



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

# ODI RESUME

Investigation: EA07-015  
 Prompted by: PE07-033  
 Date Opened: 11/01/2007  
 Principal Investigator: Stephen McHenry  
 Subject: Engine Stalling – Fuel Pump Failure

Manufacturer: General Motors Corporation  
 Products: 2003 Chevrolet Cavalier  
 Population: 218,392

Problem Description: Fuel pump failure may result in engine stall with no restart.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	54	158	198
Crashes/Fires:	0	4	4
Injury Incidents:	0	2	2
# Injuries:	0	2	2
Fatality Incidents:	0	0	0
# Fatalities:	0	0	0
Other*:	0	1,506	1,506

\*Description Of Other: Warranty claims

Action: An Engineering Analysis has been opened.

Engineer: Stephen McHenry

Date: 11/01/2007

Div. Chief: Jeffrey L. Quandt

Date: 11/01/2007

Office Dir.: Kathleen C. DeMeter

Date: 11/01/2007

Summary: General Motors (GM) has identified an issue with accelerated motor brush wear in the fuel pump assembly of model year (MY) 2001 through 2003 Chevrolet vehicles that can cause the pump to stop operating. GM indicated that peroxide or sulfur, which are both present in varying amounts in gasoline, can react with the copper commutator of the pump motor and corrode/roughen the surface. A rough commutator surface increases the rate of brush wear. The increased electrical resistance caused by degradation of the brush-commutator interface inhibits current flow through the motor windings. According to GM, the condition will usually result in a no-start condition because of the high current required during start-up. When the alleged defect does cause a stall while driving incident, the vehicle typically cannot be restarted. GM's analysis of warrant claims showed that no start/hard start was the most common condition and the frequency of claims associated with stall while driving incidents was too low to warrant field action.

This investigation has been upgraded to an engineering analysis to further assess the complaint and warranty claim data and the analyses provided by GM.