

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

ISSUED: April 23, 1971

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D. C.
on the 13th day of April, 1971

FORWARDED TO:)
Honorable John H. Shaffer)
Administrator)
Federal Aviation Administration)
Washington, D. C. 20590)

SAFETY RECOMMENDATION A-71-24

The National Transportation Safety Board's recent investigation of an incident involving an American Airlines B-720 type aircraft has disclosed an area of concern which we believe warrants an issuance of an advisory to all operators of the Boeing aircraft type 707/720.

The incident concerns an American Airlines Boeing 720 aircraft, N7542A, on a flight from San Diego, California, to John F. Kennedy Airport, New York, on March 31, 1971. There were 78 passengers and a crew of seven on board. At a cruise altitude of 37,000 feet and just east of Albuquerque, New Mexico, the pilot decided to disconnect the autopilot to retrim a left-wing-heavy condition. Upon disengagement of the autopilot, the stabilizer trim wheel began trimming nosedown. The pilot tried to trim noseup with the trim switch on the yoke, with no results. He switched the stabilizer and mach trim switches on the pedestal to the cutout position, thereby stopping the descent after an altitude loss of 8,000 feet. There were no personal injuries or aircraft structural damage. After manually trimming the aircraft, the pilot re-engaged the autopilot mach and stabilizer trim switches, and operation appeared normal. Later during the flight, the mach trim disengage light came on. Upon recycling of the mach trim switch, the light went out and normal operation was observed during the remainder of the flight.

The stabilizer position transmitter and a resistor box were removed from the aircraft at JFK Airport for indications of a higher-than-normal voltage. The remainder of the mach trim and autopilot components were removed as a precautionary measure. The aircraft was test flown Saturday, April 3, and released to service. The equipment removed was checked the night of April 2, with FAA and NTSB representatives present, with no discrepancies noted.

On April 5, the Board's investigator requested the Tulsa FAA Air Carrier District Office to have the American Airlines maintenance personnel inspect the stabilizer position transmitter crank assembly for tightness. This request was based on findings of a similar incident a number of years ago on a TWA aircraft. However, on the evening of April 5, the airline performed this inspection themselves and found the crank, Boeing P/N 66-9350, shaft opening to be enlarged due to wear, thus permitting the shaft to move, giving the system erroneous stabilizer position signals.


In view of the foregoing, it is recommended that:

The FAA advise all Boeing 707/720 operators of the findings and prescribe a recommended inspection program for the detection of wear of the stabilizer position transmitter crank assembly.

The Board has coordinated its findings with members of your Flight Standards Service, both in Washington and your Southwest Region, and understand you are evaluating this matter for possible bulletin action.

This recommendation 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, and Burgess, Members, concurred in the above recommendation. Thayer, Member, was absent, not voting.


By: John H. Reed
Chairman