

INFORMATION Redacted PURSUANT TO THE FREEDOM OF
INFORMATION ACT (FOIA), 5 U.S.C . 552(B)(6)



December 4, 2012

Mr. D. Scott Yon
Chief, Vehicle Integrity Division
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590

RE: NVS-212eer, PE12-027

Dear Mr. Yon:

On behalf of Hyundai Motor Company (Hyundai), Hyundai-Kia America Technical Center, Inc. (HATCI) submits this letter in response to your above referenced request for information, dated October 04, 2012. In cooperation with your office Hyundai has received an extension for the submission of this information to this date.

Prior to responding to the request, Hyundai objects to NHTSA's boilerplate definition of "Document" as vague, incomprehensible, overly broad and unduly burdensome. Hyundai has made a good faith, reasonable attempt to search for materials responsive to each request in the time frame provided.

Request 1.

State, by model and model year, the number of subject vehicles that 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 (VIN);
- b. Date of manufacture;
- c. Date warranty coverage commenced; and
- d. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

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

Hyundai-Kia America Technical Center Inc.
6800 Geddes Road, Superior Township, MI 48198
TEL: 734-337-9499 FAX: 734-483-5919
www.hatci.com

Hyundai-Kia America Technical Center, Inc

Response to Request 1.

2012 Hyundai Velosters with either the “Style” or “Tech” accessory package have a panoramic sunroof. See ATTACHMENT “PRODUCTION DATA.accdb” for requested information.

Source: Hyundai Motor America
Information as of November 08, 2012

Request 2.

State the number of each of the following, received by Hyundai, or of which Hyundai is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

- a. Consumer complaints;
- b. Field reports, including dealer field reports;
- c. Reports involving an injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject component, property damage claims, consumer complaints, or field reports;
- d. Property damage claims;
- e. Third-party arbitration proceedings where Hyundai is or was a party to the arbitration; and
- f. Lawsuits, both pending and closed, in which Hyundai is or was a defendant or codefendant.

For subparts “a” through “d” 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 “c through 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.

Hyundai-Kia America Technical Center, Inc

Response to Request 2.

- a. Consumer complaints;

Twenty

- b. Field reports, including dealer field reports;

Six

- c. Reports involving an injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject component, property damage claims, consumer complaints, or field reports;

Five consumer affairs cases included in the response to Request 2a above alleging minor injuries (VINs KMHTC6AD3CU [REDACTED], KMHTC6AD4CU [REDACTED], KMHTC6AD9CU [REDACTED], KMHTC6ADXC [REDACTED] and KMHTC6AD0CU [REDACTED]). The case detail is provided in response to Request 4 below.

- d. Property damage claims;

None

- e. Third-party arbitration proceedings where Hyundai is or was a party to the arbitration; and

None

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

None

Source: Hyundai Motor America
Information as of November 08, 2012

Hyundai-Kia America Technical Center, Inc

Request 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. Hyundai's file number or other identifier used;
- b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
- c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
- d. Vehicle's VIN;
- e. Vehicle's make, model and model year;
- f. Vehicle's mileage at time of incident;
- g. Incident date;
- h. Report or claim date;
- i. Whether a crash is alleged;
- j. Whether property damage is alleged;
- k. Number of alleged injuries, if any; and
- l. Number of alleged fatalities, if any.

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

Response to Request 3.

See ATTACHMENT "REQUEST NUMBER TWO DATA.accdb" for requested information.

Source: Hyundai Motor America
Information as of November 08, 2012

Request 4.

Produce copies of all documents 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 Hyundai used for organizing the documents.

Response to Request 4.

See ATTACHMENT A for requested Hyundai report information. Files separated by category and identified with VIN.

Source: Hyundai Motor America
Information as of November 08, 2012

Hyundai-Kia America Technical Center, Inc

Request 5.

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 subject component, regardless of why the claim was made, in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

Separately, for each such claim, state the following information:

- a. Hyundai's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair or replacement 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. Whether glass fracture is alleged;
- k. Concern stated by customer; and
- l. Comment, if any, by dealer/technician relating to claim and/or repair or replacement.

