



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

JAN 21 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Kim Price
Senior Vice President Administration
Keystone RV Company
P. O. Box 2000
17400 Hackberry Drive
Goshen, Indiana 46527-2000

NVS-214tb
EA04-032

Dear Ms. Price,

This letter is to inform you that the Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) has opened an Engineering Analysis (EA04-032) to investigate reports of wheel separations that have occurred in "towable" Recreational Vehicles (RVs) manufactured by Keystone RV Company ("Keystone").

According to the information that Keystone provided to ODI on October 19, 2004, in response to inquiries conducted under Preliminary Evaluation, PE04-051, Keystone RV has received reports of 125 wheel separations during the eighteen-month period between March 2003 and July 2004.

Following is a summary of the reported wheel separation incidents.

**Number of Wheel Separation Incidents reported to ODI by Keystone RV
for Reports received between March 2003 and July 2004**

Wheel Separations	Vehicles Equipped With Steel Wheels	Incidents per 100,000 vehicles
110	57,743	190

Wheel Separations	Vehicles Equipped with Aluminum Wheels	Incidents per 100,000 vehicles
15	6,984	215

Source: Data that Keystone RV provided to ODI on October 19, 2004.
Incidents "newly reported" since October 19, 2004, are not included.



DOT AUTO SAFETY HOTLINE
888-DASH-2-DOT
888-327-4236

Complaints to ODI -

ODI has researched ODI's database of consumer complaints and found one potentially relevant Vehicle Owners Questionnaire (VOQ 10052216) that ODI received from the owner of a 2001 Keystone Tailgator RV who reported the separation of a steel wheel from that vehicle in August 2003. (Keystone RV had also listed this incident in the summary provided to ODI on October 19, 2004.)

On August 24, 2004, (after ODI had initiated Preliminary Evaluation PE04-051), ODI received VOQ 10091780 from an owner of a Keystone Montana (no model year specified) fifth wheel RV that allegedly experienced the separation of an aluminum wheel. ODI contacted this owner who advised ODI that he also sent a copy of his complaint directly to Keystone RV.

ODI Visit to Keystone -

On October 7, 2004, ODI visited Keystone RV in Goshen, Indiana, to inspect a model year 2003 Montana VIN 4YDF2952334XXXXXX (*) that had experienced a steel wheel separation on September 23, 2004.

(*) ODI has redacted the last six digits of the VIN to protect the privacy of the vehicle owner.

During ODI's October 7, 2004 visit to Keystone, several Keystone RV representatives met with the engineers from VRTC and ODI to review the wheel separation issue. During those conversations, Keystone briefly described a service program conducted in the fall of 2003 that had been prompted by several wheel separations soon after Keystone began installing axle assemblies supplied by Dexter Axle Company (Elkhart, Indiana). These separation incidents prompted Keystone to issue Service Advisory A04-036 (which was evidently sent to Keystone dealers, but not owners). Service Advisory A04-036 states that that "Dexter is replacing the drums and hubs of all affected units" due to "to excess paint on the hub faces" of vehicles equipped with "6 lug aluminum wheels." This Advisory pertains solely to model year 2004 Montana fifth wheel vehicles within the vehicle serial number range of 508282 through 508484. ODI has attached copy of this Advisory as Attachment A.

After the October 7, 2004 discussion ODI contacted a representative of Dexter Axle Company and requested that he provide ODI with a summary of the issue. ODI has attached a copy of Dexter Axle Company's response dated October 27, 2004, as Attachment B to this inquiry.

In order for my staff to evaluate this issue, ODI is requesting certain information about the background, investigation findings, and corrective actions associated with Service Advisory A04-036, information about newly reported incidents, and other information pertinent to the issue of wheel separations.

Newly Reported Incidents-

At the October 7, 2004 meeting with Keystone RV, ODI requested Keystone to notify ODI promptly of any newly reported wheel separation incidents (with incident details), regardless of the suspected cause, that are reported to Keystone RV, or which have been reported to Keystone RV since October 7, 2004. Since that meeting, Keystone has notified ODI of eleven newly reported wheel separation incidents.

The purpose of this section of this Information Request is to formalize the verbal request made to Keystone RV on October 7, 2004, for Keystone RV to provide ongoing reports to ODI of all newly reported wheel separation incidents.

ODI requests prompt notification of any newly reported wheel separation incidents reported to Keystone RV since there is a high likelihood that ODI would send a team to inspect the affected vehicle and/or relevant wheel end components and would like to conduct this inspection as soon as possible before repairs are performed so that the risk that components are discarded, lost, re-used, etc. is minimized. Accordingly, Keystone RV must notify ODI within 48 hours when Keystone RV learns of a wheel separation due to any cause; whether or not confirmed, regardless of vehicle age, and whether or not loosening or breakage of the wheel mounting nuts and/or wheel mounting studs is the suspected cause.

This request is ongoing and terminates on December 31, 2005, but may be extended if circumstances warrant.

