



Handwritten: 1/16/08

January 11, 2008

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Vehicle Control Division
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National Highway Traffic Safety Administration
1200 New Jersey Ave., S. E., Room W48-307
Washington, D.C. 20590

A070047

NVS-213kmb
PE07-051

Dear Mr. Quandt:

This letter is General Motors (GM) response to your information request (IR) dated November 2, 2007, regarding alleged failure of engine throttle valve in returning to a closed (idle) position for 2004 through 2005 Model Year (MY) Chevrolet Aveo vehicles.

Your questions 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; and
 - 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 2000, or a compatible format, entitled "PRODUCTION DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

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

MAKE/MODEL	2004 MY	2005 MY	TOTAL
CHEVROLET AVEO	55,208	64,250	119,458

TABLE 1 VEHICLE PRODUCTION

The production information requested in 1a-1g is provided on the ATT_1_GM disk in the folder labeled "Q_01," refer to the Microsoft Access 2000 file labeled, "Q_01_PRODUCTION DATA." GM is providing the state where the vehicle was shipped in response to request 1g. For certain subject vehicles, which have incomplete warranty files, the GM Claims Analysis Retrieval Database (CARD) does not contain a warranty start date or state where the vehicle was shipped and, therefore, these fields are blank in the Microsoft Access 2000 file.

2. **State the number of each of the following, received by GM, or of which GM 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;

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- 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;
- e. Third-party arbitration proceedings where GM is or was a party to the arbitration; and
- f. Lawsuits, both pending and closed, in which GM 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). In addition, for items "c" through "f," provide a summary description of the alleged problem and causal and contributing factors and GM's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "e" and "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.

The number of the items requested in 2a-f is summarized in Tables 2-1 and 2-2. Weather data was evaluated in the zip codes where the repair was made and the lowest temperature for the 14 days prior to the repair was recorded. Table 2-1 includes the number of reports where there was an allegation of a stuck throttle and there was a recorded temperature at or below 32°F in the previous 14 days. Table 2-2 includes the number of reports where there was an alleged stuck throttle, but the lowest temperature corresponding to these reports was higher than 32°F and, therefore, could not be related to icing.

TYPE OF REPORT	GM REPORTS	CORRESPONDING TO NHTSA REPORTS	NUMBER WITH PROPERTY DAMAGE	NUMBER WITH CRASH	NUMBER WITH INJURIES/FATALITIES*
Owner Reports	5	0	0	1	0
Field Reports	25	0	0	0	0
Not-In-Suit Claims	0	0	0	0	0
Subrogation Claims	0	0	0	0	0
Third Party Arbitration Proceedings	0	0	0	0	0
Product Liability Lawsuits	0	0	0	0	0
Total Reports (Including Duplicates)	30	0	0	1	0
Total Vehicles with Reports (Unique VIN)	28	0	0	1	0

TABLE 2-1: ALLEGED THROTTLE STICKING - POSSIBLY EXPOSED TO TEMPS. < 0°C (32°F)

*NO FATALITY REPORTS

TYPE OF REPORT	GM REPORTS	CORRESPONDING TO NHTSA REPORTS	NUMBER WITH PROPERTY DAMAGE	NUMBER WITH CRASH	NUMBER WITH INJURIES/FATALITIES*
Owner Reports	1	0	0	0	0
Field Reports	27	0	0	0	0
Not-In-Suit Claims	0	0	1	1	1
Subrogation Claims	0	0	0	0	0
Third Party Arbitration Proceedings	0	0	0	0	0
Product Liability Lawsuits	1	0	1	1	1
Total Reports (Including Duplicates)	29	0	1	1	1
Total Vehicles with Reports (Unique VIN)	29	0	1	1	1

TABLE 2-2: ALLEGED THROTTLE STICKING, BUT UNRELATED TO ICING --TEMPS > 0°C (32°F)

*NO FATALITY REPORTS

For the additional information requested for items in categories (c) through (f), see response to No. 3. To date, GM's investigation of the alleged defect has not included an assessment of the cause(s) of each incident responsive to Request No. 2. Certain incident reports may not contain sufficient reliable information to assess cause accurately. Assessments of other incidents (from lawsuits and claims) may be attorney work product and/or privileged. Therefore, information and documents provided in these responses, if any, consist only of non-attorney work product and/or non-privileged material for incidents that have been investigated and assessed. Additional information requested for categories (e) and (f) is provided, to the extent available, in lieu of documents.

The sources of the requested information and the last date the searches were conducted are tabulated in Table 2-3 below.

