



HEIL TRAILER INTERNATIONAL

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A **BOYER** INDUSTRIES COMPANY

December 19, 2005

Nate Seymour, Principal Investigator
U.S. Department of Transportation
National Highway Safety Administration
400 Seventh Street, S.W.
Room 5330 NVS-214njs
Washington, DC 20590

Pursuant to pursuant to 49 U.S.C. § 30166, Heil Trailer International responds to NHTSA's Preliminary Evaluation (PE05-067) as follows:

1. State, by model and model year, the number of subject vehicles Heil has manufactured for sale or lease in the United States. For each model provide a brief description identifying its differences from other models (steel vs. aluminum frame, air vs. spring suspension, etc.)

RESPONSE: See Exhibit 1. (E-mail correspondence confirming that the model in question the air ride dolly.)

There are a total of 143 trailers, model years ranging between 2001 and 2006. Fifty-six are on springs, and eighty-seven are air ride suspension. Only the California Pull Trailers with air ride suspensions are the affected units. All California Pull Trailers with air-ride suspensions have the same general design features; however, there is a certain amount of customization to each trailer based on the needs of the customer. None of the customization affects the structural design features of the trailer.

2. State the number and provide copies of each of the following, received by Heil, which relate to, or may relate to, the alleged defect in the subject vehicles:
 - a. Consumer / fleet complaints;
 - b. Field reports;
 - c. Reports involving a crash, injury, or fatality;
 - d. Reports involving a fire;
 - e. Property damage claims;
 - f. Third-party arbitration proceedings where Heil is or was a party to the arbitration; and
 - g. Lawsuits, both pending and closed, in which Heil is or was a defendant or codefendant.

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

occurred are to be counted as a crash report, a field report and a consumer complaint). For "e" through "g," provide a summary of the event.

RESPONSE: Complaints are made via telephone. Any notes, emails, and any other documentation in Heil's possession are attached hereto as Exhibit 2.

- a. Consumer / fleet complaints: 10
 - b. Field reports: 1 – reporting inspection of two trailers.
 - c. Reports involving a crash, injury, or fatality: None.
 - d. Reports involving a fire: None.
 - e. Property damage claims: None.
 - f. Third-party arbitration proceedings where Heil is or was a party to the arbitration: None.
 - g. Lawsuits, both pending and closed, in which Heil is or was a defendant or codefendant. None.
3. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:
- a. Vehicle VIN;
 - b. Vehicle's owner or fleet name (and fleet contact person), address, and telephone number;
 - c. Vehicle's model and model year;
 - d. Vehicle's mileage at time of incident, if known;
 - e. Incident date;
 - f. Date of manufacture; and
 - g. Date warranty coverage commenced.

If desired you may submit items "a" through "g" on an electronic disk. Excel or Microsoft Access 2000, are the preferred formats.

RESPONSE:

CONSUMER/FLEET COMPLAINTS (10)						
VIN (a)	Owner/Fleet Name (b)	Model & Year (c)	Mileage (d)	Incident Date (e)	Manufacture Date (f)	Date Warranty (g)
5HTAM242337D		CAPT* - 2003	Unknown		3/27/2003	3/27/2003
5HTAM242647D		CAPT - 2004	Unknown		12/27/03	12/27/03
5HTAM242847D		CAPT- 2004	Unknown		1/19/2004	1/19/2004
5HTAM242347D		CAPT- 2004	Unknown		3/24/2004	3/24/2004
5HTAM242347D		CAPT - 2004	Unknown		3/12/04	3/12/04
5HTAM242927D		CAPT - 2004	Unknown		9/26/01	9/26/01
5HTAM242947D		CAPT - 2004	Unknown		3/26/04	3/26/04

