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NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 18, 1975

Forwarded to:

Honorable James B. Gregory
Administrator
National Highway Traffic Safety
Administration
Washington, D. C. 20590

SAFETY RECOMMENDATION(S)

H-75-22

On May 9, 1975, a 1972 schoolbus carrying 20 persons crashed through a section of guardrail on the northbound portion of Interstate 5 in Ashland, Oregon. The vehicle fell down a steep slope and rolled about its longitudinal axis before coming to rest in an upright position about 224 feet from the edge of the pavement. With the exception of one sidepost/roof bow connection, the roof was completely separated from the bus body. Nineteen of the 20 occupants were ejected through the gap created by the roof separation; 3 were killed and the rest were injured.

On September 11, 1971, a 1971 schoolbus carrying 48 persons left State Highway 50 on the eastern approach to Monarch Pass, Colorado, and rolled over 2 1/2 times. The left sideposts separated at the window sill, which caused the roof to separate from the side structure along that side of the bus. Of the 37 occupants who were ejected through the gap created by the separation, 9 were killed; the 28 others sustained more severe injuries than the 9 occupants who remained in the bus.

These accidents demonstrate the need for schoolbuses to maintain their cross sectional structural integrity under rollover conditions in order to contain occupants and to assure that they have space to survive.

The schoolbuses involved in these accidents represent the two most common designs currently used by schoolbus manufacturers. The roof of the Ashland bus was welded to side pillars mounted to the bus floor. The roof of the Monarch Pass bus was constructed around a continuous sidepost/roof bow. Two major bus manufacturers use the type of roof assembly that was used on the Ashland bus; four other manufacturers use the type of roof assembly that was used on the Monarch Pass bus.

Schoolbus cross sectional integrity must be insured in rollover environments regardless of the design alternatives incorporated. The most effective way to develop performance requirements to accomplish this objective would be

dynamic rollover testing. Similar comments were made by the National Transportation Safety Board on May 5, 1975, to the National Highway Traffic Safety Administration's proposed rulemaking Docket No. 75-2, Notice 01, "Schoolbus Rollover Protection."

Therefore, the National Transportation Safety Board recommends that the National Highway Traffic Safety Administration:

> Initiate a program of dynamic rollover testing of schoolbuses to provide data, in combination with data already obtained from static testing, to be used to develop a performance requirement that will insure reasonable structural integrity in rollover environments. (Class I.)

REED, Chairman, McADAMS, THAYER, and BURGESS, Members, concurred in the above recommendation. HALEY, Member, did not participate.

By John H. Reed
Chairman