



November 28, 2005

Mr. Daniel C. Smith  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
400 Seventh Street, S.W., Room 5321, MC: NVS-200  
Washington, D.C. 20590

Dear Mr. Smith:

This revised 573 letter is being submitted to add 2003-04 Chevrolet Kodiak and GMC Topkick trucks to the original population. These trucks were modified to add a tailgate and galvanized cables.

The following information is submitted pursuant to the requirements of 49 CFR 573.5 as it applies to a determination by General Motors of a safety defect involving certain 2000-04 model year CK pickup and sport utility trucks.

573.6(c)(1): Chevrolet, GMC, and Cadillac 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, which relates to motor vehicle safety, exists in certain Chevrolet Silverado, Avalanche and Kodiak; GMC Sierra and Topkick; and Cadillac Escalade EXT model trucks. Some of these vehicles have galvanized-braided-steel tailgate support cables used to support the tailgate in the full open (horizontal) position that can corrode over time and fracture when loads are applied to them. The tailgate cables are located in an area of the vehicle that is open to the environmental elements at the trailing end of the vehicle. Moisture may enter between the metal strands of the cable through the crimped edge of the lug at either end. If there is any cracking or tearing of the plastic sheathing that covers the steel cable, another moisture entry point will be created. Cracking or tearing of the plastic sheathing is possible during normal usage of the vehicle as cargo is loaded and unloaded. Both cable ends are oriented vertically while the gate is in the closed (upright) position. Moisture entering in the manner described may be retained within the galvanized strands of the cable due to the protective insulation. This moisture may tend to collect and concentrate near the center of the cable, which is the lowest point while the gate is in the closed position.

Tailgate support cable corrosion may not be visible because of the plastic sheathing covering the cable. If one cable fractures, the remaining cable may retain the tailgate in a horizontal position. If the remaining cable is weakened by corrosion, it could fracture within moments of the first cable fracture. If both cables fracture, the tailgate would suddenly drop approximately 10° and strike the top surface of the rear bumper. The tailgate outer panel may be damaged by this impact with the bumper. If anyone is sitting or standing on the horizontal surface of the tailgate when both cables fracture, they could fall and be injured. On vehicles without a bumper, the tailgate may drop to a lower position.

573.6(c)(6): In April 2002 Field Performance Analysis (FPA) Engineering had received 12 reports of fractured cables on full size pickup trucks resulting in injury or damage. FPA analysis of photographs and returned samples indicated that the fractures were likely due to corrosion near the mid-point of the cables. The incidents were reported to be from GMT800 pickups. This information was forwarded to Product Engineering. In May 2002 Product Engineering supplied this information, along with samples of fractured cables, to the supplier of the cable/latch assembly for additional analysis.



Since the 12 reports were thought to be all GMT800 Pickup Truck models, Product Engineering focused on the differences between the GMT800 and the older GMT400 Pickup designs and materials. Both program vehicles were produced in 1999 and 2000 model years.

Both the GMT800 and GMT400 galvanized steel cables were supplied by the same source, Cable Manufacturer of America (CMA). The GMT400 cables were sent directly from CMA to vehicle assembly facilities starting in 1992 and continued in that manner until the end of GMT400 production at the conclusion of the 2000 model year. Cables for use on GMT800 vehicles were first shipped to a Tier I supplier (Delphi) where they were assembled to the latch, then shipped to vehicle assembly. There were no incident or trouble reports of corroded or fractured cables during the development and testing phase of the GMT800 Pickup. In September 2001, the cable supplier was changed from CMA to Delphi.

GMT800 vehicles started production with a support cable design similar to the GMT400. Material and construction were the same, however there were two distinctive differences in design:

1. The eyelet at one end of each cable is oriented 35° offset from the eyelet at the opposite end, which ensures that the cables do not protrude through the gap between the closed tailgate and the pickup box side. It also requires a unique right and left part, as the cables must be symmetrically opposite.
2. An epoxy sealant was added to each end of the bare strands of the cables. The purpose of this sealer was to deter moisture from entering between the galvanized metal strands, and was implemented because of sporadic field complaints of corroded cables beginning with the first usage of a cable design on the GMT400 Pickups.

Product Engineering began a preliminary investigation of available warranty data for model years 1995-98 GMT400 and 1999-2002 GMT800 support cables. The GMT800 warranty data was found to be approximately twice the level of the GMT400. This higher warranty level was thought to be due to several quality issues related to the cables and latches. A decreasing warranty trend was evident for vehicles produced following the implementation of Engineering Work Order (EWO) JT502. This change was issued to improve clip retention to the cable.

