GENERAL MOTORS NORTH AMERICA
Structure & Safety Integration

August 6, 2003

Kathleen C. DeMeter, Director
Office of Defects Investigation
NHTSA Safety Assurance
Room #5326
400 Seventh Street, S.W.
Washington, D.C. 20590

GM-6168

NVS-213dsy
EA02-015

Dear Ms. DeMeter:

This letter is General Motors (GM) response to your request for updated information, dated June 20, 2003, regarding allegations of sticking of the throttle valve in the throttle body on MY 1999 – 2002 Chevrolet Silverado and GMC Sierra Pickups, MY 2000 – 2002 Chevrolet Tahoe and Suburban, GMC Yukon and Yukon XL and MY 2002 Chevrolet Avalanche vehicles produced by GM for sale or lease in the US.

There are approximately 3.4 million vehicles that may experience the subject condition. GM identified a total of 1,364 customer complaints and field reports as part of this IR response and the previous two IR responses dated April 29, 2002 and December 9, 2002 (including two supplemental responses dated May 10, 2002 and July 24, 2002.)

Analysis of the complaint data results in a low overall complaint rate of 0.40 incidents per thousand vehicles (IPTV). Furthermore, calculations of crash incident rate and injury rate also yield low rates of 0.036 IPTV and 0.007 IPTV respectively. GM has identified no fatalities associated with this condition.

Your questions and our corresponding replies are as follows:

1. **In addition to the information provided in GM's December 9, 2002 response, 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;**
   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 concluded, in which GM is or was a defendant, codefendant, or third party defendant.**

   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).

Product Investigations
Mail Code: 480-106-304 • 30500 Mound Road • Warren, MI 48090-9055
Phone: (586) 986-8423 • Fax: (586) 947-2318

In addition, for items "c" through "f," provide a summary description of the alleged underlying problems, 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.

GM has searched the following sources to collect the data for this response. The source and last date the data was gathered are tabulated in Table 1-1.

SOURCE SYSTEM	LAST DATE GATHERED
Corporate Central File	06/25/2003
Customer Assistance Center	07/03/2003
Technical Assistance Center	07/07/2003
Field Information Network Database (FIND)	06/25/2003
24HR Concern Detection Process (CDP)	07/17/2003
Company Vehicle Evaluation Program (CVEP)	06/25/2003
Early Quality Feedback (EQF)	07/16/2003
Legal / Employee Self Insured Services (ESIS)	07/21/2003

TABLE 1-1

Table 1-2 below summarizes the reports to GM that could relate to the subject condition.

TYPE OF REPORT	COUNT (INCLUDING DUPLICATES)	GM REPORTS	GM REPORTS CORRESPONDING TO NHTSA REPORTS	LOCATION OF REPORTS (ATTACHMENT)	NUMBER OF PROPERTY DAMAGE REPORTS	NUMBER OF CRASH INCIDENT REPORTS	NUMBER OF REPORTED INJURIES*
Owner Reports	16	16	0	1A	0	0	0
Field Reports & Technical Assistance System Reports	67	67	0	1B	1	1	1
Not-In-Suit Claims	1	1	0	1C	1	1	0
Subrogation Claims	2	2	0	1D	2**	2**	1
Third Party Arbitration Proceedings	0	0	0	N/A***	0	0	0
Lawsuits	0	0	0	N/A	0	0	0
Total (with duplicates)	86	86	0	N/A	4	4	2
Total (excluding duplicates)	85	85	0	N/A	4	3	2

TABLE 1-2

* GM is not aware of any fatalities related to the subject condition.
** One subrogation claim has additional information that was provided in GM's December 9, 2002 response.
*** N/A – not applicable

2. **Separately, for each item (complaint, report, claim, notice, or other matter) within the scope of GM's response to Request No. 1, state the following information:**
   a. **GM's file number or other identifier used;**
   b. **The category of the item, as identified in Request No. 1 (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;
l. Number of alleged fatalities, if any; and
m. Summary description (Request No. 1 items "c" through "f" only).

Provide this information in Microsoft Access 2000, or a compatible format, titled "REQUEST NUMBER ONE DATA." See Enclosure 1, "EA02-015 Supplemental IR Attachments," for a pre-formatted table, which provides further details regarding this submission. GM's response should adhere precisely to the format defined in the enclosure.

An electronic summary of the records included in Item 1 is provided on the CD in Attachment 1; refer to the Microsoft Access 2000 file in the folder labeled "Response for Q2." GM has organized this summary by GM file number within each attachment.

