

AVIATION OCCURRENCE REPORT

FORCED LANDING - MAIN ROTOR/TREE STRIKE

**ABITIBI HELICOPTERS LIMITED
AEROSPATIALE SNI AS 350BA (HELICOPTER)
TUMBLER RIDGE, BRITISH COLUMBIA 31 NM WNW
19 OCTOBER 1994**

REPORT NUMBER A94P0244

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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Summary

The pilot of the Aerospatiale AS 350 BA helicopter was making an approach to a staging area to pick up a sling load of seismic equipment using a 100 foot long line. He positioned the helicopter in a high hover so that ground personnel could attach the line to the load. While in the hover the pilot felt a "bump" in the cyclic control and heard the low rotor horn. The pilot increased power to move away from the site and headed toward a creek bed where he landed hard on a sand bar. The pilot was not injured; the aircraft was substantially damaged.

Other Factual Information

The main rotor blades had struck a tree which was behind the pilot out of his line of sight. One blade lost structural integrity as a result of the strike and shed blade material from the blade tip inboard to the mid point.

The engine was examined; the damage identified was consistent with events following the blade strike. The engine had been exposed to high operating temperatures due to control inputs after the tree strike. Some airframe damage resulted from the hard landing.

Analysis

The pilot reported that he heard the low rotor rpm horn at the same time he felt the "bump" in the cyclic control. This sensation in the cyclic control is consistent with the main rotor striking the tree. When the blade struck the tree, the main rotor rpm would have slowed down briefly and caused the low rotor horn to activate momentarily.

The pilot was able to increase power to move away from the staging area indicating that the engine was developing power and that the low rotor horn did not activate as a result of a loss of engine power prior to the tree strike.

Findings

1. The main rotor blades struck a tree.
2. The tree was behind the helicopter and out of the pilot's line of sight.
3. The rotor and engine damage were consistent with the events following a blade strike.
4. The airframe damage was the result of a hard landing.

Causes and Contributing Factors

The pilot was hovering the helicopter in an area where trees were behind the aircraft and out of his line of sight, and he allowed the rotor blades to come into contact with the trees.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson, John W. Stants, and members Gerald E. Bennett, Zita Brunet, the Hon. Wilfred R. DuPont and Hugh MacNeil, authorized the release of this report on 28 February 1995.