

Toyota's Response to EA 19-001

1. State, by model and model year 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. Field reports, including dealer field reports;
 - c. Reports for ACUs returned from the field or from test vehicles;
 - d. Reports involving a crash, injury, or fatality;
 - e. Property damage claims; and
 - f. Third-party arbitration proceedings where Toyota is or was a party to the arbitration; and
 - g. Lawsuits, both pending and closed, in which Toyota is or was a defendant or codefendant.

For subparts "a" through "g," 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 "d" through "g," 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 "f" and "g," 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 1

In accordance with the discussion with the Agency concerning Request Nos. 1, 2, and 3, Toyota is responding to this request as follows:

- For subject vehicles that are included in Recall 20V-024 that were *not remedied* under the recall before the crash event and alleged defect are alleged to have occurred, Toyota will identify the number of such reports. Toyota will also provide the make, model, model year, and VIN for reference in case there are multiple reports about the same vehicle and in the event NHTSA later seeks additional information about these reports. At this time no other information or documents are required in connection with Request Nos. 1-3 on these vehicles.
- For subject vehicles that are included in Recall 20V-024 that were *remedied* under the recall before the crash event and alleged defect are alleged to have occurred, Toyota will respond to Request Nos. 1-3 to the extent that information is available.

- For subject vehicles for which a Part 573 Report has not been submitted (Tundra, Tacoma, and Sequoia models which were discussed during Toyota's meeting with the Office of Defects Investigation on March 29, 2022), we will respond to Request Nos. 1-3 to the extent that information is available.

Based on the above, the number of the items requested in subparts a. through g., received between July 16, 2019 and March 31, 2022, which relate to, or may relate to, the Alleged Defect in the Subject Vehicles, is provided electronically in PDF format entitled "Attachment-Response 1-1.pdf" stored in the folder "Attachment-Response 1." For all reports being provided, multiple incidents involving the same vehicle are counted separately, and multiple reports of the same incident are also counted separately. There are no reports for vehicles remedied under Recall 20V-024 or for Tundra, Tacoma, or Sequoia Subject Vehicles. The make, model, model year, and VIN of the vehicles not remedied under the recall identified in searching for items a. through g. are found in Attachment-Response 2.

The search methods and search criteria used by Toyota to identify the items responsive to Request No. 1 are as follows:

Toyota searched the customer complaints databases, as well as databases that contained customer survey information, for the Subject Vehicles. Keywords listed in the endnote to this response relating to the Alleged Defect were searched, and the complaints were further processed as outlined in the endnote to determine whether they were responsive to the request. The field report databases were searched for any Toyota field reports and dealer field reports, including dealer Technical Assistance System (TAS) cases, for the Subject Vehicles containing the keywords listed in the endnote. The results were reviewed to judge whether they were responsive to the request. Lawsuits, legal claims, and third-party arbitration files were searched for any proceedings for the Subject Vehicles where airbag non-deployment allegations were made that also involved a crash and alleged an injury or a fatality. The results were then reviewed to judge whether they related to, or may be related to the Alleged Defect, as defined. See endnote for additional information.

2. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 1, state the following information:
 - a. Toyota's file number or other identifier used;
 - b. The category of the item, as identified in Request No. 1 (i.e., consumer complaint, field report, etc.);
 - c. Vehicle owner or fleet name (and fleet contact person), street address, email address, and telephone number;
 - d. Vehicle's VIN;
 - e. Vehicle's make, model and model year;
 - f. Vehicle's mileage at time of incident;
 - g. Incident date;
 - h. Report or claim date;
 - i. Whether a crash is alleged.
 - j. Whether property damage is alleged;
 - k. Number of alleged injuries, if any;
 - i) The AIS score of the injuries; and
 - ii) Description of injury and location.
 - l. Number of alleged fatalities, if any; and
 - m. All applicable indicators for the Alleged Defect (items A through H, as identified above).

Provide this information in Microsoft Access 2010, or a compatible format, entitled "REQUEST NUMBER ONE DATA." (Request TWO in previous IR Letter)

Response 2

See response to Request No. 1 above concerning the scope of this response based on the discussion with the Agency. Based on that discussion, Toyota has provided the make, model, model year, and VIN for reference in case there are multiple reports about the same vehicle and in the event that NHTSA later seeks additional information about these reports; no further responses are required at this time. This information is provided electronically in Microsoft Excel format entitled "Attachment-Response 2" stored in the folder "Attachment-Response 2." Toyota has provided the information in Microsoft Excel as it was determined that this format allows for an easier understanding of the information requested. There are no reports for vehicles remedied under Recall 20V-024 or for Tundra, Tacoma, or Sequoia Subject Vehicles.

3. Produce copies of all documents related to each item within the scope of Request No. 1. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Toyota used for organizing the documents. Describe in detail the search methods and search criteria used by Toyota to identify the items in response to Request No. 1.

