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February 12, 2015

Mr. Bruce York, Chief
Medium & Heavy Duty Vehicle Division
National Highway Traffic Safety Administration
1200 New Jersey Ave S.E.
Washington, D.C. 20590
NVS-214

Dear Mr. York: This is in response to your inquiry (PE14-035) dated December 3, 2014 concerning loss of instrument cluster functions, lighting operations and general functionality of the gauges and instrument cluster on certain Model year 2009 – 2011 Wheeled Coach vehicles built on the Freightliner M2 Business class chassis. As requested, the applicable request is repeated verbatim with each response. All information is current as of February 12, 2015.

1. State, by model and model year, the number of subject vehicles Wheeled Coach has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Wheeled Coach. Separately, for each subject vehicle manufactured to date by Wheeled Coach, state the following:
 - a. Vehicle identification number (VIN);
 - b. Make;
 - c. Model
 - d. Model Year;
 - e. Subject Component part number and design version installed as original equipment;
 - f. Date of manufacture;
 - g. Date warranty coverage commenced; and
 - h. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

1. Wheeled Coach has manufactured the following number of subject vehicles by model year:

2009: 21
2010: 27
2011: 16

The following table identifies the requirements of 1a. – 1h. The response to 1e is the Freightliner OEM J1939 main wire harness. This electrical harness is installed by Freightliner in all subject vehicles. The harness is not compromised by Wheeled Coach.

VIN #1a	Make #1b	Model Type #1c	Year #1d	Manufacture Completion Date #1f	Warranty Commence Date #1g	State where vehicle was delivered/sold #1h
1FVACWDT3AD	FRTL	Business Class M2	2010	10/19/2010	3/17/2011	MD
1FVACWDT4AD	FRTL	Business Class M2	2010	7/26/2010	9/10/2010	MD
1FVACWDT6AD	FRTL	Business Class M2	2010	8/20/2010	10/22/2010	MD
1FVACWDT8AD	FRTL	Business Class M2	2010	8/29/2011	9/29/2010	MD
1FVACWDTXAD	FRTL	Business Class M2	2010	7/26/2010	9/20/2010	MD
1FVACWDT1AD	FRTL	Business Class M2	2010	8/29/2011	10/14/2010	MD
1FVACWDT5AD	FRTL	Business Class M2	2010	8/29/2011	10/18/2010	MD



