# TOYOTA

**TOYOTA MOTOR NORTH AMERICA, INC.**

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11/17/05

November 15, 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-213dsy; DP05-002

Dear Mr. Quandt:

This letter is being sent in response to your September 27th, 2005 letter regarding DP05-002. This completes our response to your inquiry. Please note that the information contained in Attachments 6, 7, and 8 is confidential, and a request for confidential treatment of this material is being sent to your Office of Chief Counsel.

Enclosed you will find two copies of this partial response and two CD-ROM's containing electronic versions of the attachments which are not confidential. Should you have any questions about this response, please contact Mr. Chris Santucci 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. Model designator (LE, SE, XLE, etc);
    c. Engine designator (2AZ, 1MZ, etc);
    d. Brake pedal actuator design (single or double link type);
    e. Whether it is equipped with ABS (anti-lock braking);
    f. Whether it is equipped with VSC (stability control);
    g. Whether it is equipped with TRAC (traction control);
    h. Whether it is equipped with adjustable accelerator and brake pedal assemblies;
    i. Date of manufacture;
    j. Date warranty coverage commenced; and
    k. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

Provide this information in Microsoft Access 2000, or a compatible format, titled "ProductionData." See the enclosed CD-ROM titled DP05-02 IR Response Data which provides further details regarding this submission.

**Response 1**

The number of MY 2002 through 2005 Camry, Camry Solara and ES vehicles Toyota has manufactured for sale or lease in the United States by make, model and model year is as follows:

| Make | Model | Model Year | Number of Vehicles |
|---|---|---|---|
| TOYOTA | Camry | 2002 | 423,026 |
| | | 2003 | 386,537 |
| | | 2004 | 317,713 |
| | | 2005 | 404,242 |
| | Camry Solara | 2002 | 37,827 |
| | | 2003 | 17,256 |
| | | 2004 | 49,964 |
| | | 2005 | 30,341 |
| LEXUS | ES300 | 2002 | 70,570 |
| | | 2003 | 61,546 |
| | ES330 | 2004 | 70,805 |
| | | 2005 | 80,750 |
| Total | | | 1,950,577 |

In addition, detailed information for each vehicle is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment-Response 1 PRODUCTION DATA (DP05-002)".

2. State a total count for all of the following categories of claims, collectively, that have been paid by Toyota to date that involve the complaint vehicles, regardless of the nature of the claim and whether or not it is related to the alleged defect: 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. Vehicle identification number (VIN);
d. Repair date;
e. Vehicle mileage at time of repair;
f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
g. Labor operation number;
h. Problem code;
i. Replacement part number(s) and description(s);
j. Concern stated by customer; and
k. Comment, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2000, or a compatible format, titled "WarrantyData." See the enclosed CD-ROM titled DP05-02 IR Response Data which provides further details regarding this submission.

**Response 2**

The total count of the warranty claims, goodwill claims and claims related to the campaign that have been paid by Toyota to date that involved the complaint vehicles is as follows. There were no extended warranty claims for the complaint vehicles.

The information for each claim is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment-Response 2 WARRANTY DATA (DP05-002)".
Please note that Toyota does not possess any information on the vehicle owner when the individual claim was submitted, therefore, we have provided the original vehicle purchaser information in our response to question 2(b).

| Make | Model | Model Year | Number of Claims | | |
|---|---|---|---|---|---|
| | | | Regular Warranty Claim | Goodwill Claim | Claim for Campaign*1 |
| TOYOTA | Camry | 2002 | 35 | 4 | 4 |
| | | 2003 | 13 | 3 | 1 |
| | | 2004 | 26 | 0 | 4 |
| | | 2005 | 3 | 0 | 2 |
| | Camry Solara | 2002 | 8 | 0 | 0 |
| LEXUS | ES300 | 2002 | 16 | 0 | 0 |
| | | 2003 | 12 | 3 | 0 |
| | ES330 | 2004 | 18 | 1 | 6 |
| | | 2005 | 0 | 0 | 1 |
| Total | | | 131 | 11 | 18 |