5HTAM252557	2		CAPT - 2005	Unknown	11/24/04	11/24/04	
5HTAM252947	0		CAPT - 2004	Unknown	3/25/044	3/25/04	
5HTAM242847	0		CAPT - 2004	Unknown	11/10/03	11/10/03	
REPORTS (1 - Reporting two inspections)							
VIN		Owner/Fleet Name	Model & Year	Mileage	Incident Date	Manufacture Date	Date Warranty
(a)		(b)	(c)	(d)	(e)	(f)	(g)
5HTAM242337	2		CAPT* - 2003	Unknown	3/27/2003	3/27/2003	
5HTAM252947	0		CAPT - 2004	Unknown	3/25/044	3/25/04	

* CAPT = California Pull Trailer

4. State, by model and model year, a total count for all warranty claims that have been paid by Heil to date that relates to, or may relate to, the alleged defect in the subject vehicles.

RESPONSE: See Exhibit 3, includes hard copy as well as c.d. (file entitled "Pull Trailer List" - Microsoft Excel spreadsheet*).

5. Provide copies of any service or technical bulletins, product improvement campaign announcements, or advisories, and all other communications concerning the alleged defect that Heil has issued or is considering issuing to fleets, dealers, zone offices, or field offices. If Heil has drafted any such communications, furnish a copy of the draft. For any such communication that has been issued, identify, by name, address, telephone number, and contact person, each entity to which it was sent, the date on which the communication was sent, and the model of vehicle to which the communication pertained. For each such communication:
- Provide a complete chronology, listing all activities or events, including, but not limited to, incidents involving the forward dolly, which led Heil to issue the communication;
 - Provide a listing (in chronological order) of all testing through which the need for the communication was identified and/or assessed, even if the testing was being conducted for another purpose. Please provide a copy of all relevant information from each listed test; and
 - State the number of repairs and/or replacements paid for by Heil that resulted from the communication identified. List your response by repairing dealer (and include the dealer's name, address, and telephone number).

RESPONSE: On September 23rd, Heil Trailer mailed certified letters to each of its customers owning the involved units. A copy of this letter, along with various other correspondence which might be considered responsive to this inquiry, is attached as part of collective **Exhibit 4**.

(* This spreadsheet is responsive, all or in part, to questions 4 and 5.)

The names, addresses, telephone numbers, contact persons, and the dates the returned receipts are supplied as a Microsoft Excel file on the included c.d. labeled "Pull Trailer List" which is attached as *Exhibit 3*. This spreadsheet also lists other information such as telephone contacts and whether the upgrade has been performed. Other various email communications with individual customers are also attached as part of this response.

a. Chronology:

- 8/17/05 [REDACTED] (serial number 67745) failure in Bakersfield.
- 8/18/05 – Mike Hinson from [REDACTED] e-mailed photos and a description of the failure.
- 9/1/05 – Engineering researched involved serial numbers to determine possible number of trailers involved.
- 9/2/05 – Received pictures of [REDACTED] pull trailer failure, serial number 67750.
- 9/6/05 – 9/8/05 – Trip to Bakersfield, CA to look at both the [REDACTED] unit failures as well as other units in their fleets.
- 9/15/05-9/17/05 – Meetings with engineering, including Ben Ubamadu, Hunter Griffith, Tracy Harmon and Joe Calonge to discuss failure and repair.
- 9/21/05 – Final repair drawings, letter and trailer information completed and discussed with group.

- b. The revision to the frame was driven by the review of an existing frame design. The existing frame, 05-000-050, is a J&L Tank (a Heil Company) frame design than was released for vehicle production on December 3, 1998. As a result of the review, the manufacturing facility in Athens, TN has adopted the weldment procedures of J&L Tank. *See Figure 3.b.1.*

- c. *See Exhibit 3*, which is responsive to question no. 4 above.

