

Log 2317



# National Transportation Safety Board

Washington, D.C. 20594  
Safety Recommendation

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**Date:** July 20, 1992

**In reply refer to: A-92-54 through -55**

Honorable Thomas C. Richards  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

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On December 11, 1991, around 0820 eastern standard time, N25BR, a Beech Aircraft Corporation Be 400 Beechjet, owned and operated by Bruno's Inc., a chain of supermarkets and related stores based in Birmingham, Alabama, landed at the Richard B. Russell Airport near Rome, Georgia, after an uneventful flight from Birmingham. The airplane, operating under 14 Code of Federal Regulations (CFR) Part 91, General Operating and Flight Rules, was transporting two flight crewmembers and seven passengers. The passengers, executives of Bruno's and another company, were on an annual Christmas tour of Bruno's facilities. After the Rome stop, the passengers were to be flown to Huntsville, Alabama, where they were to be driven to 11 Bruno's facilities located between Huntsville and Birmingham. The airplane lifted off at 0937, and the crew made initial contact with the Federal Aviation Administration's (FAA's) Atlanta Air Route Traffic Control Center. The crew was told to maintain visual flight rules conditions. At 0940, the airplane struck Mt. Lavender, about 6 miles west of Rome. The airplane was destroyed and all seven passengers and the two pilots were killed in the accident.

Because corporate officials may have little knowledge and understanding of the need for rigorous adherence to Federal Aviation Regulations (FARs), they depend on company pilots to maintain standards of flight safety. With little FAA oversight of flights operating under 14 CFR Part 91, corporate flight operations such as Bruno's, where the two pilots were the only corporate employees dedicated to aviation, often depend on the pilots' knowledge and interpretation of the FARs to provide a safe foundation to guide operations, training, and maintenance.

The captain's behavior on this flight, and the statements made to Safety Board investigators, suggest that on occasion he did not employ good operating practices. Moreover, the evidence indicates that the first officer recognized this and attempted, unsuccessfully, to draw the attention of Bruno's management to the alleged practices. However, a Bruno's executive denied that the first officer had spoken to him in this regard.

In situations where a junior flight crewmember, who is attempting to gain experience in sophisticated aircraft, is not supported by the corporate management in attempts to improve flight safety, that crewmember has few avenues available in such attempts other than to leave the corporation and, as a consequence, possibly risks delaying or giving up long-term piloting aspirations. The Safety Board believes that, to encourage adherence to good operating practices among pilots of corporate-owned or -operated aircraft, and to enhance the ability of first officers of corporate aircraft to participate in the management of the cockpit, the FAA should, in conjunction with professional aviation associations and manufacturers of turbine-powered aircraft, inform corporate aircraft operators of the circumstances of this accident, and encourage them to examine their flight operations to verify that policies and procedures are established to prevent such accidents and to encourage first officers to play an active role in cockpit decision-making.

The number of accidents of this type, in which an airworthy aircraft is flown into terrain under controlled circumstances in instrument conditions or in darkness, has been reduced in recent years in air transport operations, largely because of the aural warnings of imminent ground collision provided in the cockpits of air carrier airplanes by the currently required ground proximity warning systems (GPWS).

According to data supplied by the U.S. manufacturer of the GPWS, given the flight profile of the airplane in this accident, the warning would have sounded about 12 seconds before it struck Mt. Lavender. Thus, despite the fact that the meteorological conditions and the terrain posed a threat to the safety of visual flight rules (VFR) flight that effectively proscribed the VFR departure of the airplane from the airport, a GPWS would have provided the pilots sufficient time to have taken action to avoid the terrain. This action could have been either an abrupt increase in altitude, thereby requiring the pilots to violate FARs by entering instrument meteorological conditions without an instrument flight rules (IFR) clearance, or an immediate turn away from the terrain.

In the year preceding this accident, two other U.S.-registered turbojet airplanes, which were not equipped with a GPWS, crashed in similar circumstances. On March 15, 1991, a Hawker Sidley HS 125, operating as an on-demand air taxi, crashed into the side of a mountain about 25 miles east of San Diego, California, killing all nine passengers and crewmembers. Before impact, the airplane had been level at 3,500 feet mean sea level, heading east, in darkness, as the crew was attempting to receive their IFR clearance. The GPWS manufacturer estimated that on that flight a GPWS would have alerted 20 seconds before impact.

On September 4, 1991, a Gulfstream G II, operated by Conoco Oil, crashed in Malaysia, near the town of Kota Kinabalu, killing all 12 passengers and crewmembers onboard. The investigation, which is ongoing, is being conducted by the Government of Malaysia with the participation of the Safety Board in accordance with the provisions of Annex 13 to the Convention on International Civil Aviation. The Malaysian authorities conducting the investigation have indicated that the airplane descended during its initial approach and struck a mountain about 30 miles from the airport. The manufacturer of the GPWS has indicated that a GPWS would have alerted the crew of that airplane about 28 seconds before impact.

In all three accidents, if each airplane had been equipped with a GPWS, the system would most likely have sounded a warning in sufficient time for the flightcrews to have avoided the accidents. The Safety Board has previously urged the FAA to require the GPWS on aircraft operating under 14 CFR Part 135. On October 9, 1986, the Safety Board recommended that the FAA:

A-86-109

Amend 14 CFR 135.153 to require after a specified date the installation and use of ground proximity warning devices in all multi-engine, turbine-powered airplanes, certificated to carry 10 or more passengers.

On April 20, 1992, an FAA rule took effect that required all turbine-powered airplanes with 10 or more passenger seats operating under 14 CFR Part 135 to be equipped with an operating GPWS within 2 years. The Safety Board is pleased with the FAA's action and is encouraged that flights conducted under 14 CFR Part 135 will be afforded an enhanced level of safety resulting from the GPWS. As a result of the action of the FAA and the tangible safety benefits

that will follow, on May 27, 1992, the Safety Board closed the Safety Recommendation, classified it "Acceptable Action," and removed it from its "Most Wanted" list of safety recommendations. However, the Safety Board believes that this accident and other similar accidents underscore the need to equip all turbojet-powered airplanes with the GPWS, regardless of the regulation governing the conduct of the flight.


The FAA recently required turbine-powered airplanes with as few as six passenger seats to be equipped with cockpit voice recorders (CVRs), a requirement that has resulted in benefits to air safety that were manifested in the investigation of this accident. The Safety Board believes that while adherence to FARs, prescribed minimum altitudes, and approach procedures does assure safe terrain avoidance, the additional margin of safety provided by the GPWS is necessary and should be required in sophisticated high-performance airplanes. Therefore, the Safety Board urges the FAA to require all turbojet-powered airplanes that have six or more passenger seats, operating under 14 CFR Part 91, to be equipped with a GPWS.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that Federal Aviation Administration:

In conjunction with professional aviation associations and manufacturers of turbine-powered aircraft, inform corporations that are operating such aircraft under 14 CFR Part 91 of the circumstances of this accident, and encourage them to examine their flight operations to verify that policies and procedures are established and followed to prevent such accidents and to encourage first officers to play an active role in cockpit decision-making. (Class II, Priority Action) (A-92-54)

Require all turbojet-powered airplanes that have six or more passenger seats to be equipped with a ground proximity warning system. (Class II, Priority Action) (A-92-55)

Acting Chairman, COUGHLIN, and Members LAUBER, HART, HAMMERSCHMIDT, and KOLSTAD adopted these recommendations.

  
By: Carl W. Vogt  
Chairman