12V-011
(7 pages)

Note: Glaval was not notified until December of 2011.

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By Recall Management Division at 8:16 am, Jan 13, 2012

Glaval Bus
A Division Of Forest River, Inc.

Safety Defect and Noncompliance Report Guide for Vehicles
PART 573 Defect and Noncompliance Responsibility and Reports (1)

On November 23rd, 2010 Carrier [MFR] decided that a defect which relates to motor vehicle safety exists in the motor vehicles listed on the spreadsheet "Units Involved", and is furnishing notification to the National Highway Traffic Safety Administration in accordance with 49 CFR Part 573 Defect and Noncompliance Responsibility and Reports.

Date this report was prepared:

January 11, 2012

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

11E-003

1. Identify the full corporate name of the fabrication 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.

Glaval Bus, a Division of Forest River, Inc.

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

Rob Froelich, Design Engineer
Telephone Number: (574) 343-5165 Fax Number: (574) 264-9036

Name and Title of Person who prepared this report:

Rob Froelich
Design Engineer

Signed:

R. Froelich

(1) Each manufacturer must furnish a report, to the Associate Administrator for Enforcement, for each defect or noncompliance condition which relates to motor vehicle safety.

This guide was developed from 49 CFR Part 573, "Defect and Noncompliance Responsibility and Reports" and also outlines information currently requested. Any questions; please consult the complete Part 573 or contact Mr. George Person at (202) 366-5210 or by FAX at (202) 366-7882, or by E-Mail to RMD.ODI@dot.gov.

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:*

Please see attached documentation labeled "Units Involved"

Make(s): ____________ Model Years Involved: ____________Model(s): ______________
Production Dates: Beginning _____________ Ending: _______________
VIN Range: Beginning: ________________ Ending: ________________
Vehicle Type: _______________ Body style: __________________
Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:
____

Make(s): ____________ Model Years Involved: ____________Model(s): ______________
Production Dates: Beginning _____________ Ending: _______________
VIN Range: Beginning: ________________ Ending: ________________
Vehicle Type: _______________ Body style: __________________
Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:
____

Make(s): ____________ Model Years Involved: ____________Model(s): ______________
Production Dates: Beginning _____________ Ending: _______________
VIN Range: Beginning: ________________ Ending: ________________
Vehicle Type: _______________ Body style: __________________
Descriptive information which characterizes/distinguishes the recalled vehicles from those model vehicles not included in the recall:
____

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 Vehicles equipped with certain items of equipment from January 1, 1996 through April 1, 1997, then what was the percentage of the recalled Vehicles of all Vehicles manufactured during that time period.

Vehicles produced during recall timeline:

5,008 vehicles

Vehicles involved in recall:

1,407 U.S. vehicles

Percentage of recalled vehicles vs. produced:

28.095%

II. Identify the Recall Population

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

Vehicles Model	Year	Number of Potentially Involved
Please see attached documentation labeled "Units Involved"		

Total Number Potentially Affected by the Recall:

1,407 vehicles

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

100%

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:

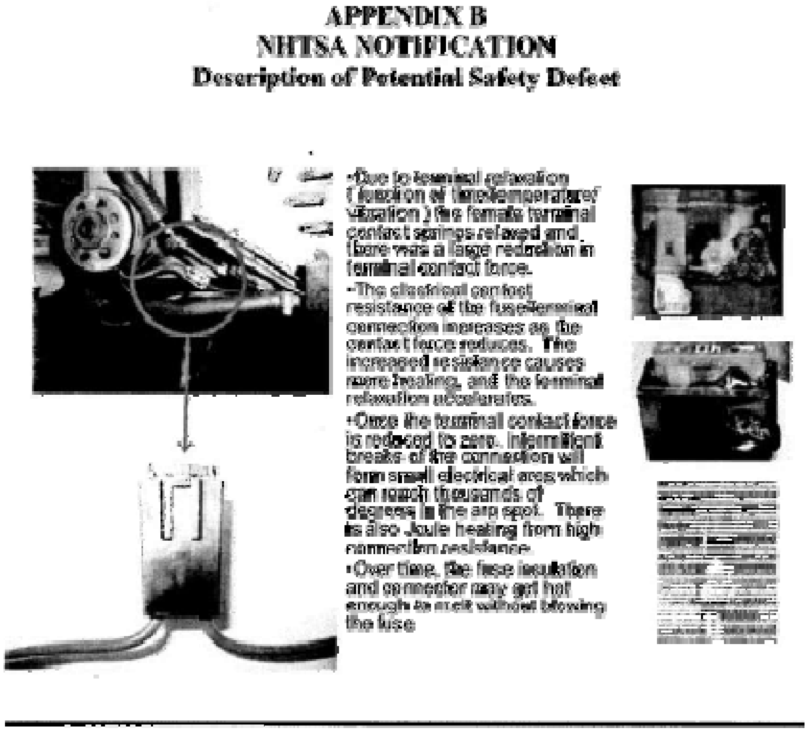
Carrier's 17 page letter, dated January 25, 2011 with notation "11E-003" at the top right of the cover page (originally intended for Mr. Harris with NHTSA) and was mailed to us (Glaval) in December 2011 from Alex Ansley with NHTSA. This letter identifies the part numbers of the GEN V EM-1 Evaporators involved, which we (Glaval) then cross referenced with units built incorporating these evaporators, thereby creating the list of vehicles involved.

