



American Honda Motor Co., Inc.
1919 Torrance Boulevard
Torrance, CA 90501-2746
Phone (310) 783-2000

November 17, 2021

NEF-104
PE21-020

Mr. Gregory Magno, Chief
Vehicle Defects Division - D
Office of Defects Investigation
U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Ave., SE
Washington, DC 20590

Dear Mr. Magno:

In reply to your letter dated September 13, 2021 requesting certain information in support of ODI's comparative analysis amongst production vehicles equipped technology that provides the ability to simultaneously control both steering and braking/acceleration to assist with your investigation into crashes involving first responder scenes and vehicles manufactured by Tesla, Inc. that were operating in either Autopilot or Traffic Aware Cruise Control leading up to the incident (PE21-020), we submit the following responses for American Honda Motor Co., Inc. (HONDA).

Pursuant to 49 U.S.C. section 30166, please find below numbered responses to each of your information requests:

1. **State, by model and model year, the number of subject vehicles HONDA has manufactured for sale or lease or operation in the United States. Separately, for each subject vehicle manufactured to date by HONDA, state the following:**
 - a. **Vehicle identification number (VIN);**
 - b. **Model;**
 - c. **Model Year;**
 - d. **Subject component trade / trim name, part number and design version installed as original equipment; including:**
 - i) **Software version;**
 - ii) **Firmware version;**
 - iii) **Hardware version;**
 - e. **Date of manufacture;**
 - f. **Date warranty coverage commenced;**
 - g. **The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease);**
 - h. **Latest known vehicle mileage and commensurate date;**
 - i. **Cumulative mileage covered with the subject system engaged; and**
 - j. **Date and identities of the most recent software, firmware, and hardware updates.**

Provide the table in Microsoft Access 2010, or a compatible format, entitled "PRODUCTION DATA."

Response:

Summary responses to Request 1 and its data elements "a" through "j": Please see folder "R1", subfolder "PRODUCTION DATA" in the attached .zip file which contains individual files for each model. This was done to keep files as small as possible to make working with the data less cumbersome.

2. State the number of each of the following, received by HONDA, or of which HONDA is otherwise aware, which relate to, or may relate to the subject system in the subject vehicles:
 - a. Consumer Complaints;
 - b. Field Reports;
 - c. Reports involving a subject crash, injury or fatality;
 - d. Property damage claims;
 - e. Third-party arbitration proceedings where HONDA is or was a party to the arbitration;
 - f. Lawsuits, both pending and closed, in which HONDA 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 "e" and "f", provide a summary description of the alleged problem and causal and contributing factors and HONDA'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.

Response:

The total number of reports for items "a" through "f" are stated in the table below. Field reports include technician calls for assistance, internally known as Tech Line cases.

Report Type/Category	Total Count
a. Consumer complaints	█
b. Field reports	█
c. Reports involving a crash, injury or fatality	█
d. Property damage claims	█
e. Third-party arbitration proceedings where Honda is or was a party to the arbitration	█
f. Lawsuits, both pending and closed, in which Honda is or was a defendant or codefendant	█

[REDACTED]

Source(s): Automobile Customer Service (ACS), Tech Line, Field Reports, and Matter Management System.

As of: 11/05/2021

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. HONDA'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), street address, email address and telephone number;
 - d. Vehicle's VIN;
 - e. Vehicle's model and model year;
 - f. Vehicle's mileage at time of incident;
 - g. Software, firmware, and hardware versions in place at the time of the incident, along with vehicle and mileage and date of installation;
 - h. Incident date;
 - i. Report or claim date;
 - j. Whether a crash is alleged;
 - k. Description of the crash including:
 - i) Time of day and local time zone;
 - ii) Crash site coordinates (latitude and longitude);
 - iii) Listing of involved vehicles, objects and persons;
 - iv) Speed and direction of the subject vehicle;
 - v) Documented subject vehicle driver impairment;
 - vi) Location / orientation of the subject vehicle in relation to other involved vehicles, objects, persons at the time of impact;
 - vii) Timing of subject system engagement / disengagement over the 30 second period leading to the subject crash and, if not:
 - (1) Description and timing of driver control inputs that may have overridden the subject system;
 - viii) Description of the intervention of:
 - (1) crash warning or avoidance systems (e.g., AEB, FCW)
 - (2) subject system logic intended to detect first responder vehicles / scenes on or off the roadway;
 - l. Description and timing of the last driver engagement warning prior to the subject crash;
 - m. Duration (minutes) and distance (miles) of the drive cycle that led to the subject crash;
 - n. Whether property damage is alleged;
 - o. Number of alleged injuries, if any; and
 - p. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "REQUEST NUMBER TWO DATA."

Response:

Response for Request No. 3 data elements "a" through "p": Please see folder "R3", filename "REQUEST NUMBER TWO DATA" in the attached .zip file.

