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By Recall Management Division at 9:16 am, Apr 09, 2014

Toyota Motor Engineering &
Manufacturing North America, Inc.

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

April 9, 2014

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 & Pontiac Vibe Vehicles
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 and Pontiac Vibe vehicles to address an issue with the spiral cable assembly.

Should you have any questions about this report, please contact me directly.

Sincerely,



Abbas Saadat
Vice President
Toyota Motor Engineering & Manufacturing
North America, Inc.

Enclosures
Part 573, Defect Information Report

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Corporation ["TMC"]

1, Toyota-cho, Toyota-city, Aichi-pref., 471-8571, Japan

Toyota Motor Manufacturing Canada Inc. ["TMMC"]

1055 Fountain Street North, Cambridge, Ontario, Canada N3H 5K2

Toyota Motor Manufacturing De Baja California, S. De R.L. De C.V. ["TMMBC"]

Carretera Libre Tijuana, Tecate #33143, Tijuana, Baja California, Mexico CP 36102

Toyota Motor Manufacturing, Indiana, Inc. ["TMMI"]

4000 Tulip Tree Dr., Princeton, IN 47670-4000

New United Motor Manufacturing, Inc. ["NUMMI"]

45500 Fremont Boulevard, Fremont, CA 94538-6368

Toyota Motor Manufacturing California, Inc. ["TMMCA"]

45500 Fremont Blvd., Fremont, CA, 94538

Affiliated U.S. Sales Company

Toyota Motor Sales, USA, Inc. ["TMS"]

19001 South Western Avenue, Torrance, CA 90501

General Motors LLC Global Headquarters ["GM"]

100 Renaissance Center Drive, P.O. Box 100, Detroit, MI 48265

Manufacturer of the Spiral Cable Assembly

TRAM, Inc.

47200 Port Street Plymouth, Michigan 48170, U.S.A

Telephone: +1-734-254-8500

Country of Origin: USA

or

TOKAI RIKO CO., LTD.

3-260 Toyota, Oguchi-cho, Niwa-gun, Aichi-pref. 480-0195, Japan

Telephone: +81-587-95-5211

Country of Origin: Japan

2. Identification of Involved Vehicles:

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

Make/ Car Line	Model Year	Manufac- turer	VIN		Production Period
			VDS	VIS	
Toyota/ RAV4	2006- 2008	TMC	**3*V	65000001 – 5215928 60000002 – 6089729	July 28, 2005 through August 5, 2008
Toyota/ Tacoma	2009- 2010	TMMBC	TBD	TBD	TBD
		TMMCA		TBD	
Toyota/ Yaris	2006- 2010	TMC	*T**3	65007616 – A5312959 71000104 – A1388199 74000003 – A4074494	July 12, 2005 through March 31, 2010
Toyota/ Corolla	2009- 2010	TMC	B*4*E	99013744 – A9106869 9J000111 – AJ061151	July 31, 2007 through June 28, 2010
		NUMMI	BU4*E	9Z001002 – AZ386542	
		TMMC	BU4*E	9C001054 – AC442191	
Toyota/ Corolla Matrix	2009- 2010	TMMC	KE4*E	9C001041 – AC441446	January 7, 2008 through June 30, 2010
Toyota/ Highlander	2008- 2010	TMC	**41A **3EH	82000106 – 92151438 A2008099 – A2161035	March 6, 2007 through July 7, 2010
		TMMI	**3EH	AS001019 – AS032879	
Pontiac/ Vibe	2009- 2010	NUMMI	S*6**	9Z400002 – AZ414249	January 22, 2008 through July 6, 2009

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

Only Toyota vehicles equipped with spiral cable assemblies that use seven-channel circuits are involved. Other Toyota or Lexus models with similar spiral cable assemblies are not affected, because those spiral cable assemblies contain a Flexible Flat Cable (FFC) with a different number of the channels, or were produced by a different supplier with a different design.

In addition, certain 2005-2009MY Tacoma vehicles involved in recall campaign 12V-092 are not affected because the spiral cables in those vehicles were replaced with the same ones being used in the remedy for this recall.

3. Total Number of Vehicles Involved:

Toyota RAV4:	306,836
Toyota Tacoma:	TBD
Toyota Yaris, Yaris Sedan:	402,475
Toyota Corolla:	398,733
Toyota Matrix:	62,962
Toyota Highlander:	97,196
Pontiac Vibe:	23,247
Total:	TBD

4. Percentage of Vehicles Estimated to Actually Contain the Defect:

Unknown

5. Description of Problem:

The steering column assembly in the subject vehicles contains electrical connections to the driver's airbag module housed in a spiral cable assembly, which includes a Flexible Flat Cable (FFC). Due to the shape and location of the FFC's retainer, the FFC could contact a small point of the retainer and become damaged when the steering wheel is turned. In FFC's with seven-channel circuits, this damage could occur to a circuit on the FFC that provides connectivity to the driver's air bag module. If connectivity is lost, the air bag warning lamp will illuminate. In addition, the driver's air bag could become deactivated, causing it to not deploy in the event of a crash. This could increase the risk of injury to the driver.

