



U.S. Department  
of Transportation

National Highway  
Traffic Safety  
Administration

400 Seventh Street, S.W.  
Washington, D.C. 20590

APR 9 1993

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. E.E. Conner  
Manager, Product Investigations  
General Motors Corporation  
30200 Mound Road  
Warren, MI 48090-9010

NEF-121jry  
EA92-041

Dear Mr. Conner:

The fuel tank integrity performance of 1970 through 1991 full-size General Motors Corporation (GM) pickup trucks and chassis-cabs with fuel tanks mounted outboard of the vehicle frame rails (the subject vehicles) has been the subject of a defect investigation, Engineering Analysis EA92-041, since December 8, 1992. During that period, the National Highway Traffic Safety Administration's (NHTSA) Office of Defects Investigation (ODI) has:

- o performed extensive analyses of real-world accident data;
- o conducted crash tests of the subject and peer vehicles pursuant to the procedures set forth in Federal Motor Vehicle Safety Standard No. 301, "Fuel System Integrity;"
- o conducted full-scale laboratory crash tests of both subject and peer vehicles utilizing instrumented test dummies;
- o performed pressure tests and static and dynamic crush tests on fuel tanks from the subject vehicles;
- o reviewed and analyzed numerous police accident reports concerning fire-related and non fire-related crashes involving both subject and peer vehicles;
- o reviewed and analyzed available autopsy reports involving occupants of the subject and peer vehicles who died in side impact crashes that involved fire;
- o reviewed complaints and transcripts from approximately 120 lawsuits filed against GM alleging defective design of the fuel storage system in the subject vehicles;
- o reviewed and analyzed available data concerning the relationship between corrosion and fuel tank leakage in the subject and peer vehicles;
- o contacted vehicle owners, inspected vehicles, and obtained fuel tanks that were involved in crash-related fuel-fed fires and fuel tanks that were leaking due to corrosion;



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- o reviewed information provided by Ford Motor Company (Ford) and Chrysler Corporation (Chrysler) to assist in assessing the subject vehicles' fuel system integrity performance compared with that of peer vehicles;
- o reviewed information provided by outside engineers, accident reconstructionists, and attorneys; and
- o reviewed GM's responses to our inquiries.

ODI has analyzed real-world crash data using the agency's Fatal Accident Reporting System (FARS)--a census of all fatal crashes since 1975. Using occupant fatalities per registered vehicle year as a measure of safety performance, ODI's analysis of FARS data indicates that the subject GM pickup trucks have a risk of fire occurrence in fatal side impact crashes that is 2.4 times greater than that of full-size Ford pickup trucks. Further, FARS indicates that the subject vehicles are 3.5 times as likely as comparable Ford pickup trucks to be involved in fatal side impact crashes in which the "Most Harmful Event" was fire; *i.e.*, fire was the cause of the fatality. These differences are even greater when the subject vehicles are compared to full-size Dodge pickup trucks. Additionally, the ODI analysis indicates that, in crashes without fire, the safety performance of GM trucks in side crashes is not improved over Ford and Dodge trucks.

GM's accident data analysis, performed by Failure Analysis Associates (FaAA), is consistent with ODI's. FaAA's November 25, 1992, analysis indicates that the subject GM pickup trucks have a risk of fire occurrence that is 2.7 times greater than that of comparable Ford pickup trucks in fatal side impact crashes. Moreover, GM's October 9, 1992, submittal indicates that the subject vehicles have a "Most Harmful Event" fire risk that is four times greater than that of comparable Ford pickup trucks in fatal side crashes.

In addition, ODI's crash testing indicates that there is a greater risk of fuel leakage in the subject vehicles than in comparable vehicles in otherwise survivable crashes.

On the basis of all of the available information, ODI believes that there is an increased risk of fire to occupants of the subject vehicles (and to occupants of the vehicles that strike the subject vehicles) in side impact crashes that is associated with the GM design in which the fuel tanks are mounted outside of the frame rails. The ODI analysis indicates that this design is likely to lead to 5-6 additional fatalities per year in severe, but otherwise survivable, side impact crashes compared to Ford full-size pickup trucks.

ODI is also concerned about fuel leakage as a result of corrosion in the subject vehicles. We are continuing to analyze this issue to assess the relationship between tank placement and corrosion leading to tank leakage.

For the reasons stated above, ODI believes that GM's fuel tank system in the subject vehicles contains a defect that relates to motor vehicle safety and that GM should therefore initiate a recall of all full-size pickup trucks and chassis-cabs (through the 30/3500 series) sold with fuel tanks mounted outboard of the frame rails.



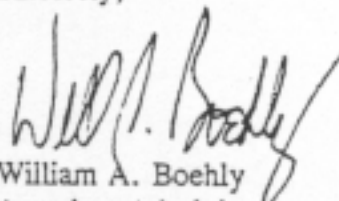
If GM determines not to undertake the requested recall action, it must state the reasons for this decision in detail and furnish any additional analysis to ODI. If GM fails to initiate a safety recall, ODI may recommend that further steps be taken in the investigative process.

This recommendation to conduct a safety recall does not reflect a formal conclusion by the agency. Also, the recommendation should not be confused with an Initial or Final Determination of a safety defect pursuant to Section 152 of the National Traffic and Motor Vehicle Safety Act (the Act), 15 U.S.C. 1412. Nor should it be confused with a recall order that is issued by the agency after a Final Determination of a safety defect has been made.

Your written response, in triplicate, referencing the identification codes in the upper right hand corner of page 1 of this letter, must be submitted to this office by April 30, 1993. It is important that GM respond to this letter on time. This letter is being sent pursuant to Section 112 of the Act, 15 U.S.C. 1401, which authorizes this agency to conduct any investigation which may be necessary to enforce Title I of the Act. Your failure to respond promptly and fully to this letter may be construed as a violation of Section 108(a)(1)(B) of the Act, 15 U.S.C. 1397(a)(1)(B).

If you have any questions regarding safety recall procedures, please contact Mr. Jon White of my staff at (202) 366-5226. If you have any technical questions concerning this matter, please contact Mr. Bob Young at (202) 366-4806.

Sincerely,



William A. Boehly  
Associate Administrator  
for Enforcement