

December 19, 2018

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Corporation ["TMC"]
1, Toyota-cho, Toyota-city, Aichi-pref., 471-8571, Japan

Affiliated U.S. Sales Company:

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

Manufacturer of Continuously Variable Transmission (CVT) and torque converter:

TOYOTA MOTOR HOKKAIDO, INC.
145-1 Yufutsu, Tomakomai-shi, Hokkaido, 059-1393, Japan
Telephone: +81-144-57-2121

Country of Origin: Japan

2. Identification of Involved Vehicles:

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota / Corolla Hatchback	2019	TMC	August 8, 2018 through October 16, 2018

Applicability	Part Number	Part Name	Component Description
MY2019 Toyota Corolla Hatchback	30410-12400	Transaxle ASSY, CV w / Torque converter	Continuously Variable Transmission with torque converter

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

- (2) This issue only affects the vehicles which are equipped with a specific torque converter produced at a specific facility during a specific production period. Other Toyota or Lexus vehicles sold in the U.S. are not equipped with those torque converters.

3. Total Number of Vehicles Potentially Involved:

3,424

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

100%

5. Description of Problem:

The subject vehicles are equipped with a Continuously Variable Transmission (CVT) assembly that uses a pump impeller and transmission oil in the torque converter to transfer engine power from the engine to the transmission. There is a possibility that, due to an error in the manufacturing process at the facility where the torque converters were assembled, some of the blades of the pump impeller in the torque converter may have been inadequately assembled to the pump impeller. If the vehicle is frequently operated in higher load conditions, such as under rapid acceleration from a low speed, the blades could detach from the pump impeller, leading to damage to the torque converter and potentially a loss of motive power. Loss of motive power while driving at higher speeds could increase the risk of crash.

6. Chronology of Principal Events:

Late September 2018 – Early October 2018

On September 28, 2018, during a vehicle function test at Toyota's final vehicle assembly facility, an abnormal noise was observed near the Continuously Variable Transmission (CVT) and the torque converter on one tested vehicle. Subsequently, during the driving test of this vehicle, a loss of motive power occurred. Toyota recovered the CVT and the torque converter from the vehicle for investigation. The investigation of the recovered parts showed that, in the torque converter, the blades had detached from the pump impeller sub-assembly.

Toyota continued its investigation and obtained three parts from within the transmission manufacturing facility for evaluation. It was discovered that the individual pull-out load of certain blades of the pump impeller was lower than the specification. A further review of the manufacturing process change history indicated that a jig in the pump impeller assembly process was changed on August 3, 2018. The jig was not properly installed at the time of the change. Toyota immediately adjusted the jig on October 10, 2018 and began an effort to

gather additional parts from the transmission facility, a vehicle assembly plant, and port locations for evaluation to further study the influence of the jig mis-location.

Late October 2018 – Early December 2018

As the investigation continued, in late October 2018, Toyota received a field technical report from the U.S. market about a 2019 MY Corolla hatchback vehicle, indicating a loss of motive power while driving in city traffic. The dealer had inspected the vehicle and found an abnormal shift feeling and observed an abnormal noise when the shift lever was put into a gear with the vehicle on and the engine idling. The CVT and the torque converter were recovered and sent to Toyota for inspection and evaluation. Investigation of the recovered CVT and torque converter indicated that the blades had detached from the pump impeller sub-assembly.

In addition, additional testing and analysis was conducted on the additional parts that Toyota gathered from various facilities. A pull-out load study on the blades of the pump impeller and a durability test of the torque converters were conducted. The evaluation result showed that the individual pull-out load of certain blades of the pump impeller (for the parts which were produced during the period of jig mis-location) was likely to be lower than the specification. Further, the durability testing indicated that the parts produced during the period of jig mis-location did not meet the part's durability cycling specification and that this result differed from similar tests conducted on parts produced outside of the period of jig mis-location.

It was determined that, due to the mis-location of the jig, some of the blades of the pump impeller in the torque converter may have been inadequately assembled to the pump impeller, which may cause the individual pull-out load of certain blades to become lower than the manufacturing specification. If this were to occur and the vehicle is frequently operated in higher load conditions, such as under rapid acceleration from a low speed, the blades could detach from the pump impeller, leading to damage of the torque converter and potentially a loss of motive power.

December 13, 2018

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

As of December 10, 2018, based on a diligent review of records, Toyota's best engineering judgment is that there are nine Toyota Field Technical Reports (including eight unconfirmed reports) and no warranty claims that have been received from U.S. sources that relate to the torque converter failure described above, 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. The dealers will replace the continuously variable transmission and torque converter with a new one.

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 be sent by February 17, 2019. A copy of the draft owner notification will be submitted as soon as it is available.

9. Distributor/Dealer Notification Schedule:

Notifications to distributors/dealers will be sent on December 19, 2018. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer’s Campaign Number:

[Interim / Remedy]: J17 / J07