



Aviation Investigation Final Report

Location:	Sevierville, Tennessee	Accident Number:	CEN23LA358
Date & Time:	August 9, 2023, 10:00 Local	Registration:	N798MG
Aircraft:	ROBINSON HELICOPTER R22 BETA	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor and his student were practicing hovering autorotations over an asphalt taxiway. The flight instructor reported that during the third autorotation, he either did not completely roll the throttle into the spring-loaded override, or he inadvertently allowed the throttle to open while arresting the descent. The helicopter climbed to about 25 ft above ground level and then it entered an uncontrolled right spin. The flight instructor immediately communicated to the student pilot that he had taken over the flight controls but was unsure if the student pilot had fully relinquished the flight controls. The flight instructor maneuvered the helicopter over a grass field and initiated a hovering autorotation. The helicopter landed hard and spread the skids, which resulted in substantial damage to the fuselage. The flight instructor shutdown the helicopter and he and his student were able to egress without further incident. The flight instructor reported that there were no preaccident mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The flight instructor's improper flight control inputs during the practice hovering autorotation that resulted in a loss of control and impact with terrain.

Findings

Aircraft	Configuration - Not attained/maintained
Personnel issues	Incorrect action selection - Instructor/check pilot
Personnel issues	Aircraft control - Instructor/check pilot

Factual Information

History of Flight

Landing-flare/touchdown	Hard landing (Defining event)
Maneuvering-hover	Simulated/training event

Pilot Information

Certificate:	Commercial	Age:	41,Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Unknown
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	July 5, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 23, 2023
Flight Time:	(Estimated) 262.7 hours (Total, all aircraft), 201.7 hours (Total, this make and model), 203.6 hours (Pilot In Command, all aircraft), 76.2 hours (Last 90 days, all aircraft), 34.4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER	Registration:	N798MG
Model/Series:	R22 BETA	Aircraft Category:	Helicopter
Year of Manufacture:	1997	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2704
Landing Gear Type:	None; Skid	Seats:	2
Date/Type of Last Inspection:	July 20, 2023 100 hour	Certified Max Gross Wt.:	1370 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2591.7 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	O-360-J2A
Registered Owner:	Keepem Turnin LLC	Rated Power:	180 Horsepower
Operator:	Sevier County Aviation	Operating Certificate(s) Held:	On-demand air taxi (135), Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KDKX,833 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	10:15 Local	Direction from Accident Site:	291°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	24°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sevierville, TN	Type of Flight Plan Filed:	None
Destination:	Sevierville, TN	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Gatlinburg-Pigeon Forge Airport GKT	Runway Surface Type:	Asphalt
Airport Elevation:	1014 ft msl	Runway Surface Condition:	Dry
Runway Used:	10/28	IFR Approach:	None
Runway Length/Width:	5506 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	35.858226,-83.530029(est)

Administrative Information

Investigator In Charge (IIC): Galbraith, Damian

Additional Participating Persons: Joseph Patterson; FAA; Nashville, TN

Original Publish Date: January 10, 2024

Last Revision Date:

Investigation Class: [Class 4](#)

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=192839>

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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](#).