

NTSB: Underride Protection Need 'Apparent'

The National Highway Traffic Safety Administration has been told it should renew its recently abandoned effort to require designs for the rear ends of trucks that would protect against deadly underride when cars and trucks collide.

The recommendation came in a report by the National Transportation Safety Board, the federal government's transportation safety watchdog, which noted, "As long as the intermix of heavy and light vehicles continues on the nation's highways, underride accidents will continue, and the need for such underride protection . . . is apparent."

A NHTSA spokesman said that safety administrator Douglas Toms was out of town when the report was released and that "there will be no comment" on the safety board's recommendation.

The board also recommended that NHTSA initiate "an additional effort" to develop standards "for bumper protection of motor vehicles to insure predictable and compatible crash performance between vehicles of considerable difference in size and weight."

The board made its recommendations following an investigation of a crash that occurred in June 1970, near Washington, D. C., in which a car underrode a truck. Both occupants of the car were killed.

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"The fatalities in this collision were caused by the absence of any form of rear-end crash protection on the truck, which permitted the automobile to underride the high frame of the truck and allowed the truck frame to enter the passenger compartment through the windshield, nullifying the intended protective effect of the occupants' fastened seat belts," the board said. It found that the rear end of the truck "penetrated 20 inches into the passenger compartment of the automobile." The truck "sustained but minor rear-end damage," it said.



"The fatalities in this collision were caused by the absence of any form of rear-end crash protection on the truck, which permitted the automobile to underride the high frame. . . ." — NTSB Highway Accident Report.

Until June 1971, NHTSA had plans to require underride guards on the rear end of trucks (Docket 1-11). However, after the trucking industry voiced strong opposition to certain requirements of the proposal, the safety administration withdrew its proposal altogether because, it said, "At the present time, the safety benefits achievable in terms of lives and injuries saved would not be commensurate with the cost of implementing" underride protection.

The safety board challenged that reasoning, saying, "The NHTSA's docket discusses and estimates the cost of the development and installation of such underride protection and the problems this would present to the motor carriers. However, it does not relate this cost to the lives lost and injuries sustained by the drivers and passengers in incompatible motor vehicles involved in such accidents."

If the safety administration stands by its decision that underride guards are economically unfeasible, the board suggests that it determine whether there is an alternative method of protecting passenger car occupants "against the consequences of striking vehicles having high frames which are certain to be underridden." Before NHTSA decides to place the burden of protection from underride on the automobile rather than on the truck, the board said, it should consider "whether it is more costly to place crash protection equipment on smaller numbers of high-framed trucks (or trailers) or on the large population of passenger cars."

GM Recalls 6.7 Million Vehicles

General Motors has announced it will conduct what is reported to be the largest recall campaign in motor vehicle history in order to modify motor mounts which are said to be breaking in large numbers.

The recall involves an estimated 6.7 million GM vehicles manufactured from 1965 through 1969. The company maintains that no safety defect exists and

that the campaign is being conducted because, "It is apparent that as a result of the publicity which has been given to the engine mount issue, there is a great deal of misinformation and misunderstanding on the part of Chevrolet owners which we are anxious to eliminate as soon as possible."

GM said the motor mount modification will consist of "installation of restraints which will limit the lifting of the engine should an engine mount separate." The company said it anticipated "these restraints should be available at Chevrolet dealerships the latter part of February."

In a "Consumer Protection Bulletin" in October the National Highway Traffic Safety Administration summarized the problem: "Failure of the left front engine mount may result in partial rotation of the engine within the engine compartment during acceleration. This lifting of the left side of the engine may, in some cases, jam the accelerator and gear shift linkages and may also cause loss of power braking and power steering assist. The result is partial or total loss of vehicle control."

The recall will not include Chevelles, Corvettes or any six cylinder models, GM said. Carl Nash, an investigator for the Ralph Nader-affiliated Public Interest

Senate Gets Recall Bill

Senators Gaylord Nelson (D-Wisc.) and Walter F. Mondale (D-Minn.) have introduced legislation (S. 2946) that would require manufacturers to recall and pay for correction of all safety related defects instead of just notifying vehicle owners that a defect exists, as the law now requires.

They said that the bill was prompted by GM's recent refusal to bear the expense of repairs on Corvair heaters that were alleged to be leaking carbon monoxide into the passenger compartment of the cars.

A 1970 Senate-based attempt to give the safety administration authority to force recalls and to require that auto makers pay for them died in a House-Senate conference. However, the conference committee reported at that time that, "if it should come to the attention of the committee that the manufacturers are not recalling any vehicle or equipment which is defective . . . and remedying these without charge . . . we will not hesitate to initiate legislation which would require" them to do so.

