



GENERAL MOTORS LLC
Global Interior and Safety Center

November 26, 2012

Mr. Frank Borris
Vehicle Integrity Division
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Ave, SE, Room W48-314
Washington, DC 20590

N120180

NVS-212eer
EA12-004

Dear Mr. Borris:

This letter is General Motors' (GM) partial response to your Engineering Analysis (EA), received on October 18, 2012, regarding allegations of driver door module (DDM) fires in model year (MY) 2005-2007 SAAB 9-7x and MY 2006-2007 Chevrolet Trailblazer, GMC Envoy, Buick Rainier, and Isuzu Ascender (GMT360/370) vehicles manufactured by General Motors LLC for sale or lease in the United States.

As agreed upon by Scott Yon in an email dated November 12, 2012, this is a partial response containing the responsive information to request numbers 1, 7, 14, 15 and 17. The remainder of the response will be provided by December 14, 2012. It does not include data previously provided in GM's response to PE12-003 sent April 20, 2012, unless noted.

Mr. Scott Yon also requested that test procedure GMW3172 and associated test results be included in this response. GMW3172 is included in ATT_1_GM. The only test results from GMW3172 were previously provided in GM's response to PE12-003 in the document identified as "5+phase+open+trace+N2117.pdf"; on disk ATT_2_GM_CONFIDENTIAL. GM has test data from GM9110P and GM9123P which are predecessor tests to GMW3172. Test results from GM9110P and GM9123P were previously provided as part of PE12-003 in the document identified as "Q_08_a_SAAB_ADVPR"; on disk ATT_2_GM_CONFIDENTIAL. Validation of the DDM for all the GMT360/370 vehicles was performed through the testing of the 2005 interim MY Saab 9-7x DDM. The test specifications for GM9110P and GM9123P have been included in this response on ATT_1_GM and ATT_2_GM_CONF respectively.

Your requests and our corresponding replies are as follows:

1. **State, by model and model year, the number of subject vehicles GM has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by GM, state the following:**
 - a. **Vehicle identification number (VIN);**



- b. **Make;**
- c. **Model;**
- d. **Model year;**
- e. **Date of manufacture;**
- f. **Date warranty coverage commenced;**
- g. **The state in the United States where the vehicle was originally sold or leased (or delivered for sale or lease)**

Provide the table in Microsoft Access 2010, or a compatible format, entitled "PRODUCTION DATA."

General Motors is providing the number of subject vehicles produced by GM for sale or lease in the United States by make, model and model year in Table 1-1 below:

MAKE	MODEL	2005MY	2006MY	2007MY	TOTAL
Chevrolet	Trailblazer/EXT	N/A	205,567	136,219	341,786
GMC	Envoy/XL	N/A	86,401	46,207	132,608
Buick	Rainier	N/A	13,774	5,400	19,174
SAAB	9-7x	1,999	5,484	5,063	12,546
Isuzu	Ascender	N/A	5,433	2,812	8,245
TOTAL	----	1,999	316,659	195,701	514,359

TABLE 1-1 SUBJECT VEHICLES

The production information requested in 1a-1g is provided on the ATT_1_GM disk; folder labeled "Q_01". Refer to the Microsoft Access 2010 file labeled "Q_01_PRODUCTION DATA". Isuzu separately provided production data for the same vehicle population of the MY 2006-2007 Ascender. The Isuzu Ascender production data provided by Isuzu is in the same folder in the file named "Ascender_PRODUCTION DATA".

- 7. **Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that GM 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, recall related documents (and specifically 12V-406 related documents), or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that GM is planning to issue within the next 120 days.**

Since the data was pulled on February 17, 2012, for the PE12-003 response, GM has issued two advanced service action messages to its dealerships as well as an owner advisory letter informing owners of the safety recall condition and recommended preventative steps owners should take until their vehicle is serviced. GM plans to send in the next 120 days an owner letter informing them to schedule an appointment to have the recall remedy performed. The campaign bulletin will also be sent to its dealers providing instruction on how to provide the remedy for the DDMs. The latest

draft or the final version of these documents as of November 12, 2012, may be found in ATT_1_GM_disk; folder labeled "Q_07".

