

100-1180

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: April 24, 1980

Forwarded to:

Honorable Langhorne M. Bond  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-80-32 through -34

On March 20, 1980, a Sikorsky S-76A, PT-HKB, operating off the coast of Brazil, South America, crashed at sea, killing 14 persons. This was the first accident for this model helicopter since its certification in November 1978.

The continuing investigation is under the jurisdiction of the Government of Brazil. On April 21, 1980, a representative of the Brazilian Accident Investigation Team delivered a fractured main rotor head spindle section from the accident aircraft to the National Transportation Safety Board's Metallurgical Laboratory for examination in order to verify the findings of the Brazilian Government metallurgist.

Examination of the fractured surface verified the findings of the Brazilian Government metallurgist — a fatigue crack was present with multiple origins initiating in the root of the first thread at the spindle inboard end; the cracks had propagated across about 30 percent of the spindle's cross sectional area. The total time on the spindle at the time of the accident was about 650 hours. The fatigued area is not easily inspected without partial disassembly of the main rotor head. Although the metallurgical examination is continuing, the Safety Board believes that immediate action should be taken to minimize the probability of a similar failure.

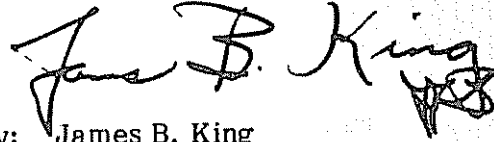
Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue an Airworthiness Directive to require, prior to further flight, a one-time detailed inspection of the inboard threaded area of the main rotor spindles for evidence of cracks on all Sikorsky-76A model helicopters. (Class I, Urgent Action) (A-80-32).

Notify Foreign Regulatory Agencies of this action. (Class I, Urgent Action) (A-80-33)

Evaluate the need for a recurring spindle inspection based on the initial inspection results. (Class II, Priority Action) (A-80-34)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN and BURSLEY, Members, concurred in these recommendations.

A handwritten signature in cursive script that reads "James B. King". The signature is written in dark ink and includes a stylized flourish at the end.

By: James B. King  
Chairman