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**TOYOTA**

**TOYOTA MOTOR NORTH AMERICA, INC.**

WASHINGTON OFFICE

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July 6, 2010

Mr. Claude Harris  
Acting Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
1200 New Jersey Ave, SE - Room W45-306  
Washington, D.C. 20590

Re: 2006 - 2008 MY Lexus Engine Valve Spring  
Part 573, Defect Information Report

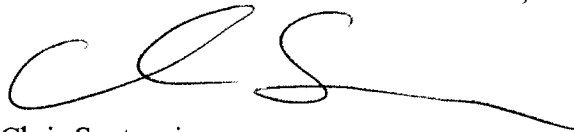
Dear Mr. Harris:

In accordance with the requirements of the National Traffic and Motor Vehicle Safety Act of 1966 and 49 CFR Part 573, on behalf of Toyota Motor Corporation ["TMC"], we hereby submit the attached Defect Information Report concerning a voluntary safety recall of certain Lexus IS, GS, and LS vehicles to address an issue with the engine valve springs.

Should you have any questions about this report, please contact me at (202) 775-1707.

Sincerely,

TOYOTA MOTOR NORTH AMERICA, INC.



Chris Santucci  
Manager  
Technical & Regulatory Affairs

## DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Corporation ["TMC"]  
1, Toyota-cho, Toyota-city,  
Aichi-ken, 471-8571, Japan

Affiliated U.S. Sales Company

Toyota Motor Sales, USA, Inc. ["TMS"]  
19001 South Western Avenue, Torrance, CA 90509

Component containing Defect

Valve spring  
TOGO SEISAKUSYO CORPORATION  
1 Hiruike, Haruki, Togo-cho, Aichi-gun, Aichi, 470-0162 Japan

2. Identification of Affected Vehicles:

Based on production records, we have determined the affected vehicle population as in the table below.

Make/ Car Line	Model Year	Manufac- turer	VIN		Production Period
			VDS	VIS	
Lexus/ IS350	2006- 2008	TMC	BE262	62000000-65011869 72006942-75017246 82011547-85021503	August 26, 2005 through June 27, 2008
Lexus/ GS350	2007- 2008		BE96S	70007930-70028367 80023566-80041906	July 24, 2006 through July 25, 2008
			CE96S	70001838-70013164 80013166-80021058	July 14, 2006 through July 25, 2008
Lexus/ GS450h	2007- 2008		BC96S	75000125-75012266 85012274-85016761	February 7, 2006 through July 8, 2008

Make/ Car Line	Model Year	Manufac- turer	VIN		Production Period	
			VDS	VIS		
Lexus/ GS460	2008	TMC	BL96S	85000019-85002853	September 28, 2007 through July 28, 2008	
Lexus/ LS460	2007- 2008		BL46F	75000193-75051857	85051858-85083639	August 10, 2006 through August 4, 2008
				75000151-75020667 85020680-85033001		
Lexus/ LS460L	2007- 2008		GL46F	75000151-75020667 85020680-85033001	August 23, 2006 through August 4, 2008	
Lexus/ LS600hL	2008	DU46F	85000202-85009305	April 4, 2007 through July 29, 2008		

Note: Although the involved vehicles are within the above VIN range, not all vehicles in this range were sold in the U.S.

3. Total Number of Vehicles Potentially Affected:

138,874

4. Percentage of Vehicles Estimated to Actually Experience Malfunction:

Unknown

5. Description of Problem:

In the valve operating system of the engine, which contains multiple valves in each engine cylinder, due to inclusion of micro-foreign objects in the material of the valve spring, there is a possibility that the strength of the valve spring may degrade, causing the spring to break. If one of the springs in the engine breaks, abnormal noise and rough engine performance will be noticed. In the worst case, the engine could fail and stop suddenly while the vehicle is in motion.

6. Chronology of Principal Events:

March 2007 – September 2007

Toyota received a field technical report from the Japan market which indicated an abnormal noise and a large amount of engine shaking when the engine was started. Toyota investigated the broken returned valve spring from this vehicle. As a result, it was found that there was foreign material (Zirconia) at the starting point of breakage, and the fracture surface appeared to be the result of fatigue. Toyota investigated the production process of the spring material. It was presumed that Zirconia applied to the surface of the casting furnace wall could be peeling off and mixing with the spring material. To eliminate this possibility, the casting furnace was improved in September 2007.

October 2007—December 2007

In examining another broken returned valve spring, Toyota confirmed silicon oxide at the starting point of breakage. Silicon oxide is a by-product of a secondary refining process. Although silicon oxide is eliminated during the production process of the spring material, it is difficult to completely control its residual volume. Because the effect of residual silicon oxide on the strength of the spring was not clear, the inspection method to detect it in the material was enhanced in December 2007. In addition, Toyota started investigating the effect of silicon oxide on the strength of the spring.

January 2008-August 2008

The likelihood that foreign material of a size that would affect valve spring strength would be introduced in the manufacturing process was considered to be small, and no trend was believed to exist. However, considering that it may not be possible to completely eliminate foreign material from the production process or detect all micro-sized objects during the inspection process, Toyota engineered and then changed the wire diameter of the valve spring from 3.3mm to 3.4mm in August 2008. At this time, Toyota continued to monitor field technical reports. The number of reports of broken valve springs was relatively small, and the vast majority reported abnormal engine noise, rough engine performance, and no start conditions readily noticeable to vehicle operators.

September 2008—September 2009

Toyota continued to monitor field technical reports, and also continued the investigation the effect of silicon oxide on the strength of the spring. To further enhance valve spring strength against the possibility of foreign material inclusions, Toyota changed the wire diameter of the spring from 3.4mm to 3.5mm in September 2009.

October 2009—June 2010

Toyota continued to monitor field technical reports. It also continued to investigate the effect of different size micro-inclusions in the material of the valve spring on the strength of the spring. Even though there were no reports of any crashes or injuries, the number of reports of broken 3.3mm diameter valve springs produced prior to August 2008 increased and the number of reports of total engine failure also increased. As a result of this investigation, it was found that there is a possibility that the strength of valve springs with a wire diameter of 3.3mm may be degraded by a micro-foreign object in the material of the valve spring, causing the spring to break. It was also confirmed that valve springs with the wire diameter of more than 3.4mm are of sufficient strength to protect against micro-foreign material of the size that may be introduced in the production process.

July 1, 2010

Toyota decided to conduct a voluntary safety recall of all vehicles with the subject valve 3.3mm diameter valve spring within the affected range.

This safety recall will also be conducted in Japan, Canada, Australia, Europe and other countries.

7. Description of Corrective Repair Action:

All known owners of the subject vehicles will be notified by first class mail to return their vehicles to any Lexus dealer for replacement of all engine valve springs. New valve springs with 3.5mm diameter will be used.

Reimbursement Plan for pre-notification remedies

As the owner notification letters will be mailed out well within the active period of the Lexus New Vehicle Limited Warranty ("Warranty"), all involved vehicle owners for this recall would have been provided a repair at no cost under the Lexus's Warranty.

8. Recall Schedule:

TBD

Copies of the owner notification and dealer instructions will be submitted as soon as they are available.

9. Distributor/Dealer Notification Schedule:

TBD