



Volvo Cars of North America, LLC

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October 21, 2009

Mr. D Scott Yon, Chief
Vehicle Integrity Division
Office of Defects Investigation

NVS-212pco
PE09-039

Mr. Yon,

This letter and its enclosures comprise the response of Volvo Cars of North America to your September 4, 2009 request for information relating to PE09-039. Enclosed is the information which was available to Volvo as of that date.

We have provided below and as separate enclosures (a combination of hardcopy and electronic documents) the answers to the questions raised by PE09-039. We have used the documentation and systems available to us that, in the normal course of business contain the type of information relevant to this request. Please note that for the purpose of PE09-039 we are using data up through and including September 4, 2009, which is the date on which we began our search for this information.

This response addresses similar questions to those within PE06-053; therefore some information is identical to what was previously submitted within PE06-053. During our response to this inquiry any additional information which has come to our attention that was not known at the time of our response to PE06-053, we have highlighted in our response to questions 8 and 9 and identified it as "new info".

Since responding to PE06-053 we have continued to monitor the field situation of the subject components. This has resulted in identifying a root cause correlating to the change of assembly of the pressure regulator in the pump flange, from type DR2 to type DR5. The modification is described more in detail in our response to question 9.

The modification was introduced in year 2000-2001 depending on model and production site.

As requested, our answers follow a repeat of each question:

1. State within the body of the response letter, by model and model year, the total number of subject vehicles Volvo has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Volvo, state the following:
 - a. Make;
 - b. Model;
 - c. Model Year;
 - d. Vehicle identification number (VIN);
 - e. Date of manufacture (in "yyyy/mm/dd" date format);
 - f. Date warranty coverage commenced (in "yyyy/mm/dd" date format) or "Unsold" if not sold; and
 - g. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

Volvo response to Question 1:

The chart below describes the number of "Subject Vehicles" Volvo has produced for sale or lease within the United States and its Territories. The total number of vehicles is approx: 326,251

Detailed information containing the responses to questions 1a-1g can be found on the attached CD-ROM in the Microsoft Access database named "Volvo PE09-039" within the table entitled "Production Data". The following abbreviations are used in the table:

DOB = Date of Build

WSD= Warranty Start Date

Make	Model	Model Year	# of Vehicles Produced
Volvo	S60	2001	31,437
Volvo	S60	2002	40,563
Volvo	S60	2003	9,057
Volvo	S60	2004	11,111
Volvo	S80	2001	17,474
Volvo	S80	2002	15,733
Volvo	S80	2003	8,201
Volvo	S80	2004	19,673
Volvo	S80	2005	685
Volvo	V70	2001	7,634
Volvo	V70	2002	11,711
Volvo	V70	2003	2,235
Volvo	V70	2004	2,817
Volvo	XC70	2001	21,020
Volvo	XC70	2002	20,404
Volvo	XC70	2003	9,218
Volvo	XC70	2004	24,292
Volvo	XC90	2003	12,734
Volvo	XC90	2004	52,439
Volvo	XC90	2005	7,813

2. State within the body of the response letter, the number of each of the following, received by Volvo, or of which Volvo is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

- a. Consumer complaints, including those from fleet operators;
- b. Field reports, including dealer field reports;
- c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
- d. Property damage claims (including own vehicle); and
- e. Third-party arbitration proceedings where Volvo is or was a party to the arbitration; and
- f. Lawsuits, both pending and closed, in which Volvo is or was a defendant or codefendant.

For subparts "a" through "d," 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). Identify reports that have a duplicate with either other mfg reports/claims or with ODI.

In addition, for subparts "d" through "f," 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.

