

Log 867

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: June 27, 1979

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

SAFETY RECOMMENDATION(S)  
A-79-53 and -54

Since July 1977, the National Transportation Safety Board has investigated two accidents involving Hiller UH-12EJ3 helicopters in which the mechanical flight control system malfunctioned. The first investigation revealed a fatigue failure in the shank area of a cyclic isolation link rod end bearing assembly. The metallurgical examination revealed that the failed rod end had a hollow shank. The total time on the cyclic isolation link (PN 3001-35) could not be determined, but the component has no retirement time. In the second accident the isolation link was not a causal factor; however, it was noted that the rod end had a hollow shank.

A review of manufacturing specifications indicated that hollow shank rod ends do not meet the design requirements for installation with cyclic isolation link PN 3001-35. Additional investigation revealed that the hollow shank rod ends could be obtained from various bearing supply houses and that they had the identical part number (HPP-RE-65) as the required solid shank ones. As a result of the above information, Hiller Aviation issued Service Letter 30-2, dated October 2, 1978, which recommended that all owners/operators (1) inspect their aircraft to verify that solid shank rod end assemblies were installed and (2) remove all hollow shank rod ends from the spare parts inventory.

The Safety Board is concerned that the Service Letter may not reach aircraft operators because of changes in aircraft ownership, leasing arrangements, and the remote

Honorable Langhorne M. Bond - 2 -

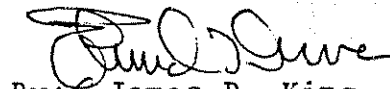
operating locations of these utility helicopters. In addition, since the turboshaft engine conversions now available will extend the useful life of these helicopters, the Safety Board believes that the FAA should establish a retirement time for those components of the mechanical flight control system which are subjected to constant vibratory stresses. The cyclic isolation link is one of these components.

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

Issue an Airworthiness Directive requiring compliance with Hiller Service Letter 30-2, dated October 2, 1978. (Class II--Priority Action) (A-79-53)

Establish a retirement time for components of the UH-12 model helicopter's mechanical flight control system which are subjected to constant vibratory stresses. (Class II--Priority Action) (A-79-54)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and COLDMAN, Members, concurred in the above recommendations.

  
By: James B. King  
Chairman