basis for the beginning and final dates of manufacture of the recalled vehicles:**

**MCI determined the recall population by identifying the vehicles that were manufactured with a Sure Power battery equalizer identified in the attached September 10, 2013 Product Safety Recall Notice from Sure Power.**

## **III. Describe the Defect or Noncompliance**

**5. Describe the defect or noncompliance. The description should address the nature and**

physical location of the defect or noncompliance. Illustrations should be provided as appropriate.

According to Sure Power, the specific potting compound used in the subject products for insulation was found to be capable of conducting electricity once exposed to significant thermal energy. Once electrically conductive, the material is capable of self-heating and maintaining temperatures capable of accelerating a thermal incident. See the attached Defect Information Report and September 10, 2013 Product Safety Recall Notice from Sure Power.

Describe the cause(s) of the defect or noncompliance condition.

See above.

Describe the consequence(s) of the defect or noncompliance condition.

According to Sure Power, confirmed incidents to date have demonstrated smoking or flame at the affected part with additional damage limited to adjacent/connected parts such as wire harnesses and cables.

Identify any warning which can (a) precede or (b) occur.

According to Sure Power, the failure mechanism is not detectable and no warning is given prior to thermal failure.

If the defect or noncompliance is in a component or assembly purchased from a supplier, identify the supplier by corporate name and address.

Sure Power Inc.  
114 Old State Road  
Ellisville, MO 63021  
Attention: James M. Henley  
EPG Quality Assurance Director

Identify the name and title of the chief executive officer or knowledgeable representative of the supplier:

See above.

#### IV. Provide the Chronology in Determining the Defect/Noncompliance

*If the recall is for a defect, complete item 6, otherwise item 7.*

6. With respect to a defect, furnish a chronological summary (including dates) of all the principal events that were the basis for the determination of the defect. The summary

should include, but not be limited to, the number of reports, accidents, injuries, fatalities, and warranty claims.

MCI received the attached September 10, 2013 Product Safety Recall Notice from Sure Power on or about September 11, 2013. Please see the attached Sure Power Defect Information Report, which contains Sure Power's chronological summary of events leading to Sure Power's determination that its identified products contain a safety-related defect. MCI is still in the process of identifying any reported incidents involving the subject Sure Power products.

7. With respect to a noncompliance, identify and provide the test results or other data (in chronological order and including dates) on which the noncompliance was determined.

N/A

#### V. Identify the Remedy

8. Furnish a description of the manufacturer's remedy for the defect or noncompliance. Clearly describe the differences between the recall condition and the remedy.

Sure Power reports that it will replace, at no charge to customers, the defective equalizers with new equalizers not containing the specific potting material that is in the defective units, and reimburse customers for reasonable labor costs incurred in connection with the replacement.

Clearly describe the distinguishing characteristics of the remedy component/assembly versus the recalled component/assembly.

Sure Power reports that the replacement equalizers will not contain the specific potting material that is in the defective units.

Identify and describe how and when the recall condition was corrected in production. If the production remedy was identical to the recall remedy in the field, so state. If the product was discontinued, so state.

MCI's information is limited to what Sure Power has reported in the attached Defect Information Report and September 10, 2013 Product Safety Recall Notice from Sure Power.

#### VI. Identify the Recall Schedule

9. Furnish a schedule or agenda (with specific dates) for notification to other manufacturers, dealers/retailers, and purchasers. Please identify any foreseeable problems with implementing the recall.

**MCI anticipates sending notifications to customers within one week after receiving approval by NHTSA of MCI's draft customer notification.**

#### **VII. Furnish Recall Communications**

10. Furnish a final copy of all notices, bulletins, and other communications that relate directly to the defect or noncompliance and which are sent to more than one manufacturer, distributor, or purchaser. This includes all communications (including both original and follow-up) concerning this recall from the time your company determines the defect or noncompliance condition on, not just the initial notification. *A DRAFT copy of the notification documents should be submitted to this office by Fax (202-366-7882) for review prior to mailing.*

**MCI will submit its proposed customer notification letter and Service Bulletin 401 under separate cover.**

**Note that these documents are to be submitted separately from those provided in accordance with Part 573.8 requirements.**

September 10, 2013

## **PRODUCT SAFETY RECALL NOTICE**

Dear Customer:

For more than a decade, Sure Power Inc. has sold battery equalizers and DC-DC converters both to you, as a vehicle manufacturer, and through aftermarket distribution channels for installation on vehicles with 24V/12V dual voltage electrical systems, including buses, over the road trucks, and other specialty vehicle applications.