6. Provide a detailed chronology of all events regarding the alleged defect starting from the time Heil first became aware of this issue to present. Describe how Heil first became aware of the alleged defect and state the date on which Heil first became aware of the possibility of the alleged defect. Include all information including dates of both internal and outside meetings, meetings with fleets, manufacturers, or any others involved in this issue and discuss the resolution, planned action, and/or the manner in which Heil plans to address this issue. Also separately, provide a copy of any/all document(s) and presentation materials that were used during the meeting(s) whether Heil generated the document(s) or the document(s) were generated by others.

RESPONSE:

CHRONOLOGY:

- 8/17/05 [REDACTED] (serial number 67745) failure in Bakersfield.
- 8/18/05 – Mike Hinson from [REDACTED] e-mailed photos and a description of the failure.

- 9/1/05 – Engineering researched involved serial numbers to determine possible number of trailers involved.
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- 9/6/05 – 9/8/05 – Trip to Bakersfield, CA to look at both the [REDACTED] unit failures as well as other units in their fleets.
- 9/15/05-9/17/05 – Meetings with engineering, including Ben Ubamadu, Hunter Griffith, Tracy Harmon and Joe Calonge to discuss failure and repair.
- 9/21/05 – Final repair drawings, letter and trailer information completed and discussed with group.
- 9/23/05 – Certified letters mailed to all end users with instructions and drawings on the improvement instructions.
- 9/23/05 – Current – Called all customers to explain the problem and ask them to immediately inspect all involved trailers.
- See Exhibit 5 for photos of affected units.

7. Explain Heil's internal process for determining when an issue warrants a safety recall vs. an Owner Notification Program (ONP). This explanation should include, but not be limited to who reviews inputs concerning problems in the field, how those reviews are conducted (individually or by committee) and who ultimately approves any notification which goes out to the field, be it an ONP or a safety recall.

RESPONSE: In the event that a Technical Service Manager (TSM) becomes aware of any request for repairs that would suggest a pattern or the possibility of more occurrences of the same type, and that the event of failure could create a situation that could result in endangering the operator or the general public, he or she contacts the Director of Customer Services (DCS). The DCS will review the data presented by the TSM and determine what further actions or steps are necessary. In most cases where the data is determined to present the possibility for a failure that could create a situation that could result in endangering the operator or the general public, the DCS will direct the TSM to visit the customer or location and conduct a field review of the event. The TSM will then file a field service report, copying corporate and plant management. The DCS will then contact the Director of Engineering (DE) who will, along with his staff of engineers, review the failure analysis data from the field report and determine if there is reason to suspect a repeat of the action. If there is a determination made that repeat is probable and could create a situation that could result in endangering the operator or the general public, then the DCS and the DE will present their findings to the senior staff and a campaign will be started and directed by the DCS.

8. Describe all modifications or changes made by, or on behalf of, Heil 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 on which the change was incorporated into vehicle production;
 - b. A detailed description of the change;
 - c. The reason(s) for the 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, inventory(s) 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 Heil is aware of which may be incorporated into vehicle production within the next 120 days.

RESPONSE: All supporting documents to this response are attached hereto as *Exhibit 6*. The welding procedure has been clarified with drawings that have been modified, meetings with the plant manager, production manager, quality control inspectors, engineering, involved supervisors, and production personnel for both day and night shifts at the manufacturing facility in Athens, Tennessee. A copy of supporting documentation (email dated Saturday, October 8, 2005 at 12:07 p.m. and attached Quality Communication document) is attached. *See Figures for Question 8.*

Modifications were made to the published weld procedures for the frame in question. Two distinct procedures were used to communicate the revised procedure to manufacturing.

1. A weldment instruction (701-8078) was published to clarify welding procedures for the dolly frame. *See Figure 8.1.*
2. A quality communication (2005-008) was published to clarify welding procedures for the dolly frame. *See Figure 8.2.*

8.a. The weldment instruction (701-8078) was released on September 8, 2005. This release date indicates the date of incorporation into vehicle production.

8.b. Tower plate welds and air bag plate welds are to stop $\frac{1}{4}$ " away from the edge of the frame rail.

