MOTOR COACH INDUSTRIES

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October 15, 2009

BY EMAIL AND BY OVERNIGHT DELIVERY

National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590
Attention: Richard Boyd, Chief
Medium and Heavy Duty Vehicle Division
Office of Defects Investigation

Re: NVS-214SJM
PE09-042

Dear Mr. Boyd:

This letter and enclosures will serve as Motor Coach Industries International, Inc.'s response to your September 3, 2009 letter in the above matter. Please note that this response has been redacted to remove MCI's confidential business information, which has been submitted to NHTSA's Office of Chief Counsel in accordance with your letter and applicable regulations.

1. State, by model year, and model, the number of subject vehicles MCI has manufactured for sale or lease in the United States and provide a complete listing of all the owners, organized by Model year, owners name and address, Vehicle Identification Number (VIN), and any other contact information, such individual email addresses.

   Provide the table in Microsoft Access 2000, or a compatible format, entitled "PRODUCTION DATA."

   RESPONSE: The requested data constitute MCI Confidential Business Information. MCI has therefore submitted to NHTSA's Office of Chief Counsel an unredacted version of the PRODUCTION DATA worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)". The source of the data provided was MCI's MRP system, and the data were last gathered on or about September 11, 2009.

2. State, by model year, and model, the total number of each of the following, received by MCI, or of which MCI is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles. Provide a copy of each such claim:
   a. Consumer complaints, including those from fleet operators;
   b. Field reports, including dealer field reports;

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c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by the alleged defect in a subject vehicle;
d. Property damage claims;
e. Third-party arbitration proceedings where MCI is or was a party to the arbitration; and
f. Lawsuits, both pending and closed, in which MCI is or was a defendant or codefendant.

For subparts "a" through "d," state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items "c" through "f," provide a summary description of the alleged problem and causal and contributing factors and MCI's assessment of the problem, with a summary of the significant underlying facts and evidence. For items e and f, identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

RESPONSE: A portion of the requested data constitutes MCI Confidential Business Information. MCI has therefore submitted to NHTSA's Office of Chief Counsel an unredacted version of the REQUEST NUMBER TWO DATA worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)", as well as unredacted versions of the field reports referenced therein. The sources of the data provided were MCI's New Service Tracking database, TREAD Act reports and supporting data, and lawsuit and incident files, and the data were last gathered on or about October 12, 2009.

3. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:
   a. MCI's file number or other identifier used;
   b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
   c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
   d. Vehicle's VIN;
   e. Vehicle's make, model, and model year;
   f. Vehicle's mileage at time of incident;
   g. Incident date;
   h. Report or claim date;
   i. Whether there was a thermal event;
   j. Number of alleged injuries, if any;
   k. Number of alleged fatalities, if any;
   l. Summary description of the complaints; and,

m. MCI' opinion/assessment of the incidents. Provide a copy of the claim or repair order, any/all field reports and any documents related to or produced by MCI during their evaluation of this issue.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER THREE DATA."

RESPONSE: A portion of the requested data constitutes MCI Confidential Business Information. MCI has therefore submitted to NHTSA's Office of Chief Counsel an unredacted version of the REQUEST NUMBER THREE DATA worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)". The sources of the data provided were MCI's New Service Tracking database, TREAD Act reports and supporting data, and lawsuit and incident files, and the data were last gathered on or about October 12, 2009.

4. State, by model year, and model, a total count for all of the following categories of claims, collectively, that have been paid by MCI to date that relate to, or may relate to, the alleged defect in the subject vehicles:
   a. Warranty claims;
   b. Extended warranty claims;
   c. Claims for good will services that were provided;
   d. Field, zone, or similar adjustments and reimbursements; and
   e. Warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

RESPONSE: A portion of the requested data constitutes MCI Confidential Business Information. MCI has therefore submitted to NHTSA's Office of Chief Counsel an unredacted version of the REQUEST NUMBER FOUR DATA worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)". The source of the data provided was MCI's warranty records, and the data were last gathered on or about October 13, 2009.

