Aviation Investigation Final Report

Location:	Troy, Montana	**Accident Number:**	SEA01TA172
Date & Time:	September 17, 2001, 16:00 Local	**Registration:**	N458CC
Aircraft:	Bell 205	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Public aircraft		

Analysis

The pilot was returning from an external load long-line firefighting flight when he noticed a vertical vibration above 90 knots. After landing at Troy he noticed damage to the main rotor blades. Subsequently, he noticed that pine needles had been ingested by the helicopter's induction system. The pilot reported that he had no memory of hitting any objects during the operation. The weather was clear with 20 miles visibility, and the sky was partially obscured by smoke. There was no report of mechanical failure or malfunction with the helicopter.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's failure to maintain seperation/clearance from trees while maneuvering.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings
1. (F) OBJECT - TREE(S)
2. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

On September 17, 2001, about 1600 mountain daylight time, a Bell 205 helicopter, N458CC, sustained substantial damage following a main rotor blade strike while conducting firefighting operations near Libby, Montana. The helicopter is registered to Billings Flying Service, Billings, Montana, and was being operated by the United States Forest Service (USFS) as a public use aircraft. The commercial pilot, the sole occupant of the helicopter, was not injured. Visual meteorological conditions prevailed, and USFS VFR flight following procedures were in effect.

In a written statement dated September 26, 2001, the pilot reported that he was maneuvering near a shoreline in an effort to get a full bucket of water. "I made 40-50 bucket drops on the fire and flew out my fuel cycle before breaking off from the fire and returned to Troy Airport. On the return flight to Troy airport, I noticed a vertical vibration at approximately 90 knots (forward airspeed)." He continued to Troy airport at a slower speed to avoid the vibration. After landing without incident, the pilot noted damage to the helicopter's main rotor blades. He also noted that pine needles had been ingested into the aircraft's induction system. The pilot did not recall coming into contact with anything during the flight.

Personnel from the USFS reported that the helicopter was conducting external load long-line (100 feet) operations when the helicopters main rotor blades contacted trees.

Postaccident examination of the helicopter, by a certified mechanic, revealed that both main rotor blades sustained substantial damage.

The pilot stated that the weather was clear with more than 20 miles visibility, with the sky partially obscured by occasional smoke.

The pilot reported no mechanical failure or malfunction of the aircraft.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	55,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	July 31, 2001
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	August 29, 2001
Flight Time:	17630 hours (Total, all aircraft), 3530 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	**Registration:**	N458CC
Model/Series:	205	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	67-17678
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	August 1, 2001 100 hour	**Certified Max Gross Wt.:**	9500 lbs
Time Since Last Inspection:	37 Hrs	**Engines:**	1 Turbo shaft
Airframe Total Time:	8668 Hrs at time of accident	**Engine Manufacturer:**	Allied Signal
ELT:	Installed, not activated	**Engine Model/Series:**	T-53-L-13B
Registered Owner:	Billings Flying Service	**Rated Power:**	1300 Horsepower
Operator:	U.S. Forest Service	**Operating Certificate(s) Held:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	315°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	24°C
Precipitation and Obscuration:	N/A - None - Smoke		
Departure Point:	Troy, MT (57S)	**Type of Flight Plan Filed:**	Company VFR
Destination:	MT	**Type of Clearance:**	None
Departure Time:	15:53 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	48.315277,-115.986663

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	Eddie Morris; U.S. Forest Service; Missoula, MT
Original Publish Date:	June 3, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53484