Part 573 Safety Recall Report 18V-684

Manufacturer Name : Toyota Motor Engineering & Manufacturing
Submission Date : OCT 04, 2018
NHTSA Recall No. : 18V-684
Manufacturer Recall No. : J0V

Manufacturer Information :

Manufacturer Name : Toyota Motor Engineering & Manufacturing
Address : 6565 Headquarters Drive
Plano TX 75024
Company phone : 1-800-331-4331

Population :

Number of potentially involved : 807,329
Estimated percentage with defect : NR

Vehicle Information :

Vehicle 1 : 2010-2014 Toyota Prius
Vehicle Type :
Body Style :
Power Train : NR
Descriptive Information : NOTE: (1) Although the involved vehicles are within the above production period, not all vehicles in this range were sold in the U.S.
(2) Other Toyota or Lexus vehicles do not use the same hybrid control ECU and software as the involved vehicles or had improved software as original equipment to reduce thermal stress to certain hybrid inverter components as described in the recalls 14V-053 and 15V-449.

Toyota is unable to provide an estimate of the percentage of vehicles to actually contain the defect. Whether the issue in each case will lead to damage of the transistor within the inverter assembly and subsequently lead to a shutdown of the hybrid system, creating an unreasonable risk to safety, depends on each vehicle's operating conditions.

Production Dates : MAR 31, 2009 - FEB 04, 2014
VIN Range 1 : Begin : NR End : NR ☐ Not sequential

Vehicle 2 : 2012-2014 Toyota Prius V
Vehicle Type :
Body Style :
Power Train : NR
Descriptive Information : NOTE: (1) Although the involved vehicles are within the above production period, not all vehicles in this range were sold in the U.S.
(2) Other Toyota or Lexus vehicles do not use the same hybrid control ECU and software as the involved vehicles or had improved software as original equipment to reduce thermal stress to certain hybrid inverter components as described in the recalls 14V-053 and 15V-449.

Toyota is unable to provide an estimate of the percentage of vehicles to actually contain the defect. Whether the issue in each case will lead to damage of the transistor within the inverter assembly and subsequently lead to a shutdown of the hybrid system, creating an unreasonable risk to safety, depends on each vehicle's operating conditions.

Production Dates : AUG 22, 2011 - JUN 30, 2014

VIN Range 1 : Begin : NR End : NR ☐ Not sequential

Description of Defect :

Description of the Defect :	The subject vehicles contain software used to control the Intelligent Power Module (IPM) within the inverter assembly, a part of the vehicle's hybrid system. Due to certain characteristics of the software used to control the boost converter in the IPM, higher thermal stress could occur in specific transistors in the IPM under high-load driving such as accelerating during highway driving. If this occurs, it could damage those transistors over time, illuminating various warning lights and display a warning message on the instrument panel. In limited instances, the motor/generator ECU could reset. In addition, if a specific transistor within the IPM fails in a certain way during a high-load driving condition, such as during hard acceleration, there is a possibility for an abnormally high voltage to be generated that could exceed a certain limit in the software and IPM circuit design. If the motor/generator ECU resets or this abnormally high voltage is generated, there is the possibility that the hybrid system could shut down instead of entering a failsafe driving mode that would provide reduced motive power and allow the vehicle to be driven for certain distances. In this condition, where the hybrid system shuts down instead of entering a failsafe driving mode, power steering and braking will not be affected. However, a hybrid system that shuts down without entering a failsafe mode could result in the vehicle losing motive power while driving at higher speeds, increasing the risk of a crash.
FMVSS 1 :	NR
FMVSS 2 :	NR
Description of the Safety Risk :	If the motor/generator ECU resets or this abnormally high voltage is generated, there is the possibility that the hybrid system could shut down instead of entering a failsafe driving mode that would provide reduced motive power and allow the vehicle to be driven for certain distances. In this condition, where the hybrid system shuts down instead of entering a failsafe driving mode, power steering and braking will not be affected. However, a hybrid system that shuts down without entering a failsafe mode could result in the vehicle losing motive power while driving at higher speeds, increasing the risk of a crash.
Description of the Cause :	NR
Identification of Any Warning that can Occur :	NR

Supplier Identification :

Component Manufacturer

Name : Denso Corporation

Address : 1-1 Showa-cho
Kariya-city FOREIGN STATES 448-8661

Country : Japan

Chronology :

Please see the attached Part 573 Defect Information Report for the full chronology.

Description of Remedy :

Description of Remedy Program :	To address the safety defect, all known owners of the subject vehicles will be notified by first class mail to return their vehicles to a Toyota dealer to have the software updated for the motor/generator control ECU and the hybrid control ECU, as necessary. To support increased customer satisfaction, as a separate Consumer Support Program previously initiated, the dealer will repair or replace the inverter assembly (depending on the failure diagnosis) if an owner experiences a hybrid inverter component failure related to the conditions described above, at no charge (up to 15 years from the date of first use of the vehicle with no mileage restrictions). In addition, the new software for the hybrid control ECUs will support a further enhancement to the failsafe driving modes to provide for increased available speed and range under more circumstances in the event of a failure requiring failsafe driving. 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.
How Remedy Component Differs from Recalled Component :	Please see the attached Part 573 Defect Information Report.
Identify How/When Recall Condition was Corrected in Production :	NR

Recall Schedule :

Description of Recall Schedule :	Notifications to owners will be sent by December 3, 2018. A copy of the draft owner notification will be submitted as soon as it is available.

	Notifications to distributors/dealers will be sent on October 5, 2018. Copies of dealer communications will be submitted as they are issued.
Planned Dealer Notification Date :	OCT 05, 2018 - OCT 05, 2018
Planned Owner Notification Date :	OCT 22, 2018 - DEC 03, 2018

* NR - Not Reported