



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

ODI RESUME

Investigation: PE08-061
Date Opened: 10/26/2008 Date Closed: 04/08/09
Principal Investigator: Chris Lash
Subject: Timing chain breaks, engine stall

Manufacturer: General Motors Corporation
Products: MY 00-02 Saturn L-Series (L61 ENG.) built before May 2002
Population: 151,014

Problem Description: The timing chain can fail resulting in engine stall with no restart.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	159	426	555
Crashes/Fires:	0	0	0
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	1,110	1,110

*Description of Other: Warranty with stall while driving.

Action: The Preliminary Evaluation is closed.

Engineer: Christopher Lash *CL*

Date: 04/08/2009

Div. Chief: Jeffrey Quandt

Date: 04/08/2009

Office Dir.: Kathleen C. DeMeter

Date: 04/08/2009

Summary: On May 22, 2008, the Office of Defects Investigation (ODI) was petitioned by the North Carolina Consumers Council (NCCC) to broaden the scope of safety recall 07V-519, which was conducted by General Motors Corporation (GM) for model year (MY) 2001 Saturn L-Series vehicles equipped with the L61 2.2L engine and built during a 4-month period from November 2000 through February 2001 (DP08-002). On October 16, 2008, ODI granted DP08-002 and opened PE08-061 to investigate timing chain failures resulting in engine stall while driving (SWD) in the Saturn L-Series vehicles equipped with L61 engines and that used the same design timing chain and timing chain lubrication system as the recalled vehicles. A redesigned timing chain and lubrication system were implemented late in MY 2002 production (May 1, 2002). Hence, the subject vehicles for this investigation are all MY 2000 through 2002 Saturn L-series vehicles equipped with 2.2L L61 engines and built prior to May 2002 that were not included in recall 07V-519.

In this investigation, ODI analyzed updated complaint and warranty claims data for timing chain failures resulting in incidents of engine stall while driving, which comprise slightly over half of all timing chain failures occurring in the subject vehicle population. ODI's analysis of complaint and warranty data shows that vehicles produced with the subject timing chain and lubrication system experienced elevated failure rates when compared with the MY 2002 through 2003 vehicles using the revised components. However, the analysis also showed that the MY 2001 Saturn L-series vehicles recalled in 07V-518 experienced a significantly higher rate of timing chain failures than the subject vehicles.

The complaint rate for timing chain failures resulting in SWD was approximately 5 times higher for the recalled vehicles, 19.2 incidents per thousand vehicles (IPTV), than for the subject vehicles, 3.7 IPTV. The warranty claims rate for chain failures resulting in SWD was over 3 times higher for the recalled vehicles, 2.4 percent, than for the subject vehicles, 0.7 percent. The complaint and warranty rates for the subject vehicles were similar to rates recorded in other recently closed investigations for conditions that could result in SWD with no engine re-start, EA07-015 and EA07-018. Analysis of all complaints, field reports and warranty claims found no allegations of crashes or injuries associated with the alleged defect in the subject vehicles after approximately 7 to 9 years in service.

ODI's analysis of the stalling incidents that have resulted from timing chain failures in the subject vehicles found that they can occur at any speed and almost always result in a no restart condition. These are generally considered to be factors that increase the severity of stalling incidents. However, analysis of SWD failure rates in the subject vehicles show that they have occurred at much lower rates than were observed in the recalled population. In addition, the SWD complaint and warranty rates for the subject vehicles are similar to rates observed in prior investigations involving similar categories of engine stall consequences that were closed with no action. Further investigation of this matter would not be an efficient allocation of agency resources. 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 continue to monitor complaints and other information relating to the alleged defect in the subject vehicles and take further action if warranted.

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