

August 29, 2018

DEFECT INFORMATION REPORT

1. Vehicle Manufacturer Name:

Toyota Motor Manufacturing, Kentucky, Inc. ["TMMK"]
1001 Cherry Blossom Way, Georgetown, KY, 40324

Affiliated U.S. Sales Company:

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

Manufacturer of Seat Belt Buckle

Joyson Safety Systems, Santa Rosa Plant
Carretera a Santa Rosa Km 3.5, C.P. 66600
Apodaca, N.L. México
Phone: +52 818 156 1100 Ext. 358735

Country of Origin: Mexico

2. Identification of Involved Vehicles:

Make/Car Line	Model Year	Manufacturer	Production Period
Toyota / Avalon	2012	TMMK	December 5, 2011 through October 22, 2012

Applicability	Part Number	Part Name	Component Description
MY2012 Avalon	73230-07021	Belt Assembly, Front	Front passenger seat
	73230-AC091	Seat Inner, RH	inner seat belt assembly
	73240-AC061	Belt Assembly, Front	Driver seat inner seat
		Seat Inner, LH	belt assembly

- 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) Only vehicles in the above production range which have had one or two of 97 service replacement parts installed are affected; production parts are not affected.
- (3) No other Toyota vehicles utilize the same buckle.

3. Total Number of Vehicles Potentially Involved:

19,354

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

No more than 0.5%. There are 97 suspect service parts which were shipped to dealers and potentially installed in the involved population of vehicles.

5. Description of Problem:

The subject vehicles are originally equipped with front seat belt inner buckles which use a hall effect switch to determine if the seat belt is buckled or unbuckled. Due to a manufacturing error at the buckle supplier, some vehicles may have had a front seat belt inner buckle replaced during a repair with a service part that does not contain a magnet as part of the hall effect switch. This would cause the signal from the switch to appear as if the seat belt is always buckled. In this condition, the SRS system may not use the appropriate airbag deployment logic as designed. In the event of a crash, this could increase the risk of injury to the occupant in the seat(s) where the seat belt buckle was replaced.

6. Chronology of Principal Events:

March 2018

On March 14, a dealer technical assistance case was created involving a 2012 model year Toyota Avalon in which the passenger "Airbag Off" light was constantly illuminated. After further investigation at the dealer, the cause of the condition was narrowed to the front seat belt inner buckle, but the reason was not known. On this vehicle, this buckle was previously replaced with a service part for an unknown reason, but the customer had only recently noticed the airbag indicator light was constantly illuminated. During the investigation, multiple replacement service parts of the applicable part number were installed, but the condition was still present. The issue was not present when a production part from another vehicle was installed in the affected vehicle. Service parts used in the diagnosis of the subject vehicle were sent to the supplier for investigation and Toyota began a containment to hold all service parts of the same part number that were in part distribution center inventory.

April –May 2018

The parts recovered from the dealer and contained in Toyota's part inventory were inspected by the supplier. The service parts recovered from the dealer were found to be missing magnets in the buckle which are part of a hall effect switch that indicates if the seat belt is buckled or unbuckled. In this condition, the signal from the switch would appear as if the buckle was constantly set (buckled). None of the service parts from Toyota's inventory were found to have the magnet missing. Investigation of the service part assembly and quality check processes began to determine how the missing magnet condition occurred and if other service parts may be affected.

Following further investigation by the supplier, it was reported that a specific buckle mechanism, which was intended for buckles assembled for another vehicle manufacturer and did not contain the magnets, were used in the assembly of the Toyota buckles on the service part assembly line, which was separate from the lines used to assemble Toyota mass production parts at that time. This buckle mechanism intended for buckles for the other vehicle manufacturer is of the same shape and appearance as those used in the Toyota buckles. These similar buckle mechanisms were positioned near the location where the Toyota buckle mechanisms were also stored. It is possible that an operator in the service part assembly line could mis-install a buckle mechanism, which was intended for buckles for the other vehicle manufacturer, in a buckle for Toyota. Additionally, the service parts had been assembled by a single team member that completed all assembly and in line check functions. It is possible that the final in line check, which would have identified a non-functioning switch, may not have been completed. In normal mass production part assembly, the assembly and inline checks are completed by separate people dedicated to each step, so an omission of a step is not likely to occur. The part supplier implemented an additional part audit check to verify switch function and relocated non-Toyota parts to another area—reducing the likelihood of installing an incorrect part into a buckle assembly.

Through a part design review, the supplier identified the potential part numbers affected based on the part numbers that use this same mechanism. The supplier determined that these potentially affected parts are only applicable to a specific production range of 2012 model year Avalons. A review of production records determined that this population of suspect parts consisted of 136 service parts produced from the beginning of service part production up to the current date (October 2012 to April 2018). Based on this information, Toyota expanded the part containment to these part numbers and population. All of parts in Toyota's inventory were inspected and found to have the correct mechanism containing the magnet. The only parts identified as missing the magnet were the parts which had been recovered from the original affected Avalon and the service parts ordered by that dealer.

June – August 2018

A test vehicle was evaluated with an affected part installed and a system design review conducted to investigate the effect of the missing magnet in the buckle switch as well as detectability of the condition to the customer. Based on the evaluation and design review, it was determined that the mis-built service parts may result in inappropriate airbag deactivation or deployment logic based on the buckle's installed location, the status of the occupant and their actual seat belt buckle status. If an affected buckle were installed at the front passenger position, the "Airbag Off" indicator light would be constantly illuminated regardless of the status of the occupant. There would be no detectable conditions during normal vehicle operation if an affected buckle were installed at the driver's position.

To identify whether there are potentially affected vehicles in the field, Toyota began investigating vehicle service history based on the replaced component part numbers, as well as part order history. As a result of the investigation, Toyota determined that there are vehicles which may have received a suspect service part. However, not all vehicles which may have received a suspect service part could be identified. No additional confirmed field cases were identified which allege a similar condition related to the seat belt buckle.

August 23, 2018

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

As of August 23, 2018, based on a diligent review of records, Toyota's best engineering judgment is that there are no Toyota Field Reports and no warranty claims other than the one subject Avalon, 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 vehicles that may contain one of the 97 suspect service parts will be notified via first class mail to return their vehicles to a Toyota dealer. Dealers will inspect the signal from the switch to verify if an unbuckled (unset) condition is detected (indicating a magnet is present), and replace the inner seat belt assembly as needed.

Reimbursement Plan for pre-notification remedies

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.

8. Recall Schedule:

Notifications to owners of the affected vehicles will begin by mid-September, 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 August 29, 2018. Copies of dealer communications will be submitted as they are issued.

10. Manufacturer's Campaign Number:

J0S