

October 11, 2018

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Manufacturing Turkey Inc. ["TMMT"]
Toyota Caddesi No:2 54580 Arifiye, Sakarya, Turkey

Affiliated U.S. Sales Company:

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

2. Identification of Involved Vehicles:

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota / C-HR	2019	TMMT	June 30, 2018 through July 28, 2018

Applicability	Part Number	Part Name	Component Description
Not applicable			

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 involves certain 2019MY Toyota C-HR vehicles produced at TMMT during a specific period. Other Toyota or Lexus vehicles sold in the U.S. are produced at different plants using different processes and are equipped with a different rear axle hub and bearing assembly that are not affected.

3. Total Number of Vehicles Potentially Involved:

681

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

No more than 0.1%. Toyota estimated this based on the results of inspections that, as of September 25th, out of 4500 inspected vehicles, there were 4 vehicles with the hub bearing bolts not tightened sufficiently.

5. Description of Problem:

The subject vehicles are equipped with left-hand and right-hand rear axle hub bearing assemblies which are each assembled to the rear axle carrier sub-assemblies by four rear axle bearing bolts. There is a possibility that one or more rear axle bearing bolts on some vehicles may not have been tightened sufficiently during the manufacturing process at the particular facility at which the vehicles were assembled. In this condition, the bolt(s) could become loose during vehicle operation and could eventually detach. The detached bolt(s) could damage the rear brake components during rotation, or could cause the rear wheel(s) to detach, resulting in a reduction of brake performance or a potential loss of vehicle stability, which could increase the risk of a crash.

6. Chronology of Principal Events:

Late August 2018 – Late September 2018

In late August, Toyota received a field report from the Russia market about a 2018MY C-HR indicating that one of four rear left-hand axle hub and bearing bolts was missing and the remaining three bolts were loose. After receiving this information, Toyota Motor Manufacturing Turkey (TMMT) immediately began to study if there was any abnormality in the hub and bearing assembly manufacturing process. During a review of the production history, it was discovered that, in the production period from June 18th to June 22nd, which was after a planned manufacturing facility shutdown from June 10th to 17th, tightening errors occurred sporadically in the hub bearing tightening process. Under normal production operations, once a tightening error is detected during the tightening of the hub and bearing bolts, the parts that had not been correctly tightened by the automatic nut runner would remain in the tightening station, and would not flow to the next process until the bolts were tightened with the backup tightening tool (torque wrench) by a production team leader. Additionally, the vehicle in the Russia report was produced on June 22nd, but no tightening record related to the hub and

bearing bolt tightening process was identified for the vehicle. Toyota began an investigation of the changes that were made to the in-line repair process during the shutdown period.

Before the shutdown period, when a part experiences a tightening error, the part would not flow to the next process until the bolts were tightened with the backup tightening tool by a production team leader and an electrical signal was sent to the equipment to confirm that the torque met the requirement. During the shutdown period, there were several process and equipment changes in the hub and bearing assembly manufacturing process that had been made, and it was discovered that, after those changes, the production team leader started tightening the bolts with the backup tightening tool which would not send the electrical signal to the equipment to confirm the torque and allow the passing of parts to the next process. Toyota suspected that the hub and bearing bolts of the reported vehicle were not re-tightened sufficiently or may not have been re-tightened at all, and the production team leader may not have confirmed the bolt torque. Although the investigation was still on-going, to eliminate the possibility of untightened assemblies flowing out, TMMT initiated a 100% tightening torque confirmation by the production inspector starting on August 27, 2018. At the same time, TMMT also made a series of improvements to prevent potential factors from occurring that could lead to a bolt tightening error, including a backup tightening tool update in the in-line repair process, enhancing the process for confirming that a part with a tightening error would be properly assembled.

To study whether the report from the Russia market was an isolated incident, TMMT started to inspect the vehicles in Toyota inventory equipped with the hub and bearing assemblies that were produced in the period from June 18th to June 22nd, and that had no bolt tightening record. As Toyota conducted this vehicle inspection activity, a field report was received on September 18th from the UK market describing a C-HR vehicle with two of four rear left-hand axle bearing bolts missing and two others loose. Toyota immediately reviewed the in-line records and found that the vehicle was produced on July 10th, which is outside the originally suspected period. It appeared that the condition may not be limited to hub and bearing assemblies which had experienced a re-tightening process as previously suspected.

Toyota continued to investigate the changes that were made to the production process during the facility shutdown period. Toyota discovered that, as a result of a change that was made during the shutdown, the hub and bearing bolt tightening process and the next process (which were originally a single process) were split into two separate processes to improve production. It was found that, after the tightening process of the hub and bearing bolts, a cylinder would move down to allow the parts to pass to the next process, and a limit switch, which is located between

the tightening process and the next process, would detect this passing and control the cylinder to move up to block the next untightened assembly. However, due to the inappropriate setting of the limit switch, the switch may not have been able to detect the passing of the assembly and may not have controlled the cylinder to block the subsequent assembly. In the event that the production team member unintentionally moved an untightened assembly, the cylinder would not be able to block the untightened assembly from flowing to the next process, which could generate a blank tightening record for the assembly. This condition may have caused four rear bearing bolts on the vehicles, produced in the production period indicated in Section 2 above, not to have been tightened sufficiently during the manufacturing process. It was also determined that, in this condition, the bolt(s) could become loose during vehicle operation and could eventually detach. The detached bolt(s) could damage the rear brake components during rotation, or could cause the rear wheel(s) to detach, resulting in a reduction of brake performance, or a potential loss of vehicle stability.

October 5, 2018

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

As of October 4, 2018, based on a diligent review of records, Toyota's best engineering judgment is that there are no Toyota Field Technical Reports or warranty claims that have been received from U.S. sources that relate to this condition 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 to have the rear axle hub bearing bolts inspected. If a bolt is found to be loose or detached, the dealer will replace the rear axle hub bearing assembly and rear axle carrier sub-assembly with new ones.

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 early November, 2018. 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 October 11, 2018. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer's Campaign Number:

J0Y