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June 15, 2004

VIA FEDERAL EXPRESS

Mr. Otto Matheke
Office of Chief Counsel
National Highway Traffic Safety Administration
Room 5219
400 Seventh Street, S.W.
Washington, DC 20590

Re: Request for Confidential Treatment of Information Submitted in Response to PE04-030 (2001 Kia Rio Steel Wheel Fractures)

Dear Mr. Matheke:

Kia Motors Corp. and Kia Motors America, Inc. (hereinafter collectively referred to as "Kia"), hereby requests that certain information submitted in response to PE04-030 be treated as confidential. In accordance with 49 C.F.R. 512.3(c), confidential business information includes trade secrets or commercial or financial information that is privileged or confidential as described in the Freedom of Information Act. *See* 5 U.S.C. 522(b)(4). Commercial information is considered confidential if it has not been publicly disclosed and if its release is likely to cause substantial harm to Kia's competitive position. 49 C.F.R. 512.3.

In its response to PE04-030, dated June 4, 2004, Kia provided certain testing data that it claims is confidential business information. Specifically, Kia submitted a Rio Steel Wheel Crack Analysis Report prepared by Kia Motors America, Inc's (KMA) Quality Assurance Team (Tab 5 to Kia's response) and Failure Analysis Tests performed by Exponent Failure Analysis Associates (Tab 6 to Kia's response) at Kia's request and on Kia's behalf. In addition to the testing data described above, Kia is also requesting that personal identifying information of its consumers and test subjects included in its response be treated as confidential.

Rio Steel Wheel Crack Analysis Report (Tab 5)

The Rio Steel Wheel Crack Analysis Report reflects testing done by Kia's Quality Assurance Team. The report includes both trade secrets and confidential information that, if made public, would cause substantial harm to Kia's competitive position in the market. Specifically, the report includes data indicative of Kia's current production methods, standards and performance levels. Furthermore, the report contains Kia-specific testing procedures and, if disseminated, would allow Kia's competitors the benefit of Kia's overload failure testing procedures, outcomes and strategies. The testing is unique to Kia, available only to Kia personnel, and performed at a considerable cost to Kia. Moreover, such information would allow Kia's competitors to improve on their products at the expense of Kia.

Exponent Crack Growth and Driver Perception Analysis (Tab 6)

Kia retained Exponent Failure Analysis Associates to perform specific testing with respect to crack growth and driver perception as it relates to potential defects involving steel wheel cracking. The Failure Analysis Report was performed at the direction of and on behalf of Kia. Testing methodologies including subject selection, preparation, and procedures are unique to Kia and dissemination of such information would provide competitors with an unfair advantage and insight into Kia's testing procedures and critical self-analysis policies. Furthermore, the report, and accompanying video, contains highly sensitive personal information with respect to each test subject and dissemination of personal information would discourage the public from participating in any such testing in the future.

If you have any questions or concerns regarding this matter, or if you need any further clarification or support for this request, please do not hesitate to contact me.

Very truly yours,

Kristi L. Anderson

KLA:lse
(80435657.WPD;1)

CERTIFICATE IN SUPPORT OF REQUEST FOR CONFIDENTIALITY

I Alfred E. Gloddeck, pursuant to the provisions of 49 CFR part 512, state as follows:

(1) I am Alfred E. Gloddeck, Senior Manager – Corporate Affairs and I am authorized by Kia Motors America, Inc. to execute this certificate on its behalf;

(2) I certify that the information contained in Tab 5 and Tab 6 attached to Kia's response to PE04-030 dated June 4, 2004, in addition to the personal identifying information of Kia's customers and test subjects is confidential and proprietary data and is being submitted with the claim that it is entitled to confidential treatment under 5 U.S.C. 552(b)(4) (as incorporated by reference in and modified by statute under which the information is being submitted);

(3) I hereby request that the information contained in Tab 5 and Tab 6 attached to Kia's response to PE04-030 be protected for a minimum of 3 years;

(4) This certification is based on the information provided by the responsible Kia Motors America, Inc. personnel who have authority in the normal course of business to release the information for which a claim of confidentiality has been made to ascertain whether such information has ever been released outside Kia Motors America, Inc.