Each notification should be e-mailed to **tom.bowman@nhtsa.dot.gov** (phone 202-366-6961). The notification should provide as much of the following incident information as possible. Timeliness is critical. Any of the requested information that is not immediately available at the time of initial incident notification must be provided as soon thereafter as it becomes available.

Each notification should, at a minimum, include the following information:

1. Vehicle Identification Number (VIN) of trailer;
2. Build date of trailer;
3. Owner's name, address, and phone number;
4. Date of incident;

5. Location of incident;
6. Whether any property damage, personal injuries, and/or fatalities are alleged to have resulted from the incident;
7. Current location of trailer, wheel mounting nuts and studs, and separated wheel;
8. Name of Keystone RV's supplier of the axle assembly and Keystone's part number of the axle assembly installed in the incident vehicle;
9. Name of Keystone RV's supplier of the wheels and Keystone's part number of the wheels installed in the incident vehicle;
10. Description of incident.

Note: The above list requests some items of information that had not been included in ODI's former verbal request.

Information Requested –

ODI is requesting certain additional information from Keystone RV.

Unless otherwise stated in the text, the following definitions apply to these information requests:

- **Subject vehicle(s):** all "Travel Trailer and Fifth Wheel" vehicles manufactured by Keystone RV since January 1, 2000, and sold or leased in the United States.
- **Subject components:** the wheels, brake drums or brake rotors, hubs, wheel mounting studs, and/or wheel mounting nuts installed in the subject vehicles
- **Keystone RV Company ("Keystone"):** all of its past and present officers and employees, whether assigned to its principal offices or any of its field or other locations, including all of its divisions, subsidiaries (whether or not incorporated) and affiliated and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee to a consultant) by or under the control of Keystone RV (including all business units and persons previously referred to), who are or, in or after 2000 were involved in any way with any of the following related to the alleged defect in the subject vehicles:
 - a. Design, engineering, analysis, modification or production (e.g. quality control);
 - b. Testing, assessment or evaluation;

- c. Consideration, or recognition of potential or actual defects, reporting, record-keeping and information management, (e.g., complaints, field reports, warranty information, part sales), analysis, claims, or lawsuits; or
 - d. Communication to, from, or intended for zone representatives, fleets, dealers, or other field locations, including but not limited to people who have the capacity to obtain information from dealers.
- **Alleged defect:** loosening or separation of the wheels
 - **Document:** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, mailgrams, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative filings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by Keystone RV, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document which contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any non-identical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or

photograph originally produced in color must be provided in color. Furnish all documents whether verified by the manufacturer or not. If a document is not in the English language, provide both the original document and an English translation of the document.

- **Other Terms:** To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "fire," "fleet," "good will," "make," "model," "model year," "notice," "property damage," "property damage claim," "rollover," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or in plural form, have the same meaning as found in 49 CFR 579.4.

In order for my staff to evaluate the alleged defect, certain information is required. Pursuant to 49 U.S.C. § 30166, please provide numbered responses to the following information requests. When documents are produced, the documents shall be produced in an identified, organized manner that corresponds with the organization of this information request letter (including all individual requests and subparts). When documents are produced and the documents would not, standing alone, be self-explanatory, the production of documents shall be supplemented and accompanied by explanation.

Please repeat the applicable request verbatim above each response.

After Keystone RV's response to each request, identify the source of the information and indicate the last date the information was gathered.

To the extent possible, provide the requested information in Microsoft 2000 Access or Excel electronic format.

Investigation Activities, Findings, and Corrective Action Associated with Keystone Service Advisory # A04-036

ODI is concerned about whether Keystone has identified and corrected the major factors causing or contributing to the wheel separation issue that was the subject of Service Advisory A04-036 affecting Keystone vehicle serial numbers 508282 – 508484 and whether the factors identified may have been contributing or causal factors to wheel separations in other Keystone vehicles.

Following the October 7, 2004, meeting that ODI conducted with Keystone, ODI

requested Dexter Axle Company to summarize Dexter Axle Company's activities as they related to Keystone Service Advisory A04-036. Dexter Axle Company's response, dated October 27, 2004, is provided as Attachment B. This summary identifies two groups of vehicles:

- (A) 45 vehicles that "were inspected and re-torqued at the Keystone facility and the transport yards (identified as pages 5 and 6 of Attachment B) and
- (B) 56 vehicles of which 39 were "remedied at the dealers" (identified as pages 3 and 4 of Attachment B). Dexter Axle Company explained to ODI that the 39 light-colored (unshaded) rows in the table indicate vehicles "remedied at the dealers." From the documentation, it is not clear whether the 17 vehicles (identified by the 17 shaded rows in the table provided) have, in fact, been repaired and, if so, by whom.

Note: ODI requested Dexter Axle to provide a more "workable/useful" format (electronic format and/or legible) copy than the "hard paper" copy attached. Dexter advised ODI that Keystone had prepared the tables and that the attached copy was the best copy that Dexter had.