Source(s): Automobile Customer Service (ACS), TechLine, Field Reports, Matter Management System.
As of: 11/05/2021

4. Produce copies of all documents, telematics reports / data, and data logs 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 HONDA used for organizing the documents. Describe in detail the search methods and search criteria used by HONDA to identify the items in response to Request No. 2.

In addition, provide a full copy of any expert report that has been produced by HONDA or received from another party in a lawsuit, arbitration, or a pre-suit claim regarding the incidents identified in Request Number 2. This includes any reports produced or exchanged for experts designated by any party in such litigation, including HONDA, plaintiff(s), or co- defendants. This

does not include reports that HONDA has never produced to another party, to the extent HONDA claims a privilege exists for such a report.

Response:

Please see folder "R4", filenames "PE21-020 R4 Tech Line" and "PE21-020 R4 ACS" in the attached .zip file for copies of documents related to this request.

Consumer Complaint Search Criteria:

All subject vehicle customer concerns coded with affected part being ACC and LKAS were searched using keywords combinations ("LKA"OR "lane keep")AND("ACC" OR "adaptive cruise").

FQR (non-dealer field reporting system) and TechLine [Dealer Field Report System] Search Criteria:

All subject vehicle complaints reported by dealers were searched for using complaint codes for ACC and LKAS as well as the same keyword combinations used for Consumer Complaints above. Reports were then contextually filtered for those that mentioned or alluded to both ACC and LKAS being engaged or possibly being engaged. When it was not otherwise evident or clearly stated that the systems were not engaged, the report was included.

Lawsuit Search Criteria:

Searched Honda's matter management system for allegation codes related to ACC and LKAS. Resulting list of Matters were then read through to search for those that mentioned or indicated ACC and LKAS simultaneous engagement.

Source(s): Automobile Customer Service (ACS), TechLine, Field Quality Reports, Matter Management System.

As of: 10/28/2021

5. **For each trade name / trim level of the subject system available in the subject vehicles, state its name and designation including:**
 - a. **Describe the ODD specified to the customer by HONDA for the intended use of the system, including but not limited to:**
 - i) **Types of roads, road marking, weather conditions, etc. the system is intended to be used on and the types of roads on which the system should not be used;**
 - ii) **List the methods and technologies used to prevent subject system usage outside the ODD specified to the customer by HONDA; and**
 - iii) **If the subject system can be engaged (or remain engaged) outside of the ODD specified to the customer by HONDA, state the reasons for this capability and describe any performance restrictions or modifications to the subject system's operational characteristics in such an environment (e.g. slower maximum speeds or control authority, additional driver warnings, adjustments to the driver engagement system).**
 - b. **Describe the subject system's maximum control authority over steering (steering angle (degrees), rate (degrees / sec), lateral acceleration (g)), braking (g), and acceleration (g) functions during routine and crash-imminent operations. Separately include any additional conditions and control authority values that HONDA deems appropriate.**
 - c. **List and describe the information, system status, alerts, warnings, and graphics communicated by the subject vehicle to its driver during the DDT (e.g., warning lights, instrument panel animations, aural warnings, haptic warnings) during the following subject system operational conditions:**
 - i) **Routine subject system operation;**
 - ii) **Scenarios where the vehicle requires driver intervention (e.g., driver engagement needed, imminent ODD exit, system fault); and**
 - iii) **When the subject vehicle detects that a crash is imminent.**
 - d. **Furnish an overview of HONDA's approach to the enforcement of driver engagement / attentiveness during the subject system's operation in the subject vehicles. Include a description of all means of detecting (both through direct measurement and inference) / monitoring driver engagement / attentiveness including:**

- i) The technological means and related logic (including direct measurement or inference) used to sense driver engagement / attentiveness;
 - ii) Minimum contact or detected engagement duration and time between contact / detected engagement required to satisfy the driver engagement / attentiveness logic including changes based on variations in driving conditions such as vehicle speed or presence of a lead vehicle;
 - iii) Describe any warning strategies or messaging and timing associated with each system identified above in subpart (ii) (include pictures/videos of all audible & visual warnings/alerts); and
 - iv) Describe any escalation or lockout strategies used to address either unresponsive drivers or repeated engagement warnings in any given drive cycle.
- e. Describe subject system responses to driver control inputs that could cancel or override one or more of its Level 2 functions. For each driver input, include:
- i) Driver input description and minimum threshold (e.g., minimum steering angle or rate);
 - ii) List the Level 2 functions disabled and permitted to continue operation following a driver override;
 - iii) Describe / illustrate warnings and messages to the driver concerning the system status following a driver override; and
 - iv) Explain which, if any, of the disabled Level 2 functions resume operation on their own after the override input and under what conditions.
- f. List the conditions / events / alerts that may prompt an operating subject system to require a "take-over" by the driver. For each such condition, list:
- i) Sequence of events and timing for each; and
 - ii) Intended vehicle behavior in the instance where a driver take-over is not detected.
- g. Describe the subject system OEDR capabilities within the ODD specified to the customer by HONDA. List the objects and events that the system is designed to detect (e.g., particular vehicle aspects, pedestrians, road signs, drivable space limitations, environmental (weather / road surface / lighting) conditions, path predictions, object classifications). For each item, list:
- i) Subject system behavior;
 - ii) Limitations on detection; and
 - iii) Subject system interaction with crash avoidance technologies.

