

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: September 6, 1979

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

SAFETY RECOMMENDATION(S)  
A-79-68 through -70

The National Transportation Safety Board's investigation of the Rocky Mountain Airlines DeHavilland DHC aircraft accident near Steamboat Springs, Colorado, on December 4, 1978, illustrated the immediate need for survival training for crewmembers and for the installation of shoulder harnesses on crew seats. 1/

Survival Training

The accident occurred in near-blizzard conditions about 1945 m.s.t. in mountainous terrain at the 10,500-ft. level. The first emergency rescue team arrived at the accident site about 10 hours later; the evacuation was completed 16 hours after the accident. Falling and blowing snow, strong winds, rugged terrain, darkness, and subfreezing temperatures hampered the search and rescue efforts.

There was a great potential for serious postcrash trauma, including hypothermia and frostbite. The aircraft occupants were extremely fortunate, however, to have among them a passenger trained in winter survival techniques, who acted promptly and appropriately and, with the few available resources, saved the lives of many of the passengers. Only 1 of the 20 passengers and 1 crewmember died as a result of this accident; 1 crewmember sustained minor frostbite.

1/ For more detailed information, read: "Aircraft Accident Report, Rocky Mountain Airways, Inc., DeHavilland DHC-6 Twin Otter, N25RM, near Steamboat Springs, Colorado, December 4, 1978." (NTSB-AAR-79-6).

A review of the Federal Aviation Regulations regarding crewmember emergency training revealed that crewmembers are required to be knowledgeable about methods and procedures to cope with in-flight emergencies, evacuations, and ditchings. However, this training does not extend to postcrash survival problems outside the aircraft. The actions taken by this passenger were the responsibility of the crewmembers. The Safety Board believes that appropriate training should be provided so that crewmembers can cope with these situations.

The Board learned that the FAA requires survival training for its own crewmembers as outlined in Section 261 of FAA Handbook 4040.9, "General Manual for Operation of FAA Aircraft." Courses are provided by the Civil Aeromedical Institute (CAMI). We believe that the existing information and programs could be adapted easily for commercial operators.

#### Shoulder Harnesses

The Board's investigation established that shoulder harnesses, if worn by the crewmembers, might have reduced their injuries.

The new 14 CFR 135, which became effective December 1, 1978, specifies the installation of shoulder harnesses at flightcrew stations of certain commuter aircraft by June 1, 1979, with provisions for the granting of extensions to December 1, 1980, to individual operators.

The Safety Board believes that the June 1 date allowed adequate time for most operators to comply. However, the Safety Board recognizes that a few operators had to develop Supplemental Type Certificates for certain older aircraft and that some operators have encountered supply problems beyond their control. In these few cases, extensions may be necessary, but it is inconceivable that many operators would require more than the initial 6 months of lead time for compliance. The Board believes that compliance with the requirements of 14 CFR 135.171 should be strictly enforced.

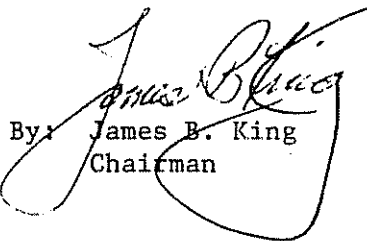
In view of the above, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Amend 14 CFR 135.331 and 121.417 to require that each certificate holder provide a survival training program for its crewmembers that would include the basic information on sea, desert, winter, and mountain survival.  
(Class II - Priority Action) A-79-68)

Issue an Advisory Circular which outlines acceptable means of compliance with such a survival training program requirement. (Class II - Priority Action) (A-79-69)

Strictly enforce the compliance date for the installation of shoulder harnesses as required by 14 CFR 135.171. (Class II - Priority Action) (A-79-70)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and GOLDMAN, Members, concurred in these recommendations. BURSLEY, Member, did not participate.

  
By: James B. King  
Chairman