insurance institute for highway safety

the highway loss reduction

Status Report

Vol. 18, No. 2 February 1, 1983

Mercedes Plans Air Bags in '84 Models

Beginning with 1984 models, optional air bags will be offered in some Mercedes-Benz automobiles for sale in the United States, the manufacturer's U.S. subsidiary has announced.

In a January 28 letter to the National Highway Traffic Safety Administration (NHTSA), W.R.F. Bodack, president of Mercedes-Benz of North America, said the company would offer air bags on the driver side only, to be sold as a "supplemental restraint system" similar to the system currently offered in several European countries. (See *Status Report*, Vol. 16, No. 17, Nov. 5, 1981.)

The system will consist of a standard 3-point manual safety belt supplemented by an air bag and a knee bolster on the driver side. A 3-point belt will be provided on the passenger side, Bodack said. Initially about 5,000 air bag cars will be offered with additional units to be provided depending on the market response, Bodack said. The complete text of the letter to Raymond Peck, NHTSA administrator, follows:

Dear Mr. Peck:

This is in further reference to your letter of January 20, 1982 inviting voluntary industry participation in a joint government-industry effort to offer inflatable restraint technology as an option to the American car buyer.

At the direction of the Board of Management of our parent company, Daimler-Benz A.G., I am pleased to advise you that, effective in model year 1984, Mercedes-Benz of North America, Inc. will offer as an option on certain Mercedes-Benz automobiles sold in the United States a Supplemental Restraint System ("SRS"). Similar to the system currently offered in Europe, the SRS will consist of our standard 3-point manual safety belt supplemented by an air bag and knee bolster on the driver's side and a standard 3-point manual safety belt with an Emergency Tensioning Retractor ("ETR") for the right front passenger.

While exact marketing details have not yet been completed, we currently anticipate a three-phase program to introduce this technology in the American market and to test its market acceptability. During Phase I of this program, which will begin in MY 1984, a minimum of 10 percent of our W126 series vehicles as well as a minimum of 10 percent of our new W201 series vehicles (which will be introduced at that time) will be equipped with the SRS. We anticipate this will involve approximately 5,000 vehicles. During this initial phase, the number of units so equipped may be increased if market response warrants.

In Phase II, which will begin in MY 1985, the option will be available in the model 380SL. In addition, if market acceptability continues to increase, a higher

(Cont'd on page 7)

Institute Stresses Variations in Utility Vehicle Experience

There is no justification for requiring all utility vehicles, regardless of the substantial differences in rollover crash experience among individual makes and models of such vehicles, to carry warning stickers, the Insurance Institute for Highway Safety has told the National Highway Traffic Safety Administration (NHTSA).

The comment was made in response to proposed rulemaking announced by NHTSA in December that would require the stickers for all multipurpose passenger vehicles having special features for off-road use. (See *Status Report*, Vol. 18, No. 1, Jan. 18, 1983.) The stickers would caution operators that the utility vehicles handle differently than passenger cars.

(Cont'd on page 5)

Standard Cuts Fire Toll In Automobile Crashes

At an estimated cost of only $8.50 a car, the current federal standard for fuel system integrity has prevented 6,500 car crash fires each year, the National Highway Traffic Safety Administration (NHTSA) reports.

The federal motor vehicle safety standard (FMVSS 301), which since 1976 has set performance requirements to limit the amount of fuel spilled during rear-end car crashes, prevents an estimated 400 deaths each year, as well as 520 serious injuries and 110 moderate injuries, NHTSA said in an analysis of the standard. It found that the standard has meant especially great reductions in the rates of fire in severe crashes.

The current requirements of FMVSS 301 were established only after the Insurance Institute for Highway Safety conducted a series of crash tests in 1973 demonstrating the fuel tank problems caused by rear impacts. (See *Status Report,* Vol. 8, No. 11, May 29, 1973.) When the House Commerce Committee learned of the crash tests it held hearings to see the filmed results. Out of the hearings came Congressional demands for improved fuel system integrity, and NHTSA adopted a revised standard that required fuel system tests in rear impacts as well as frontal crashes. An Institute film based on the rear crash testing, "Cars That Crash and Burn," has been widely shown.

In response to Administration policies requiring a cost-benefit review of all federal regulations, NHTSA now has evaluated FMVSS 301 on the basis of crash data from the Fatal Accident Reporting System, the National Accident Sampling System, and five states: Michigan, Illinois, North Carolina, Maryland, and Pennsylvania.