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.

~ PER CARRIER'S REPORT, DESCRIBED ON PAGE 3, NUMBER 4 ~

…determined that the EM-1 units may have a fuse holder defect, in which, due to time and temperature, the fuse holder may relax. Through relaxation of fuse holder contacts over time, a high-resistance connection may result, possibly producing arcing. The arcing may produce melting of the fuse holder or ignition of the fuse holder, which may cause flame or smoke to propagate within the EM-1 Unit." See photos on page 4 labeled "APPENDIX B". Please note: these were the only photos available to us (Glaval) despite requesting a cleaner copy from Muriel Makharine, listed as Carrier's representative for this recall.



APPENDIX B

NHTSA NOTIFICATION

Description of Potential Safety Defect

- Due to terminal relaxation (function of time/temperature/ vibration) the female terminal contact springs relaxed and there was a large reduction in terminal contact force.
- The electrical contact resistance of the fuse/terminal connection increases as the contact force reduces. The increased resistance causes more heating, and the terminal relaxation accelerates.
- Once the terminal contact force is reduced to zero, intermittent breaks of the connection will form small electrical arcs which can reach thousands of degrees in the arc spot. There is also Joule heating from high connection resistance.
- Over time, the fuse insulation and connector may get hot enough to melt without blowing the fuse

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

Failure of the fuse holder is created by a combination of time, temperature and vibration causing the fuse holder to relax.

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

There is a possibility of arcing, which may produce melting of the fuse holder or ignition of the fuse holder, which may then cause flame or smoke to propagate within the EM-1 Unit.

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

No information provided by Carrier, no information provided in letter to NHTSA from Carrier. From what we are reading, there is no warning, only to physically check the fuse holder and identify if it is indeed the faulty version.

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

Manufacturing Facility: Carrier Corporation; 700 Olympic Drive, Athens, GA 30601
Headquarters: Carrier Corporation; One Carrier Place, Farmington, CT 06034

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

Muriel Makharine
(860) 674-3304
Muriel.Makharine@carrier.utc.com

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 principle 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.

~ PER CARRIER'S REPORT, DESCRIBED ON PAGE 3, NUMBER 4 ~

1ST INCIDENT: On August 20, 2010, Carrier was notified of a thermal event in an EM-1Unit installed in a school bus located in Thonotosassa, FL (Hillsborough school district). The thermal event occurred on July 28, 2010, with Carrier first being notified nearly a month later. The EM-1 Unit, built in 2004 by Carrier, had a replacement motor of unknown origin, installed on a date uncertain. Damage to the EM-1 Unit occurred with smoke residue coating the rear section of the bus.
2ND INCIDENT: On September 15, 2010, a second thermal event in an EM-1 Unit installed on a school bus located in Portland, Indiana (Jay School District) was reported to Carrier. The EM-1 Unit was installed on August 11, 2008. Carrier confirmed that the EM-1 Unit was equipped with an originally installed Allied Motion motor with a Delphi Pack-Con III fuse holder. Damage to the unit occurred with minimal smoke residue present in the rear of the bus.
3RD INCIDENT: On January 4, 2011, Carrier was notified of a third thermal event in an EM-1 Unit installed on a school bus located in Daytona Beach, FL (Volusia County School District) that occurred on January 3, 2011. The EM-1 Unit was built in 2003; however, it contained a replacement motor of undetermined manufacture. Damage to the unit occurred, with significant thermal and smoke damage to the rear, roof mounted escape hatch, with smoke residue present on the rear seats.