6. Chronology of Principal Events:

March 2012 – December 2012

In March 2012, Toyota initiated a voluntary safety recall campaign (12V-092) concerning defective spiral cables in certain 2005-2009MY Tacoma vehicles. For this campaign, Toyota determined that, due to the combination of the spiral cable design and characteristics unique to chassis components, steering wheel vibration ("flutter") could cause friction between the FFC and the retainer of the spiral cable, damaging certain circuits in FFC's with seven-channel circuits. At that time, the failure rates of other models were low compared to Tacoma, the level of steering wheel vibration was found to be smaller due to their chassis design, and Toyota did not identify a trend. However, Toyota had received some field technical reports on other models indicating airbag warning light illumination; therefore Toyota decided to continue the investigation on other models. Toyota began field surveys in

certain countries to investigate how these models were being used in different markets and any potential factors that could contribute to spiral cable failures. The results of the survey confirmed that factors such as road condition did not lead to failure of the spiral cable in other models.

January 2013 – April 2014

Toyota began recovery of spiral cable assemblies from in-use vehicles in North America for further investigation to confirm the durability of the spiral cable. On recovered parts from in-use vehicles, FFC's had friction marks but still had connectivity. Toyota estimated the operating life of these recovered spiral cables by measuring the depth of the friction marks. Analysis of the recovered parts confirmed a large variation in operating life of the spiral cables versus vehicle age, leading to the theory that some spiral cables could lose connectivity before the end of the vehicles' useful life. Toyota began replication testing and durability testing to investigate the cause of the wide variation in spiral cable operating life.

Toyota theorized the possibility of chemical damage on the FFC wire coating (resin) caused by a reaction with the grease used in the spiral cable assembly and focused the investigation on testing this theory. A detailed analysis of field returned parts found no evidence of chemical damage on the FFC wire resin coating. As a result, Toyota then studied whether the loss of connectivity could be attributed to premature wear of the FFC during normal vehicle usage. Because Toyota understood that factors such as road conditions had no effect on connectivity from previous testing, Toyota performed CAE analysis to investigate other possible causes of premature wear of the FFC. Toyota found that a certain wire in the FFC which provides connectivity to the driver's airbag module could make contact with the top edge of its retainer due to the shape and location of the retainer. In addition, Toyota began thermal cycle testing based on the fact that the spiral cable failure rate was higher in countries with higher average temperatures. The test results confirmed that, in high temperatures, the material strength of the FFC wire coating resin could deteriorate. In this condition, combined with the localized contact between the FFC and its retainer, the resin coating on the airbag line in the FFC could wear prematurely as the steering wheel is turned, leading to damage of the wire, which could result in illumination of the airbag warning light and deactivation of the driver's front airbag.

In addition, the supplier confirmed that design changes had been made to increase the gap between FFC and the retainer that was introduced sequentially in vehicle production from June 2008 and to change the shape of the retainer that was introduced sequentially from March 2010. These changes had been made as a result of reports received from the Asian

market concerning a model which is not sold in the U.S., and helped to eliminate the possibility of FFC damage caused by debris which could enter into the gap. This improvement was implemented in all similar FFC-type spiral cables.

April 3, 2014

Based on the result of investigation described above, Toyota decided to conduct a voluntary safety recall campaign to replace the spiral cable assembly with an improved one.

7. Description of Corrective Repair Action:

All owners of the subject vehicles will be notified by first class mail. Toyota or General Motors dealers will replace the spiral cable assembly with an improved one at no charge.

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 Pontiac Vibe

Pursuant to 577.11, General Motors LLC 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 23, 2013.

8. Recall Schedule:

Toyota will mail an interim owner notification beginning in late April, 2014 to advise owners of this recall and the fact that they will receive a future notice when parts become available to complete repairs. They will also be advised of what to do if they experience this condition in the interim period. A second mailing will be scheduled when replacement parts are available.

General Motors LLC will notify NHTSA separately of its owner mailing schedule and supply a copy of owner notices as they become available.

9. Distributor/Dealer Notification Schedule:

Interim distributor/dealer notifications will be sent in late April, 2014. Copies of all distributor/dealer notices will be provided as they are issued.

General Motors LLC will notify NHTSA separately of its dealer mailing schedule and supply a copy of the dealer notices as they become available.