The NHTSA evaluation addressed the revised standard, adopted in 1975 and made effective with the 1977 model year. (See box chronology.) The effects of the original standard promulgated in 1968, which dealt only with protection in frontal crashes, had been studied earlier, NHTSA noted, and researchers had

The Long Road

The road to the present fuel system integrity standard was a long and tortuous one, as the following chronology indicates:

1966 — Advance notice of proposed rulemaking issued October 6, followed by a notice of proposed rulemaking on November 30, for FMVSS 301 to cover fuel system integrity. Proposed standard, to take effect Sept. 1, 1967, calls for no loss of fuel greater than one ounce per minute after a 30 mph frontal fixed barrier crash.

1967 — FMVSS 301 adopted January 31, effective Jan. 1, 1968. On October 10, advance notices of proposed rulemaking issued to extend standard to rear-end and side impacts, as well as to multipurpose passenger vehicles, trucks, buses, and motorcycles.

1968 — FMVSS 301, covering only frontal crashes, takes effect January 1.

1969-1972 — Proposed rulemaking announced for modifications to FMVSS 301 test requirements to cover panic stops and 20 mph rear moving barrier impact. Proposed effective dates postponed several times. There are repeated warnings from the National Transportation Safety Board of car crash fire hazards.

1973 — IIHS reports results of rear-end crash research at specially-called Congressional hearing chaired by Rep. John E. Moss (D.-Calif.). After repeated urging by Rep. Moss, the Department of Transportation issues new requirements and proposals. A static rollover test following the frontal crash test is added, effective with 1976 model cars. At the same time a 30 mph rear moving barrier crash test, 30 mph front angle impact tests, a 20 mph lateral moving barrier crash test, and a static rollover test following each impact are proposed to become effective with 1977 models.

1974 — In a bill making the first major changes in the National Traffic and Motor Vehicle Safety Act of 1966, Congress reinforces the proposed 1977 model year effective date for the revised fuel system integrity standard. As originally introduced by Rep. Moss, the bill would have required DOT to advance the effective date, but this provision is eliminated in a House-Senate conference committee.

1975 — After years of delay, FMVSS 301 is amended, effective for 1977 models, to require rear-end and side impact tests and rollover tests, and the standard is extended to cover light trucks, light buses, multipurpose vehicles, and school buses.

"found no significant difference between the crash fire rate for vehicles produced prior to the standard and the crash fire rate for vehicles produced after the effective date of the standard."

For the revised standard it is a different story, with NHTSA reporting that "the various vehicle modifications made in response to the standard appear to have substantially achieved their goal of reducing the problem of crash fires and the attendant fatalities and injuries resulting therefrom."

NHTSA estimated that 20,600 vehicle crash fires occur each year, and are associated with 1,100 fatalities, 3,200 serious injuries, and more than 3,300 moderate to minor injuries. The study covers only passenger car crashes, for the agency notes that data are insufficient to evaluate the effect of the standard in light trucks and multipurpose vehicles.

Most Benefits in Severe Crashes

"The greatest reductions have occurred in the more severe accidents as defined by the extent of crash-force damage sustained by the vehicle," the agency reported. "These crashes are those most likely to result in serious injury or death. The standard is estimated to have reduced the fire rate by 43 percent in crashes of major crash force levels, and by 23 percent in crashes of low-to-moderate crash force levels."

NHTSA reported that there were wide variations among the types of vehicle modifications made in response to the fuel system integrity rule. "The basic objective of these modifications was to provide a 'friendlier' and more 'forgiving' environment for the various fuel system components (i.e., fuel tank, fuel lines, fuel pump, etc.) when subjected to vehicle crash forces," the agency explained.

Slight Added Fuel Cost

The average cost increase to make the modifications was estimated at $4.60 per vehicle. The changes resulted in just over three pounds of additional weight per vehicle, the agency estimated, and this was calculated to require $3.93 additional fuel cost over the life of an average vehicle.

NHTSA researchers admitted one puzzling result of the study. "Although significantly lower crash fire rates have been found for post-standard vehicles," they reported, "there is some indication that the fire rate may be increasing slightly for newer vehicles. This is a preliminary finding and reasons for it are not clear."

Public comment has been solicited on the evaluation study. Comments referring to Docket No. 82-21; Notice 1 should be addressed to Docket Section, Room 5109, Nassif Building, 400 Seventh St., SW, Washington, D.C. 20590. The comment deadline has been set for March 11.

