

Part 573 Safety Recall Report

22V-239

Manufacturer Name : Toyota Motor Engineering & Manufacturing**Submission Date :** APR 26, 2022**NHTSA Recall No. :** 22V-239**Manufacturer Recall No. :** See attached report**Manufacturer Information :****Population :**

Manufacturer Name : Toyota Motor Engineering & Manufacturing

Number of potentially involved : 458,110

Address : 6565 Headquarters Drive

Estimated percentage with defect : 100 %

Plano TX 75024

Company phone : 1-800-331-4331

Vehicle Information :

Vehicle 1 : 2020-2022 Toyota HIGHLANDER Hybrid

Vehicle Type :

Body Style :

Power Train : NR

Descriptive Information : (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 Skid Control ECU described below is a sub-component of the Brake Actuator Assembly.

(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : OCT 08, 2019 - APR 06, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 2 : 2021-2022 Toyota SIENNA

Vehicle Type :

Body Style :

Power Train : NR

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

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Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : MAR 03, 2020 - APR 07, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 3 : 2022-2022 Toyota RAV4 Hybrid

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : SEP 01, 2021 - APR 05, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 4 : 2021-2022 Toyota RAV4 PRIME

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : NOV 25, 2019 - MAR 31, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 5 : 2021-2022 Toyota VENZA

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : MAR 05, 2020 - APR 01, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 6 : 2022-2022 Lexus LX 600

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : JUL 30, 2021 - APR 02, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 7 : 2022-2022 Lexus NX 350h

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : APR 08, 2021 - APR 04, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 8 : 2022-2022 Lexus NX 450h+

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : APR 07, 2021 - MAR 31, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 9 : 2021-2022 Toyota MIRAI

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : MAY 22, 2020 - APR 01, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Vehicle 10 : 2021-2022 Lexus LS 500h

Vehicle Type :

Body Style :

Power Train : NR

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(3) This issue involves only vehicles in the above production range which have a Skid Control ECU with a specific software logic.

Note: 100% of the involved vehicles contain a Skid Control ECU with the incorrect software logic described in Section 5 below. Whether the issue, in each case, will cause the Vehicle Stability Control system not to return to the default setting at the next ignition cycle depends on whether the driver follows the particular set of operating inputs exactly as described in Section 5 below.

Production Dates : OCT 19, 2020 - MAR 30, 2022

VIN Range 1 : Begin :

NR

End : NR

☐ Not sequential

Description of Noncompliance :

Description of the Noncompliance : The subject vehicles are equipped with a Vehicle Stability Control (VSC) system that is operated by a Skid Control ECU with a specific software logic. Due to an incorrect programming of the Skid Control ECU software, after a particular set of operating inputs where the driver manually turns off the VSC by the VSC in-vehicle control and the ignition is turned off and then turned back on while the brake pedal is continuously depressed, the VSC will not return to the default ON setting at the next ignition cycle. In this specific scenario, the VSC will not meet the requirements of FMVSS 126, paragraph S5.4.1. Unless these precise operating inputs are followed, VSC operation will automatically return to the default VSC ON setting at any subsequent ignition cycle. If the VSC does not default to VSC ON, a warning light will illuminate, indicating to the driver that the VSC is not activated. If the VSC does not return to the default ON setting because the precise operating inputs were carried out and the driver also does not recognize the warning light to manually reactivate the VSC system, then operating the vehicle with an inoperative VSC system could increase the risk of a crash in certain driving conditions.

FMVSS 1 : 126 - Electronic stability control systems

FMVSS 2 : NR

Description of the Safety Risk : In this specific scenario, the VSC will not meet the requirements of FMVSS 126, paragraph S5.4.1. Unless these precise operating inputs are followed, VSC operation will automatically return to the default VSC ON setting at any subsequent ignition cycle. If the VSC does not default to VSC ON, a warning light will illuminate, indicating to the driver that the VSC is not activated. If the VSC does not return to the default ON setting because the precise

operating inputs were carried out and the driver also does not recognize the warning light to manually reactivate the VSC system, then operating the vehicle with an inoperative VSC system could increase the risk of a crash in certain driving conditions.

Description of the Cause : NR

Identification of Any Warning
that can Occur : NR

Involved Components :

Component Name 1 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-48090

Component Name 2 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-08070

Component Name 3 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-42210

Component Name 4 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-42191

Component Name 5 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-48111

Component Name 6 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-60230

Component Name 7 : ACTUATOR ASSY, BRAKE

Component Description : Brake Actuator Assembly

Component Part Number : 44510-78050

Component Name 8 : ACTUATOR ASSY, VSC

Component Description : Brake Actuator Assembly

Component Part Number : 44540-62011

Component Name 9 : ACTUATOR ASSY, VSC

Component Description : Brake Actuator Assembly

Component Part Number : 44540-62031

Component Name 10 : ACTUATOR ASSY, VSC

Component Description : Brake Actuator Assembly

Component Part Number : 44540-50231

Supplier Identification :

Component Manufacturer

Name : ADVICS CO.,LTD.

Address : 2-1 Showa-machi

Kariya, Aichi Foreign States 448-8688

Country : Japan

Chronology :

During the evaluation process of a vehicle under development, on February 8, 2022, a Toyota team member

observed that the VSC system did not automatically return to the default setting (VSC ON) at the next ignition cycle after the VSC had been turned off using the in-vehicle control. Based on this observation, Toyota proceeded to review the software logic of the Skid Control ECU which controls the VSC system. A review of the software logic found that "Brake Pedal OFF" had been added to the list of parameters required for the VSC to return to the default "ON" setting after the VSC had been manually deactivated. In the vehicle under development, it was found that by introducing the Brake Pedal OFF parameter, depressing the brake pedal through the end of one ignition cycle and into the start of the next ignition cycle caused the VSC not to return to the default setting at the subsequent ignition cycle if the driver had manually turned off the VSC using the in-vehicle control. Further investigation confirmed that similar software logic which included the Brake Pedal OFF parameter was used for the Skid Control ECU in certain production vehicles. Based on this information, on April 7, 2022, Toyota determined that the vehicles with a Skid Control ECU which contains this specific software logic do not meet the requirements of FMVSS No.126, paragraph S5.4.1. because the VSC does not default to VSC ON at the start of each ignition cycle if the specific operating inputs are followed.

Description of Remedy :

Description of Remedy Program : All known owners of the subject vehicles will be notified by first class mail to return their vehicles to a Toyota or Lexus dealer. The dealers will update the software of the Skid Control ECU, free of charge. As the owner notification letters will be mailed out well within the active period of the Toyota New Vehicle Limited Warranty, all involved vehicle owners for this recall would have been provided a repair at no cost under Toyota's Warranty.

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 of the affected vehicles will begin by June 12, 2022. A copy of the draft owner notification letter(s) will be submitted as soon as available. Notifications to distributors/dealers will be sent on April 13, 2022. Copies of dealer communications will be submitted as they are issued.

Planned Dealer Notification Date : APR 13, 2022 - APR 13, 2022

Planned Owner Notification Date : MAY 16, 2022 - JUN 12, 2022

* NR - Not Reported