Volvo Response to Question 2:

In order to identify reports or incidents which may be related to the alleged defect, Volvo collected information from databases where, in the normal course of business, the information is collected and maintained. Below is a summary of each data source followed by the number of records Volvo is aware of. Additional data can be found on the enclosed CD-ROM within the Access Database titled "Volvo PE09-039", table named "Request Number Two Data"

<u>Request</u>	<u>Count</u>
Consumer Complaints – "Customer Care"	142
Field Reports (including dealer reports)	15
Reports involving a crash, injury, or fatality based on:	
Clams - involving a death or injury	0
Notices - received by the manufacturer alleging or proving that a Death or Injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, Or field reports:	
Property damage claims	0
Third-party arbitration proceedings	0
Lawsuits	0

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. Volvo'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), address, and telephone number;
- d. Vehicle's VIN;
- e. Vehicle's make, model and model year;
- f. Vehicle's mileage at time of incident;
- g. Incident date (in "yyyy/mm/dd" date format);
- h. Report or claim date (in "yyyy/mm/dd" date format);
- i. Whether a crash or fire is alleged;
- j. Whether property damage is alleged;
- k. Number of alleged injuries, if any;
- l. Number of alleged fatalities, if any.
- m. Alleged component involved (fuel pump, level sensor, hoses etc...)
- n. Alleged issue (fuel leakage or fuel odor).

Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER TWO DATA."

Volvo Response to Question 3:

Volvo's data in response to this request can be found on the enclosed CD-ROM within the Microsoft Access database entitled "Volvo PE09-039" within the table named "Question_two_data". In records where "vehicle mileage" is blank this indicates that it was not available in the document

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 Volvo used for organizing the documents.

Volvo Response to Question 4

Electronic copies of each document included in Volvos response to Request No.2 can be found on the enclosed CD-ROM within the folder entitled "Response to Request 4"

A sub-folder for each type of data (i.e., Field report, Customer Complaint, etc.) has been created, the name for each file is also Volvo's "Unique" file number (source system record number)

The following information describes in detail, the terms of the warranty coverage offered by Volvo for the subject vehicles.

5. State within the body of the response letter, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Volvo to date that relate to, or may relate to, the alleged defect 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. Volvo's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair date (in "dd/mm/yyyy" date format);
- e. Vehicle mileage at time of repair;
- f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- g. Labor operation number;
- h. Problem code;
- i. Replacement part number(s) and description(s);
- j. Concern stated by customer; and
- k. Comment, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "WARRANTY DATA."

Volvo Response to Question 5:

The following table is a summary describing "total count" of "claims" listed by model and model year. Additional detailed data may be found on the enclosed CD-ROM, within the Microsoft Access Database table named "Volvo PE09-039" "Warranty" and "Response to Request 5".

Make	Model	Model Year	Count
Volvo	S60	2001	2,569
Volvo	S60	2002	2,068
Volvo	S60	2003	155
Volvo	S60	2004	65
Volvo	S80	2001	133
Volvo	S80	2002	701
Volvo	S80	2003	94
Volvo	S80	2004	285
Volvo	S80	2005	3
Volvo	V70	2001	630
Volvo	V70	2002	385
Volvo	V70	2003	39
Volvo	V70	2004	27
Volvo	XC70	2001	143
Volvo	XC70	2002	645
Volvo	XC70	2003	54
Volvo	XC70	2004	170
Volvo	XC90	2003	200
Volvo	XC90	2004	958
Volvo	XC90	2005	50

6. Describe in detail the search criteria used by Volvo to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage (including the subject component) offered by Volvo on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that Volvo offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.

Volvo Response to Question 6:

In order to Request No. 5, Volvo utilized the "QW90" Warranty system, the search used was a combination of "Part Numbers" and "Labor Operation Codes" that were applicable to the alleged defect at the time of this response. An Excel document named "Response to Request 6" has been added to the attached CD-ROM containing separate worksheets titled "Labor Operation codes" and "Part Numbers". This spreadsheet contains the list of Part numbers and Labor Operation codes used to search for the response to Request No. 5.

Reports that contained relevant part numbers were retrieved, and then search of labor operation codes applicable to the alleged defect was performed. Additionally Dealer/Tech notes has been searched for "Leak", "Smell" and "Odor" related to the subject component.

It is important to note that "Warranty Claim" text is authored by non-technical retailer employees.

New Car Limited Warranty – U.S.

PARAMETERS/WARRANTY COVERAGE

The Volvo New Car Limited Warranty-U.S. and New Car Warranty - Canada applies to new Volvo passenger cars used for non-commercial purposes (i.e., personal/family use). The vehicle must have been originally invoiced and wholesaled by Volvo Cars of North America, Inc., and registered and normally operated in any of the 50 states of the U.S., the District of Columbia, or any of the provinces of Canada.