GM Anti-Theft Option Found to Lower Losses

A factory-installed anti-theft option has lowered insurance theft losses for 1980 and 1981 Buicks, Oldsmobiles, and Cadillacs equipped with the system, the Highway Loss Data Institute (HLDI) has reported.

Theft claim frequencies for models equipped with the option were 21 percent lower than for comparable models without the option garaged in the same geographic locations, they said.

General Motors offers the factory-installed system as an option on some Buicks, Oldsmobiles, and Cadillacs equipped with power door locks. The device has been standard equipment on all Chevrolet Corvettes since the 1979 model year. The most recent version, which was evaluated by HLDI, became available on 1980 and later models.

The system is armed by locking the electric door lock switch and then closing the doors. It can be disarmed only by unlocking the door with a key. If the door or trunk is tampered with, the system is activated. The horn will sound, exterior lights begin flashing, and the automobile's starter system is interrupted.

Garaging Locations Considered

Since there are considerable geographic variations in theft losses, the analysis method used by HLDI ensured that the garaging locations of the automobiles did not distort the comparisons. Each car equipped with the theft deterrent system was matched by garaging location with a car of the same make and series that was not equipped with the option.

Not only was the theft claim frequency markedly lower for the cars equipped with the option, but the average loss payment per claim was also 11 percent lower and the average loss payment per insured vehicle year was 30 percent lower. HLDI cautioned that the report implies nothing about any other anti-theft device since only the GM system was studied.

Copies of the report, "Insurance Losses, Theft Coverages, a Comparison of the Theft Loss Experience of General Motors Passenger Cars With and Without Factory-installed Theft Deterrent Systems, 1980-1981 Models," can be obtained by asking for HLDI research report A-19. Write the Communications Dept., Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.

Consumer Group Finds Weaker Bumpers On Many 1983 Models

The Center for Auto Safety has made public manufacturer reports indicating that about half of all 1983-model cars have been equipped with less effective bumpers as the result of the rollback of the federal bumper standard from 5 mph to 2.5 mph.

But the weaker bumpers have not brought the lower new-car prices promised by car companies who sought the rollback in the first place, the Center said in an accompanying analysis.

The consumer organization also said that eight auto makers say they will keep 5 mph bumpers on all 1983 models. Only one—Ford—is a U.S. manufacturer.

IIHS Found No Savings

In an analysis late last year, the Insurance Institute for Highway Safety reported that projected savings in bumper weights and costs have not materialized as a result of rolling back the standard. (See *Status Report,* Vol. 17, No. 19, Dec. 22, 1982.)

Overall, the Center found Ford Motor Co. apparently leads the industry in anticipated bumper protection. Bumpers on its 1983 models "are designed to meet or exceed the performance levels specified in Part 581.5 [Phase I of the Federal Standard. See below.] at 5 mph front and rear and 3 mph corners," Roger Maugh, Ford's director of automotive and environmental safety told the Center.

("Phase I" of the standard, which took effect in the 1979 model year, required bumper systems to protect the auto body from damage in 5 mph impact tests while permitting damage to the bumper face or its brackets and fasterners. Beginning with 1980 models, "Phase II" requirements limited bumper damage to 3/8 inch dents and 3/4 inch offset. The standard was rolled back to a 2.5 mph "Phase I-type" requirement starting with 1983 models.)

Full 5 mph Protection

The eight manufacturers who have retained 5 mph bumpers for their 1983 models reported their systems continue to meet the Phase II requirements, Clarence Ditlow, director of the Center for Auto Safety, told *Status Report.*

Starting February 1, 1983, Ford will be making some bumper design changes for some of its 1983 models, Maugh told NHTSA in a filing. Even with those contemplated changes, Maugh said its bumper systems "will show little or no reduction in damageability protection...." Maugh told *Status Report* the company expects the modified systems to provide at least the Phase I level of protection throughout the 1983 and 1984 model years. No other manufacturers would commit themselves to retaining Phase I or II 5 mph bumpers for the 1984 model year across all lines, the Center reported, although several said at least some of their models would be so equipped.

Only Honda and Volvo moved to downgrade bumper systems across all model lines, the Center said. Others, including Chrysler and General Motors, continue to equip some of their models with 5 mph bumpers, while degrading the protection in others, the Center reported.