*1 : Including the recall campaign and special service campaign

3. State the number of complaint vehicles of which Toyota has performed a vehicle inspection in connection with a report or complaint related to the alleged defect. Separately, for each inspection performed, state the following information:

   a. VIN;
   b. Date of inspection;
   c. The name and address of the facility where the inspection was performed;
   d. The name, phone number, and title of the person who performed the inspection;
   e. Vehicle mileage at time of inspection;
   f. The part numbers and descriptions of any components Toyota removed (or had a third party remove) from the vehicle as a result of the inspection;
   g. The current disposition of any components described in item "f;"
   h. The labor operation and or description of any repairs, modifications or other adjustments Toyota performed (or had a third party perform) on the vehicle as a result of the inspection;
   i. The code value and description of any stored diagnostic or trouble codes taken from any vehicle system (engine management, brake, airbag, etc.) during the inspection; and,
   j. Toyota's findings or conclusions regarding the cause of the complaint or incident.

Provide this information in Microsoft Access 2000, or a compatible format, titled "InspectionData." See the enclosed CD-ROM titled DP05-02 IR Response Data which provides further details regarding this submission. Additionally, produce copies of all documents related to each vehicle inspection performed and organize the documents by VIN.

**Response 3**

Toyota performed investigations on two complaint vehicles that were bought back from customers alleging unintended acceleration. The results of each investigation and copies of each investigation report have been submitted as a part of our response to your information request concerning the defect investigation on the MY2002-2003 Camry, Camry Solara and ES300 unintended acceleration conducted by the agency last year (PE04-021). Please refer to Response 8 and Attachment 9 in Toyota's response submitted on June 1, 2004.

Detailed information for each vehicle is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment-Response 3 INSPECTION DATA (DP05-002)".

Additionally, Toyota field and dealer representatives evaluated 59 of the 100 complaint vehicles. In each of these vehicles, no evidence of system or component failure was found, and the vehicles were operating as designed.

4. Provide the name and address details of the current vehicle registered owner or lessee for each of the complaint vehicles. State the source of this information. Provide this information in Microsoft Access 2000, or a compatible format, titled "CurrentOwnerData." See the enclosed CD-ROM titled DP05-02 IR Response Data which provides further details regarding this submission.

**Response 4**

At this time, Toyota does not possess any information on the vehicles' current registered owners. Toyota would normally purchase such information from Polk, but only for the purpose of conducting a service campaign. However, even if we already had such information, due to the obligations in our contract with Polk, we are not allowed to use it for any other purpose. Therefore we would suggest that the agency contact Polk directly to obtain the current registered owner information.

5. 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, for the subject vehicles and in addition to the preceding document request (but provided separately), include any such documents that relate to the transmission control system (e.g., addressing shift quality, shift performance, or transmission interaction with the engine control system), the brake and ABS system, the cruise control system, the stability control system, the traction control system, and the engine management system (including the throttle control system) regardless of whether the subject matter of the document is related to the alleged defect or not.

**Response 5**

Toyota has not issued any service or technical bulletins, advisories, or other communications to dealers, regional or zone offices, field offices, fleet purchaser, or other entities that relate to, or may relate to, the alleged defect in the subject vehicles.

Toyota has issued 52 service bulletins pertaining to the transmission control system, the brake and ABS system, the stability control system and the engine management system of the MY 2002-2005 Camry, Camry Solara, and ES vehicles. Nine of 52 service bulletins, including two bulletins relating to the service campaign concerning throttle motor failure that Toyota conducted in the past, have been submitted as a part of our response to your information request concerning the defect investigation on MY2002-2003 Camry, Camry Solara and ES300 unintended acceleration (PE04-021). Please refer to Response 7 and Attachment 8 in Toyota's response submitted on June 1, 2004.

