Part 573 Safety Recall Report 20V-369

Manufacturer Name : Toyota Motor Engineering & Manufacturing
Submission Date : JUN 24, 2020
NHTSA Recall No. : 20V-369
Manufacturer Recall No. : See attached report

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 : 266,637
Estimated percentage with defect : NR

Vehicle Information :

Vehicle 1 : 2013-2015 Toyota Prius
Vehicle Type :
Body Style :
Power Train : NR
Descriptive Information : (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 are involved in Safety Recall 18V-684. Note: The percentage of vehicles estimated to actually contain the defect is unknown. 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 15, 2013 - NOV 09, 2015
VIN Range 1 : Begin : NR End : NR ☐ Not sequential

Vehicle 2 :	2014-2017 Toyota Prius v
Vehicle Type :	
Body Style :	
Power Train :	NR
Descriptive Information :	(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 are involved in Safety Recall 18V-684. Note: The percentage of vehicles estimated to actually contain the defect is unknown. 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 :	JUN 20, 2014 - NOV 30, 2017
VIN Range 1 :	Begin : NR End : NR ☐ Not sequential

Description of Defect :

Description of the Defect :	The subject vehicles were not involved in Safety Recall 18V-684 because they were originally equipped with a version of the software, used to control the boost converter in the Intelligent Power Module (IPM) within the inverter assembly of the vehicle's hybrid system, that contains improved thermal management. Repeated driving under certain identified high-load driving patterns (e.g., from a stop, applying nearly full throttle and then gradually further accelerating to full throttle) could cause higher thermal stress in specific transistors in the IPM, resulting in damage to those transistors over time. This can lead to illumination of various warning lights and the display of a warning message on the instrument panel. In cases where a specific transistor 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 causing the hybrid system to 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, 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 :	In cases where a specific transistor 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 causing the hybrid system to 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, 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

Involved Components :

Component Name 1 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89681-47440

Component Name 2 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89681-47441

Component Name 3 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89681-47250

Component Name 4 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89681-47251

Component Name 5 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89681-47030

Component Name 6 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89681-47422

Component Name 7 :	Computer, Power Management Control
Component Description :	Hybrid Control ECU
Component Part Number :	89981-47630

Supplier Identification :

Component Manufacturer

Name :	DENSO CORPORATION
Address :	1-1, Showa-cho Kariya City, Aichi 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 a software update for the hybrid system performed at no cost. For customer satisfaction, if the vehicle has experienced an inverter failure with certain hybrid system faults related to this condition, the inverter assembly will be repaired or replaced, prior to software update, at no cost. 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 :	NR

Identify How/When Recall Condition was Corrected in Production :	NR

Recall Schedule :

Description of Recall Schedule :	Notifications to owners will be sent by August 23, 2020. A copy of the draft owner notification will be submitted as soon as it is available. Notifications to distributors/dealers will be sent by June 24, 2020. Copies of dealer communications will be submitted as they are issued.
Planned Dealer Notification Date :	JUN 24, 2020 - JUN 24, 2020
Planned Owner Notification Date :	AUG 10, 2020 - AUG 23, 2020

* NR - Not Reported