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11V-029 (5 Pages)

# TOYOTA MOTOR NORTH AMERICA, INC.

WASHINGTON OFFICE

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January 26, 2011

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

Re: '06-'09 Lexus IS and '06-'07 Lexus GS Fuel Pressure Sensor Part 573, <u>Defect Information Report</u>

Dear Mr. Smith:

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 and GS vehicles to address an issue with the fuel pressure sensor.

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

Sincerely,

1. Very are and

Vinnie Venugopal General Manager Toyota Motor Engineering & Manufacturing North America, Inc.

# **DEFECT INFORMATION REPORT**

1. <u>Vehicle Manufacturer Name</u>:

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

2. <u>Identification of Affected Vehicles</u>:

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

Make/	Model	Manufac-	VIN		Production
Car Line	Year	turer	VDS	VIS	Period
	2006	TMC	BK262	62000010 - 62021611	-
				65000018 - 65025772	
			CK262	62000003 - 62008675	
				65000013 - 65007908	
			BE262	62000000 - 62007084	
				65000018 - 65011869	
	2007		BK262	72021159 - 72058542	
				75025773 - 75050845	
			CK262	72008542 - 72019897	August 23, 2005 through February 4, 2009
Lexus/ IS				75007909 - 75015612	
			BE262	72006942 - 72013016	
				75011870 - 75017246	
	2008		BK262	82057792 - 82082748	
				85050849 - 85086447	
			CK262	82019898 - 82027723	
				85015613 - 85027611	
			BE262	82011547 - 82013594	
				85017247 - 85017817	
	2009		BK262	92081667 - 92093915	
				95086449 - 95097602	
			CK262	92027724 - 92032185	
				95027613 - 95032514	

Lexus/ GS	2006	ТМС	BH96S	65000028 - 65045859	January 6, 2005 through September 27, 2007
			CH96S	60001017 - 60021080	
	2007		BE96S	70007608 - 70028362	
			CE96S	70001838 - 70012689	-

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

No other Toyota or Lexus models sold in the United States have a metal gasket tightened between a fuel pressure sensor and a Nickel Phosphorus plated fuel delivery pipe as in the subject vehicles.

### 3. <u>Total Number of Vehicles Potentially Affected:</u>

Lexus IS:	177,347
Lexus GS:	67,432
Total:	244,779

### 4. <u>Percentage of Vehicles Estimated to Actually Experience Malfunction:</u>

Unknown

### 5. <u>Description of Problem</u>:

Due to insufficient tightening of the fuel pressure sensor connected to an engine fuel delivery pipe with Nickel Phosphorus plating, there is a possibility that, over time, the pressure sensor could loosen. If loosening occurs, fuel could leak past a gasket used in the connection between the sensor and the pipe and through the threaded portion of the sensor.

### 6. <u>Chronology of Principal Events</u>:

#### March 2009 – April 2010

In March 2009, Toyota received a field technical report from the U.S. market which indicated a fuel odor coming from the engine area of a subject vehicle after driving. The dealer confirmed a slight amount of fuel leakage at the fuel pressure sensor and damage to the gasket between the sensor and the fuel delivery pipe. A field technical report was also received from the U.K. market in March which indicated a fuel stain at the joint between the delivery pipe and the fuel pressure sensor.

Toyota received a dealer product report from the U.S. market in July 2009 which indicated fuel odor from the engine. The returned delivery pipe, fuel pressure sensor, and gasket were investigated, but no scratch on the gasket was found. No abnormality in any of the returned parts was detected.

Toyota received additional field technical information concerning fuel odor or fuel leakage from the joint between the delivery pipe and the fuel pressure sensor in the subject vehicles, but could find no abnormalities in any of the parts which had been returned for investigation.