The copies of the other service bulletins are provided electronically on CD-ROM, in PDF format, in the folder entitled "Attachment-Response 5 BULLETINS (DP05-002)",

6. Describe all modifications or changes made by, or on behalf of, Toyota in the design, material composition, or manufacture of the electronic throttle control system of the subject vehicles. For each such modification or change, provide the following information:

    a. The date or approximate date on which the modification or change was incorporated into vehicle production;
    b. A detailed description of the modification or change;
    c. The reason(s) for the modification or change, and
    d. The name(s) and part number(s) of any component(s) effected.

**Response 6**

All modifications or changes in the design, material composition, or manufacture of the electronic throttle control system of the subject vehicles are provided electronically on CD-ROM, in Microsoft Excel 2000 format, and submitted as Attachment-Response 6 MODIFICATIONS (DP05-002).

Please note that modifications or changes in the design, material composition, or manufacture of the electronic throttle control system of MY2002-2003 vehicles were submitted last year as a part of our response to your information request concerning the PE04-021. However the attachment to this response includes those modifications or changes.

7. Describe all modifications or changes made by, or on behalf of, Toyota in the design, material composition, or manufacture of the braking and ABS system of the subject vehicles. For each such modification or change, provide the following information:

    a. The date or approximate date on which the modification or change was incorporated into vehicle production;
    b. A detailed description of the modification or change;
    c. The reason(s) for the modification or change, and
    d. The name(s) and part number(s) of any component(s) effected.

**Response 7**

All modifications or changes made by Toyota, or on behalf of Toyota in the design, material composition, or manufacture of the braking and ABS system of the subject vehicles are provided electronically on CD-ROM, in Microsoft Excel 2000 format, and submitted as Attachment-Response 7 MODIFICATIONS (DP05-002).

8. Describe all modifications or changes made by, or on behalf of, Toyota in the design, material composition, or manufacture of the accelerator and brake control pedals and or their configuration (location, size, orientation to one another and to the steering wheel, etc) of the subject vehicles. For each such modification or change, provide the following information:

    a. The date or approximate date on which the modification or change was incorporated into vehicle production;
    b. A detailed description of the modification or change;
    c. The reason(s) for the modification or change, and
    d. The name(s) and part number(s) of any component(s) effected.

**Response 8**

All modifications or changes in the design, material composition, or manufacture of the accelerator and brake control pedals of the subject vehicles are provided electronically on CD-ROM, in Microsoft Excel 2000 format, and submitted as Attachment-Response 8 MODIFICATIONS (DP05-002).

Please note that modifications or changes in the design, material composition, or manufacture of the accelerator control pedal of MY2002-2003 vehicles were submitted last year as a part of our response to your information request concerning the PE04-021. However the attachment to this response includes those modifications or changes.

9. State the name and address details for the original vehicle purchaser or lessee (based on Toyota's records) for 35 randomly selected vehicles (and not to include any of the complaint vehicles) from each make, model and model year subject vehicle population (12 populations, 420 vehicles in total). Describe the method Toyota used to randomly select these vehicles. Provide this information in Microsoft Access 2000, or a compatible format, titled "RandomOwnerData." See the enclosed CD-ROM titled DP05-02 IR Response Data which provides further details regarding this submission.

**Response 9**

The information for the original vehicle purchaser or lessee for 35 randomly selected vehicles from each make, model and model year subject vehicle population (420 vehicles in total) is provided electronically on CD-ROM, in Microsoft Access 2000 format entitled "Attachment-Response 9 RANDOM OWNER DATA (DP05-002)".

Toyota selected these vehicles by model and model year, covering all combinations of engine type and options available for each model and model year, such as ABS, TRAC, VSC and adjustable accelerator and brake pedal assemblies.

10. Furnish Toyota's assessment of the alleged defect in the subject vehicles, including, the causal or contributory factor(s).

**Response 10**

In our response to the information request concerning the defect investigation on the MY2002-2003 Camry, Camry Solara and ES300 unintended acceleration conducted by the agency last year (PE04-021), we described the design of the electronic throttle control system. We would like to explain it again in order to give a better understanding of its design.