5. Separately, for each such claim, state the following documentation/information:
   a. MCI's claim number;
   b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
   c. VIN;
   d. Repair date;
   e. Vehicle mileage at time of repair;
   f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
   g. Labor operation number;
   h. Problem code;
   i. Replacement part number(s) and description(s);
   j. Concern stated by customer, was there a thermal event;

k. Provide a copy of any related document including the claim or repair order;
l. Comment, if any, by dealer/technician relating to claim and/or repair; and.
m. MCI's assessment.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "WARRANTY DATA."

RESPONSE: A portion of the requested data constitutes MCI Confidential Business Information. MCI has therefore submitted to NHTSA's Office of Chief Counsel an unredacted version of the WARRANTY DATA worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)". The source of the data provided was MCI's warranty records, and the data was last gathered on or about October 13, 2009.

6. Describe in detail the search criteria used by MCI to identify the claims identified in response to Request No. 2 and No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by MCI on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that MCI offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.

RESPONSE: Please see the "REQUEST NUMBER SIX DATA" worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)", and the other documents attached hereto at Tab 6. The sources of the data provided were MCI's New Service Tracking database, warranty records, MCI's Agreement to Purchase form of new coach limited warranty, TREAD Act reports and supporting data, and lawsuit and incident files, and the data were last gathered on or about October 13, 2009.

7. Describe how MCI first became aware of the alleged defect and state the date on which MCI first became aware of the possibility of the alleged defect. Provide a detailed **chronology** of all known wiring chafing incidents regarding the subject defect, starting from the time MCI first became aware of this issue to present. Include all information and provide a copy of any document used at any internal/external meeting(s), meetings with the part supplier, or other manufacturers.

RESPONSE: MCI received a report from a customer that on January 7, 2006, the customer's driver had been performing a pre-trip inspection and noticed a burning smell at the rear of the customer's 2006 D4500 coach (unit number 56979). The cause

of the smell was the alternator cable terminal overheating, which caused melting of the heat shrink covering the alternator cable terminal crimp next to the positive connection of the alternator. The cause of the overheating was determined to be a loose connection of the alternator cable terminal to the positive stud on the alternator. This particular coach had been delivered to the customer only a few weeks earlier (December 14, 2005), and the coach was reported to have only 2,228 miles at the time of the incident. The loose connection was determined to have resulted from inadequate torquing during coach assembly of the alternator positive stud nut, which fastens the alternator cable to the alternator positive stud.

On November 7, 2007, MCI received an oral report from a customer advising of an electrical charging problem with respect to the customer's 2008 D4500 coach (unit 58224). It was determined that the cause of the charging problem was that the terminal on the alternator cable by which the cable is connected to the alternator positive connection stud had cracked, thus disconnecting electrically the alternator cable from the alternator. The failed terminal had arced across the terminal crack causing alternator cable terminal heating and subsequent melting of the terminal along the crack. No other damage to the alternator cable was found. As a result of the customer concern for the issue found on this low mileage coach, a new cable with a heavy duty terminal was released for field service. Along with the new cable assembly, the clamp mounting bracket was changed to align the new cable as it passes through the cable clamp with the terminal on the alternator stud. MCI retrofitted this customer's affected coaches with the new cable assembly and bracket as a good will gesture.

On August 11, 2008, MCI received a report that a customer's 2007 D4500 (unit 58259) would not start due to dead batteries. Subsequent investigation found that the alternator cable had arced to the cable clamp mounting bracket and the alternator case as a result of cable insulation and terminal failure. The electrical connection failure of the cable and cable terminal was the cause of the batteries charging problem, since the alternator output was disconnected from the batteries. More specifically, MCI determined that the cable insulation had been damaged due to chafing between the cable clamp and the alternator cable insulation, exposing the cable wires and resulting in the arcing. Looseness between the alternator cable and the cable clamp, which allowed the chafing, was caused by the loom that had been originally installed over the insulated alternator cable and in-between the insulated cable and the clamp, having extruded from under the clamp, resulting in the clamp no longer being tight on the cable. The subsequent movement of the cable due to the loom loss under the clamp allowed the terminal to flex due to vibration, which caused the terminal failure.