1. For each vehicle that was the subject of Keystone Service Advisory A04-036 (i.e. VIN serial numbers 508282 through 508484), provide a table that identifies:
 - (a) the VIN number;
 - (b) the date of manufacture;
 - (c) the Keystone assembly plant where the wheels were installed;
 - (c) the Keystone part number of the axle assembly installed in the vehicle;
 - (d) the name of the supplier of the axle assembly;
 - (e) the Keystone part number of the wheels installed in the vehicle;
 - (f) the name of the supplier of the wheels;
 - (g) the material that the wheels are made of (aluminum, steel, etc.);
 - (h) the name of the company (Keystone, Dexter, dealers's name, etc.) that performed the recommended repair; and
 - (i) the date of the repair.

Provide the table in Microsoft Access 2000, Excel 2000, or a compatible format, entitled "REQUEST NUMBER ONE - VEHICLES REQUIRING SERVICE PER A04-036."

2. For the vehicles listed in response to Request No.1, identify those vehicles for which Keystone had received a report of a wheel separation or wheel loosening occurring prior to receiving the repairs conducted in response to Keystone Service Advisory A04-036.
3. For the vehicles listed in response to Request No.1, identify those vehicles for which Keystone has received a report of a wheel separation or wheel loosening occurring subsequent to receiving the repairs conducted in response to Keystone Service Advisory A04-036.
4. Provide a table that lists:
 - (a) the VINs of all "towable" vehicles that Keystone manufactured during the same time period that VIN serial numbers 508282 through 508484 were manufactured [i.e., between the earliest and latest vehicle build dates that Keystone has identified in response to Request No.1 (b)];
 - (b) the assembly plant where the wheels were installed;
 - (c) the name of the supplier of the axle assembly;
 - (d) the Keystone part number for the axle assembly;
 - (e) the supplier's part number for the axle assembly;
 - (f) the name of the supplier of the wheels;
 - (g) the Keystone part number for the wheels;
 - (h) the supplier's part number for the wheels;
5. Explain the reason(s) that Keystone decided that the vehicles that Keystone RV has identified in response to Request No. 4 (other than VIN serial numbers 508282 through 508484) did not require the repairs outlined in Keystone Service Advisory A04-036.
6. On October 27, 2004, in response to an ODI request, Dexter Axle Company provided ODI with two lists identifying vehicles that either had been, or required, the repairs outlined in A04-036.

List # 1 (pages 5 and 6 of Attachment B) identifies the values of the wheel mounting nut torque that were recorded when the 45 vehicles within the serial number range of 508282 and 508484 "were inspected and re-torqued at the Keystone facility and the transport yards."

The table indicates that torque measured on the individual wheel mounting nuts exhibited a wide variation (ranging from 2 ft-lb to 180 ft-lb) in torque values prior to correction. The measured torque values also indicate that a significant number of wheel ends had at least one and, in many cases, several, wheel mounting nuts that were found to be outside the specified torque range of 90-95 ft-lbs (torque specification per page 14, Keystone Owner's Manual).

This information indicates that the quality and consistency of assembly may have been, and could continue to be, a significant factor in wheel loosening and/or separations in Keystone vehicles.

6 (a). Provide a copy of the specified wheel mounting and installation procedures for the various wheel and axle combinations, including the wheel nut torque values specified, applicable to Keystone vehicles built within the serial number range of 508282 through 508484.

Include a copy of the procedures and/or recommendations for torque checks and/or retorquing that were specified or recommended to transporters, dealers, owners and/or other parties.

6 (b). Provide a copy of the quality control plan that Keystone used for vehicles built within the serial number range 508282 through 508484. (Note: Wheel end assembly procedures are not quality control plans. The requested quality control plan information should describe the checks that were to be performed and the frequency that these checks were performed to assure that the wheel nuts had been torqued as specified in 6(a), above. At this time, ODI is requesting only the procedures and not copies of the actual quality audit records (plant data) indicating the results of the requested quality control plans.)

6 (c). Describe the investigation activities that Keystone conducted in response to the wheel separations whether these investigation activities preceded or followed Keystone Service Advisory A04-036

6 (d). Describe the deficiencies that the investigation activities listed in response to 6 (c), above, identified and list the responsive actions that Keystone RV implemented to correct the identified deficiencies and the date that those actions were implemented.

6 (e). Explain the reason(s) that the wheel nut torque values recorded in List # 1 exhibit torque values that are outside of the specified torque range and the reason(s) that the measured torque values exhibit the wide variability that is evident in the data.

