



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

ODI RESUME

Investigation: PE04-042
Prompted By: Consumer Complaints
Date Opened: 05/03/2004 Date Closed: 09/09/2004
Principal Investigator: Chris Lash
Subject: Overheated Fuel Pump Wiring

Manufacturer: General Motors Corp.
Products: 2000-2001 General Motors Suburban, Yukon XL
Population: 349,808

Problem Description: The fuel pump wiring allegedly overheats, resulting in engine stall or fuel tank leakage from the pump electrical connector.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	20	44	64
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	0	0

*Description of Other:

Action: This Preliminary Evaluation has been upgraded to an Engineering Analysis.

Engineer: Christopher Lash *CL*
Div. Chief: Jeffrey L. Quandt
Office Dir.: Kathleen C. DeMeter

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Summary: The fuel pump wiring and connector may overheat and melt a hole in the top of the fuel pump module. Possible consequences include fuel tank leakage and engine stall with no restart. Fourteen of the 20 complaints to ODI allege fuel tank leakage, including one that reported that a fire department was called to the scene after a "pool" of gasoline was discovered beneath the vehicle. Most of the ODI complaints report incidents that occurred within the past year. According to GM, fuel leakage can occur in the subject vehicles if the heat is sufficient to melt a hole in the plastic connector large enough for liquid fuel to flow through. On-board emissions diagnostics may detect holes that are approximately 0.040 inches or more and set a service engine soon warning light. The connector position in the subject vehicles is below the fuel level when the tank is full. While GM does not know how much fuel could leak from a tank with a melted fuel pump connector, several consumers have reported significant leak events. Engine stall can occur if: (1) a short occurs in the pump wiring (bare wire exposed by melted insulation shorts against a ground or ground wire) and the fuel pump relay fuse is blown; or (2) the vehicle runs out of fuel due to an inaccurate fuel gauge reading resulting from an electrical short between the fuel pump wiring and the level sensor wiring. GM's analysis of five assemblies returned from incident vehicles determined that the condition is caused by elevated resistance/ arcing at the MRA undercover B cavity terminal of the four-way 150 metri-pak connector. GM attributes the high resistance and arcing to a depressed contact arm at the 150 metri-pak B cavity female terminal. GM is continuing its investigation to complete its root cause analysis. Modular reservoir assemblies using the 150 metri-pak connectors were used by GM in several million c/k-series sport utility vehicles and pickup trucks from MY 1997 through 2002, when GM released a metal MRA cover and a 280 metri-pak connector in the subject vehicles. During PE04-042, ODI collected information from GM concerning MY 2000-2002 c/k SUV's and pickup trucks. The subject vehicles comprise approximately 9 percent of production for those vehicles and about 39 percent of complaints to GM. This investigation has been upgraded to an Engineering Analysis to further assess the scope, frequency, and safety consequences of the alleged defect in GM C/K-series vehicles.

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