



# Aviation Investigation Final Report

<b>Location:</b>	Clarksville, Tennessee	<b>Accident Number:</b>	ERA23LA172
<b>Date &amp; Time:</b>	March 29, 2023, 12:15 Local	<b>Registration:</b>	N242JL
<b>Aircraft:</b>	HELICOPTERES GUIMBAL CABRI G2	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Dynamic rollover	<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

The flight instructor of the helicopter reported that the student pilot was taking his second lesson, learning to hover over a grass area at the airport. The flight instructor was operating the collective and anti-torque pedals, while the student pilot was operating the cyclic. The student pilot made an abrupt rearward movement with the cyclic. The flight instructor increased throttle and raised the collected to gain height; however, the right rear skid contacted the ground, resulting in a dynamic rollover. The flight instructor added that there were no preimpact mechanical malfunctions with the helicopter and that in the future, he should initiate hover training at a higher height. Examination of the helicopter by a Federal Aviation Administration inspector revealed substantial damage to the main rotor blades, fuselage, and tailboom.

## Probable Cause and Findings

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

The flight instructor's inadequate remedial action following an abrupt control input by the student pilot, which resulted in abnormal contact with the ground and a dynamic rollover.

## Findings

<b>Personnel issues</b>	Lack of action - Instructor/check pilot
<b>Aircraft</b>	Pitch control - Not attained/maintained

## Factual Information

### History of Flight

Maneuvering-hover	Dynamic rollover (Defining event)
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### Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	40,Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
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:	December 15, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	February 2, 2023
Flight Time:	320 hours (Total, all aircraft), 200 hours (Total, this make and model), 252 hours (Pilot In Command, all aircraft), 57 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

### Student pilot Information

Certificate:	Student	Age:	30,Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	2 hours (Total, all aircraft), 2 hours (Total, this make and model), 0 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	HELICOPTERES GUIMBAL	<b>Registration:</b>	N242JL
<b>Model/Series:</b>	CABRI G2	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	2023	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1319
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	March 22, 2023 Annual	<b>Certified Max Gross Wt.:</b>	1543 lbs
<b>Time Since Last Inspection:</b>	10 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	24 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	C126 installed, not activated	<b>Engine Model/Series:</b>	O-360
<b>Registered Owner:</b>	ROTOR LEASING LLC	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>	Austin Peay State University	<b>Operating Certificate(s) Held:</b>	Pilot school (141)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CKV,550 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	11:52 Local	<b>Direction from Accident Site:</b>	0°
<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>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	70°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.31 inches Hg	<b>Temperature/Dew Point:</b>	13°C / -2°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Clarksville, TN	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Clarksville, TN	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Outlaw Field CKV	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	549 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<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>	36.621861,-87.414944

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gretz, Robert
<b>Additional Participating Persons:</b>	Mike Salas; FAA/FSDO; Nashville, TN
<b>Original Publish Date:</b>	June 29, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=106977">https://data.nts.gov/Docket?ProjectID=106977</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](#).