

Log H-566Z



## National Transportation Safety Board

Washington, D. C. 20594

### Safety Recommendation

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Date: June 26, 1992

In Reply Refer To: H-92-82

Mr. Max E. Rumbaugh, Jr.  
Executive Vice President and General Manager  
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400 Commonwealth Drive  
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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.<sup>1</sup>

One of several practices that can greatly upset a heavy vehicle's brake system balance is the use of brake linings that do not meet the original equipment specifications. Unfortunately, past testing by the National Highway Traffic Safety Administration indicates that the variability in the brake linings manufactured today makes it extremely difficult to evaluate the friction ratings of the linings by the commonly used two-letter designator codes, "EF" and "GG."

To address this problem, an SAE committee has been working on two Recommended Practices. The first, "Brake Block Effectiveness Rating" (J1802), will describe the testing procedures using the dynamometer and the full size brake assembly. It will also propose that the frictional characteristics of the lining be described by the term "brake effectiveness," which is a ratio of the output torque to the input torque. The second, "Brake Effectiveness Marking For Brake Blocks" (J1801), is a draft document that describes "a uniform method for marking

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

numerical values of Normal and Hot Effectiveness based on test data obtained from reference full size brake assemblies on single station brake dynamometers."

A more consistent coding scheme for the frictional ratings for linings as well as a more permanent method for marking the linings, as proposed by the SAE committee, would help ensure that replacement linings are in accordance with the vehicle manufacturer's specifications.

Therefore, the National Transportation Safety Board recommends that the Society of Automotive Engineers:

Expedite the completion of Surface Vehicle Recommended Practices, SAE J1802, "Brake Effectiveness Rating," and SAE J1801, "Brake Effectiveness Marking For Brake Blocks."  
(Class II, Priority Action) (H-92-82)

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-92-60 through -62 to the 50 States and the District of Columbia, 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, 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 93-633). 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 recommendation in this letter. Please refer to Safety Recommendation H-92-82 in your reply.

COUGHLIN, Acting Chairman, and LAUBER, HART, HAMMERSCHMIDT, and KOLSTAD, Members, concurred in this recommendation.

  
 By: Susan M. Coughlin  
 Acting Chairman