The electronic throttle control (ETC) system essentially consists of an electronic control unit (ECU), with two central processing units (CPU), which controls a motor that opens and closes the throttle. Four sensors, two on the accelerator pedal and two on the throttle body, measure the positions of the accelerator pedal and the throttle and relay this information to the ECU. Based on the two pedal position sensors, the ECU determines how to move the throttle by activating the throttle control motor. The throttle position sensors (TPS) tell the ECU where the throttle is located. To ensure that events such as unintended throttle opening do not occur, the system has built in redundancies and failsafe modes. The ECU is constantly monitoring and comparing the accelerator pedal position versus the throttle position. If throttle position is out of sync with pedal position, the ECU detects the inconsistency within a 600-millisecond period and goes into a failsafe mode. If there is mismatch between the outputs of the primary and secondary sensors, either on the accelerator pedal or on the throttle body, the ECU will judge it to be a problem and the system will go into failsafe mode. These failsafe modes are described in detail in our response to the inquiry of PE04-021 (see Attachment 12), but in general may result in either a limited throttle control or a return to idle based on the type of condition detected. All of the failsafe modes for these single point failures include illuminating the engine warning lamp and storing the appropriate diagnostic trouble code (DTC) in the ECU.

If the ECU itself experiences a malfunction, and an abnormal throttle opening command is sent to the throttle motor, failsafe functionality will still initiate as designed because of system redundancy. The ECU has two internal CPUs which are comparing each signal every 100 milliseconds. In the event of a multi-point failure (one of the CPU and any sensor or sensors), the system will still go into failsafe mode, illuminate the engine warning lamp and the appropriate DTC is stored in the ECU because of the built in redundancies of the ETC system.

In the information request for the Defect Petition, the alleged defect states that "the throttle control system can fail and cause the vehicle to accelerate unintentionally; the brake system may also fail (simultaneously) and cause the vehicle to accelerate in an uncontrollable manner." Toyota reviewed the NHTSA VOQs for the complaint vehicles and found that there are two major allegations; one is that the vehicle unintentionally or suddenly "ACCELERATED" and the other is that the vehicle "SURGED" or "LURCHED". Toyota believes that these two descriptions of vehicle behavior are two completely different issues. Toyota understands a vehicle surge or lurch to be something less than a wide open throttle event, but more than typical throttle adjustments made to accommodate increased engine load at idle, such as the air conditioning compressor or for power steering assist. There are situations where a component malfunction can make an engine's speed increase by a small degree, on the order of those listed above. In order to confirm vehicle movement in case of a vehicle surge condition described above, Toyota conducted actual vehicle tests. (Toyota also demonstrated these conditions to NHTSA with production vehicles last year.) As a result, Toyota and representatives of NHTSA confirmed that vehicle movement was limited and the driver could easily control the vehicle by applying the service brake or, in some cases, no additional braking was necessary. The summary of the test conducted by Toyota has been submitted as a part of our response to your information request concerning PE04-021 last year. Please refer to Attachment 13 in Toyota's response submitted on June 1, 2004.

With regard to allegations of unintended acceleration, Toyota does not believe that uncontrollable acceleration can occur without the driver applying the accelerator pedal because of the several detection systems described above. If an abnormal condition occurs, such as the ECU sending the signal to the throttle body to open the throttle without applying the accelerator pedal due to a failure of a component or a malfunction of the system, or if the throttle simply were to open on its own, the system goes into failsafe mode.

In addition, the brake system and the ETC system are mechanically separated and work independently of each other. Therefore, even if the ETC system fails, the brake system still works as designed and unintended acceleration cannot occur. Furthermore, brake systems that fail mechanically leave evidence of their failure after the occurrence, and do not return to normal operating conditions by themselves.

