



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

1200 New Jersey Avenue SE.
Washington, DC 20590

April 25, 2022

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Brian Latouf, Chief Safety Officer
North America Safety Office
Hyundai Motor America
10550 Talbert Avenue
Fountain Valley, CA 92708

NEF-103ndo
EA21-003

Dear Mr. Latouf,

This letter is to inform you that the Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) has opened an Engineering Analysis (EA21-003) to investigate allegations of an engine fires in certain model year (MY) 2013 Hyundai Elantra vehicles, as well as certain previously recalled vehicles, manufactured by Hyundai Motor America (Hyundai), and to request certain information.

This office has received five VOQ reports of engine fires on MY 2013 Elantra vehicles. Additionally, the office has received 28 VOQ reports of engine fires on certain recalled vehicles. The reports cited above may be viewed at the NHTSA.gov website using the ODI reference numbers listed at the end of this letter.

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

- **Subject Scope Vehicles:** All MY 2013 Hyundai Elantra vehicles, manufactured for sale or lease in the United States, including, but not limited to, the District of Columbia, and current U.S. territories and possessions.
- **Subject Recall Vehicles:** All vehicles associated with the recalls 15V-568, 17V-226, 20V-746, and 21V-727, manufactured for sale or lease in the United States, including, but not limited to, the District of Columbia, and current U.S. territories and possessions.
- **Subject Vehicles:** All Subject Scope Vehicles and all Subject Recall Vehicles.
- **Alleged Defect:** Non-crash fires that originated, may have originated, or were alleged to have originated in the engine compartment, which were caused by, may have been caused

by, or were alleged to have been caused by engine failures (including but not limited to, engine seizures and/or Hyundai customers that may have reported engine issues, such as engine knock, noise, sputtering, or stalling prior to the fires).

- **Hyundai:** Hyundai Motor America, 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 Hyundai (including all business units and persons previously referred to), who are or, in or after January 1, 2008, were involved in any way with any of the following related to any of the alleged defects 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.

- **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 Hyundai, 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 Hyundai 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 C.F.R. § 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 Hyundai has previously provided a document to ODI, Hyundai 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 Hyundai’s response to each request, identify the source of the information and indicate the last date the information was gathered.

1. State, by model and model year, the number of the subject vehicles, separately by subject scope and subject recall vehicles, Hyundai has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Hyundai, state the following:
 - a. Vehicle identification number (17-character VIN);
 - b. Make;
 - c. Model;
 - d. Model Year;
 - e. Engine (by type, displacement and company engine code);
 - f. Whether the recall vehicle is covered by Recall(s) 15V-568, 17V-226, 20V-746, and/or 21V-727 and/or the Knock Sensor Detection System (KSDS) campaign(s) (e.g., Campaign # 953), and if so, specifically identify the recall(s) and/or campaign(s);
 - g. Remedy/repair date(s) of vehicle for each the above-mentioned recall(s)
 - h. Remedy/repair date(s) of vehicle for KSDS campaign;

- i. Date of manufacture (MM/DD/YYYY);
- j. Date warranty coverage commenced (MM/DD/YYYY); and
- k. The State in the United States where the vehicle was originally sold or leased, or delivered for sale or lease (postal abbreviation).

For each vehicle model, provide a separate table in Microsoft Access 2010, or a compatible format, entitled "PRODUCTION DATA_[Scope or Recall Vehicles]." A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

2. State, by model, model year, the number of each of the following, received by Hyundai, or of which Hyundai is otherwise aware, which relate to, or may relate to, any of the alleged defects in the subject scope vehicles:
 - a. Consumer complaints, including those from fleet operators;
 - b. Field reports, including dealer field reports;
 - c. Reports involving a fire, crash, injury or fatality;
 - d. Property damage claims;
 - e. Third-party arbitration proceedings where Hyundai is or was a party to the arbitration; and
 - f. Lawsuits, mediations, or arbitrations both pending and closed, in which Hyundai is or was a defendant, codefendant, or respondent.

