



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

ODI RESUME

Investigation: DP 16-001
Prompted by: Defect Petition
Date Opened: 05/16/2016
Investigator: Sharon Yukevich **Reviewer:** Scott Yon
Approver: Stephen Ridella
Subject: Passenger Sensing System Sensor Mat

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: General Motors LLC
Products: 2007-2010 Saturn Sky & 2006-2010 Pontiac Solstice
Population: 91,205
Problem Description: Failure of air bag Passenger Sensing System mat resulting in passenger air bag to not operate as intended.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	1	TBD	TBD
Crashes/Fires:	0	TBD	TBD
Injury Incidents:	0	TBD	TBD
Number of Injuries:	0	TBD	TBD
Fatality Incidents:	0	TBD	TBD
Number of Fatalities:	0	TBD	TBD
Other*:	933	TBD	TBD

*Description of Other: Complaints received by NHTSA identified by petitioner in Attachment B to the petition.

ACTION / SUMMARY INFORMATION

Action: Further Evaluation of Defect Petition for a Grant or Deny Decision

Summary:

The Office of Defects Investigation (ODI) has received a petition from Mr. Troy Lyman requesting a defect investigation into an alleged defect of the air bag system on 2006-2010 Pontiac Solstice and 2007-2010 Saturn Sky vehicles. The petition letter is attached for review.

The petitioner alleges that the Passenger Sensing System (PSS) sensor mat over time will kink, fold and eventually break. The petitioner further alleges that the break in the mat will cause a failure in the circuitry of the sensor mat that may lead to the passenger air bag system being inoperative (suppressed) when the seat is occupied by a passenger that would otherwise require air bag protection.

In Attachment B, the petitioner identified 933 complaints received by NHTSA alleging air bag system issues. The identified complaints encompass several General Motors vehicle models in addition to the Pontiac Solstice and Saturn Sky. ODI will evaluate these complaints further to determine if the complaints pertain to the issue cited in the petition.

This defect petition has been opened to evaluate the issue and determine whether to grant or deny the petition.

PETITION

EXECUTIVE SECRETARIAT
RECEIVED-NHTSA

2016 APR 28 P 12:19

TO: Administrator
National Highway Traffic Safety Administration
1200 New Jersey Ave, SE
Washington, DC 20590

FROM: Troy Lyman
29500 Mira Loma Drive Apt Q102
Temecula, Ca 92592
(951) 258-9842

SUBJECT: PETITION – Investigation of the 2006-2010 Pontiac Solstice base and GXP models; and 2007-2010 Saturn Sky, base and Redline models.

DATE: APRIL 20, 2016

REQUEST: I am petitioning the NHTSA to commence proceedings for an investigation of the 2006 – 2010 Pontiac Solstice and the 2007-2010 Saturn Sky, specifically the area of Air Bags, Electrical System.

REASON FOR REQUEST:

The 2006-2010 Pontiac Solstice and the 2007-2010 Saturn Sky have had repeated failures of the air bag system's Passenger Sensing System's (PSS) Sensor Mat. Over time the mat will kink and fold with use and eventually a break will develop in the circuitry of the sensor mat causing a failure and possibly leading to the passenger air bag not deploying in the case of an accident requiring air bag deployment and thus leading to possible passenger injury.

In support of this request, I have attached the following documents on the enclosed CD:

- **ATTACHMENT A:** This is my report titled "Passenger Sensing System Sensor Mat Failures in the GM Kappa Platform, A Call for a National Highway Traffic Safety Administration Investigation" which analyzes information provided in previous NHTSA investigations and recalls of similar passenger presence sensor mats to those installed in the Kappa platform as well as complaint's from the NHTSA Customer Complaint system to determine that a similar defect is present in the 2006-2010 Pontiac Solstice and 2007-2010 Saturn Sky vehicles.
- **ATTACHMENT B:** Excel spreadsheet with the NHTSA complaints regarding air bag system problems referred to in ATTACHEMENT A for the 2006-2010 Pontiac Solstice, the 2007-2010 Saturn Sky, 2005-2011 Cadillac CTS, 2006-2010 Chevrolet Equinox, 2006-2010 Buick Lacrosse, and the 2007-2009 Pontiac Torrent vehicles. This attachment includes the NHTSA Complaint ID number for each complaint.
- **ATTACHMENT C:** Image provided by vehicle owner of a disassembled PSS Sensor Mat showing the broken section of the 3D sensor matrix as referred to in ATTACHMENT A. This section of mat has broken all the way across its width due to flexing occurring through normal use.
- **ATTACHMENT D:** Second image of the same failed 3D sensor matrix seen in ATTACHMENT C. This image shows a different section of the sensor matrix very near the failed section that shows signs of tearing due to flexing of the mat.
- **ATTACHMENT E:** Image provided by vehicle owner of another disassembled PSS Sensor Mat showing a broken 3D sensor matrix.
- **ATTACHMENT F:** Up close image of the failed section of the 3D sensor matrix from ATTACHMENT E.
- **ATTACHMENT G:** Cadillac Warranty Data for the 2005-2007 CTS Recall Group as referenced in ATTACHMENT A.
- **ATTACHMENT H:** Cadillac Warranty Data for the 2005-2007 Special Coverage Group as referenced in ATTACHMENT A.

ES16-002025

I request that this petition be granted and that an investigation is commenced as soon as possible in the interest of public safety. It is believed that if the PSS Sensor Mat fails, the passenger side air bag will not deploy in the event of an accident requiring the air bag system's deployment. Some customers have even been told by their dealership service departments that if the Service Air Bags message appears in their Driver's Information Center for any reason including a failure of the PSS System Mat, neither the driver's nor the passenger's air bag will deploy in the event of an accident where the air bag system would normally deploy. Regardless of which scenario would occur due to this failure, it presents a serious safety issue in these vehicles.

If the finding of the investigation determines that the PSS Sensor Mat in the 2006-2010 Pontiac Solstice and the 2007-2010 Saturn Sky are, in fact, defective, a recall should be issued immediately for the defective part and the manufacturer, General Motors (GM), should develop and release an updated replacement part which addresses this particular wear problem as a replacement for the defective mats. In addition, GM should offer an extended warranty on the replacement part and repair for 10 years from the date of repair and reimburse customers who have had to pay for a passenger seat cushion assembly replacement due to a failed PSS sensor mat as this has been the practice of other manufacturers who have issued recalls for similar failures.