SOURCE SYSTEM	LAST DATE GATHERED
Customer Assistance Center	11/8/2007
Technical Assistance Center	12/17/2007
Field Information Network Database (FIND)	11/6/2007
Field Product Report Database (FPRD)	11/6/2007
Company Vehicle Evaluation Program (CVEP)	11/6/2007
Captured Test Fleet (CTF)	11/6/2007
Early Quality Feedback (EQF)	11/6/2007
Legal / Employee Self Insured Services (ESIS)/Product Liability Claims/Lawsuits	11/14/2007

TABLE 2-3: LAST DATE OF DATA SEARCHES

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. GM'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;
- h. Report or claim date;
- i. Whether a crash is alleged;
- j. Whether property damage is alleged;
- k. Number of alleged injuries, if any; and
- l. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "REQUEST NUMBER TWO DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

See response to No. 2. Responsive information retrieved by GM is provided on the ATT_1_GM disk in the folder labeled "Q_03," refer to the Microsoft Access 2000 file labeled, "Q_03_REQUEST NUMBER TWO DATA.

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 GM used for organizing the documents.

See response to No. 2. Copies of the documents retrieved by GM corresponding to the reports tabulated in Tables 2-1 and 2-2 are on the ATT_1_GM disk embedded in the folder labeled "Q_03," refer to the Microsoft Access 2000 file labeled, "Q_03_REQUEST NUMBER TWO DATA." GM has organized the records by the GM file number within each attachment.

5. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by GM 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. GM's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair date;
- 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." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

Tables 5-1, 5-2 and 5-3 summarize by model year, the regular and extended warranty claims for the subject vehicles that were collected by searching the labor codes, customer complaint codes and trouble codes that may be related to the alleged defect. Each table represents a different set of labor codes. An explanation of how each set of data was sorted is provided before each table.

A list of the labor codes and customer complaint codes is also provided in response to item No. 6. A summary of the warranty claims, including the information requested in 5(a-k), is provided on the ATT_1_GM disk in the folder labeled "Q_05," refer to the Microsoft Access 2000 file labeled, "Q_05_WARRANTY DATA."

Table 5-1 summarizes all warranty claims that used the labor code J7604 – Install New PCV Kit. These repairs were made in accordance with service bulletin #1715988 (05-06-04-065). Since the warranty system does not always provide sufficient information to determine the cause, a call was made to dealers to gather additional information on 152 of the cases where labor code J7604 was used. For the 18 additional cases where the weather data indicated that the temperature was never below 32°F for 14 days prior to the vehicle being serviced, no additional data was gathered and they were categorized based on available verbatims and/or customer codes. Table 5-1 has 20 cases where a customer complained of a stuck throttle during a period when there was at least one occurrence of the temperature being below freezing. The table also includes the other customer complaints from the other cases.

MAKE/MODEL	CUSTOMER COMPLAINT	2004 MY	2005 MY	TOTAL	
Chevrolet Aveo Temp. < 32°F	Stuck Throttle	8	12	20	
	Hard start/no start	27	37	64	
	Stalled engine (at start-up)	12	7	19	
	Check engine light	3	12	15	
	Engine oil leak	6	6	12	
	Engine runs rough	7	11	18	
	Unknown	1	3	4	
	Temp. > 32°F	Stuck Throttle	0	2	2
		Hard start/no start	1	2	3
		Stalled engine	0	1	1
Check engine light		1	0	1	
Engine oil leak		0	0	0	
Engine runs rough		0	2	2	
Unknown		2	7	9	
			Total	170	

TABLE 5-1 REGULAR WARRANTY CLAIMS FOR J7604 - INSTALL NEW PCV KIT

Table 5-2 below summarizes warranty claims that used the labor codes:

- J5490 (Body Unit, Throttle – Replace) , or
- J5492 (Gasket, Throttle Body – R&R);

which also used a customer code that may correspond to a stuck throttle:

- OA – Operation binds, or
- PV – Performance: Surge

A call was also made to dealers to gather additional information on all of these cases. Table 5-2 below includes those cases where the dealer confirmed that the customer complained of a stuck throttle. These cases are also separated into 2 groups depending on lowest recorded temperature during the 14 days prior to the repair, in the zip code where the repair was made. Table 5-2 has 27 cases where a customer complained of a stuck throttle during a period when ambient conditions existed that could permit ice.

