



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

OCT 6 2009

1200 New Jersey Avenue SE.
Washington, DC 20590

Mr. William R. Willen
Managing Counsel
Product Regulatory Office
American Honda Motor Company, Inc.
1919 Torrance Boulevard
Torrance, CA 90501-2746

NVS-212mjl
EA08-015

Dear Mr. Willen:

On August 8, 2008, the National Highway Traffic Safety Administration's (NHTSA) Office of Defects Investigation (ODI) opened an Engineering Analysis (EA08-015) to investigate an alleged safety-related defect concerning the unintended closing of the power liftgates on approximately 25,000 Model Year (MY) 2005 Honda Odyssey Touring vehicles (Odyssey) equipped with power liftgates and manufactured by American Honda Motor Company, Inc. (Honda). During this investigation, ODI narrowed the scope of its investigation to approximately 21,000 MY 2005 Odyssey Touring vehicles (herein referred to as subject vehicles) manufactured prior to a modification of the liftgate strut manufacturing process implemented by Honda in June 2005. ODI completed its investigation and, based on the results of its investigation detailed below, hereby requests that Honda initiate a safety recall to notify all owners, purchasers, and dealers of the unintended closing of the power liftgate and to provide a free remedy for each of the subject vehicles.

The liftgate is the large door on the rear of the vehicle that is hinged at the roofline and latches at the bottom just above the bumper. When opened, the liftgate is supported by two liftgate support struts, one on each side of the liftgate. The investigation revealed that the liftgate support struts in a number of subject vehicles have leaked internal gas that is critical to the operation of the strut. When there is sufficient leakage of the gas, a liftgate that is automatically opened (powered by an electric lift motor) to the full open position can drop and "power-close" under conditions in which the user of the vehicle reasonably expects that the liftgate will remain in the full open position. A person below the liftgate can be hit by the liftgate and injured. This has occurred.

The liftgate is heavy and requires a lifting force from the struts of about 285 pounds or more to open it and maintain it in the full open position. The force to maintain the liftgate in the full open position is provided by the liftgate struts. A pair of original equipment liftgate struts provides about 400 pounds of force—more than enough to keep the liftgate in the full open position. When gas leaks from the strut, the amount of force the struts produce decreases. When the force of struts is between 275 and 285 pounds, the liftgate will not remain in the full open position in situations where the vehicle user expects that it will. Instead, it will fall relatively



slowly until it nears the full closed position, at which point the liftgate will drop rapidly. When the force of the struts is less than 275 pounds, the liftgate will drop between two and five inches from the full open position, reopen, drop again, reopen again, and then the power-close feature will engage and the liftgate will shut completely. The less force the struts produce, the faster and larger the initial drop will be.

A liftgate equipped with failed struts can injure a person during the initial drop and the subsequent power-closing after the initial drop. During the initial drop, the liftgate falls from a full open position and drops between two and five inches. Any person standing or bent over underneath the liftgate who is five feet or taller is in danger of being struck on the head, neck or back by the falling liftgate.¹ During power-closing after the initial drop, the liftgate can drop onto an unsuspecting person of any height positioned in its path. A person can be knocked or forced to the ground, or temporarily pinned by the closing liftgate until enough force is applied (between 28 and 66 pounds) to reverse the movement of the liftgate.

In some circumstances, a person below the liftgate can receive an impact greater than the force produced by a falling liftgate. For example, when a person reaches into the rear cargo area of the vehicle and then moves rearward or stands up as the liftgate is closing unexpectedly, the motion of the person's head or body moving towards the closing liftgate will result in a combined impact force of the liftgate and the person converging.

The liftgate struts installed on the subject vehicles are defective. ODI's analysis shows that the liftgate struts in the subject vehicles have been failing prematurely at a high and still increasing rate. There have been a significant number of performance failures of liftgate struts and more are expected. The complaint and warranty claim rates related to struts failing on the subject vehicles are particularly high based on reports received by ODI and Honda: 3.0 complaints and 103 warranty claims per 1000 vehicles. In addition, an analysis of Honda's warranty claim data shows a steady increase in failures for the subject vehicle population.

To address the premature failures, Honda implemented a change to the manufacturing process of the liftgate strut assembly. This change was made during the latter part of MY 2005 vehicle production occurring in June 2005. The field data for Odyssey vehicles manufactured after the change was implemented shows a decrease in the failures based on complaints, injuries and warranty claims for the struts on these vehicles.

The consequence of the strut failures—unexpected dropping and power-closing of the liftgate—poses an unreasonable risk of injury. When the liftgate power-closes unexpectedly, unsuspecting persons standing in the path of a closing liftgate or accessing the rear cargo area of the vehicle can be injured by being struck by the closing liftgate. The unexpected dropping and/or power-closing of the liftgate due to the failure of the liftgate struts in the subject vehicles have caused 12 reported injuries. Several owners were struck in the head by an unexpected liftgate closing; some were pinned or knocked or forced to the ground by a power-closing liftgate. The risk of

¹ Vehicle Research and Test Center testing revealed that a liftgate with degraded struts will reach a height of 65 inches (from the ground) and a falling liftgate will strike a person with between 40 and 150 pounds of force.

injury from being struck in the head, pinned, and/or forced or knocked to the ground by a falling or power-closing liftgate that should have been supported by the liftgate struts is unreasonable.

