

July 13, 2022

## NONCOMPLIANCE INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Manufacturing, Texas, ["TMMTX"]  
1 Lone Star Pass, San Antonio, TX 78264

Affiliated U.S. Sales Company

Toyota Motor North America ["TMNA"]  
6565 Headquarters Drive, Plano, TX 75024

Manufacturer of the Parking Assist ECU

Magna Electronics  
2050 Auburn Road, Auburn Hills, MI 48326 USA  
Phone: +1-248-696-6400

2. Identification of Involved Vehicles and Affected Components:

Based on production records, we have determined the involved vehicle population to be the vehicles listed in the table below.

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota / Tundra	2022	TMMTX	November 3, 2021, through July 12, 2022
Toyota / Tundra HV	2022	TMMTX	March 15, 2022, through July 8, 2022

Applicability	Part Number	Part Name	Component Description
Toyota / Tundra	86792-0C051	COMPUTER, PARKING ASSIST	Parking Assist ECU
Toyota / Tundra HV	86792-0C052		

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

(2) The Parking Assist ECU is a component of the Panoramic View Monitor (PVM) system described below.

(3) Only vehicles in the above production range which were equipped with the PVM system of a specific design and supplier are involved in this recall. Other Toyota vehicles, including 2022 model year Tundra vehicles with the base integrated backup camera, are not equipped with this system.

3. Total Number of Vehicles Involved:

Tundra: 28,986

Tundra HV: 2,442

Total: 31,428

4. Percentage of Vehicles Estimated to Actually Experience Noncompliance:

100% of the involved vehicles contain a Parking Assist ECU with the incorrect software programming described in Section 5 below. Whether the issue will cause the rearview image to not be displayed to the driver during each backing event depends on whether the vehicle had used the front sonar sensors to detect an object and the front camera image was displayed on the in-vehicle display prior to the vehicle being placed into reverse position, and will influence whether the rear camera signal activation criteria is ignored at each new backing event, as described in Section 5 below

5. Description of Noncompliance:

The subject vehicles are equipped with a Panoramic View Monitor (PVM) system, which consists of multiple individual cameras located around the vehicle, including a front view and rearview camera, and a parking assist ECU. The PVM system uses the parking assist ECU to activate the signals for each of these cameras, as needed, in order to display the corresponding image. One of the front camera signal activation criteria is based on sonar sensor inputs, and the rearview camera signal activation criteria is based on shifting the vehicle into reverse position. Due to incorrect programming of the parking assist ECU software, if the vehicle had previously used the front sonar sensors to detect an object and the front camera image was displayed, when the vehicle is next placed into reverse position, there may be sporadic instances where the rear camera signal activation criteria is ignored, and the front camera image appears on the multimedia display instead of the rear camera image. As a result, the subject vehicles will not meet the rear visibility requirements in FMVSS No. 111, paragraph S6.2(b) which may increase the risk of a crash during a backing event.

6. Test Results and Other Information:

In early May 2022, during a pre-production test for a different Toyota model, the PVM system supplier identified an occurrence of the front view camera image being displayed when the vehicle was in reverse position, but after the front camera had used the front sonar sensors to detect an object. Separately, Toyota then observed the issue on a Tundra vehicle by initiating front sonar sensor object detection and front view camera display while in drive, then shifting the vehicle to park and cycling the ignition to “off”. Upon restarting the vehicle, after shifting into reverse, the front view camera image was displayed on the multimedia display instead of the rearview image. A design review was initiated in mid-May 2022. Through this process, the PVM system supplier found that the Parking Assist ECU software could allow queued “event flags”, which are inputs to activate the various PVM camera signals, to be cleared prematurely. If one of the Parking Assist ECU queued event flags was reverse position, the Parking Assist ECU could clear the event flag, leading it to ignore the request to display the rearview camera image.

As a result, Toyota determined on July 6, 2022, it is possible that the involved vehicles could experience a condition in which a rearview image does not display to the driver during a backing event and as such, does not meet the requirements of FMVSS No. 111 S6.2(b).

7. Description of Corrective Repair Action:

All known owners of the involved vehicles will be notified via first class mail to return their vehicles to a Toyota dealer. For all involved vehicles, the dealers will reprogram the Parking Assist ECU at no cost.

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:

Notifications to owners of the affected vehicles will occur by August 17, 2022. A copy of the draft owner notification letter(s) will be submitted as soon as available.

9. Distributor/Dealer Notification Schedule:

Notifications to distributors/dealers will be sent by July 13, 2022. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer’s Campaign Number:

Campaign Number: 22TA07