(5) Based upon that information, to the best of my knowledge, information and belief, the information for which Kia Motors America, Inc. has claimed confidential treatment has never been released or become available outside Kia Motors America, Inc. (except as hereinafter specified);

(6) I make no representations beyond those contained in this certificate and, in particular, I make no representations as to whether this information may become available outside Kia Motors America, Inc. because of unauthorized or inadvertent disclosure (except as stated in paragraph 5); and

(7) I certify under penalty of perjury that the foregoing is true and correct.

Executed on this 14th day of June, 2004.

By: Alfred E. Gloddeck
Alfred E. Gloddeck, Senior
Manager - Corporate Affairs

HYUNDAI AMERICA TECHNICAL CENTER, INC.

A Subsidiary of
Hyundai Motor Company (Korea)

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June 4, 2004

Jeffrey Quandt, Chief
Defects and Recall Information Analysis Division
Office of Defects Investigation
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

Re: Preliminary Evaluation (PE04-030)
2001 Kia Rio; Steel Wheel Fractures

Dear Mr. Quandt:

This letter is submitted in response to your letter of April 7, 2004, sent to Hyundai America Technical Center, Inc. ("HATCI") (Reference NVS-213 kmb/PE04-030). That letter raised certain issues and requested information regarding the performance of MY 2001 Kia Rio vehicles in relation to allegations of steel wheel fracture. Although HATCI is an organization independent of either Kia Motors Corp. ("KMC") and Kia Motors America, Inc. ("KMA"), it has been designated by those organizations to act as their communication liaison with the National Highway Traffic Safety Administration ("NHTSA"). This response is submitted to NHTSA by HATCI in that limited role.

Preliminarily, we would like to note that your letter requests information regarding "2001 Kia Rio vehicles manufactured by Kia Motors America, Inc." In fact, KMA manufactures no vehicles and did not manufacture the 2001 Kia Rio. However, this response has been prepared by substituting Kia Motors Corp. ("KMC") as the appropriate manufacturer.

Request No. 1

State, by model and model year, the number of subject vehicles Kia has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Kia, state the following:

a. Vehicle Identification Number (VIN);

b. Make;

c. Model;

d. Model Year;

e. Date of manufacture;

f. Date warranty coverage commenced; and

g. 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 2000, or a compatible format, entitled "PRODUCTION DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table that provides further details regarding this submission.

Response to Request No. 1.

The total number of 2001 Rio vehicles sold in the United States was 57,340. The total number of **subject vehicles** produced with steel wheels was 49,574. The other 2001 Rio vehicles were produced with alloy wheels (7,766).

A listing of all 2001 Kia Rio vehicles, including the subject vehicles, is provided on a Data Collection Disc under the category "PRODUCTION DATA" and submitted contemporaneously with this response. The Production Data Collection Disc does not identify whether a vehicle was equipped with steel or alloy wheels.

Request No. 2

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

a. Consumer complaints, including those fleet operators;

b. Field reports, including dealer field reports;

c. Reports involving crash, 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 vehicle, property damage claims, consumer complaints, or filed reports;

d. Property damage claims;

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

f. Lawsuits, both pending and closed, in which Kia 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 incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., 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 each items "c" through "f," provide a summary description of the alleged problem and causal and contributing factors and Kia'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 to Request No. 2

a. Consumer communications—27

b. Field Reports/Technical Assistance Reports—12

c. Reports involving crash, injury or fatality alleging death or injury was caused by a possible defect—None

d. Property Damage Claims—5

e. Accident Reports—None

f. Third Party Arbitrations—None

g. Lawsuits—None

The summary descriptions requested in your letter is attached. **See Tab 1.**

Request No. 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. Kia'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. Whether a wheel separation event is alleged;

l. Number of alleged injuries, if any; and

m. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "COMPLAINT DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table that provides further details regarding this submission.

Response to Request No. 3

A listing of the responsive consumer communications is provided on a Data Collection Disc under the Category "COMPLAINT DATA" and submitted contemporaneously with this response. In your letter, you requested that Kia provide the "vehicle's mileage at the time of incident." In several cases, Kia has provided an estimate of the mileage which is represented by the letter "E" (i.e. 35,000E) based upon the vehicle's last warranty repair. Field reports are also provided on a Data Collection Disc under the Category "COMPLAINT DATA 2".

Request No. 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 Kia used for organizing the documents.

