U.S. Department of Transportation

**National Highway Traffic Safety Administration**

# ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

NHTSA

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**Investigation:** PE 14-009
**Date Opened:** 03/26/2014 **Date Closed:** 10/29/2014
**Investigator:** Peter Kivett **Reviewer:** Bruce York-B
**Approver:** Frank Borris
**Subject:** Front Lower Control Arm Failing

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** Pierce Manufacturing
**Products:** 2010-2011 Pierce Arrow Fire Trucks w/ TAK-4 Front Suspension
**Population:** 105

**Problem Description:** The lower control arm may fail causing the wheel and brake components to separate from the truck increasing the risk of a crash

## FAILURE REPORT SUMMARY

| | ODI | Manufacturer | Total |
|---|---|---|---|
| **Complaints:** | 0 | 0 | 0 |
| **Crashes/Fires:** | 0 | 0 | 0 |
| **Injury Incidents:** | 0 | 0 | 0 |
| **Fatality Incidents:** | 0 | 0 | 0 |
| **Other*:** | 2 | 1 | 3 |

***Description of Other:** Media reports and fleet contacts

## ACTION / SUMMARY INFORMATION

**Action:** This Preliminary Evaluation is closed. See Safety Recall #14V-660

**Summary:**

On March 26, 2014 the Office of Defects Investigations (ODI) opened a Preliminary Evaluation (PE14-009) to investigate alleged wheel separation events on model year (MY)2010 thru MY 2011 Pierce Arrow Fire Trucks equipped with TAK-4 Front Suspensions. ODI discovered media reports regarding the loss of left front wheels on two aerial fire trucks responding to emergency calls. The failures occurred in Edmonds, Oklahoma and Portland, Oregon. Pierce took possession of the two failed lower control arms in an effort to better understand the failure mechanism. During the course of the investigation Pierce made ODI aware of a third failure that occurred in Milwaukee, WI on the passenger side of a MY 2011 subject vehicle. Pierce was also in possession of the third failed control arm.

During the course of the investigation, ODI interviewed drivers, fire fighters and deputy chiefs to better understand the details surrounding the failure mechanism and its severity. The personnel interviewed indicated that they had driven over what should have been normal "bumps" for a fire truck and the truck suddenly dropped, losing steering control. This failure resulted in the front end impacting with the road and the wheel separating from the vehicle.

ODI met with Pierce on August 12, 2014 to discuss details concerning testing they were conducting to determine if they had a defect in the control arm design of the subject vehicles. During this meeting Pierce outlined the testing they had conducted to date and the plans for future testing.

After contracting with an expert metallurgist and conducting additional testing, Pierce was able to identify a defect in the lower control arms that had occurred at the time of production. Once the defect was identified, Pierce was able to determine and identify the effected population as production from November 18, 2009 - May 11, 2011 involving 135 vehicles. Of the vehicle affected by the issue, 105 of them were MY 2010 - MY 2011 vehicles and were subject of this investigation. A recall (14V-660) was announced by Pierce on 10/21/2014 stating that they would inspect the lower

control arms on each of the 135 suspect vehicles and replace any that were found to contain the potential defect.

Based on the recall action taken by Pierce, this investigation is closed.