

INFORMATION Redacted PURSUANT TO THE FREEDOM OF
INFORMATION ACT (FOIA), 5 U.S.C . 552(B)(6)

May 18, 2012

Bruce York, Chief
Medium and Heavy Duty Vehicles Division
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Ave. S.E.
Washington, D.C. 20590

Reference: NVS-rw214
PE12-008

Dear Mr. York:

This letter is in response to your letter of April 20, 2012, received in this office on April 23, 2012, concerning the request for information for a Preliminary Evaluation of an alleged inadvertent partial/total parking brake application on a International 3200IM chassis while the vehicle is in motion with the potential for inadequate warning of the braking event to the driver.

The following information is submitted in itemized format corresponding to your numeric requests:

Item 1 State, by model and model year, how many subject vehicles Navistar has manufactured for sale or lease in the United States. For each vehicle provide the VIN, final stage Manufacturer, final stage model, model year, date of vehicle manufacture, date of warranty coverage and name of purchaser.

Response 1 There were 263 3200IM vehicles built for model year 2007 through model year 2010 for the United States. Production data is provided in the attached file entitled "Production Data"

Item 2 State the number and provide copies of each of the following, received by Navistar, which relate to, or may relate to, the alleged defect or alleged failure mode in the subject vehicles:

- a. Owner/ 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 Navistar is a party to the arbitration; and
- g. Lawsuits, both pending and closed, in which Navistar 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 unit 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 "f" and "g," provide a summary of the event.

Response 2

- a. Navistar has received (2) owner or fleet complaints related to the alleged defect, both from Montgomery County MD fleet.
- b. Navistar has only received field reports related to the alleged defect on the above (2) complaints.
- c. Navistar is not aware of any crashes, injuries, or fatalities as a result of the alleged defect
- d. Navistar is aware of (3) reports of fire relating to the transmission parking brake. Two of these reports relate to the above two complaints. One was reported by the drive-away service provider prior to delivery to Montgomery County back in June of 2007.
- e. Navistar is not involved in any property damage claims related to the alleged defect or failure mode at this time.
- f. Navistar is not involved in any third party arbitration proceedings relating to the alleged defect or failure mode at this time.
- g. Navistar is not aware of any lawsuits pending relating to the alleged defect or failure mode at this time.

Item 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. 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. Report date;
- g. Date of manufacture;
- h. Date warranty coverage commenced;
- i. Concern stated by the customer; and
- j. Navistar's assessment of the incident.

Provide this information in MS Access or a compatible format, entitled "REQUEST NUMBER TWO DATA."

Response 3

Enclosed on CD as "REQUEST NUMBER TWO DATA."

Item 4

State, by make, model, model year, a total count for all of the following categories of claims, collectively, that have been paid by Navistar to date that relate to, or may relate to, the alleged defect or alleged failure mode 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.

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

- a. Navistar's claim number;
- b. VIN;
- c. Vehicle's owner or fleet name (and fleet contact person) and telephone number;
- d. Vehicle's model, and model year;
- e. Vehicle's build date;
- f. Warranty start date;
- g. Incident date;
- h. Report date;
- i. Vehicle's mileage at time of repair;
- j. Repairing facility's name, telephone number, and address;
- k. Labor operation number;
- l. Problem code;
- m. Replacement part number(s) and description(s);
- n. Concern stated by customer; and
- o. Comment, if any, by dealer/technician relating to claim and/or repair.

Provide this information in MS Access or a compatible format, entitled "WARRANTY DATA_SUBJECT."

Response 4

The total number of warranty claims relating to the parking brake system is 48 claims. There are two claims that specifically state that brake was either dragging (low power complaint), or came on while driving. The dragging brake did provide a light to the driver. The dealer diagnosed the problem as a weak return spring. The second claim was the result of an airline that came off the quick connect fitting at the brake chamber. Both reports were on Montgomery County vehicles but were separate incidents from the ones reported in Response 3 above. A table summarizing the claims is on the enclosed CD as "WARRANTY DATA_3200IM."

Item 5

Describe in detail the search criteria used to identify the claims in response to Request No 4.

