

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 2, 1977

Forwarded to:

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

SAFETY RECOMMENDATION(S)
A-77-38 and 39

On March 31, 1977, the tail boom fin installation separated from the tail boom of a Bell Model 214B-1 helicopter. The helicopter was being used in a logging operation near Liberty, Washington, and was on its first afternoon flight to retrieve a load of logs when logging personnel saw the tail assembly and the main rotor blades separate from the rotorcraft. The helicopter hit the ground on its left side; both pilots were killed.

The National Transportation Safety Board's investigation of the accident disclosed that the fin installation, P/N 214-020-002, had fractured and separated. The Safety Board and Bell Helicopter Textron metallurgists analyzed the fractured vertical fin and found that it failed in fatigue which had originated in the left forward spar cap at the first outboard rivet hole above the tail boom deck. The total time on this vertical fin installation was 307 operating hours since replacement of the original tail boom on November 20, 1976.

On April 7, 1977, Bell Helicopter Textron telegraphed all Model 214B/B-1 operators to inform them of the preliminary investigation of this accident and of an immediate mandatory inspection on all helicopters with over 100 flight-hours.

In view of the potentially catastrophic consequences associated with such a failure, the National Transportation Safety Board recommends that the Federal Aviation Administration:

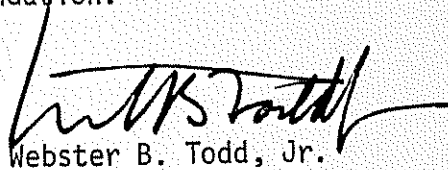
Honorable Langhorne M. Bond

- 2 -

Issue an Emergency Airworthiness Directive making the Bell Helicopter Textron telegraphic message of April 7, 1977, mandatory for all operators of Bell Models 214B and B-1 helicopters with an additional requirement for a visual daily inspection. (Class I--Urgent Followup) (A-77-38)

Reduce the maximum gross weight or torque limitation, or both, of the Bell Models 214B and B-1 helicopters until loading and stress on the tail boom fin and tail boom can be reevaluated and appropriate structural modifications completed. (Class I--Urgent Followup) (A-77-39)

TODD, Chairman, BAILEY, Vice Chairman, McADAMS, HOGUE, and HALEY, Members, concurred in the above recommendation.

By: 
Chairman