



National Transportation Safety Board Aviation Accident Data Summary

Location:	Detroit, OR	Accident Number:	WPR13FA411
Date & Time:	09/16/2013, 1535 PDT	Registration:	N204UH
Aircraft:	BELL UH 1B	Injuries:	1 Fatal
Flight Conducted Under:	Part 133: Rotorcraft Ext. Load		

Analysis

Witnesses reported that, when the helicopter was just above the trees during an external load logging operation, they either observed or heard the load of logs release early and impact the ground hard. Witnesses then observed the helicopter's tailboom separate from the fuselage and descend through the trees. The fuselage impacted the ground inverted, and the tailboom came to rest about 140 ft away. A mechanic reported that the pilot had indicated before the flight that the helicopter felt like it "shuffled" during translational lift; however, the mechanic suspected that the transmission mounts were starting to wear and would need to be changed at a later date.

Postaccident examination of the airframe and engine revealed control continuity throughout the airframe except for a portion of the tail rotor drive shaft that extended from the transmission, which was not found. The tailboom had separated from the aft fuselage at the tailboom attachment points. The lower two tailboom attachment fittings exhibited features consistent with overstress failure and did not show indications of fatigue and/or other failure modes. The upper two tailboom attachment fittings both contained fatigue cracks throughout almost the entire fracture surface.

The pilot purchased the helicopter about 3 years before the accident; that same year, the helicopter was issued a new airworthiness certificate. According to the Federal Aviation Administration, the previous owner had relinquished the helicopter's airworthiness certificate to avoid punitive action for poor maintenance of the helicopter. Maintenance records located within the helicopter did not contain sufficient information to determine when the most recent maintenance was performed; however, the documents did reveal that several component inspections were not completed within the manufacturer's recommended time. It is likely that long-term, inadequate maintenance of the helicopter contributed to the failure and separation of the tailboom.

Flight Events

Maneuvering-low-alt flying - Part(s) separation from AC
Maneuvering-low-alt flying - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The fatigue failure of the upper two tailboom attachment points, which resulted in the tailboom separating from the fuselage during logging operations. Contributing to the accident was poor maintenance throughout the helicopter's operational life.

Findings

Aircraft-Aircraft structures-Fuselage-Fuselage attach fittings sys-Fatigue/wear/corrosion - C
 Aircraft-Aircraft structures-Fuselage-Rotorcraft tail boom-Fatigue/wear/corrosion - C
 Aircraft-Aircraft structures-Fuselage-Rotorcraft tail boom-Not serviced/maintained - C
 Aircraft-Aircraft structures-(general)-(general)-Not serviced/maintained - F

Pilot Information

Certificate:	Commercial	Age:	53
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane; Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	(Estimated) 19000 hours (Total, all aircraft), 14000 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL	Registration:	N204UH
Model/Series:	UH 1B	Engines:	1 Turbo Shaft
Operator:	R&R CONNER	Engine Manufacturer:	LYCOMING
Operating Certificate(s) Held:	Rotorcraft External Load (133)	Engine Model/Series:	T5313B
Flight Conducted Under:	Part 133: Rotorcraft Ext. Load		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	SLE, 214 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Overcast / 5500 ft agl	Wind Speed/Gusts, Direction:	3 knots / , 130°
Temperature:	21° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Detroit, OR	Destination:	Detroit, OR

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	44.705833, -122.110833 (est)		

Administrative Information

Investigator In Charge (IIC): Samantha A Link

Adopted Date: 05/13/2015

Investigation Docket: <http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=88058>

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