Response to Request No. 4

Copies of the documents identified in response to request number 2 are submitted with this letter response. **See Tab 2.** They are organized by the following categories:

- Consumer Affairs Department files from KMA's department database, along with Warranty History Inquiry reports for each such file (27)
- Field Reports (6)
- Technical Center Assistance Case Reports (6)

Request No. 5

State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Kia to date that relate to, or may relate to, the alleged defect 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. Kia's claim number;

b. Vehicle owner or fleet name (and fleet contact person) and telephone number;

c. VIN;

d. Repair date;

e. Vehicle mileage at time of repair;

f. Repairing dealer's or facility's name, telephone number, city and state or Zip Code;

g. Labor operation number;

h. Problem code;

i. Replacement part number(s) and description(s);

j. Concern stated by customer; and

k. Comment, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2000, or a compatible format, entitled "WARRANTY DATA." See Enclosure 1, Data Collection Disc, for a pre-formatted table that provides further details regarding this submission.

Response to Request No. 5

KMA responds to any and all categories referred to in this request under the title "warranty claims".

- Of the 49,574 subject vehicles produced with steel wheels, 695 warranty claims were received for steel wheel replacements, including all Cause Codes (C); i.e. codes reflecting technician evaluations. (The number of vehicles is

less than 695, since certain vehicles had 2 or even 3 claims.) The total claim rate for all causes is 00.71%. However, these 695 steel wheel warranty claims include a wide range of condition codes which Kia believes are clearly unrelated to the current investigation. These include the following:

C01 Burnt, melted

C05 Rusty, corroded

C08 Porous/pinholes

C09 Bent

C10 Weakened, loss of tension/resilience

C11 Abnormal Wear

C12 Out of balance

C15 Poor contact

C20 Poor installation

C23 Improper machining/forming

C28 Improper welding

C29 Poor fit

C31 Sticking, seized

C38 Improper sealing

C40 Poor adjustment

C63 Non existing code

C98 (Ab)normality

C99 Other

The Cause Code (C) which is at the core of this inquiry is C07 – Cracked. Of the 49,574 vehicles with 198,296 steel wheels, 237 warranty claims exist which resulted in wheels being replaced under warranty or goodwill, including a total of 503 wheels (00.25% of all wheels). KMA also determined that C06 – Broken, split, torn was used in some cases, and thus its use indicates some appearance of the subject issue. KMA's data shows that 148 warranty claims resulted in wheel replacements with Causal Code C06, and that a total of 302 wheels were replaced (00.15% of all wheels).

It is also possible that C03 – Cracked, scarred, cut, bruised was used at times, but that code could have been used to indicate other problems, including wheels which were damaged during shipping, towing or work at the dealership. C03 was listed as a possible applicable code by the Tech Department in an early evaluation of the cracking issue and thus Kia is providing that information here in the interest of completeness, but without believing that it was used to identify the subject issue. There are 37 warranty claims and 77 wheels in this category (00.03%).

- The total potential universe of applicable steel wheel replacements is a minimum of 00.25% and a maximum of 00.44%.

A listing of the responsive warranty claims is provided on a Data Collection Disc under the category "WARRANTY DATA".

In your letter, you requested that Kia provide its "problem code" information. Kia refers to the "problem code" as a "cause code", which carries the letter "C" which reflects the technician's evaluation of the cause of the problem. You also requested that Kia provide information regarding "concerns stated by the customer". Kia's code chart refers to these as "condition codes", but they are commonly referred to as "Nature Codes", and carry the "N" designation, which reflects the service writer or technician's understanding of the customer's complaint.

Request No. 6

Describe in detail the search criteria used by Kia 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 vehicle. State, by make and model year, the terms of the new vehicle warranty coverage offered by Kia 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 Kia 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 No. 6

KMA has provided information regarding Cause Codes C03 (cracked, scarred, cut bruised), C06 (broken, split, torn) and C07 (cracked) to identify potential problems relating to wheel fractures as well as the condition codes N21 (shuddering, chattering vibration), N29 (squeaking, squealing abnormal noise, N33 (unstable steering) and N34 (excessive shock, excessive vibration) in order to classify customer complaints related to warranty claims.