MAKE/MODEL			TOTAL
CHEVROLET AVEO	2004MY	2005 MY	
< 32°F	19	8	27
> 32°F	12	7	19
			46

TABLE 5-2 REGULAR WARRANTY CLAIMS FOR LABOR CODES J5490 & J5492

Table 5-3 below summarizes warranty claims that used the labor codes:

- J5331 (Cable, accel cont (lvr to tbi)-repl);

which also used a customer code that may correspond to a stuck throttle:

- OA – Operation binds, or
- PV – Performance: Surge, or
- O8 – Operation: Won't turn off

These cases are also separated into 2 groups depending on lowest recorded temperature during the 14 days prior to the repair, in the zip code where the repair was made. No additional data was gathered for these cases. Table 5-3 has 9 cases where the above codes indicated a possible stuck throttle during a period when ambient conditions existed that could permit ice.

MAKE/MODEL			TOTAL
CHEVROLET AVEO	2004MY	2005 MY	
< 32°F	6	3	9
> 32°F	2	1	3
			12

TABLE 5-3 REGULAR WARRANTY CLAIMS FOR LABOR CODES J5331

The sources of the requested information and the last date the searches were conducted are tabulated in Table 5-4 below.

SOURCE SYSTEM	LAST DATE GATHERED
GM CARD --regular warranty	11/7/2007
Motors Insurance Corporation (MIC) – extended warranty	11/7/2007
Universal Warranty Corporation (UWC) – extended warranty	11/7/2007

TABLE 5-4: DATA SOURCES

The warranty data provided has limited analytical value in analyzing the field performance of a motor vehicle component. The warranty records do not contain sufficient information to establish the condition of the part at the time of the warranty correction, and service personnel may not consistently use the appropriate labor and trouble codes. Warranty numbers represent claims by our dealers for reimbursement for parts and labor costs incurred in performing warranty service for our customers. Consequently, some of these warranty claims are not related to the alleged defect.

GM's warranty database does not contain the following information: vehicle owner's name or telephone number, replacement part number description, or customer concern statement. GM is providing a field labeled "Verbatim Text" in response to request 5k (dealer/technician comment). The verbatim text is an optional field in the GM warranty system for the dealer to enter any additional comments that may be applicable to the warranty claim. The verbatim text field is not required to be completed for every warranty claim.

The MIC extended warranty system does not contain the vehicle owner information. The UWC extended warranty system does not use the GM labor code or labor code description and it does not contain the repairing dealer code, trouble code or trouble code description.

- 6. Describe in detail the search criteria used by GM 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 offered by GM 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 GM 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.**

To search for and collect the warranty data for this response, the GM Claim Adjustment Retrieval Database (CARD) regular warranty database and the Motors Insurance Corp (MIC) extended warranty database were searched using the labor codes listed in table 6-1. Universal Warranty Corporation (UWC) does not use labor codes or trouble codes. The labor codes listed in Table 6-1 are the labor codes that may be related to the alleged defect.

LABOR CODE	DESCRIPTION:
J7604	Install New PCV Kit
J5490	Body Unit, Throttle - Replace
J5492	Gasket, Throttle Body - R&R
J5331	Cable, accel cont (lvr to tbi)-repl
Z1241	Personal Property Damage (Goodwill)
Z1242	Rpr/Reimbursement - Product allegation (Goodwill)
Z1243	Inspection Product Allegation Resolution (Goodwill)

TABLE 6-1 LABOR CODES RELATED TO THE THROTTLE BODY

GM lists the customer complaint codes in Table 6-2, within the labor codes J5490/J5492/J5331, that may relate to the alleged defect.

CUSTOMER CODE	DESCRIPTION:
OA	Operation binds
PV	Performance: surge
O8	Operation: won't turn off

TABLE 6-2 CUSTOMER CODES USED WITH J5490/J5492/J5331

The subject vehicles are covered by a bumper-to-bumper new vehicle warranty for three years or 36,000 miles whichever occurs first. Many different extended warranty options are available through GM dealerships. They are offered at different prices and for varying lengths of time, based on customer's preference, up to 7 years from the date of purchase or up to a total of 100,000 vehicle miles. The General Motor's warranty system does not contain information on the number of vehicles that have extended warranty coverage. The number of extended warranty coverage contracts on the subject vehicles that have been sold by MIC regardless of status (in-force, expired, cancelled) as of September 21, 2007 is contained in Table 6-3.

MAKE/MODEL	2004 MY	2005MY	TOTAL
CHEVROLET AVEO	12,965	13,863	26,828

TABLE 6-3: MIC EXTENDED WARRANTY COVERAGE CONTRACTS SOLD

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, 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.

