



# Aviation Investigation Final Report

---

<b>Location:</b>	Cornelia, Georgia	<b>Accident Number:</b>	ATL05CA089
<b>Date &amp; Time:</b>	May 26, 2005, 16:44 Local	<b>Registration:</b>	N681BC
<b>Aircraft:</b>	Hughes TH-55	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	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

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

## Aircraft and Owner/Operator Information

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

## Meteorological Information and Flight Plan

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

## Airport Information

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

## Wreckage and Impact Information

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

## Administrative Information

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

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).