

*Handwritten initials and date: JJK 7/26/05*

**TOYOTA**  
**TOYOTA MOTOR NORTH AMERICA, INC.**

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July 22, 2005

Mr. Jeffrey Quandt  
Chief - Vehicle Controls Division  
Office of Defects Investigation  
National Highway Traffic Safety Administration  
400 Seventh St., SW  
Washington, DC 20590

Re: NVS-213car; PE05-029

OFFICE OF DEFECTS INVESTIGATION  
NHTSA  
JUL 25 10 46 AM '05

Dear Mr. Quandt:

This letter is being sent in response to your June 8th, 2005 letter regarding PE05-029. Per our agreement, Toyota is submitting its response to Questions 1 through 8 of your inquiry under this cover, with the remainder of the response to be sent under separate cover on August 26, 2005. Also, due to the late availability of some key information, we will be supplementing the responses to Questions 2 through 6 and 8 with the remainder of our response.

Enclosed you will find two copies of this partial response and two CD-ROM's containing electronic versions of the attachments. Should you have any questions about this response, please contact Mr. Chris Santucci or Mr. Tsuyoshi Yokoi at (202) 775-1707.

Sincerely,



Chris Tinto  
Vice President  
TOYOTA MOTOR NORTH AMERICA, INC.

CT:cs  
Attachment

1. State, by model and model year, the number of subject vehicles Toyota has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Toyota, 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.

**Response 1**

The number of MY 2004 and 2005 (until May 31, 2005) Prius vehicles Toyota has manufactured for sale or lease in the United States by model year and production facility is as follows:

Model	Production Facility	Model Year	Number of Vehicles
Prius	Tsutsumi Plant, Toyota Motor Corporation (Japan)	2004	48,025
		2005	75,435
Total			123,460

In addition, detailed information for each vehicle is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment 1-PRODUCTION DATA (PE05-029)".

2. State the number of each of the following, received by Toyota, or of which Toyota 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. Consumer complaints, including those from fleet operators, where a vehicle stall was reported;
  - c. Field reports, including dealer field reports;
  - d. Field reports, including dealer field reports, where a vehicle stall was reported;
  - e. 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;
  - f. Property damage claims;
  - g. Third-party arbitration proceedings where Toyota is or was a party to the arbitration; and
  - h. Lawsuits, both pending and closed, in which Toyota is or was a defendant or codefendant.

For subparts "a" through "f," 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 "h," provide a summary description of the alleged problem and causal and contributing factors and Toyota's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "g" and "h", 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.

**Response 2**

Using the method for tabulation detailed in your question, there are 416 complaints report that may relate to the alleged defect. There are no injuries, no fatalities, and no crashes reported in the complaints. Please note that Toyota did not include any consumer complaints where the customer did not actually experience the alleged defect, but had called to complain because they had heard about the issue from other sources.

There are 66 field reports that may relate to the alleged defect.

In regards to the legal related claims (i.e., PL claim), Toyota is still collecting the data. Toyota will respond to this portion of the inquiry on August 5.

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. Toyota'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 any warning lights were lit at the time the alleged defect occurred;
  - j. Whether the vehicle was towed into the dealership;
  - k. Whether the vehicle stalled as a result of the alleged defect;
  - l. Whether the driver was able to restart the vehicle, if the vehicle stalled;
  - m. If the driver was able to restart the vehicle after the vehicle stalled, the amount of time it took the driver to restart the vehicle;
  - n. Whether the subject system was reported to limit the vehicle speed as a result of the alleged defect;
  - o. The speed to which the vehicle was limited as a result of the subject system;
  - p. Diagnostic Trouble Code(s) (DTCs) indicated at the time of repair;
  - q. Repair dealer made to vehicle;
  - r. Whether a crash is alleged;
  - s. Whether property damage is alleged;
  - t. Number of alleged injuries, if any;
  - u. Number of alleged fatalities, if any; and
  - v. A summary of the incident.

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

### **Response 3**

The information for each item (complaint, report, claim, or matter) is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment 3-REQUEST NUMBER TWO DATA (PE05-029)."

It is important to note that the Requests "i" through "q" are difficult to respond due to limited information on the complaint, report, claim or matter cases. We selected (checked) the cases which have a description in the customer comment that applies to Requests "i" through "q". Also, please note that this file is incomplete, due to the late availability of some of the consumer information. Toyota will update this file with the final submission on August 5.

4. Produce copies of all documents, including all document attachments and vehicle service records, 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 Toyota used for organizing the documents.

