



Memorandum

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Subject: Defect Panel Review – Unintended
Power Liftgate Closing on Model
Year 2004 and 2005 Toyota Sienna
Vehicles (EA06-020)

Date: December 12, 2007

From: Kathleen C. DeMeter, Director
Office of Defects Investigation

To:	Anthony Lazaar	NVS-222	x65304
	David Sutula	NVS-112	x63273
	David Case	NCC-111	x62239
	Eric Bolton	NPO-510	x66976
	Craig Killgo	NTI-112	x68933
	Steve Peirce	NVS-430	x62553
	Michael Harrington	NIA-110	x62111
	Mike Perel	NVS-200	x65675
	Stephanie Binder	NVS-322	x63973

The Office of Defects Investigation (ODI) requests your participation in a Multi-Disciplinary Review Panel that will be convened on Tuesday, December 18, 2007, to review a safety defect investigation of unintended closing of the power liftgate on approximately 142,000 model year (MY) 2004 and 2005 Toyota Sienna vehicles manufactured by Toyota Motor Corporation (Toyota). During this meeting a determination should be made as to whether a safety recall request letter is warranted. The meeting will be held in Conference Room W43-102 from 1 to 3 pm. Please indicate whether you, or an alternate representative from your office, will be able to participate in this panel review.

Background

In August 2006, ODI opened a Preliminary Evaluation (PE06-029) to investigate complaints of unintended closing of the liftgate on all MY 2004 and 2005 Toyota Sienna vehicles. The liftgate struts are high-pressure, gas-filled cylinders that assist in lifting and that support the liftgate in the open position. PE06-029 investigation covered both vehicles equipped with manual liftgates and with optional power liftgates. During the investigation, ODI found that the two vehicle groups were experiencing gas-leak failures of the liftgate struts and had similar complaint and warranty rates. However, vehicles equipped power liftgates had an injury rate four times higher than that of vehicles equipped with manual liftgates. In December 2006, ODI upgraded PE06-029 to an Engineering Analysis (EA06-020) that included only the Sienna vehicles equipped with power liftgates.

To assess the alleged defect in the subject Sienna vehicles, ODI gathered information regarding liftgate strut design and field experience with strut failures and unintended closing of the liftgate. ODI's analysis of information gathered from Toyota showed that the struts can leak gas due to internal component failures. Toyota has redesigned the struts in early MY 2007 Sienna vehicles to help prevent gas leaks in the struts. Analysis showed high complaint and warranty rates of strut failures, 240.1 complaints per 100,000 vehicles and 8.4 claims per 100 vehicles, respectively, involving the subject vehicles. Analysis also showed that the struts were failing prematurely, well below its design/expected life. In addition, Weibull analysis of the warranty claim data predicted an increasing failure trend in the future.

ODI's review of the complaints on the subject vehicles showed that with failed struts the liftgate power-closes immediately after the liftgate has been opened automatically (i.e., power-open) and mostly without any adequate prior warnings. The liftgate system has a jam protection feature which is designed to reverse its direction if an obstruction is met during operation. Also, the system has a pinch protection feature that will reverse the liftgate if, for example, a person's arm is caught between the side of liftgate and the rear of vehicle body.

There have been 67 reported injuries that were caused by the unintended closing of the liftgate to people under the liftgate. Most of the injuries were minor soft tissue injuries such as bumps and bruises. However, several people have reported more serious injuries such as a cervical strain with nerve damage, rotator cuff and knee injuries requiring surgeries, and a concussion. Several other people have been knocked to the ground by the closing liftgate.

ODI gathered complaint, injury and warranty data from peer manufacturers. The subject Sienna vehicles rank high among several peer vehicles in terms of complaint, injury and warranty rates related to strut failures.

In summary, ODI believes that the liftgate struts in the subject Sienna vehicles have been failing prematurely and present an unreasonable risk of injury when the liftgate power-closes unexpectedly on unsuspecting people under the liftgate with some in vulnerable positions.