14. Produce or provide one of each of the following:

- a. **Engineering drawings, including material specifications and circuit diagrams, of all subject component used on the subject vehicles, including the original design, and the revised design released into production on or about May 14, 2007, after corrective actions were implemented.**
- b. **The printed circuit board layout/diagram used in the subject components, including the original design, and the revised design released into production on or about May 14, 2007, after corrective actions were implemented.**
- c. **A description of the changes made to the PCB layout as a result of a thorough production changes implemented by the supplier, Solectron Invotronics, which were implemented into production on or about May 14, 2007.**
- d. **An example of the DDM printed circuit board as produced both prior to, and after the modifications implemented by the supplier, Solectron Invotronics, which were implemented into production on or about May 14, 2007.**

- a. Drawings of the original circuit diagrams for the DDM are contained in the ATT_3_Vast_Conf disk; folder labeled "Q_14_A_Conf".
- b. Drawings of the door zone module circuit boards are contained in the ATT_3_Vast_Conf disk; folder labeled "Q_14_B_Conf". The only document changed to correct the water intrusion issue is the document labeled: 801295D.pdf Control Board Layout.
- c. In October of 2006 the controller PCB layout was changed to address a potential for water to stand on the board and cause dendritic growth. The change involved relocating all battery traces and through-connections away from the edge of the circuit board on the outboard side of the vehicle.
- d. Enclosure 14 contains a sample of the driver door power window switch (part number 25867005) produced after the modifications and a sample of a driver door power window switch (part number 15857719) produced prior to the modifications implemented by the supplier, Solectron Invotronics.

15. State the number of each of the following that GM 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 GM for use in service repairs, recall remedies, or replacements to the subject components.**

For each subject component design, 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 GM is aware that contain the

identical driver door module, whether installed in production or in service, and state the applicable dates of production or service usage.

- a. Electronic summary tables of the requested service part information for the subject components are provided on the ATT_1_GM disk; folder labeled "Q_15". These sales numbers represent sales to dealers in the United States & Canada. This data has limited value in analyzing the field performance of a motor vehicle component because the records do not contain sufficient information to establish the reason for the part sale. It is not possible from this data to determine the number of these parts that have been installed in the subject vehicles or the number remaining in dealer or replacement part supplier inventory.

These tables contain service part numbers, part description, part usage information including the GM vehicles that contain the identical component, part sales figures by month and calendar year, and the supplier's name and address, contact name and phone number.

- b. No kits have been released to the service community by GM for use in service repairs or replacements to the subject components, although one is under development for use in conjunction with the upcoming service bulletin. The requested repair kit information is provided on the ATT_1_GM disk; folder labeled "Q_15".

17. For each subject vehicle manufactured to date by GM provide the following information:

- a. VIN;
- b. Each state in the U.S. where the vehicle was registered; and,
- c. For each state in which the vehicle was registered, the latest date of registration in the U.S. state.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "REGISTRATION DATA."

For this regional safety recall, GM requested from R.L. Polk & Co. owner names and addresses for vehicles originally sold, currently registered, or ever registered in the safety recall states. These vehicles are included in the safety recall. The remaining VINs are included in the special coverage field action.

GM's response is limited to the information requested in NHTSA's email to GM on November 5, 2012. GM is now providing the registration information for vehicles that are included in the safety recall information provided by R.L. Polk & Co. for recall 12V-406, as well as the associated special coverage, excluding owner name and addresses. This information may be found on ATT_1_GM disk; folder labeled "Q_17"; refer to the Microsoft Access file entitled "REGISTRATION DATA."

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This response is based on searches of GM locations where documents determined to be responsive to your request would ordinarily be found. As a result, the scope of this search did not include, nor could it reasonably include, "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 GM (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."

This response was compiled and prepared by GM upon review of the documents produced by various GM locations, and does not include documents generated or received at those GM locations subsequent to their searches.

Please contact me if you require further information about this response or the nature or scope of our searches.

Sincerely,



M. Carmen Benavides, Director
Product Investigations and Safety Regulations

Attachments