The only system that electronically connects to the ETC system is the Vehicle Stability Control (VSC) system. VSC adjusts the throttle in order to reduce the likelihood of a skid. The VSC system sends a signal to the ETC system to close the throttle when the VSC system is activated. However, even if

the VSC system were to have a malfunction and send an abnormal signal to the ETC system that resulted in opening the throttle without applying the accelerator pedal, the ETC system can detect the mismatch between the outputs of sensors on the accelerator pedal and the throttle body with VSC active, and still activate the failsafe mode (as described above). Looking at the specifications of the complaint vehicles, there is no trend that shows unintended acceleration occurred on the vehicles equipped with the VSC system, as the installation rate is low. (six vehicles per a hundred compliant vehicles)

As stated above, Toyota does not believe that there is a causal relationship between failure of the ETC system and failure of the brake system. Moreover, without physical evidence or electronic codes stored in the vehicle' computers, we believe the reported incidents to be similar to incidents referenced in other, prior investigations into sudden acceleration (SA) occurrences by your office, and that they are events unrelated to an electronic throttle control failure.

Toyota has also reviewed field information in its possession, including consumer complaints as well as warranty and goodwill claims, that involve the complaint vehicles. As a result, there are no cases that show specific vehicle and/or component failure, such as breakage/malfunction of a mechanical component or a malfunction of any electronic components. There are some warranty and goodwill claims that alleged the unintended acceleration or surge, but in each case, the problem could not be duplicated, no abnormal conditions with the ETC or brake systems were discovered, and no DTC's were stored in the ECU.

As we informed you in our response to your information request concerning PE04-021, Toyota bought back two vehicles from owners (one from ODI#10055375 and the other from ODI#10071703) that reported unintended acceleration incidents and has conducted a thorough investigation on these vehicles. As a result, there were no abnormal conditions with the vehicle that were detected. Toyota has continued its investigation on one vehicle through monitoring its operation under daily usage for several months, but the problem was still not duplicated. We plan to keep this vehicle for evaluation to continue monitoring its operation.

**Conclusion**

Based on the above information, Toyota believes that there is no factor or trend indicating that a vehicle or component defect exists. Toyota believes that this Defect Petition to be similar to other, prior petitions and investigations into mechanical throttle controls. Toyota has found no evidence that differentiates that consumers alleging vehicles equipped with electronic throttle controls can suddenly accelerate when compared to those equipped with mechanical throttle controls. Toyota has not found any evidence on the subject vehicles of brake failure, let alone brake failure concurrent with ETC failure. Therefore, Toyota believes it is appropriate to deny the petition based on the information provided and acted upon in PE04-021 as well as the lack of evidence supporting concurrent failure of the vehicle braking systems.

* * *

Regarding privileged documents that may be responsive to this information request, Toyota understands that it is acceptable to the Agency at this stage for Toyota to identify categories of privileged documents rather than any specific document within those categories. These categories include (a) communications between outside counsel and employees of Toyota's Law Department, other Toyota employees, or employees of parties represented by Toyota in litigation or claims; (b) communications between employees of Toyota's Law Department and other Toyota employees or employees of parties represented by Toyota in litigation or claims; (c) notes and other work product of outside counsel or employees of Toyota's Law Department, including work product of employees or consultants done for or at the request of outside counsel or Toyota's Law Department. For any privileged documents that are not covered by these categories, if any, Toyota will provide a privilege log identifying any such documents under separate cover. Toyota is not claiming a legal privilege for any documents provided with this response; however, Toyota does not waive the legal privilege or work product protection with respect to other documents that may have been prepared in connection with a specific litigation or claim. In addition, Toyota may assert the attorney client privilege or claim protection under the work-product doctrine for analyses or other documents that may be prepared in connection with litigation or claims in the future.

Toyota understands that NHTSA will protect any private information about persons that is contained in the Attachments to this response, based on privacy policy considerations. Such private information includes data such as names, addresses, phone or fax numbers, email addresses, license plate numbers, driver's license numbers and last 4 digits of the vehicle's VIN.

Data provided in this document is current as of the following dates:

Response 2: Warranty claims (October 18, 2005)
Goodwill & Extended warranty claims (October 29, 2005)
Response 3: Complaint vehicle inspection (October 20, 2005)
Response 5: Dealer communications (October 31, 2005)
Response 6 though 8 : Modifications or changes (November 9, 2005)