

Part 573 Safety Recall Report

20V-024

Manufacturer Name : Toyota Motor Engineering & Manufacturing**Submission Date :** MAR 19, 2020**NHTSA Recall No. :** 20V-024**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 : 2,891,976
Estimated percentage with defect : NR

Vehicle Information :**Vehicle 1 :** 2011-2019 Toyota Corolla**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) Other Toyota or Lexus vehicles sold in the U.S. are equipped with an SRS ECU of a different design, not containing the DS84 ASIC, or are equipped with an SRS ECU containing the DS84 ASIC, but, due to different body construction and other factors, Toyota believes at this time that an occurrence of a sufficient negative transient at a timing that can affect airbag deployment in a crash is unlikely. Note: Toyota is unable to provide an estimate for the percentage of vehicles estimated to contain the defect. Although the involved vehicles potentially are equipped with the subject ECU, damage to the application-specific integrated circuit (ASIC) that will affect airbag deployment can occur only under a very narrow set of factors and circumstances in a crash that Toyota believes to be rare. However, Toyota is unable to estimate the likelihood for this to occur in the real world.

Production Dates : NOV 23, 2010 - FEB 25, 2019**VIN Range 1 : Begin :**

NR

End : NR **Not sequential****Vehicle 2 :** 2011-2013 Toyota Corolla Matrix**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) Other Toyota or Lexus vehicles sold in the U.S. are equipped with an SRS ECU of a different design, not containing the DS84 ASIC, or are equipped with an SRS ECU containing the DS84 ASIC, but, due to different body construction and other factors,

Toyota believes at this time that an occurrence of a sufficient negative transient at a timing that can affect airbag deployment in a crash is unlikely. Note: Toyota is unable to provide an estimate for the percentage of vehicles estimated to contain the defect. Although the involved vehicles potentially are equipped with the subject ECU, damage to the application-specific integrated circuit (ASIC) that will affect airbag deployment can occur only under a very narrow set of factors and circumstances in a crash that Toyota believes to be rare. However, Toyota is unable to estimate the likelihood for this to occur in the real world.

Production Dates : DEC 06, 2010 - JUN 18, 2013

VIN Range 1 : Begin :

NR

End : NR

Not sequential

Vehicle 3 : 2013-2018 Toyota Avalon HV

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) Other Toyota or Lexus vehicles sold in the U.S. are equipped with an SRS ECU of a different design, not containing the DS84 ASIC, or are equipped with an SRS ECU containing the DS84 ASIC, but, due to different body construction and other factors, Toyota believes at this time that an occurrence of a sufficient negative transient at a timing that can affect airbag deployment in a crash is unlikely. Note: Toyota is unable to provide an estimate for the percentage of vehicles estimated to contain the defect. Although the involved vehicles potentially are equipped with the subject ECU, damage to the application-specific integrated circuit (ASIC) that will affect airbag deployment can occur only under a very narrow set of factors and circumstances in a crash that Toyota believes to be rare. However, Toyota is unable to estimate the likelihood for this to occur in the real world.

Production Dates : MAY 22, 2012 - MAR 29, 2018

VIN Range 1 : Begin :

NR

End : NR

Not sequential

Vehicle 4 : 2012-2018 Toyota Avalon

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) Other Toyota or Lexus vehicles sold in the U.S. are equipped with an SRS ECU of a different design, not containing the DS84 ASIC, or are equipped with an SRS ECU containing the DS84 ASIC, but, due to different body construction and other factors, Toyota believes at this time that an occurrence of a sufficient negative transient at a timing that can affect airbag deployment in a crash is unlikely. Note: Toyota is unable to provide an estimate for the percentage of vehicles estimated to contain the defect. Although the involved vehicles potentially are equipped with the subject ECU, damage to the application-specific integrated circuit (ASIC) that will affect airbag deployment can occur only under a very narrow set of factors and circumstances in a crash that Toyota believes to be rare. However, Toyota is unable to estimate the likelihood for

this to occur in the real world.

Production Dates : MAY 10, 2012 - APR 13, 2018

VIN Range 1 : Begin :

NR

End : NR

Not sequential

Description of Defect :

Description of the Defect : The subject vehicles may be equipped with an airbag control module for the supplemental restraint system (SRS ECU) manufactured by ZF-TRW. The ECU receives signals from crash sensors and deploys the air bags and seat belt pretensioners in accordance with design specifications. This ECU contains a model DS84 application-specific integrated circuit (ASIC) which controls the communication of the crash sensor signals, firing commands (i.e., when to deploy the airbag(s) and/or pretensioners), and fault information (e.g., diagnostic trouble codes).

This ASIC does not have sufficient protection against negative electrical transients that can be generated in certain severe crashes, such as an underride frontal crash where there is a large engine compartment intrusion before a significant deceleration. In these cases, the crash sensor and other powered wiring can be damaged and shorted so as to create a negative electrical transient of sufficient strength and duration to damage the ASIC before the deployment signal is received in the SRS ECU. This can lead to incomplete or nondeployment of the air bags and/or pretensioners. In model year 2014-2019 Corollas, one potential mechanism contributing to the short circuit appears to be the headlight mounting bracket engagement with the crash sensor wiring along with damage to powered wiring. In the other involved vehicles, the mechanism which could create a sufficient negative electrical transient in a crash is not fully understood and is under investigation. Airbag non-deployment and/or lack of pretensioner operation can increase the risk or severity of injury in a crash.

FMVSS 1 : NR

FMVSS 2 : NR

Description of the Safety Risk : In these cases, the crash sensor and other powered wiring can be damaged and shorted so as to create a negative electrical transient of sufficient strength and duration to damage the ASIC before the deployment signal is received in the SRS ECU. This can lead to incomplete or nondeployment of the air bags and/or pretensioners. In model year 2014-2019 Corollas, one potential mechanism contributing to the short circuit appears to be the headlight mounting bracket engagement with the crash sensor wiring along with damage to powered wiring. In the other involved vehicles, the mechanism which could create a sufficient negative electrical transient in a crash is not fully understood and is under investigation. Airbag non-deployment and/or lack of pretensioner operation can increase the risk or severity of injury in a crash.

Description of the Cause : NR

Identification of Any Warning NR
that can Occur :

Supplier Identification :

Component Manufacturer

Name : ZF Friedrichshafen AG
Address : Löwentaler Straße 20
ZF Forum Friedrichshafen FOREIGN STATES 88046
Country : Germany

Chronology :

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

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 dealer. In most cases, the dealers will install a noise filter between the airbag control module and its wire harness. In some cases, Toyota may inspect the ECU to determine if the noise filter is necessary before installing it. 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 : See attached Part 573 Defect Information Report

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

Recall Schedule :

Description of Recall Schedule : Notifications to owners of the affected vehicles will occur by March 17, 2020. A copy of the draft owner notification will be submitted as soon as it is available. Notifications to distributors/dealers will be sent on January 21, 2020. Copies of dealer communications will be submitted as they are issued.

Planned Dealer Notification Date : JAN 21, 2020 - JAN 21, 2020

Planned Owner Notification Date : MAR 17, 2020 - MAR 17, 2020

* NR - Not Reported