GM has issued the following bulletin relative to the alleged defect on the subject vehicles: Service Bulletin #1715988 (05-06-04-065), issued 10/21/2005. This bulletin instructed dealers to install a new Positive Crankcase Ventilation (PCV) system when customers complain of a hard start, no start or rough idle condition in temperatures near or below -20°C (-4°F). This bulletin is included in ATT_1_GM disk in the folder labeled "Q_07;" refer to the folder labeled, "Q_07_BULLETINS," in the subfolder "Q_07_A."

GM also plans to issue another bulletin within the next 120 days that may be related to the alleged defect. That bulletin will be issued by February 1, 2008 and will replace Service Information Bulletin #05-06-04-065. A draft of that bulletin is included in ATT_1_GM disk in the folder labeled "Q_07;" refer to the folder labeled, "Q_07_BULLETINS," in the subfolder Q_07_B.

The preceding information was collected from GM Service Operations. The data collection was completed on January 11, 2008.

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, GM. 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.

The information listed in Table 8-1 below is a summary of actions that have been conducted, are being conducted, are planned, or are being planned by or for GM regarding the subject condition on the subject vehicles as of December 19, 2007. Documents and additional supporting information are included in the Attachments as noted in the table.

Action 8-A: Aveo Climatic Wind Tunnel Test Result Summary

Start Date: May 9, 2005

End Date: May 10, 2005

Summary of subject/objective: Test results from climatic wind tunnel tests done to assess potential changes to the design that may affect throttle body icing.

Engineering Group: GM Powertrain

Summary of Findings/Conclusions: Conclusions are stated at end of each test summary in the attachment.

Attachments: Presentation included in ATT_2_GM_CONF subfolder Q_08_A.

Action 8-B: Aveo Throttle Body Icing Test Summary

Start Date: January 29, 2006

End Date: February 16, 2006

Summary of subject/objective: To re-create the conditions that may have affected throttle body performance on several customer vehicles in cold weather climates.

Engineering Group: GM Powertrain

Summary of Findings/Conclusions: Conclusions are stated at end of each test summary in the attachments.

Attachments: Documents in ATT_2_GM_CONF in subfolder Q_08_B.

Action 8-C: Aveo Tunnel Test Results Summary

Start Date: May 7, 2007

End Date: May 24, 2007

Summary of subject/objective: To assess the performance of proposed design changes to be used in 3rd recall of Canadian vehicles.

Engineering Group: GM Powertrain

Summary of Findings/Conclusions: Conclusions are summarized in the attached presentation.

Attachments: Presentation included in ATT_2_GM_CONF in subfolder Q_08_C.

Action 8-D: Cold weather development testing on 2004/2005 MY vehicles.

Start Date: 2/7/2005

End Date: 2/19/2005

Summary of subject/objective: Summary of test procedure and test results.

Engineering Group: GMDAT Engineering

Summary of Findings/Conclusions: Results summarized in document.

Attachments: Presentation in ATT_2_GM_CONF in subfolder Q_8_D.

Action 8-E: Summary of cold weather testing

Start Date: January, 2007

End Date: February, 2007

Summary of subject/objective: Testing of various proposed design changes.

Engineering Group: GMDAT Engineering

Summary of Findings/Conclusions: Summary observations of test are stated in the document.

Attachments: File found in ATT_2_GM_CONF in subfolder Q_8_E.

Action 8-F: Aveo throttle body icing test summary.

Start Date: August 26, 2007

End Date: August 27, 2007

Summary of subject/objective: To re-confirm the performance of proposed design changes to be used in potential 3rd recall of Canadian vehicles.

Engineering Group: GMDAT Powertrain Validation

Summary of Findings/Conclusions: Conclusions are summarized in the attached presentation.

Attachments: Presentation included in ATT_2_GM_CONF in subfolder Q_08_F.

Action 8-G: General durability test.

Start Date: June 29, 2007

End Date: September 28, 2007

Summary of subject/objective: To confirm in a vehicle durability test, the performance of proposed design changes to be used in potential 3rd recall of Canadian vehicles

Engineering Group: GMDAT Powertrain Validation

Summary of Findings/Conclusions: Confirmed that the modified vehicle with the design changes passed the durability requirement.

Attachments: File included in ATT_2_GM_CONF in subfolder Q_08_G.

Action 8-H: GED test.

Start Date: June 13, 2007

End Date: July 27, 2007

Summary of subject/objective: To re-confirm in a vehicle durability test on a dynamometer, the performance of proposed design changes to be used in potential 3rd recall of Canadian vehicles
Engineering Group: GMDAT Powertrain Validation

Summary of Findings/Conclusions: Confirmed that the modified engine with the design changes passed the durability requirement.