### <u>May 2010 – December 2010</u>

Toyota continued its investigation, focusing on vehicles equipped with a 4GR engine with Nickel Phosphorus plated delivery pipes; these vehicles were the subject of the reports that had been received. (The coating on the delivery pipes had been changed in production vehicles in September 2007 to Nickel Phosphorus plating in order to eliminate the occurrence of dry corrosion.) Toyota visited the supplier that produces 4GR engines and investigated its production process. It was discovered that the fuel pressure sensors were tightened to the delivery pipes with a torque at the median value of the design specification torque. By contrast, the torque used in the Toyota engine factory, which produces other 2GR and 3GR engines with similar delivery pipes and the same fuel pressure sensor was at the upper limit of the design specification. Toyota's investigation focused on the difference of the tightening torque between the supplier and Toyota, and it started duplication testing.

Fuel leakage could not be duplicated by testing parts assembled with the tightening torque used by the supplier. Therefore, Toyota conducted a more detailed review of the field returned parts and found that there was some uneven deformation of the gaskets. Toyota then started additional duplication testing in August 2010 to investigate gasket deformation.

In November 2010, Toyota received a dealer product report from the U.S. market which indicated a fuel leak occurred in a vehicle which had been involved in a previous recall action (09V-020). In that campaign, the remedy was to replace the fuel delivery pipe connected to the fuel pressure sensor with one having Nickel Phosphorus plating in order to eliminate the occurrence of dry corrosion that could result in a fuel leak.

#### January 2011

As a result of the duplication testing, Toyota confirmed that there could be fuel leakage from the portion of the gasket where deformation was relatively large, and it determined that uneven deformation contributed to leakage. It was also found that uneven deformation was caused by the assembly process (i.e., the work position of the assembly operator) used when tightening the fuel pressure sensor at the supplier's engine factory, which was different from the assembly process used at the Toyota engine factory. In addition, it was confirmed that uneven deformation is less likely to occur if (1) the pressure sensor is tightened at high torque (even when the supplier's assembly process was used), and (2) if the delivery pipe does not have Nickel Phosphorus plating. Because the tightening torque was increased at all 2GR, 3GR, and 4GR engine production factories in December 2008 to enhance robustness, vehicles equipped with engines built after that time will not experience this problem.

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Based on the investigation results above, Toyota decided to conduct a voluntary safety recall of all subject vehicles equipped with a 4GR engine with Nickel Phosphorus plated delivery pipes that were manufactured prior to the change in the torque specification in December 2008. (Vehicles manufactured after February 4, 2009, were equipped with engines that were built after the increase in the torque specification.) In addition, Toyota decided to include in this recall vehicles involved in the 09V-020 campaign and equipped with 2GR, 3GR, and 4GR engines. Fuel leakage may occur in those vehicles because they received the delivery pipes with Nickel Phosphorus plating as the remedy in the 09V-020 recall and the tightening torque specified in the recall instruction was the same torque used at the supplier's factory before

December 2008. In addition, there is a possibility that the position of the dealer technician when tightening the connection during implementation of the recall remedy may have been the same as that used by assembly personnel at the supplier.

## 7. <u>Description of Corrective Repair Action</u>:

All known owners of the subject vehicles will be notified by first class mail to return their vehicles to a Lexus dealer where they will be inspected for fuel leakage from the threaded portion of the fuel pressure sensor. If a fuel leak is not confirmed, the dealer will further tighten the fuel pressure sensor with the proper torque. If a fuel leak is confirmed, the gasket between the sensor and the fuel delivery pipe will be replaced with a new one, and the sensor will be tightened with the proper torque.

### Reimbursement Plan for pre-notification remedies

The owner letter will instruct vehicle owners who have had the fuel pressure sensor, the fuel delivery pipe, and the gasket replaced for this condition prior to this campaign to seek reimbursement by mailing a copy of their repair order, proof-of-payment, and proof-of-ownership for reimbursement consideration.

8. <u>Recall Schedule</u>:

TBD

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

9. <u>Distributor/Dealer Notification Schedule</u>:

TBD