PRODUCTION DATA BY WHEEL CONFIGURATION

7. Provide a table that identifies the number of Keystone Recreational Vehicles built since March 2003, by model year, by plant, and by vehicle model, equipped with:
 - (a) aluminum wheels with five hole mounting;
 - (b) aluminum wheels with six hole mounting;
 - (c) aluminum wheels with eight hole mounting;
 - (d) steel wheels with five hole mounting;
 - (e) steel wheels with six hole mounting;
 - (f) steel wheels with eight hole mounting;
 - (g) any "other" wheel material and/or mounting configurations that Keystone has used to install wheels on recreational vehicles manufactured since March 2003. (Provide a brief description of each additional wheel mounting configuration and wheel material listed.)

Provide the table in Microsoft Access 2000, Excel 2000, or a compatible format, entitled "REQUEST NUMBER SEVEN – PRODUCTION DATA BY WHEEL CONFIGURATION."

WHEEL END COMPONENT SPECIFICATIONS FOR WHEEL SEPARATION INCIDENT VEHICLES

8. For each wheel separation incident reported to Keystone since March 2003, identify:
 - (a) the VIN;
 - (b) the Gross Vehicle Weight Rating (GVWR);
 - (c) the number of trailer axles installed in the vehicle;
 - (d) the Gross Axle Rating (GAWR);
 - (e) the vehicle build date;
 - (f) the manufacturing or assembly site at which the wheels were installed to the vehicle
 - (g) Keystone's part number for the axle assembly installed;
 - (h) the supplier of the axle assembly installed;
 - (i) Keystone's part number for the wheels installed;
 - (j) the supplier of the wheels installed;
 - (k) the number of mounting holes in the wheels;
 - (l) the mounting circle of the wheel mounting studs;
 - (m) the nominal diameter of the wheel mounting stud;
 - (n) a brief description of the material composition of the wheels installed (steel, aluminum, etc.); and
 - (o) state whether the wheel is hub piloted or stud piloted.

Provide the table in Microsoft Access 2000, Excel 2000 or a compatible format, entitled "REQUEST NUMBER EIGHT - WHEEL END COMPONENT SPECIFICATIONS FOR WHEEL SEPARATION INCIDENT VEHICLES."

9. For each supplier identified in response to Request No. 8, "Incident Data," identify the supplier's company name, address, contact name, and phone number.
10. List the quantity of components that Keystone installed by model year and plant for each part number of (a) wheel and (b) axle assembly listed in response to Request No. 8, "Incident Data."
11. For each vehicle listed in response to Request No. 8, "Incident Data," identify and describe any components or materials that Keystone installed in the wheel end assembly other than the hub, wheel, wheel mounting studs and wheel mounting nuts such as, but not limited to wheel spacers, anti-rust agents, lubricants, or the like and describe the vehicle configurations, facilities, and/or time periods in which these supplemental components or materials had been installed or applied.

CHANGES IN ASSEMBLY AND/OR QUALITY CONTROL PROCESSES FOR WHEEL END ASSEMBLIES

12. Describe and provide a copy of the wheel mounting and wheel nut torque procedures that were in effect as of March 2003.

Include any instructions that Keystone provides to transporters, dealers, and vehicle owners.

Describe all changes in the wheel mounting and wheel nut torque procedures implemented since March 2003 until the present, the date that the change was implemented, and the reason for the change.

13. Describe and provide a copy of the manufacturing quality control plans, including frequency and method, that were in effect as of March 2003 that Keystone RV has used to assure the correct mounting of the wheel to the hub and for validating that the wheel mounting nuts have been correctly installed and torqued.

Describe all changes in the manufacturing quality control plans, including

frequency and method, since March 2003 until the present, that Keystone RV has used to assure the correct mounting of the wheel to the hub and for validating that the wheel mounting nuts have been correctly installed and torqued.

14. Provide a data based summary that indicates the conformance to specification (or percent non-conforming) of the torque values recorded during production quality audits conducted for each manufacturing plant since March 2003.

VEHICLE DESIGN – WHEEL RETENTION CLAMP JOINT

15. Identify each logical grouping or “vehicle family” consisting of identical or equivalent wheel end components (i.e., equipped with identical or substantially similar wheels, hubs, wheel mounting studs and wheel mounting nuts) and provide the approximate clamp strength of the wheel end joint and identify the method by which Keystone RV established the clamp strength (calculation, published information, vendor, measurement, etc.).
16. Identify each logical grouping or family that share common wheel end components (wheel, hub, brake drum or rotor, wheel mounting stud and wheel mounting nut) and provide the estimated clamp requirements of the wheel end joint, a brief description of vehicle maneuver(s) that was considered in arriving at the stated clamp requirements (e.g. static, cornering, braking, etc.) and the method by which Keystone RV established the clamp requirements (calculation, published information, vendor, measurement, etc.).

CHANGES – WHEEL END SYSTEM

17. Describe all modifications or changes made by, or on behalf of, Keystone RV in the design, material composition, manufacture, quality control, supply, or installation of the subject components (wheel, axle hub, wheel mounting studs, wheel mounting nuts), from Model Year 2000 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 Keystone RV is aware of which may be incorporated into vehicle production within the next 120 days.