1FVACWDT7AD		FRTL	Business Class M2	2010	8/30/2011	10/13/2010	MD
1FVACWDT3AD		FRTL	Business Class M2	2010	10/19/2010	3/17/2011	MD
1FVACWDT5AD		FRTL	Business Class M2	2010	10/19/2010	3/17/2011	MD
1FVACWDT7AD		FRTL	Business Class M2	2010	8/30/2011	11/16/2010	MD
1FVACWDT9AD		FRTL	Business Class M2	2010	10/29/2010	12/14/2010	MD
1FVACWDT0AD		FRTL	Business Class M2	2010	10/19/2010	3/2/2011	MD
1FVACWDT2AD		FRTL	Business Class M2	2010	8/30/2011	10/22/2010	MD
1FVACWDT4AD		FRTL	Business Class M2	2010	10/19/2010	1/4/2011	MD
1FVACWDT6AD		FRTL	Business Class M2	2010	10/19/2010	3/4/2011	MD
1FVACWDT8AD		FREI	Business Class M2	2010	10/19/2010	12/14/2010	MD
1FVACWDT8AD		FREI	Business Class M2	2010	10/19/2010	3/17/2011	MD
1FVACWDJ59H		FRTL	Business Class M2	2009	1/6/2009	12/30/2008	MD
1FVACWDK99H		FRTL	Business Class M2	2009	12/2/2008	12/5/2008	NC
1FVACWDK09H		FRTL	Business Class M2	2009		12/5/2008	NC
1FVACWDK29H		FRTL	Business Class M2	2009	12/2/2008	12/5/2008	NC
1FVACWDK99H		FRTL	Business Class M2	2009	12/2/2008	12/5/2008	NC
1FVACWDK09H		FRTL	Business Class M2	2009	12/2/2008	12/5/2008	NC
1FVACWDK99H		FRTL	Business Class M2	2009	4/1/2009	1/26/2009	NC
1FVACWDK09H		FRTL	Business Class M2	2009	3/3/2009	4/14/2009	NC
1FVACWDK29H		FRTL	Business Class M2	2009	3/3/2009	4/14/2009	NC
1FVACWDK39H		FRTL	Business Class M2	2009	6/1/2009	<NULL>	FL
1FVACWDK8AH		FRTL	Business Class M2	2009	7/2/2009	5/21/2009	FL
1FVACWDJ89D		FRTL	Business Class M2	2009	10/5/2009	11/23/2009	MD
1FVACWDJ19D		FRTL	Business Class M2	2009	4/6/2010	12/22/2009	MD
1FVACWDJ69D		FRTL	Business Class M2	2009	11/2/2009	12/10/2009	MD
1FVACWDJX9D		FRTL	Business Class M2	2009	4/6/2010	12/16/2009	MD
1FVACWDJ89D		FRTL	Business Class M2	2009	12/1/2009	1/6/2010	MD
1FVACWDJX9D		FRTL	Business Class M2	2009	12/1/2009	1/20/2010	MD
1FVACWDJ19D		FRTL	Business Class M2	2009	12/1/2009	2/4/2010	MD
1FVACWFJ39D		FRTL	Business Class M2	2009	12/1/2009	1/27/2010	MD
1FVACWDK4AD		FRTL	Business Class M2	2009	10/5/2009	7/21/2009	NC
1FVACWDK6AD		FRTL	Business Class M2	2009	10/5/2009	7/21/2009	NC
1FVACWDU4AD		FRTL	Business Class M2	2010	11/2/2009	11/13/2009	GA
1FVACWDK2AD		FRTL	Business Class M2	2010	1/4/2010	<NULL>	FL
1FVACWDJ1AD		FRTL	Business Class M2	2010	1/4/2010	12/9/2009	FL
1FVDCXBS0AD		FRTL	Business Class M2	2010	9/1/2010	9/14/2010	NJ
1FVACWDU2AD		FRTL	Business Class M2	2010	6/28/2010	<NULL>	FL
1FVACWDU4AD		FRTL	Business Class M2	2010	6/21/2010	<NULL>	FL
1FVACWDU0AD		FRTL	Business Class M2	2010	6/29/2010	<NULL>	FL
1FVACVDU8BD		FRTL	Business Class M2	2011	7/1/2010	<NULL>	GA



1FVACVDUXBD		FRTL	Business Class M2	2011	7/1/2010	<NULL>	GA
1FVACWDU0AD		FRTL	Business Class M2	2010	5/3/2010	<NULL>	FL
1FVACWDU3BD		FRTL	Business Class M2	2011	7/19/2010	<NULL>	UT
1FVACWDU7BD		FRTL	Business Class M2	2011	7/19/2010	8/3/2010	UT
1FVACWDU5BD		FRTL	Business Class M2	2011	7/19/2010	8/3/2010	UT
1FVACWDT3AD		FREI	Business Class M2	2010	10/25/2012	10/26/2012	UT
1FVACWDU0BD		FRTL	Business Class M2	2011	8/30/2011	7/30/2010	FL
1FVACWDU9BD		FRTL	Business Class M2	2011	8/20/2010	7/30/2010	FL
1FVACWDU2BD		FRTL	Business Class M2	2011	10/19/2010	<NULL>	FL
1FVACWDU4BD		FRTL	Business Class M2	2011	10/19/2010	<NULL>	FL
1FVACWDU6BD		FRTL	Business Class M2	2011	10/19/2010	<NULL>	FL
1FVACWDU4BD		FRTL	Business Class M2	2011	10/19/2010	10/13/2010	FL
1FVACWDU8BD		FRTL	Business Class M2	2011	3/18/2011	<NULL>	IN
1FVACWDU5BD		FREI	Business Class M2	2011	1/3/2012	12/21/2011	VA
1FVACWDU7BD		FREI	Business Class M2	2011	1/3/2012	12/21/2011	VA
1FVACWDU9BD		FREI	Business Class M2	2011	1/3/2012	12/21/2011	VA
1FVACWDU0BD		FREI	Business Class M2	2011	1/3/2012	12/21/2011	VA