The 1983 models containing to offer full 5 mph protection, the Center said, are: Ford (all models); BMW (all models); Mazda (all models); Mercedes (all models); Nissan (all models); Saab (all models); Subaru (all models); Toyota (all models); Buick Electra and Skylark; Cadillac Cimarron and Fleetwood; Chevrolet Chevette, Corvette, and Monte Carlo; Oldsmobile Omega, Cutlass Calais, Cutlass Ciera, and Cutlass Cruiser; Pontiac Phoenix and Bonneville, Plymouth Gran Fury; Dodge Diplomat and Mirada; Chrysler Cordoba, Imperial, and New Yorker Fifth Avenue; Audi 5000; and Volkswagen Quattro, Jetta, Quantum, Rabbit Convertible, and Scirocco.

Models With Weaker Bumpers

The 1983 models reported by the Center to be offering 2.5 mph type bumpers are: Honda (all models); Volvo (all models); Plymouth Horizon, Turismo, and Reliant; Dodge Omni, Charger, Aries, 600, and 400 Sedan; Chrysler LeBaron Sedan, New Yorker E and Town and Country; and all Volkswagen Rabbits manufactured after Jan. 10, 1983.

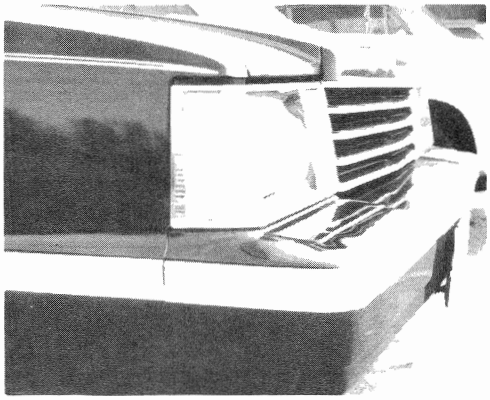
The 1983 models reported offering "inadequate" degraded 5 mph bumpers are: AMC (all models made after Jan. 7, 1983); Renault (all models made after Jan. 7, 1983); Buick Century, LeSabre, Regal, Skyhawk, and Riviera; Chevrolet Camaro, Caprice, Cavalier, Citation, Impala, and Malibu; Oldsmobile 98, Cutlass Supreme, Delta 88, Firenza, and Toronado; Pontiac Firebird, Grand Prix, 1000, 2000, and 6000; Cadillac DeVille, Brougham, Eldorado, and Seville.

Copies of the report, "A Consumer's Guide to Better Bumpers on 1983: Or How to Save Hundreds of Dollars In Crash Repairs," may be obtained by writing the Center for Auto Safety, 1223 Dupont Circle Bldg., Washington, D.C. 20036.

Quoted Without Comment

Looks Deceive as 2 1/2 and 5-mph Bumpers Look Alike — For a consumer looking for a better 5-mph bumper, the outward appearance of the 1983 models is no help in deciding which cars have which bumpers. This is best brought out by some of the 1983 Chrysler K-cars. Chrysler produced some early 1983 K-cars with the 5-mph bumper system while later K-cars had 2 1/2-mph type bumpers using straight brackets rather than energy-absorbers. As shown in the photographs taken of 1983 K-cars on dealer lots, there is no external visual difference between the two bumpers .... The only way for a consumer to tell the difference between the two cars is to get down on his hands and knees and look under the front bumper to see whether it has an energy absorber or a straight bracket connecting the bumper to the car's frame.

— *From "A Consumer's Guide to Better Bumpers on 1983 Cars" by the Center for Auto Safety, issued Jan. 17, 1983.*



1983 Dodge Aries with 5 mph type bumpers.

1983 Dodge Aries with 2.5 mph type bumpers.

— Photographs from the Center for Auto Safety

Institute Stresses Variations In Utility Vehicle Experience

(Cont'd from Page 1)

Warning that the more common such labels become, the less effective they might become, the Institute suggested, "NHTSA should limit this regulation to specific vehicles that have been shown by competent research to have abnormally bad rollover experience."

NHTSA had cited research supported by the Institute at the University of Michigan Highway Safety Research Institute indicating utility vehicles as a group roll over at a rate at least five times greater than the average passenger car. Yet, "inexplicably," the Institute observed, NHTSA had failed to refer to other Institute-sponsored research at the University of North Carolina Highway Safety Research Center and to research by NHTSA's own National Center for Statistics and Analysis.

