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NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 11, 1980

Forwarded to:

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

SAFETY RECOMMENDATION(S)

A-80-49

During the early morning hours of darkness on December 14, 1978, an Aerospatiale Alouette III helicopter, which was being operated under 14 CFR 135, crashed into the Great Salt Lake near Ogden, Utah. The helicopter was being used to transport oil rig workers between a shore base and a drilling platform. Though the helicopter was destroyed, the six occupants survived with various injuries.

The National Transportation Safety Board's investigation of the accident revealed that the pilot was flying with an altimeter barometric setting of 1013 millibars (29.92 in Hg standard pressure) rather than the setting which would result in an indication of actual altitude above mean sea level. Although this played no role in the cause of the accident, the Safety Board believes the practice to be unsafe especially when the ambient pressure is below standard. In this case, the practice of setting standard pressure into the altimeter would place an aircraft at a lower altitude than indicated by the instrument. Interviewed after the accident, the pilot stated that he routinely flew the Alouette and Lama helicopters with the altimeter set to standard barometric pressure because the existing pressure altitude had to be entered on a lift computer installed in the helicopter. The lift computer permits the pilot to determine the performance capability of the helicopter for the ambient conditions and load during lifting operations. To use the computer, the pilot enters the ambient pressure altitude and temperature on the computer and reads directly the percentage of performance capability available. The easiest means of obtaining ambient pressure altitude is to set standard barometric pressure into the altimeter and read pressure altitude directly.

The altimeters on other Aerospatiale helicopters parked at the operator's facility also were set to standard barometric pressure. Moreover, the chief pilot for the operator stated that he was aware of other Aerospatiale helicopter operators who conducted flight operations with altimeters set to standard barometric pressure. The Principal Operations Inspector for the air taxi operator was aware of the procedure. In fact, he approved of the procedure because he believed 14 CFR 91.81 (altimeter settings) applied only to flights operating at or above 3,000 feet above the surface. However, the Federal Aviation Administration's Airspace and Traffic Branch views

14 CFR 91.81 as clear and unambiguous in the requirement that altimeters be set to read altitude above mean sea level and that these operators are clearly in error by setting altimeters to standard barometric pressure.

The Safety Board believes that an accurate altimeter, set to the nearest station pressure, to read altitude above mean sea level is necessary at all times to assure safety of flight, but especially when operating at low altitude at night under low visibility conditions, or when adhering to the en route altitude restrictions provided on navigational charts or specified by air traffic control facilities.

Accordingly, the National Transportation Safety Board recommends that the Federal Aviation Administration:

> Issue an Operations Alert Bulletin to remind operators of Aerospatiale helicopters of the requirement to set altimeters to read actual altitude above mean sea level for reference during all flight operations below 18,000 feet mean sea level as specified in 14 CFR 91.81. (Class II, Priority Action) (A-80-49)

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

By: James B. King
Chairman