2. State the number of each of the following, received by Wheeled Coach, or of which Wheeled Coach is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:
- Consumer complaints, including those from fleet operators;
 - Field reports, including dealer field reports;
 - Reports involving a crash, injury or fatality;
 - Property damage claims;
 - Third-party arbitration proceedings where Wheeled Coach is or was a party to the arbitration; and
 - Lawsuits, both pending and closed in which Wheeled Coach is or was a defendant or codefendant.

The following table provides a list by VIN of all consumer complaints, field reports, property damage claims, 3rd party arbitration and lawsuits. Wheeled Coach is unaware of ANY allegations of a crash, injury or fatality. Further, as noted in Column 4, Wheeled Coach is unaware of any property damage claims. And finally, Wheeled coach has no reports whatsoever related to any part of question #2 concerning any 2009 or 2011 model year vehicle.

VIN		Consumer Complaint #2a	Field Report #2b	Property Damage #2d	3rd Party Arbitration #2e	Lawsuits #2f
1FVACWDT3AD		1	0	0	0	0
1FVACWDT4AD		1	0	0	0	0
1FVACWDT6AD		1	0	0	0	0
1FVACWDT8AD		1	0	0	0	0
1FVACWDTXAD		1	0	0	0	0
1FVACWDT1AD		1	0	0	0	0
1FVACWDT5AD		1	0	0	0	0



1FVACWDT7AD	[REDACTED]	1	0	0	0	0
1FVACWDT3AD	[REDACTED]	1	0	0	0	0
1FVACWDT5AD	[REDACTED]	1	0	0	0	0
1FVACWDT7AD	[REDACTED]	1	0	0	0	0
1FVACWDT9AD	[REDACTED]	1	0	0	0	0
1FVACWDT0AD	[REDACTED]	1	0	0	0	0
1FVACWDT2AD	[REDACTED]	1*	0	0	0	0
1FVACWDT4AD	[REDACTED]	1	0	0	0	0
1FVACWDT6AD	[REDACTED]	1*	0	0	0	0
1FVACWDT8AD	[REDACTED]	1*	0	0	0	0
1FVACWDT8AD	[REDACTED]	1	0	0	0	0

Note: VIN's marked with an asterisk were: Not repaired (no trouble found # 7745); had new dash cluster installed (#7747); and replaced "bad" batteries (#7748). All other complaint vehicles had a dedicated power/ground cable installed as described below.

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:
- Wheeled Coach's file number or other identifier used: (see table below)
 - The category of the item, as identified in Request No. 2 (i.e. consumer complaint, field report, etc.); All are fleet complaints
 - Vehicle owner or fleet name (and fleet contact person), address, and telephone number; Montgomery County Fire & Rescue
 - Vehicle's VIN; (see 3d below)
 - Vehicle's make, model and model, year; All complaint vehicles are Wheel Coach Ambulances, built on a Freightliner Business Class M2 chassis, model year 2010.
 - Vehicle's mileage at time of incident; (See 3f below)
 - Incident date; (see 3 h below)
 - Report or claim date; (see 3g below)
 - Whether vehicle was in response to an emergency; None of the vehicles were responding to an emergency when the incidents occurred.
 - Whether property damages is alleged; there are no allegations of property damage
 - Number of alleged injuries, if any; and There are no alleged injuries
 - Number of alleged fatalities, if any. There are no fatality allegations