#### **Response 4**

Copies of all consumer complaints (Attachment 2), and all field information (Attachment 4-Field Information) are provided electronically on CD-ROM. Toyota will inform your office of the the legal related document(s) on August 5, if there are any legal related complaints, claims or matters.

5. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Toyota 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. Toyota'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. Whether any warning lights were lit at the time the alleged defect occurred;
- g. Whether the vehicle was towed into the dealership;
- h. Whether the vehicle stalled as a result of the alleged defect;
- i. Whether the driver was able to restart the vehicle, if the vehicle stalled;
- j. If the driver was able to restart the vehicle after the vehicle stalled, the amount of time it took the driver to restart the vehicle;
- k. Whether the subject system was reported to limit the vehicle speed as a result of the alleged defect;
- l. The speed to which the vehicle was limited as a result of the subject system;
- m. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- n. Labor operation number;
- o. Diagnostic Trouble Code(s) (DTCs);
- p. Whether the vehicle had Special Service Campaign 40A performed prior to incident;
- q. Whether the vehicle had Special Service Campaign 40D performed prior to incident;
- r. Whether the vehicle had Technical Service Campaign EG047-04 performed prior to incident;
- s. Replacement part number(s) and description(s);
- t. Concern stated by customer; and
- u. 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.

### **Response 5**

Since the Prius vehicle architecture is very complicated and the alleged defect is very generic, i.e. "gas engine stalling and/or electric motor failure," it is very difficult to determine the affected components and identify the related warranty claims. Therefore, Toyota started the investigation by thoroughly reviewing the 68 NHTSA VOQ's (consumer complaints) to identify common aspects of the alleged defect. We found that almost half of the complaints could relate to the Engine Control Module (ECM). The other half of the complaints are difficult to classify as there is not enough information available at this time, however, Toyota is still investigating these cases. Since we found that the majority of the complaints were related to the ECM, Toyota started to investigate the associated warranty claims paid by Toyota, and are submitting the relevant claims with this response.

The information for each of these claims is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment 6-WARRANTY DATA (PE05-029)". It is important to note that this file is incomplete, due to the availability of some of the customer information. Also, since we are still investigating the vehicles that we could not identify as being related to the ECM, and Toyota would like to provide your office with information on any other remaining warranty claims, Toyota will update this file on August 5.

All of the affected vehicles are within the original warranty coverage period; there were no extended warranty claims or good will claims.

6. Describe in detail the search criteria used by Toyota 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 model year, the terms of the new vehicle warranty coverage offered by Toyota 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 Toyota 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.

### **Response 6**

Toyota searched the warranty database for those claims that replaced part numbers of 89661-\*\*\*\*\* (engine control ECM) with diagnostic code of P3191, P3090 or P0A0F on the all MY 2004-2005 Prius's. Toyota reviewed the comments in the claims to determine if it may be related to the alleged defect.

In the data the following labor operation codes were found:

- 88399 (air conditioning others)
- 89000 (hybrid vehicle control computer remove and replacement)
- 89099 (hybrid vehicle system others)
- 89501 (engine control module remove and replacement)
- 89599 (EFI others)

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 Toyota 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 Toyota is planning to issue within the next 120 days.

**Response 7**

Toyota issued a Technical Service Bulletin, titled "M.L.L ON, DTC P3191, P3190 and/or P0A0F" (EG047-04), which may relate to the alleged defect. A copy of the bulletin is included in Attachment 7, and is included on CD-ROM in PDF format.

8. Provide the following additional information related to Special Service Campaigns (SSCs) 40A and 40D and Technical Service Bulletin (TSB) EG047-04:
  - a. Chronologies of events related to Toyota's issuance of SSCs 40A and 40D and TSB EG047-04;
  - b. The number of related complaints and warranty claims Toyota received prior to issuing each SSC and TSB; and
  - c. Toyota's basis for conducting SSC's 40A and 40D as SSCs rather than safety recalls.

**Response 8**

Copies of SSC 40A and 40D owner notifications, as well as the TSB (EG047-04) are included as Attachment 7, and on CD-ROM in PDF format.

**SSC 40A**

On certain 2004 Model Year Toyota Prius vehicles, if the vehicle's Hybrid Vehicle Electronic Control Unit detects a system fault, the master warning light and/or the hybrid system warning light may illuminate, depending upon the error identified. If this should occur, the vehicle will enter a "fail-safe" mode. Due to a programming error, if the vehicle is restarted in the "fail-safe" mode, a secondary condition may occur where the vehicle transmission may not operate smoothly. The total affected vehicle volume was approximately 3,500 units. This repair does not prevent gas engine stalling, only the transaxle operation upon restart after failsafe mode.