On August 15, 2008, MCI initiated project number PR1-08-0009 to further investigate issues relating to reported failures involving the 50DN alternator cable at the mounting bracket. MCI subsequently decided to use a new clamp and alternator cable design on its new D model coach production effective with unit 58880. MCI also determined that

issuing a service bulletin apprising owners of existing coaches of the availability of the new clamp and cable design, and reminding owners to thoroughly inspect alternator cables for chafing or other damage at the earlier to occur of every 6000 miles or oil change, was appropriate given the small number of reported incidents among the hundreds of affected coaches in the field, and the fact that early signs of cable chafing would be readily apparent to coach operators performing required maintenance prior to the cable posing a fire hazard. Accordingly, MCI issued Service Bulletin 3016 on July 10, 2009.

Please see the documents referenced in MCI's response to request 9.

8. Produce copies of any/all service bulletins, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that MCI has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that MCI is planning to issue within the next 120 days. For each such document provide in responding to question 7 [sic], provide a detail explanation as to what precipitated the issuance of the service bulletin/document and it relevancy to the alleged defect.

RESPONSE: Please see the attached MCI Service Bulletin 3016, MCI's response to request 7 for the detailed explanation as to what precipitated the bulletin's issuance, and the documents referenced in MCI's response to request 9.

9. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, MCI. For each such action, provide the following information:
   a. Action title or identifier;
   b. The actual or planned start and end date;
   c. Brief summary of the subject and objective of the action;
   d. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
   e. Brief summary of the findings and/or conclusions resulting from the action.

   For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

RESPONSE:

a. **The project identifier was PR1-08-0009, entitled "50 DN Alternator Cable & Bracket", which MCI initiated as a result of the August 15, 2008 report and analysis of the failed alternator cable installation. Prior to this project being initiated, MCI prepared a service kit ("Service Kit") for the customer as described in further detail in MCI's response to request 7, under MCI's Engineering Change Notice ("ECN") 44666**

b. **The start date for project PR1-08-0009 was August 15, 2008, and the project was closed on August 21, 2009.**

c. **The subject and objective of project PRI-08-0009 was to resolve the issue found on unit 58259 on August 11, 2008, in which analysis of the returned parts indicated fatigue failure of the ring terminal that electrically connects the alternator cable to the power stud on the alternator. Also, there was wearing or chafing on the cable insulation caused by the design of the cables' clamping device adjacent to the power stud on the alternator. The release of the Service Kit with a heavier duty terminal was to alleviate a customer's concern as a result of a terminal failure on a low-mileage coach.**

d. **MCI's Engineering Department was responsible for conducting project PR1-08-0009.**

e. **MCI's analysis of the returned parts from unit 58259 indicated that the alternator cable insulation had chafed or worn as a result of the cable being loose in the alternator cable clamp located adjacent to the power stud on the 50 DN alternator. In addition to chafing the insulation, the looseness in the cable clamp and resulting inadequate cable support allowed flexing of the alternator cable terminal, causing a fatigue failure of the terminal. The alternator cable assembly was originally built with a loom installed over the full length of the alternator cable insulation. The returned parts from unit 58259 indicated that portions of the loom running through the clamp had extruded out of the clamp, permitting the alternator cable to become loose in the alternator clamp. That, in turn, could lead to chafing of the cable due to engine vibration, since the alternator is mounted to the engine. This cable movement also caused flexing of the alternator terminal connecting the cable to the power stud on the 50 DN alternator, resulting in a fatigue failure. The combination of damaging the cable insulation due to chafing and the power terminal failure resulted in arcing to the alternator case and to the alternator cable mounting bracket, which caused the cable assembly failure.**

As part of the project, MCI inspected four 2005 model year coaches in customer service for alternator cable issues, and no issues were found.