This letter is to inform you that Sure Power, Inc. has decided that a defect which relates to motor vehicle safety exists in battery equalizers and DC-DC converters that have been sold through aftermarket distribution channels for installation on vehicles with 24V/12V dual voltage electrical systems, including buses, over the road trucks, and other specialty vehicle applications. The affected products were manufactured between January, 2000 and August, 2013. The purpose of this letter is to advise you that Sure Power, Inc. has reported this issue to the National Highway Traffic Safety Administration and will be undertaking a safety recall to replace the units that were sold in the aftermarket distribution chain. We recognize that, as a vehicle manufacturer, you are entitled to make your own determination as to whether the battery equalizers and DC-DC converters that are installed in the vehicles you manufactured contain a defect related to motor vehicle safety, given their particular applications. If you decide that they do, Sure Power, Inc. will support your decision and provide you with replacement units that can be made available to your customers at no charge. If you prefer, Sure Power, Inc. will handle the safety recall directly with your customers.

The specific potting compound used in the subject products for insulation was found to be capable of conducting electricity once exposed to significant thermal energy. Once electrically conductive, the material is capable of self-heating and maintaining temperatures capable of accelerating a thermal incident. Thermal energy can be sourced by various electrical failures, and Sure Power is still investigating whether there are application-specific contributions to the risk of failure. Electrical failures have been traced to water intrusion or solder joint fatigue resulting from ongoing expansion and contraction due to thermal cycling.

Confirmed incidents to date have demonstrated smoking or flame at the affected part with additional damage limited to adjacent/connected parts such as wire harnesses and cables. No injuries have been recorded to date. The failure mechanism is not detectable and no warning is given prior to thermal failure.

A listing of the part numbers impacted as part of this notification can be found at the end of this correspondence. In the coming days Sure Power will provide you the appropriate contact information, including phone and email contact points, as well as any other information per NHTSA requirements.

Sure Power is very dedicated to quality and excellence in our customer service and we apologize for any inconvenience this recall may cause. Please contact your Regional Sales Manager or Customer Satisfaction Representative with any questions or concerns.

Best Regards,

A handwritten signature in black ink, appearing to read 'Jess Bergers', written in a cursive style.

Jess Bergers

Product Manager – Power Conversion

**PRODUCT SAFETY RECALL AFFECTED PART NUMBERS**

<b>Part Number</b>	<b>Description</b>
12025C00	12V - 24V, 25A DC-DC Converter
12025C00-B	12V - 24V, 25A DC-DC Converter, bulk packaging
12025E00	12V - 24V, 25A Battery Equalizer
12025E00-B	12V - 24V, 25A Battery Equalizer, bulk packaging
12030C20HR	12V - 24V, 30A DC-DC Converter
12030C20HR-B	12V - 24V, 30A DC-DC Converter, bulk packaging
12040C00	12V - 24V, 40A DC-DC Converter
12040C00-B	12V - 24V, 40A DC-DC Converter, bulk packaging
12040C01	12V - 28V, 40A DC-DC Converter, manufactured through 2010 as identified by the first two digits of the serial number (09 = 2009, 10 = 2010)
12040E00	12V - 24V, 40A Battery Equalizer
12040E00-B	12V - 24V, 40A Battery Equalizer, bulk packaging
52204	24V - 12V, 40A Battery Equalizer
52206	24V - 12V, 60A Battery Equalizer
52206RB	24V - 12V, 60A Battery Equalizer, Revision B
52208	24V - 12V, 80A Battery Equalizer
52208P	24V - 12V, 80A Battery Equalizer, with fuse kit
52208RB	24V - 12V, 80A Battery Equalizer, Revision B
52210	24V - 12V, 100A Battery Equalizer
52210-20430K	24V - 12V, 100A Battery Equalizer, with 20430 regulator
52210P	24V - 12V, 100A Battery Equalizer, with fuse kit
52210RB	24V - 12V, 100A Battery Equalizer, Revision B
52210RB-B	24V - 12V, 100A Battery Equalizer, Revision B, bulk packaging
52210RB-T	24V - 12V, 100A Battery Equalizer, Revision B
52304	24V - 12V, 40A DC-DC Converter
52304P	24V - 12V, 40A DC-DC Converter, with fuse kit
52306	24V - 12V, 60A DC-DC Converter
52306RB	24V - 12V, 60A DC-DC Converter, Revision B
52308	24V - 12V, 80A DC-DC Converter

