GENERAL MOTORS NORTH AMERICA
Structure & Safety Integration

04V-273
(3 pages)

June 3, 2004

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

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 safety defect involving certain 2004 Cadillac CTS, SRX and XLR and 2004 Chevrolet Corvette model vehicles.

573.6(c)(1): Cadillac and Chevrolet 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 2004 Cadillac CTS, SRX, XLR and 2004 Chevrolet Corvette model vehicles. Some of these vehicles were produced with lower control arm ball stud nut/washer assemblies with washers made of the wrong steel material. The washers may fracture and become loose or fall away from the vehicle, reducing clamp load below design specifications. A prevailing torque nut is used to slow the rate at which the nut would back off. Should the ball joint tapered stud disengage from the knuckle with the presence of the nut, it is expected that a noise would occur and that the driver may recognize it as abnormal and seek repairs. However, separation of the control arm ball stud and steering knuckle, due to disengagement of the tapered attachment and retaining nut is possible, and may occur without prior indication to the vehicle operator.

If the control arm separates from the knuckle, the affected corner of the vehicle will drop and the control arm would be forced downward, contacting the wheel. The affected wheel could tilt outward and create a dragging action that would tend to slow the vehicle and create a tendency for the vehicle to turn in the direction of the affected wheel. Since the affected wheel and corner assembly is trapped within the wheelhouse, it is expected that in the majority of cases, the driver could maintain some steering control, but vehicle control would be diminished. Hydraulics within the braking systems would remain intact with compromised system performance.

In extreme situations, the affected wheel assembly could separate from the vehicle if forces resulting from the wheel's dragging action were sufficient to fracture the tie rod end and upper ball joint connections. Separation of the wheel assembly would also sever that wheel's hydraulic brake hose and result in diminished braking performance of the vehicle.

573.6(c)(6): The initial fractured washer was discovered at the Lansing Grand River Vehicle Assembly during an audit on April 19, 2004. The Quality Control Engineering Manager notified the supplier, Federal Screw Works and Bowling Green Vehicle Assembly. An initial inspection at Lansing Grand River Vehicle Assembly found 6 fractured washers. Product Investigations was asked to determine the effect the fractured washer would have on vehicle performance.

On April 20, 2004, the completed vehicles at Lansing Grand River Vehicle Assembly and Bowling Green Vehicle Assembly were placed on hold. The vehicles were held for at least 24-hours and then inspected.

- Lansing Grand River discovered 9 total fractured washers out of 1,010 vehicles.
- Bowling Green discovered 5 fractured washers out of 802 vehicles.
- A total of 5,228 nut/washer assemblies were checked on the 1,812 inspected vehicles with 14 fractured washers detected.

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Using nut/washer assembly samples selected from suspect material obtained from Lansing Grand River Vehicle Assembly on April 20, 2004, Federal Screw Works performed a number of different tests. It was unable to duplicate the failure mode.

Beginning on April 21, 2004, a number of nut/washer assembly samples from various sources were analyzed by the GM Materials Lab. A RED X team investigation ultimately determined Alpha Stamping stamped the washers with the wrong material. The engineering specification for the washer material is SAE 1050-1070 Carbon Steel. The material used to produce the washers was a highly alloyed steel.

On May 13, 2004, investigation results were presented to the FPE Director. The GMNA Senior Management Committee reviewed the issue and on May 25, 2004 the Field Action Decision Committee decided to conduct a safety recall.

573.6(c)(8): General Motors is currently developing a service procedure to inspect all involved vehicles and repair as necessary. This information will be included in the service procedure of the draft dealer bulletin that will be submitted to NHTSA when available.

Pursuant to 577.11(e), GM does not believe notification about reimbursement is required for this recall. The involved vehicles are current models and are covered by the new vehicle warranty.

573.6(c)(9): GM will provide draft and final copies of the dealer bulletin and owner letter when available along with the dates of when GM plans to begin this recall.

Sincerely,

Gay P. Kent FOR
Director
Product Investigations

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Attachments

573.6(c)(2)(3)(4)

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

MAKE	MODEL SERIES	MODEL YEAR	NUMBER INVOLVED	INCLUSIVE MANUFACTURING DATES (FROM)	(TO)	DESCRIPTIVE INFO. TO PROPERLY IDENT. VEH.	EST. NO. W/CONDITION
Cadillac	D	2004	19,379	01/2004	04/2004	CTS	* Unknown
Cadillac	E	2004	12,501	01/2004	04/2004	SRX	"
Cadillac	Y	2004	1,199	01/2004	04/2004	XLR	"
Chevrolet	Y	2004	8,849	01/2004	04/2004	Corvette	"
		GM Total:	41,928				

* All involved vehicles will be corrected.

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