Safety administrator Douglas Toms has said in congressional testimony that his agency should have authority to require recalls because "we think it is necessary (in order) to do our job."

Research Group, has said those models, representing an estimated 4 million vehicles, should also be recalled. Nash has been investigating failures of GM motor mounts for the past three months and has sent more than 300 consumer letters that complain of the failure to the safety administration, he said.

Syndicated columnist Bob Irvin also played a major role in prompting the recall. In addition to investigating and reporting developments surrounding motor mount failures in his daily Detroit News column, he also forwarded more than 300 consumer reports of motor mount failures to the safety administration.

The safety administration advised GM prior to the company-initiated recall that it was "close" to a determination of defect, and urged the auto maker to conduct a recall campaign, according to an agency spokesman. As yet there has been no government announcement that a defect exists. In the absence of an official determination of defect the GM recall does not fall under provisions of the law that require an auto maker to inform car owners of specific potential hazards that may exist. However, GM has told the safety administration that it will include such a warning in its letters to owners.

GM announced that no charge will be made for repairs required to modify the motor mounts.

School Bus Safety Drawing Congressional Support

More than 50 members of Congress are sponsoring three bills aimed at improving school bus design and safety features.

Two identical bills (H. R. 10833 and S. 2582), one introduced in the house by Rep. Les Aspin (D-Wisc.), the other in the Senate by Sen. Gaylord A. Nelson (D-Wisc.), call on the Department of Transportation to:

- Establish school bus standards governing emergency exits, interior protection for occupants (including restraint systems), floor strength, seat anchorages, crashworthiness of body and frame, vehicle operating systems, windows and windshields, fuel systems, exhaust systems and flammability of interior materials.
- Develop experimental prototype school buses for testing and research.
- Establish procedures for investigating each school bus crash that results in a death.
- Require school bus manufacturers and dealers to inspect each bus before it is sold and to certify that each bus meets appropriate safety standards.

Another bill (H. R. 11210), introduced by Rep. Donald Brotzman (R-Colo.), seeks to "require that all school buses be equipped with seat belts for passengers and seat backs of sufficient height to prevent injury to passengers."

The bill would require that lap belts and improved seat backs be standard equipment on all buses manufactured after June 30, 1972. Under the bill all buses manufactured prior to that date would have to be retrofitted with lap belts and improved seat backs before July 1, 1973.

(The American Society of Oral Surgeons recently reported that a survey of its members showed that annually more than 1,300 children sustain facial injuries from impacts with school bus seat backs.)

The National Transportation Safety Board, a federal agency that keeps an eye on safety problems in all modes of transportation, has recommended in numerous reports that both school buses and commercial buses be equipped with passenger restraints.

In addition to criticizing the lack of restraint systems, the safety board has also criticized current school bus construction by characterizing it as capable of resisting little more than "wind and rain." (See Status Report, Vol. 5, No. 15, Sept. 1, 1970.)

Weak school bus structure, due largely to the lack of sufficient rivets, permits sheet metal panels on buses to snap apart in a crash "exposing the children to sharp metal contact" similar "to the edge of a shovel or a cookie cutter," the safety board report said. It recommended that the National Highway Traffic Safety Administration set structural strength standards for school buses.

Safety administrator Douglas Toms recently told the House Roads Subcommittee that his agency is "nearing completion" on notices of proposed rulemaking "that would require stronger seats and seat anchorages, substantial padding in the immediate seating area and increased seat back height for improved occupant protection." To date the agency has taken no formal action on the safety board's recommendations.

Also, Toms made no mention of the structural weakness problem raised by NTSB. Of the three pending bills, only the Aspin and Nelson bills call for a standard to eliminate flimsy, "cookie cutter" school bus construction.

The state of Maryland, however, decided to set its own school bus standards by adopting — almost entirely — a model standard developed by the Vehicle Equipment Safety Commission, which does include structural strength provisions. (See Status Report, Vol. 6, No. 15, Aug. 16, 1971.)

According to Rep. Aspin, sponsor of one of the school bus bills, one school bus manufacturer claims that the VESC and Maryland standard can be met for only \$390 above current school bus manufacturing cost.

Today's 'Eggshell' Cars Meet Tomorrow's 'Bumper Rule'

The National Highway Traffic Safety Administration's "bumper" standard (FMVSS 215) requires that, beginning with the 1973 model year, new cars be able to sustain 5 mile per hour front-into-barrier crashes and 2.5 mile per hour rear-into-barrier crashes without damage to specified "safety-related" items such as headlights, radiators and hood and trunk latches.

The standard does not, however, require elimination of all damage in such low-speed crashes.

