



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**

# ODI RESUME

Investigation: PE09-040  
Date Opened: 08/31/2009 Date Closed: 11/19/2009  
Principal Investigator: Bruce York-B  
Subject: Rack and Pinion Failure

Manufacturer: Daimler Trucks North America, Freightliner LLC  
Products: 2008-2009 Freightliner Century, Cascadia and Columbia Trucks  
Population: 7,084

Problem Description: Internal failure in the rack and pinion leads to a loss of steering.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	1	0	1
Crashes/Fires:	0	CONFIDENTIAL	CONFIDENTIAL
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other:	0	CONFIDENTIAL	CONFIDENTIAL

Description of Other: EWR Field Reports Indicating Crashes.

Action: The Preliminary Evaluation is closed. Freightliner Corporation has filed a Safety Recall (09V-357).

Engineer: Bruce York  
Div. Chief: Richard Boyd  
Office Dir.: Kathleen C. DeMeter

Date: 11/19/2009  
Date: 11/19/2009  
Date: 11/19/2009

### Summary:

A consumer complaint was filed with the agency on August 22, 2009, by an independent contractor leasing a 2009 Freightliner Cascadia. The complaint alleges that in April of 2009 at approximately 50,000 miles he experienced a seal rupture in the rack and pinion assembly. A new seal was installed and at 56,000 miles he found his right steer tire completely bald. The repair shop identified an internal failure of the rack and pinion assembly causing the rapid wear of the tire.

ODI has identified EWR field reports related to failed rack and pinions on the subject vehicles. The reports identify either an internal failure of the rack and pinion assembly that resulted in crashes or a looseness of the inner tie rod end of the rack and pinion resulting in a poor alignment and premature tire wear.

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Information received during this investigation from Freightliner detailed failures of the rack and pinion assemblies on the subject vehicles. These failures were the result of the left hand inner tie rod end becoming loose over time. When the tie rod becomes loose, it may separate from the rack and pinion assembly and make the vehicle difficult to steer.

Freightliner has concluded that a defect related to motor vehicle safety does exist on the subject vehicles and has initiated a Safety Recall (09V-357) that will remedy all of them. This recall involves removing the tie rod and adding a compound to it that will prevent the tie rod from coming loose over time.

A copy of the recall is attached. Freightliner's action resolves the issues raised by this investigation and, therefore, this investigation is closed.

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09V-357  
(3 pages)



Daimler Trucks North America  
Nasser Zamani  
Senior Manager  
Compliance and Regulatory Affairs

September 4, 2009

Dan Smith  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
Attention: Recall Management Division (NVS-215)  
1200 New Jersey Avenue S.E.  
Washington D.C. 20590

**Re: Defect Information Report FL-557, Rack and Pinion Loose ITR**

Mr. Smith

In accordance with Part 573 of Title 49 of the Code of Federal Regulations, Daimler Trucks North America LLC herewith reports a safety campaign to recall approximately 8882 Freightliner Cascadia, Century, and Columbia vehicles equipped with rack and pinion steering, manufactured 10/29/2004 through 07/03/2009 with a defect in the rack and pinion system that under certain conditions, the left hand inner tie rod end may loosen over time and if not corrected, separate from the rack.

Attached is Daimler Trucks North America's Defect Information Report.

Please contact me if you have any questions.

Sincerely yours,

*Nasser Zamani*  
Nasser Zamani

Cc: Michael Mason, CAL-OSHA  
Enclosure  
Certified Mail# 7006 3450 0000 3866 7614

RECEIVED  
2009 SEP 16 A 4: 48  
OFFICE OF DEFECTS  
PREVENTION

A Daimler Company

Daimler Trucks North America LLC  
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Portland OR 97217-7699  
503-745-6910 Phone  
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Nasser.Zamani@Daimler.com

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## Defect Information Report (Section 573.6)

Date: September 4, 2009

(c)(1) **Manufacturer:** Daimler Trucks North America LLC  
P.O. BOX 3849  
Portland, Oregon 97208  
(503) 745-5219

**Brands: Freightliner**

(c)(2) **Vehicles identification:**  
**Model(s) affected:** Cascadia, Columbia, Century  
**Model Years affected:** 2005 through 2010  
**Manufacture Dates:** 10/29/2004 through 07/03/2009  
**Basis for determining population:** All vehicles with rack and pinion steering produced before 06/02/2009

**Component manufacturer if other than the vehicle manufacturer:**  
ThyssenKrupp Presta SteerTec USA  
1597 East Industrial Drive  
Terre Haute, IN 47802

(c)(3) **Total number of vehicles potentially affected:** Approximately 8,882

(c)(4) **Percentage of vehicles estimated to contain the defect:** 100%

(c)(5) **Description of the defect:** Under certain conditions, the left hand inner tie rod end may loosen over time and if not corrected, potentially separate from the rack.

**49CFR Section 577.5(f) Evaluation of the risk to motor vehicle safety:** A separated tie rod assembly will make the vehicle more difficult to control at higher speeds and a crash may occur

(c)(6) **Chronology of principal events:**  
08/08/2008 – First warranty claim for loose LH inner tie rod end  
11/10/2008 – First warranty claim for separated LH inner tie rod end  
12/06/2008 – Daimler Trucks North America found a loose inner tie rod end on a test truck at the conclusion of durability testing  
04/29/2009 – Daimler Trucks North America Product Validation duplicated the loose ITR on the test bench  
06/02/2009 – ThyssenKrupp began adding Loctite to the inner tie rod joints  
07/29/2009 – Daimler Trucks North America Product Validation reproduced the failure mode on a test truck using a modified steering rack.

(c)(7) **Noncompliance-test or other data:**

(c)(8) (i) **Remedial program:** The left hand inner tie rod will be removed from the steering rack and will be inspected for damage. Damaged racks will be replaced. Undamaged racks will have the inner tie rod reinstalled with Loctite. Repairs will be performed by Daimler Trucks North America dealerships and Direct Warranty customers, i.e., customers approved by Daimler Trucks North America to do their own warranty repairs

**Reimbursement Plan:** Copies will be submitted as a supplemental report when available.

(ii) **Estimated Owner and Dealer Notification Date:** Customer notification will be by first class mail using Daimler Trucks North America records to determine the customers affected. This will

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be completed approximately November 3, 2009

Dealer notification will be completed approximately November 3, 2009

**(c)(9) Information for tire recalls:** Not Applicable

**(c)(10) Communications sent to manufacturers, dealers and owners:** Copies will be submitted as a supplemental report when available.

**(c)(11) Manufacturer's campaign number:** FL-557