3. Produce copies of all documents within the scope of Request No. 1 that are related to items "c" and "d" only (crash, injury, fatality or property damage claims). Organize the documents separately by category (i.e., crash injury fatality, property damage) and describe the method GM used for organizing the documents within the category (i.e., by file number, by incident date, etc).

Copies of the non-privileged records identified in Item 1 are provided in the attachments listed in Table 1-2. GM has organized the records by the GM file number within each attachment.

4. In addition to the information provided by GM in the response dated December 9, 2002, 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 (TSB) or customer satisfaction campaign. Include in this response any claims that relate to, or may relate to, the repairs described in GM's TSB No. 02-06-04-054 (Subject: Increased Accelerator Pedal Effort).

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. Vehicle's 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;

l. 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, "EA02-015 Supplemental IR Attachments," for a pre-formatted table, which provides further details regarding this submission. GM's response should adhere precisely to the format defined in the enclosure.

GM has searched the following sources to collect the warranty data for this response. The source and last date the data was gathered are tabulated in Table 4-1.

SOURCE SYSTEM	LAST DATE GATHERED
GM North America (NA) Claim Adjustment Retrieval Database (CARD) System	06/25/2003
Motors Insurance Corp. – Extended Warranty System	07/22/2003
Universal Warranty Corp. – Extended Warranty System	07/25/2003

Table 4-1

A total of 34,550 warranty claims that may relate to the subject condition on the subject vehicles is provided on the CD in Attachment 1; refer to the Microsoft Access 2000 file in the folder labeled "Response for Q4.

Model	1999MY	2000MY	2001MY	2002MY	Total
Pickup Truck	7,551	7,528	4,757	1,251	21,185
Sports Utility Vehicle	N/A	2,962	8,702	1,412	13,076
Sports Utility Truck	N/A	N/A	N/A	289	289
Total	7,551	10,588	13,459	2,952	34,550

N/A – Not Applicable

Table 4-2

The GMNA CARD system does not contain the following information: vehicle owner's name, address, telephone number, replacement part number description, or customer concern summary. GM is providing a field labeled "Verbatim Text" in response to requests 4j and 4k (customer concern and dealer/technician comment, if any, relating to claim including and/or repair). The verbatim text is an optional field in the GM CARD system for dealers to enter any additional comments that may be applicable to the warranty claim. The verbatim text field is not required for completion with every warranty claim.

The MIC extended warranty system does not contain the following information: repair dealer name or code, trouble code, trouble code description, part number, or verbatim.

The UWC extended warranty system does not contain the following information: labor operation code, labor operation code description, trouble code, trouble code description, or part number.

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 data represent claims by our dealers for reimbursement for parts and labor costs incurred in performing warranty service for our customers.

5. Describe in detail the search criteria used by GM to identify the claims identified in response to Request No. 4, including the labor operations, problem codes, part numbers and any other parameters used. Include in this description the criteria used to identify claims that relate to, or may relate to, the repairs described in GM's Service Bulletin No. 02-06-04-054.

The following labor codes and trouble codes were searched for the warranty data:

Labor codes and descriptions:

J6485 Body, Throttle R&R
J6490 Body, Throttle Replace

Trouble codes and descriptions:

1B Casting Defect
1F Carbon Deposit
1H Clogged/Restricted/Blocked
1N Burrs
1Y Foreign Material
2F Clearance Too Tight
2N Insufficient Lubrication
3A Misadjusted/Misaligned
3N Poor Machining
3P Poor Release
4N Warped/Wavy/Wrinkled
5W Rusted/Corroded
6C Component- Inoperative
6D Component- Intermittent
93 Technical Service Bulletin
95 Special Policy
96 Campaign

Even though many of these trouble codes do not necessarily describe throttle body service, any of them could be submitted with a warranty claim. The GM warranty system does not accept or reject warranty claims based on trouble code. The two labor operation codes listed above are the only labor operation codes in the GM warranty system for the subject component. The trouble codes 93, 95, and 96 may relate to the GM's Service Bulletin Claims No. 02-06-04-054.

The standard warranty coverage for the subject component on the subject vehicles is based on vehicle emissions certification requirements. In Federal Emission States, the throttle body is covered by warranty for 3 years or 36,000 miles. In California Emission States, the throttle body is covered by warranty 7 years or 70,000 miles.

6. Referring to question and response No. 7 in GM's letter dated December 9, 2002, state the actual or planned date when the newly designed throttle bodies (as provided in GM's April 29, 2002 Supplement 2 response) that do not have bypass holes in the throttle plate were, or will be, produced and sold for service usage on subject vehicles equipped with LR4, LM7 and L59 engines.