The applicable labor codes relating to replacement of the subject vehicles include 52910R00 (one wheel), 52910R0A (two wheels), 52910R0B (three wheels) and

52910R0C (all wheels). KMA's coding sheets for warranty claims are submitted with this letter. **See Tab 3.**

Other labor operation codes appear in the warranty claims data. The use of these codes often indicate secondary work that has been performed, including sublet work to outside shops, painting, wheel balancing, wheel bearings, diagnosis, etc. KMA has identified the following such secondary codes in the data:

65030RZZ	Wheel—Sublet
66503RTT	Wheel—Straight time
66503RTT	Wheel—Sublet
55030RZZ	Wheel—Sublet
33042RTT	Lock Nut Front Brake Rotor—Straight time
66503HTT	Wheel—Straight Time
52910R0Z	Wheel—Paint
52910RY0	Wheel—Diagnosis
99656RZZ	Wheel—Sublet
52720R00	Rear Wheel Bearing R & R
K9965RZZ	Wheel—Sublet
517500R00	Hub Bearing Front R & R One
517500R0B	Hub Bearing Front R & R Both
52900A00	Wheel Balance 2 Wheels
52901Azz	Wheel Balance 4 Wheels—Sublet

The codes are used at times where the customer is paying for the wheels, but KMA is providing some support under warranty or goodwill for the related labor or other repairs.

The 2001 Kia Rio has a 5 year, 60,000 mile basic warranty which covers the wheels of the vehicle. An exemplar copy of the warranty provided with the 2001 MY Rio vehicles is submitted with this letter. **See Tab 4.** No extended or additional warranties were provided by KMA to customers.

Request No. 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 Kia 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 Kia is planning to issue within the next 120 days.

Response to Request No. 7

There are no documents responsive to this request.

Request No. 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, Kia. 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 No. 8

Several actions were conducted relating to the alleged defect in the subject vehicles. The table below summarizes the actions conducted by or on behalf of KMA.

Action Title	Start Date	End Date	Subject/Object of Action	Group Responsible	Finding/Conclusion Summary
Korea Disc Wheel Evaluation	9/00	10/18/00	To determine cause of cracking	Korea Disc	The wheel design had been in production from 1/92 with the Avella (Aspire) and was first installed on the Rio in 10/99. Korea Disc determined that a spare ring die that was first used on 5/12/00 had the potential under accumulated usage to angle a curve in the wheel. Korea Disc stopped using that spare ring die on 10/18/02.
Rio Steel Wheel Crack Analysis Report (Part I)	12/01	3/21/02	Based on 12 incidents from the U.S. and Canada, to determine cause of vehicle vibration and abnormal noise leading to wheel cracking	KMA Quality Assurance Team 1	A potential existed for defects in the lot manufactured by the supplier during the period from 5/12 – 10/18/00, due to the use of a spare ring production die. Production lots before, during and after this time period were tested to failure pursuant to a durability overload protocol (specification = 200,000 cycles). All of the pre and post period wheels met this spec, while 2/3 of the subject period wheels met the spec. The average of all wheels from the subject time period was 213,750 cycles, while the average for the two below spec wheels was

Action Title	Start Date	End Date	Subject/Object of Action	Group Responsible	Finding/Conclusion Summary
					184,000 cycles.
Rio Steel Wheel Crack Analysis Report (Part II)	12/01	3/21/02	Driver Recognition Study	KMA Quality Assurance Team 1	Tests were conducted with 3 samples each of steel wheels cracked to 30%, 65% and 80% of circumference. - At 30% crack, handling shimmy is felt at speeds over 47mph (75kph), but crack visibility is low. -At 65% crack, steering shimmy starts at 9mph (15kph) and gradually expands with increased speed; tire sway visible; abnormal noise at start, at low speed and while braking; immediate recognition of problem. -At 80% crack, almost impossible to drive over 12mph (20kph) due to steering shimmy, body vibration, abnormal noise, tire burning odor; cracks also visible in wheel cap
Crack Growth Analysis	5/24/02	6/28/02	To analyze basic indications of wheel cracking and to determine the growth rate of cracks under different driving conditions for all 4 wheel positions	Exponent Failure Analysis Associates	Cracks become noticeable to a driver someplace in the range of 35% - 50% of the circumference of the wheel. Crack growth is faster at low speeds with many turning maneuvers compared to high speed highway driving. Crack growth rate is fairly constant