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

Response to Request 5.

For the 2012 Hyundai Veloster there are 102 warranty claims; 76 referencing glass fracture (claim rate = 0.36%).

See ATTACHMENT "WARRANTY DATA.accdb" for additional requested information.

Source: Hyundai Motor America
Information as of November 18, 2012

Request 6.

Describe in detail the search criteria used by Hyundai to identify the claims identified in response to Request No. 5, including the labor operations, problem codes, part numbers and any other pertinent parameters used. Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions applicable to the alleged defect in the subject vehicles. State, by make 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

Hyundai-Kia America Technical Center, Inc

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.

Response to Request 6.

The claims were identified by searching for all subject vehicle warranty claims containing information for the Panoramic Sunroof Operation Codes (816***) or Panoramic Sunroof Part Numbers (816**-*****-**) for 2012 model year Hyundai Veloster vehicles.

Please see ATTACHMENT B for a complete list of related part numbers.

Please see ATTACHMENT C for a list of applicable warranty Nature Codes and Nature Code descriptions.

Please see ATTACHMENT D for a list of applicable warranty Operation Code and Operation Code descriptions.

The Hyundai New Vehicle Limited Warranty period is limited to 60 months from the date of original retail delivery or date of first use, or 60,000 miles, whichever occurs first. The 2012 Veloster is covered by the Hyundai New Vehicle Limited Warranty.

As the subject vehicles are 2012 model year vehicles for which the Hyundai New Vehicle Limited Warranty is in effect, no extended warranty information is applicable.

Source: Hyundai Motor America

Information as of November 08, 2012

Request 7.

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that 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.

Response to Request 7.

No responsive Hyundai documents exist.

Source: Hyundai Motor America

Information as of November 08, 2012

Hyundai-Kia America Technical Center, Inc

Request 8.

Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, 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.

Response to Request 8.

Hyundai Motor Company continues to review its manufacturing process and procedures. The following items have been reviewed:

1. Sunroof glass impact strength

- a. Impact strength comparison
- b. October, 2012
- c. November, 2012
- d. The impact strength of sunroof glass from manufacturing periods near that of incident vehicles was compared to samples from other production month glass samples for significant variations.
- e. Hyundai Motor Company Quality Assurance Team and sunroof vendor
- f. Similar impact strengths were observed

2. Sunroof glass manufacturing process effect on glass strength

- a. Sunroof glass manufacturing process evaluation
- b. October, 2012
- c. November, 2012
- d. Various manufacturing parameters were evaluated to analyze their effect on sunroof glass strength including:
 - i. Glass cooling air velocity
 - ii. Ceramic coating width
 - iii. Glass forming die temperature (reduced)
 - iv. Glass edge grinding tolerance
- e. Hyundai Motor Company Quality Assurance Team and sunroof vendor

Hyundai-Kia America Technical Center, Inc

- f. Similar glass strength was observed when variations were introduced into the glass manufacturing process.

3. Glass installation forces during manufacturing

- a. Sunroof glass installation-related stress
- b. October, 2012
- c. November, 2012
- d. Varying levels of force were introduced into the sunroof glass installation process to evaluate its effect on the sunroof.
- e. Hyundai Motor Company Quality Assurance Team and sunroof vendor
- f. Unable to duplicate the condition during vehicle road tests

4. Panoramic sunroof installation variation

- a. "Worst case" sunroof glass installation road test.
- b. October, 2012
- c. November, 2012
- d. Panoramic sunroof intentionally installed in an out-of-specification condition, and the test vehicle then driven on rough road surfaces.
- e. Hyundai Motor Company Quality Assurance Team and sunroof vendor
- f. Unable to duplicate the condition during vehicle road tests