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 "f," provide a summary description of the alleged problem and causal and contributing factors and Hyundai'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.

3. State, by model, model year, the number of each of the following, received by Hyundai, or of which Hyundai is otherwise aware, which relate to, or may relate to, any of the alleged defects in the subject recall vehicles:
 - a. Consumer complaints, including those from fleet operators;
 - b. Field reports, including dealer field reports;
 - c. Reports involving a fire, crash, injury or fatality;
 - d. Property damage claims;
 - e. Third-party arbitration proceedings where Hyundai is or was a party to the arbitration; and

- f. Lawsuits, mediations, or arbitrations both pending and closed, in which Hyundai is or was a defendant, codefendant, or respondent.

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 “f,” provide a summary description of the alleged problem and causal and contributing factors and Hyundai’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.

4. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2 or No. 3, state the following information:
 - a. Hyundai’s file number or other identifier used;
 - b. The category of the item, as identified in Request No. 2 or 3 (i.e., consumer complaint, field report, etc.);
 - c. Vehicle owner or fleet name (and fleet contact person), email address and telephone number (please use distinct fields for each data type);
 - d. Vehicle owner or fleet street address, city, state (postal abbreviation), and ZIP code (please use distinct fields for each data type);
 - e. Vehicle’s 17-character VIN;
 - f. Vehicle’s make, model and model year (please use distinct fields for each data type);
 - g. Vehicle’s mileage at time of incident;
 - h. Incident date (MM/DD/YYYY);
 - i. Report or claim date (MM/DD/YYYY);
 - j. Whether a crash is alleged;
 - k. Whether a fire is alleged;
 - l. Whether property damage is alleged;
 - m. Number of alleged injuries, if any; and
 - n. Number of alleged fatalities, if any.

For this request, provide the information separately for subject scope vehicles and subject recall vehicles in Microsoft Access 2010, or a compatible format, entitled “REQUEST NUMBER TWO DATA.” A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

5. Produce copies of all documents related to each item within the scope of Request No. 2 and No. 3. Organize the documents, using Hyundai’s file number in Request No. 4, separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Hyundai used for organizing the documents. Describe in detail the search methods and search criteria used by Hyundai to identify the items in response to Request No. 2 and No. 3.

For this request, provide the information separately for subject scope vehicles and subject recall vehicles.

6. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Hyundai to date that relate to, or may relate to, the alleged defect in the subject scope 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. Hyundai's claim number;
- b. Vehicle owner or fleet name (and fleet contact person), email address and telephone number (please use distinct fields for each data type);
- c. Vehicle owner or fleet street address, city, state (postal abbreviation), and ZIP code (please use distinct fields for each data type);
- d. 17-character VIN;
- e. Repair date (MM/DD/YYYY);
- f. Vehicle mileage at time of repair;
- g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code (please use distinct fields for each data type);
- h. Labor operation number(s);
- i. Problem code(s);
- j. Diagnostic trouble code(s);
- k. Replacement part number(s) and description(s);
- l. Concern stated by customer;
- m. Cause as stated on the repair order;
- n. Correction as stated on the repair order; and
- o. Additional comments, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "WARRANTY DATA_Scope Vehicles." A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

7. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Hyundai to date that relate to, or may relate to, the alleged defect in the subject recall 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. Hyundai's claim number;
- b. Vehicle owner or fleet name (and fleet contact person), email address and telephone number (please use distinct fields for each data type);
- c. Vehicle owner or fleet street address, city, state (postal abbreviation), and ZIP code (please use distinct fields for each data type);

- d. 17-character VIN;
- e. Repair date (MM/DD/YYYY);
- f. Vehicle mileage at time of repair;
- g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code (please use distinct fields for each data type);
- h. Labor operation number(s);
- i. Problem code(s);
- j. Diagnostic trouble code(s);
- k. Replacement part number(s) and description(s);
- l. Concern stated by customer;
- m. Cause as stated on the repair order;
- n. Correction as stated on the repair order; and
- o. Additional comments, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "WARRANTY DATA_Recall Vehicles." A pre-formatted data collection file, which provides further details regarding this submission, will be provided to you.