Response 5

The search criteria used to obtain the claims were as follows:

- Model: 3200 IM
- Build Date range: 2007 – 2010 Model Years (used VINs from production data in response 1)
- All brake (Navistar group code 04), and all electrical (Navistar group code 08) claims
- To narrow search to transmission parking brake and associated electrical components, performed word search in claim comments on the following key words: Park, Fitting, Hose, Emergency, Leak, Warning, Compressor, Alarm, Set-up, Apply, Drag, Come-on, Drive line

Item 6

Provide copies of any service or technical bulletins, product improvement campaigns, announcements, or advisories, and all other communications concerning the alleged defect or alleged failure mode in the subject vehicles that Navistar has issued or is considering issuing to fleets, dealers, zone offices, or field offices. If Navistar has drafted any such communications, furnish a copy of the draft. For any such communication that have 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 specific equipment to which the communication pertained. For each such communication:

- a. Provide a complete chronology, listing all activities or events, including, but not limited to, incidents, which led Navistar to issue the communication;
- b. 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 test listed; and
- c. State the number of repairs and/or replacements paid for by Navistar that resulted from the communication identified. List your response by repairing dealer (and include the dealer's name, address, and telephone number).

Response 6

Navistar has not released any service or technical bulletins, product improvement campaigns, announcements, or advisories, or any other field communications concerning the alleged defect or alleged failure mode in the subject vehicles.

Item 7

Provide a detailed chronology of all events regarding the alleged defect starting from the time Navistar first became aware of this issue to present. Describe how Navistar first became aware of the alleged defect and state the date on which Navistar first became aware of the possibility of the alleged defect. Include all information including dates of both internal and external meetings, meetings with fleets, manufacturers, or any others involved in this issue and discuss the resolution, planned action, and/or the manner in which Navistar 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 Navistar generated the document(s) or the document(s) were generated by others.

Response 7

Navistar's chronology of events is given below:

5/4/2007 – Navistar was notified by their field service organization that fire occurred as a result of a driveline parking brake application during initial vehicle delivery to the customer.

6/7/2007 – Navistar performed a fire inspection and determined the cause was an overheated driveline parking brake. However, it was noted that the parking brake air line had been replaced just prior to the incident.

12/30/2010 – Notified by Montgomery County of a fire that was alleged to be caused by the parking brake self applied without input from the driver, chassis # [REDACTED] (customer vehicle # [REDACTED]).

1/12/2011 – Navistar performed a fire inspection on above chassis # and determined the cause of the fire was a result of an overheated driveline parking brake. Initial review determined that the parking brake must have been applied by the driver in error.

2/7/2012 – Notified by Montgomery County of a fire that was alleged to be caused by the parking brake self applied without input from the driver, chassis # [REDACTED] (customer vehicle # [REDACTED]).

2/21/2012 – Received access to pictures and video camera footage that was taken from the on board cameras in the Montgomery County buses. It was noted that the driver stopped to get a paper 6 minutes prior to the incident. It was difficult to determine by the video footage if the driver released parking brake after returning to the bus just prior to the incident.

2/22/2012 - Navistar performed a fire inspection on above chassis # and determined the cause of the fire was a result of an overheated driveline parking brake.

2/24/2011 - Ric Willard of the National Highway Traffic Safety Administration (NHTSA) and Jim Schatz of Montgomery County Fleet Management performed air system testing on an exemplar bus to [REDACTED] (bus [REDACTED]), to determine if air loss at the spring apply air release (SAAR) chamber may not be detectable to the driver.

2/24/2012 - Navistar determined the swivel park brake fitting to be: Parker Hannifin VS169PMT-7-4 1/4NPT to 3/8PTC 90 swivel.

2/25/2012 – Received inspection report from Field Service showing separation of 90 degree fitting at air chamber.

3/9/2012 – Identified drawing of similar fitting currently used in service parts.

3/22/2012 – Received opening resume for PE12-008 from NHTSA regarding the driveline parking brake on 2007 to 2010 model year 3200 IM commercial buses.

4/13/2012 – Navistar requested that 3 sample 90 degree fittings as mentioned above be pulled off exemplar vehicles in different fleets with high mileage for further inspection.

4/20/2012 – Received IR letter from NHTSA regarding the driveline parking brake on 2007 to 2010 model year 3200 IM commercial buses.

