

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

ISSUED: August 10, 1972

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D. C.
on the 26th day of July 1972

FORWARDED TO:)
Honorable John H. Shaffer)
Administrator)
Federal Aviation Administration)
Washington, D. C. 20591)

SAFETY RECOMMENDATIONS A-72-116 & 117

The National Transportation Safety Board has investigated several accidents and incidents involving nickel-cadmium battery fires since your issuance of Advisory Circular AC-00-33 and Airworthiness Directive AD 71-21-5. The Safety Board is concerned over the near-catastrophic circumstances of some of these occurrences. The Board believes that although the AD was responsive to the problem as it was known at the time, the facts revealed in our recent investigations indicate a need for further corrective action.

Two of the most recent occurrences involved total loss of electrical power and severe fire damage due to battery overheating and thermal run-away. One involved a nonturbine-powered Beech A-65 Queen Air, the other a Grumman Gulfstream II, which does not use the battery for engine starting. These two fires, and another on an Aero Commander turboprop, all involved batteries containing nylon cell cases.

These and other nickel-cadmium battery fires investigated by the Safety Board indicate that these fires are not confined to turbine-powered aircraft, nor to installations which use the batteries for engine or auxiliary power unit starting. Moreover, the use of nylon cell cases as required by the AD has not served to prevent fires in all cases.

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

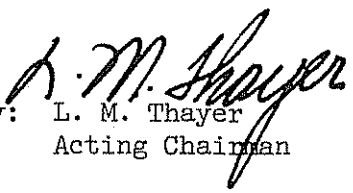
1. Broaden the applicability of AD 71-21-5 to include all aircraft which have a nickel-cadmium battery in the primary electrical system.

2. Require compliance with paragraphs (e)(3) or (e)(4) of the AD, regardless of the cell case material used in the battery.

The Board will be available for further consultation if desired.

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


By: L. M. Thayer
Acting Chairman