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

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

FEB 5 2003

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Jay Ehle, Vice President
Law
Invensys plc
Mail Code: B52-2K
33 Commercial Street
Foxboro, MA 02035

NVS-213
EA02-031

Dear Mr. Ehle:

The Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) is conducting an investigation (EA02-031) of alleged steering column lockup in model year (MY) 1997-2001 Chevrolet Corvette vehicles. The allegation is that the steering column locks up while the vehicle is in motion which results in the driver losing steering control. As part of this investigation, ODI is requesting certain information from Invensys plc.

During ODI's prior analysis, the data analyzed indicated the potential of the following two (2) failure modes:

- Failure Mode 1: Failure of steering column to unlock during initial key-in and start-up
- Failure Mode 2: Locking of steering column while the vehicle is in motion

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

- **Subject vehicles:** all MY 1997-2001 Chevrolet Corvette vehicles manufactured for sale or lease in the United States.

- **Subject component:** all electronic column lock (ECL) assemblies manufactured for use on the subject vehicles.

- **Invensys:** Invensys plc, including all former and successor entities such as Fasco Controls Corporation and Honeywell International Inc., 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 Invensys (including all business units and persons previously referred to), who are or, in or after January 1, 1994, 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.

- **Alleged defect:** the lockup of the steering column while the vehicle is in motion (regardless of cause).

- **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 Invensys, 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 the manufacturer 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 Invensys has previously provided a document to ODI, Invensys 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 Invensys's response to each request, identify the source of the information and indicate the last date the information was gathered.

1. State the number of subject components, by manufacturer assembly plant and production month and year, which Invensys has manufactured for sale in the United States.

   Provide the table in Microsoft Access 2000, or a compatible format, entitled "PRODUCTION DATA." See Enclosure 1, EA02-031 Invensys Data Collection Disc, for a pre-formatted table which provides further details regarding this submission.

2. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions"), including any Failure Mode and Effects Analyses (FMEAs), that relate to, or may relate to, the subject component or the alleged defect in the subject vehicle that have been conducted, are being conducted, are planned, or are being planned by, or for, Invensys. For each such action, provide the following information:
   a. Vehicle make, model, and model year for which the subject component is used;
   b. Action title or identifier;
   c. The actual or planned start date;
   d. The actual or expected end date;
   e. Brief summary of the subject and objective of the action;
   f. Engineering group(s)/supplier(s) responsible for designing and for conducting the action;

g. A brief description of the procedure used to complete the action, including testing or survey sample sizes, where applicable; and,
h. 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.

3. State the GM and/or Delphi Automotive requirement specifications, including any part markings and a description of each marking, for the subject component used in the subject vehicle. Provide copies of all documents, organized chronologically, related to the requirement specifications.

4. Describe each and every component validation (pre-production) testing requirement specified by GM and/or Delphi Automotive Systems, including all ECL durability requirements, and explain the testing procedures Invensys employed to validate that the subject component met all requirement specifications stated in Request No. 3. For each testing requirement, provide the date each requirement was met and the test results that indicate Invensys met the specification.

   State any requirement specification that Invensys did not meet prior to vehicle production start-up or has not met since vehicle production start-up. Provide a chronological description of each action that Invensys has taken to meet the requirement specification.

5. Describe the manufacturing process, including any statistical process control (SPC) checks and quality assurance testing, that Invensys uses to manufacture the subject component in the subject vehicle. For each SPC check and quality assurance test performed, state the test frequency and sample size. For all ECL sub-components, where Invensys is not the manufacturer, provide the following:
   a. Component name and part number;
   b. Component supplier(s);
   c. Supplier contact name, address, and telephone number; and
   d. Date(s) for which each supplier has provided the product.

6. Provide a chronological summary of the results of all Invensys SPC checks and quality assurance tests that relate to the subject component in the subject vehicles. Provide a separate summary, in either graphical or tabular form, for each SPC check and/or quality assurance test. For each summary provided, identify the check or test performed, the entity that performed the check or test, the specific equipment from which the check or test samples was taken, the dates each check or test was performed, and the results of each check or test. Identify any problems, non-conformance to technical requirements, or other exceptions contained within this data, including a description of the problem, non-conformance or exception, the date(s) the problem, non-conformance or exception occurred, and a description of the corrective action taken.

7. Provide a chronological description of all modifications or changes made by, or on behalf of, Invensys in the design, material composition, manufacturing process, quality assurance/control, supply, or installation of the subject component, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:
   a. The date or approximate date on which the modification or change was incorporated into production;
   b. The Invensys assembly plant(s) in which the modification or change was made;
   c. A detailed description of the modification or change;
   d. The reason(s) for the modification or change;
   e. The part numbers (service and engineering) of the original component;
   f. The part number (service and engineering) of the modified component;
   g. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
   h. When the modified component was made available as a service component; and,
   i. Whether the modified component can be interchanged with earlier production components.

