

UNITED STATES OF AMERICA  
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: September 7, 1973

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD  
at its office in Washington, D. C.  
on the 16th day of August 1973.

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FORWARDED TO:

Honorable Alexander P. Butterfield )  
Administrator )  
Federal Aviation Administration )  
Washington, D. C. 20591 )  
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SAFETY RECOMMENDATIONS A-73-57 thru 61

On June 15, 1973, at 2002 G.m.t. (1502 e.d.t.), an Airlift International DC-8-63, Flight 105, was involved in an incident while executing a back course localizer approach to Runway 22 Right at O'Hare International Airport. Approximately 1 mile from the runway threshold, Flight 105 struck trees and power lines at an elevation of 715 feet m.s.l. - 85 feet AGL. Subsequent observations of aircraft on approach over the accident site revealed a wide variance in altitude.

This variance in altitude may be caused by differences in interpretation of FAR 91.117, which prohibits descent below MDA "unless-- (1) The aircraft is in a position from which a normal approach to the runway of intended landing can be made; and (2) The approach threshold of that runway, or approach lights or other markings identifiable with the approach end of that runway, are clearly visible to the pilot."

On a nonprecision approach such as a back course, an ADF, or a VOR, where an electronic glide slope is not provided, the requirement for external visual guidance commences at a considerable distance from the runway. At the greater distance, the MDA is usually below the normal descent angle. Therefore, the required visual sighting does not assure that the pilot has adequate vertical guidance necessary for descent. Nevertheless, in accordance with pertinent regulations, the pilot may initiate what he believes to be a normal descent even though he may still be a considerable distance from the normal descent point.

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The higher accident rate on nonprecision approaches appears to support the contention that pilots are descending prematurely. It is evident that a means must be provided to help prevent these premature descents. This could be achieved by establishing an electronic fix at the point of intersection of the MDA and the VASI glide slope. Furthermore, since the MAP is located at a point where a descent to the runway would be prohibitive if not impossible, the point should be moved to coincide with the descent fix.

The Board is aware of the work done in this area and that the principle of the descent fix for nonprecision approaches has been accepted by the Federal Aviation Administration.

Since O'Hare International Airport has all the electronic facilities necessary for the descent/missed approach fix, the National Transportation Safety Board recommends that the Federal Aviation Administration:

1. Provide an electronic descent fix at the intersection of the MDA and the VASI glide slope for the nonprecision straight-in approaches to Runway 22 Right at O'Hare International Airport. This fix should be located by reference to a DME mileage readout.
2. Locate MAP at the descent fix position for nonprecision straight-in approaches on Runway 22 Right at O'Hare.
3. Require that no descent below MDA be initiated until the specified descent fix for nonprecision straight-in to Runway 22 Right at O'Hare is reached.
4. Require that the runway threshold of Runway 22 Right or the VASI be visible to the pilot before descent from MDA may be initiated.
5. Implement the procedures recommended for O'Hare Runway 22 Right at all other airports where comparable equipment is installed. This implementation should be as expeditious as possible. The Board further believes that consideration should be given to the installation of similar equipment at other airports throughout the United States.

Reed, Chairman, McAdams, Thayer, Burgess, and Haley, Members, concurred in the above recommendations.

*William R. Haley, Acting*

By: John H. Reed  
Chairman

THESE RECOMMENDATIONS WILL BE RELEASED TO THE PUBLIC ON THE ISSUE DATE SHOWN ABOVE. NO PUBLIC DISSEMINATION OF THE CONTENTS OF THIS DOCUMENT SHOULD BE MADE PRIOR TO THAT DATE.