

Log 1733

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 26, 1984

Forwarded to:

Honorable Donald D. Engen
Administrator
Federal Aviation Administration
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)
A-84-109 and -110

On September 22, 1984, a Sikorsky S-76A helicopter, N79K, crash-landed near Unionville, Pennsylvania. The helicopter, which was carrying six passengers to a horse show, was in the final stages of landing in an open field adjacent to the show grounds when the pilot experienced a loss of directional control. The pilot was able to land the helicopter upright, but the fuselage rotated to the right and injured six spectators, two seriously. The six passengers and two crewmembers were not injured.

The National Transportation Safety Board's preliminary investigation of the accident disclosed that a structural element attached to the center firewall of the engine compartment had loosened and contacted the tail rotor driveshaft. The stainless steel element machined and cut the aluminum driveshaft which resulted in separation of the shaft. The components are presently being examined in the Safety Board's metallurgical laboratory in Washington, D.C.

Because of two recent reports from two S-76A operators concerning interference between the No. 1 section of the tail rotor driveshaft and the inner surface of the engine compartment center firewall section, Sikorsky Aircraft issued a telegraphic Alert Service Bulletin (ASB 76-53-24) on September 22, 1984, requiring an immediate one-time inspection of the area to determine the condition of the firewall and the proper clearance between the firewall and the tail rotor driveshaft. The operator of N79K received this telegram after the mishap. Recent maintenance in the engine compartment included compliance with Airworthiness Directive (AD) T84-16-51, regarding the installation of the fuselage-mounted engine containment shield. The aircraft had flown only 17 hours since this maintenance.

Although the investigation is continuing, the Safety Board is concerned that other engine compartment center firewall sections installed on the 250 S-76A helicopters operating throughout the world may be in the same condition as the one installed on N79K. The manufacturer is presently preparing an alert service bulletin recommending additional inspections and modifications to the center firewall section.

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

Issue an Emergency Airworthiness Directive to require an inspection and modification of the engine compartment firewall section and verification of proper clearances between the No. 1 section of the tail rotor driveshaft and the inner surface of the center firewall in accordance with the forthcoming Sikorsky Aircraft S-76A Alert Service Bulletin prior to further flight. (Class I, Urgent Action) (A-84-109)

Review and evaluate the Sikorsky S-76A fuselage-mounted engine containment shield installation required by Airworthiness Directive T84-16-51 to determine whether it adversely affects the engine compartment center firewall installation, and take proper remedial action if necessary. (Class II, Priority Action) (A-84-110)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and BURSLEY, Member, concurred in these recommendations. GROSE, Member, did not participate.

A handwritten signature in cursive script that reads "Jim Burnett". The signature is written in dark ink and is positioned above the typed name and title.

By: Jim Burnett
Chairman