All 18 "complaint" vehicles are Model Year 2010 Freightliners. There are all owned by a single fleet:

Contact Person: [REDACTED]

WC Work Order	VIN	Status	Warranty Claim Date	Mileage	Incident Date (Repaired by DPC)
#3a	#3d		#3h	#3f	#3g
309044	1FVACWDT8AD [REDACTED]	PE	None Filed	77804	7/8/2014
309014	1FVACWDT4AD [REDACTED]	PE	7/26/2012	119462	6/12/2014



309015	1FVACWDT6AD	[REDACTED]	PE	None Filed	106841	4/29/2014
309016	1FVACWDT8AD	[REDACTED]	PE	2/20/2012	29906	8/11/2014
309017	1FVACWDTXAD	[REDACTED]	PE	6/4/2012	66874	8/29/2014
309018	1FVACWDT1AD	[REDACTED]	PE	5/9/2012	83715	12/5/2014
309020	1FVACWDT5AD	[REDACTED]	PE	2/16/2012	55200	5/9/2014
309021	1FVACWDT7AD	[REDACTED]	PE	None Filed	64835	7/29/2014
309022	1FVACWDT3AD	[REDACTED]	PE	None Filed	64481	5/12/2014
309023	1FVACWDT5AD	[REDACTED]	PE	8/15/2012	60713	9/19/2014
309024	1FVACWDT7AD	[REDACTED]	PE	12/18/2012	106907	8/15/2014
309025	1FVACWDT9AD	[REDACTED]	PE	2/23/2012	15797	5/20/2014
309026	1FVACWDT0AD	[REDACTED]	PE	None Filed	86388	6/5/2014
309027	1FVACWDT2AD	[REDACTED]	PE	None Filed	95540	4/23/2014
309028	1FVACWDT4AD	[REDACTED]	PE	1/6/2012	94584	7/14/2014
309029	1FVACWDT6AD	[REDACTED]	PE	None Filed	85000	2/3/2014
309030	1FVACWDT8AD	[REDACTED]	PE	10/25/2012	71048	1/24/2014
309019	1FVACWDT3AD	[REDACTED]	PE	2/23/2012	31465	02/23/2012

4. Produce electronic copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc...) and describe the method Wheeled Coach used for organizing the documents.

See attached. Attached are copies of the Repair Orders provided by DPC Emergency. (File name: DPC – Repair Orders)

5. State, by model and model year, a total count of for all of the following categories of claims, collectively, that have been paid by Wheeled Coach to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.
The above information is provided in the table below.

Repair Facility:

DPC Emergency Equipment
335 Strauss Ave
Marydel, DE 19964
Contact Person: Adam Jarrell @ PH 302-492-1245

All 18 vehicles are 2010 Freightliners. There are all owned by:

[REDACTED]
[REDACTED]
[REDACTED]
Contact Person: [REDACTED]

Copies of Wheeled Coach's Advance Factory Authorization (File name: Wheeled Coach Warranties.) This shows the amount we paid DPC Emergency towards the alleged defect for the repairs on the specific VINs mentioned below. We did not send any replacement parts for these repairs. All parts were supplied by DPC.



WC Work Order	VIN	AFA # (Claim #)	Mileage at the time of AFA Repair	Warranty Claim Date
309019	1FVACWDT3AD	53085	31465	2/23/2012
309014	1FVACWDT4AD	54071	67410	7/26/2012
309016	1FVACWDT8AD	53069	15265	2/20/2012
309017	1FVACWDTXAD	53740	20362	6/4/2012
309018	1FVACWDT1AD	53562	27509	5/9/2012
309020	1FVACWDT5AD	53565	23808	2/16/2012
309023	1FVACWDT5AD	54184	18450	8/15/2012
309024	1FVACWDT7AD	54843	42013	12/18/2012
309025	1FVACWDT9AD	53086	31465	2/23/2012
309028	1FVACWDT4AD	52831	34555	1/6/2012
309030	1FVACWDT8AD	54598	30574	10/25/2012

6. Describe in detail the search criteria used by Wheeled Coach to identify the claims identified in response to Request 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 description, 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 Wheeled Coach on the subject vehicle (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 Wheeled Coach 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.