4/23/2012 – Navistar Field Service group located three vehicles at River Valley Metro and removed the 90 degree fittings from the SAAR chamber and shipped the fitting to Fort Wayne Metallurgy for analysis. Vehicle mileage ranged from 78,000 to 136,000 miles.

4/27/2012 – Navistar Metallurgy completed sectioning of 90 degree fitting and photographed for review. No deterioration of the fittings removed from the exemplar vehicles was noted.

5/4/2012 – Performed warranty search for subject vehicles. Data is provided in response 4.

5/7/2012 – Obtained fire inspection reports for Montgomery County unit 075218. Reports provided in response to request 2 and 3 above.

5/9/2012 – Obtained test data from engineering showing initial parking brake test performed by Heart Engineering. Data provided in Response 9.

5/11/2012 – Obtained static and dynamic brake performance data from Bosch regarding the 9x3 transmission mounted parking brake. Data provided in Response 9.

5/14/2012 – Met with Parker's engineering group to review the application of the positionable 90 degree fitting at the brake chamber. Parker also provided a drawing of the fitting which is provided in Response 9.

Item 8

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

- a. The date on which the change was incorporated into 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.

Response 8

Navistar has made no design modifications to the parking brake system for the 3200IM from the time of initial production of the 2007 model year thru the 2010 model year.

Item 9

Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or

are being planned by, or for, Navistar. 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.

Response 9

Navistar's subcontractor at the time of design, Heart Industries, performed an initial parking brake release test on 1/26/05 prior to production build of the first vehicle. Also attached is a displacement graph of the transmission mounted 9 x 3 parking brake showing lever forces verses brake torque and lever displacement. As well as a picture of the sectional view of the 90 degree fitting that is mounted to the brake chamber of the SAAR park brake. Copies of these reports are provided in folder titled "Request 9" which is attached.

Regarding the air decay testing performed on 2/24/11 by NHTSA and Montgomery County fleet management, Navistar did review this test method and believes two key variables are not taken into account, thus calling into question the applicability of the results to normal operation. First, the parking brake actuation arm has a dead zone, where it must move nearly 1" prior to measurable torque being applied to the drum (reference 9x3 static and dynamic performance graph stated above). Therefore with regard to note 2 at the end of the report, a ¼" movement of the arm would not necessarily show any measurable torque on the brake drum if adjusted correctly.

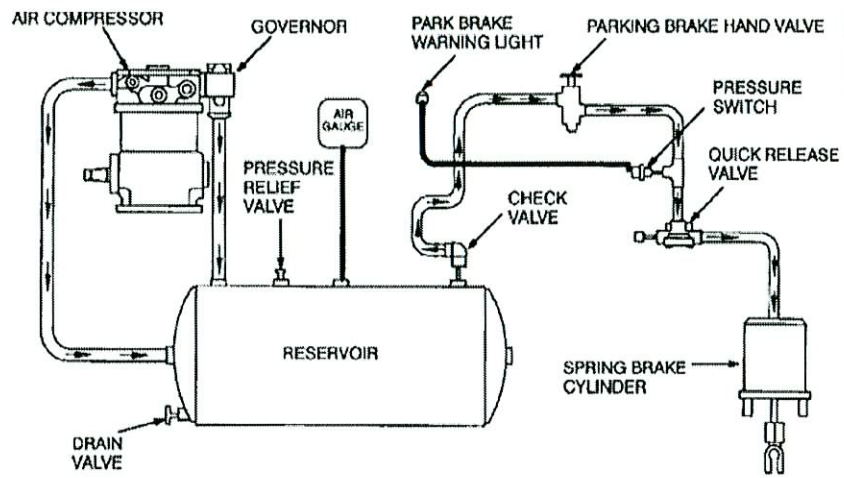
Second, in each test sequence the steady state condition in which the test was terminated seems to be arbitrarily picked at 1 minute. While we agree some test cases of engine rpm and air leak rate may not activate the warning light instantly, the low air detection system will eventually activate the light through the normal course of driving a route in which the driver's stop, start, and turn maneuvers would result in lower engine rpms and subsequent low air warning.

Item 10

Furnish Navistar's assessment of the alleged defect in the subject vehicles, 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 had occurred?

