

H-246

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: February 11, 1981

Forwarded to:

Mr. Frank Berndt  
Acting Administrator  
National Highway Traffic Safety  
Administration  
400 7th Street, S.W.  
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

H-81-1

On April 28, 1980, an eastbound tractor-semitrailer loaded with 50,000 pounds of potatoes lost braking capability while descending a 1 1/2-mile downgrade on I-279 in downtown Pittsburgh, Pennsylvania. The runaway vehicle combination exited I-279 at the Liberty Avenue ramp and after traveling 900 feet on Liberty Avenue the vehicle combination mounted the sidewalk at Liberty Avenue and Stanwix Street, struck pedestrians, and crashed into an office building. Five persons were killed and six persons were injured.

Postcrash inspection revealed that all of the tractor and trailer service brakes were out of adjustment. The strokes of the type-30 clamp-type brake chamber push rods exceeded the adjustment tolerance beyond which the brakes should have been readjusted as recommended by the manufacturer. Since four of the eight service brake push rods had reached the maximum stroke capability of the brake chambers, no braking force could be transmitted to the brakeshoe and drum assemblies.

As a result of its earlier investigations of other accidents involving runaway combination vehicles, the Safety Board, on June 23, 1978, recommended that the National Highway Traffic Safety Administration (NHTSA):

Develop a Federal Motor Vehicle Safety Standard stating a performance requirement for all newly manufactured commercial vehicles to have equipment that would insure brakes being in proper adjustment at all times. (Class II, Priority Action) (H-78-48)

This recommendation, which was "strongly supported" by Commissioner Craig of the California Highway Patrol, was intended to promote the development of, and a requirement for, automatic brake adjustment devices.

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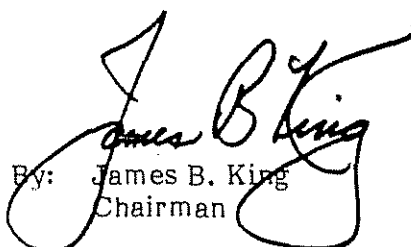
The Safety Board is concerned that, according to an Advance Notice of Proposed Rulemaking issued February 22, 1980, NHTSA considers the subject of automatic brake adjustment as one of its long-range rulemaking objectives for improving medium and heavy duty vehicle braking performance. The Safety Board has been informed by industry that automatic brake adjustment devices are presently being produced by several manufacturers and that these devices have been generally well received by the trucking industry and operators. Consequently, the Safety Board believes that any incompatibilities with present motor vehicle safety standards defining brake performance could be resolved, and that rulemaking action to require automatic brake adjustment devices on newly manufactured commercial vehicles could, and should, be undertaken on a higher priority basis. Clearly, the recurrence of commercial vehicle accidents caused by brake adjustment deficiencies and the apathy or carelessness of many commercial vehicle owner/operators in maintaining proper brake adjustment, as evidenced by the high percentage of violations relating to improper brake adjustment found during roadside inspections, illustrate the importance of such action.

Although the Safety Board views the automatic brake adjustment requirement as the best long-range solution to this problem, the Safety Board realizes that retrofit of such devices on older vehicles is not feasible. Therefore, the Safety Board believes that the need exists for visual brake adjustment indicators. This would be a relatively simple modification--to mark, groove, or knurl the brake chamber push rod--so that a visual inspection would disclose whether the push rod stroke has reached the point where brake readjustment is essential. Such a modification would enhance the inspection of both automatically and manually adjusted brakes. Furthermore, the visual brake adjustment indicator could be installed with minimum delay on new vehicles, and it could be an after-market installation during routine maintenance of current vehicles. While acknowledging that the indication of improper brake adjustment does not in itself ensure that corrective maintenance action will be taken, the Safety Board believes that such a device would encourage maintenance and reduce accidents.

Therefore, the National Transportation Safety Board, in addition to urging that a higher priority be assigned to our safety recommendation H-78-48, recommends that the National Highway Traffic Safety Administration:

Require manufacturers of air brake actuation devices to incorporate indicators which will warn users when brakes must be adjusted. (Class II, Priority Action) (H-81-1)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and BURSLEY, Members, concurred in this recommendation. GOLDMAN, Member, dissented.

  
By: James B. King  
Chairman