TOYOTA

Toyota Motor Engineering & Manufacturing North America, Inc.

Vehicle Safety & Compliance
Liaison Office
19001 South Western Avenue
Torrance, CA 90501

March 11, 2015

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Manufacturing, Kentucky, Inc. ["TMMK"]
1001 Cherry Blossom Way, Georgetown, KY, 40324

Toyota Motor Manufacturing, Indiana, Inc. ["TMMI"]
4000 Tulip Tree Drive, Princeton, IN 47670-4000

Toyota Motor Manufacturing Canada Inc. ["TMMC"]
1717 Dundas Street, Woodstock, Ontario, Canada N4S 0A4

Affiliated U.S. Sales Company

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

Manufacturer of the Electric Power Steering Column Assembly

NSK Steering Systems Americas, Inc.
4200 Goss Road, Ann Arbor, MI 48105
Telephone: +1 (734) 913-7500

Country of Origin: U.S.A.

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/ Camry	2015	TMMK	B*1FK	FU027731 – FU028314 FU553219 – FU556988	September 11, 2014 through November 3, 2014
Toyota/ Camry HV	2015		BD1FK	FU141381 – FU146362	September 10, 2014 through November 4, 2014
Toyota/ RAV4	2014-2015	TMMC	*F*EV	EW125397 – FW149546 EW222978 – FW260174	August 18, 2014 through November 21, 2014
Toyota/ Highlander	2015	TMMI	**RFH	ES009453 – FS121006	August 15, 2014 through December 23, 2014
Toyota/ Highlander HV	2015		CRFH	ES007360 – FS008935	September 3, 2014 through November 17, 2014

Note: (1) Although the involved vehicles are within the above VIN range, not all vehicles in this range were sold in the U.S.

(2) Only Camry vehicles equipped with the 2GR engine in the above range are involved.

(3) No other Toyota or Lexus vehicles use the affected electric power steering electronic control unit installed in the steering column assembly.

3. Total Number of Vehicles Potentially Involved:

Camry : 3,220
Camry HV : 4,027
RAV4 : 46,999
Highlander : 54,724
Highlander HV : 1,115
TOTAL : 110,085

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

Unknown

5. Description of Problem:

The subject vehicles are equipped with an electric power steering (EPS) system consisting of an EPS electronic control unit (ECU) and a steering column assembly with an attached power steering motor, rotation angle sensor, and torque sensor. A resistor on the EPS ECU circuit board for the subject vehicles may have been damaged during the ECU manufacturing process. If the damage in the resistor progresses during usage of the vehicle, resistance may become high and the ECU could detect abnormal current in the circuit. This results in illumination of an instrument panel warning lamp, and the system enters the fail-safe mode immediately, suspending power steering assist. In the event of loss of power steering assist, the steering system will revert to manual steering mode and steering control can be maintained at all times. However, suspension of power steering assist results in increased steering effort at low vehicle speeds and increases the risk of a crash.

6. Chronology of Principal Events:

November 2014

A dealer report was received concerning electric power steering failure on a MY 2015 Camry. Toyota investigated this vehicle, along with an additional vehicle with an electric power steering failure, and recovered the electric power steering column assemblies for analysis by the steering column supplier.

December 2014 – February 2015

The supplier found that there was evidence of a damaged resistor on the EPS ECU circuit board, a component provided by a sub-supplier. A process review at the ECU manufacturer determined that certain checking equipment, which had been newly installed in the manufacturing process of the circuit board on August 2, 2014, appeared to be the cause of the damage. The maintenance history of this equipment indicated that a loose stopper screw was found on the equipment on October 11, 2014 and was repaired. The loose stopper allowed too much stroke of probes during the checking process of the EPS ECU circuit board. In addition, during the process review, it was found that the circuit board could move out of position on the check equipment, and a probe could make contact with a resistor on a circuit board if it is out of position. Replication testing confirmed that the resistor could be damaged if the stopper screw loosens and the circuit board is out of position.

The supplier also conducted thermal cycling tests to confirm whether a damaged resistor would fail in use after a short time or whether it was subject to a progressive failure. Test results indicated that a damaged resistor could function normally at first, but fail after a period of time. A failed resistor would lead to a loss of power steering.

March 6, 2015

Based on the results of the above investigation, Toyota decided to conduct a voluntary safety recall campaign.

As of March 5, 2015, Toyota is not aware of any accidents or injuries caused by this condition. Five Toyota field reports and six warranty claims have been received that relate or may relate to this condition. Multiple counts of the same incident are counted separately.

7. Description of Corrective Repair Action:

All known owners of the affected Toyota vehicles will be notified by first class mail to return their vehicles to a Toyota dealer for inspection. The dealer will inspect the serial number of the EPS ECU or steering column assembly, and, if it is equipped with an affected EPS ECU, the dealer will replace the EPS ECU with a new one.

Reimbursement Plan for pre-notification remedies

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 Toyota's Warranty.

8. Recall Schedule:

Toyota anticipates the owner notification will begin in late April 2015. Copies of the owner notification letter will be submitted as soon as it is available.

9. Distributor/Dealer Notification Schedule:

Toyota's notification to distributors/dealers will be sent on March 11, 2015. Copies of the dealer communications will be submitted as they are issued.