NHTSA and another vehicle manufacturer previously have examined unintended closing of power liftgates. ODI's investigation (EA06-020) of unintended closing of the power liftgates on certain Toyota Sienna vehicles resulted in a safety recall (NHTSA No. 08V-244) to replace the liftgate struts installed on approximately 196,000 MY 2004-2006 Sienna vehicles. The original liftgate struts on the Odyssey and Sienna vehicles were made by the same supplier, and the failure modes and mechanisms of the Odyssey and Sienna struts are similar. Comparing the liftgate systems in the Odyssey and Sienna shows that the two systems were designed and operate similarly. Likewise, the forces generated by each liftgate during the initial drop and the power-closing sequences are similar.² The incidences of reported failures and injuries associated with the alleged defect are similar for the two vehicles.³

The subject vehicles have an "auto-reverse" feature that will reverse the direction of the closing (or opening) liftgate when an obstruction has been met. Honda asserts that this feature, coupled with automatic initiation of the power-close feature (which prevents the liftgate from falling completely closed), mitigates the risk of injury. The Agency's view, based on interviews with injured people and NHTSA testing, is that the force required to activate the auto-reverse feature to reverse a power-closing liftgate is substantial and this feature does not prevent injuries to owners of vehicles with failed liftgate struts.

ODI disagrees with Honda's claim that the power liftgate system installed on subject vehicles provides the vehicle owners with notice and/or warning that the liftgate operation has changed due to deterioration of the liftgate struts. Honda asserts that the normal operation of the power liftgate system in the subject vehicles is noticeably different than operation of the system with failed liftgate struts. When the struts fail, the liftgate drops and reopens twice before automatic initiation of the power-close feature, and a continuous beep is emitted during the power-closing sequence. (During normal operation, the power liftgate system emits a single beep when an operator initiates power liftgate operation.) Interviews with owners reveal that many owners were not aware of the changes in the liftgate operation (e.g., they did not hear an audible warning or were unsure if they did) and/or did not take any evasive action to avoid being struck by the closing liftgate. Also, since Honda does not describe the operation of the liftgate with failed struts in the owner's manual, the owners are unaware that the liftgate on a vehicle equipped with defective liftgate struts can operate abnormally or improperly.

² NHTSA conducted its testing at room temperature using liftgate struts with various lifting forces capable of power-opening the liftgate to the full open position but not capable of maintaining the liftgate in the open position. During the initial drop, Odyssey and Sienna liftgates produced impact forces ranging from 40 to 150 pounds and from 55 to 240 pounds, respectively. During power-closing, Odyssey and Sienna liftgates require a force ranging from 28 to 66 pounds and from 28 to 68 pounds, respectively, to stop and reverse the power-closing liftgate.

³ Incidences of reported failures and injuries were calculated for the subject vehicles and MY 2004 Sienna vehicles using field data from approximately the same vehicle exposure period for each of the two vehicles. For subject vehicles, the rates are 2.9 complaints, 0.6 injuries and 97 warranty claims per 1000 vehicles. For Sienna vehicles, the rates are 3.0 complaints, 0.7 injuries and 96 warranty claims per 1000 vehicles.

The real-world experience has shown that the liftgate struts in the subject vehicles do not appear to be performing to Honda's expectations either. The liftgate struts on the subject vehicles are failing at high rates. Honda instituted manufacturing changes to improve the performance of the liftgate struts. If the struts were not wearing out prematurely, such changes should not be necessary.

On the basis of the information collected during this investigation, ODI believes that the failure of the liftgate struts resulting in unintended or unexpected closing of the power liftgate in the subject vehicles constitutes a defect related to motor vehicle safety. The original liftgate struts on the MY 2005 Odyssey Touring vehicles (manufactured prior to June 2005) exhibit a high early-life failure rate, and a high and increasing failure trend. The failing liftgate struts pose an unreasonable risk of injury to persons standing under the liftgate or accessing the rear cargo area in these vehicles. Therefore, ODI requests that Honda initiate a safety recall, in accordance with 49 U.S.C. § 30118-30120, to notify all owners, purchasers, and dealers of the problem and to provide a free remedy for each of the subject vehicles.

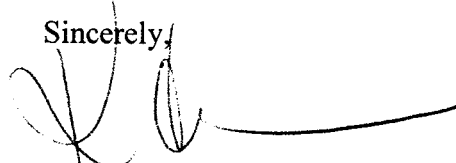
If Honda decides not to conduct the requested recall, it must provide ODI with a full explanation for this decision, including any additional analysis of the problem beyond its past presentations. If Honda fails to initiate a recall, the agency may proceed to an Initial Decision that these vehicles contain a safety-related defect. An Initial Decision would be accompanied by a Federal Register notice describing the alleged defect and the ODI investigation, the scheduling of a public meeting, and the issuance of a press release to inform the public regarding this matter.

ODI's request that Honda conduct a safety recall does not constitute a formal conclusion by NHTSA with respect to the evidence in our investigative file. Also, this request does not constitute an initial or final decision that the subject vehicles contain a safety-related defect pursuant to 49 U.S.C. § 30118, or an order to recall those vehicles.

Honda's written response to this letter, in duplicate, referencing the identification codes in the upper right hand corner of page 1 of this letter, must be submitted to this office no later than October 21, 2009. It is important that Honda respond to this letter on time. This letter is being sent pursuant to 49 U.S.C. § 30166, which authorizes this agency to conduct investigations and require the submission of reports that may be necessary to enforce Chapter 301 of Title 49. Failure to respond promptly and fully to this letter may be construed as a violation of 49 U.S.C. § 30166, which could subject Honda to civil penalties pursuant to 49 U.S.C. § 30165.

If you have any question regarding this letter, please contact Mr. D. Scott Yon of my staff, at (202) 366-0139.

Sincerely,



Kathleen C. DeMeter, Director
Office of Defects Investigation
Office of Enforcement