Illustrating the fact that many models may well be able to comply with the standard, yet still incur costly damage, were the results of the recently completed low speed crash tests on 1972 models by the Insurance Institute for Highway Safety. (See Status Report, Vol. 6, No. 22, November 19, 1971.)

Of the cars crashed in the 1972 tests, the following models met requirements for front and rear bumpers for 1973 models, yet sustained the listed amounts of damage. Five models even complied with the DOT standard at twice the speed required for rear-into-barrier crash tests — the 5 mile per hour test speed that will not be required until the 1974 model year. No cost estimate is shown for those crash tests in which a model failed to meet the standard's requirements.

1972 Models		2.5 MPH REAR/ BARRIER	5 MPH FRONT/ BARRIER	5 MPH REAR/ BARRIER
SEDANS	Chevrolet Impala	112.60	153.75	
	Ford Galaxie	20.00		242.60
	Plymouth Fury	96.50		224.50
	American Ambassador	12.00		
SMALL CARS	Chevrolet Vega	71.70		274.45
	Ford Pinto	36.80	125.20	267.50
	American Gremlin	44.80		235.65
	Toyota Corolla	8.36	251.46	

Study Sees Side Window Ejections Up

A crash investigator from the University of Michigan believes that the frequency of death by ejection through the side windows of vehicles is increasing and that, if this is so, it raises questions about design of passive restraint equipment.

Dr. Donald F. Huelke, Professor of Anatomy at the University of Michigan Medical School, says that although the frequency of door openings in crashes appears to be markedly reduced in new model cars, occupants still are being killed by ejection — either through opened side windows or through the side window glass. Earlier this year he told the Society of Automotive Engineers that he had identified 21 such cases out of a group of 279 crash fatalities.

However, since crash investigations customarily are limited to the more spectacular crashes, the incidence of side ejection found by such a method may not necessarily represent an accurate frequency reading for all crashes involving fatalities.

"The question of passive restraint systems should be raised at this point," Huelke said. "Will passive restraint systems act in preventing passenger ejection through the side window openings or the side glass, especially in the angle of side impacts where the driver, as a lone occupant in the car, catapults toward the right side of the vehicle?" He said he has found no data to show that a passive restraint system would prevent side window ejection as effectively as lap and shoulder belts.

If frequency of side ejection was found to be definitely increasing, this also would raise a question whether side windows should be constructed of laminated safety glass similar to the "firenet" design of windshield glass in new model cars. Current side glass in cars explodes in pellets on impact, thus providing no barrier against occupant ejection.

Safety Belt Weakening Studied

Safety belts that are no more than three years old may be substantially weakened by normal exposure to sunlight, dirt and wear, according to the National Bureau of Standards.

In a series of tests run on 72 safety belts taken from government owned vehicles, NBS researchers "found 68 per cent of the well-used 3-10 year old seat belts they tested to be unsafe, based on present federal standards for seat belts," according to a report summarizing the bureau's findings.

Most of the belts tested were manufactured prior to federal performance standards governing safety belts. However, the problem of weakening caused by abrasion exists with belts made as late as 1969, one of the researchers said. After 1969 most belt manufacturers voluntarily upgraded webbing strength to the point that abrasion is not as severe a problem as it was previously, he said.

As a result of the tests, the researchers "recommend routine testing of seat belt webbing by an easily used abrasion gage at safety inspection lanes, and replacement of weak belts and all seat belts manufactured before 1964

"Breakage of the webbing was the number one cause of failure. The breaks occurred frequently at points of abrasion — where belts had been worn at the anchor end and at the buckle end due to repeated length adjustments. Wear at these points can reduce the webbing strength of an older belt to a fraction of its initial value in just a few months," the researchers said.

"Continued abrasion of the seat belt webbing causes it to become thicker due to the appearance of 'fur' — the protruding ends of broken fibers." The increased thickness was found to have a direct correlation to decreased belt strength. According to one of the researchers, belt thickness can be determined by a simple micrometer-type device developed by NBS for the test. "Further development of this simple device should result in a gage that is ideal for use in auto safety inspection lanes," the report says.

The National Highway Traffic Safety Administration recommends, and some states include, safety belt checks in periodic motor vehicle inspections (National Highway Safety Standard No. 1). However, the check is limited to "seeing whether belts are in the vehicle and if they appear to be in use," according to a safety administration official. Currently, he said, the safety administration has no plans to include the thickness test in its periodic motor vehicle inspection standard.

The research project was conducted by the National Bureau of Standard's Office of Vehicle Systems Research and released in September 1971. That office has since been transferred to the Research Institute of the National Highway Traffic Safety Administration.

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