SEATBACK FAILURES IN REAR IMPACTS RESULTING IN CONTINUOUS PARALYZING INJURIES IN CHRYSLER AND GM VEHICLES

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GM, Chrysler and the auto industry knew about problems of weak seatbacks in rear impacts from many full scale tests done and reported in the late 1960's.[1] The basic and well known problem is that when the Federal Motor Vehicle Safety Standards (FMVSS) were first setup in 1966, the seatback strength requirement (FMVSS 207) was grossly inadequate; it presumed no one would be sitting in the seat. Recommended upgrades of FMVSS 207 by safety advocates have been resisted by GM and Chrysler for more than 40 years and weak seatbacks remain a dangerous threat to motorists to this day. In 1967 GM did a series of 7 full scale instrumented rear impact tests with production and reinforced seatbacks; they concluded seatback strength should be significantly upgraded.[2] But this data was never revealed publicly and GM fought off any attempt to improve the Standard they knew was defective. Indeed, many occupants in GM and Chrysler vehicles sustained fatal to quadriplegic injuries from rear impacts some even while seatbelted. (See attached listing for representative cases).

In sworn depositions by GM engineers and designers (Farley vs GM 1996) it was admitted that it would cost up to one dollar more and one pound of added steel to increase seatback strength five fold. Such a strength level would reduce injury levels up to about 90% in rear impacts.[3]

To put the problem in perspective we should examine frontal impact protection of seatbelted occupants compared to rear impact accidents. If the seatbelts have the strength level required by the standard, the force they would exert on an occupant during a frontal collision is up to 8,000 lbs.; this force would restrict the driver's motion forward and protect against so called second collision injuries. For rear impacts of seatbelted occupants in the front bucket seats

there are only seatbacks behind them to prevent them from flying rearward. The restraining force of those backs if designed in accordance with the 207 Standard would be about 200 lbs. or about 2% of the frontal protective force. Clearly, there is a huge hole in the vehicle safety net which is yet to be filled. While some companies have been consistently concerned about this problem, GM and Chrysler have not. As a result there are many claims of serious injuries and fatalities which could be dismissed because of the bankruptcy plans of GM and Chrysler.

Case	**Location/ Court**	**Vehicle**	**Injury type**
Ward v GM	Circuit Ct for Bullock Cnty AL Case No.: CV-93-98	1982 Oldsmobile	Fatal
Walter v GM	Circuit Ct of Cook Cnty IL Law Division, Cnty Dept. Case No.: 92L 04077	1986 Oldsmobile Calais	Quadriplegia
Elmore V GM	Circuit Ct of Kanawha Cnty, Civil Action 99-C-1755	1995 Chevrolet Caprice	Herniated discs
Kellner v GM	Supreme Ct NY State Nassau Cnty, Case No.: 017199/96	1989 Buick Century	Quadriplegia
Helms v GM	Circuit Ct for La Barbour Cnty AL Clayton Div. Case No.: CV 95 242	1992 Berretta	Paraplegia
Kritctzs v GM	Circuit Ct of St. Clair Cnty MI Case No.: C91-001770 NP	1990 Cavalier	Herniated discs
Shugart v GM	US District Ct for Middle District of PA, Case No.: 4:02-CV-0604	1994 Buick Regal	Ejection & Leg Amputation
Dickerson v GM	15th Judicial Circuit Palm Beach FL Case No. CL-93-4427-A1	1992 Oldsmobile	Quadriplegia
Yzarra v GM	Superior Ct of NJ Law Division Passaic Cnty Doc. No. PAS-I-1160-07	1994 Saturn	Quadriplegia

1. See e.g., SAE Papers No. 670921, 670485.

2. GM Report No. G-22330, Feb. 5, 1967. Admitted into evidence in Robert Pavan vs. General Motors, Docket MRS-L-750-92, Superior Court of New Jersey, Law Division: Morris County (Tried Jan. 26, 2000).

3. Farley v General Motors, US District Court for the Seven District of West Virginia at Charlestown; Civil Action

Number 2:95-1049. Dr. Joseph S. Rice, an engineer, and Mr. Richard J. Neely, a seat designer, gave depositions in this rear impact case. Although seat belted, Mr. Farley was ejected out of his vehicle when his seatback collapsed and he was hurled through the rear window. Rice and Neely acknowledged at their depositions taken on May 30, 1996, that at a cost in the order of a dollar more per seat and one pound of material would result in approximately a 5 to 6 fold increase seatback strength above the vehicle standard requirement. Mr. Neely also acknowledged that dummies legs in rear impact tests were tethered so that during these tests they would not damage the dummies. GM was more concerned about the dummies they tested than the people riding their vehicles.