Note: All changes intended to improve the integrity and durability of the wheel mounting system that were implemented in response to wheel separation and wheel loosening should be clearly identified as such.

18. Describe all requested deviations from conformance to specifications received from all sources, the affected vehicle production, and provide a summary of the disposition for each of the requested deviations for the wheels, hubs, brake drum or rotor, wheel mounting studs, and wheel mounting nuts installed in the vehicles manufactured since March 2003.

FIELD RETURN INFORMATION

19. Provide a list that identifies (1) the VIN for each of the reported wheel separation incidents that has occurred in vehicles identified in response to Request No. 8, "Wheel Separation Incident Data"; (2) whether the incident occurred in transit between Keystone RV and the selling dealer or after having been placed in service by the vehicle purchaser; (3) all of the wheel components (including but not limited wheels, wheel mounting nuts, wheel mounting studs, hub, and brake drum or brake rotor) that have been returned to Keystone RV or to Keystone RV's suppliers, contractors, consultants, etc.; (4) the current location of the retained returned components (5) the name and phone numbers of the custodian of the retained components.

If no components were returned from a listed incident, so state. If components were returned and later scrapped, so state and provide the approximate date and location that the returned components were scrapped.

20. Provide a copy of all inspection reports conducted by Keystone RV, Keystone RV's suppliers, and/or sub-contractors on returned wheel end components including but not limited to wheels, hubs, brake drums or rotors, wheel mounting studs and wheel mounting nuts listed in response to Request No 19.
21. 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, Keystone RV. 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 designing and for conducting the action; and
 - (f) A 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.

MANUFACTURER'S ASSESSMENT

22. Furnish Keystone's detailed opinion of the alleged defect in the subject vehicles. Include an assessment of the following:
- (a) the causal or contributing factors;
 - (b) the failure mode;
 - (c) the risk to motor vehicle safety that it poses;
 - (d) what warnings, if any, are provided to the operator and other persons.

NOTICES

23. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Keystone RV has received from suppliers and/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.

24. Other than Keystone Service Advisory 04A-036, produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Keystone RV has issued to any owners, 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 Keystone RV is planning to issue within the next 120 days.

This letter is being sent to Keystone RV pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to request reports and the production of things. It constitutes a new request for information. Keystone RV's failure to respond promptly and fully to this letter could subject Keystone RV to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. (Other remedies and sanctions are available as well.) Please note that maximum civil penalties under 49 U.S.C. § 30165 have increased as a result of the recent enactment of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, Public Law No. 106-414 (signed November 1, 2000). Section 5(a) of the TREAD Act, codified at 49 U.S.C. § 30165(b), provides for civil penalties of up to \$5,000 per day, with a maximum of \$15 million for a related series of violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. This includes failing to respond to ODI information requests.

If Keystone RV cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, Keystone RV does not submit one or more requested documents or items of information in response to this information request, Keystone RV must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

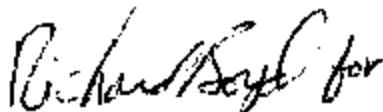
Keystone RV's response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by March 17, 2005. Please refer to EA04-032 in Keystone RV's response to this letter. If Keystone RV finds that it is unable to provide all of the information requested within the time allotted, Keystone RV must request an extension from me at (202) 366-4933 no later than five business days before the response due date. If Keystone RV is unable to provide all of the information requested by the original deadline, it must submit a partial response by

the original deadline with whatever information Keystone RV then has available, even if an extension has been granted.

If Keystone RV claims that any of the information or documents provided in response to this information request constitute confidential commercial material within the meaning of 5 U.S.C. § 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. § 1905, Keystone RV must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with 49 CFR Part 512, to the Office of Chief Counsel (NCC-113), National Highway Traffic Safety Administration, Room 5219, 400 Seventh Street, S.W., Washington, D.C. 20590. Keystone RV is required to submit two copies of the documents containing allegedly confidential information (except only one copy of blueprints) and one copy of the documents from which information claimed to be confidential has been deleted.

If you have any technical questions concerning this matter, please call Mr. Tom Bowman of my staff at (202) 366-6961.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kathleen DeMeter for".

Kathleen DeMeter, Director
Office of Defects Investigation
National Highway Traffic Safety Administration

Attachment A – Keystone RV Service Advisory A04-036

Attachment B – Dexter Axle Company Summary dated October 27, 2004

SERVICE ADVISORY # A04-036

Montana aluminum wheel retention

Models Included:

2004 Montana Fifth Wheels with aluminum wheels and Dexter 6 lug axles

Serial Number Range:

From 508282 to 508484

Some units in this range are equipped with Dexter 6 lug axles. Excess paint on the hub face of these axles can cause aluminum wheels to experience loss of torque. This can result in catastrophic wheel loss.

Parts Required: Dexter is replacing the drums and hubs of all affected units.