Attachments: Test report cover page and test report included in ATT_2_GM_CONF in subfolder Q_08_H.

Action 8-I: Field Performance Evaluation Review (FPER) summaries.

Start Date: 8/4/2005

End Date: 8/20/2007

Summary of subject/objective: Summary information considered relative to potential field actions on 2004/05 MY Chevy Aveo/Pontiac Swift vehicles in Canada.

Engineering Group: GMDAT Engineering

Summary of Findings/Conclusions: See attached documents.

Attachments: Document included in ATT_2_GM_CONF in subfolder Q_08_I.

Action 8-J: Summary of the rationale and changes to be implemented as part of the 3rd safety recall.

Start Date: March, 2007

End Date: March, 2007

Summary of subject/objective: Investigation findings and potential corrective action.

Engineering Group: GMDAT Engineering

Summary of Findings/Conclusions: Investigation findings and potential corrective action.

Attachments: Presentation included in ATT_2_GM_CONF in subfolder Q_08_J.

Action 8-K: Weather condition analysis in Canada compared with alleged cases of freezing in the induction system.

Start Date: November 28, 2006

End Date: February 6, 2007

Summary of subject/objective: Documentation of the temperature, humidity and location of alleged cases in Canada during winter of 2006-2007.

Engineering Group: GM Canada Engineering

Summary of Findings/Conclusions: Compares temperature/humidity conditions on days of occurrence.

Attachments: Presentation and spreadsheet files included in ATT_1_GM in subfolder Q_08_K.

Action 8-L: Canadian Technical Assistance Cases (TAC)

Start Date: January 2, 2007

End Date: March 26, 2007

Summary of subject/objective: Information on alleged cases of freezing in the induction system in Canada in early 2007.

Engineering Group: GM Canada Engineering

Summary of Findings/Conclusions: Provides a summary of the vehicles and the keywords that are in the TAC case descriptions.

Attachments: File included in subfolder ATT_1_GM in subfolder Q_08_L.

<p>Action 8-M: Technical Assistance Center Cases - Canada Start Date: 1/19/2007 End Date: 1/19/2007 Summary of subject/objective: Summary of information on vehicles with alleged cases of freezing in the induction system in Canada after 2nd recall. Engineering Group: GM Canada Engineering Summary of Findings/Conclusions: Most of the cases identified occurred near -20°C. Attachments: Documents (2) in ATT_1_GM in subfolder Q_8_M.</p>
<p>Action 8-N: Summary of Technical Assistance Center (TAC) Cases in Canada of alleged freezing in the induction system during early 2005. Start Date: December 6, 2004 End Date: January 25, 2005 Summary of subject/objective: Cases are plotted against months in service and mileage. Engineering Group: GM Canada Engineering Summary of Findings/Conclusions: Cases are plotted against months in service and mileage. Attachments: Spreadsheet found in ATT_1_GM in subfolder Q_8_N.</p>
<p>Action 8-O: Investigation Status Review Presentations Start Date: October 30, 2007 End Date: December 11, 2007 Summary of subject/objective: Provides an overview of the NHTSA IR for the Investigation Status Review Meetings. Engineering Group: GMNA Engineering Summary of Findings/Conclusions: No conclusions. Attachments: 3 Presentations included in ATT_1_GM in subfolder Q_08_O.</p>
<p>Action 8-P: Product Safety Recall Information for Canada Start Date: September 27, 2005 End Date: November 21, 2007 Summary of subject/objective: Letters sent to Canadian customers and Recall bulletins sent to Canadian Dealers. Engineering Group: GMNA/GMDAT Engineering Summary of Findings/Conclusions: Recall of Canadian Vehicles. Attachments: Customer letters and Recall Bulletins in ATT_1_GM in subfolder Q_08_P.</p>
<p>Action 8-Q: Summary of warranty cases by State. Start Date: 1/8/08 End Date: 1/8/08 Summary of subject/objective: Summarizes the cases of alleged stuck throttles (<32°F). Engineering Group: GM North America Engineering Summary of Findings/Conclusions: Provides the number of US cases by state and the volume sold in those states. Attachments: Spreadsheet in ATT_1_GM in subfolder Q_8_Q.</p>

Action 8-R: Summary of all labor codes searched

Start Date: 1/7/08

End Date: 1/7/08

Summary of subject/objective: Summarizes all of the labor codes searched including those which had no cases related to the alleged defect.

Engineering Group: GM North America Engineering

Summary of Findings/Conclusions: Data is summarized in Question 5

Attachments: Spreadsheet in ATT_1_GM in subfolder Q_8_R.