New Vehicles

Coverage

4 years/50,000 miles/80,000 Kilometers, whichever occurs first

Warranty Start Date

The warranty starts on the date the vehicle is sold /delivered to the first retail purchaser or put into service. Any remaining portion of the warranty is fully transferable to subsequent owners free of charge.

Retailer Demonstrator Vehicles

Coverage

Vehicles placed into retailer demonstrator or loaner service will receive the remainder of the New Car Limited Warranty period when retailed.

It is the selling retailer's responsibility to advise the first retail purchaser of the date the demonstrator was placed into service and the remaining New Car Warranty coverage.

Warranty Start Date

While used as a retailer demonstrator or loaner vehicle, the applicable New Car Warranty begins only if the retailer registers the vehicle with Volvo. If a demonstrator vehicle is not registered, warranty claims cannot be processed for credit.

Commercial Vehicles

Coverage

Vehicles used for commercial purposes (i.e., taxi, police, etc.) are covered during the New Car Limited Warranty for one (1) year or 15,000 miles/24,000 kilometers, whichever occurs first. However, all other warranties applicable (i.e., Seat belt/SRS, Emission, etc.) to the model year vehicles also apply to commercial vehicles.

Extended Warranty Program, PE06-053

Volvo Cars of North America, LLC has voluntarily decided to extend warranty coverage for the Fuel Pump on some model year 2001 – 2002 S80, S60, V70 and XC70 vehicles.

For eligible vehicles that are beyond the manufacturer warranty period, Volvo will extend the warranty coverage on the Fuel Pump for 10 years or 150,000 miles, whichever comes first, from the date the vehicle was originally placed into service.

Volvo has found due to the combination of varying fuel quality, and prolonged exposure in warm temperature climates, the fuel pump may become faulty, resulting in a fuel odor.

The total number of vehicles covered by this extended warranty is 187,567.

7. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles (all issued revisions), that Volvo 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 Volvo is planning to issue within the next 120 days.

Volvo Response to Request #7:

Electronic copies of each document included in Volvos response to Request No.7 can be found on the enclosed CD-ROM within the folder entitled "Response to Request 7 "

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 vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, Volvo. 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.

Volvo response to Request 8:

Our response to this question can be found on the enclosed CD-ROM within the folder entitled "Response to Request 8"

9. Describe all modifications or changes made by, or on behalf of Volvo, in the design, material composition, manufacturing, 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 vehicle production identifiable by MY, date of build or VIN in the "PRODUCTION DATA" table of Request No.
- 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 Volvo is aware of which may be incorporated into vehicle production within the next 120 days.

Volvo response to Question 9:

Our response to this question can be found on the enclosed CD-ROM within the folder entitled "Response to Request 8"

The enclosed Microsoft Excel Spreadsheet "Response to Request 9" contains detailed information to 9a to 9h for each fuel system type used in the subject vehicles.

10. Produce one each of the following:

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

Volvo response to Request 10:

Volvo has shipped along with this response a package via DHL Express containing the components listed below. Dependent upon the vehicle variant, there might be several different part numbers available, however, the parts listed below and submitted provides the agency with an Exemplary sample of each updated/modified component as requested in 10b above. As part of the supersession process, certain components are discarded once replaced, as a result of this process Volvo cannot provide a 'baseline' component. In addition, Volvo does not have any 'field return' samples, besides from the one received from the agency and some components which are being used for emission reporting purposes. Volvo has not issued any 'kits' related to request 10d.

<u>Part number</u>	<u>Description</u>	<u>Quantity</u>
30761742	FUEL PUMP	1
9183708	O-RING	1
8649739	SCREW	1
8664405	FUEL PIPE (short)	1
30683031	FUEL PIPE (long)	1

11. Provide a summary description of the vehicle's fuel pump/fuel delivery system during vehicle operation, including:

- a. Functional block/flow diagram;
- b. Picture/illustration of the components and component location; and
- c. The nominal and maximum fuel/line pressure during vehicle operation.