Response 3

See response to request No. 1 above concerning the scope of this response based on discussion with the Agency. There are no reports for vehicles remedied under Recall 20V-024 or for Tundra, Tacoma, or Sequoia Subject Vehicles.

4. 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 by, or for, Toyota. For each such action, provide the following information:
 - a. Action title or identifier;
 - b. The actual start date;
 - c. The actual or expected end date;
 - d. Brief summary of the subject and objective of the action;
 - e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
 - f. Final Report of the findings and/or conclusions resulting from the action.

Response 4

In accordance with the discussion with the Agency concerning this Request, Toyota provides responses to subparts a.- e. For subpart f., Toyota provides final documents pertaining to the decision to submit the January 17, 2020 Part 573 Report and final presentation documents relating to the actions identified to the extent they have not previously been provided to the Agency.

The actions responsive to this request, in accordance with discussions with the Agency, are summarized in a table entitled “Attachment-Response 4 (Conf Bus Info).pdf” and are provided electronically in PDF format stored in the folder “Attachment-Response 4 (Conf Bus Info).” Documents are provided in the folder Attachment-Response 4 (Conf Bus Info).

Please note that information provided in this response is confidential, and a request for confidential treatment has been submitted to the Office of Chief Counsel. Please see the documents submitted to the Office of Chief Counsel for the confidential versions of these documents.

5. 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. Any prior safety recalls Toyota has conducted to address EOS related failures of the subject ACU, the remedy that was utilized in that recall action, and how, in Toyota's assessment, that action addresses any residual risk of an EOS failure of the DS84 ASIC;
- e. The risk to motor vehicle safety that it poses.

Response 5

a. On January 17, 2020, Toyota filed a Part 573 Defect Information Report for certain MY2011-2019 Toyota Corolla, 2011-2013 Toyota Corolla Matrix, MY2012-2018 Toyota Avalon, and MY 2013-2018 Toyota Avalon HV passenger cars (Recall 20V-024). In that report, Toyota stated:

The subject vehicles may be equipped with an airbag control module for the supplemental restraint system (SRS ECU) manufactured by ZF-TRW. The ECU receives signals from crash sensors and deploys the airbags and seat belt pretensioners in accordance with design specifications. This ECU contains a model DS84 application-specific integrated circuit (ASIC) which controls the communication of the crash sensor signals, firing commands (i.e., when to deploy the airbag(s) and/or pretensioners), and fault information (e.g., diagnostic trouble codes). This ASIC does not have sufficient protection against negative electrical transients that can be generated in certain severe crashes, such as an underride frontal crash where there is a large engine compartment intrusion before a significant deceleration.

The lack of sufficient protection in the DS84 ASIC against negative transients that could be generated in certain rare and severe crashes could result in an ECU reset caused by electrical transients entering the ECU and damaging it prior to a deployment signal being sent to the SRS system.

b. and c. Based on testing and analysis, a power wire (with sufficient current at the time), needs to be within enough proximity to a satellite sensor wire so it can be simultaneously shorted to ground and then subsequently disconnected. Toyota believes that, if this simultaneous shorting to ground were to present itself in a crash before the TRW SRS ECU detects the crash and issues an airbag deployment command, a sufficient negative electrical transient can be created that could affect the deployment of the airbags or pretensioners in passenger cars. An occurrence of a negative transient in time to affect airbag deployment is not reasonably possible in a real-world crash involving the Tundra, Tacoma, and Sequoia models containing the DS84 chip, notwithstanding the deficiency in the chip, due to size, body construction, and other factors. This was discussed in further detail during a meeting with the Office of Defects Investigation on March 29, 2022. Presentation materials from this meeting were sent to the agency on April 6, 2022.

d. See response to subpart a., above. The remedy for the safety defect in the identified vehicles is the installation of a noise filter between the airbag control module and its wire harness to protect the DS84 ASIC against negative transients that could be generated in certain rare and severe crashes that could result in an ECU reset caused by electrical transients entering the ECU and damaging it prior to a deployment signal being sent to the SRS system. The results of the search conducted to respond to Request 1, above, which included a search for vehicles remedied under Recall 20V-024, indicate that Toyota is unaware of any reports involving remedied vehicles that have experienced the condition for which the recall was conducted.

e. In the vehicles subject to Recall 20V-024, Toyota judged that a DS84 ASIC can be damaged in rare, high-severity crashes due to lack of sufficient protection against negative electrical transients, resulting in airbag non-deployment and/or lack of pretensioner operation that can increase the risk or severity of injury in a crash. As explained in the March 29, 2022 presentation to ODI, an occurrence of a negative transient in time to affect airbag deployment is not reasonably possible in a real-world crash involving the Tundra, Tacoma, and Sequoia models containing the DS84 chip, notwithstanding the deficiency in the chip.

