U.S. Department of Transportation

National Highway Traffic Safety Administration

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

NHTSA

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Investigation:	EA 09-002		
Prompted by:	PE08-056		
Date Opened:	01/14/2009	**Date Closed:**	05/11/2010
Principal Investigator:	Steve Mchenry		
Subject:	Electronic Stability Control		

MANUFACTURER & PRODUCT INFORMATION

Manufacturer:	GENERAL MOTORS CORP.
Products:	MODEL YEAR 2005 & 2006 CHEVROLET CORVETTE
Population:	40,028
Problem Description:	INAPPROPRIATE BRAKE APPLICATION OF ONE OR MORE WHEELS MAY OCCUR SUDDENLY AND UNEXPECTEDLY DUE TO AN ELECTRONIC STABILITY CONTROL SYSTEM MALFUNCTION.

FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
Complaints:	28	32	58**
Crashes/Fires:	1	3	4
Injury Incidents:	0	0	0
Fatality Incidents:	0	0	0
Other*:	0	2424	2424

***Description of Other:** Warranty repairs per Technical Service Bulletin to correct condition (unique VIN's).

** Count indicates duplicate reports received by ODI and manufacturer.

ACTION / SUMMARY INFORMATION

Action: This Engineering Analysis is closed. Recall 10V-172.

Summary:

On April 26, 2010, at NHTSA's request following this investigation, General Motors submitted a Defect Information Report to NHTSA to correct a defect associated with the Vehicle Stability Control (VSC) system in approximately 40,000 Model Year (MY) 2005 and 2006 Chevrolet Corvette vehicles (NHTSA Recall No. 10V-172). According to the report, these vehicles may have a problem with the Steering Wheel Position Sensor (SWPS) connector created by a fretting condition in the connector (small movement of the pins back and forth creating a residue build up) which could change the electrical resistance and corrupt the information signal to the VSC computer. The VSC system uses the information from the SWPS to calculate the driver's intended vehicle direction; this information is cross referenced to sensors that tell the system which direction the vehicle is actually going and the system will, if it determines a variance indicating the vehicle is in a over-steer or under-steer condition, reduce throttle control and apply braking to make a correction in vehicle direction towards what the system believes is the driver's intended path. GM dealers will inspect the SWPS connector of recalled vehicles and, if necessary, install a terminal position assurance clip to the connector.

GM has advised NHTSA that its position is that the inappropriate activations of the VSC system do not present an unreasonable risk to safety because GM believes that the activations are low in occurrence, a rare set of conditions would need to be present, the driver has the ability to maintain direction control if the alleged condition were to occur, and that there are no reports of injuries.

NHTSA does not agree. Based on interviews with complainants and testing performed at the NHTSA Vehicle Research and Testing Center in East Liberty, Ohio, ODI believes that the majority of the unwarranted activations of the VSC system occur when turning, in such scenarios as travelling highway entrance or exit ramps or in street traffic conditions. Complainants report the effect produced by the malfunction of the VSC system is sudden unexpected

braking and in some cases a sudden unexpected change in vehicle direction which some complainants indicate was sufficient to cause a movement into an adjoining lane of traffic or in some cases into curbing or stationary objects. During the VSC event the brake lights of the Corvette are not illuminated, depriving trailing traffic from indication that braking is occurring and some complainants indicate the braking effect can be severe and last up to 10 seconds in length. Based on available information ODI counts four crashes due to a malfunction of the VSC system; GM is counting one crash due to the problem. In these circumstances NHTSA believes the defect presents an unreasonable risk to motor vehicle safety, and so advised GM when requesting this recall.

This investigation is closed based on GM's recall.