5. Assembly line sunroof installation process

- a. Evaluation of 1) roof assembly loading station device, and 2) roof assembly alignment ("pushing") station device.
- b. October, 2012
- c. November, 2012
- d. Verify assembly line equipment does not damage sunroof assembly components
- e. Hyundai Motor Company Quality Assurance Team and sunroof vendor
- f. Verified current assembly line equipment is not damaging the panoramic sunroof assembly.
- g. An investigation by Hyundai Motor Company into the assembly line records for the Hyundai Veloster indicates an intermittent malfunction of a limit switch for the panoramic sunroof assembly's unloading station robot (which verifies the location of the component) may have occurred allowing forced contact between the unloading station mechanism and the sunroof glass on some vehicles. This contact may have caused damage to the sunroof glass, and subsequent fracture of the glass in the field. The loading station robot was repaired in April, 2012.

6. Sunroof vibration

- a. Panoramic sunroof/vehicle vibration effect on sunroof glass
- b. October, 2012
- c. Ongoing
- d. Expose sunroof and vehicle to varying levels of vibration in an attempt to duplicate the subject condition. Includes chassis dynamometer durability evaluation.
- e. Hyundai Motor Company Quality Assurance Team and sunroof vendor

Hyundai-Kia America Technical Center, Inc

f. Unable to duplicate the subject condition.

7. Periodic quality control testing

Additionally, periodic tests are conducted on the panoramic sunroof glass to confirm:

- Glass resistance to abrasion
- Heat resistance
- Water resistance
- Chemical resistance
- Adhesion characteristics
- Weather durability
- Impact resistance
- Fragment dimensions
- Luminous transmission

Hyundai is providing ATTACHMENT E containing three test reports for the Veloster sunroof glass from 09/16/11, 03/07/12, and 10/10/12. ATTACHMENT E has been provided to the Office of Chief Counsel with a request for treatment as Confidential Business Information.

Source: Hyundai Motor Company
Information as of November 21, 2012

Request 9.

Describe all modifications or changes made by, or on behalf of, Hyundai in the design, material composition, manufacture, quality control, supply, warnings or instructions for the use of the subject component(s) that may impinge on or affect the subject components, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:

- 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) (engineering and service) of the original component;
- e. The part number(s) (engineering and service) 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.
- i. The supplier of each modified component;
- j. The models and model years of vehicles affected by the modification.

Hyundai-Kia America Technical Center, Inc

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.

Response to Request 9.

Two production changes have been introduced on the Veloster panoramic sunroof:

1. Hyundai Motor Company Engineering Order H2VB0389; increase weatherstrip thickness to reduce wind noise. Hyundai does not believe this change is related to the subject condition.
 - a. Introduced into production May 30, 2011 (before US production)
 - b. The thickness of the tape used to adhere the weatherstrip was increased from 0.8mm to 1.2 mm
 - c. To reduce wind noise
 - d. Engineering P/N: 81600-2V000, Service P/N: 81600-2V000
 - e. Engineering P/N: 81600-2V000, Service P/N: 81600-2V000
 - f. Running change; revised part into production May 30, 2011
 - g. May 30, 2011
 - h. Revised Panoramic Sunroof assembly can be interchanged with earlier production assembly
 - i. Webasto DongHee Co. Ltd., Ulsan, Korea
 - j. 2012 Hyundai Veloster

2. Hyundai Motor Company Engineering Order H2VC0129; incorporate various changes in the sunroof frame and glass panel to reduce wind noise.
 - a. Introduced into production April 20, 2012
 - b. Description of changes:
 - i. Sunroof frame modifications:
 1. Weatherstrip
 2. Acoustic seal
 3. Glass guide
 - ii. Glass panel assembly:
 1. Reinforcement support
 2. Panel base form
 3. Cushion added
 - c. To reduce wind noise
 - d. Engineering P/N: 81610-2V000, Service P/N: 81600-2V000
 - e. Engineering P/N: 81610-2V500, Service P/N: 81600-2V500
 - f. Running change; revised part into production April 20, 2012
 - g. April 20, 2012
 - h. Revised Panoramic Sunroof assembly not interchangeable with earlier production assembly
 - i. Webasto DongHee Co. Ltd., Ulsan, Korea

Hyundai-Kia America Technical Center, Inc

j. 2012 Hyundai Veloster

See ATTACHMENT F for additional support information.