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Data provided in this document cover the following dates:

Response		Dates
Response 1-3	Consumer complaints	07/16/2019 – 3/31/2022
	Surveys (PQS / DPQS) Surveys (CXI) Surveys (TCCC)	07/12/2019 – 3/31/2022
	Field Reports	07/16/2019 – 3/31/2022
	Dealer Field Reports (including TAS)	07/16/2019 – 3/31/2022
	Property damage claims	07/16/2019 – 3/31/2022
	Third Party Arbitration	07/16/2019 – 3/31/2022
	Claims and Notices	07/16/2019 – 3/31/2022
	Lawsuits including Lemon Law	07/16/2019 – 3/31/2022
Response 4	“Actions”	07/16/2019 – 3/31/2022

Toyota is responding to this Information Request (IR) in accordance with the discussion with the Agency concerning Request Nos. 1, 2, 3, and 4. In so doing, Toyota interpreted the definition of Alleged Defect to include only those failures of the ACU to maintain full operational function during a crash event. For this reason, Toyota did not search for incidents that did not involve a crash event.

Toyota searched for the information that could potentially relate to the Alleged Defect in its databases and systems using keywords. The keywords used in that search are as follows; "SRS," "airbag," "airbags," "bag," "bags," "deploy," "deployed," "deployment," "non-deploy," "non-deployed," "non-deployment," "collision," "crash," "crashed," "wreck," "wrecked," "wrecks," "accident," "accidentally," "impact," "impacted," "impacts," "rolled," "rollover," "roll-over," "t-bone," "t-boned," "boned," "bone," "flips," "flip," "flipped," "hit," and "hitting." Searches were also made of matters involving crash events considering "indications" A. through H. as noted in the definition of Alleged Defect (Toyota is not aware of any other "indications" not noted). The information was then reviewed to determine if the information was, in fact, responsive to this IR.

Matters found when searching for information responsive to Request No. 1 involving assertions or questions about the non-deployment of an airbag during a crash event without any "indications" or other information as specified in the definition of the Alleged Defect are not included in this response, because there was no information to suggest that they are related to, or may be related to, the Alleged Defect in the Subject Vehicles. For example, consumer complaints located by a key word noted above, without other information that would enable a more detailed assessment, are not included in the response; and legal claims specifically alleging an ACU failure due to electrical overstress, but also having other data that enables Toyota to confirm that the case is not related to the alleged defect, are also not included. Also, with regard to an Electronic Data Recorder (EDR) where no crash event was found, other information was assessed to determine if such lack of data was consistent and expected given the incident; such incidents are not considered to be related to, or may be related to, the Alleged Defect.

In the foregoing responses to this IR, information has been obtained from those departments and employees knowledgeable about the subject matter of this inquiry most likely to have such information in the regular and ordinary course of business. When a particular Request seeks "documents" as defined in the IR, reasonable, good faith searches have been made of corporate records where such documents would ordinarily be expected to be found and to which Toyota would ordinarily refer when looking for such information.

The definitions of "documents" and "Toyota," however, are unreasonably broad, vague, and ambiguous, and Toyota objects to such definitions, because they exceed a reasonable understanding of such terms. For example, "calendars," "travel reports," "contracts" and "personnel records," to name a few, would not normally contain responsive information pertaining to the Alleged Defect subject of this inquiry. Toyota has also not provided information from electronic files that require extraordinary or expert means to retrieve that are generally unavailable to the computer user.

In addition, Toyota has not, except as otherwise noted, provided information from persons or entities over which it does not ordinarily exercise control, such as independent suppliers and contractors. Toyota also objects to the definition of “Toyota” to the extent it purports to include outside counsel. It would be unduly burdensome to require Toyota to request that outside counsel search files for responsive documents. Moreover, it is highly unlikely that outside counsel would possess any non-privileged documents responsive to this IR that are not already being produced by Toyota. In light of the significant burden and cost associated with canvassing outside counsel for potentially responsive documents and the very low probability of identifying any non-privileged document not already being produced, Toyota has not asked its outside counsel to search for responsive documents.

Toyota understands this IR to seek information on vehicles manufactured for sale in the United States and its territories from the start of production of each model year to the dates noted above for each category. Also, we understand documents specifically related to the preparation of the responses are not sought.

The source of information used as a basis for the data in each Attachment, including the date the data were updated and retrieved, is identified above as applicable. If a document itself is the source for the requested information and it is provided, no further source identification is provided. If a document, drawing or component is requested, or if no responsive information is available, we assume no further source identification is called for.

Toyota is not providing privileged documents that may be responsive to this Information Request. With regard to claims of privilege, Toyota understands that it is acceptable to the Agency for Toyota to identify specific 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 Legal Department, other Toyota employees, or employees of parties represented by Toyota in litigation and claims; (b) communications between employees of Toyota’s Legal Department and other Toyota employees, or employees of parties represented by Toyota in litigation and claims; (c) notes and other work product of outside counsel or of employees of Toyota’s Legal Department, including work product of employees or consultants done for or at the request of outside counsel or Toyota’s Legal Department. 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 protection 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 considerations. Such private information includes data such as names, addresses, phone or fax numbers, email addresses, license plate numbers, driver’s license numbers and the last 6 digits of a vehicle’s VIN.