This applies only to Montana fifth wheels (not Big Sky) with 6 lug aluminum wheels and Dexter axles. Only the units within the serial number range listed above are involved. We have identified the location of all units involved and you have been contacted by Keystone to hold those units. Dexter is already arranging shipment of the replacement hubs and drums to your dealership.

Attached is information concerning the proper torque procedure for the wheels. It is extremely important that you adhere to the torque procedure! Recognize that by the time a typical unit reaches your dealership the lug nuts have been tightened at the factory (twice) and by the transporter at the 25, 50 and 100 mile intervals. By replacing the hubs and drums we must start the tightening process over from the beginning. Make sure the customer understands the critical importance of adhering to this schedule. Detailed instructions for removing and reinstalling the hubs and drums will be enclosed with your parts shipment from Dexter Axle.

The total amount of time allotted for this repair is three (3) hours. Submit labor expense to Dexter on a Keystone Warranty claim form with the Service Bulletin (# A04-036) noted in the customer complaint section of the form. Please note "Attention: Service and Warranty" when mailing. Dexter's address is:

Dexter Axle

2900 Industrial Parkway East

P.O. Box 250

Elkhart, IN 46515

If you have any questions please call our Team Montana service group at (888) 273-1450. Dexter's service and warranty department can be contacted at this number: (574) 295-8666.



2004 DEC 4 A 4 25

October 27, 2004

REPLY TO INVESTIGATION

Mr. Tom Bowman
NHTSA / DOT
400 7th St SW
Washington, DC 20590

Re: Keystone RV

Tom:

Per your request, I want to recap the activities that took place in October / November of 2003 relating to aluminum wheel separations experienced by Keystone RV.

This situation occurred just as Dexter Axle began doing business with Keystone. They began receiving reports of wheel separations, mostly during delivery of the vehicles to their various dealers. We of course, were called in to help determine what the cause might be since it was perceived that this was a new problem, unique to Dexter axles. In our efforts to understand what might be different between the AlKo axle (previous supplier) and the Dexter offering, we inspected both products. Based on a very small sampling, we noticed the paint on the Dexter product was thicker than the AlKo. Since paint was one of the factors that I had identified in my earlier bulletins and position papers as a contributor to wheel fastener loosening, we made the decision to remove paint from the axles that Keystone had in inventory. We also re-examined our painting process and took immediate steps to reduce the amount being sprayed on wheel mounting surfaces. The paint removal was done as an emergency measure to allow them to continue production.

We also observed Keystones' installation process and monitored the wheel nut torque on a large number of vehicles as they exited the production line and again in their storage facilities. We found a large variation in the torque level and went to work to help educate Keystone on the importance of torque control.

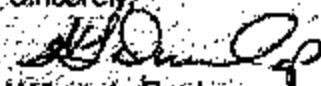
To provide further assistance, we sent Dexter personnel to local area transport yards, armed with lists of VIN numbers. These vehicles were inspected and the wheel fastener torque was brought up to the specified value before shipment to the dealers. Keystone also provided a list of dealers and the VIN numbers of

vehicles at those facilities. Dexter contacted these dealers and shipped replacement hubs to them. The labor costs were billed to Dexter.

A total of forty five (45) vehicles were inspected and re-torqued at the Keystone facility and the transport yards. The number of vehicles remedied at the dealers was thirty nine (39) units.

I am attaching two (2) lists of unit numbers that were provided. Please note that the list of dealers affected show some units highlighted. These units were not to be included in the replacement of hubs.

Sincerely,



William L. Dunlap
Director of Engineering
Dexter Axle Company

Attachments:

- Dealer / VIN number list
- VIN numbers at Keystone RV

List # 2

2025 DEC -1 A 9 25

Keylans RV Company
 8400 Lake Arrowood Drive, Suite 100, Arrowood, CA 91748
 909-866-1100

[illegible]

