



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

1200 New Jersey Avenue SE.
Washington, DC 20590

September 28, 2022

SENT VIA EMAIL

Emily Bishop
Director
Certification Compliance
Volvo Trucks North America
7900 National Service Road
Greensboro, NC 27409

NEF-106RN
PE20-006

Dear Ms. Bishop,

This letter is to inform you that the Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) opened a Preliminary Evaluation number 20-006 (PE20-006) to investigate allegations of loss of power steering assist in vehicles equipped with a ZF/TRW THP60 steering gear in certain model year vehicles. As a purchaser for the subject steering gear, we are requesting certain information from Volvo Trucks North America (VTNA).

This office has received eleven (11) Field Reports (FRs) and Technical Service Bulletins (TSBs) alleging intermittent loss of power steering assist from the ZF/TRW THP60 steering gear in certain VTNA vehicles. Both field reports and interviews with fleet drivers allege that the power steering fluid can reach high fluid temperatures, causing internal seal and bearing failures. These failures can lead to pressure fluctuation affecting primary left, but also right-hand turn assist. A copy of each report will be provided for your review. Unless otherwise stated in the text, the following definitions apply to these information requests:

- **Subject vehicles:** all makes and models of final stage vehicles from MY 2010 – 2020 equipped with a new or re-manufactured TRW THP60 steering gear manufactured for sale or lease in the United States, including, but not limited to, the District of Columbia, and current U.S. territories and possessions.
- **Subject component:** all new and re-manufactured ZF Group/TRW steering gear THP60 identical or substantially similar to those installed on the subject vehicles.
- **Alleged defect:** Loss of power steering assist.

- **Volvo Trucks North America:** 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 enterprises 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 of a consultant) by or under the control of VTNA (including all business units and persons previously referred to), who are or, in or after 2010, 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.

- **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 ZF Group/TRW, 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 ZF Group/TRW 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. Insofar as VTNA as previously provided a document to ODI, VTNA may produce it again or identify the document, the document submission to ODI in which it was included and the precise location in that submission where the document is located. 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 VTNA’s response to each request, identify the source of the information and indicate the last date the information was gathered.

1. State, by model and production year, the number of subject components VTNA has purchased for OEM, repair and replacement and aftermarket use in the United States.

Separately, for each subject component purchased to date by VTNA, state the following:

- a. Serial number;
- b. Make;
- c. Model;
- d. Facility where steering gear was manufactured or remanufactured;
- e. Subject component part number and design version;
- f. Date of subject component manufacture; and
- g. Date warranty coverage commenced;

Provide the table in Microsoft Access 2010, or a compatible format, entitled “PRODUCTION DATA.” A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

2. State the number of each of the following, received by VTNA, or of which VTNA is otherwise aware, which relate to, or may relate to, the alleged defect in the subject component:
 - a. Consumer complaints, including those from fleet operators;
 - b. Field reports, including dealer 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 VTNA is or was a party to the arbitration; and
 - g. Lawsuits, both pending and closed, in which VTNA 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). In addition, for items “c” through “g,” provide a summary description of the alleged problem and causal and contributing factors and VTNA’s assessment of the problem, with a summary of the significant underlying facts and evidence. For items “f” and “g,” identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

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. VTNA’s file number or other identifier used;
 - b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
 - c. Vehicle owner or fleet name (and fleet contact person), street address, email address and telephone number;
 - d. OEM or aftermarket sales location which initially received the steering gear from ZF Group/TRW;
 - e. Subject component’s serial number;
 - f. Subject component’s make, model and production date;
 - g. Subject component’s mileage at time of incident if known;
 - h. Subject component’s time in service at time of incident;
 - i. Incident date;
 - j. Report or claim date;
 - k. Whether a crash is alleged;
 - l. Whether a fire is alleged;
 - m. Whether property damage is alleged;
 - n. Number of alleged injuries, if any; and
 - o. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2010, or a compatible format, entitled “REQUEST NUMBER TWO DATA.” A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

4. Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method VTNA used for organizing the documents. Describe in detail the search methods and search criteria used by VTNA to identify the items in response to Request No. 2.
5. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by VTNA to date that relate to, or may relate to, the alleged defect in the subject components: 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. VTNA’s claim number;
- b. Vehicle owner or fleet name (and fleet contact person), street address, email address and telephone number;
- c. Serial number;
- d. Repair date;
- e. Vehicle mileage at time of repair;
- f. Vehicle’s Time in Service at time of repair;
- g. Repairing dealer’s or facility’s name, telephone number, city and state or ZIP code;
- h. Labor operation number(s);
- i. Problem code(s);
- j. Diagnostic Trouble Code (s);
- k. Replacement part number(s) and description(s);
- l. Concern stated by customer;
- m. Cause as stated on the repair order;
- n. Correction as stated on the repair order; and
- o. Additional comments, if any, by dealer/technician relating to claim and/or repair

Provide this information in Microsoft Access 2010, or a compatible format, entitled “WARRANTY DATA.” A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

6. Describe in detail the search methods and search criteria used by VTNA to identify the claims in response to Request No. 5, including the labor operations, problem codes, diagnostic trouble 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, diagnostic trouble codes and diagnostic trouble code descriptions applicable to the alleged defect in the subject vehicles. State whether the diagnostic trouble codes are automatically reported to the warranty database electronically or manually entered into the warranty database by a claims administrator.

