

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: May 23, 1977

Forwarded to:

Honorable Langhorne M. Bond
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-77-26 through 29

The National Transportation Safety Board's continuing investigation of the Texas International Airlines, Inc., DC-9 accident at Denver, Colorado, on November 16, 1976, has disclosed several unsafe conditions that should be corrected -- crewmember emergency evacuation training, tail cone exit designation, passenger information cards, and tail cone emergency lighting.

During interviews of the flight attendants involved in this accident, the Safety Board determined that they were not familiar with the operation of the tail cone exit on the DC-9. In fact, one of the flight attendants, a 7-year veteran, had never been in the tail cone area of the plane. Another of the flight attendants had only been in the tail cone area one time in 15 years and had received hands-on training only once in 8 years.

A review of Texas International's emergency evacuation training program disclosed that, for the past year, flight attendants entering initial training receive hands-on training with regard to the emergency exits. Since hands-on training has not been incorporated into the recurrent training program, however, it is possible that the company has numerous flight attendants on DC-9 aircraft who have never been in the tail cone area of the aircraft and who have never operated an exit.

In addition, the Safety Board found that the use of a mockup of the tail cone exit release handle in the initial and recurrent training programs does not conform to the guidelines of Air Carrier Operations Bulletin No. 74-1; yet, the use of the training device had been approved. Specifically, the guidelines require individual or group demonstrations in an actual aircraft, supplemented by a training aid that simulates the actuation of the tail cone deployment handle. During recurrent training, the use of the mockup is not accompanied by individual or group demonstrations in an actual aircraft.

Following the North Central Airlines DC-9 accident in Chicago, Illinois, on December 20, 1972, the Federal Aviation Administration (FAA) reevaluated North Central's emergency evacuation training program. In correspondence to the principal inspector assigned to this airline, the Chief of the Air Carrier Division of FAA's Flight Standards Service stated: "We do not consider emergency training in which pictorial presentations take the place of actual operation of emergency exits, either on the airplane or a realistic mockup, to be consistent with the intent of FAR 121.417. We include in this connection the DC-9 tail cone exit." The Safety Board is surprised to learn, therefore, that action was apparently taken only with regard to North Central Airlines even though Air Carrier Operations Bulletin No. 73-1 specified that an evaluation be made of each air carrier. Moreover, we learned that neither the principal air carrier inspector assigned to Texas International nor the carrier's management personnel was aware of the training deficiencies identified in the North Central accident. The Safety Board believes that the FAA should insure that accident information which is disseminated to principal air carrier inspectors and operators of similar equipment receives the proper attention and that directives are complied with.

With regard to the DC-9 tail cone exit, deposition testimony by FAA Western Region certification specialists in connection with this accident disclosed that the DC-9 tail cone exit is a required exit. 14 CFR 121.571.b specifies that, "Each certificate holder shall carry on each passenger-carrying airplane, in convenient locations for use of each passenger, printed cards supplementing the oral briefing and containing diagrams of, and methods of operating the emergency exits." A review of the information card used by Texas International disclosed no such information for the DC-9 tail cone exit. A review of the information cards of some of the other DC-9 operators disclosed similar discrepancies. We have observed that some DC-9 operators refer to the tail cone exit as an auxiliary, supplemental, or nonprimary emergency exit. The Board believes that all DC-9 operators should be advised that the DC-9 tail cone exit is a required exit.

An additional problem that has been identified with regard to the tail cone exit concerns emergency lighting. The tail cone area of the DC-9-14 is configured with two emergency lights; one illuminates when normal ship's power is lost and the other one illuminates when the tail cone is released. The emergency light source is located above the end of the tail cone cat walk. In this accident, the flight attendant was unable to locate the tail cone release handle because it was poorly illuminated; the light source was not near the release handle. An examination of the tail cone emergency exit system disclosed that the key element of the system is the release handle; nothing works unless the handle is pulled. The Safety Board believes that this handle should either have an illumination source in close proximity or be self-illuminated.

In view of the above, the National Transportation Safety Board recommends that the Federal Aviation Administration:

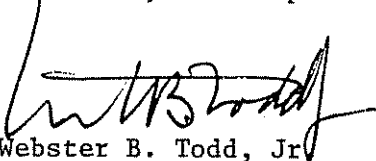
Require that the emergency evacuation training program of all DC-9 operators comply with the intent of 14 CFR 121.417, specifically with regard to training in the operation of the tail cone exit. (A-77-26) (Class II - Priority Followup)

Insure that safety information, which is developed and disseminated as a result of accident experience, receives the proper attention from principal air carrier inspectors and operators of similar equipment and that they comply with directives related to such information. (A-77-27) (Class II - Priority Followup)

Issue an Air Carrier Operations Bulletin clarifying the designation of the DC-9 tail cone exit as a required exit and requiring that principal operations inspectors assigned to DC-9 operators insure that their assigned air carriers provide instructions in their passenger briefings and on their passenger information cards on the availability and operation of the tail cone exit as an emergency exit. (A-77-28) (Class II - Priority Followup)

Issue an Airworthiness Directive to require that an emergency light source be located in close proximity to the DC-9 tail cone release handle or that the handle be self-illuminating. (A-77-29) (Class II - Priority Followup)

TODD, Chairman, McADAMS, HOGUE, and HALEY, Members, concurred in the above recommendations. BAILEY, Vice Chairman, did not participate.


By: Webster B. Todd, Jr.
Chairman