NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: October 8,1974

Forwarded to:

Honorable Alexander P. Butterfield
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-74-85 & 86

On September 27, 1973, Texas International Airlines Flight 655, a Convair 600, crashed into the north slope of Black Fork Mountain, Ouachita Mountain Range, Arkansas, while on a flight from El Dorado to Texarkana, Arkansas. The crew elected to operate under visual flight rules (VFR) because of frontal activity and associated thunderstorms. The aircraft deviated north of the course between El Dorado and Texarkana and crashed about 80 miles off course.

Conversations between the captain and the copilot, recorded by the cockpit voice recorder, indicated that the crew did not know their position when they initiated a descent from 3,000 feet. About 12 minutes before impact, the copilot stated, "I sure wish I know where ... we were." A few minutes later, he said, "Painting ridges and everything else boss, and I'm not familiar with the terrain." The aircraft descended to about 2,000 feet m.s.l., at the captain's request, while the copilot continued to express his doubts about terrain clearance; "...man, I wish I knew where we were so we'd have some idea of the general terrain around this... place." The captain replied that the highest point in the area was 1,200 feet. Just before impact, the copilot had located the aircraft's approximate position, and as he was saying, "The minimum en route altitude here is forty-four hun ...," the aircraft crashed. It struck the mountain 600 feet below the ridgeline at an altitude of about 2,000 feet m.s.l.

The actions of the crew in not using good navigational techniques and their descent when the position of the aircraft was not known must be considered unprofessional conduct.

Similar factors have occurred in other accidents, which appear to have been the direct result of unprofessional performance. Investigations have revealed that crew behavior ranges from the casual acceptance of the flight environment to flagrant disregard for prescribed procedures and safe operating practices. The case in point exhibits a casual acceptance of the flight environment as do accidents in which the lack of altitude awareness during approaches in poor meteorological conditions, results in descent below the minimum descent altitude and contact with trees, ground, or water. (See Enclosure I.)

Preliminary factual information obtained from the investigation of the tragic Eastern Air Lines, Inc., DC-9 accident at Charlotte, North Carolina, on September 11, 1974, reflects once again serious lapses in expected professional conduct.

Other investigations have revealed intentional descents below minimum descent altitude and unprofessionalism during which the basics in safe operating practices were totally disregarded. (Enclosure II.) Yet, the records of the pilots involved show that they conducted themselves properly when being observed by check airmen or FAA air carrier inspectors. To determine what motivates a pilot to disregard prescribed operating procedures is difficult; therefore, a solution to the problem is not readily apparent. Usually, human error has been reduced through increased training, standardization, and restrictive regulations. History has proved that neither increased flight checks nor new regulations, alone, will improve safety; nor will these actions ensure professional performance. Yet, professionalism is fundamental to safe operations in civil aviation.

The high standard of professionalism possessed by most pilots must be instilled in all pilots. Professional standards committees should be able to assist substantially in this regard. Accordingly, the National Transportation Safety Board recommends that the Federal Aviation Administration:

1. Initiate a movement among the pilots associations to form new professional standards committees and to regenerate old ones. These committees should:

   a. Monitor their ranks for any unprofessional performance.

   b. Alert those pilots who exhibit unprofessionalism to its dangers and try, by example and constructive criticism of performance required, to instill in them the high standards of the pilot group.

c. Strengthen the copilot's sense of responsibility in adhering to prescribed procedures and safe practices.

d. Circulate the pertinent information contained in accident reports to pilots through professional publications so that members can learn from the experience of others.

2. Develop an air carrier pilot program, similar to the General Aviation Accident Prevention Program (FAA Order 8000.8A), that will emphasize the dangers of unprofessional performance in all phases of flight. The program could be presented in seminar form, using audio/visual teaching aids, to call to the pilots' attention all facets of the problem.

REED, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendations.