We ran a query based on the model, model type, and 2009-2011 model year. In total, for the three years we identified 64 vehicles. Eighteen (18) of the vehicles were repaired. Fifteen of the 18 had a dedicated power/ground cable routed from the batteries to the instrument cluster. Our dealers have contacted the owners of the remaining 46 Model Year 2009 - 2011 vehicles. Each has stated that their vehicles do not exhibit any issues with the instrument cluster panels. There are no complaints, warranty claims or any other type of incident report data related to the remaining 46. We have attached the warranty claims and repair orders to this document for the 18 vehicles that describe the issues. During this time, Wheeled Coach's standard conversion warranty was for 12 months or 12,000 miles, whichever occurs first. Please see the attached warranty policy attached (File Name: 1-12K Conversion.) These vehicles do not have an extended warranty.

7. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Wheeled Coach 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 Wheeled Coach is planning to issue within the next 120 days.

The warranty claims are attached as stated in response Nos. 5 and 6. No bulletins, advisories, informational documents, training documents, or other documents or communication have been sent out to our dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This concern only affected the 18 vehicles mentioned above. Again, our dealer has contacted the owners of the 6 remaining 2010 vehicles and they all report that they have not had any issues with the instrument cluster panel.

8. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquires 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, Wheeled Coach. For each such action, provide the following information:



- a. **Action title or identifier:** Vehicle review at [REDACTED] Service Center.
[REDACTED] County Fire and Rescue Services Division of Operations.
- b. **The actual or planned start date:** 1/13/15
- c. **The actual or expected end date:** 1/13/15
- d. **Brief summary of the subject and objective of the action:** Inspection of two of the vehicles containing the alleged defect.
- e. **Engineering group(s)/supplier(s) responsible for designing and for conducting the action:** A meeting of all the principals involved in this matter was conducted on January 13, 2015 at [REDACTED] Fire and Rescue maintenance facility.
Involved in the review were: [REDACTED] Apparatus Manager - MCFRS, [REDACTED] Northeast District Service Manager, Daimler Trucks, Chris Ellis, Electrical Engineer from Wheeled Coach, and [REDACTED] President of DPC Emergency Equipment. Also present were Von Lindsey and Richard Boyd of Lindsey Research Services, and Peter Kivett, Investigating engineer from NHTSA's Office of Defects Investigation.
- f. **A brief summary of the findings and/or conclusions resulting from the action:** Two [REDACTED] County units were provided for inspection, to evaluate the OEM ground removal concern. [REDACTED] stated in the meeting that the OEM stud that was welded into the frame from the factory had been removed. The two units I reviewed had no indication that there was ever an OEM stud that had been installed (and) removed and no sign of any OEM stud add by welding in place. This was pointed out to Mr. Kivett. During the inspections of the two units it was noted that the Wheeled Coach grounds and the OEM freightliner grounds were installed differently on each of the two vehicles. On the first unit, all the OEM and Wheeled Coach grounds were stacked on one 3/8" bolt that appeared to be welded in place. The second unit has the OEM grounds on a separate bolt that is welded in place. The Wheeled Coach grounds are on two separate 3/8" bolts that were welded in place by either the Freightliner or Baltimore County service department.

According to representatives from DPC and [REDACTED] County Fire and Rescue, all the grounding points have been fixed and welded in place on all 18 units. All this work was previously performed by Freightliner and the Baltimore County service department. This work was done under warranty during the 2012 calendar year. Copies of all the warranty claims are attached. [REDACTED] (Freightliner) stated that this was the fix for the 18 units. However, DPC technicians discovered that the ground stud repair did not remedy the cluster/intermittent electrical issues. Per DPC's trouble shooting, the final solution was the addition of the positive and ground wires directly from the battery to the instrument cluster and by-passing the OEM supplied wires in the OEM harness.