Response 10 Navistar's current information indicates that the SAAR parking brake as designed for the 3200IM commercial bus chassis does provide adequate warning to the driver in the event that there is a leak in the air system. The parking brake system for the 3200IM chassis does have a standard low air warning audible alarm, as well as the dash mounted air gauge and the warning light. The system is designed to operate normally at 125 psi air pressure. The low air warning buzzer is programmed to come on at approx. 70 psi. In the event of a slow to moderate leak this would give adequate warning to the driver as the air system decays. The parking spring brake does not begin to apply until the pressure gets below 58 psi. A diagram of the park brake system is given below:



- a. Navistar's assessment of the cause or contributory factors of the alleged defect are relating to either driving with the park brake applied with the warning light on the dash illuminated. Or failing to properly monitor the dash mounted air gage and low air warning light and buzzer. There are also other indicators that the parking brake is either partially or fully applied such as loss of power (from partial or full parking brake application), or the sound of an air leak.
- b. In order for the spring brake on the SAAR transmission mounted parking brake to apply, there has to be an air loss at the brake chamber down to pressure levels below 58 psi. Since the low air audible alarm activates at around 70 psi, the alarm, light, and the dash mounted pressure gage would have given warning to the driver long before the air level decreased to the point of lever actuation.
- c. Failure modes that could activate the warning system include any line connection between the reservoir and the spring brake chamber, possible air compressor failure, possible air leaks at the tanks or valves, or possible leaks at or within the spring brake chamber itself.

It has become apparent in two of the reported fires that the 90 degree swivel fitting at the spring brake chamber had separated at the swivel point of the fitting. What is unclear is whether this separation was the

result of the two recent fires or whether the fitting separated resulting in air loss, low air warning, and eventual spring brake application resulting in the fire. Analysis of exemplar fittings found no defects in the material or workmanship of the parts.

- d. Navistar believes that when the system is adequately maintained, that the system will give adequate warning to the driver that there is a pressure loss in the system, and therefore the potential for the parking brake to come on.
- e. Inside the vehicle the driver should hear a low air warning buzzer and also visually see the warning light and that the pressure gage is losing air pressure. Moderate to major air leaks are also detectable from inside the vehicle by the sound of air loss. Outside the vehicle most types of air system leaks are detectable even when the engine is running.

In summary, based on the information currently available, Navistar does not believe there is a risk to highway safety as a result of the alleged defect based on the following:

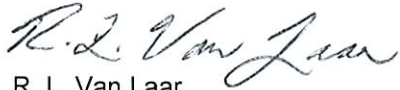
- Based on our engineering analysis of the air parking brake system on these vehicles, the system does provide an adequate warning should a leak occur somewhere in the system.
- The only reported parking brake applications that resulted in fires out of the 263 3200IM commercial buses operating in the United States occurred on two vehicles operated by Montgomery County. In these cases it is believed that visual and audible warnings would have been given prior to the reported incidents.
- While Navistar was unable to obtain any of the 90 degree swivel fittings mounted at the brake chamber from the Montgomery County fleet, they did obtain samples from other fleets and found no material deficiencies in the parts.
- The only field and fire reports are on the same vehicles as mentioned above.
- Navistar's warranty search did find 48 claims relating to the SAAR parking brake and warning system on the 3200IM model. However, only two claims indicate application while the vehicle was in motion and these claims are on two additional vehicles within the Montgomery County fleet that did not result in a fire. The majority of warranty claims reported relate to repairing system leaks or adjusting the parking brake travel.
- The air decay testing that was performed by Montgomery County and NHTSA raised the concern that a leak could cause the parking brake system to apply partially or fully and not activate the warning devices. However this testing did not take into account the free travel of the parking brake lever prior to torque application. Or the variable engine rpm that would occur over time on the route.

While Navistar does not believe there is a systemic defect in the parking brake system from the information currently available, it has and will continue to provide technical support to the Montgomery County fleet in resolving their unique issues relating to the parking brake system.

If you have questions or require additional information, do not hesitate to contact me at 260-461-1890.

Respectfully submitted,

NAVISTAR, INC.

A handwritten signature in cursive script, appearing to read "R. L. Van Laar".

R. L. Van Laar
Product Integrity and Compliance Manager

Cc: T. R. Cellitti
T. J. Stewart