8.c. Welding within $\frac{1}{2}$ " of the edge of the frame creates conditions that may support the formation of small cracks. The change in procedure will prevent welding in these areas.

8.d. The part numbers for the frame assemblies are:

237-9910-000	237-9910-017
237-9910-001	237-9910-018
237-9910-002	237-9910-019
237-9910-003	237-9910-020
237-9910-004	237-9910-021
237-9910-005	237-9910-022
237-9910-006	237-9910-023
237-9910-007	237-9910-024
237-9910-008	237-9910-025
237-9910-009	237-9910-026
237-9910-010	237-9910-027

237-9910-011	237-9910-028
237-9910-012	237-9910-029
237-9910-013	237-9910-030
237-9910-014	237-9910-031
237-9910-015	237-9910-032
237-9910-016	

The dash numbers, -000, -001, ...-032, represent variations of the frame that are based on the draw bar hinge location, a variation that is unrelated to the welding procedures for the frames in question. *See Figure 8.d.1 (237-9910)*. The part number for the structural tube that separated is 237-8092-002 (*Figure 8.d.2*). This same part is used, independent of the dash number of the frame assembly. *See Figures 8.d.3 through 8.d.35*.

8.e. The revised component part numbers are the same as the original component part numbers.

8.f. As the revision involved a change in procedure rather than physical change to a component, no components were removed from inventory.

8.g. Service components are built to order; therefore, the revised frame assemblies for service orders were available concurrent with the change to production vehicles. (September 8, 2005, as indicated in 8.a., above)

8.h. The modified assembly can be interchanged with earlier production assembly.

9. Provide a full description and copies of the maintenance and inspection requirements furnished by Heil or for Heil to trailer owners and lessors that relate or may relate to the alleged defect in the subject component/assemblies.

RESPONSE: This information is included within the Owners/Operators Manual, provided in .pdf format via e.d. as *Exhibit 7*.

10. Furnish Heil's assessment of the alleged defect in the subject vehicle, including:

- a. The causal or contributory factor(s);
- b. The failure mechanism(s);
- c. The failure mode(s);
- d. The risk to motor vehicle safety that it poses; and
- e. What warnings, if any, the operator and other people both inside and outside the vehicle would have that the alleged defect was occurring or subject component was about to failing?

RESPONSE: All supporting documents to this response are attached hereto as *Exhibit 8*. In an effort to better understand the failure mode of the trailer sub-frame, Heil Trailer International enlisted the services of Applied Technical Services, Incorporated (ATS). The conclusions of the

report are that poor welding procedure created an opportunity for cracking. Subsequent to the cracks being present, the box beam failed due to fatigue (i.e. cyclic loading). *See Figure 10.a.1.*

- 10.a. Welding procedures created the opportunity for cracking.
- 10.b. Fatigue (i.e. cyclic loading) caused the cracking to propagate through the structural tube.
- 10.c. Unchecked, frame separation is the ultimate failure mode.
- 10.d. The potential risks to motor vehicle safety are those of potential property damage and personal injury.
- 10.e. Pretrip inspections, as required by the Department of Transportation and as recommended in the owner's manual (*See Figure 10.a.1.*), would reveal a crack and/or corrosion at the site of the failure, which can be seen upon visual examination.

11. State whether Heil intends to take any additional actions on this matter.

RESPONSE: Attached as *Exhibit 9* is a design concept of a one-piece tower/air spring plate which Heil is considering as a possible solution to prevent the improper welding procedure. In addition, Heil's customer service department will be sending out weekly emails to its customers who have failed to have its units repaired until they have followed through with the repair.

If you have any questions regarding the responses to your investigation, please contact Beth Bennett or Mike Johnson at (423) 499-1300.

Sincerely,



Beth A. Bennett
Legal and Risk Management Administration Coordinator

:bb

Enclosures

cc: William Nehrkorn
Jim Sanko