



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

ODI RESUME

Investigation: PE 08-016
Date Opened: 03/06/2008
Principal Investigator: Derek Rinehardt
Subject: Inadequate brake power assist
Date Closed: 06/24/08

Manufacturer: General Motors Corp.
Products: MY 2008 Pontiac Solstice and Saturn Sky w/Turbo engines
Population: 13,000 (estimated)

Problem Description: Alleged inadequate brake power assist following cold start.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	69	213	264
Crashes/Fires:	1	0	1
Injury Incidents:	0	0	0
# Injuries:	0	0	0
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	0	0

*Description Of Other:

Action: This Preliminary Evaluation has been closed.

Engineer: Derek Rinehardt *DR*
Div. Chief: Jeffrey L. Quandt
Office Dir.: Kathleen C. DeMeter

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Summary: In model year (MY) 2007, Pontiac Solstice and Saturn Sky vehicles equipped with the 2.0l turbo charged engine used an auxiliary vacuum pump to supplement the engine as a source of vacuum to the brake booster during low vacuum conditions, such as immediately after a cold start. The vacuum pump operation was controlled by switches that sensed booster vacuum, turning the pump on when booster vacuum dropped below a specified level.

In the MY 2008 Solstice and Sky vehicles (the subject vehicles), General Motors (GM) eliminated the auxiliary vacuum pump and replaced it with the Optimized Hydraulic Braking (OHB) System. The design intent of OHB is to supplement engine vacuum, in conditions where low vacuum is generated by the engine, with hydraulic pressure generated by the Stability Control System Pump controlled by the Electronic Brake Control Module (EBCM). For up to about a minute after a cold start, when the system is in OHB assist mode, the driver must press harder on the brake pedal to achieve desired deceleration. Also, when the OHB mode is activated, the driver can hear and feel, through brake pedal vibration, the Stability Control System pump operation. Starting in late April 2008, GM changed from the OHB system back to the vacuum pump system design.

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ODI is aware of 264 non-duplicative complaints to ODI and GM alleging inadequate brake power assist in the subject vehicles when applying the brakes just after a cold start, including one incident involving a crash into a tree during a driveway maneuver.

To address these concerns by consumers, GM has issued three Technical Service Bulletins. On June 4, 2007, GM released an informational bulletin (no part replacement or software updates), bulletin# 07-05-22-002, to dealers explaining the functionality of the OHB system. On November 29, 2007, GM released a service bulletin, bulletin No. 07-05-22-007, with instructions to recalibrate the EBCM with revised software to make OHB operation feel more like a normal vacuum assist system. To improve cold start braking performance comparable to MY 2007 vehicles, GM released a third service bulletin in two parts, bulletins 07-05-25-007a (April 29, 2008) and 07-05-25-007b (May 16, 2008), for automatic and manual transmission vehicles respectively. These bulletins released new engine control software to change the idle strategy after a cold start so that more vacuum is available for brake power assist. Beginning the week of June 23, 2008, GM will begin sending letters to consumers to make them aware of the availability of most recent calibration.

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.

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