9. **Describe all modifications or changes made by, or on behalf of, Wheeled Coach in the design, material composition, manufacture, quality control, supply, or installation of the subject component, 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:** No modification to vehicles in production of "pre or post" subject vehicles.
- b. **A detailed description of the modification or change:** Although no modification has occurred to "post" subject vehicles, the aforementioned repair (mentioned above) of adding positive and ground wires directly from the battery to the dash cluster, (eliminating the OEM supplied wires in the OEM harness) was incorporated by DPC. To the best of our knowledge, Freightliner continues to manufacture current versions of the subject vehicles in the same manner as the 2010 vehicles. This observation should be verified with Freightliner.
- c. **The reason(s) for the modification or change:** Troubleshooting method (in early 2014) thru elimination resulted in the repair technician installing the dedicated power and ground cables.
- d. **The part number(s) (service and engineering) of the original component:** (Freightliner) OEM J1939 harness to dash cluster.



- e. **The part number(s) (Service and engineering) of the modified component:** No specific part numbers, rather the addition of a dedicated Power and ground wire (external to the OEM J1939 harness), to dash cluster were installed by the DPC repair technician.
- f. **Whether the original unmodified component was withdrawn from production and/or sale, and if so, when:** Original component left in place.
- g. **When the modified component was made available as a service component:** No service component available.
- h. **Whether the modified component can be interchanged with earlier production components:** N/A

10. Furnish Wheeled Coach's assessment of the alleged defect in the subject vehicle:

Wheeled Coach's assessment of the alleged defect, based on the information and symptoms, provided by [REDACTED] County Fire & Rescue [REDACTED] and the visual inspection of two vehicles on 1/13/15 is as follows: The original belief that modified ground studs and mismatched studs in the wrong sized holes was the cause for equipment failure of the dash cluster is not supported by the descriptions and information provided by the customer, the dealer and the OEM chassis manufacturer.

DPC reported that vehicles with the reworked (performed by Baltimore Freightliner in 2012) grounding studs still exhibited the dash cluster failures. We have determined that early on, several repair shops located in Baltimore County, Delaware and Montgomery County had worked on the trucks. Further complicating the root cause determination was that multiple types of electrical failures were occurring on different trucks. All 18 trucks did not suffer the same failures. Noted failures were problems with the ECM, Chassis control Module, intermittent wiper system, ICU dash drop out, "1939" ghost codes, no start, wiper failures, and Vehicle unable to "see" neutral. We now believe that the above mentioned problem were/are separate from the ground problem and mislead the mechanics trying to identify the problem. We note that in some cases, problematic vehicles in the field would operate fine when brought into the repair facility. Thus, the electrical problems were numerous, were not consistent between the 18 trucks and were intermittent. In many cases, unhooking the battery pack cables and re-installing the cables would seemingly cure the problem, at least temporarily.

On May 7, 2014, the mechanics at DPC, as a troubleshooting/test method, connected a new pair of dedicated power/ground cables from the battery, to the dash board cluster, of vehicle VIN #1FVACWDT8AD [REDACTED]. Per DPC, every truck that had this service performed was "cured," meaning they have not suffered a failure since the repair was installed. Twelve trucks were repaired by September 2014, (5 months ago) with 2 other trucks finished on 10/24/14 and 12/5/14. Richard Strauss and Steve Lamphier and others at the meeting agreed, the installation of a dedicated power and ground cable has apparently solved the problem, since none of the vehicles with this repair have suffered a subsequent failure. Trucks with VIN numbers, 1FVACWDT8AD [REDACTED] and 1FVACWDT8AD [REDACTED] do not have documentation from DPC that dedicated power and ground wires have been added to the dash cluster. Problems on those trucks were resolved with different solutions.

