

Carriage

PE05-030

Jeff
8/30/05

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Mr. Richard Boyd, Chief
U.S. Department of Transportation
National Highway Traffic Safety Administration
Medium & Heavy Duty Vehicle Division
Office of Defects Investigation

August 17, 2005

Re: NVS-214gfb
PE05-030

Mr. Boyd,

Please find enclosed one original and one copy of the responses to your requests on Preliminary Evaluation PE05-030 to investigate wheel cracking and breaking in Carriage model year 2003-2005 Cameo and In Carriage model year 2003 Carri-Lite towable recreational vehicles (RV's). As instructed, certain responses are contained on enclosed CD as Excel files that are indexed by name to the request numbers that they respond to.

I would be happy to answer any additional questions you have as you continue your preliminary evaluation.

Sincerely,



Mark Colglazier
Director of MIS

PE05-030
8/30/05

Office of Defects Investigation of the National Highway Traffic Safety Administration
Preliminary Evaluation
NVS-214gth PED5-030
Submitted by Carriage, Inc.
August 17, 2005

Information Request

1. *By model, model year, state the total number of subject trailers sold in the United States.*

Response

See EXHIBIT A - "Request Number 1 - Carriage, Production Information"

Source of response and last date source updated

Internal database information updated July 2005

2. *List the wheels (excluding spares) and the associated quantity that Carriage installed as original equipment in the vehicles identified in response to Request No. 1 by vehicle model and model year.*

Response

Model	Model Year	Wheel Used	Qty Used
Cameo SEL	2003	3601612	62
		3601613	80
Cameo LXI	2003	3601612	460
		3601613	2595
Carri-Lite	2003	3601613	198
		3601623	828
Compass	2004	3601623	16
		3601638	12
Cameo LXI	2004	3601623	800
		3601638	2512
Cameo LXI	2005	3601623	1048
		3601638	1580
Compass	2005	3601623	12
		3601638	4

Source of response and last date source updated

Internal database information updated July 2005

3. *For each wheel part number listed in response to Request No. 2, provide a table that identifies*
- a) *Carriage's part number;*
 - b) *The name of the wheel supplier;*
 - c) *The supplier's part number*
 - d) *The wheel rating*
 - e) *The number of mounting holes*
 - f) *The nominal size of the mounting holes; and*
 - g) *A brief description of the material composition and construction of the wheel (e.g. cast aluminum, fabricated steel, fabricated chrome plated steel, etc).*

Response

Carriage Part #	Supplier	Supplier Part #	Wheel #	Mount Rating	Hole Hole Size	Const Desc
3601612	Tredit	Y170120	E	8	9/16"	Fab Chrm Pll Steel
3601613	Tredit	Y430033	E	8	9/16"	Fab Chrm Pll Steel
3601623	Tredit	Y430416	G	8	9/16"	Fab Chrm Pll Steel
3601639	Tredit	Y704500	D	8	9/16"	Fab Chrm Pll Steel

Source of response and last date source updated

Vendor specifications and Internal database information updated July 2005

4. State the number of each of the following, received by Carriage, or of which Carriage is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles received by Carriage since June 30, 2002, pertaining to:
- Consumer complaints, including those from fleet operators;
 - Field reports, including dealer field reports;
 - Reports involving an injury or fatality, based on claims against the manufacturer, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
 - Property damage claims;
 - Third-party arbitration proceedings where Carriage is or was a party to the arbitration; and
 - Lawsuits, both pending and closed, in which Carriage is, or was, a defendant or codefendant.

Response

See EXHIBIT B – "Request Number 4 – Complaint Summary Data"

Source of response and last date source updated

Internal customer service records last updated July 2005

5. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of the response to Request No. 4, state the following information:
- Carriages file number or other identifier used;
 - The category of the item, as identified in Request No. 4 (i.e., consumer complaint, field report, etc.);
 - Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
 - Vehicle VIN;
 - Vehicle make, model and model year;
 - Vehicle mileage at time of incident;
 - Incident date;
 - Report or claim date;
 - Whether property damage is alleged;
 - Number of alleged injuries, if any; and
 - Number of alleged fatalities, if any.

Response

See EXHIBIT C – "Request Number 5 – Complaint Details"

See EXHIBIT C2 – "Request Number 5 – Complaint Details"

Source of response and last date source updated

Internal customer service records last updated July 2005

6. *State, by model and model year, a total count for all of the following categories of claims, collectively, whether reimbursed, adjusted, or not reimbursed by Carriage to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for goodwill 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.*

Separately, for each such claim, state the following information:

- a) *Carriage'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;*
- k) *Comment, if any, by dealer/technician relating to claim and/or repair; and*
- l) *Claim disposition (reimbursed, adjusted, or not reimbursed).*

Response

See EXHIBIT D – "Request Number 6 – Warranty Information"

Source of response and last date source updated

Internal customer service records last updated July 2005

7. *Describe in detail the search criteria used by Carriage to identify the claims identified in response to Request No. 6, 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.*

Response

Searched the warranty claims database for claims filed for VIN's included in the population of vehicles identified in response to Request No. 1 in this document. Sorted and extracted claims containing any of the fault codes listed below. Additionally searched claims of population VIN's for reference to replacement wheel part numbers identified in response to question 8 of this document regardless of problem codes used on claims.

