



April 15, 2005

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NVS-213

2005 APR 18 P 2:27

Kathleen C. DeMeter, Director
Office of Defects Investigation
NHTSA Enforcement
Room #5328
400 Seventh Street, S.W.
Washington, D.C. 20590

OFFICE OF DEFECTS INVESTIGATION
GM-677

NVS-213cat
EA04-024

Dear Ms. DeMeter:

General Motors (GM) is providing information in response to your Information Request (IR), dated March 11, 2005, related to your comparative study (EA04-024) regarding allegations of front suspension lower ball joint separations on the 2002 Model Year Toyota Tundra vehicles.

As requested, GM has included information regarding the 2001-2003 MY Chevrolet Silverado and GMC Sierra, 1500 series pickup trucks, manufactured for sale or lease in the United States.

Your questions and our corresponding replies are as follows:

1. State, by model, model year, and drive type (two-wheel drive or four-wheel drive), the number of subject peer vehicles GM has manufactured for sale or lease in the United States. Separately, for each subject peer vehicle manufactured to date by GM, state the following:
 - a. Vehicle identification number (VIN);
 - b. Make;
 - c. Model;
 - d. Model Year;
 - e. Platform;
 - f. Drive Type;
 - g. Date of manufacture;
 - h. Date warranty coverage commenced; and
 - l. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

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

MODEL	2001 MY	2002 MY	2003 MY	TOTAL
Chevrolet Silverado 2WD	247,027	228,988	246,293	722,288
Chevrolet Silverado 4WD	194,894	211,361	244,329	650,384
GMC Sierra 2WD	68,898	67,515	62,420	198,834
GMC Sierra 4WD	57,436	66,778	66,019	190,233
TOTAL	568,056	574,620	619,061	1,761,737

TABLE 1 VEHICLE PRODUCTION
VEHICLE PRODUCTION DATED MARCH 22, 2005

The production information requested in 1a-1l is provided on the in the Attachment 1 CD, in the folder labeled: "Response for Q1;" refer to the Microsoft Access 2000 file labeled GM PEER PRODUCTION DATA. GM is providing the state where the vehicle was shipped in response to request 1l. For some of the subject vehicles, which have incomplete warranty files, the GM warranty system 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, by model, model year, and drive type, 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 peer 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 peer 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.

In a separate enclosure, provide a tabulation of the total complaint counts by source (complaints, field reports), model, model year, drive type, and complaint category for all other complaints and field reports related to the subject peer components.

Table 2-1 below summarizes records that could relate to the subject condition. GM has organized the records by the GM file number within each attachment.

TYPE OF REPORT	COUNT (INCLUDING DUPLICATES)	GM REPORTS	LOCATION OF REPORTS (ATTACHMENT)	CRASHES	NUMBER OF PROPERTY DAMAGE	NUMBER OF REPORTED INJURIES OR DEATHS
Owner Reports	0	0	2A	0	0	0
Field Reports and Technical Assistance System Reports	1	1	2B	1	0	0
Not-in-Suit Claims	0	0	N/A	0	0	0
Subrogation Claims	0	0	N/A	0	0	0
Third Party Arbitration Proceedings	0	0	N/A	0	0	0
Product Liability Lawsuits	0	0	N/A	0	0	0
Total (including Duplicates)	1	1	N/A	1	0	0
Total (Excluding Duplicates)	1	1	N/A	1	0	0

TABLE 2-1: REPORT BREAKDOWN 2001 - 2003 MY CHEVROLET SILVERADO AND GMC SIERRA

N/A - NOT APPLICABLE

To date, GM's investigation of the alleged condition has not included an assessment of the cause of the incident responsive to Request No. 2. Incident report may not contain sufficient reliable information to accurately assess cause.

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

SOURCE SYSTEM	LAST DATE GATHERED
Corporate Central File	March 21/2005
Customer Assistance Center	March 24, 2005
Technical Assistance Center	April 11, 2005
Company Vehicle Evaluation Program (CVEP)	March 18, 2005
Corporate Test Fleet (CTF)	March 18, 2005
Early Quality Feedback (EQF)	March 18, 2005
Legal / Employee Self Insured Services (ESIS) / Product Liability Claims and Lawsuits	April 7, 2005

TABLE 2.2: DATA SOURCES

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 the prior impact damage is alleged;
 - j. Whether a crash is alleged;
 - k. Whether property damage is alleged;
 - l. Number of alleged injuries, if any;
 - m. Number of alleged fatalities, if any; and
 - n. Complaint summary.

