

April 27, 2017

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

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

Toyota Motor Manufacturing de Baja California, S. de R. L. de C.V. ["TMMBC"]
Carretera Tijuana Tecate Kilometro 143 y 144
Tijuana, Baja California C. P. 22550

Affiliated U.S. Sales Company

Toyota Motor Sales, USA, Inc. ["TMS"]
19001 South Western Avenue, Torrance, CA 90501

Manufacturer of Rear Carrier Differential Housing

Hino Motors Manufacturing USA Inc.
37777 Interchange Dr.
Farmington Hills, MI 48335
Telephone: +1-248-442-9077

Country of Origin: USA

2. Identification of Involved Vehicles and Affected Components:

Based on production records, we have determined the involved vehicle population as in the table below.

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota Tacoma	2016 - 2017	TMMTX TMMBC	August 18, 2015 through March 24, 2017

Part Number	Part Name	Component Description
Not applicable		

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) Only vehicles equipped with the BD20D rear differential carrier are affected; other rear differential carriers are not affected.

(3) No other Toyota or Lexus vehicles sold in the U.S. utilize the same BD20D rear differential carrier and fastening nuts.

3. Total Number of Vehicles Potentially Involved:

227,732

4. Percentage of Vehicles Estimated to Actually Contain the Defect:

Unknown

5. Description of Problem:

The subject vehicles are equipped with rear differential carriers assembled to rear axle housings. Due to potential sealing surface contact variation, there is a possibility that the sealing performance may degrade and the nuts fastening the differential carrier to the axle housing may become loose. If this were to occur, the rear differential may leak oil. If the vehicle is continuously operated in this condition, the rear differential could become damaged, which can result in noise and reduced propulsion. In some cases the rear differential could seize, resulting in loss of control and increasing the risk of a crash.

6. Chronology of Principal Events:

December 2015- Late March 2016

In late December 2015, Toyota received a report from a dealer in the U.S. market indicating that the rear drive shaft fell off and the rear differential pinion broke off from a 2016 model year Tacoma vehicle. An inspection of the vehicle found oil leaking from the rear differential carrier, and the nuts fastening the rear differential carrier to the rear axle housing were loose.

Toyota and the supplier reviewed the assembly process of the rear differential carrier to the rear axle housing, but could not identify a point in the process where low torque of the differential carrier fastening nuts might occur. Toyota and the supplier continued to monitor the field.

Subsequent to the first report, Toyota received additional reports and warranty claims between January and late March from the U.S. market indicating rear differential oil leakage or reduced propulsion on 2016 model year Tacoma vehicles. An inspection of these vehicles found oil leakage and loose fastening nuts. Rear differential carriers, axle housings, and the gasket located between those parts were recovered and sent to the supplier for further investigation. During the evaluation by the supplier, it was found that a damaged or torn gasket could affect the sealing performance between the carrier and the housing. To prevent the potential damage to the gasket, the supplier updated the production process in late March 2016 to remove burrs, dents, and scratches from the differential carrier and axle housing surface to enhance the sealing performance.

April 2016- Mid-April 2017

Toyota received additional field reports and warranty claims indicating oil leakage and loose fastening nuts, and some reported vehicles that were produced after March 2016. In some cases, it was reported that the rear differential could become damaged internally, followed by a lock-up condition. Returned parts investigation observed hand loose fastening nuts and abnormal gear wear in the differential; it was concluded that oil leakage would occur first, leading to abnormal gear wear due to lack of lubrication. Toyota requested the supplier to increase the tightening torque of the nuts within the design specification in late June 2016.

Toyota continued its investigation and evaluation efforts, including initiating a torque study with the intention of identifying potential torque reductions of the differential carrier fastening nuts during part and vehicle shipment, investigating the process differences between the assembly plant in the U.S. and that in Thailand (where the similar rear differentials are produced) and comparison of the nut design change between 2015 and 2016 model year Tacoma vehicles.

Toyota completed the investigation and found a slight drop in tightening torque of fastening nuts at final vehicle assembly. It was determined that the robustness of gasket sealing could become reduced due to a “creep relaxation” after initial assembly at the supplier, thus decreasing the torque required to loosen the nuts. It was also confirmed that creep relaxation of the gasket is a one-time occurrence phenomenon; retightening of the fastening nuts after creep relaxation prevents further torque loss. A process to retighten the fastening nuts after vehicle assembly was made in late March 2017.

Based on the investigation results, it was determined that, due to sealing surface contact variation, such as burrs, and creep relaxation of the gasket located between the differential carrier and axle housing, the sealing performance may degrade, and the nuts fastening the differential carrier to the axle housing may become loose, causing oil to leak from the rear differential carrier. If the vehicle is continuously operated in this condition, the rear differential could become damaged, which can result in noise and reduced propulsion. In some cases the rear differential could seize, resulting in loss of control.

April 21, 2017

Based on the results of the above investigation, Toyota decided to conduct a voluntary safety recall campaign.

As of April 20, 2017, based on a diligent review of records, Toyota's best engineering judgement is that there are 40 Toyota Field Technical Reports and 355 warranty claims (including 298 unverified claims) that have been received from U.S. sources that relate to oil leaks, noise, reduced propulsion, or differential seizure, and which were considered in the decision to submit this report.

7. Description of Corrective Repair Action:

All known owners of the subject vehicles will be notified by first class mail to return their vehicles to a Toyota dealer. Dealers will check the rear differential for any oil leakage. If no leaks are found, all fastening nuts will be re-tightened. If leakage is found, the rear differential carrier gasket will be replaced with a new one, and new fastening nuts will be installed. If the rear differential components are damaged, the rear differential carrier assembly will be replaced with a new one. This remedy will be at no cost to owners.

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 will begin by mid-June, 2017. A copy of the draft owner notification letter will be submitted as soon as available.

9. Distributor/Dealer Notification Schedule:

Notifications to distributors/dealers will be sent on April 27, 2017. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer's Campaign Number:

H0G