ID	Model	Date	Description	Type	Year	Location	Contact Info
608409	MCRBACFL04	10/31/03	1128 Suncoast RV	BTT	10/29/03	St Rd. 60	(407) 864-8437
608424	MCRBTRFL04	10/31/03	1122 Suncoast RV	BTT	10/30/03	10380 Beach Blvd Jacksonville, FL 32248	804-988-0286
608386	MCRBBRFL04	10/31/03	1128 Suncoast RV	HZ	10/29/03	6740 Park Blvd Pinellas Park, FL 33781	(727) 645-3009
608346	MCRBBRFL04	10/28/03	-3221 T & J Properties LLC	DPU	10/24/03	7001 Jefferson Davis Highway	(804) 275-8346
608476	MCRBFLH04	10/31/03	1128 Suncoast RV	BTT	10/29/03	201 W. Main St. Waco, TX 76798	(817) 771-7145
608476	MCRBFLH04	10/31/03	1128 Suncoast RV Co.	NV	10/29/03	Suite A TKO Trl #41 P.O. Box 1000 Rocky, VA 22822	(703) 581-5611
608476	MCRBFLH04	10/29/03	1128 Suncoast RV Co.	BTT	10/29/03	P.O. Box 1000 Rocky, VA 22822	(703) 581-5611
608476	MCRBFLH04	10/29/03	1128 Suncoast RV Co.	BTT	10/29/03	P.O. Box 1000 Rocky, VA 22822	(703) 581-5611
608476	MCRBFLH04	10/29/03	1128 Suncoast RV Co.	BTT	10/29/03	P.O. Box 1000 Rocky, VA 22822	(703) 581-5611
608378	MCRBTRFL04	10/28/03	1128 Suncoast RV Sales	SF	10/28/03	Reno, NV 89502	(775) 329-3441
608280	MCRBBRFL04	10/30/03	1138 Tri-A-R-V Club	CLTY	10/21/03	6441 Jacksonville Road Osaka, IL 34479	(352) 752-8288
608298	MCRBBRFL04	10/29/03	1138 Tropical RV	BTT	10/22/03	2777 South US-1 Pt Pierce, FL 34882	(772) 464-0763
608304	MCRBBRFL04	10/24/03	1188 Walnut Ridge Family Trailer Sa	FQ	10/22/03	400 N. CR 300 W New Castle, IN 47382	(765) 533-2288
608362	MCRBBRFL04	10/29/03	1188 Walnut Ridge Family Trailer Sa	SF	10/25/03	400 N. CR 300 W New Castle, IN 47382	(765) 533-2288

06-07-2018

DEC-1 A 925

Repair of Axles at Keystone - November 2003

List # 1

Unit #	location	right front						left front						right rear						left rear						aver	8	aver		
		1	2	3	4	5	6	aver	1	2	3	4	5	6	aver	1	2	3	4	5	6	aver								
1	Bennett	85	77	87	60	80	75	70.7	67	55	45	40	57	55	61.8	80	80	67	57	50	52	84.3	50	80	47	25	87	50	58.5	
5	Keystone	90	110	80	90	125	130	104	60	40	40	80	20	15	34.2	40	30	70	40	40	30	41.7	30	10	15	40	25	35	25.8	
7	Keystone	85	100	95	105	105	105	99.2	90	87	110	110	110	95	94.5	100	97	102	92	112	97	100	92	85	95	107	107	100	99.3	
11	Keystone	50	50	40	30	75	60	50.8	100	100	100	100	100	110	110	110	110	110	110	110	110	110	85	75	75	80	75	75.3		
6	Bennett	57	60	60	70	60	32	54.8	60	107	75	75	75	85	78.7	82	40	80	50	90	57	86.2	70	70	80	70	107	65	75.3	
24	Bennett	60	57	55	40	47	80	53.2	20	20	40	60	20	40	31.7	75	80	100	110	70	75	95	25	0	40	30	22	20	22.3	
394	Keystone	90	85	82	87	95	85	80.7	90	87	95	90	90	90	87.0	90	100	100	30	70	87	89.6	105	85	97	82	77	80	87.7	
401	Keystone	60	58	60	60	27	27	48.7	30	50	25	48	30	38.8	100	75	100	78	75	76	78	84.3	54	75	82	62	77	80	88.3	
608-403	Keystone	175	150	175	175	175	150	167	175	175	80	180	180	162	175	150	175	120	175	175	175	158	180	180	180	180	180	160	172	
608-408	Horizon	2	2	50	30	25	26	22.3	10	22	22	27	10	16.2	75	90	125	120	75	125	102	102	52	75	73	50	50	52	58.7	
608-410	Cleale	37	32	37	20	57	20	33.8	0	10	0	7	12	0	7	12	50	52	75	37	52.7	0	5	37	10	10	32	15.7		
608-414	Keystone	90	100	110	110	100	120	105	100	100	115	90	110	110	110	110	110	110	110	100	125	106	105	100	125	125	100	113		
608-415	Keystone	6	2	2	30	25	5	11.7	0	0	25	0	70	10	10	70	100	100	100	100	100	100	100	100	100	100	100	100		
608-417	Horizon	60	42	52	52	42	32	45	22	25	25	32	32	32	32	32	32	32	32	35	30	33.7	30	25	20	20	40	50	30.8	
608-419	Horizon	77	72	72	100	82	75	79.7	75	65	82	75	80	5	85	77	80	78	80	78	80	75	48.7	32	22	15	25	22	25	23.6
608-422	Keystone	50	75	75	77	50	30	51.2	60	60	30	30	30	48	44.7	78	125	96	25	98	108	105	110	50	50	10	30	30	36.7	
608-429	Bennett	80	55	72	77	97	85	77.7	10	10	10	10	10	10	10	10	10	10	10	120	115	110	77	55	70	100	80	80.3		
608-432	Keystone	85	90	100	100	100	100	95.8	105	100	100	135	105	96	107	85	85	80	112	112	120	115	110	77	55	70	100	80	80.3	
608-433	Keystone	100	95	130	95	95	95	102	125	150	125	130	125	125	125	130	120	120	120	120	120	120	120	80	120	90	120	95	95	
608-435	Keystone	115	120	120	115	100	115	114	120	105	130	125	145	130	126	90	100	100	100	100	100	100	114	100	95	105	100	80	96.7	
608-437	Keystone	90	80	100	80	110	110	96.7	95	85	85	100	85	90	100	84.2	75	90	100	100	100	100	100	110	120	120	125	150	124	
608-438	Keystone	95	102	80	90	106	90	83.7	100	80	85	85	100	105	92.6	75	80	90	75	77	75	78.7	100	90	95	95	95	95	95	
608-439	Keystone	100	137	135	100	127	125	121	80	97	102	85	105	90	93.2	75	85	80	85	95	85	88.8	75	82	87	90	85	90	84.8	
608-444	Horizon	80	92	75	82	92	102	87.2	82	92	92	85	100	100	91.3	82	75	82	75	82	82	79.7	75	75	90	92	92	92	87.2	
608-447	Keystone	75	65	60	65	72	65	67	67	65	65	65	65	65	64.8	42	85	65	65	50	60	66.2	30	67	50	35	72	10	44	
608-453	Keystone	80	115	125	115	120	115	112	75	100	110	120	90	85	96.7	105	115	120	115	100	120	113	25	75	75	35	85	85	71.7	
608-453	Keystone	100	85	125	105	112	120	110	132	125	135	155	125	122	132	110	102	110	82	102	120	104	82	112	107	135	112	122	113	
608-467	Keystone	112	110	110	102	112	100	108	105	110	110	98	107	130	110	87	110	115	102	102	102	80	98.3	115	140	115	110	128	112	
608-458	Keystone	115	110	110	105	110	110	110	85	80	85	80	95	105	91.7	105	110	105	120	110	115	111	111	90	90	100	75	96	90	
608-462	Keystone	100	100	100	100	97	98	98.8	90	100	87	77	90	80	89	80	97	105	92	80	105	94.8	110	80	82	100	100	100	95.3	
608-464	Keystone	80	100	80	110	105	115	98.3	100	90	107	100	125	100	104	85	100	95	100	100	100	100	100	110	100	100	100	100	105	
608-466	Keystone	105	100	85	95	100	110	98.2	100	110	110	105	105	62	97	100	85	95	100	100	100	100	100	100	100	100	100	100	103	
608-467	Keystone	92	95	80	87	80	80	83.7	75	85	85	110	112	85	93.7	75	100	100	75	87	80	88.2	82	80	82	80	75	81.5		
608-468	Keystone	100	105	100	102	100	97	101	75	100	87	106	102	97	93.8	100	80	102	102	100	100	100	100	100	100	100	100	100	100	
608-471	Keystone	82	90	95	87	97	100	93.8	90	80	80	100	85	100	92.3	90	102	105	90	110	100	99.5	100	100	100	100	100	100	100	
608-473	Keystone	95	85	85	82	97	95	91.5	65	80	85	96	85	55	74.2	85	60	90	92	97	97	86.8	80	80	42	90	100	78		
608-478	Keystone	120	115	130	125	120	120	122	115	135	130	126	125	140	128	115	115	110	110	125	125	118	120	120	120	120	120	120	118	