On October 25, 2002, Product Engineering submitted a request to GM Materials Engineering to provide a metallographic evaluation of plating thickness on the outside surface of individual wires of the cable and to provide chemical analysis of the cable cover material. Their analysis found that the original plating thickness of the field samples could not be verified due to the severity of the corrosion at the time of evaluation. Their analysis of the production cables concluded that they were manufactured to specifications. These were the same specifications that had been applied to the GMT400 cables. Also noted in the report was that "Water intrusion is probably due to cutting of the E/P coating and possible excess stretching of the coating, which eventually leads to small cracks to allow the water contact. There is also a possibility that water was present internally within the assembly upon sealing of the ends with epoxy."

On February 12, 2003, Product Engineering reviewed their findings with the Internal Product Investigations Engineer. A detailed review of available test data and engineering change history was inconclusive regarding a potential root cause for corrosion fractures. The warranty data, excluding what was believed to be rattle and paint mutilation claims, appeared consistent with warranty for the GMT400 cable that had been in production for several years. A study of warranty claims did not identify a higher incident rate in the more severe corrosive environments, further supporting the belief that the portion of warranty above GMT400 levels could be due to rattle and paint mutilation issues later corrected by EWO's.

In addition, Vehicle Identification Number (VIN) analysis of the 12 reports determined that not all of the full size pickup trucks were from the GMT800 platform. Two were identified as GMT400 pickup trucks. At this point, it appeared that the GMT800 cables were corroding in a manner similar to the GMT400, but at a higher rate. This higher rate of incident was attributed to the

sealer at the ends of the cables that prevented moisture from evaporating or draining completely. The sealer was intended to eliminate the most obvious access point for moisture into the cable strands, but not make the cable completely waterproof.

On March 3, 2003, EWO ASAKL was approved. This change authorized the use of stainless steel material on all GMT800 tailgate cables and was intended to improve corrosion resistance of the cable.

This information was reviewed with the FPE Director in May 2003 and the investigation was placed in monitor status.

EWO ASAKL was implemented at all vehicle assembly facilities in October 2003. Existing production stock was used. Service stock was scrapped and replaced with new part numbers.

A NHTSA Information Request (IR) was received October 24, 2003. GM responded to the IR on December 12, 2003.

Internal Product Investigations re-opened this issue on January 21, 2004. A review of updated warranty data for the GMT800 and GMT400 programs indicated a distinct increase for both programs beginning in October/November 1999. With this information, Product Engineering and Product Investigation Engineers began looking for design changes that may have been responsible for this coincidental increase. The engineering changes implemented in proximity to this date did not appear to correlate with a possible root cause for an increase in corrosion related incidents.


On February 26, 2004, Product Investigations presented the issue to the FPE Director. The FPE Director reviewed the issue with the GMNA Senior Management Committee. GM decided to conduct a Safety Recall on March 10, 2004.

573.6(c)(8): General Motors is currently developing a service process to replace the tailgate support cables on the involved vehicles.

Pursuant to 577.11(e), reimbursement will be provided to customers with involved vehicles.

573.6(c)(9): General Motors plans to start notifying customers in the 3<sup>rd</sup> quarter of 2004, when the necessary parts are available. Draft copies of the dealer bulletin, owner notification and the scheduled mailing dates will be forwarded to NHTSA when available.

Sincerely,



Gay P. Kent  
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	CK	2000	500,585	10/99	07/00	Silverado	*Unknown
Chevrolet	CK	2001	605,912	04/00	10/00	Silverado	"
Chevrolet	CK	2002	751,717	10/00	07/02	Silverado, Avalanche	"
Chevrolet	CK	2003	772,530	04/02	07/03	Silverado, Avalanche	"
Chevrolet	CK	2004	240,068	03/03	11/03	Silverado, Avalanche	"
GMC	CK	2000	148,233	10/99	07/00	Sierra	"
GMC	CK	2001	176,090	04/00	10/00	Sierra	"
GMC	CK	2002	190,340	10/00	07/02	Sierra	"
GMC	CK	2003	187,268	04/02	07/03	Sierra	"
GMC	CK	2004	62,960	03/03	11/03	Sierra	"
Cadillac	CK	2002	12,513	10/00	07/02	Escalade EXT	"
Cadillac	CK	2003	11,131	04/02	07/03	Escalade EXT	"
Cadillac	CK	2004	<u>2,864</u>	03/03	11/03	Escalade EXT	"
<b>Grand Total:</b>			<b>3,662,211</b>				

**Added Population – November 23, 2005**

Chevrolet	Médium Duty	2003	68	09/02	06/03	Kodiak	"
Chevrolet	Médium Duty	2004	111	07/03	12/03	Kodiak	"
GMC	Médium Duty	2003	78	07/02	06/03	Topkick	"
GMC	Médium Duty	2004	54	09/03	11/03	Topkick	"
<b>Additional Total:</b>			<b>311</b>				

\* All involved vehicles will be corrected.