Action 8-S: Summary of TREAD search.

Start Date: August, 2007

End Date: November, 2007

Summary of subject/objective: Search for US cases of throttle icing in the United States.

Engineering Group: GM North America engineering.

Summary of Findings/Conclusions: Data was used in 579 letter dated August 27, 2007. While searching cases for this IR, it was discovered that most of the 47 cases stated in the letter were Canadian vehicles.

Attachments: Files (2) found in ATT_1_GM in subfolder Q_8_S.

9. Describe all modifications or changes made by, or on behalf of, GM 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 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;
- 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.

Describe what differences, if any, exist between the subject components on the subject vehicles and the subject components on Canadian vehicles involved in the subject foreign recall campaigns. Also, provide the above information for any modification or change that GM is aware of which may be incorporated into vehicle production within the next 120 days.

The ATT_1_GM_disk, subfolder "Q_9," includes files that describe the changes that were made.

- The items shown as "1st change" are those changes that were made in production on all subsequent subject vehicles and all Canadian vehicles beginning approximately 3/8/2005.
- Items identified as "2nd change" are those items that were modified on Canadian vehicles as part of a Product Safety Recall (9/2005) and any US vehicles modified by dealers who used service bulletin #1715988 (05-06-04-065).
- Items identified as "3rd change" are those items that were modified on Canadian vehicles as part of a Product Safety Recall (11/2007) and any US vehicles that will be modified by dealers per the draft bulletin referenced in question 7. (See ATT_1_GM disk in the folder labeled "Q_07;" refer to the folder labeled, "Q_07_BULLETINS," in the subfolder "Q_07_B").

The subject components on the subject vehicles of this IR are identical to those on Canadian vehicles prior to the Canadian vehicles being modified when the Canadian recalls were performed.

- 10. State the number of each subject component 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).**

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 GM is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

An electronic summary table of the requested service part information for the subject components is provided on the ATT_1_CD, GM disk in the folder labeled "Q_10," refer to the Microsoft Excel in the subfolder labeled, "Q_10_Part Sales."

These sales numbers represent sales to dealers in the US and Canada. This data has limited analytical 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.

This table contains 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. This data was searched on November 27, 2007.

- 11. Provide a schematic and written description showing all aspects of the design of the subject components that relate to the control/prevention of throttle icing in the subject vehicles. Furnish GM's assessment of the environmental and operating conditions that can produce throttle icing in the subject vehicles and factors that affect throttle ice prevention functionality as a vehicle accumulates time/miles in service.**

Moisture is naturally created by the combustion of fuels and oxygen. Small amounts of products of combustion, which contain moisture, pass by the piston rings after each combustion event, a condition common in internal combustion engines. During normal operation of the vehicle, the Positive Crankcase Ventilation (PCV) system is designed such that the blow-by gas, which includes moisture from the engine, goes through the PCV system:

- When the engine is cold, the moisture in the products of combustion condense into the engine crankcase.
- Uncondensed moisture and other constituents of the products of combustion are transferred to the PCV system, which directs the moisture and gasses to the induction system.
- When the crankcase warms, the accumulated moisture vaporizes, adding to the moisture content in the gas that is passed through the PCV system.
- Progressively colder ambient temperatures below freezing increases the potential for ice accumulation when the moisture in the PCV gas mixes with the inlet air.
- Higher ambient humidity levels slow the rate that this moisture/ice is evaporated.
- Extended driving in sub-freezing ambients can lower the internal temperatures in the PCV distribution hoses. Ice accumulation in the PCV hoses can restrict the air flow. Flow restriction in the PCV distribution system can result in increased moisture upstream of the throttle body, (refer to "abnormal" flow path in figure 11-1).
- Higher than expected moisture introduction upstream of the throttle in sub-freezing ambients increases the potential of ice, frost or snow in the induction system.
- Ice, frost, or snow accumulation in front of the throttle can dislodge, affecting the air flow and throttle valve movement.