8. Describe in detail the search methods and search criteria used by Hyundai to identify the claims in response to Request No. 6 and 7, including the labor operations, problem codes, part numbers and any other pertinent parameters used.
9. Provide a list of all labor operations, labor operation descriptions, problem codes and problem code descriptions applicable to the alleged defects in the subject vehicles.
10. State, by model and model year, the terms of the new vehicle warranty coverage offered by Hyundai 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 Hyundai 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.
11. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Hyundai 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 Hyundai is planning to issue within the next 120 days.
12. 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 defects in the subject scope vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, Hyundai. For each such action, provide the following information:
 - a. Action title or identifier;
 - b. The actual or planned 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. 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.

13. Describe all modifications or changes made by, or on behalf of, Hyundai in the design, material composition, manufacture, quality control, supply, or installation of the components, from the start of production to date, in the subject scope vehicles and either directly or indirectly reduce or mitigate the risk of fire or thermal events. 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 part number(s) (service and engineering) of the original component;
 - e. The part number(s) (service and engineering) of the modified component;
 - f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
 - g. When the modified component was made available as a service component; and
 - h. Whether the modified component can be interchanged with earlier production components.

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

14. Furnish Hyundai's assessment of the alleged defects in the subject scope vehicles, including:
- a. The root cause and all contributory factor(s);
 - b. The failure mechanism(s);
 - c. The failure mode(s);
 - d. The risk to motor vehicle safety that it poses;
 - 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; and
 - f. The VOQ reports referenced in this inquiry.
15. Describe in detail and produce copies of any documents used to answer each item below relating to Knock Sensor Detection Software (KSDS):
- a. The validation process used to assure KSDS successfully recognizes the various field issues observed to date.
 - b. How the threshold of detection for KSDS was determined to illuminate the vehicle's MIL and engage "Engine Protection Mode or Limp Home Mode".
 - c. The specifics of "Engine Protection Mode" that KSDS will apply (e.g. specific torque, RPM limits, shifting characteristics)

- d. How long a typical engine can operate in “Engine Protection Mode” if warnings to the driver are ignored.
16. By vehicles model and model year, provide counts to answer each item below relating to Knock Sensor Detection Software (KSDS):
 - a. Statistical projections of percentage of “false negatives” and “false positives” that KSDS provides.
 - b. Engine failure/engine fire incidents after KSDS installation, with DTC P1326 found.
 - c. Engine failure/engine fire incidents after KSDS installation, but no DTCs were triggered.
 17. Describe in detail the engine replacement claim procedures, past and present, under engine related customer campaigns, recalls, settlements or class action lawsuits. If procedure is different for specific vehicles or actions stated above, please state the vehicle and what steps in the process are different.
 18. Produce copies of any guidance to customers (beyond the new car owner’s manual), and other documents that relate to, or may relate to, engine oil consumption and the necessity of checking/adding oil between oil changes. 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 Hyundai is planning to issue within the next 120 days.
 19. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, “actions”) that relate to, or may relate to, benchmarked oil consumption of Hyundai engines vs. competitor engines.

Legal Authority for This Request

This letter is being sent to Hyundai 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.

Civil Penalties

Hyundai’s failure to respond promptly and fully to this letter could subject Hyundai 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.) The Vehicle Safety Act, 49 U.S.C. § 30165(a)(3), provides for civil penalties of up to \$24,423 per violation per day, with a maximum of \$122,106,996 for a related series of daily violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. See 49 C.F.R. § 578.6(a)(3). This includes failing to respond completely, accurately, or in a timely manner to ODI information requests.

If Hyundai 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, Hyundai does not submit one or more requested documents or items of information in response to this information request, Hyundai 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.

