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# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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Date: July 23, 1991

In reply refer to: A-91-69

Mr. Alfred Checci  
President  
Northwest Airlines, Inc.  
Minneapolis/St. Paul  
International Airport  
St. Paul, Minnesota 55111

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On December 3, 1990, at 1345 eastern standard time, Northwest Airlines (NWA) flight 1482, a McDonnell Douglas DC-9, and Northwest Airlines flight 299, a Boeing 727 (B-727), collided near the intersection of runways 09/27 and 03C/21C at Detroit Metropolitan/Wayne County Airport (DTW), Detroit, Michigan. The DC-9 was to be a regularly scheduled passenger flight to Pittsburgh, Pennsylvania, and the B-727 was to be a regularly scheduled passenger flight to Memphis, Tennessee. Both airplanes were operating under Federal Aviation Regulations Part 121 and instrument meteorological conditions prevailed at the time at DTW. The B-727 was on its takeoff roll on runway 3C at the time of the collision, and the DC-9 had taxied onto the runway just prior to the accident. The B-727 was substantially damaged, and the DC-9 was destroyed during the collision and subsequent fire. Of the 40 passengers and 4 crewmembers aboard the DC-9, 7 passengers and 1 flight attendant received fatal injuries. None of the 146 passengers and 8 crewmembers on the B-727 were injured.<sup>1</sup>

NWA did not offer formal Cockpit Resource Management (CRM) training to its line captains or first officers at the time of the accident. Subsequent to the accident, NWA began requiring a 1-day course in CRM for all pilots during training.

Several of the items in the new addition to the Flight Operations Manual resulting from this runway incursion relate to the concept of CRM. The preplanning of taxi routes, the admission of confusion, the criticality of communication within and outside the cockpit, are all basic tenets of good CRM. Unfortunately, NWA has been slow to offer formal CRM training to its

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<sup>1</sup>For more detailed information, read Aircraft Accident Report, "Northwest Airlines, Inc., Flights 1482 and 299, Runway Incursion and Collision, Detroit Metropolitan/Wayne County Airport, Michigan, December 3, 1990" (NTSB/AAR-91-05)

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line aircrews, compared with other large U.S. airlines. This situation is surprising because of NWA's early involvement in Line-Oriented Flight Training (LOFT) and CRM research many years ago. The newly established 1-day CRM course for line crewmembers is a small step in the right direction. However, in light of this accident, the Safety Board urges NWA to begin comprehensive line crewmember CRM training at the earliest possible time.

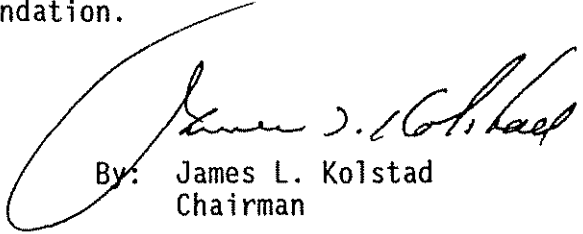
Therefore, as a result of the investigation of this accident, the Safety Board recommends that Northwest Airlines, Inc.:

Immediately institute comprehensive line crewmember Cockpit Resource Management training as a part of Northwest Airlines' Line-Oriented Flight Training and coordinated crew training programs. (Class II, Priority Action) (A-91-69)

Also, the Safety Board issued Safety Recommendations A-91-54 through A-91-66 to the Federal Aviation Administration; and A-91-67 and A-91-68 to the Detroit Metropolitan/Wayne County Airport.

The National Transportation Safety Board is an independent federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation A-91-69 in your reply.

KOLSTAD, Chairman, COUGHLIN, Vice Chairman, BURNETT, LAUBER and HART, Members, concurred in this recommendation.

  
By: James L. Kolstad  
Chairman