Labor Op Codes: Labor (multiple codes not used)

Problem Codes:	Fault Code	Assoc Failure Code
	1000118 Steel Rims	05 Broken
	1000105 Tires	06 Component Failure
	1000110 Alum Rims	08 Damage on Delivery 37
	1000137 Spare Tire	14 Incorrect Installation
		16 Leaks
		23 Peeling
		27 Rusted
		46 Cracked
		57 Vendor Defect

Source of response and last date source updated

Internal customer service records and Internal database last updated July 2005

State, by make and model year, the terms of the new vehicle warranty coverage offered by Carriage 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 Carriage offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under such extended warranty.

Response

Make	Model	Model Year	Terms	Coverage
Carriage	Cameo SEL	2003	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E
Carriage	Cameo LXI	2003	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E
Carriage	Cami-Lite	2003	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E
Carriage	Compass	2004	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E
Carriage	Cameo LXI	2004	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E
Carriage	Compass	2005	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E
Carriage	Cameo LXI	2005	2 yr bumper-to-bumper, 5 yr structural	See Exhibit E

Source of response and last date source updated

Product warranty policy last updated July 2005

8. *List the part numbers of all wheels which Carriage sold as replacement parts for the vehicles listed in response to Request No. 1 and state the quantity of each aftermarket/replacement wheel by part number that Carriage has sold by year from 2002 to present.*

Response

Subject Chrome Mod Wheels as Replacement for Same:

Carriage Part #	Description	Supplier Part #	2002	2003	2004	2005
3601612	Tire/Rim Assy	Y170120	0	0	1	0
3601613	Tire/Rim Assy	Y430033	0	2	4	0
3601623	Tire/Rim Assy	Y430415	0	7	2	0
3601639	Tire/Rim Assy	Y704500	0	0	0	0
3601622	Tire/Rim Assy	Y430033	0	0	1	0
3601643	Rim Only	JC16X6885CRHD	0	1	18	8
3601538	Rim Only	JC16X6885CR	2	10	28	15
3601654(sub)	Rim Only	JC16X6885DCRCC	0	0	2	0

Aluminum Wheels as Replacement for Subject Wheels:

Carriage Part #	Description	Supplier Part #	2002	2003	2004	2005
3601982	Tire/Rim Assy	B71-6781 HD	0	0	0	0
3601993	Tire/Rim Assy	AY235	0	0	0	0
3601999	Tire/Rim Assy	AZ122	0	0	0	0
3601985	Rim Only	B71-6781 HDRIM ONLY	0	0	0	0
3602009	Rim Only	HM25	0	0	0	0

Source of response and last date source updated

Internal customer service records and internal database information updated July 2005

9. *Describe all modifications or changes made by, or on behalf of, Carriage in the design, material composition, manufacture, quality control, supply, or installation of the subject component, from 2002 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:*

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

Response

- On 05/10/05 Carriage discontinued installation of the subject wheels on all vehicles manufactured from that point forward.
- Product specifications for products equipped with subject wheels (both as standard or optional equipment) were changed to substitute aluminum wheels instead of chrome steel wheels when built.
- Through contact with NHTSA and subsequent discussion with vendors it became evident to Carriage that there appeared to be an ongoing and unresolved problem with the integrity of the subject wheels.
- Part numbers of original components:

Model Year 2002 to May 10, 2006 (MY 2006)

Wheel/Tire Assembly Part#
 3601612 (Vend# Y170120)
 3601613 (Vend# Y430033)
 3601623 (Vend# Y430416)
 3601639 (Vend# Y704500)

Rim Only Part#
 3601538 (Vend# JC16X8885CR)
 3601643 (Vend# JV16X8885CRHD)
 3601643 (Vend# JV16X8885CRHD)
 3601538 (Vend# JC16X8885CR)

e) Part numbers of new components:

Effective May 10, 2005 thru end of Model Year 2005 Production (June 2005):
The following are HD Aluminum Rims supplied by Twin Air Products, Inc.

Wheel Tire Assembly Part#	Rim Only Part#
3601982 (Vend# B71-6781 HD)	3601985 (Vend# B71-6781 HDRIM ONLY)

Effective beginning Model Year 2006 thru present:
The following are HD Aluminum Rims supplied by RFD Components, Inc.

