

GENERAL MOTORS NORTH AMERICA
Structure & Safety Integration

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August 27, 2003

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OFFICE OF
DEFECTS INVESTIGATION

Mr. Kenneth N. Weinstein
Associate Administrator for Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W., Room 5321
Washington, D.C. 20590

03V-327 ① or ②

Dear Mr. Weinstein:

The following information is submitted pursuant to the requirements of 49 CFR 573.6 as it applies to a determination by General Motors of a defect involving certain 2000-2001 model year Chevrolet Malibu, Oldsmobile Alero, and Pontiac Grand Am model vehicles.

573.6(c)(1): Chevrolet, Oldsmobile, and Pontiac divisions of General Motors Corporation.

573.6(c)(2)(3)(4): This information is shown on the attached sheet.

573.6(c)(5): General Motors has decided that a defect exists in certain 2000 - 2001 model year Chevrolet Malibu, Oldsmobile Alero, and Pontiac Grand Am vehicles. These vehicles have hazard warning switches that may experience solder joint cracking caused by rapid temperature transitions and the soldering process. If solder joint cracking occurs and results in an open circuit, the exterior turn/hazard lamps are intermittent or inoperative. The driver is alerted to the condition because the audible and visible flasher indicators are also inoperative. When the turn signals are inoperative, the driver cannot use them to signal intent to turn and other motorists may take longer to react to the turning vehicle.

Based on the notice to the driver if the turn signals are inoperative and the absence of reports of adverse consequences after millions of vehicle-years, GM continues to believe that there is no unreasonable risk to safety. However, to acknowledge NHTSA's concern that turn signals are a safety system and resolve NHTSA's investigation, GM will mail owner letters containing the statements required by 49 C.F.R. Part 577. The repairs will be made at no charge to the customer.

573.6(c)(6): In October 2000, GM informed the hazard switch supplier, Stoneridge-Pollack Ltd, of warranty claims involving hazard switch field failures on the Chevrolet Malibu. This information prompted the supplier to initiate a parts return program and an investigation into the warranty claims for hazard switches.

In December 2000, the supplier's lab analysis of the returned failed switches revealed that the surface mounted resistors had broken away from the insert molded circuit trace board in the hazard switch as a result of poor soldering and rapid temperature transition. The hazard switch in the subject vehicles is located in the instrument panel adjacent to the center HVAC duct. Temperature in the instrument panel area of a closed vehicle in direct sunlight can reach approximately 185 F. The temperature surrounding the HVAC air ducts can cool rapidly to approximately 50 F. The rapid temperature transition can distort and crack the solder joints around the resistors. Further thermal expansion and contraction can result in an open circuit that does not allow current to flow through the relay that controls the turn/hazard signal lamps.

Product Investigations

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On March 19, 2001 the hazard warning switch was modified to eliminate the resistors breaking away from the circuit trace board. The supplier began shipping the modified hazard switches to its Michigan warehouse facility on March 19, 2001. General Motors began receiving the modified switches in its manufacturing plants on or about April 19, 2001.

GM received NHTSA IR PE02-084, regarding alleged turn signal failures in 2000-01 Chevrolet Malibu and all other vehicles using the same turn signal and hazard switch. GM's response to PE02-084 was submitted on October 16, 2002. Neither NHTSA nor GM identified any crashes, injuries, or deaths that were allegedly caused by turn signal failures in these vehicles.

GM received NHTSA IR EA02-037. GM's response to NHTSA IR EA-2-037 was submitted on March 18, 2003. Again, neither NHTSA nor GM identified any crashes, injuries, or deaths that were allegedly caused by turn signal failures in these vehicles.

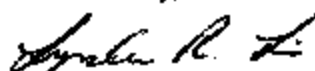
On June 24, 2003 Product Investigations presented the condition to the FPE Director. Warranty data showed the rate of hazard switch replacement was elevated for vehicles manufactured between February 2000 and May 2001, reflecting an apparent degradation of the supplier's soldering process and subsequent changes to improve the process. Additional information was requested from the supplier in July 2003 and additional warranty information was compiled and analyzed in July and August 2003. The FPE Director reviewed the issue with the Senior Management Committee on August 1 and 18, 2003. The GMNA Field Action Decision Committee decided on August 20, 2003 to conduct a safety recall.

573.6(c)(8): Dealers will replace the Hazard Warning Switch on all involved vehicles. This information will be included in the service procedure of the dealer bulletin that GM will provide when available.

Pursuant to 577.11(e), General Motors will provide reimbursement to owners for repairs completed on or before ten days after the owner mailing is completed, according to the plan submitted on January 15, 2003.

573.6(g)(9): General Motors will provide copies of the dealer bulletin and owner letters along with mailing information when available. GM is working with its supplier to finalize plans for the production of switches for this recall. We estimate that sufficient parts will be available to begin notifying owners in the first quarter of 2004, but that is subject to revision.

Sincerely,



Lyndon R. Lie
Director
Product Investigations

**VEHICLES POTENTIALLY AFFECTED BY MAKE, MODEL, AND MODEL YEAR
PLUS INCLUSIVE DATES OF MANUFACTURE**

<u>MAKE</u>	<u>MODEL SERIES</u>	<u>MODEL YEAR</u>	<u>NUMBER INVOLVED</u>	<u>INCLUSIVE MANUFACTURING DATES (FROM) (TO)</u>		<u>DESCRIPTIVE INFO. TO PROPERLY IDENT. VEH.</u>	<u>EST. NO. W/CONDITION</u>
Chevrolet	N	2000	90,056	02/01/00	06/23/00	Malibu	100%
Chevrolet	N	2001	180,238	03/23/00	05/31/01	Malibu	100%
Oldsmobile	N	2000	50,591	02/01/00	07/17/00	Alero	100%
Oldsmobile	N	2001	90,288	04/04/00	05/01/01	Alero	100%
Pontiac	N	2000	103,439	02/01/00	07/18/00	Grand Am	100%
Pontiac	N	2001	<u>156,156</u>	03/30/00	05/01/01	Grand Am	100%
Grand Total:			670,740				