In its April 2007 letter, Toyota stated that it has not determined the existence of a safety related defect at this time. Toyota has stated that the power liftgate design and failsafe features are consistent with industry practices. Toyota believes that the struts are a wear item and some may not last the life of the vehicle.

Meeting Agenda

The meeting will begin with an ODI presentation, followed by a period for questions and comments from panel members. The ODI presentation will include information regarding a review of the complaints, failure frequencies and trends, peer comparisons, vehicle testing, and Toyota's position on the issue. At the conclusion of the meeting, the panel will be asked to arrive at a consensus regarding recommendations that will be proposed by ODI.

The ODI Investigation Process

ODI conducts investigations into alleged safety defects in order to determine whether such defects exist and whether a manufacturer should conduct a recall. The basis for a recall is to eliminate the defect and reduce the potential safety risk. Investigations are opened based on consumer complaints, petitions, manufacturer service bulletins, reports from police, media reports, etc. The investigation process is staged into two phases, in general opening with a Preliminary Evaluation (PE). If analysis of the problem during the PE indicates that the investigation merits a more detailed analysis, an Engineering Analysis (EA) is opened. At the conclusion of an EA, ODI either closes the investigation or asks the manufacturer to conduct a recall by sending a recall request letter.

After the manufacturer responds to the recall request letter, ODI may recommend to the Associate Administrator for Enforcement that he/she make an Initial Decision that there is a defect related to motor vehicle safety. Following that, a public meeting will be held to get the views of all interested parties. After the public meeting, the Administrator will both make a Final Decision that a defect related to motor vehicle safety exists and order the manufacture to conduct a safety recall, or decide that the investigation should be closed.

As a result of a review of ODI procedures conducted in accordance with NHTSA's strategic plan, in 1995, ODI modified the procedures leading to issuance of a recall request letter. Previously, the recall request letter had been sent to the manufacturer at the close of the EA phase of the investigation, but not necessarily after all technical investigation had been completed. NHTSA received congressional criticism that the recall request letter, as it had been used, could have an adverse impact on the safety reputation of the product and the manufacturer; that the letter was exploited by product liability lawyers; and that it could be issued by the Office of Defects Investigation without appropriate input from higher-level agency officials.

As a result of this review, the new process now places the recall request letter at the end of ODI's technical evaluation and provides for agency-wide input into the decision as to whether such a letter should be sent. After ODI has analyzed all appropriate technical information, it now calls for a meeting of a defect panel to provide a technical peer review. If the panel concurs, ODI will inform the manufacturer that it plans to send the recall request letter. After a predetermined amount of time (usually several days), if the manufacture takes no action, ODI sends the letter.

Answers to Potential Questions Posed by Panel Members

Q: What is a defect?

A: A defect is defined by statute as any defect in performance, construction, a component, or material of a motor vehicle or motor vehicle equipment.

Q: What is a motor vehicle safety?

A: The statute defines motor vehicle safety as the performance of a motor vehicle or motor vehicle equipment in a way that protects the public against unreasonable risk of crashes occurring because of the design, construction, or performance of a motor vehicle, and against

unreasonable risk of death or injury in an accident, and includes non-operational safety of a motor vehicle.

Q: What is unreasonable risk of crashes or deaths and injuries in crashes?

A: Whether a particular risk is “unreasonable” cannot be quantified and must be decided after consideration of all relevant circumstances. ODI assesses the risk to safety by evaluating the complaint reports, the potential for injury, the defect trend (is it likely to worsen over time), and comparing the risk to that presented by peer vehicles or items of equipment.

Q: If the panel agrees that a recall request letter should be sent, is that decision irrevocable?

A: The Director of ODI makes the decision to send the recall request letter and the panel serves an oversight function. The Director has the option of not sending the letter or after sending the letter, may recommend not going forward with an Initial Decision, depending on additional information or action the company takes. Once a recall request letter is sent, a decision not to proceed to an Initial Decision is generally based on new information or proposals from the manufacturer.