There are no plans at this time for any modification or changes to be incorporated into vehicle production within the next 120 days.

Source: Hyundai Motor Company
Information as of November 12, 2012

Request 10.

State the number of each of the following that Hyundai has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used, and month/year of sale (including the cut-off date for sales, if applicable):

- a. Subject component; and
- b. Any kits that have been released, or developed, by Hyundai for use in service repairs or replacements to the subject component.

For each subject component design, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number). Also identify by make, model and model year, any other vehicles of which Hyundai is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

Response to Request 10.

See ATTACHMENT G for the Hyundai service part number application based on vehicle production date.

See ATTACHMENT H for the Hyundai's service part sales.

Hyundai has not released or developed any kits for use in service repairs to the subject component.

Supplier information for the 2012 Hyundai Veloster panoramic sunroof:

Wabasto Donghee Co. Ltd
Cheoyon Industry Road 6
Onsan-eup, Ilju-gun
Ulsan, Korea

Hyun suk Jang
General Manager

Hyundai-Kia America Technical Center, Inc

Phone: 82 52 259 45 00

Request 11.

Furnish Hyundai's assessment of the alleged defect in the subject vehicles, 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 it poses; and
- 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 or subject component was malfunctioning; and
- f. The reports included with this inquiry.

Response to Request 11.

- a. The causal or contributory factor(s):

An intermittent malfunction of a limit switch for the panoramic sunroof assembly's unloading station robot (which verifies the location of the component) may have occurred allowing forced contact between the unloading station mechanism and the sunroof glass on some vehicles. This contact may have caused damage to the sunroof glass, and subsequent fracture of the glass in the field. This potential for this assembly process malfunction to occur has been corrected.

- b. The failure mechanism(s);

Panoramic sunroof glass panels damaged by assembly line equipment. The failure may occur at low mileage if increased internal sunroof glass stress results from the malfunctioning assembly line limit switch described under section 5g provided in the response to Request 8 above.

- c. The failure mode(s);

It is believed that the assembly line equipment may have inadvertently caused minor damage to some panoramic sunroof assemblies resulting in subsequent fracture of those units. The increased sunroof glass stress caused by the unloading station mechanism malfunction may cause the sunroof glass to shatter at low mileage.

Hyundai-Kia America Technical Center, Inc

- d. The risk to motor vehicle safety that it poses;

If the panoramic sunroof glass panel were to break while the vehicle is in motion, it could cause driver distraction. Additionally, broken safety glass inside the vehicle may pose a risk of minor cutting injury to vehicle occupants. These breakage incidents have occurred at low mileage and Hyundai believes that this condition does not pose a future risk to motor vehicle safety.

- 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 or subject component was malfunctioning.

There would be no warning to the operator and the other persons both inside and outside the vehicle.

- f. The reports included with this inquiry.

See ATTACHMENT J for the VOQ files referenced with this inquiry.

Source: Hyundai Motor America
Information as of November 21, 2012

Sincerely,



Robert Babcock
Director, Certification and Compliance Affairs
Hyundai-Kia America Technical Center, Inc.

Attachments:

Two CDs, each containing:

PRODUCTION DATA. accdb;
REQUEST NUMBER TWO DATA. accdb;
WARRANTY DATA. accdb
ATTACHMENT A Consumer Complaints and Field Report Files
ATTACHMENT B Sunroof Part Number Application
ATTACHMENT C Warranty Nature Codes and Descriptions
ATTACHMENT D Warranty Labor Operation Codes and Descriptions

Hyundai-Kia America Technical Center, Inc

ATTACHMENT E Test Reports for Veloster Sunroof (Attachment E has been provided to the Office of Chief Counsel with a request for treatment as Confidential Business Information.)

ATTACHMENT F Engineering Change Orders

ATTACHMENT G Service Part Number Application

ATTACHMENT H Service Part Sales

ATTACHMENT J VOQ files