No reports of injury or death to persons were reported with any of the above incidents.

Upon notification of the first incident, Carrier dispatched a third party investigator (SEA, Ltd., hereafter "SEA") to Hillsborough School District to investigate the root cause of the thermal event. The investigation indicated that the Delphi Pack-Con III fuse was a possible source of ignition. At the time, this was considered an isolated incident. Carrier's Product Safety Committee was informed of the investigatory results. Upon notification of the second incident, Carrier dispatched SEA to Jay School District, to investigate the root cause of the thermal event. The investigation indicated that the Delphi Pack-Con III fuse holder was suspect as the potential cause of the thermal event. In addition, Carrier's Design For Fire Prevention (DFFP) Team began root cause analysis investigation. Upon notification of third incident, Carrier dispatched SEA to Volusia County School District to investigate the root cause of the thermal event. The result of this investigation was inconclusive.

Delphi has conducted independent testing of the Pack Con III fuse holder and confirmed that melting of the fuse holder can occur with time, temperature and vibration.

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. A description of the manufacturer's program for remedying the defect or noncompliance. This program shall include a plan for reimbursing an owner or purchaser who incurred costs to obtain a remedy for the problem addressed by the recall within a reasonable time in advance of the manufacturer's notification of owners, purchasers and dealers, in accordance with §573.13 of this part. A manufacturer's plan may incorporate by reference a general reimbursement plan it previously submitted to NHTSA, together with information specific to the individual recall. Information required by §573.13 that is not in a general reimbursement plan shall be submitted in the manufacturer's report to NHTSA under this section. If a manufacturer submits one or more general reimbursement plans, the manufacturer shall update each plan every two years, in accordance with §573.13. The manufacturer's remedy program and reimbursement plans will be available for inspection by the public at NHTSA headquarters.

The remedy to address this potential safety issue consists of the replacement of the existing Delphi Pack-Con III fuse holder with a fuse holder assembly of a more robust design.

While analyzing the potential root cause of the thermal event, Carrier, as proactive measure, stopped production of the EM-1 Units containing the Delphi Pack-Con III fuse holder as of November 23, 2010 and all sales of the EM-1 Units as of December 15, 2010. Carrier restarted production as of December 20, 2010, with a new fuse holder assembly design.

A retrofit kit composed of a fuse holder, fuse, connectors and complete instructions will be provided by Carrier for each EM-1 evaporator assembly affected. Carrier will work in collaboration with the installers and bus manufacturers to contact end users of units that must be retrofitted.

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

Included with answer to number 8 above.

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.

Included with answer to number 8 above.

VI. Identify the Recall Schedule

10. 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.

Glaval plans to start the printing process for the labels, envelopes and letters to end users when NHTSA approves the letter. Once printed, we will have the envelopes "stuffed" and mailed within approximately one week. During this preparation, the dealers will be emailed so they can review ahead of time to prepare for phone calls/questions, etc. I will notify Kelly Schuler with NHTSA as time closes in, since there are over 1,400 letters making it difficult to predict the exact mailing date.

VII. Furnish Recall Communications

11. 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.*

Note that these documents are to be submitted separately from those provided in accordance with Part 579.5 requirements.

We have not made any attempt to communicate with the dealers/end users without approval from NHTSA. We will contact the dealers first so they can review the recall ahead of time to prepare for phone calls/questions, etc. We will contact the end users through the mail using the approved "letter to end users" when NHTSA has approved.

OEM Chassis Involved:
Chevy, GMC, Ford and Freightliner

Glaval Models:
Apollo, Concorde II, Entourage, Primetime, Sport, Titan, Titan II and Universal

Model Years:
2006-2011

Time-line/Vehicles Produced:
Jan 2006-Dec 2010
5008 units produced during this time period
1,407 U.S. units affected by the recall.