



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: PE07-037

Date Opened: 07/17/2007

Date Closed: 12/27/2007

Principal Investigator: Stephen McHenry

Subject: Failure of the Rear Differential

Manufacturer: General Motors Corp.
Products: 2004-07 Cadillac CTS, CTS-V, STS
Population: 311,083

Problem Description: The rear differential may fail causing loss of motive power and in some instances a loss of control.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	9	6	13
Crashes/Fires:	0	2	2
Injury Incidents:	0	1	1
# Injuries:	0	1	1
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	706	706

*Description Of Other: Warranty Claims for rear differential assembly replacement not including CTS-V models.

Action: This Preliminary Evaluation has been closed. Recall 07V-589.

Engineer: Stephen McHenry *SMch*

Date: 12/27/2007

Div. Chief: Jeffrey L. Quandt

Date: 12/27/2007

Office Dir.: Kathleen C. DeMeter

Date: 12/27/2007

Summary: ODI evaluated two different alleged defects involving rear drivetrain components during this Preliminary Evaluation. GM is conducting a recall to address one of the defect conditions and ODI has opened an Engineering Analysis to continue its investigation of the other alleged defect.

On December 19, 2007, GM submitted a Defect Information report to NHTSA concerning defective rear axle pinion seals in approximately 275,936 Model Year (MY) 2005-07 Cadillac CTS, STS and SRX vehicles as well as MY 2006-07 Pontiac Solstice and MY 2007 Saturn Sky vehicles (Recall 07V-589). On STS and SRX vehicles with all wheel drive, the front axle pinion seal also does not meet all of GM's specifications and may experience a fluid leak. GM indicated that the seal supplier made an unauthorized change to the pinion seal material. Leaking pinion seals could result in loss of rear differential lubrication which could result in rear wheel lock-up and loss of vehicle control.

On December 7, 2007, ODI opened an Engineering Analysis (EA07-017) to investigate complaints of rear drivetrain component failure (e.g., fractured rear differential carrier housing or rear axle half shafts) while driving in approximately 7,600 MY 2004 through 2006 Cadillac CTS-V vehicles. This condition may result in a loss of motive power and vehicle disablement and is not addressed by Recall 07V-589. ODI identified 35 complaints (16 to ODI and 19 to GM) and 128 warranty claims potentially related to this condition (see EA07-017 opening resume). These complaints are not included in the failure report summary of this closing resume.

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The complaints and warranty figures given in this resume are limited to those that (a) are most likely caused by a leaking rear pinion seal; and (b) resulted in an allegation of a rear differential failure while driving. The data do not include all reports of seal leakage.

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