

November 21, 2024

## 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 Steering Intermediate Shaft Assembly:

JTEKT CORPORATION  
1-1 Kotobuki-cho, Toyota-city, Aichi, 471-0834 Japan  
Phone: +81-565-28-2219

Country of Origin: Japan

2. Identification of Involved Vehicles and Affected Components:

Based on production records, we have determined the involved vehicle population to be the vehicles listed in the table below.

| Make/Car Line              | Model Year | Manufacturer | Production Period                             |
|----------------------------|------------|--------------|---|
| Toyota / Corolla           | 2023-2024  | TMC          | July 12, 2023<br>through<br>September 8, 2023 |
| Toyota / Corolla<br>Hybrid |            |              |   |

| Applicability                           | Part Number | Part Name                                  | Component Description               |
|---|-------------|--|-------------------------------------|
| MY2023-2024<br>Toyota Corolla           | 45260-12830 | Shaft Assy, Steering<br>Intermediate, No.2 | Steering Intermediate<br>Shaft Assy |
| MY2023-2024<br>Toyota Corolla<br>Hybrid |             |  |                                     |

- 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 in the above production range may have been equipped with a steering intermediate shaft assembly that may have been manufactured with cracks due to specific production issues as described in Section 6 below. Other Toyota and Lexus vehicles were not equipped with steering shafts that were produced under these conditions.

3. Total Number of Vehicles Potentially Involved:

Toyota Corolla : 3,232  
Toyota Corolla Hybrid : 4,825  
Total : 8,057

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

Toyota is unable to estimate the percentage of the involved vehicles to contain the defect. Whether the issue, in each case, will cause the breakage of the upper universal joint depends on conditions of the manufacturing process at the supplier and stress created by steering inputs described in section 6. However, as the NHTSA manufacturer portal requires an integer value be entered, Toyota has entered the value “1” in response to this question in the portal. For the purpose of this report, “1” means “unknown”.

5. Description of Problem:

The steering system of the subject vehicles consists of a steering intermediate shaft assembly, which connects the steering wheel to the steering rack. There is a possibility that the upper universal joint on the steering intermediate shaft assembly may have developed cracks during the manufacturing process at a supplier. During use, the cracks may grow over time due to stress created by steering inputs. If the cracks grow sufficiently, this can lead to abnormal noise, abnormal steering vibration, and additional play in the steering wheel while turning. Eventually, the universal joint can separate. If the vehicle is in motion, this may cause a loss of steering control and an increased risk of a crash.

6. Chronology of Principal Events:

October, 2023 – December, 2023

In October 2023, Toyota received information from the supplier indicating that there was a possibility steering intermediate shafts may have been manufactured with cracks on the U-shape portion of the upper universal joint. The supplier quarantined all inventory that was manufactured with the same production process. The supplier inspected approximately 140,000 parts that were quarantined and found cracks in 20 parts.

The supplier analyzed the 20 parts with cracks to determine which parts had the largest cracks. The supplier conducted durability bench testing on 9 parts, which had the largest cracks. As a result, 1 part did not meet the durability requirements of the design specification. Based on the above tests, Toyota concluded that the possibility that a steering intermediate shaft was distributed into the market with cracks that could lead to breakage during vehicle use was extremely low.

January, 2024 – October, 2024

Toyota and the supplier investigated the forging process and found that the possibility of crack occurrence increased if the difference in the friction coefficient between the inside surface and outside surface of the U-shape was larger during pressing.

Based on the above findings, the supplier identified that the amount of lubricant applied to the workpiece before forging was reduced during a specific period due to a specific spraying condition, and this was a factor that could increase the friction coefficient during forging. In addition, there was production history that showed the forging facility experienced stoppages during the same period. The supplier determined that forging facility stoppages could cause the workpiece to be left for long periods of time, further reducing the amount of lubricant and increasing the friction coefficient during forging. When performing a reproduction test with these two production conditions, the supplier reproduced the crack occurrence in the U-shape

portion of the upper shaft.

#### Early November 2024

From the above investigation results, the supplier was able to revise the production period in which shafts with cracks might have been produced. The supplier determined that approximately 4,700 parts that were manufactured during this period were a part of the original quarantined population, including the 1 shaft that did not meet design specification during durability testing. Based on this new production information, Toyota revised its calculation of intermediate shafts with cracks that could lead to breakage during vehicle use that may have been distributed in the market.

#### November 15, 2024

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

As of November 14, 2024, based on a diligent review of records, Toyota's best engineering judgment is that there are no Toyota Field Technical Reports and no warranty claim that have been received from U.S. sources that relate or may 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 to return their vehicles to a Toyota dealer. For all involved vehicles, the dealer will replace the intermediate shaft with a new one, free of charge.

#### 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 January 20, 2025. 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 November 21, 2024. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer's Campaign Number:

Interim / Remedy: 24TB13 / 24TA13