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

The requested information is provided on the CD in Attachment 1, in a folder labeled Response for Q3; refer to the Microsoft Access 2000 file in the labeled "GM PEER REQUEST NUMBER TWO DATA".

4. Produce copies of all documents related to each item (front suspension lower ball joint separations only) 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.

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

5. State, by model, model year, and drive type, 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 subject component in the subject peer 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. Whether the warranty claim is related to the alleged defect in the subject or peer vehicles;
- c. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- d. VIN;
- e. Repair date;

- f. Vehicle mileage at time of repair;
- g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- h. Labor operation number;
- i. Problem code;
- j. Replacement part number(s) and description(s);
- k. Whether the vehicle was towed to the dealer within 3 days of vehicle repair (y/n);
- l. Concern stated by customer; and
- m. Comment, if any, by dealer/technician relating to claim and/or repair.

A summary of the warranty claims are shown in Tables 5A through 5D below.

REGULAR WARRANTY CLAIMS FOR BALL JOINT SEPARATION

MODEL	2001 MY	2002 MY	2003 MY	TOTAL
Chevrolet Silverado 2WD	0	0	0	0
Chevrolet Silverado 4WD	0	0	0	0
GMC Sierra 2WD	0	0	0	0
GMC Sierra 4WD	0	0	0	0
TOTAL	0	0	0	0

TABLE 5A

EXTENDED WARRANTY CLAIMS FOR BALL JOINT SEPARATION

Model	2001 MY	2002 MY	2003 MY	TOTAL
Chevrolet Silverado 2WD	0	0	0	0
Chevrolet Silverado 4WD	0	0	0	0
GMC Sierra 2WD	0	0	0	0
GMC Sierra 4WD	0	0	0	0
TOTAL	0	0	0	0

TABLE 5B

Tables 5A and 5B above, summarize the warranty claims for ball joint failure that involved wheel separation. GM has found no warranty claims related to ball joint failure and subsequent wheel separation. During warranty analysis, GM contacted dealers regarding claims that involved vehicle towing and determined that one of the subject vehicles (Claim ID# [REDACTED]) had a cracked ball joint. There was no indication of wheel separation when the ball joint was replaced.

Regular Warranty Claims for Other Ball Joint Replacement

MODEL	2001 MY	2002 MY	2003 MY	TOTAL
Chevrolet Silverado 2WD	321	363	371	1055
Chevrolet Silverado 4WD	320	460	320	1090
GMC Sierra 2WD	103	106	82	291
GMC Sierra 4WD	127	152	94	373
TOTAL	871	1071	867	2809

TABLE 5C

EXTENDED WARRANTY CLAIMS FOR OTHER BALL JOINT REPLACEMENT

Model	2001 MY	2002 MY	2003 MY	TOTAL
Chevrolet Silverado 2WD	56	30	17	103
Chevrolet Silverado 4WD	56	41	15	112
GMC Sierra 2WD	12	7	6	25
GMC Sierra 4WD	17	21	5	43
TOTAL	141	99	43	283

TABLE 5D

As requested, GM is providing warranty claims (Tables 5C and 5D) that relate to replacement of the lower ball joint. Included with these claims, are numerous repairs performed for customer complaints of front suspension noises (squeaks, rattles, knocks or other) and grease boot leaks related to the ball joints. Based on analysis of the warranty data, none of these claims are related to wheel separation. The warranty claims are provided on the CD in the Attachment 1, in the folder labeled: "Response for Q5"; refer to the Microsoft Access 2000 file labeled: "GM PEER WARRANTY DATA"

GM searched the GM North America Claim Adjustment Retrieval Database (CARD-regular warranty), the Motors Insurance Corporation (MIC - extended warranty), and the Universal Warranty Corporation (UWC - extended warranty) databases to collect the warranty data for this response. The warranty data was last gathered on April 1, 2005.

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 5m (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. GM does not require the verbatim text field to be completed for every warranty claim.

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

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.

6. Describe in detail the search criteria used by GM to identify the claims identified in response to Request No. 6, 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 subject component in the subject peer vehicles and all labor operation codes GM used to identify vehicles that have been towed. State, by make and model year, the terms of the new vehicle warranty coverage offered by GM on the subject peer 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 peer vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.