MCI subsequently decided to use a new clamp and alternator cable design on its new D model coach production effective with unit 58880. MCI also determined that issuing a service bulletin apprising owners of existing coaches of the availability of the new clamp and cable design, and reminding owners to thoroughly inspect alternator cables for chafing or other damage at the earlier to occur of every 6000 miles or oil change, was appropriate given the small number of reported incidents among the hundreds of affected coaches in the field, and the fact that early signs of cable chafing would be readily apparent to coach operators performing required maintenance prior to the cable posing a fire hazard. Accordingly, MCI issued Service Bulletin 3016 on July 10, 2009 with respect to the D model series. The E/J model coaches use a different installation for the 50 DN alternator cable, and therefore were not included as part of the service bulletin. MCI is not currently aware of any issues with respect to the alternator cable installation on the E/J model coaches.

The requested documents contain MCI Confidential Business Information. MCI has therefore submitted copies of the documents to NHTSA's Office of Chief Counsel. The source of the data provided was MCI's Engineering Department, and the data were last gathered on or about October 13, 2009.

10. Describe all modifications or changes made by, or on behalf of, MCI in the design, material composition, manufacture, quality control, supply, or installation of the alternator cable, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:

    a. The date or approximate date on which the modification or change was incorporated into vehicle production;
    b. A detailed description of the modification or change;
    c. The reason (s) for the modification or change;
    d. The part numbers (service and engineering) of the original component;
    e. The part number (service and engineering) of the modified component;
    f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
    g. When the modified component was made available as a service component; and
    h. Whether the modified component can be interchanged with earlier production components.

    Also, provide the above information for any modification or change that MCI is aware of which may be incorporated into vehicle production within the next 120 days.

RESPONSE: Please see the "REQUEST NUMBER TEN DATA" worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042 (REDACTED VERSION)", which has been redacted to remove certain confidential business information. Also, the requested documents contain MCI Confidential Business Information. MCI has submitted an unredacted version of the worksheet and documents to NHTSA's Office of Chief Counsel. The source of the data provided was MCI's Engineering Department, and the data were last gathered on or about October 13, 2009.

11. State the number of each of the following that MCI has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model, model year of the vehicle, and month/year of sale *(including the cut-off date for sales, if applicable)*:
    a. Replacement Alternator Cable Kit for the Pre-2007 Engine;
    b. Replacement Alternator Cable Kit for 2007 EPA Engine
    c. Any kits that have been released, or developed, by MCI for use in service repairs to the subject component/assembly; and
    d. Any replacement part that have been released, or developed, by MCI for use in service repairs to the subject component/assembly.

RESPONSE: Please see the REQUEST NUMBER ELEVEN DATA worksheet in the attached Excel spreadsheet entitled "MCI DATA RESPONSE TO PE09-042". The sources of the data provided were MCI's warranty records and the sales records of MCI's affiliate, MCI Service Parts, Inc., and the data were last gathered on or about October 13, 2009.

12. Furnish MCI's assessment of the alleged defect in the subject vehicle, including:
    a. Any causal or contributory factors;
    b. The failure mechanism(s);
    c. The failure mode(s);
    d. The risk to motor vehicle safety that it poses;
    e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring; and
    f. The reports discussed with your staff and related to this inquiry.

RESPONSE: Please see MCI's responses to requests 7 and 9. MCI does not believe that there is a risk to motor vehicle safety. As previously noted, normal required maintenance to be performed by coach owners will reveal any alternator cable looseness or chafing long before either poses any risk of electrical arcing. This is borne out by the small number of reported incidents among the hundreds of affected coaches being operated without reported incidents over a number of years.

13. Identify what action MCI intends to take in this matter.

RESPONSE: None, other than implementation of Service Bulletin 3016.

Please let me know if you should need any additional information.

Sincerely,
Motor Coach Industries International, Inc.

By: Timothy J. Nalepka

Attachments

c: NHTSA Office of the Chief Counsel
(by overnight delivery, w/ two copies of attachments)