State, by make, model, and production year, the terms of the new vehicle warranty coverage offered by VTNA on the subject components (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 VTNA offered for the subject components and state by option, make, model, and production year, the number of subject components that are covered under each such extended warranty.

7. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject components, that VTNA 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 VTNA is planning to issue within the next 120 days.
8. 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 component that have been conducted, are being conducted, are planned, or are being planned by, or for, VTNA. 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.

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

- a. The date or approximate date on which the modification or change was incorporated into the subject component production;
- b. A detailed description of the modification or change;
- c. The reason(s) for the modification or change;
- d. The part number(s) (service and engineering) of the original component;
- e. The part number(s) (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 VTNA is aware of which may be incorporated into subject component production within the next 120 days.

10. Produce one/two of each of the following:

- a. Exemplar sample of each design version of the subject component;
- b. Field return sample of the subject component exhibiting the subject failure mode; and
- c. Any kits that have been released, or developed, by VTNA for use in service repairs to the subject component/assembly which relate, or may relate, to the alleged defect in the subject vehicles.

11. State the number of each of the following that VTNA has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used and month/year of sale (*including the cut-off date for sales, if applicable*):

- a. Subject component; and
- b. Any kits that have been released, or developed, by VTNA for use in service repairs to the subject component/assembly.

12. For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number). Also identify by make, model and model year, any other vehicles of which VTNA is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage. Furnish VTNA's assessment of the alleged defect in the subject component, 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 the other persons both inside and outside the vehicle would have that the alleged defect was occurring, or subject component was malfunctioning;

Legal Authority for This Request

This letter is being sent to VTNA 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.

Civil Penalties

VTNA's failure to respond promptly and fully to this letter could subject VTNA 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.) The Vehicle Safety Act, as amended, 49 U.S.C. § 30165(a)(3), provides for civil penalties of up to \$22,992 per violation per day, with a maximum of \$114,954,525 for a related series of daily violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. *See* 49 CFR 578.6 (as amended by Fixing America's Surface Transportation Act (the "FAST Act"), Pub. L. 114-94, § 24110(a)(2), 129 Stat. 1312 (Dec. 4, 2015)). This includes failing to respond completely, accurately, and in a timely manner to ODI information requests. If VTNA 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, VTNA does not submit one or more requested documents or items of information in response to this information request, VTNA 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.

Confidential Business Information

All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to PE20-006 in VTNA's response to this letter and in any confidentiality request submitted to the Office of Chief Counsel.

If VTNA 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, VTNA must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with 49 CFR Part 512, as amended, to the Office of Chief Counsel (NCC-100), National Highway Traffic Safety Administration, Room W41-326, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. VTNA 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.** Please remember that the phrase "ENTIRE PAGE CONFIDENTIAL BUSINESS INFORMATION" or "CONTAINS CONFIDENTIAL BUSINESS INFORMATION" (as appropriate) must appear at the top of each page containing information claimed to be confidential, and the information must be clearly identified in accordance with 49 CFR 512.6. If you submit a request for confidentiality for all or part of your response to this IR, that is in an electronic format (e.g., CD-ROM), your request and associated

submission must conform to the new requirements in NHTSA's Confidential Business Information Rule regarding submissions in electronic formats. *See* 49 CFR 512.6(c) (as amended by 72 Fed. Reg. 59434 (October 19, 2007)).

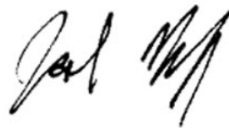
If you have any questions regarding submission of a request for confidential treatment, contact Daniel Rabinovitz, Trial Attorney, Office of Chief Counsel at daniel.rabinovitz@dot.gov or (202) 366-8534.

Due Date

VTNA's response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by **November 9, 2022**. VTNA's response must include all non-confidential attachments and a redacted version of all documents that contain confidential information. If VTNA finds that it is unable to provide all of the information requested within the time allotted, VTNA must request an extension from me at (202) 368-0698 no later than five business days before the response due date. If VTNA 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 VTNA then has available, even if an extension has been granted. Please send email notification to Robert Nguyen at robert.nguyen@dot.gov and to ODI_IRresponse@dot.gov when VTNA sends its response to this office and indicate whether there is confidential information as part of VTNA's response.

If you have any technical questions concerning this matter, please call Robert Nguyen of my staff at (202) 493-7065.

Sincerely,

A handwritten signature in black ink, appearing to read "Josh Neff", written in a cursive style.

Josh Neff, Chief
Medium/Heavy Duty Vehicle Defect Division
Office of Defects Investigation