"These two studies detail the rollover crash experience of *specific* models of utility vehicles," the Institute commented, "while the earlier HSRI study, in part because of its data limitations, focuses on the experience of utility vehicles as a group. Detailed examination of the rollover experience of specific makes and models of utility vehicles, contained in the HSRC and NHTSA studies, shows huge variations; both studies show that larger utility vehicles, such as the Jeep Wagoneer, have substantially better rollover experience than small utility vehicles, in particular the Jeep CJ-5."

The NHTSA study still had not been placed in the docket, the Institute pointed out, as it attached a copy of the agency's study to the docket submission to correct this omission.

The Institute also referred NHTSA to Highway Loss Data Institute reports on the insurance injury claims experience of various utility vehicles. "In the most recent such report, the overall frequency of insurance injury claims for the Jeep CJ-5 was 41 percent worse than the average for all passenger cars; for the Jeep CJ-7 the frequency was 17 percent worse than average," the Institute reported. "In contrast, all of the other utility vehicles reported had results that were at least 25 percent *better* than average, and the vehicles with the best experience — the Jeep Cherokee and the Chevrolet Suburban — were almost 50 percent better than average."

NHTSA Questions X-Body Brake Performance

Despite one recall, the brakes on General Motors' 1980 model X-bodies continue to give cause for concern, the National Highway Traffic Safety Administration (NHTSA) has found.

After three years of investigation and a partial recall of 47,000 of the 1980 X-body cars, NHTSA said its analysis "indicates that all 1980 X-body vehicles equipped with either manual or automatic transmissions which were equipped with asbestos-lined rear brake shoes are subject to failures in performance which can result in accidents, injuries, death, or property damage."

Approximately 320,000 cars would be affected by any recall notice, NHTSA said in announcing an initial determination that a safety-related defect exists.

The "failure in performance" NHTSA referred to relates to sudden rear wheel lock-ups which reportedly have resulted in uncontrollable skidding incidents during moderate to hard braking. NHTSA said it had received more than 364 complaints about such incidents. Altogether, there were more than 100 reported crashes, 22 injuries, and at least one fatality attributed to the alleged defect, the agency said.

Of the cars that had already been recalled for replacement of a rear brake proportioning valve controlling the hydraulic pressure on the rear brakes, NHTSA said "it appears that General Motors may have failed to provide an adequate remedy ...." Some officials have alleged the cars were equipped with relatively aggressive brake linings considered to have more "grab" in order to improve the automobiles' parking brake performance.

Despite replacement of the proportioning valves on these cars, owners continued to complain of lock-ups during braking, according to the defect file.

Rep. Timothy E. Wirth (D.-Col.), chairman of the House Telecommunications, Consumer Protection, and Finance subcommittee with oversight responsibility for NHTSA, said he had received reports the agency had unnecessarily delayed the three-year investigation. Wirth asked the General Accounting Office to investigate NHTSA's handling of the defect investigation and announced he plans to hold hearings on the issue February 8.

NHTSA has said it will hold a public meeting on the alleged defect and the adequacy of the first recall on February 14.

In a prepared statement, General Motors said the company had "not yet had a chance to review the data on which NHTSA based its initial finding of a defect." GM said it would testify at the February 14 hearing and that for the present it is evaluating the cars in question. "As previously stated," the auto company said, "we are prepared to make corrections if necessary."

Persons interested in testifying at the public meeting should contact Joyce Tannahill at Room 5326, NHTSA, 400 7th St., SW, Washington, D.C. 20590, or phone (202) 426-2850.

New Officers Named For IIHS, HLDI Boards

W. J. Smith, president of Wausau Underwriters Insurance Co., has been named chairman of the Insurance Institute for Highway Safety board of directors, succeeding Charles A. Weeber, vice president, claims counsel, of the United Services Automobile Association.

Joining the board as a new member is James E. Reagan, senior vice president, Government Employees Insurance Co. Other members of the board are Donald P. McHugh, vice president and general counsel, State Farm Mutual Automobile Insurance Co.; Martin Albaum, vice president, research, Prudential Property and Casualty Insurance Co.; J. Dean Cassidy, senior vice president, The Continental Insurance Companies; George G. P. Knapp, senior vice president, Chubb & Son, Inc.; F. Harvey Cameron, senior vice president, casualty-property personal lines, The Travelers Insurance Companies; Stephen L. Perreault, assistant vice president, Hartford Insurance Group; T. Lawrence Jones, president, American Insurance Association.

