

# TOYOTA

## TOYOTA MOTOR NORTH AMERICA, INC.

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August 26, 2009

Mr. Daniel C. Smith  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue, SE  
Washington, DC 20590

Re: Toyota Matrix/Scion xD/Pontiac Vibe Intake Manifold Brake Vacuum Suction Port  
Part 573, Defect Information Report

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 in the northern region of the United States of certain Toyota Corolla Matrix, Scion xD, and Pontiac Vibe vehicles to address an issue with icing of the brake vacuum suction port of the intake manifold.

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

Sincerely,

TOYOTA MOTOR NORTH AMERICA, INC.



for Chris Tinto  
Vice President  
Technical & Regulatory Affairs

CT:cs  
Attachment

## DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

New United Motor Manufacturing, Inc. ["NUMMI"]  
 45500 Fremont Boulevard  
 Fremont, CA 94538-6368

Toyota Motor Manufacturing Canada Inc. ["TMMC"]  
 1055 Fountain Street North, Cambridge, Ontario, Canada N3H 5K2

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

General Motors Global Headquarters ["GM"]  
 100 Renaissance Center Drive  
 PO Box 100 Detroit, MI 48265

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	
Toyota Corolla	2009	NUMMI	BU40E	9Z001009 - 9Z165302	January 8, 2008 through July 21, 2009
	2010		BU4EE	AZ165314 - AZ215532	
	2009	TMMC	BU40E	9C001062 - 9C191041	January 2, 2008 through July 7, 2009
	2010		BU4EE	AC191062 - AC241091	
	2009	TMC	BL40E	99017763 - 99095006	November 26, 2007 through June 2, 2009
				9J000124 - 9J055038	
2010	BU4EE		A9095014 - A9102575		
		AJ055043 - AJ057553			

Make/ Car Line	Model Year	Manufac- turer	VIN		Production Period
			VDS	VIS	
Toyota Corolla Matrix	2009	TMMC	KU40E	9C001068 - 9C191043	January 3, 2008 through June 11, 2009
	2010		KU4EE	AC191054 - AC229527	
Scion xD	2008	TMC	KU104	8J000134 - 8J032918	June 13, 2007 through June 9, 2009
	2009			9J032920 - 9J049750	
Pontiac Vibe	2009	NUMMI	SL678	9Z400008 - 9Z478515	January 7, 2008 through July 23, 2009
			SP678	9Z400021 - 9Z478598	
	2010		SL6E8	AZ400134 - AZ410677	
			SP6E8	AZ400112 - AZ416129	

Note:

- (1) Only vehicles registered in the states of Alaska, Colorado, Idaho, Illinois, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New York, North Dakota, South Dakota, Vermont, Wisconsin, and Wyoming, are affected.
- (2) Although the involved vehicles are within the above VIN ranges, not all vehicles within these ranges were sold in the U.S.

3. Total Number of Vehicles Potentially Affected:

Toyota Corolla:	81,097
Toyota Corolla Matrix:	5,952
Scion xD:	8,656
Pontiac Vibe:	10,119
Total:	105,824

4. Percentage of Vehicles Estimated to Actually Experience Malfunction:

Unknown

5. Description of Problem:

For vehicles equipped with the 1.8L engine, when driving under certain unique conditions in extremely low ambient temperatures, the intake manifold suction port for the brake vacuum can become blocked due to the freezing of condensation resulting from Positive Crankcase Ventilation ["PCV"]. The condensation can freeze as a result of sustained high speed driving at low temperature, followed by low speed driving or idling (in which the condensation melts and moves closer to the suction port), followed again by medium to high speed driving (freezing cycle). If such driving cycles are repeated under sustained low temperatures and the suction port becomes blocked from accumulated ice, vacuum assist to the brakes would be decreased (eventually to zero), and the increased pedal pressure required could lead to an increase in vehicle stopping distance.

6. Chronology of Principal Events:

January 2009 – July 2009

Toyota received a field technical report from the Canadian market which indicated a hard brake pedal feeling occurred on a Toyota Corolla Matrix after parking the vehicle overnight. The report also indicated that there was ice around the suction port for brake vacuum inside the intake manifold. Toyota immediately confirmed the driving condition of the vehicle and conducted replication tests. As a result, it was observed that ice plugged the suction port after the replication test under the same driving condition as the customer. Toyota assumed that moisture in blow-by gas from a PCV port froze and the resulting ice had plugged the suction port. However, Toyota couldn't specify how ice built up around the port. Toyota continued the investigation into the ambient conditions (temperature, humidity, weather, etc.) and the specific driving patterns in order to find the mechanism of the ice plug.

In February, Toyota received an inquiry letter from Transport Canada. Toyota continued the investigations into the various driving patterns and temperatures in order to identify the conditions which led to the blockage of the suction port on this model.

After a series of investigations, it became clear that if the accumulated ice melts (by low speed driving or idling) and the resulting water flows close to the suction port, the water may refreeze around the suction port (during medium to high speed driving). If such driving cycles are repeated under sustained low temperatures, the suction port could become blocked from accumulated ice. In order to eliminate any possibility of blockage of the suction port, the position of the port was changed to a location on the throttle body in July.

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After evaluating the results of the investigations, Toyota determined that there is a possibility that ice could gradually accumulate near the suction port under certain specific climatic and driving conditions. Therefore, Toyota decided to conduct a safety recall in areas of the country that experience cold climates.

Toyota received 5 field technical reports from the Canadian market, but no reports from the U.S. market. Toyota also confirmed that the contributory factors for this issue are similar or more severe than for previous issues that required a field action. However, Toyota decided to expand the recall area to include all of Canada as well as all of the U.S. states that were specified in a similar safety recall, 00V256.

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 a Toyota or Pontiac dealer for a repair. The repair will involve the installation of a newly designed intake air connector which will relocate the brake system vacuum port.

Reimbursement Plan for pre-notification remedies for Toyota Vehicles (Toyota Corolla, Toyota Corolla Matrix, Scion xD)

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

Reimbursement Plan for pre-notification remedies for General Motors Vehicles (Pontiac Vibe)

Similarly, all involved GM vehicles are covered under the new vehicle warranty and therefore, pursuant to 577.11(e), GM does not plan to provide notice about reimbursement to owners.

8. Recall Schedule:

Toyota's mailing of the owner notifications will commence in early September and be completed in early December 2009.

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

General Motors will notify NHTSA separately of its owner mailing schedule and supply a copy of the owner letter at that time.

9. Distributor/Dealer Notification Schedule:

Toyota's notifications to distributors/dealers will be sent in early September 2009.

General Motors will notify NHTSA separately of its dealer mailing schedule and supply a copy of the dealer bulletin at that time.