

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: January 22, 1974

Forwarded to:
Honorable Alexander P. Butterfield
Administrator
Federal Aviation Administration
Washington, D. C. 20590

SAFETY RECOMMENDATION(S)

A-73-116 thru 118

(revised)

The National Transportation Safety Board's investigation of a National Airlines Douglas DC-10 accident, which occurred in flight near Albuquerque, New Mexico, on November 3, 1973, disclosed a malfunction in the digital flight data recorder (DFDR). This malfunction precluded recovery of any data related to the accident. The Board is very much concerned about this type of failure, because it is not detectable by the test equipment aboard the aircraft and, therefore, might exist on a large number of aircraft equipped with the new DFDR.

National Airlines subsequently performed readouts of the DFDR throughout their entire fleet of wide-bodied aircraft to assess the extent of similar undetected malfunctions. Testimony at the Safety Board's public hearing held in Miami, Florida, on December 10-12, 1973, and subsequent readout examinations disclosed that, of 13 wide-bodied jets in the fleet, 7 had been operating with undetected malfunctions which would have precluded recovery of acceptable data for some parameters required under 14 CFR 121.343(a)(2).

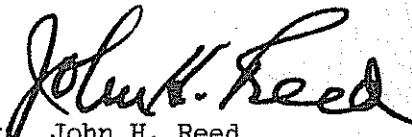
In meetings with your staff, the Board's staff has discussed the preliminary findings of the survey of DFDR's conducted under GENOT 8000.92. In the Board's opinion, these preliminary findings also indicate that the current 2,000- to 3,000-hour inspection intervals are unrealistic and should be adjusted to be commensurate with the mean-time-between-failure (MTBF) rates that these recording systems have been experiencing during this early period of operation.

Therefore, to insure that recorders in the current fleet of wide-bodied jets are operating in an approved manner, as specified under 14 CFR 121.343 (a)(1), (2), and Appendix B, the National Transportation Safety Board recommends that the Federal Aviation Administration:

1. Require, within the next 100 flight hours, a readout of data recorded in flight on the digital flight data recorders, as required under 14 CFR 121.343(a)(2), and take action to insure that the parameters required are being recorded within the ranges, accuracies, and recording intervals specified in Appendix B thereof.
2. Require repetitive readout inspections, as specified above, at 500-hour intervals, until the reliability of these recorder systems improves.
3. Require retention by the operators of the data received in the two most recent readout inspections.

Personnel from our Bureau of Aviation Safety offices will be made available if any further information or assistance is desired.

REED, Chairman, McADAMS, BURGESS, and HALEY, Members, concurred in the above recommendations. THAYER, Member, was absent, not voting.


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.