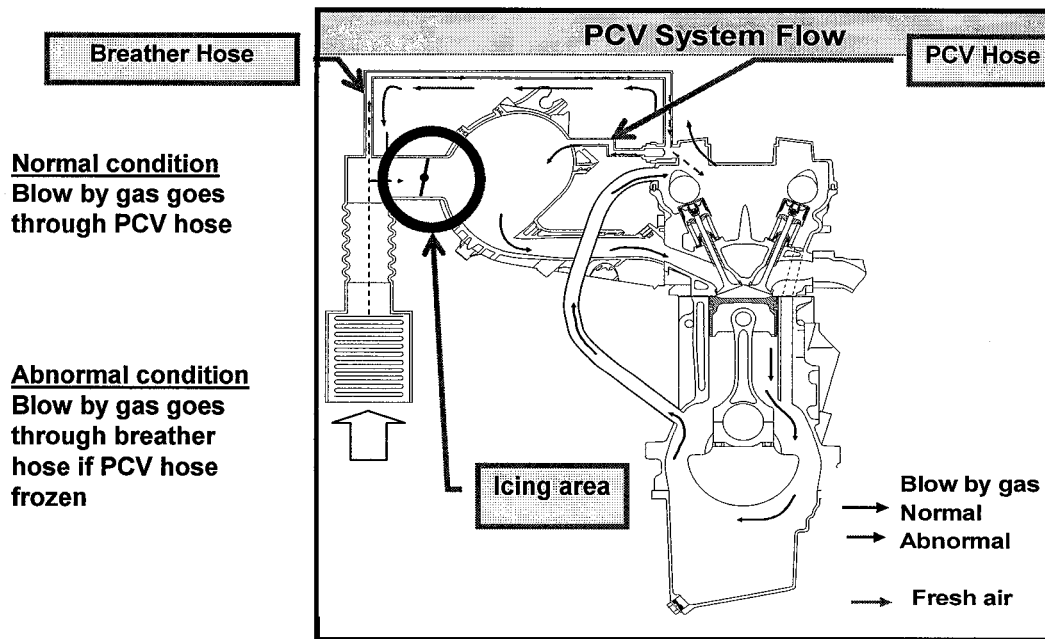


Figure 11-1

Moisture accumulation in the crankcase is aggravated by short trip driving conditions where the crankcase remains cold and condensed blow-by moisture accumulates. The PCV and throttle-related conditions are aggravated when vehicles that have this moisture accumulation are then driven longer and the crankcase warms, increasing the moisture being vented to the PCV system.

If performance issues are noticed when moisture freezes in induction and intake systems, it will usually be observed as a hard to start/no start, throttle stuck closed, rough running engines, stalling at idle, or oil leaks, as opposed to a stuck open throttle.

GM has not identified any data to quantify a relationship between vehicle mileage and throttle icing in the subject vehicles.

12. Furnish GM's assessment of the alleged defect in the subject vehicle, including:

a. The causal or contributory factor(s), including:

- i) All climate data used by GM in its assessment of the defect condition in subject vehicles sold in the United States and Canada, including the number of days with low temperatures at or below -20 degrees C by state; and**
- ii) The length of time that a vehicle must be exposed to the necessary climate conditions for a throttle icing incident to occur;**

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.

12 a. i) & ii)

GM has not researched the number of days in the US with low temperatures at or below -20°C by state as part of its investigation of the subject vehicles.

GM reviewed a number of Canadian cases that came through the Technical Assistance Center over the past 4 winters. Many of these cases occurred during periods when the vehicles had been exposed to ambient temperatures near - 20°C (- 4°F) or colder, along with high relative humidity (reference documents in subfolders "Q_08_K" and "Q_08_M").

For cases identified in Questions 2 and 5 as having a possible stuck throttle (stuck open or stuck closed), GM checked weather data at "www.wunderground.com" in the repair dealers' zip codes for a period of two weeks prior to the repair. The lowest temperature during that two week period was recorded and was used to determine if one of the necessary conditions existed for ice to be formed. The results were used to separate the data as shown in Tables 2-1, 2-2, 5-1, 5-2 and 5-3. Those recorded temperatures are included with the associated data submitted with Questions 2 and 5. The reports for vehicles exposed to temperatures above freezing are not related to the icing issue.

Further, GM believes that it will be extremely rare for U.S. customers to experience all of the necessary conditions and sequence of events for a throttle valve to become stuck open. Those conditions would track the following sequence of events:

- Exposure to ambient temperatures that can allow formation of ice.
- Vehicle operation on a drive cycle that promotes water from combustion to accumulate in the engine (generally, repeated short trips).
- Subsequent vehicle operation in conditions where the moisture in the engine is vaporized and expelled into the PCV ventilation system (usually a longer trip with increased engine temperatures).

- Continued ambient temperatures that can allow moisture to re-freeze somewhere in the PCV system.
- Ice must then be formed near the throttle body or ice must clog the PCV valve/hose causing additional moisture to freeze in the fresh air duct in front of the throttle body or in the throttle body itself.
- Then, while the throttle valve is open, the ice must dislodge and move into a position under the open throttle valve and be hard enough to withstand the spring force.