The GM regular warranty, MIC and Universal Warranty Corporation (UWC) claims that may relate to the subject condition was collected by searching for the labor codes listed in Table 6-1. A summary of the trouble codes associated with the warranty data is included in the Attachment 1 CD, in the folder labeled, "Response for Q6".

LABOR CODE	DESCRIPTION:
E2890	BALL JOINT, R-LOWER CONTROL ARM-RPL
E2891	BALL JOINT, L-LOWER CONTROL ARM-RPL
E2837	BALL JOINT, BTH-LWR CONTROL ARM-RPL
T2020	TOWING

TABLE 6-1 LABOR CODES USED IN WARRANTY SEARCH

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.

7. Produce one exemplar sample (disassembled – NO Grease) of the current design version(s) of the subject peer component in MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles.

GM is providing two lower ball joints that are currently installed in the 2002 MY Chevrolet Silverado and GMC Sierra 1500 series, 2WD and 4WD vehicles. GM utilizes a press fit for the ball joint installation on the 4WD vehicles and rivets to attach the ball joint assembly on the 2WD vehicles. Although the lower ball joint mounting methods differ, the ball joint design and validation specifications are the same.

8. Provide the following ball joint specific information for MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles:
 - a. For each drive type, provide the design life and all material specifications (including revision histories) for the subject peer component including, but not limited to ball joint stud, the ball joint socket, and the plastic bearing, in subject peer vehicles
 - b. Describe any differences, by model, between the two-wheel drive and four-wheel drive front suspension geometry on subject peer vehicles.
 - c. For each drive type, provide a free-body diagram of the curbside loads on the front suspension upper and lower ball joints.

In response to Question 8a, GM is providing the material specifications for the ball joint components. The ball joints installed in the 2WD and 4WD subject vehicles are designed to meet the performance criteria specified in the GM test procedures that are

provided in response to question 10. There have been no changes to the metallic materials of these components, since the start of vehicle production. The ball joint component material specifications are included in the Attachment 2 CD GM Confidential, in the folder, "Response for Q8a".

In response to Question 8b, the ball joints on the subject vehicles are loaded in compression. The 2WD and 4WD front suspension systems of the subject vehicles use different types of springs, lower control arms and ball joint mounting methods. The 2WD vehicles use a coil spring, while the 4WD vehicles use a torsion bar. The 2WD vehicles use a stamped lower control arm, and the 4WD drive vehicles use a cast lower control arm. Lower ball joint assembly is attached using rivets on the 2WD vehicles, while the 4WD ball joints are press fit into the cast lower control arm. Additionally, the jounce bumper, shock absorber, and stabilizer bar react at different locations on the 2WD and 4WD systems. GM is providing CAD drawings to illustrate the geometric differences of the 2WD (Fig. 8b-1) and 4WD (Fig. 8b-2) suspension configurations for the 2001 - 2003 MY Chevrolet Silverado and GMC Sierra, 1500 series vehicles in the Attachment 1 CD, in the folder, "Response for Q8b."

In Response to Question 8c, GM is including free-body diagrams of the static load paths on the front suspension upper and lower ball joints. The free body diagrams of upper and lower ball joints are the same for both the 2WD and 4WD subject vehicles. The diagrams are included in the Attachment 2 CD GM Confidential, in the folder, "Response for Q8c."

9. State the Lightly Loaded Vehicle Weight (LLVW), Gross Vehicle Weight Rating (GVWR), and payloads, by model, model year, and drive type, for MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles. List regular cab and extended cab body styles separately. In addition, state the maximum and minimum payload combinations for each model and body style.

GM is providing a summary table of the subject vehicles LLVW, GVWR and payloads for the requested peer vehicles on the Attachment 1 CD, in the folder, "Response for Q9".

10. For MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles, state the following as it refers to the tests GM or the subject peer component manufacturer and/ or assembler has conducted in accordance with SAE J491, Steering Ball Studs and Socket Assemblies, J193, Ball Stud and Socket Assembly-Test Procedures (Reaffirmed 1998-06), Section 5.2, or any similar test procedures:
- The test procedures, measurements, and/or metrics used, if different from SAE J491 and SAE J193;
 - The tension, compression and cam-out loads applied and the angles used for the cam-out strength test (Section 5.2.4.2) for the subject peer component;
 - The peak loads and cycle life (Section 5.2.4.2.1) for the subject peer component;
 - The load and cycle life used for the endurance test (Section 5.2.4.2.2);
 - The predicted endurance life indicated by the endurance test (Section 5.2.4.2.2) conducted;
 - The pull-out and push-out strength (Section 5.2.5); and
 - The maximum angularity required for the subject peer component considering full jounce and full rebound.

