



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE 15-022
Date Opened: 06/09/2015
Investigator: Paul Simmons
Approver: Otto Matheke
Subject: Lower ball joint separation
Date Closed: 08/20/2015
Reviewer: Jeff Quandt

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Mazda Motor Corp.
Products: 2007-2014 Mazda CX-9
Population: 193,484

Problem Description: A front suspension lower control arm ball joint may separate while driving, resulting in a loss of vehicle control.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	34	31	62**
Crashes/Fires:	1	0	1
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0

** Total eliminates duplicates received by ODI and manufacturer.

ACTION / SUMMARY INFORMATION

Action: This Preliminary Evaluation is closed. Recall 15V-451.

Summary:

In an July 7, 2015 letter to NHTSA, Mazda identified a safety defect that could result in lower ball joint separation in approximately 193,484 model year (MY) 2007 through 2014 Mazda CX-9 vehicles (NHTSA Recall No. 15V-451, Mazda 8515G). Mazda indicated that damage to the ball joint boot may allow water to enter the front suspension ball joint fitting during use which may result in premature ball joint wear and a progressively looser joint. In January 2014, Mazda implemented redesigned lower control arms in production vehicles to improve the durability of the lower ball joints. The redesign involved changing the shape of the top surface of the ball joint boot cover and adding a suspension plate to the undersurface of the knuckle. Mazda's recall will replace the defect lower control arms with the redesigned parts.

ODI's analysis of information collected during PE15-022 identified a total of 62 ball joint separation incidents, including 34 identified in ODI complaints and 31 identified in Mazda complaints and field reports (3 of the Mazda records involve vehicles/incidents that were also reported to ODI). When Mazda's design change was implemented, most of the field experience related to lower ball joints involved complaints of noise and premature wear-out. Only 1 of the ODI and 6 of the additional Mazda separation complaints identified in ODI's analysis were reported prior to January 2014. Significant increases in the number and trend in separation complaints were observed in 2015, when 30 of the ODI complaints and 16 of the additional Mazda complaints were reported. The report trend appears to be accelerating, with 29 of the reports received after ODI opened PE15-022 on June 9, 2015. There has been one crash reported to ODI related to the alleged defect (VOQ 10746510). This investigation is closed based on Mazda's recall.

The 34 VOQs associated with this investigation are: 10747358, 10746510, 10744897, 10743509, 10736229, 10735938, 10734763, 10734302, 10734290, 10733813, 10732578, 10732217, 10732154, 10731850, 10730736, 10730280, 10730143, 10730114, 10726622, 10726480, 10726448, 10726168, 10725839, 10725567, 10725488, 10725427, 10725390, 10717510, 10714469, 10695142, 10668978, 10648429, 10640541, 10546535