

ODI Action Number:

EA02-031

Date: **11-15-2002**

Subject: **GENERAL MOTORS CORPORATION
1997 - 2001 CHEVROLET CORVETTE**

ALLEGED STEERING COLUMN LOCKUP FAILURE

This file contains consumer letters received by the National Highway Traffic Safety Administration, which complain of the alleged defect that is the subject of this Engineering Analysis. It also contains correspondence between this agency and the manufacturer on the subject. Portions of that correspondence may be withheld where the manufacturer has claimed that they are confidential pursuant to the Freedom of Information Act, 5 U.S.C. § 552(b)(4), which exempts from disclosure confidential commercial and financial information. Additional documents relating to this Engineering Analysis may exist, but have not been included in this public file.

If you have any information or concerns you would like to discuss with NHTSA staff, please call the

TOLL FREE AUTO SAFETY HOTLINE

800-424-9393

(In the Washington, DC metropolitan area, please call 202-366-0123)

Also, if you wish to discuss the investigation with NHTSA staff, the HOTLINE contact representative will have a technical staff member return your telephone call.



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

ODI RESUME

INVESTIGATION: EA 02-031
DATE OPENED: NOV 15 2002 DATE CLOSED:
SUBJECT: Steering Column Lockup
PROMPTED BY: PE02-054 (Cheryl Tuosto)
PRINCIPAL ENGINEER: Cheryl Tuosto

MANUFACTURER: General Motors Corporation
MODEL(S): Chevrolet Corvette
MODEL YEAR(S): 1997-2001
VEHICLE POPULATION: 131,981

PROBLEM DESCRIPTION: The steering column allegedly locks up while the vehicle is in motion at speeds between 5 and 65 mph, causing the driver to lose steering control.

FAILURE REPORT SUMMARY

	ODI	General Motors	TOTAL*
COMPLAINTS:	198	160	344
CRASHES:	5	24	25
INJ. CRASHES:	3	7	8
# INJURIES:	4	8	10
FATAL CRASHES	0	0	0
# FATALITIES	0	0	0
FIRES	0	0	0
OTHERS	0	24,127	24,127

DESCRIPTION OF OTHER: General Motors warranty claims related to the alleged defect.

Note: A total of 46,311 warranty claims were submitted; however, since 22,184 warranty repairs were conducted as part of Customer Service Campaigns 1044 and 1044A, they have been eliminated from the warranty claims count for this investigation.

* Total counts reflect the total number of ODI and GM incidents with all ODI reports duplicating GM reports counted only once.

ACTION: An Engineering Analysis (EA) has been opened.

ENGINEER: *Cheryl Tuosto*

DIV CHF: *[Signature]*

OFC DIR: *[Signature]*

DATE: *13-Nov-02*

DATE: *11/13/02*

DATE: *11/15/02*

SUMMARY: See attached summary.

*UNQ
11/19/02*

SUMMARY

BACKGROUND: ODI opened Preliminary Evaluation PE02-054 after ODI received complaints of alleged steering column lockup in the subject vehicles, which caused the driver to lose steering control.

In July 2001, prior to ODI opening PE02-054, General Motors (GM) issued Electronic Column Lock Customer Service Campaign (CSC) 1044. In September 2001, CSC 1044 was superseded and replaced by CSC 1044A. This campaign addressed a condition that could occur in certain MY 1998-2000 Corvettes, where the steering column would fail to unlock during initial key-in and start-up. In December 2001, GM issued Technical Service Bulletin (TSB) # 01-02-35-008 addressing the same condition covered in the CSC; however, the scope of the TSB included all MY 1997-2000 Corvettes not previously included in the CSC. MY 2001 Corvettes were not included in the CSC or TSB.

As part of this investigation, Information Requests (IRs) were sent to GM on 18-Jul-02 and 17-Oct-02 and responses were received on 13-Sep-02 and 23-Oct-02, respectively. Based on ODI's review of the IR submissions and the ODI Complaints database, the above complaint, crash, and injury counts were established.

ODI ANALYSIS: During the Preliminary Evaluation, the ODI and GM data analyzed indicated the potential of the following two (2) failure modes:

- Failure Mode 1: Failure of steering column to unlock during initial key-in and start-up
- Failure Mode 2: Locking of steering column while the vehicle is in motion

Failure Mode 1, the failure of steering column to unlock, was partially addressed in the CSC as a non-safety related concern; however, the initial complaint analysis indicated some of the vehicles exhibiting this failure mode traveled 20-50 feet before the engine stopped running, which potentially allowed the complainants to drive their vehicles into the flow of other moving vehicles without the ability to steer. In addition, 51% of the reported complaints involved MY 1997-2001 vehicles not covered in the CSC.

Failure Mode 2, the locking of the steering column while the vehicle is in motion, was not addressed as part of the CSC, but is clearly a safety concern. At least 20 of the complaints reported allegedly involved vehicles traveling at 20+ mph when the steering column locked.

GM POSITION: In its 13-Sep-02 IR response, GM maintains that most of the known reports of locked steering column appear to be consistent with a single point failure that results in a failure of the column to unlock. In that circumstance, the vehicle can be started and put in gear, but the column does not unlock. If the customer attempts to move the vehicle, the engine will stop when the vehicle reaches approximately 1 mph. Under these circumstances, GM stated that it does not believe that this poses a safety risk.

GM also acknowledges that theoretically there are some multiple point electrical failures and some single point mechanical failures that might result in the steering column locking while driving at highway speed; however, during its field investigations GM has not found evidence of any failure that could result in the column locking while driving. This, in conjunction with the fact that there are: (a) a low number of cases that allege the column locked at highway speeds (b)

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a small number of crashes and minor injuries and (c) no severe injuries or fatalities has led GM to believe that the situation does not rise to the level of a safety defect.

ACTION: An Engineering Analysis is being opened for MY 1997-2001 Chevrolet Corvette vehicles to determine safety-related consequences and to confirm the scope of the affected population.