By: John H. Reed
Chairman

Enclosures (2)

Enclosure I Examples Showing Casual Acceptance of the Flight Environment

During an instrument approach to Martha's Vineyard, Massachusetts, in June 1971, a Northeast Airlines, Inc., DC-9 struck the water offshore. A pullup, initiated just before impact, prevented the plane from crashing. Investigators discovered that the crew did not follow prescribed procedures for altitude monitoring during instrument approaches. None of the required altitude callouts were made because the first officer was busy tuning the low frequency radio beacon and, on the captain's instructions, he was attempting to contact the company radio for the latest weather reports. (NTSB AAR-72-4.)

An Eastern Air Lines, Inc., Boeing 727-225 struck trees while executing a nonprecision approach to runway 25 on the Toledo Express Airport, in Toledo, Ohio. The Safety Board determined that the probable cause of the incident was the failure of the flightcrew to adhere to established procedures when they descended below the authorized minimum descent altitude. The Safety Board concluded that "from this and other recent accidents and incidents of similar nature, that inadequate attention to critical operational procedures is a dominant causative factor. It is imperative that the individual pilot recognize the onset of inattention in himself and in others of his crew. It may be combatted by the adherence to professional standards. These standards must be maintained by alertness, by cockpit discipline, by strict adherence to established procedures, and by prompt positive correction of any deviation therefrom." (NTSB AAR-73-17.)

In July 1973, a Delta Air Lines, Inc., DC-9 struck a seawall approximately 6 feet below the runway elevation at a point about 3,000 feet short of the displaced runway threshold while executing an ILS approach at Logan International Airport, Boston, Massachusetts. The National Transportation Safety Board determined that the accident was partly caused by the crew's failure to monitor altitude and to recognize passage of the aircraft through the approach decision height during an unstabilized precision approach which was conducted in rapidly changing meteorological conditions. During the investigation the Board found that the crew: (1) Did not make the required altitude callouts during the approach; (2) did not abandon the approach on any one of several occasions where deviations were such that a continuation of the approach was unsafe. (NTSB AAR-74-3.)

Enclosure II Examples Showing Disregard for Safety Operating Practices

An accident which exhibited a flightcrew's disregard for prescribed procedures occurred on May 18, 1972, at the Fort Lauderdale-Hollywood International Airport, Fort Lauderdale, Florida. The accident, which involved an Eastern Air Lines, Inc., DC-9, occurred following a straight-in localizer approach when the aircraft touched down hard on the runway. The hard touchdown caused the main gear to fail and the tail section to separate from the aircraft. The Safety Board determined that the accident was probably caused by the pilot's decision to initiate and continue an instrument approach under weather conditions which prevented adequate visual reference and by the pilot's use of faulty techniques during the landing phase of that approach. The Board also found that the flightcrew's non-adherence to prescribed operational practices and procedures compromised the safe operation of the flight. In its report, the Board reemphasized the importance of flightcrews adhering more meticulously to approved procedures and regulations. (NTSB AAR-72-31.)

One of the most disturbing cases in recent years was brought to light during the investigation of an Allegheny Airlines, Inc., Convair 440 accident at New Haven, Connecticut. Twenty-eight passengers and two crewmembers died in the accident. The captain descended the aircraft to just above water level where it struck three beach cottages which were located on the northern shore of Long Island Sound, at an elevation of approximately 25 feet. The Safety Board determined that the probable cause was the captain's intentional descent below the prescribed minimum descent altitude under adverse weather conditions, without adequate forward visibility or the crew's sighting of runway environment. The captain disregarded advisories from his first officer that the minimum descent altitude had been reached and that the airplane was continuing to descend at a normal descent rate and airspeed. The Board was unable to determine what motivated the captain to disregard prescribed operating procedures and altitude restrictions. The Safety Board's report specifically recommended "That the Air Line Pilots Association and the Allied Pilots Association implement a program within existing professional standards committees to provide an expeditious means for peer group monitoring and disciplining the very small group of air carrier pilots who may display any unprofessional (including hazardous) traits as exemplified by this accident." (NTSB AAR-72-20.)