13V-029
(5 pages)

RECEIVED
By Recall Management Division at 9:06 am, Jan 30, 2013

TOYOTA

Toyota Motor Engineering & Manufacturing North America, Inc.

Vehicle Safety & Compliance
Liaison Office
Mail Code: S-104
19001 South Western Avenue
Torrance, CA 90501

January 30, 2013

Ms. Nancy Lummen Lewis
Associate Administrator for Enforcement
National Highway Traffic Safety Administration
Attn: Recall Management Division (NVS-215)
1200 New Jersey Ave, SE
Washington, D.C. 20590

Re: Certain Toyota Corolla, Matrix and Pontiac Vibe
Part 573, Defect Information Report

Dear Ms. Lewis:

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 Toyota Corolla, Matrix and Pontiac Vibe vehicles to address an issue with the air bag module.

Should you have any questions about this report, please contact me at (310) 468-8551.

Sincerely,

V. Venugopal

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

Enclosures
Part 573, Defect Information Report

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-pref., 471-8571, Japan

Affiliated U.S. Sales Company

Toyota Motor Sales, USA, Inc. ["TMS"]
19001 South Western Avenue, Torrance, CA 90501

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

Manufacturer of Airbag Control Module:

TRW Automotive
12001 Tech Center Drive, Livonia, MI 48150
Phone: 734-855-2600

Country of Origin: U.S.

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	2003	NUMMI	BR3*E	3Z000001-3Z190446	December 28, 2001 through April 26, 2004
	2004		BR3*E	4Z190447-4Z342398	
	2003	TMMC	BR3*E	3C000082-3C165643	January 6, 2002 through May 2, 2004
	2004		BR3*E	4C165645-4C318812	
	2003	TMC	BR3*E	30002007-30051596 32000000-32016855	April 2, 2002 through April 2, 2004
	2004		BR3*E	40051487-40053026 42016856-42048916	
Toyota	2003	TMMC	**3*E	3C000083-3C165642	January 6, 2002

Corolla Matrix	2004		**3*E	4C163607-4C318778	through April 29, 2004
Pontiac Vibe	2003	NUMMI	S****	3Z400081- 3Z999055	January 18, 2002 Through April 27, 2004
	2004		S**** 2M***	4Z400003-4Z467400 4Z440840	

Note: 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 : 603,936,
Toyota Corolla Matrix : 148,024
Pontiac Vibe : 135,749

4. Percentage of Vehicles Estimated to Actually Experience Malfunction:

Unknown

5. Description of Problem:

The airbag control module for the supplemental restraint system (SRS) in the subject vehicles could have been manufactured with application-specific integrated circuits (ASICs) that are susceptible to internal shorting. When exposed to high inductive electrical noise from various vehicle electrical components, these ASICs could experience an internal short that creates abnormal current flow and increased heat. If this occurs, there is a possibility that the ASIC could become damaged. In some instances, the front airbag(s) and/or seat belt pretensioners could inadvertently deploy. An airbag that deploys inadvertently can, under some circumstances, increase the risk of minor injury and the possibility of a crash.

6. Chronology of Principal Events:

August 20, 2012

Toyota received a Peer Vehicle Information Request from NHTSA during its defect investigation (EA12-001) of alleged inadvertent or non-crash related airbag deployments in certain 2002-2003MY Jeep Liberty vehicles manufactured by Chrysler Group LLC. This request was regarding 2000-2004 MY Toyota and Lexus vehicles equipped with TRW electronic airbag modules containing the same ASIC chip used in the subject Chrysler vehicles.

Prior to Toyota's receipt of the Information Request, Toyota had been investigating this subject as described in Toyota's response submitted to NHTSA on October 4, 2012.

October 2012 – Mid January 2013

Toyota continued its investigation to identify the cause of the ASIC damage.

Toyota had initially focused on whether latch-up, which is well known in the electronic component industry as one potential cause for thermal damage in an integrated circuit, could cause ASIC damage. Toyota confirmed that latch-up could occur in the ASIC of the module for the subject vehicles when microsecond level noise is intentionally applied to the ASIC. However, microsecond level noise was not observed in an actual vehicle.

Additional testing was performed. Through observations made during ASIC bench testing, it was estimated that nanosecond level noise created by operating certain electrical components in the vehicle could resonate and transform into microsecond level noise through damped oscillation. After investigating additional working air bag modules recovered from in-use Corolla and Matrix vehicles, it was found that the ASIC was susceptible to latch-up due to certain levels of microsecond electrical noise. Further investigation determined the electrical noise level in the subject vehicles was higher compared to other vehicles and confirmed the source of the higher noise level could be attributed to operation of certain vehicle electrical components. In addition, the ASICs in the subject vehicles, which had been produced by National Semiconductor for TRW, had a wide variation of insulation against electrical overstress, and there was no thermal protection circuit in the generation of the SRS ECU in the vehicles to help guard against potential overstress and heat-related damage. Toyota determined the noise can resonate and transform causing latch-up to occur, which could result in thermal damage to the ASIC and inadvertent air bag and/or seat belt pretensioner deployment.

January 24, 2013

Toyota decided to conduct a voluntary safety recall campaign to install a noise filter to eliminate certain electrical noise created by operating certain electrical components in the vehicle.

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 installation of a noise filter between the airbag control module and its wire harness.

Reimbursement Plan for pre-notification remedies for Toyota Vehicles

The owner letter will instruct vehicle owners who have paid to have this condition remedied prior to this campaign to seek reimbursement pursuant to Toyota's General Reimbursement Plan.

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

Pursuant to 577.11(e), General Motors will provide reimbursement to owners for repairs completed on or before ten days after GM mails owner letters, pursuant to the plan submitted on May 12, 2011.

8. Recall Schedule:

Toyota will provide a separate schedule of the owner notification mailing shortly. A copy of the draft owner notification will be submitted as soon as it is 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 will provide a separate schedule of the dealer notification schedule shortly.

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