Confidential Business Information

If Hyundai's response contains any information that you claim is confidential business information, Hyundai must request two secure electronic file transfer links from Nathan Ong at Nathan.Ong@Dot.Gov. One secure electronic file transfer link is for your request for confidential treatment and will be directed to NHTSA's Office of the Chief Counsel. Please see enclosure 2 for additional instructions on submitting a request for confidential treatment. The second secure electronic file transfer link is for your non-confidential response to this letter. Do not submit any confidential business information along with your non-confidential submission. Please refer to EA21-003 in Hyundai's response to this letter and in a request for confidential treatment that Hyundai may submit.

Due Date

Hyundai's response to this letter must be submitted to this office by **June 6, 2022**. If Hyundai finds that it is unable to provide all of the information requested within the time allotted, Hyundai must request an extension from Peter Kivett at (202) 366-6178 no later than five business days before the response due date. If Hyundai 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 Hyundai then has available, even if an extension has been granted.

If you have any technical questions concerning this matter, please call Nathan Ong of my staff at (202) 366-1661.

Sincerely,

Stephen A. Ridella, Ph. D
Office Director
Office of Defects Investigation

Enclosure 1, The subject reports referenced in the introduction of this letter may be viewed at the NHTSA.gov website using the following ODI reference numbers:

11427413, 11424490, 11424083, 11423473, 11421771, 11419822, 11414129, 11400256,
11397562, 11388186, 11382825, 11377625, 11375573, 11366708, 11365053, 11360992,
11353693, 11343008, 11316182, 11300600, 11286465, 11279377, 11277618, 11255924,
11242062, 11231666, 11184011, 11153078, 11375940, 11112279, 11057072, 10585543,
1056579

ENCLOSURE – INFORMATION FOR REQUESTS FOR CONFIDENTIAL TREATMENT

If you believe that your response contains any material that you claim is confidential business information, submit these materials to NHTSA’s Office of the Chief Counsel in accordance with 49 C.F.R. Part 512. **All requests for confidential treatment must be submitted directly to the Office of the Chief Counsel. Upon request, ODI will provide you with a secure file transfer link for your submission to the Office of the Chief Counsel.**

Requests for confidential treatment are governed by Part 512. A current version of this regulation is available on the internet at <http://www.ecfr.gov> by selecting Title 49 “Transportation,” selecting “Parts 500 – 599” and then selecting Part 512 “Confidential Business Information.”

How to request confidential treatment:

To facilitate social distancing due to COVID-19, NHTSA is treating electronic submission as an acceptable method for submitting confidential business information to the agency under Part 512. If you claim that any of the information or documents provided in your response constitutes confidential business information within the meaning of 5 U.S.C. § 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. § 1905, you must request a secure file transfer link from the ODI contact listed in your Information Request. ODI will copy a representative from the Office of the Chief Counsel on the secure file transfer link for your request for confidential treatment. You must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with Part 512, to the Office of the Chief Counsel. Do not send a hardcopy of a request for confidential treatment to NHTSA’s headquarters.

Your request must include a request letter that contains supporting information, pursuant to Part 512.8. Your request must also include a certificate, pursuant to Part 512.4(b) and Part 512, Appendix A.

You are required to submit one unredacted “confidential version” of the information for which you are seeking confidential treatment. Pursuant to Part 512.6, the words “ENTIRE PAGE CONFIDENTIAL BUSINESS INFORMATION” or “CONFIDENTIAL BUSINESS INFORMATION CONTAINED WITHIN BRACKETS” (as applicable) must appear at the top of each page containing information claimed to be confidential. In the latter situation, where not all information on the page is claimed to be confidential, identify each item of information for which confidentiality is requested within brackets: “[].”

You are also required to submit one redacted “public version” of the information for which you are seeking confidential treatment. Pursuant to Part 512.5(a)(2), the redacted “public version” should include redactions of any information for which you are seeking confidential treatment (i.e., the only information that should be unredacted is information for which you are **not** seeking confidential treatment).

For questions about a request for confidential treatment, please contact Dan Rabinovitz in the Office of the Chief Counsel at Daniel.Rabinovitz@dot.gov or (202)366-8534.