Action Title	Start Date	End Date	Subject/Object of Action	Group Responsible	Finding/Conclusion Summary
					and modest under all circumstances up to 75% crack. The engineers and technicians noted body vibration and noise feedback increased consistently with crack size at all wheels, as did steering wheel vibration for front wheel cracks. Crack growth testing summary is attached.
Driver Perception of a Cracked Rim	5/24/02	06/20/02	To document perception of feedback to the drivers under a range of expected driving conditions.	Exponent Failure Analysis Associates	Feedback to the driver, in the form of body vibration and abnormal sounds, was highly noticeable at all speeds and for all crack sizes, once a threshold was crossed in the 35 – 50% crack size range. Feedback is virtually the same for manual and automatic transmissions. Steering wheel feedback increased and was easiest to detect at front wheel locations. Driver perception of vibration feedback changed in frequency and magnitude consistent with changes in vehicle speed. In addition to feeling the vibrations, the drivers heard abnormal sounds

Action Title	Start Date	End Date	Subject/Object of Action	Group Responsible	Finding/Conclusion Summary
					coming from the cracked rim location.
Typical Driver Perception Study	6/26/02	6/28/02	To evaluate the ability of typical drivers (i.e. non-automotive specialists) to detect a cracked rim and to evaluate their response to such detection.	Exponent Failure Analysis Associates	Each subject perceived something abnormal (due to the cracked rim) within 0.5 miles, including identification and diagnosis of the severity of a problem. All subjects described the problem as a vibration and noise and most associated the feedback with a potential problem at a wheel or axle; most were able to accurately identify the general area of the vehicle from which the feedback was originating. All subjects were of the opinion that something was wrong or seriously wrong and that it should be taken to a professional mechanic.

Ultimate Exponent Conclusion: "Based on the observed crack growth rates and the detection and response of typical drivers to the feedback generated by cracked rims, typical drivers have clear notice of a developing problem and will have their vehicle examined by a professional mechanic prior to operational problems occurring with the rim."

The Rio Wheel Steel Crack Analysis Report prepared by KMA's Quality Assurance Team is also attached. **See Tab 5.** Copies of the reports prepared by Exponent Failure Analysis Associates are submitted with this response under **Tab 6.** Copies of the

videotapes of the driver perception and typical driver perceptions studies and Cracked Rim Photographs CD's (4) are enclosed and submitted with this response.

Request No. 9

Describe all modifications or changes made by, or on behalf of, Kia in the design, material composition, manufacture, quality control, supply, or installation of the subject component, 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 numbers (service and engineering) of the original component;

e. The part number (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 Kia is aware of which may be incorporated into vehicle production within the next 120 days.

Response to Request No. 9

The only modification made on the subject wheels that relate to the subject condition is in the area of manufacture.

a. There was no modification or change of the design of the steel wheel. However, production line production components were changed on May 12 and October 18, 2000

b. There was no modification or change of the design of the steel wheel. However, for full informational purposes, three dies are used by the supplier to create a wheel. On May 12, the rim die was replaced with a

spare die, and then, on October 18, that die was in turn replaced with a surface treated die.

c. There was no part modification or change. However, for full informational purposes, the first change was made due to normal wear (the rim die had gone through 2,200,000 cycles). However, the spare die had some angular shaping in a curved portion which over time accumulated damage and after several months led to slight changes in shaping which permitted cracking. Once the supplier identified the problem, a new die with a surface treatment was substituted for production on the date indicated.

d. The changes in the use of the dies did not result in any new part numbers. Thus, the part number in question is OK99656 65030.

However, there are two different parts numbers you should be aware of. As stated above, the original part number was OK99656 65030. The "6" in the 8th position identifies the color of the wheel as black.

e. There was no number for a modified component, since there was no modification. However, on April 14, 2000 the color of the original part was changed to include silver. Thus, to identify the silver color, the number in the 8th position was changed to "5", resulting in a new part number of OK99656 55030.

f. OK99656 65030 was not withdrawn from service. In the interests of full disclosure, Kia also did not withdraw any parts made with the spare ring die from service.

g. OK99656 65030 was made available in about April 2000. In the interests of full disclosure, wheels made with the surface treated die were made available during November 2000.

h. There is no modified component as requested by this request. However, in the interests of full disclosure, wheels with different part numbers as well as wheels made with the original die, the spare die and the surface treated die are all interchangeable.

