



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Log 2514

Date: June 28, 1994

In reply refer to: A-94-124

Honorable David R. Hinson
Administrator
Federal Aviation Administration
Washington, D.C. 20591

On July 18, 1993, a Servicio Aereo de Honduras, S.A. (SAHSA) Airlines Boeing 737-200, N401SH, went off the right side of the runway while landing at the Managua International Airport, Managua, Nicaragua. The airplane was owned by International Lease Finance Corporation of Los Angeles, California, and was leased to SAHSA Airlines. The airplane had departed Tegucigalpa, Honduras, on a scheduled nonstop flight to Managua. On board the airplane were 6 crew members and 88 passengers. The pilots reported that there was heavy rain and lightning during the final approach to runway 09.

The investigation found that the airplane landed firmly on the runway, skidded to the right, went off the runway, and then came to rest on the grass about 200 feet from the right edge of the runway on a heading of 110°. During the accident, the nose landing gear collapsed, and both engines were torn from the wings. A flight attendant and 2 passengers received serious injuries, and 11 passengers received minor injuries. The accident is being investigated by the Government of Nicaragua. The National Transportation Safety Board is providing technical assistance to the investigation.

The cockpit voice recorder and the flight data recorder (FDR) were sent to the Safety Board's laboratory for examination. The FDR was a Sundstrand model FA-542, S/N 1346, that records the parameters of pressure altitude, indicated airspeed, magnetic heading, vertical acceleration, and microphone keying as a function of time in an analog format on a metal foil medium. The FDR was found to be in good condition with no signs of damage. Further examination of the FDR data

revealed two data sets scribed in the same location. As a result, accident data from the microphone keying parameter were indistinguishable from previously scribed data. Data from the remaining four parameters were satisfactorily extracted.

Title 14 of the Code of Federal Regulation (CFR), Parts 135, 121, and 125 contain the requirements for equipping U.S.-registered and U.S.-operated airplanes with digital FDRs. Title 14 CFR 129 contains the operational requirements for foreign-operated airplanes that operate in the U.S. and foreign-operated, U.S.-registered airplanes that may be operated either within or outside the U.S. A review of 14 CFR Part 129 shows that the Part does not contain specific reference for the installation of either a foil medium or digital FDR on either U.S. or non-U.S.-registered airplanes operated by foreign airlines.


A U.S. operator would be required, at a minimum, to equip a large transport category airplane, such as a Boeing 737, with a digital FDR that records the six parameters of time, altitude, airspeed, vertical acceleration, heading, and the time of each radio transmission. After May 26, 1994, the operator would be required to equip such an airplane with a digital FDR that records a minimum of 11 specified parameters. However, the Safety Board is aware that the Federal Aviation Administration (FAA) has issued a Notice of Proposed Rulemaking that would change the compliance date to May 1995.

The Safety Board notes that 14 CFR Part 129 requires that all U.S.-registered airplanes operated by foreign air carriers be maintained in accordance with a program approved by the Administrator of the FAA. It is noted that 14 CFR Part 129 places equipment requirements on the foreign operators, such as section 129.18, which requires the installation of traffic alert and collision avoidance systems. The Safety Board believes that in the interest of aviation safety, all U.S.-registered, foreign-operated, transport-category airplanes should be equipped with digital FDRs, as provided for in 14 CFR Part 121.343. Since digital FDRs are readily available, the Safety Board believes that the FAA should require the replacement of foil medium FDRs on all U.S.-registered airplanes by May 1995. Additionally, foil recorder manufacturers estimate that the worldwide supply of the foil recording medium will be consumed within 1 year. Therefore, operators may be unable to maintain their foil recorders in an airworthy condition, or they may try to use foil recorders that do not operate properly.

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

Amend 14 CFR Part 129 to require that all U.S.-registered, foreign-operated, transport-category aircraft be equipped with digital FDRs that record the parameters required by Part 121.343 by May 1995. (Class II, Priority Action) (A-94-124)

Acting Chairman HALL, and Members LAUBER, HAMMERSCHMIDT and VOGT concurred in this recommendation.

By: 
Jim Hall
Acting Chairman