U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

NHTSA

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Investigation: PE 18-009
Date Opened: 08/21/2018
Investigator: Peter Kivett **Reviewer:** Bruce York-B
Approver: Stephen Ridella
Subject: Unintended aerial platform movement

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Pierce Manufacturing
Products: 2005 - 2018 Pierce aerial fire trucks
Population: 3,500 (Estimated)

Problem Description: Aerial control valve does not return to neutral position when released by operator resulting in unintended movement of aerial platform.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	5	TBD	5
Crashes/Fires:	0	TBD	0
Injury Incidents:	0	TBD	0
Fatality Incidents:	0	TBD	0
Other*:	2	TBD	0

***Description of Other:** Other reports received from subject vehicle operators.

ACTION / SUMMARY INFORMATION

Action: This (PE) Preliminary Evaluation is open.

Summary:

The Office of Defects Investigation has received 5 consumer complaints (ODI Reference No. 11101301, 11101303, 11101304, 11101305 and 11105134) and 2 other reports that allege a defect in the aerial ladder control valves resulted in unattended movement of the aerial ladder platform on the subject vehicles. There are three joystick type controllers that provide operation of the ladder tower. One operates the raise/lower function, one the clockwise/ counter-clockwise rotation and a third that controls the extension/retraction function of the aerial device. While trying to extinguish a fire, the fire fighter must maintain the aerial platform in a safe location that is often in proximity to power lines, trees, burning buildings etc. If the ladder drifts or moves unintentionally it can move into the objects and present a safety hazard.

Complaints and reports include allegations of uncontrolled movement resulting in the aerial ladder striking a pole, lowering onto a building that was on fire, and multiple instances of the ladder swinging full speed 20 to 30 feet while extending.

ODI is aware of an independent Engineering Report ordered by a Fire Chief related to an aerial failure that occurred while operating at a two-alarm fire in Boston, Massachusetts on April 11, 2018. The published report alleges the mechanisms that return the control handles to the neutral position had failed. When the handles were removed and inspected, it was discovered that they were missing parts necessary for the neutral return mechanism to work properly. The failure of the control system causes the roller assembly to not set the micro-switch in the neutral position. The micro switch effectively stops all movement of the ladder once the controls are released. As a result, the three joystick controllers can appear to be in a neutral position but due to the defect, unintended movement of the ladder can occur.

A Preliminary Evaluation has been opened to evaluate the alleged defect conditions in the subject vehicles.