And Allen L. Cudworth, vice president and director research center, Liberty Mutual Insurance Co.; Paul Verhage, vice president and actuary, Sentry Insurance; Paul S. Wise, president, The Alliance of American Insurers; Donald L. Schaffer, senior vice president, secretary, and general counsel, Allstate Insurance Co.; Richard E. Munro, vice president-personal lines underwriting, Nationwide Mutual Insurance Co.; and Lowell R. Beck, president, National Association of Independent Insurers.

Charles A. Bryan, vice president, actuary, of the United Services Automobile Association, has been elected chairman of the Highway Loss Data Institute board of directors, succeeding Martin Albaum, vice president, research, Prudential Property and Casualty Insurance Co., who remains as a board member.

Other HLDI board members are Donald H. Brown, rate-making officer, Kemper Group, F.

Harvey Cameron, senior vice president, casualty-property personal lines, The Travelers Insurance Companies; Gary L. Countryman, president, Liberty Mutual Insurance Companies; Douglas M. Fergusson, director of safety services, Nationwide Mutual Insurance Co.; Donald D. Messmer, vice president-claims, Government Employees Insurance Co.; Paul W. Simoneau, assistant vice president-actuarial, Aetna Life and Casualty; Wayne W. Sorenson, vice president-research, State Farm Insurance Companies; John S. Trees, senior vice president, corporate planning, Allstate Insurance Co.; and William Haddon, Jr., M.D., president of HLDI.

Mercedes Plans Air Bags In '84 Models *(Cont'd from Page 1)*

percentage of Phase I vehicles will be included in the program.

Beginning in MY 1986 and based on market experience, we would enter Phase III in which availability of the option could be extended across the entire model range.

The decision to offer this advanced concept of occupant protection in North America is based on two factors. First, favorable acceptance of the system in Europe and second, efforts by your agency to encourage increased seat belt usage in the United States. Because our supplemental restraint system is geared to active belt usage, the adoption of a mandatory seat belt usage law in Germany enabled us to proceed with the introduction of the system there in December 1980. Lack of similar requirements in the U.S. delayed our decision as to availability in this market. Since that time the government's support of programs to encourage seat belt usage and new interest in "buckle up" campaigns make it practical to now offer the Mercedes-Benz Supplemental Restraint System.

Finally, in response to the nationwide program to encourage seat belt usage, I want to inform you that we intend to take the following steps:

1) Mercedes-Benz ads and commercials will carry a motivational message regarding the use of seat belts.

2) Mercedes-Benz employees will be asked to participate in a company-wide "buckle up" campaign.

In closing, I am pleased to be able to provide this report to you as a further example of the viability of achieving the goals of your agency through voluntary, cooperative efforts.

Best regards.

Sincerely,

W. R. F. Bodack

An Institute Comment

The Insurance Institute for Highway Safety commended Mercedes-Benz of North America, Inc., for its plan to offer driver-side air bag systems to its American customers, starting in the 1984 model year. The German car maker has been selling this important crash protection option in Europe since 1980.

"At present no auto manufacturer, whether foreign or domestic, is giving American motorists the chance to buy air bag-equipped cars," William Haddon, Jr., president of the Institute, noted. "By announcing its intention to provide this modern crash protection technology, Mercedes-Benz is seizing a unique marketplace opportunity, one which will sell more of its cars and save many lives."

Free Child Restraints Reported Effective

An insurance company has concluded that its program to distribute free child restraints to its Michigan policyholders who have a child born or adopted into their households is reducing the likelihood of minor and severe injuries among those children.

In the two years since League General Insurance Company of Southfield, Michigan, began the program, the rate of injury per child involved in motor vehicle crashes declined by 39 percent, the company reported in an evaluation submitted to the National Highway Traffic Safety Administration.

League General said it estimates that 80 to 85 percent of their eligible policyholders had obtained the free car seats.

Copies of the report, "Evaluation of the League General Insurance Company Child Safety Seat Distribution Program" by J.H. Saalberg and A.J. Morrison, can be obtained through the National Technical Information Service, Springfield, Va. 22161. Ask for DOT HS-806-253.

Vol. 18, No. 2, February 1, 1983

On The Inside

If you are not now receiving *Status Report* on a regular basis, but would like to, simply drop a note to the Communications Department at the address below and we will add your name to the mailing list.

insurance institute for highway safety

the highway loss reduction

Status Report

Watergate 600 • Washington, D.C. 20037 • 202/333-0770

Editor: Paul C. Hood

Writer in this issue: Rea Tyler

Production: Ron Bevilacqua, Luci Malone

ISSN 0018-988X