Response:

Please see folder "R5", filename "PE21-020_R5" in the attachment for responses to request 5.a. through 5.g.

6. Produce copies of all instructional, service, warranty, marketing, and other documents that relate to, or may relate to, the operation of each trade name / trim level of the subject system in the subject vehicles, that HONDA has issued to any customers, 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, digital messages on a subject vehicle display, or other documents or communications, with the exception of standard shop manuals. Also, include the latest draft copy of any communication that HONDA is planning to issue within the next 120 days.

Response:

Please see folder "R6" for documentation responsive to Request No. 6. Applicability of the document/material to a specific subject vehicle is contained or indicated within the document/material. Otherwise, the material has general applicability to the subject system and is not vehicle specific. There are no draft communication documents that will be issued within 120 days of the request letter.

7. For each trade name / trim level of the subject system available in the subject vehicles, describe all modifications or changes made by, or on behalf of, HONDA in the design, material composition, manufacture, quality control, supply, function, or installation of the subject system, from the start of production to date, which relate to, or may relate to driver engagement /

attentiveness and OEDR by the subject system 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 vehicle production;
- b. A detailed description of the modification or change;
- c. The reason(s) for the modification or change;
- d. The hardware, firmware, and software names and numbers of the original version;
- e. The hardware, firmware, and software names and numbers of the modified version;
- f. Primary distribution method of related firmware and software updates (over the air or in-person service); and
- g. When the modified version / update was made available as a service component.

Response:

Please see folder "R7", filename "PE21-020_R7" in the attachment for responses to request 7.a. through 7.g.

8. Describe HONDA's strategies for detecting and responding to the presence of first responder/ law enforcement vehicles and incident scene management tactics whether in or out of the roadway during subject system operation in the subject vehicles. Include:
 - a. Incident scene detection (particularly flashing lights, road flares, cones / barrels, reflectorized vests on personnel, vehicles parked at an angle "fend-off" position");
 - b. Explain the effects of low light conditions on these strategies; and
 - c. List subject system behaviors (e.g., driver warnings, control interventions).

Response:

[REDACTED]

9. Describe any processes, procedures, or policies governing the extent of testing and validation required prior to the release of the subject system or an in-field update to the subject system, including hardware and software components of such systems, identifying, in particular:
 - a. The extent of field testing or vehicle validation miles required prior to the release of such a system or feature;
 - b. The extent of any computer simulations or training data sets required to be conducted prior to the release of such a system or feature and the degree to which any such simulations are relied upon for testing and validation in lieu of field testing;
 - c. The extent to which the processes, procedures, or policies for the testing and validation identified above differ, if at all, for updates to a subject system or feature (e.g. software updates) compared to the first release of the system or feature;
 - d. The length of time that the processes, procedures, or policies for the testing and validation identified above have been in place; and
 - e. Any processes, procedures, or policies in place to compare the performance of a subject system or feature in the field after a release with the design intent for the system or feature.

Response:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

10. Describe HONDA's processes for identifying and investigating subject crashes in the subject vehicles with the subject system in operation including:
- a. Vehicle's Data collection/logging capabilities including vehicle's ability to wirelessly transmit data including:
 - i. The conditions in which a vehicle may send wireless data that may relate to a subject crash;
 - ii. The methods by which the data are sent (type of wireless system and location of involved components on the subject vehicles);
 - iii. A description of the data sent and related alerting within HONDA;
 - iv. Any limitations on such transmittal (e.g. poor wireless connectivity, etc.);
 - v. Countermeasures / alternate retrieval options when transmittal limitations apply
 - b. Procedures for investigating customer concerns or safety incidents; and
 - c. Metrics used to assess safety performance.

Response:

[REDACTED]

[REDACTED]

11. Furnish HONDA's assessment of the impact of the subject system on the crashes furnished in response to Request 2, 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 they pose.

Response:

[REDACTED]

Please do not hesitate to contact me if you have any questions.

Sincerely,

AMERICAN HONDA MOTOR CO., INC.



Jeff Chang
Senior Manager
Product Regulatory Office

JHC:bi

Attachments