Wheel Tire Assembly Part#	Rim Only Part#
3601993 (Vend# AY235)	3602009 (Vend# H1425)
3601999 (Vend# AZ122)	3602009 (Vend# H1425)

- f) The original component was last used in production of new vehicles on 5/10/2005. The Carriage Parts Dept stopped sending the original component out for parts orders when notified on 7/14/2005 that Tredit was no longer using the component for replacement in the field.
- g) The modified component was made available to Carriage Warranty and Parts Department at the time of it's introduction to manufacturing as the replacement for the original component.
- h) Aluminum wheels should be interchanged with steel wheels in sets only.

Source of response and last date source updated

Internal customer service records and internal database information updated July 2005

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

Response

None planned at this time

Source of response and last date source updated

Discussion with Purchasing, Engineering, and Production Management personnel – July 2005

10. *Describe all requested deviations from conformance to specifications received from all sources, pertaining to the wheels installed in vehicles identified in response in Request No. 1, the affected vehicle production, and provide a summary of the disposition for each of the requested deviations.*

Response

No deviations noted

Source of response and last date source updated

Discussion with Purchasing, Engineering, and Production Management personnel – July 2005

11. *List and describe all assessments (analyses, tests, etc.) and provide a summary of the results of these assessments performed by, or for, Carriage that were the basis for Carriage's acceptance of the suitability (capacity, strength, filament, etc.) of the wheels listed in response for Request No. 2 for Carriage's towable RV applications.*

Response

Carriage performed no specific tests or analyses on the subject wheels to ascertain suitability for Carriage's towable applications. Carriage relied on published weight ratings and specifications of the subject wheels to select appropriate wheel for each application based on GVWR of vehicle and weight rating of axles specified along with recommendation by vendor regarding suitability for application.

Source of response and last date source updated

Discussion with Purchasing and Engineering Management personnel – July 2005
Vendor's product specifications

12. *Provide a copy of all inspection reports conducted by Carriage, Carriage's suppliers, and/or sub-contractors on wheels removed from subject vehicles that had been reported cracked, broken, or leaking air.*

Response

No inspection reports were prepared by Carriage for wheels returned due to leaks, breaks, or cracks as these wheels were ultimately being returned to vendor with necessary expertise to assess failure mechanism and mode. Carriage requested copies of any such reports from Tredit and was informed that neither they nor US Wheel had any such documents to provide us. See Exhibit F.

Source of response and last date source updated

Internal customer service parts department records last updated July 2005

13. *Describe all assessments, analyses, tests, test results, studies, 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 by, or for, Carriage. For each such action, provide the following information:*
- a) Action title or identifier;*
 - b) The actual or planned start date;*
 - c) The actual or expected end date;*
 - d) Brief summary of the subject and objective of the action;*
 - e) Engineering group(s)/supplier(s) responsible for the designing and for conducting the action; and*
 - f) A brief summary of the findings and/or conclusions resulting from the action.*

Response

None to date

Source of response and last date source updated

Internal customer service parts department records last updated July 2005

14. *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

None to date

Source of response and last date source updated

Internal customer service parts department records last updated July 2005

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

Response

None issued to date

Source of response and last date source updated

Internal customer service parts department records last updated July 2005

16. *Furnish Carriage's assessment of a wheel that is cracked or broken through the weld that attaches the wheel rim to the wheel center in the subject components, including:*
- a) *The failure mechanism(s);*
 - b) *The failure mode(s);*
 - c) *The risk to motor vehicle safety that posed*
 - d) *What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning.*

Response

- a) The failure mechanism is unknown to us at this time.
- b) Cracking occurs at weld points between the rim and the hub of the wheel assembly.
- c) Rim portion of wheel assembly could detach from the hub portion resulting in loss of control of the vehicle.
- d) Warnings may include loss of air pressure in tire of affected wheel due to crack in wheel assembly or vibration when underway due to wobbling of rim on the hub.

Source of response and last date source updated

Discussion with Service, Warranty, and Engineering Dept personnel - June 2006

17. *Furnish Carriage's assessment of a wheel that is cracked or broken through the rim resulting in a loss of tire air pressure in the subject components, including:*
- a) *The failure mechanism(s);*
 - b) *The failure mode(s);*
 - c) *The risk to motor vehicle safety that posed*
 - d) *What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning. Include a discussion about the likelihood that a persistent loss of air pressure would be evident to the operator.*

Response

- a) The failure mechanism is unknown to us at this time.
- b) Cracking occurs at weld points between the rim and the hub of the wheel assembly allowing air to leak from tire resulting in tire not holding required air pressure.
- c) Under inflated tire could lead to tire blow out which could result in loss of control of vehicle.

- d) In the case of a slow leak the tire would not maintain prescribed inflation pressure and would require persistent maintenance to keep at required pressure. Low pressure in a tire would result in higher tire temperature under operation than a properly inflated tire and could be detected by touch after operating vehicle at highway speeds for a sufficient amount of time. At some point as the tire pressure drops the condition would be apparent from a visual inspection by noting appearance of tire sidewall in the area where it comes in contact with the ground.

Source of response and last date source updated

Discussion with Service, Warranty, and Engineering Dept personnel – June 2005