U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION
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Investigation: PE 13-012
Date Opened: 04/26/2013 **Date Closed:** 12/02/2013
Investigator: Kyle Bowker **Reviewer:** Bruce York-B
Approver: Frank Borris
Subject: Single Wheel End Thermal Overload

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: BENDIX SPICER FOUNDATION BRAKE LLC
Products: Certain MY 2012-2013 Trucks with Bendix Air Disc Brakes
Population: 48,800 (Estimated)

Problem Description: Alleged single wheel end thermal overload events reportedly caused by faulty air disc brake calipers, possibly due to over adjustment of the automatic pad wear compensation mechanism.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	0	45	45
Crashes/Fires:	0	15	15
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	149	149

***Description of Other:** Warranty claims paid by the manufacturer associated with the alleged defect.

ACTION / SUMMARY INFORMATION

Action: This Preliminary Evaluation is closed.

Summary:

To date, the Office of Defects Investigation (ODI) is aware of 45 complaints and field reports related to single wheel end thermal overload events on certain model year 2012 through 2013 trucks equipped with Bendix air disc brakes. Of the 45 complaints, 15 allege the thermal overload condition resulted in a fire. However, because the severity is low in all reported incidents, it is difficult to accurately quantify the number of fire incidents as opposed to those incidents where a fire related phenomenon was observed (such as smoke, which may sometimes be confused with the normal off-gassing of brake pad binder resins) or where brake system components simply suffered heat damage due to the thermal overload condition. In all reported incidents, heat related damage was apparently contained to the wheel end itself. Heat affected components typically included the brake caliper, pads, rotor, hub cap, anti-lock braking system (ABS) sensor wire and wheel torque indicators. In only three incidents did someone apply a fire extinguishing agent to address the concern and in all three cases it was a portable handheld fire extinguisher that was discharged. All other reported fire incidents were apparently self-extinguishing. In the most severe fire incident, the adjacent tire did not catch fire, the brake caliper did not have an orange or red color as is typical when a thermal overload event occurs, the black caliper paint sustained some heat damage, the caliper tappet boots had the typical appearance and did not appear heat damaged and the affected rotor/hub would turn freely once cooled. None of the 15 incidents could be inspected or verified by ODI as having been fires. Typically, brake system components subject to thermal overloading were repaired prior to the opening of this investigation and affected components had been discarded. As a result, scant forensic evidence has been available for inspection and review by ODI or Bendix.

ODI is not aware of any allegations of extended stopping distances in the subject vehicles due to the alleged defect. There have been no reports of crash or loss of vehicle control related to the alleged defect. There have been no reports of property damage beyond the subject vehicle and all affected vehicles have been repaired and returned to

service. There have been no reports of injury or death. Finally, ODI has not identified any apparent trend with respect to root cause.

A safety-related defect has not been identified at this time and further use of agency resources does not appear to be warranted. Accordingly, this investigation is closed. The closing of this investigation does not constitute a finding by NHTSA that a safety-related defect does not exist. The agency will take further action if warranted by the circumstances.