

H-182

NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: April 4, 1979

Forwarded to:
Honorable Joan Claybrook
Administrator
National Highway Traffic Safety
Administration
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)
H-79-14 through -17

The National Transportation Safety Board undertook its special study "Safety of Multipurpose Vans"^{1/} for the following reasons:

- o There were 740 persons who died in van accidents in 1977; by comparison, 655 persons died in air carrier accidents, 653 died in railroad accidents, 43 died in pipeline accidents, and 216 died in commercial marine accidents.
- o To determine the injurious effects of custom interior furnishings and structural modifications to customized vans.
- o To determine the injurious effects on occupants of custom vans because certain Federal Motor Vehicle Safety Standards (FMVSS) do not apply to vans.
- o To provide actual crash data to the National Highway Traffic Safety Administration for its on-going and planned accident studies to support the extension of existing FMVSS's to light trucks and vans.

To meet the objectives of the study, the Safety Board investigated 18 accidents involving 19 vans. The change in velocity, in most cases, was 31 mph or lower. The data were analyzed in the following safety areas: Injury-producing environments, restraints, crashworthiness, ease and difficulty of escape, and postcrash fire.

^{1/} For more information read "Special Study -- Safety of Multipurpose Vans" (NTSB-HSS-79-1).

In almost every accident, at least some interior furnishings, such as chairs, couches, beds, cabinets or appliances, came loose from their securements. Although occupants were not always injured, the injury potential was obvious. As a result of a previous investigation,^{2/} the Safety Board had addressed the problem of appliance securement.

Additional findings of the special study were:

- o Several failures of highback "captain's" chair seats caused occupant injuries.
- o Some drivers hit steering wheels and columns and were injured; however, it was not clear that the FMVSS's 203 and 204 should be extended to vans.
- o Several drivers sustained injuries on customized steering wheels, and one driver is believed to have been killed when he hit a customized steering wheel.
- o Twenty-seven percent of the occupants were ejected because windshields were not retained.
- o 1978 and 1979 vans should be studied to determine if there are differences in the windshield-retention capabilities of different classes of vans.
- o Although occupant restraints were available for 33 percent of the 64 occupants, only 1 was restrained and that was with a non-standard restraint.
- o No occupant seated in the rear of a van, except the one previously mentioned, had a restraint available.
- o Six accidents involved override or underide; four persons died in these accidents.
- o Twenty percent of the doors were found jammed.

^{2/} Highway Accident Report --Collision of Winnebago Motor Home with Bridge Column, near Monroe, Michigan, July 1, 1975" (NTSB-HAR-76-2).

- o Two rear doors of a van were locked from the outside, and there was no operating mechanism to open them from the inside. There is no requirement pertaining to such a mechanism in FMVSS-206--Door Locks and Door Retention Components.

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

In its on-going and planned investigation of van accidents:

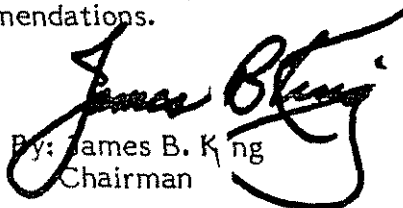
- (1) Study the failures of custom highback bucket seats and anchorage systems to determine if they pose a significant injury or safety problem.
- (2) Study the failures of custom steering wheels which do not meet FMVSS 203 to determine whether they pose a significant injury or safety problem.
- (3) Study the extent to which doors jam in collisions to determine if corrective action is needed to prevent ejection and to enhance escape.
- (4) Determine if FMVSS's 203 and 204 (steering wheel and steering column) should be extended to all classes of vans or if new requirements are needed for vans.
- (5) Determine the feasibility of extending FMVSS-212 to all classes of vans. (Class II, Priority Action) (H-79-14)

Intensify its study to explore the feasibility of extending the passive restraint requirements of FMVSS-208 to all classes of vans. (Class I, Urgent Action) (H-79-15)

Specify, in rulemaking action on FMVSS-206--Door Locks and Door Retention Components, a requirement for a locking mechanism on cargo-type doors that can be operated from the interior of the vehicle. (Class II, Priority Action) (H-79-16)

Include in its exploratory rulemaking and research activity control of crash aggressiveness of vans in relation to other vehicles. (Class II, Priority Action) (H-79-17)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and HOGUE, Members, concurred in the above recommendations.


By: James B. King
Chairman