Request No. 10

State the number of replacement steel wheels that Kia 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 sale, if applicable):

For each component part number, 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 Kia 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 No. 10

A chart identifying part sales is attached. **See Tab 7.**

The original name of the wheel supplier was Korea Disc Wheel Co., Ltd., and the responsible manager was Lee, Seung Bae. The company then changed its name to Heebo Products Corp., from May 1, 2001 to January 19, 2003 in connection with a reorganization and employee management of the company, and the responsible manager was Lee, Seong Hern. The company again changed its name on January 20, 2003 to Korea Wheel Corporation, and the responsible manager is now Cho, Euy Ho. All persons can be reached at 1125 Shinkil, Danwon, Korea (031) 491-0723.

Request No. 11

Describe the meaning of all identifying marks or codes that are located on the wheel disc at its outermost edge closest to the wheel rim and at the rib area.

Response to Request No. 11

There is one marking on the rim and two markings on the rib of the wheel. The marking on the top of the rim reflects the wheel assembly and production date information. The lot marking located on the left part of the rib reflects the disc production month and the lot marking located on the right part of the rib reflects the disc production day. **See Tab 8.**

Request No. 12

Provide Kia's technical specifications for the subject components, including, but not limited to all specifications for dimensions, tolerance, material, material quality, heat treatment, welding, welding inspection, painting/coating, and final inspection.

Response to Request No. 12

Both English and Korean copies of the technical specifications for the 2001 Kia Rio are submitted with this letter. **See Tab 9.**

Request No. 13

Furnish Kia'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. 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 or subject component was malfunctioning; and

f. The reports included with this inquiry.

Response to Request No. 13

Summary:

Wheel cracking in the steel wheels installed on the 2001 Rio derived out of an angular shaping in a spare die which was installed on the supplier's production line on May 12, 2000. Although the spare die did not cause any immediate problems, damage to the die accumulated in those angles and that in turn periodically created shapes in the wheels which led to cracking. This cracking occurred towards the center of the wheel, inwards of the vent holes. The warranty/goodwill claims rate for the 2001 Rio steel wheels due to cracking falls somewhere between 00.25% and 00.44%. The problem period is focused on the September – October 2000 production.

The initial evaluation of cracking by the supplier in late 2000 indicated a minor problem, initially thought to be limited to a single day's production and then a very short period of time. Subsequent incident reports received in later 2001 led to significant evaluations and testing at KMC in Korea during the December 2001 to March 2002 time period. This was followed by more detailed and sophisticated testing and analysis at Exponent in Arizona during May to June 2002. All testing and evaluation demonstrated that crack propagation occurred at a measured rate, and that the cracking was identifiable to vehicle drivers due to increasing vibration and noise for long periods of time, allowing drivers commensurate time to perceive the issue, consider the location source of the feedback and possible causes, recognize that something was wrong or seriously wrong, and to respond by taking the vehicle to a qualified mechanic.

This conclusion is confirmed by NHTSA's VOQ reports and KMA's CA files and field reports, which consistently report on the noise and vibration issues.

Included within KMA's CA files and field reports are indications that two other events are subsumed within those information fields. First, there are some wheel impact incidents which caused sudden or rapid cracking, leading on a couple occasions to wheel separation. Second, there are strong indications that during tire replacement or tire rotation servicing, wheel lug nuts were overtightened, initiating or accelerating the cracking process.

a. **Causal or contributory factors for cracking:** The angular shaping in a curved area of a spare ring die installed in a supplier assembly line. At times, road or curb impacts or lug nut overtightening during servicing or tire rotation initiated or accelerated cracking.

b. **The failure mechanism for such cracking:** The steel shape created by angles in the spare ring die responded to fatigue loading by initiating cracking.

c. **The failure mode for such cracking:** The initial crack would appear in the bent or curved area where the ring die angles were located. It then typically spread inwards to the hat area, this primary crack propagating over time around the circumference of the wheel. Additional cracking spread from the bend area to the vent holes. No cracking occurred towards the outer circumference of the wheels where the tires contact the wheels.

d. **Possible risk to motor vehicle safety posed by such cracking:** Subject only to the fact that all driving and all vehicle wear and tear encompasses some risk for highway safety, the lessened durability in the Rio steel wheels did not lessen highway safety.

