Log 2148

National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: July 17, 1989
In reply refer to: A-89-74

Honorable James B. Busey
Administrator
Federal Aviation Administration
Washington, D.C. 20591

On January 10, 1989, about 0912 central standard time (CST), Eastern Airlines flight 536, a McDonnell Douglas DC-9, struck barricades on rotation during its takeoff roll, and overflew workers and equipment on runway 17 at the William P. Hobby (Hobby) Airport, Houston, Texas. The airplane sustained minor skin damage on the aft section of the airplane from impact with the barricades. The flight continued to its destination, Atlanta, Georgia, without further incident. There were no injuries to any of the 67 people on the airplane or to those on the ground.

On March 23, 1989, at approximately 0748 CST, American Airlines flight 508, a McDonnell Douglas MD-82, struck barricades on rotation during its takeoff roll on runway 17 at Hobby Airport.1/ The flight proceeded to its destination, Dallas-Fort Worth International Airport, Texas, without further incident. There were no injuries to any of the 80 persons on the airplane or to those on the ground. An inspection of runway 17 after the incident disclosed the nose gear door and tailskid of the airplane on the runway.

On March 24, 1989, the National Transportation Safety Board issued an urgent safety recommendation to the Federal Aviation Administration (FAA):

> A-89-15
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> Take immediate corrective action, in conjunction with the airport authority, to prevent inadvertent takeoffs by air carrier airplanes on runway 17 at the Houston Hobby Airport.

At the time the safety recommendation was issued, the Safety Board was also concerned that the environment of the northwest portion of Hobby Airport might be conducive to pilots departing from the wrong runway: runway 12 right (12R) and runway 17 intersect near the approach end of each runway. In both incidents, the flightcrews had been cleared to take off on runway 12R, but they inadvertently took off on runway 17. The Safety Board thus expanded its investigations of these incidents to determine the factors, if any, that might have contributed to the departure from the wrong runway.

1/For more information, see NTSB incident report FTW-89-I-A070.

On March 29-30, 1989, Safety Board investigators traveled to Hobby Airport to examine the airfield, to interview the flightcrew of American Airlines flight 508, and to discuss possible corrective action with FAA and airport personnel. Before the investigators arrived, the airport authority had erected a sign at the runway 17 hold line that states, "RUNWAY 17 is closed to air carrier operations." Additionally, the Notice to Airmen (NOTAM) issued for Hobby Airport and the Automated Terminal Information Service (ATIS) broadcast at Hobby were expanded to reflect that runway 17 was closed to air carrier operations. The airport authority has advised the Safety Board that additional enhancements have been made to runway signs at the approach end of runway 17. Accordingly, the Safety Board believes that the FAA and the airport authority at Hobby Airport have taken responsive actions toward eliminating future inadvertent departures on runway 17 by air carrier airplanes.

The Safety Board has also been advised that the tower local controllers at Hobby Airport are now required to observe airplanes cross the approach end of runway 17 before issuing a clearance for takeoff. Because the approach end of runway 12R is not visually prominent to flightcrews when viewed from the approach end of runway 17, this procedure should also preclude future inadvertent departures from runway 17. Both of the American Airlines flightcrew believed that issuance of their takeoff clearance near the runway 17 hold line, in conjunction with the controller advising them that a B-737 was on a 5-mile final approach, contributed to their inadvertently entering runway 17 instead of runway 12.

Although actions taken by the FAA and the airport authority are responsive to the runway signing and environment at Hobby Airport, the Safety Board is concerned about the broader issue of preventing similar incidents at other airports. Both incidents at Hobby Airport could have been prevented had the flightcrews compared their heading indicators to the runway heading as they aligned their airplanes to the runway centerline. This procedure, if used, would have alerted the flightcrews that the airplanes were on the wrong runway. The flightcrew of flight 508 stated that they normally performed this check when the airplane becomes aligned with the runway centerline; however, for unknown reasons they failed to do so on this occasion.

The "Normal Procedures" section of American Airlines MD-80 Operations Manual does not require or address a check of the heading indicator to the runway heading when the airplane is aligned on the runway for takeoff. The "Operating Techniques" section of the Operations Manual, however, states that the heading indicator should be compared to the runway heading. Examination of the operations manuals of several other major air carriers revealed no requirement or suggestion for this check. The Safety Board believes that the "Normal Procedures" section of the operations manuals for all air carriers operating under Title 14 Code of Federal Regulations (CFR) Parts 121 and 135 should require that the heading indicator be compared to the runway heading as the airplane is aligned with the runway for takeoff.

On December 23, 1983, Korean Air Lines flight 084, a scheduled cargo flight from Anchorage, Alaska, to Los Angeles, California, collided head-on with South Central Air flight 059, a scheduled commuter flight from Anchorage to Kenai, Alaska, on runway 6L-24R at Anchorage International Airport. The South Central Air Piper PA-31-350 (Navajo) was destroyed by the impact of the collision, and

three of the eight passengers were slightly injured. The Korean Air Lines McDonnell Douglas DC-10-30 was destroyed by the impact and postimpact fire; the three crewmembers were seriously injured. In its investigation of the accident, the Safety Board found that members of the Korean Air Lines flightcrew could have determined that their airplane was on the wrong runway for takeoff had they compared their heading indicator to the runway heading. The Safety Board determined that the flightcrew's failure to perform this check was a contributing factor to the accident.2/

The Safety Board believes that most instrument-rated pilots routinely perform a cross-check of the heading indicator to the assigned runway heading before takeoff. However, the Safety Board believes the cross-check should be a required procedure rather than a personal practice or technique.

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

> Assure that the "Normal Procedures" section of the operations manuals of all air carriers operating under Title 14 Code of Federal Regulations Parts 121 and 135 requires flightcrews to cross-check the heading indicator to the runway heading when the airplane is aligned with the runway for takeoff. (Class II, Priority Action)(A-89-74)

KOLSTAD, Acting Chairman, BURNETT, LAUBER, NALL, and DICKINSON, Members, concurred in this recommendation.

By: James L. Kolstad
Acting Chairman

2/Aircraft Accident Report--"Korean Air Lines, McDonnell Douglas DC-10-30, HL 7339, South Central Air Piper PA-31-350, N35206, Anchorage, Alaska, December 23, 1983" (NTSB/AAR-84/10).