

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

ISSUED: May 18, 1972

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD  
at its office in Washington, D. C.  
on the 19th day of April

-----  
FORWARDED TO: )

Honorable John H. Shaffer )  
Administrator )  
Federal Aviation Administration )  
Washington, D. C. 20591 )  
-----

SAFETY RECOMMENDATIONS A-72-58 & 59

During the National Transportation Safety Board's investigation of an in-flight turbulence accident involving a National Airlines Boeing Model B-747 aircraft near Grand Isle, Louisiana, on January 4, 1972, we determined that the Sundstrand Data Control ARLINC 542 Flight Data Recorder installed on the subject aircraft was not recording vertical acceleration properly. Bench checks and calibration tests of the subject accelerometer transducer and flight recorder showed no abnormalities.

A study of Sundstrand recorder vertical acceleration traces from other B-747 aircraft indicates a definite lack of vertical acceleration trace response. Tests recommended by the Safety Board, and performed by the Boeing Company, indicate that the Sundstrand vertical acceleration recording is attenuated above a vibratory environment of 1.0 cycles per second on B-747 aircraft. Accordingly, we have concluded that this recorder does not comply with Parts 121.343 (Appendix B) and 37.150 (FAA TSO C-51a) of the Federal Aviation Regulations.

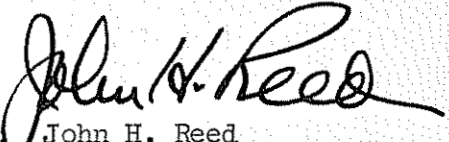
The Safety Board, therefore, recommends that the Federal Aviation Administration:

1. Reevaluate the installation of Sundstrand recorders on B-747 aircraft.
2. Issue an Airworthiness Directive requiring modification of the Sundstrand recorder vertical accelerometer system to conform to the Federal Aviation Regulations.

Honorable John H. Shaffer 2

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.

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

  
By John H. Reed  
Chairman

72760

NATIONAL TRANSPORTATION  
SAFETY BOARD  
DEPARTMENT OF TRANSPORTATION  
Washington, D.C. 20591

Official Business

PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID  
NATIONAL TRANSPORTATION  
SAFETY BOARD

