



Aviation Investigation Final Report

Location:	Avondale, Colorado	Accident Number:	DEN07LA155
Date & Time:	September 12, 2007, 13:30 Local	Registration:	N360SS
Aircraft:	Bell 47G-3B-1	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot took off downhill with no wind. The wind shifted to the west to a tailwind of 10 to 12 knots. The pilot said he was "unable to gain effective translational lift" and he attempted to land with a forward speed of 5 to 6 mph. He attempted to stop the helicopter but in doing so, "the tail skid struck the ground at the same time the skids did. Then the aircraft lurched forward, causing the main rotor to come in contact with the tail boom." The tail boom was severed and the skids were broken torsionally from the airframe.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to attain translational lift and his improper flare. A contributing factor in this accident was the sudden wind shift.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF

Findings

1. LIFT-OFF - PERFORMED - PILOT IN COMMAND
2. (F) WEATHER CONDITION - SUDDEN WINDSHIFT
3. (C) TRANSLATIONAL LIFT - NOT ATTAINED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings

4. (C) FLARE - IMPROPER - PILOT IN COMMAND
5. TERRAIN CONDITION - DOWNHILL

Factual Information

On September 12, 2007, approximately 1330 mountain daylight time, a Bell 57G-3B-1, N360SS, piloted by a commercial pilot, was substantially damaged during a hard landing near Avondale, Colorado. Visual meteorological conditions prevailed at the time of the accident. The aerial application flight was being conducted under the provisions of Title 14 CFR Part 137 without a flight plan. The pilot, the sole occupant on board, was not injured. The flight was originating at the time of the accident.

According to the pilot's statement, he was crop dusting a field approximately 17 miles south of Pueblo. He took off downhill with no wind. The wind shifted to the west to a tailwind of 10 to 12 knots. The pilot said he was "unable to gain effective translational lift" and he attempted to land with a forward speed of 5 to 6 mph. He attempted to stop the helicopter but in doing so, "the tail skid struck the ground at the same time the skids did. Then the aircraft lurched forward, causing the main rotor to come in contact with the tail boom." An examination of the helicopter revealed the tail boom was severed and the skids were broken torsionally from the airframe. The helicopter came to rest upright.

Pilot Information

Certificate:	Commercial	Age:	61, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	October 1, 2006
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 1, 2006
Flight Time:	27532 hours (Total, all aircraft), 1768 hours (Total, this make and model), 353 hours (Last 90 days, all aircraft), 88 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N360SS
Model/Series:	47G-3B-1	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	3696
Landing Gear Type:	High skid	Seats:	1
Date/Type of Last Inspection:	August 1, 2007 100 hour	Certified Max Gross Wt.:	2950 lbs
Time Since Last Inspection:	30 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	7396 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	TVO-435-B1A
Registered Owner:	Olathe Spray Service, Inc.	Rated Power:	265 Horsepower
Operator:		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	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 12 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	21°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Avondale, CO (NONE)	Type of Flight Plan Filed:	None
Destination:	Avondale, CO (NONE)	Type of Clearance:	None
Departure Time:	13:30 Local	Type of Airspace:	

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:	38.083332,-104.433334

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Steven R Scully; FAA Flight Standards District Office; Denver, CO
Original Publish Date:	December 20, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=66631

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