Based on US and Canadian field data on alleged stuck throttles, about half of the customers experienced an issue at start-up (high idle or stuck closed) rather than while driving.

12 b) c)

Failure mechanism and failure modes described in question 11.

12 d) e)

If ice forms in the PCV system, customers will usually notice performance issues other than a stuck throttle valve. Examples of this are shown in Table 5-1, where most warranty claims were for hard-to-start engines or other engine performance issues. GM plans to implement the Canadian recall service procedure as a U.S. service bulletin by February 1, 2008. This will resolve those customer complaints.

Summarizing the data provided in questions 2 and 5, GM has identified 75* cases of an alleged throttle sticking when the temperature was below freezing in the two weeks prior to the incident report. While there are rare customer reports of throttles alleged to be stuck open while driving at temperatures somewhat below freezing, the Canadian experience has been that those incidents typically occurred at temperatures well below freezing (near -20 degrees C). The low rate of occurrence in the U.S., lower than the Canadian rate, is consistent with the Canadian experience when the climate differences between the two countries are considered.

In conclusion, for the US market, General Motors does not believe that the alleged defect is an unreasonable risk to safety for the following reasons:

- Low rate of stuck throttle is consistent with the rare coincidence of all of the conditions and sequence of events needed to create a stuck open throttle while driving.
- Most stuck throttle cases will be seen during vehicle start up and not a failure to return-to-idle while driving.
- GM knows of only one minor crash and no injuries resulting from an alleged stuck throttle at a time when the ambient conditions might have allowed ice to form.
- Any US vehicles that have a performance issue due to icing will be able to be serviced by GM dealers using the same service procedure as in the Canadian recall.
- NHTSA has not received any VOQs on this issue.

*(Note: GM has identified 84 cases of an alleged throttle sticking at a time when ambient conditions existed that would permit ice to form (total from Tables 2-1, 5-1, 5-2 and 5-3). However, within the warranty data, 9 of these cases are duplicates to those already counted on Table 2-1, giving a total of 75 cases.)

* * *

GM claims that certain information, in documents that are part of lawsuit and claims files maintained by the GM Legal Staff, is attorney work product and/or privileged. That information includes notes, memos, reports, photographs, and evaluations by attorneys (and by consultants, claims analysts, investigators, and engineers working at the request of attorneys). GM is producing

responsive documents from claims files that are neither attorney work product nor privileged, and withholding those that are attorney work product and/or privileged.

Regarding attorney work product and privileged documents that may be responsive to this information request, GM states that they fall within these categories: (1) communications between outside counsel and employees of GM's Legal Staff and others working at the direction of GM's Legal Staff, other GM employees, or employees of parties represented by GM in litigation or claims; (2) communications between employees of GM's Legal Staff and others working at the direction of GM's Legal Staff and other GM employees or employees of parties represented by GM in litigation or claims; (3) notes and other work product of outside counsel or employees of GM's Legal Staff and others working at the direction of GM's Legal Staff, including work product of employees or consultants done for or at the request of outside counsel or GM's Legal Staff. For any privileged documents that are not covered by these categories, if any, GM will provide a privilege log identifying any such documents under separate cover. GM is not claiming a legal privilege for any documents provided with this response; however, GM does not waive the legal privilege or work product protection with respect to other documents that may have been prepared in connection with a specific litigation or claim.

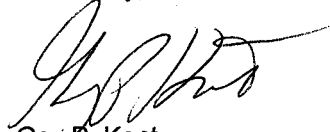
This response is based on searches of General Motors Corporation (GM) locations where documents determined to be responsive to your request would ordinarily be found. As a result, the scope of this search did not include, nor could it reasonably include, "all of their divisions, subsidiaries (whether 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 January 1, 2003, 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 this office 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,



Gay P. Kent
Director

Product Investigations

Attachments

**A070047
PE07-051**

GM CONFIDENTIALITY LETTER

**GM CONFIDENTIALITY LETTER
HAS BEEN REMOVED FROM THIS
ATTACHMENT AND SUPPLIED TO
THE OFFICE OF THE CHIEF COUNSEL**

**A070047
PE07-051**

ATTACHMENT "1"

GM NON-CONFIDENTIAL MATERIAL

**A070047
PE07-051**

ATTACHMENT "2"

GM CONFIDENTIAL MATERIAL

**GM CONFIDENTIAL MATERIAL
HAS BEEN REMOVED FROM THIS
ATTACHMENT AND SUPPLIED TO
THE OFFICE OF THE CHIEF COUNSEL**