## DEFECT INFORMATION REPORT

1. **Manufacturer's name/address:** Sure Power Inc. ("Sure Power"), 10189 SW Avery St., Tualatin, OR 97062
2. **Equipment involved in this defect notification:** The products are battery equalizers and DC-DC converters manufactured between January, 2000 and August 18, 2013 containing a particular potting compound. The product is identified by the following part numbers: 12025C00, 12025C00-B, 12025E00, 12025E00-B, 12030C20HR, 12030C20HR-B, 12040C00, 12040C00-B, 12040E00, 12040E00-B, 52204, 52206, 52206RB, 52208, 52208P, 52208RB, 52210, 52210-20430K, 52210P, 52210RB, 52210RB-B, 52210RB-T, 52304, 52304P, 52306, 52306RB, 52308, 12040C01.
3. **Total number of items of equipment:** An estimated 17, 861 units were sold in the aftermarket as service parts, and are covered by this report. An additional 32, 831 units were sold for installation on new motor vehicles (buses and trucks and certain specialty vehicles) in the United States, and Sure Power is in the process of notifying those customers so that they are aware of this report.
4. **Approximate percentage of vehicles or equipment estimated to actually contain the defect:** The percentage is unknown; therefore, all affected units identified in this report will be included in the recall campaign.
5. **Description of the defect:** The specific potting compound used in the subject products for insulation was found to be capable of conducting electricity once exposed to significant thermal energy. Once electrically conductive, the material is capable of self-heating and maintaining temperatures capable of accelerating a thermal incident. Thermal energy can be sourced by various electrical failures, and Sure Power is still investigating whether there are application-specific contributions to the risk of failure. Electrical failures have been traced to water intrusion or solder joint fatigue resulting from ongoing expansion and contraction due to thermal cycling.
6. **Chronological summary of events leading to this determination:**
  - 2000: The product is introduced to the market by Sure Power Inc.
  - 2000 through 2012: Sporadic field returns with reported thermal failure were analyzed and determined to be related to either water intrusion or customer misapplication.
  - December 24, 2007: Cooper Industries acquired Sure Power Inc.
  - January 2012: Sure Power received information from one bus operator in California (Bus Operator 1) regarding 3 incidents involving one model of the battery equalizer installed in transit buses owned and operated by that bus operator. None of the incidents involved an injury.
  - January 2012: Sure Power conducted a site visit at the location of Bus Operator 1 and based upon the mounting location and maintenance procedures of the operator determined that the failure was likely due to water intrusion.
  - May 2012: Sure Power received information from one bus operator in California (Bus Operator 2) regarding four incidents involving one model of the battery equalizer installed in transit buses owned and operated by that bus operator. None of the incidents involved an injury.

- May through September 2012: Sure Power investigated the four incidents from Bus Operator 2 and concluded they appeared to be a wear out mechanism related to this particular transit bus application.
- November 30, 2012: Eaton acquired Cooper Industries, which included Sure Power, Inc.
- January 10, 2013: Sure Power evaluated three incidents from one bus operator in California (Bus Operator 3) which exhibited the same root cause as Bus Operator 2. None of these incidents involved an injury. Following examination of these three units an additional four functional units with similar age and use history were requested be returned for evaluation. These four units showed varying degrees of degradation at the bus bar solder joints, none of which had progressed to a thermal incident.
- May 29, 2013: Sure Power is notified of an April 14, 2013 incident involving a fire on a transit bus that was parked in a garage and owned by a bus operator in Pennsylvania. The incident did not involve an injury.
- July 2013 - present: Sure Power representatives have been investigating the Pennsylvania incident. The cause of this incident is still under investigation, and it is not yet determined whether this incident is related to the issue addressed by this report.
- August 1, 2013: Sure Power launched an effort to re-evaluate all past returned parts data for the subject products with specific attention given to occurrence and root cause of thermal failures.
- September 9, 2013: Sure Power decided to notify NHTSA of its decision to undertake a safety recall to replace the subject products in the aftermarket and notify its OEM customers of this decision.

**7. Description of proposed remedy (including schedule for dealer and customer notification):**

Sure Power will offer to replace each affected product at no charge with a new battery equalizer or DC-DC converter that does not contain the specific potting material that is in the units that are the subject of this report. Sure Power will provide a schedule for customer notification under separate cover shortly.

**8. Program for remedy campaign (including program for reimbursing any consumer who obtained the remedy at his/her own expense within one year of the opening of the EA, or within one year of this 573 report, whichever is earlier):**

Sure Power will offer to replace each affected product at no charge with a new battery equalizer or DC-DC converter that does not contain the specific potting material that is in the units that are the subject of this report. Sure Power will contact each of its aftermarket customers and notify them of this recall, and will also notify its OEM customers. Sure Power will offer to reimburse any customer who replaced a battery equalizer or DC-DC converter that is the subject of this report at its own expense on or after September 9, 2012. A draft customer notification letter is enclosed with this report for review by ODI staff.