Once Kia realized that there was a substantial difference in certain Rio steel wheels compared to the norm for such wheels, the need for extensive and detailed testing became immediately apparent and KMC carried out such tests, both internally in Korea and externally at Exponent in Arizona. Those tests uniformly showed that crack propagation occurred at a measured rate, and that there was no basis for any catastrophic wheel failures. The testing similarly revealed that the wheel strength was exceptional, with the vehicle becoming essentially undrivable before wheel separation would occur.

Equally important, any driver or occupant would have had extremely long periods of time to recognize that something was wrong, and then seriously wrong, as well as the general location of the problem and the general vehicle systems that were affected by the problem. Even persons observing the vehicle from the outside would have been able to recognize the wheel wobble, hear the abnormal noises, and see the cracks, first in the wheel and eventually in the wheel caps.

e. **The warnings received by the operator and the other persons both inside and outside the vehicle as to the presence and growth of such cracking:** When the cracking reached approximately 35% of the circumference of the wheel, the driver would have become aware of a shimmy to the steering wheel if the cracked wheel was in a front

position. At some point between 35 and 50% cracking, the driver and any occupant would have become aware of both body vibration and sound coming from the wheels. Cracking in the wheels would have also been visible to any cursory inspection in this range. By 60%, the body vibration and abnormal sounds would have been immediately obvious to any driver or occupant. The typical driver would have recognized that a serious problem existed and would have taken the vehicle to a mechanic. As the cracking moved towards the 75 to 80% range, the vehicle would have become essentially undrivable due to body and steering vibration, and including extremely high levels of abnormal noise. Anyone standing on the outside of the vehicle would have been able to observe any subject wheel wobbling. Cracking would also have begun to appear in the wheel caps, in addition to the wheels themselves.

f. **The VOQ reports included with this inquiry:** The VOQ reports are consistent with KMA's CA files and field reports in establishing that consumers receive consistent, substantial feedback of the cracking due to noise and vibration:

1. "The rims make a loud noise, the vehicle drives different, in reverse there is a clicking sound and it has progressed. "

   In addition, this customer identifies ongoing overtightening when he states, "The rim cracked two days later after being repaired by the dealer", and "the rims have cracked for the 4th time". [Comment: In light of the low rate of cracking repairs and the slow progression of such cracks, the 4 repair event as well as the cracking appearing two days after replacement is clear evidence of overtightening.]

2. "While driving the driver heard a noise from the rear end of the vehicle. The noise is as a result of the left rear wheel cracking."

3. [No comment re symptoms.] "I had the right front wheel crack at 62,000 miles. Kia did not consider this a [safety] defect, so I had to purchase a new rim for $98.00."

4. "My vehicle started making a horrible noise in the front .... I then looked at my wheel and noticed a very large crack all the way around."

   In addition, this customer also identified an overtightening situation: "The [dealer] insisted that when I had new tires put on that they must of used too much force and cracked the rims. I went to the tire place where I had <u>just recently</u> purchased the tires and

they said there was no way they could have done it, . . . come to find the other three rims were cracked as well." [Comment: If the 4 wheels had been cracked when he just recently had the wheels put on, the tire shop would have seen those cracks, just as they did when he returned. This is a clear overtightening situation.]

5. "There was a strange noise coming from the front end of the vehicle and [my son] thought there might be a problem. . . . The son complained to his father again about the noise stating that it was now much worse. Owner took vehicle for a test drive and he could hear a loud grinding / cracking / popping noise."

6. "While driving at any speed, consumer heard a thumping sound coming from the rear passenger side of the vehicle."

7. "Vehicle began making a loud grinding noise when coming to a stop."

KMA believes that the testing, evaluation, and consumer records are all consistent in showing the absence of a safety related defect, and that KMA's approach to this issue has correctly dealt with the issue from the standpoint of honoring repairs as warranty items where appropriate. KMA notes that many of the complaints received are focused on consumer dissatisfaction with not having the higher mileage repairs covered under warranty, and empathizes with those consumer's concerns. KMA is prepared to meet with you to discuss this matter further at your convenience.

Very truly yours,

Alfred E. Gloddeck

Alfred E. Gloddeck
Senior Manager—Corporate Affairs

Enclosures