In Response to Question 10, the component manufacturer tested and validated the lower ball joint components to GM test procedures. GM is providing the test procedures, a summary of deviations from the SAE J491 specifications document, and a summary of applied loads and angles used to validate the lower ball joint components. The information is included on the Attachment 2 CD GM Confidential, in the folder, "Response to Q10."

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.

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,



Gay P. Kent
Director
Product Investigations



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

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Gay P. Kent, Director
Product Investigations
General Motors Corporation
Mail code 480-111-E18
30200 Mound Road
Warren, MI 48090-9010

Dear Ms. Kent:

The Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) is conducting an Engineering Analysis (EA04-024) to investigate allegations of front suspension lower ball joint separation in model year (MY) 2002 Toyota Tundra vehicles. To assist us at this stage of the investigation, we are requesting information concerning certain other vehicles (peer vehicles).

Unless otherwise stated in the text, the following definitions apply to these information requests:

- **Subject peer vehicles:** all MY 2001-2003 Chevrolet Silverado and GMC Sierra 1500 series vehicles manufactured for sale or lease in the United States.
- **Subject peer component:** all front suspension lower ball joints manufactured for use as original equipment or replacement parts on the subject peer vehicles.
- **GM:** General Motors Corporation, all of its past and present officers and employees, whether assigned to its principal offices or any of its field or other locations, including all of its divisions, subsidiaries (whether or not incorporated) and affiliated enterprises and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of GM (including all business units and persons previously referred to), who are or, in or after 1996, were involved in any way with any of the following related to the alleged defect in the subject peer vehicles:
 - a. Design, engineering, analysis, modification or production (e.g. quality control);
 - b. Testing, assessment or evaluation;

MAR 11 2005

400 Seventh St., S.W.
Washington, D.C. 20590

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Gay David
Isaac Fadel
Ben Hook

- 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. Communications 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.
- **Alleged defect:** The front suspension lower ball joint allegedly separates and/or a front wheel separates from the vehicle while the vehicle is being driven. Incidents involving the latter condition can be excluded if they are clearly unrelated to subject peer component failure (e.g., wheel separation due to over-torquing of wheel stud).
 - **Document:** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, mailgrams, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative filings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by GM, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document which contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any non-identical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. Furnish all documents whether verified by GM or not. If a document is not in the English language, provide both the original document and an English translation of the document.

- **Other Terms:** To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "fire," "fleet," "good will," "make," "model," "model year," "notice," "property damage," "property damage claim," "rollover," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or in plural form, have the same meaning as found in 49 CFR 579.4.

In order for my staff to evaluate the alleged defect, certain information is required. Pursuant to 49 U.S.C. § 30166, please provide numbered responses to the following information requests. Insofar as GM has previously provided a document to ODI, GM may produce it again or identify the document, the document submission to ODI in which it was included and the precise location in that submission where the document is located. When documents are produced, the documents shall be produced in an identified, organized manner that corresponds with the organization of this information request letter (including all individual requests and subparts). When documents are produced and the documents would not, standing alone, be self-explanatory, the production of documents shall be supplemented and accompanied by explanation.

Please repeat the applicable request verbatim above each response. After GM's response to each request, identify the source of the information and indicate the last date the information was gathered.

1. State, by model, model year, and drive type (two-wheel drive or four-wheel drive), the number of subject peer vehicles GM has manufactured for sale or lease in the United States. Separately, for each subject peer vehicle manufactured to date by GM, state the following:
 - a. Vehicle identification number (VIN);
 - b. Make;
 - c. Model;
 - d. Model Year;
 - e. Platform;
 - f. Drive Type;
 - g. Date of manufacture;
 - h. Date warranty coverage commenced; and
 - i. 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 "GM PEER PRODUCTION DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

2. State, by model, model year, and drive type, 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 peer 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 peer 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.

In a separate enclosure, provide a tabulation of the total complaint counts by source (complaints, field reports), model, model year, drive type, and complaint category for all other complaints and field reports related to the subject peer components.

