



Aviation Investigation Final Report

Location:	ARDMORE, Oklahoma	Accident Number:	FTW98LA400
Date & Time:	September 17, 1998, 09:15 Local	Registration:	N1575
Aircraft:	Bell 47-G-2	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The solo student pilot lost control of the aircraft after the tail rotor contacted the ground. Witnesses to the accident saw the aircraft spin around to the right after the tail rotor hit the ground. When the student pilot attempted to set the aircraft back down, the helicopter rolled on to its side. The winds at the time of the accident were reported to be calm.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilots failure to maintain clearance with terrain and the ensuing loss of control.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings

1. (F) TERRAIN CONDITION - GRASS
2. (C) CLEARANCE - NOT OBTAINED/MAINTAINED - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: HOVER

Findings

3. (C) DIRECTIONAL CONTROL - NOT OBTAINED/MAINTAINED - PILOT IN COMMAND

Occurrence #3: ROLL OVER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On September 17, 1998, at 0915 central daylight time, a Bell 47-G-2 helicopter, N1575, was substantially damaged following a loss of control while hovering at the Ardmore Downtown Executive Airport near Ardmore, Oklahoma. The solo student pilot was not injured. The helicopter was owned and operated by Versatile Helicopters Inc., of Ardmore, Oklahoma. Visual meteorological conditions prevailed and no flight plan was filed for the Title 14 CFR Part 91 local training flight which originated at 0825.

During an interview conducted by the FAA inspector, the operator of the helicopter said that during a takeoff to hover, the heels of the skids "sunk into the sod and brought the aircraft back, striking the tail rotor blades on the ground." The operator added that "one of the tail rotor blades departed the hub." The pilot stated that after the tail rotor hit, the helicopter "raised off the ground and started spinning to the right." The student pilot added that he, "attempted to level the helicopter by lowering the collective to bring the helicopter to the ground." The helicopter "hit the ground with the left skid and rolled over on to its left side." Winds at the time of the accident were reported to be calm.

Examination of the aircraft by the FAA inspector revealed that the tailboom was destroyed, the cabin sustained structural damage and both main rotor blades were damaged.

The student pilot had accumulated approximately 41 hours in the helicopter and was on his seventh solo flight at the time of the accident.

Pilot Information

Certificate:	Student	Age:	45, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	July 21, 1998
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	41 hours (Total, all aircraft), 12 hours (Total, this make and model), 4 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N1575
Model/Series:	47-G-2 47-G-2	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	57
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	September 8, 1998 100 hour	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:	50 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	13948 Hrs	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	VO-435-A1F
Registered Owner:	HELICOPTER SPRAYING INC.	Rated Power:	260 Horsepower
Operator:	VERSATILE HELICOPTERS INC.	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

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:	Scattered / 500 ft AGL	Visibility	3 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	50°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	22°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(1F0)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	09:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	ARDMORE DOWNTOWN EXECUTIV 1F0	Runway Surface Type:	Grass/turf
Airport Elevation:	840 ft msl	Runway Surface Condition:	Soft
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	5000 ft / 75 ft	VFR Approach/Landing:	Traffic pattern

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:	34.190227,-97.110504(est)

Administrative Information

Investigator In Charge (IIC):	Lupino, Nicole
Additional Participating Persons:	GARY BURNS; OKLAHOMA CITY , OK
Original Publish Date:	February 15, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=43956

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