In summary, 18 Model Year 2010 Wheel Coach Ambulances built on the Freightliner M2 chassis suffered a variety of intermittent electrical problems over several years. It is unclear that these various problems were connected. Attempts to repair these problems were conducted by a Freightliner dealership in Baltimore, as well as several repair shops in the Baltimore Maryland and Delaware area. Several technicians were attempting to repair the electrical problems being reported. In an effort to gain a better understanding of the root cause, eventually all the vehicles were sent to one repair facility (DPC) for diagnosis. Ultimately, they determined that a dedicated power/ground cable to the dash cluster would solve the problem. To date, that solution has worked. We also note that earlier (2009 model year and later 2011 model year) Freightliner M2 chassis vehicles have not suffered the problems. We have received no complaints and no warranty claims have been processed on these remaining vehicles. Only the identified 18 model year 2010 vehicles have suffered the problem. Wheeled Coach contacted the Freightliner repair facility in Orlando Florida that early on worked on the electrical system of these 18 vehicles (prior to final shipment to Wheel Coach) in an effort to gain an understanding of any modifications and/or differences that makes these 18 vehicles different than their peers. To date, Freightliner has not furnished any information on this matter. Thus, as of February 10, 2015, we have NO failure reports of any type of the model years 2009 and 2011 comparable Freightliner chassis/Wheeled Coach vehicles. Further, we have no complaints on the 9 remaining 2010 vehicles. We have 18 vehicles repaired by DPC and no further complaints since that repair was conducted. We continue to monitor this matter closely.



- a. **The casual or contributory factor(s):** Based on the above information, the main contributory factor indicates a problem with the Freightliner OEM power and ground cables to the dash cluster area.

- a. MAIN CAB HARNESS Module 320
- 1) Connections to bulkhead connector
 - 2) Connections to diagnostic connector (behind ignition switch)
 - 3) Connections to CPC
 - 4) Pass-thru connector to engine compartment
 - 5) Gauge Cluster
 - 6) HVAC unit and controller
 - 7) Steering wheel horn and windshield wiper

- b. **The failure mechanism(s):** Main Cab Harness fails to provide reliable power and ground to the dash area.
- c. **The failure mode(s):** The primary Failure modes are the, dashboard lights sporadically going dark, on an intermittent basis the transmission control pad may fail, emergency lights flashing randomly (due to loss of OEM park signal), windshield wipers turning on and not responding to the "off" position and in some cases a "no-start" condition.
- d. **The risk to motor vehicle safety that it poses:** Risk to motor vehicle safety varies depending on which electrical problem occurred. The loss of instrument cluster status concerning engine performance, fuel levels, engine temperature, oil pressure are the primary concern, although the vehicle could still be driven. Failure of windshield wipers to turn off would not be a safety concern as the vehicle could still be driven. A No-start condition could result in a delay or failure to transport the patient. This may endanger the patient if immediate transportation is necessary.
- e. **What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged effect was occurring or subject component was malfunctioning:**

f.

Warning signs of alleged defect include any one of the following:

- 1) Dash gauge cluster failing to display information.
- 2) Windshield wipers fail to respond to switch position.
- 3) Vehicle failure to indicate gear selector location.
- 4) Vehicle will not start.

- g. **The reports included with this inquiry:**

We have enclosed:

- a. DPC – Repair Orders
- b. Wheeled Coach Standard Conversion Warranty
- c. Wheeled Coach Warranties
- d. Instrument Control Unit ICU3
- e. PE Response Excel Sheet

As stated above, we continue to monitor this problem closely and if we see an indication that the problem goes beyond the identified "18" we will take whatever action is appropriate. If you have questions concerning this matter, please contact me at 855-661-9232 ext. 317

Sincerely,

Ruth Gabaud

Customer Service Coordinator

Wheeled Coach Industries