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 the prior impact damage is alleged;
 - j. Whether a crash is alleged;
 - k. Whether property damage is alleged;
 - l. Number of alleged injuries, if any;
 - m. Number of alleged fatalities, if any; and
 - n. Complaint summary.

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

4. Produce copies of all documents related to each item (front suspension lower ball joint separations only) 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.
5. State, by model, model year, and drive type, 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 subject component in the subject peer 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. Whether the warranty claim is related to the alleged defect in the subject or peer vehicles;
- c. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- d. VIN;
- e. Repair date;
- f. Vehicle mileage at time of repair;
- g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- h. Labor operation number;
- i. Problem code;
- j. Replacement part number(s) and description(s);
- k. Whether the vehicle was towed to the dealer within 3 days of vehicle repair (y/n);
- l. Concern stated by customer; and
- m. Comment, if any, by dealer/technician relating to claim and/or repair.

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

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 subject component in the subject peer vehicles and all labor operation codes GM used to identify vehicles that have been towed. State, by make and model year, the terms of the new vehicle warranty coverage offered by GM on the subject peer 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 peer vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.
7. Produce one exemplar sample (disassembled) of the current design version(s) of the subject peer component in MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles.

8. Provide the following ball joint specific information for MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles:
 - a. For each drive type, provide the design life and all material specifications (including revision histories) for the subject peer component including, but not limited to ball joint stud, the ball joint socket, and the plastic bearing, in subject peer vehicles
 - b. Describe any differences, by model, between the two-wheel drive and four-wheel drive front suspension geometry on subject peer vehicles.
 - c. For each drive type, provide a free-body diagram of the curbside loads on the front suspension upper and lower ball joints.
9. State the Lightly Loaded Vehicle Weight (LLVW), Gross Vehicle Weight Rating (GVWR), and payloads, by model, model year, and drive type, for MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles. List regular cab and extended cab body styles separately. In addition, state the maximum and minimum payload combinations for each model and body style.
10. For MY 2002 (two-wheel drive and four-wheel drive) subject peer vehicles, state the following as it refers to the tests GM or the subject peer component manufacturer and/ or assembler has conducted in accordance with SAE J491, Steering Ball Studs and Socket Assemblies, J193, Ball Stud and Socket Assembly-Test Procedures (Reaffirmed 1996-06), Section 5.2, or any similar test procedures:
 - a. The test procedures, measurements, and/or metrics used, if different from SAE J491 and SAE J193;
 - b. The tension, compression and cam-out loads applied and the angles used for the cam-out strength test (Section 5.2.4.2) for the subject peer component;
 - c. The peak loads and cycle life (Section 5.2.4.2.1) for the subject peer component;
 - d. The load and cycle life used for the endurance test (Section 5.2.4.2.2);
 - e. The predicted endurance life indicated by the endurance test (Section 5.2.4.2.2) conducted;
 - f. The pull-out and push-out strength (Section 5.2.5); and
 - g. The maximum angularity required for the subject peer component considering full jounce and full rebound.

If GM cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, GM does not submit one or more requested documents or items of information in response to this information request, GM must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

GM's response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by April 15, 2005. Please refer to EA04-024 in GM's response to this letter. If GM finds that it is unable to provide all of the information requested within the time allotted, GM must request an extension from me at (202) 366-4799 no later than five

business days before the response due date. If GM is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information GM then has available, even if an extension has been granted.

If GM claims that any of the information or documents provided in response to this information request constitute confidential commercial material within the meaning of 5 U.S.C. § 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. § 1905, GM must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with 49 CFR Part 512, as amended (69 Fed. Reg. 21409 et seq; April 21, 2004), to the Office of Chief Counsel (NCC-113), National Highway Traffic Safety Administration, Room 5219, 400 Seventh Street, S.W., Washington, D.C. 20590. GM is required to submit two copies of the documents containing allegedly confidential information (except only one copy of blueprints) and one copy of the documents from which information claimed to be confidential has been deleted.

If you have any technical questions concerning this matter, please call Ms. Cheryl Tuosto of my staff at (202) 366-1869.

Sincerely,



Kathleen C. DeMeter, Director
Office of Defects Investigation
Enforcement

Enclosure 1, One CD ROM titled Data Collection Disc containing three files

GM677
EA04-024

ATTACHMENT "1"

**GM677
EA04-024**

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

ATTACHMENT "2"