The date for planned part availability of the newly designed throttle bodies from Delphi to GM is October 10, 2003.

7. **For each service procedure and TSB that GM has developed, is developing, or is planning to develop, that will increase the angle, off perpendicular, of the throttle blade at the closed position in any of the subject vehicles equipped with LQ4 engines:**
   a. **State its actual or projected publication date;**
   b. **Provide a copy of the most recent document in which it is described, whether in draft or final form, or if it has yet to be committed to writing, describe its likely contents, including graphics or drawings;**
   c. **Identify and describe, by part number, all components installed, or to be installed, as a result of the service procedure or TSB;**
   d. **State whether it includes any changes or modifications in the size of the air bypass hole in the throttle blade, and if so, explain in detail how the modifications are or would be made, including an identification and description of all parts and materials required for the modification;**
   e. **State the expected change in throttle blade angle (in degrees), and the expected tolerance (in degrees +/-), that will result from the service procedure or TSB; and**
   f. **State whether the service procedure or TSB will have any impact on any other vehicle component(s) or system(s), and if so, describe the impact and any effect, if any, on vehicle operation and safety;**

   a. Pending completion of the validation tests, the earliest projected availability of the throttle valve insert is January 1, 2004. This timing is based on a completion of the validation tests by the end of September 2003 and the subsequent 8 week lead time required by the insert supplier. The publication of the procedure would be simultaneous with the service release of throttle valve inserts.
   b. A draft copy is included on the CD in Attachment 1 in folder "Response for Q7".
   c. Pending completion of the validation tests, two new part numbers will be introduced (one for pre-orifice applications and one for orifice applications). The new part numbers will become available after the completion of the validation tests.
   d. A modification to the bypass hole size will be accomplished through the use of the appropriate bypass hole insert. These inserts are similar to the bypass hole plugs currently used for service (TSB 02-06-04-054B) for engine codes LR4/LM7 applications except they have a bypass hole feature molded into the insert (i.e. a cored plug). GM is submitting two different sized prototype samples of the insert in response to NHTSA's July 23, 2003 request.
   e. The procedure provides for adjustment of the throttle valve angle using the minimum air-rate-screw while monitoring the throttle position sensor (TPS) voltage utilizing a Tech 2 scan tool. The throttle valve angle is not adjusted a given number of degrees but rather adjusted until the proper TPS voltage is achieved as detailed in the technical service bulletin.
   f. GM believes that performing the proposed service procedure will have no impact on any vehicle component or system other than the throttle body.

8. **For each throttle body design or manufacturing modification that GM has developed, is developing, or is planning to develop for use in the subject vehicles equipped with LQ4 engines, which will result in an increase in the angle, off perpendicular, of the throttle blade at the closed position:**
   a. **State the actual or planned introduction date;**

b. State whether it includes any changes or modifications in the size of the air bypass hole in the throttle blade, and if so, explain in detail how the modifications are or would be made, including an identification and description of all parts and materials required for the modification;
c. State the nominal closed throttle blade angle (in degrees) for any such modified design as well as the tolerance (in degrees +/-) anticipated due to normal manufacturing and component variability; and
d. State how each value from question 7(c) compares to current or previous throttle body designs;

a. Planned part availability of the newly designed throttle body from Delphi to GM is October 10, 2003.
b. The throttle valve bypass hole diameter will be reduced from a 3.65±0.1mm to 2.0±0.1mm. This change requires new punch detail to the existing tooling. The valve part number will change from 25170125 to 25360233.
The throttle shaft tang angle will be rotated 1.5 degrees to accommodate TPS locating issues. The throttle shaft part number will change from 17123995 to 25362529.
c. The anticipated throttle valve angle is 4.3 degrees plus or minus 0.75 degrees.
d. The throttle valve angle on engines built with the fixed orifice PCV valve is 3.35 degrees plus or minus 0.75 degrees. The throttle valve angle on engines built prior to the introduction of the fixed orifice PCV valve is 2.77 degrees plus or minus 0.75 degrees

9. 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, including the types discussed in Request Nos. 6, 7 and 8;
b. Throttle plate plugs, GM part numbers 12580749 and 12581011; and
c. Any other kits or components that have been released for use in service repairs to the subject component.

For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number) and describe the component part number replacements or supercessions which occurred.

The source of the requested information, current as of July 22, 2003, is GMNA Service Parts Operations.

The production and service part information requested is provided on the CD in Attachment 1; refer to the Microsoft Access 2000 file in the folder labeled "Response for Q9."

* * *

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 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 January 1, 1996 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,

Lyndon R. Lie
Director
Product Investigations

attachments