

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: May 22, 1981

Forwarded to:

Honorable J. Lynn Helms
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-81-59 and -60

On March 25, 1981, a Bell 206L-1 helicopter, N 1077N, was en route from an offshore oil rig to shore when the pilot reported that the engine flamed out. The aircraft was successfully autorotated to the water from a cruising altitude of 500 feet. The pilot and five passengers escaped injury even though the helicopter rolled over during water entry.

The wreckage was subsequently recovered. Disassembly of the engine (Detroit Diesel Allison 250-C28) revealed that the splined adapter, part number 6899243, Revision A, had fractured. This adapter connects the gas generator turbine shaft to the compressor impeller. Preliminary metallurgical examination of the fractured surface indicated fatigue. Total service time on the adapter was 60.6 hours.

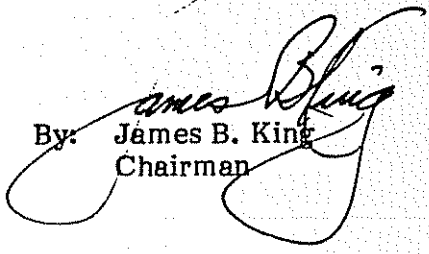
The manufacturer reported that the failed adapter was 1 of 47 recently produced and put into service as a product improvement item. The manufacturer also indicated that the adapters have serial numbers by which the adapters could be located through the manufacturer's distributors. The Safety Board is aware that Allison has recently issued a bulletin to operators recommending that engines with these adapters be removed from service. However, we are concerned that some operators may not remove the engines from service because compliance with the bulletin is discretionary.

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

Issue an Airworthiness Directive to require that those Allison 250-C28 and -C30 engines identified by the manufacturer as having the PN 6899243, Revision A, splined adapters installed be removed from service. (Class II, Priority Action) (A-81-59)

Review and evaluate the manufacturing processes and quality assurance procedures for these splined adapters to ensure product integrity and safety. (Class II, Priority Action) (A-81-60)

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

By:  James B. King
Chairman

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