Volvo response to Request 11:

Volvo has provided the information for this request on the attached CD-ROM, within the folder titled "Response to Request 11"

12. Describe the differences between the fuel pump used in the subject vehicle, in MY2004 XC70 vehicles or in MY2001-2005 S60 vehicles including the following:

- a. Fuel pump part number;
- b. Design (with pictorial if different);
- c. Location relative to tank and vehicle;
- d. Type and configuration of the fuel tank;
- e. Material usage in the fuel pump inlet tubes and inlet housing; and
- f. Normal and maximum fuel/line pressures (both the outlet and return inlet tubes) during vehicle operation.

Volvo response to Request 12:

Volvo has provided the information for this request on the attached CD-ROM, within the folder titled "Response to Request 12"

13. Furnish Volvo'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;
- 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; and
- f. The reports included with this inquiry.

Volvo response to Request 13:

As the information in this response shows, Volvo has monitored and studied this situation on a global scale. Data shows that when exposed to certain environmental conditions over time, the DR5 un-stabilized pump fitted in the subject vehicles can develop a condition that may result in seepage of fuel.

A general trend is seen where current vehicle fuel systems suffer globally from fuel qualities developing to more sophisticated blends, reducing gasoline content with unknown consequences to the integrity of fuel system components. This makes any follow up issue more and more complex.

After thorough field data analysis, the facts remains clear that even in cases where fuel leakage/seepage was either alleged or diagnosed that the amount of fuel which may have escaped remains below the flammable air/fuel mixture level and immediate remedy has been sought.

Furthermore, as described in the design/function section, this condition would only present itself during those times that the vehicle is occupied, therefore not leaving a situation where an unattended vehicle would potentially seep fuel. Therefore Volvo does not consider this to be an unreasonable risk to motor vehicle safety which is proven by the fact of this submission, no fire have been reported to Volvo

Data available to us shows that customers who do smell fuel take immediate action by contacting their Volvo retailer or workshop for immediate diagnosis/remedy, which today for certain vehicles is covered by two actions that together include the entire United States and its Territories.

The DR5 un-stabilized fuel pump fitted to the 2001/2002 S60 is the subject of Volvo recall #176 (NHTSA 07V152) for the States of Arizona and Nevada. This recall is currently at a successful 76% completion rate. These components are also covered within Volvo Extended warranty program #198 (all States outside of AZ and NV, also including 187,567 vehicles). The claim rate for this extended warranty is currently at 3%; this low claim rate supports the fact that the condition is limited to those areas where high temperature combined with temperature cycling occurs.

Volvo has concluded (with supporting field data) that this condition has been resolved with the introduction of the modified DR5 "Stabilized" fuel pump. In order to ensure that the remaining population of DR5 un-stabilized fuel pumps installed in vehicles that have been, or currently are, located within those areas of the US and its Territories where the environmental conditions can be the contributing factor in the accelerated aging and deterioration of the material, Volvo is proposing to expand the existing Volvo Recall #176 (NHTSA 07V152) to include the following vehicles (2001-2004 S60, 2001-2005 S80, 2001-2004 V70, 2001-2004 XC70, 2003-2005 XC90) fitted with the subject component, in the following States: California, Arizona, Nevada, Texas, New Mexico, Louisiana, Mississippi, Alabama, Georgia, Florida, Utah, Oklahoma, Arkansas, Tennessee, Kentucky, Virginia, North and South Carolina, Hawaii and the U.S. Territories.

In addition to the expansion of Recall 07V152, Volvo is proposing to the agency that we expand the warranty coverage to the same model/MY vehicles outside of these recall States for a period of 10years/150,000 miles ensuring that all customers that may experience this condition will have the vehicle remedy available to them at no charge.

Understanding that during those times where the only spare parts available were DR5 un-stabilized pumps, Volvo will also offer an inspection to those vehicles that are capable of having this component fitted to their vehicle. If this inspection proves that a DR5 un-stabilized pump is fitted to the vehicle, it will be replaced under the recall campaign.

We are confident that this will provide a solution to our customers, whose safety is our utmost concern as well as satisfy the agencies concern with this situation. Be assured that Volvo will continue to monitor this condition and campaign activities to ensure we are achieving our goal.

Should you have any questions or wish to discuss this matter further we will be happy to meet with you and you're staff in your Washington office at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Adam Kopstein", with a long horizontal flourish extending to the right.

Adam Kopstein
Manager, North American Product Safety and Compliance

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