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

ODI RESUME

INVESTIGATION: PE 02-021 DATE OPENED: 11-Feb-02
SUBJECT: Throttle Sticking UPGRADED: 1-AUG-02
PROMPTED BY: IE01-067 – W. Duckwitz
PRINCIPAL ENGINEER: Scott Yon

MANUFACTURER: General Motors Corporation
MODEL (S): Chevrolet Silverado and GMC Sierra Pickups, Chevrolet Tahoe, Suburban, Avalanche, GMC Yukon, Yukon XL, Cadillac Escalade SUV models
MODEL YEAR (S): 1999-2002
VEHICLE POPULATION: 3,100,000 (approximate)

PROBLEM DESCRIPTION: The blade in the throttle body can stick in the closed position or less frequently in a partially open position. Excess pedal force required to free a stuck throttle can result in accelerator overshoot and vehicle surge, possibly resulting in a crash or injury.

FAILURE REPORT SUMMARY

	ODI	General Motors	TOTAL
COMPLAINTS:	114	826	940
CRASHES:	3	47	50
INJ. CRASHES:	0	3	3
# INJURIES:	0	3	3
FATAL CRASHES	0	0	0
OTHERS	-	229,383	229,383

Description of Other: Warranty claims related to throttle body repairs.

ACTION: The Preliminary Evaluation has been upgraded to an Engineering Analysis.

ENGINEER: DS DATE: 01 Aug 02
DIV CHF: DATE: 8/1/02
OFC DIR: DATE: 8-1-02

SUMMARY: With IE01-067 as a basis, PE02-021 was opened after ODI received complaints related to and outside the scope of General Motors (GM) Technical Service Bulletin (TSB) # 00-06-04-007 addressing increased accelerator pedal effort. The complaints concerned higher then expected throttle opening effort or failure to return to the closed position when released. An information request was submitted to GM on 8-Mar-02 and responses were made on 29-Apr-02 and 10-May-02.

Based on ODI review of the IR submission and the ODI Complaints database, the above complaint and crash counts have been established. The crashes found were mostly minor in nature with minor injuries. Warranty claims analysis suggests the subject problem occurs after in-service use of the vehicle and may reoccur with subsequent use after initial repair.

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CONSUMER COMPLAINTS: ODI complaints have been reviewed to ensure relevance to this investigation. The number of manufacturer complaints quoted is taken from GM's 10-May-02 IR submission. ODI notes that a small percentage of the manufacturer's complaints are not related to this investigation.

CRASH COMPLAINTS: The ODI crashes identified have been reviewed to ensure relevance to this investigation. Crashes identified for the manufacturer are based on ODI analysis of the IR data. The review resulted in a larger number than reported on GM's 10-May-02 IR submission. Incidents where driver error or pedal misapplication may have been a factor were eliminated from both GM and ODI crashes.

WARRANTY CLAIMS: GM submitted details of warranty claims related to PE02-021. Claims were retrieved by labor operation J5485 - BODY, THROTTLE-R&R and J5490 - BODY UNIT, THROTTLE-REPLACE. More than 229,000 claims were reported (about 7% of population). Insufficient information exists to establish an accurate customer concern or precise failure mode, however based on random analysis of a verbatim text field, it is clear that the majority of claims (66% or more) appear to be related to the subject of this investigation. Analysis also supports a service-usage related concern (as opposed to early life manufacturing concern). The average warranty repair occurs at 26,000 miles, 20 months past the date of manufacture. There are a significant number of repeat warranty repairs. There is a reduction in the volume of claims coincident with the date identified in TSB # 00-06-04-007, however claims are still being made.

GM POSITION: The design of the throttle body changed at the start of MY 1999 production (two degree, GEN III valve replaced existing five degree valve). GM has conducted several internal investigations resulting in subsequent changes in component design/assembly and the release of related service information. GM acknowledges two issues that can lead to high pedal opening effort: 1) that addressed by TSB # 00-06-04-007B (manufacturing concern), and 2) the formation of gummy coke deposits on the inside of the throttle bore. These deposits are believed to be the result of engine oil based phenol compounds that enter through the PCV system. A service procedure to address this issue is under development. GM stated in their IR that they do not believe the subject problem represents a safety defect.

ODI ANALYSIS/CONCLUSION:
The Preliminary Evaluation will be upgraded to an Engineering Analysis to determine safety-related consequences and to confirm the scope of the affected population.