U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION
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Investigation: PE 11-007
Date Opened: 03/29/2011 **Date Closed:** 09/23/2011
Investigator: Nate Seymour **Reviewer:** Bruce York-B
Approver: Frank Borris
Subject: Haldex Brake Chamber Spring Failures

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: FREIGHTLINER LLC
Products: 2007 Sterling L-liner
Population: 14,407

Problem Description: The parking brake spring may break resulting in an unintentional partial application of the wheel-end brake. This could result in a wheel-end fire.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	1	4	4**
Crashes/Fires:	4	2	3**
Injury Incidents:	2	1	1**
Number of Injuries:	2	1	2**
Fatality Incidents:	0	0	0
Other*:	0	0	0

***Description of Other:**

** Count indicates duplicate reports received by ODI and manufacturer.

ACTION / SUMMARY INFORMATION

Action: This Preliminary Evaluation (PE) is upgraded to an Engineering Analysis (EA11-011).

Summary:

ODI opened this preliminary evaluation based on a fleet report that it had experienced multiple wheel-end fires. The fleet believed this was due to the power spring fracturing and subsequently puncturing the diaphragm resulting in an air loss causing the brakes to drag.

A vehicle driver suffered smoke inhalation during one of the fires suspected to have been caused by the alleged defect. Another injury was sustained by a mechanic when he attempted to remove the brake chamber with a broken power spring. The brake chamber sprung from its mounting bracket and struck the mechanic in the face, causing multiple lacerations.

Brake chambers have a limited life span and are subject to wear out. However, the failures identified by the fleet are much earlier than expected and may not exhibit discernible failure symptoms.

ODI initiated testing at the Vehicle Research and Test Center (VRTC) to determine the cause of the spring failure and to better understand any warning signs that may be present. VRTC's testing is ongoing as is Haldex's inspection of failed chambers returned from the fleet.

This PE has been upgraded to an Engineering Analysis (EA11-011) to further evaluate the cause of the fires and assess the scope, frequency, and safety consequences of the alleged defect.