sorted by unit number

EA 04-032

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Repair of Axles at Keystone - November 2003

unit #	location	right front					left front					right rear					left rear					aver
		1	2	3	4	5	6	7	8	9	aver	1	2	3	4	5	6	7	8	9		
508479	Keystone	50	100	80	85	120	97	97	102	75	97	103	110	112	112	112	117	117	117	117	112	
508482	Keystone	110	125	115	128	115	115	116	125	135	120	108	115	120	100	110	115	115	115	115	113	
508485	Keystone	52	100	105	110	123	110	107	100	115	125	124	112	112	132	115	125	125	125	125	118	
508492	Keystone	85	70	125	72	110	108	94.5	127	127	117	108	110	127	120	95	117	100	100	100	112	
508494	Keystone	155	135	135	132	120	85	119	130	127	142	128	105	130	110	115	125	125	125	125	118	
508505	Keystone	20	105	130	120	120	100	118	80	115	115	96.7	90	106	110	100	85	80	85	80	86.7	
508450	Keystone	50	105	120	120	115	125	113	75	100	70	118	40	60	80	90	60	60	60	60	64.2	
508493	Keystone	105	115	110	120	125	120	116	135	120	105	108	105	100	100	110	115	115	115	115	106	
A/Ko exclus																						
508204	Keystone	50	70	85	75	80	80	78.3	75	60	90	80	80	80	80	80	80	80	80	80	82.2	
508494	Keystone	130	135	135	120	130	135	128	80	115	80	120	124	100	100	100	100	100	100	100	92.6	

REFEL INVESTIGATION
101 DEC -1 A 9 25

sorted by unit number