

Log H-566B



National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Date: June 26, 1992

In Reply Refer To: H-92-60 through -62

The 50 States, the District of Columbia,
the Commonwealth of Puerto Rico,
the Virgin Islands, and the Territories

In accidents investigated by the National Transportation Safety Board, numerous brake deficiencies are cited as causal or contributing factors. Although the Safety Board has recommended changes to address these recurring problems, brake system deficiencies continue to be factors in accidents. In 1989, the Safety Board began a study to determine the effectiveness of airbrake systems on heavy trucks and buses. This study focuses on brake system issues, highlights potential problems, and makes recommendations that address the systemic problems associated with heavy vehicle brake-related accidents.¹

The Safety Board used several national and State data sources in support of this study. Data sources on heavy vehicle accidents were analyzed to identify the scope of brake-related accidents as well as the potential costs to society associated with such accidents. The analysis indicated that this type of accident may be substantially underrepresented in the available data sources, primarily because of underreporting by investigating agencies.

In 9 of 15 brake-related accidents that the Safety Board investigated, State and local investigating agencies failed to identify deficient brakes as a factor in their final reports. Consequently, the Safety Board believes that available data do not allow the role of braking deficiencies in accidents to be readily evaluated.

In addition, problems with unpreserved vehicle evidence prevented the Safety Board from investigating numerous accidents for this study. The Safety Board believes that this situation affects the reliability of current databases for use in quantifying accident-related brake deficiencies. Information in these databases is

¹For more detailed information, read Safety Study--*Heavy Vehicle Airbrake Performance* (NTSB/SS-92/01).

provided by police who respond to the accidents and who face the problem, as did the Safety Board, of towing companies backing off the springbrakes.

The Safety Board investigated 189 heavy truck accidents from 1985 through 1987² and found that brake-related evidence was often altered after an accident. Investigations of 182 heavy truck accidents during 1987 and 1988 identified the same problem.³ Often, slack adjusters on some or all springbrake-equipped axles were backed completely off. In some cases, investigators found that wrecker drivers were unfamiliar with the practice of "caging"⁴ springbrakes and thus unintentionally destroying valuable evidence when they altered brake adjustment to more easily move wrecked vehicles.

This situation could be remedied if all States would adopt regulations similar to those in Washington State prohibiting the alteration of brake adjustment evidence. If a towing company is found to have altered a brake adjustment, the company is eliminated from the list of companies called to accidents by the State. This would help to protect the evidence needed to evaluate the role of brake-related deficiencies in heavy vehicle accidents.

Therefore, the National Transportation Safety Board recommends that the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and the Territories:

Encourage the commercial vehicle accident investigative agencies to develop policies requiring the systematic inspection of and the compilation of data from commercial vehicles that are involved in injury or fatal accidents. The policies should include inspection of brake systems and components. (Class II, Priority Action) (H-92-60)

Review the national highway data for your jurisdiction to ensure that sufficient information can be obtained to readily evaluate the role of braking deficiencies in commercial vehicle accidents. (Class II, Priority Action) (H-92-61)

In order to preserve evidence from accident investigations, require towing companies during wreckage removal to employ methods of releasing locked airbrakes that do not alter brake adjustment. (Class II, Priority Action) (H-92-62)

²NTSB Report--*Case Summaries of 189 Heavy Truck Accident Investigations*, October 12, 1988 (NTSB/SS-88/05).

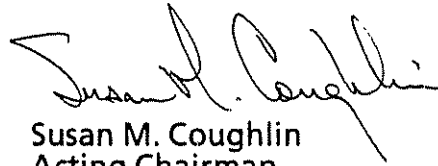
³NTSB Report--*Fatigue, Alcohol, Other Drugs, and Medical Factors in Fatal-to-Driver Heavy Truck Crashes* (Volume 2), February 5, 1990 (NTSB/SS-90/02).

⁴When air is lost in an airbrake system, a safety feature results in the mechanical application of springbrakes installed on certain air chambers. The vehicle is immovable until the brake is released by recompression of the spring. This release can be accomplished either by reapplying air to the chamber or by mechanically compressing the spring through use of a caging bolt. To release the brake, the caging bolt is inserted through the back of the springbrake housing and turned to recompress the spring. Either of the methods will preserve brake adjustment evidence.

Also as a result of this study, the Safety Board issued Safety Recommendations H-92-50 through -55 to the National Highway Traffic Safety Administration, H-92-56 through -59 to the Federal Highway Administration, H-92-63 to the Interstate Towing Association and to the Towing and Recovery Association of America, H-92-64 through -68 to the National Private Truck Council, H-92-69 through -73 to the Owner-Operator Independent Drivers Association, H-92-74 through -78 to the American Trucking Associations, H-92-79 and -80 to the Motor Vehicle Manufacturers Association, H-92-81 to the Professional Truck Driver Institute of America, H-92-82 to the Society of Automotive Engineers, and H-92-83 and -84 to airbrake component manufacturers.

The National Transportation Safety Board is an independent Federal agency with statutory responsibility "to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 98-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations H-92-60 through -62 in your reply.

COUGHLIN, Acting Chairman, and LAUBER, HART, HAMMERSCHMIDT, and KOLSTAD, Members, concurred in these recommendations.



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