**<Chronology>**

**October 2003**

Toyota found the condition wherein the transaxle may not operate smoothly during an in-house evaluation. If the vehicle experiences an engine control and/or hybrid system failure and enters the fail-safe mode, the transaxle may not operate smoothly due to a Hybrid ECU software problem. No field information or warranty claims were submitted related to this problem. Toyota decided to conduct an SSC to repair the problem on the affected vehicles.

## SSC 40D

On certain 2004 Model Year Toyota Prius vehicles, the Hybrid Vehicle Electronic Control Unit (HV ECU) and Battery Electronic Control Unit (Battery ECU) may not conform to some portions of the diagnostic tool communication standard due to a programming error. If a repair facility's On-Board Diagnostic (OBD) scantool is used to diagnose a condition where the hybrid system warning light and/or master warning light is illuminated, the OBD scantool may not recognize the system fault.

### <Chronologies>

#### Middle of January 2004 to Late April 2004

Toyota discovered a miscommunication with the scantool when receiving an MIL from the Hybrid ECU due to a software error in the Hybrid ECU. This condition was found during a Toyota in-house evaluation which tests the scantool communication for certain vehicle monitoring tests. No field information or warranty claims were submitted for this issue. As a convenience, Toyota decided to conduct an SSC to repair this problem on the affected vehicles.

## TSB EG047-04

Toyota will respond to this inquiry on August 26.

9. Provide a description of how the subject system functions within the subject vehicle. This includes, but is not limited to, the following:
- Describe how the subject system functions in all normal operating modes, including the lowest battery charge states associated with each;
  - List and describe all backup modes of operation that occur following a system fault (e.g., "failsafe mode") and the conditions which cause the subject system to transition to each;
  - Describe all warning lights, messages, and diagnostic codes associated with each condition cited in 9.b;
  - State the maximum vehicle speeds possible in each backup mode cited in 9.b;
  - State the maximum vehicle ranges in miles that can be driven in each backup mode cited in 9.b - provide both a typical range and the minimum ranges associated with various combinations of the following: low initial battery charge state, full vehicle load, airconditioning operation, uphill driving, etc.;
  - With regard to 9.e, describe all indications available to the driver concerning how much further the vehicle can be operated in each backup mode;
  - For each condition identified in 9.b, identify the conditions necessary for the vehicle to return to normal operating mode (e.g., restarting the engine); and
  - Identify all SSC's and TSB's that involve conditions that may place the vehicle in a condition cited in 9.b.

## Response 9

Toyota will respond to this inquiry on August 26.



10. 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, Toyota. For each such action, provide the following information:
- Action title or identifier;
  - The actual or planned start date;
  - The actual or expected end date;
  - Brief summary of the subject and objective of the action;
  - Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
  - 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.

**Response 10**

Toyota will respond to this inquiry on August 26.

11. Describe all modifications or changes made by, or on behalf of, Toyota in the design, material composition, manufacture, quality control, supply, or installation of the subject system, 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:
- The date or approximate date on which the modification or change was incorporated into vehicle production;
  - A detailed description of the modification or change;
  - The reason(s) for the modification or change;
  - The part numbers (service and engineering) of the original system;
  - The part number (service and engineering) of the modified system;
  - Whether the original unmodified system was withdrawn from production and/or sale, and if so, when;
  - When the modified system was made available as a service system; and
  - Whether the modified system can be interchanged with earlier production systems.

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

**Response 11**

Toyota will respond to this inquiry on August 26.

12. Furnish Toyota'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 condition(s) under which the alleged defect can occur;
  - e. The 12- and 24-month warranty rates associated with the alleged defect;
  - f. The 5- and 10-year projected subject system failure rates;
  - g. The percent of subject system failures that will result in a engine stalling incident;
  - h. The percent of subject system failures that will result in a vehicle stalling incident;
  - i. The percent of stalling incidents that will result in a delayed restart (greater than 5 minutes) condition; and
  - j. The percent of stalling incidents that will result in a no restart condition.
  - k. The risk to motor vehicle safety that it poses;
  - l. 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 system was malfunctioning; and
  - m. The reports included with this inquiry.

**Response 12**

Toyota will respond to this inquiry on August 26.