   Also, provide the above information for any modification or change that Invensys is aware of which may be incorporated into production within the next 120 days.

8. Provide copies of all of the following relating to the subject component and/or the alleged defect in the subject vehicle:
   a. All communications within Invensys;
   b. All communications between Invensys and Delphi; and
   c. All communications between Invensys and GM.

   Organize the documents within each of subparts "a" through "c" chronologically. If any communications were oral or were conducted electronically, provide a written transcript or summary of each such communication, and include a statement that identifies the participants and the date of the communication.

9. Provide the following information in tabular form:
   a. The make, model and model year, of any other vehicles of which Invensys is aware that contain the subject component, whether installed in production or in service, the applicable dates of production or service usage for the subject component in each vehicle, and the volume of components supplied for each vehicle.

   b. The manufacturer, assembly plant, component part number (service and engineering), and vehicle for all other ECLs, including kits for use in service repairs to ECL assemblies, which have been released, manufactured, or developed, by Invensys.

10. Provide a description of each of the following conditions as it applies to the alleged defect in the subject vehicle and a chronological summary of the actions Invensys has taken to rectify this condition in the subject component.

a. A misformed condition in the actuator die which can lead to a rebound of the lock bolt causing a potential for failure of the ECL to unlock during the vehicle start-up;
b. A bowing condition on the ECL hardware cover which can lead to binding of the ECL gears;
c. Improper heat treatment of the casting crimp nest resulting in a potential for improper seating, which can lead to either the binding of the ECL gears or the rebound of the ECL lock bolt; and
d. Any other condition in the subject component that relates to the alleged defect in the subject vehicle.

11. Produce each of the following:
    a. One exemplar sample of each design version of the subject component; and,
    b. Field return samples of the subject component exhibiting each of the following conditions:
        i. A misformed condition in the actuator die which can lead to a rebound of the lock bolt causing a potential for failure of the ECL to unlock during the vehicle start-up;
        ii. A bowing condition on the ECL hardware cover which can lead to binding of the ECL gears;
        iii. Improper heat treatment of the casting crimp nest resulting in a potential for improper seating, which can lead to either the binding of the ECL gears or the rebound of the ECL lock bolt; and
        iv. Any other condition in the subject component that relates to the alleged defect in the subject vehicle.

12. Furnish Invensys's assessment of the alleged defect in the subject vehicle, including:
    a. The causal or contributory factor(s);
    b. The failure mechanism(s);
    c. The failure mode(s);
    d. The risk to motor vehicle safety that it poses; and
    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

This letter is being sent to Invensys pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to request reports and the production of things. It constitutes a new request for information. Invensys' failure to respond promptly and fully to this letter could subject Invensys to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. (Other remedies and sanctions are available as well.) Please note that maximum civil penalties under 49 U.S.C. § 30165 have increased as a result of the recent enactment of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, Public Law No. 106-414 (signed November 1, 2000). Section 5(a) of the TREAD Act, codified at 49 U.S.C. § 30165(b), provides for civil penalties of up to $5,000 per day, with a maximum of $15 million for a related series of violations, for failing or refusing to

perform an act required under 49 U.S.C. § 30166. This includes failing to respond to ODI information requests.

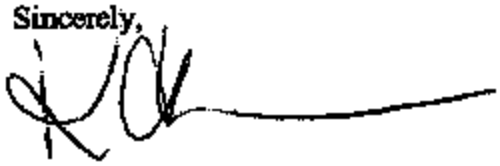
If Invensys cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, Invensys does not submit one or more requested documents or items of information in response to this information request, Invensys 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.

Invensys' response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by April 3, 2003. Please refer to EA02-031 in Invensys' response to this letter. If Invensys finds that it is unable to provide all of the information requested within the time allotted, Invensys must request an extension from Jeffrey Quandt at (202) 366-5207 no later than five business days before the response due date. If Invensys 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 Invensys then has available, even if an extension has been granted.

If Invensys 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, Invensys must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with 49 CFR Part 512, to the Office of Chief Counsel (NCC-113), National Highway Traffic Safety Administration, Room 5219, 400 Seventh Street, S.W., Washington, D.C. 20590. Invensys 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 Cheryl Tuosto of my staff at (202) 366-1869.

Sincerely,



Kathleen C. Demeter, Office Director
Office of Defects Investigation
Vehicle Safety

Enclosure: CD ROM entitled EA02-031 Invensys Data Collection Disc containing one file