Aviation Investigation Final Report

Location:	Cornelia, Georgia	**Accident Number:**	ATL05CA089
Date & Time:	May 26, 2005, 16:44 Local	**Registration:**	N681BC
Aircraft:	Hughes TH-55	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the pilot, the purpose of the flight was to film the construction of a local building. The helicopter was brought to a hover between 15-20 feet off of the ground in the parking lot of the building. The helicopter was air taxied to a grass field approximately 100 feet away. As the pilot began his takeoff run he approached a row of trees that were approximately 50 feet tall and was unable to gain altitude. He initiated a quick stop maneuver, and the tail rotor became entangled in high vegetation. The helicopter began to spin to the right, and collided with the ground and rolled over onto the left side. Examination of the helicopter revealed, that the tail boom separated from the fuselage, all main rotor blades were bent and damaged. The left skid was broken and loose. Review of the FAA rotorcraft flying handbook states: Rapid Deceleration (Quick Stop) should be conducted at an altitude high enough to avoid danger to the tail rotor during flare, but low enough to stay out of the crosshatched or shaded areas of the height/ velocity diagram throughout the maneuver. Review of the FAA rotorcraft flying handbook states: Rapid Deceleration (Quick Stop) should be conducted at an altitude high enough to avoid danger to the tail rotor during flare.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain adequate object clearance, which resulted in the in-flight collision with terrain, and the subsequent rollover.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - ABORTED

Findings
1. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - ABORTED

Findings
2. TERRAIN CONDITION - HIGH VEGETATION

Occurrence #3: ROLL OVER
Phase of Operation: OTHER

Factual Information

On May 26, 2005, at 1644 eastern daylight time, a Hughes TH-55, N681BC, registered and operated by private owner, collided with the ground during a quick stop maneuver Cornelia, Georgia. The personal flight was operated under the provisions of Title 14 CFR Part 91 with no flight plan filed. Visual meteorological conditions prevailed at the time of the accident. The helicopter sustained substantial damage, and the private pilot, and passenger was not injured. The flight originated from a field in Cornelia, Georgia on May 26, 2005, at 1630.

According to the pilot, the purpose of the flight was to videotape the construction of a local building. After the pilot loaded and secured the passenger in the helicopter, the pilot elected to position the helicopter to a grassy area for takeoff. The helicopter was brought to a hover between 15-20 feet off of the ground in the parking lot of the building. The helicopter was air taxied to a grassed field approximately 400 feet away. As the pilot began his takeoff run he approached a row of trees that were approximately 50 feet tall. When the pilot realized that the helicopter was not high enough to clear the tree line, he executed a quick stop maneuver. As the pilot maneuvered the helicopter, the tail rotor became entangled in high vegetation. The helicopter began to spin to the right, and collided with ground, and rolled over onto the left side.

Examination of the helicopter revealed, that the tail boom separated from the fuselage, all main rotor blades were bent and damaged. The left skid was broken and loose.

Review of weather data revealed light winds from the west and a temperature of 79 degrees Fahrenheit with a density altitude of 3274 feet. Review of the FAA rotorcraft flying handbook states: Rapid Deceleration (Quick Stop) should be conducted at an altitude high enough to avoid danger to the tail rotor during flare, but low enough to stay out of the crosshatched or shaded areas of the height/ velocity diagram throughout the maneuver.

Pilot Information

Certificate:	Private	**Age:**	59,Male
Airplane Rating(s):	None	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	March 1, 2004
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	300 hours (Total, all aircraft), 200 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	**Registration:**	N681BC
Model/Series:	TH-55	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	380808
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	January 1, 2005 Annual	**Certified Max Gross Wt.:**	1670 lbs
Time Since Last Inspection:	229 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	13534 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	180
Registered Owner:	Barry Church	**Rated Power:**	110 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GVL,1448 ft msl	**Distance from Accident Site:**	19 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	190°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	250°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.93 inches Hg	**Temperature/Dew Point:**	25°C / 9°C
Precipitation and Obscuration:			
Departure Point:	Cornelia, GA	**Type of Flight Plan Filed:**	None
Destination:	Cornelia, GA	**Type of Clearance:**	None
Departure Time:	16:30 Local	**Type of Airspace:**	

Airport Information

Airport:	HABERSHAM COUNTY AJR	**Runway Surface Type:**	
Airport Elevation:	1448 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	Unknown
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	34.505554,-83.554725

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric
Additional Participating Persons:	Charles G Venning; Atlanta FSDO; Atlanta, GA
Original Publish Date:	June 28, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=61693