



Aviation Investigation Final Report

Location:	Claremore, Oklahoma	Accident Number:	CEN24LA070
Date & Time:	November 8, 2023, 12:45 Local	Registration:	N522TF
Aircraft:	HELICOPTERES GUIMBAL CABRI G2	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot and flight instructor initiated a 90° practice autorotation. As the helicopter descended, the flight instructor took control of the helicopter to cushion the landing after the student pilot flared too high. During the attempted recovery, sufficient rotor speed was not maintained, and the helicopter experienced a hard landing. The helicopter sustained substantial damage to the tailboom. Both the student pilot and the flight instructor reported that there were no preaccident mechanical malfunctions or failures that would have precluded normal operations.

Probable Cause and Findings

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

The flight instructor’s failure to maintain sufficient rotor speed during a practice autorotation which resulted in a hard landing.

Findings

Personnel issues	Use of equip/system - Instructor/check pilot
Personnel issues	Delayed action - Instructor/check pilot
Aircraft	Landing flare - Not attained/maintained

Factual Information

History of Flight

Landing	Hard landing (Defining event)
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Flight instructor Information

Certificate:	Commercial; Flight instructor; Private	Age:	36, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	June 11, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 14, 2023
Flight Time:	1200 hours (Total, all aircraft), 350 hours (Total, this make and model), 600 hours (Pilot In Command, all aircraft), 182 hours (Last 90 days, all aircraft), 68 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Private	Age:	57, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	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:	January 16, 2023
Occupational Pilot:	No	Last Flight Review or Equivalent:	November 30, 2023
Flight Time:	161 hours (Total, all aircraft), 39 hours (Total, this make and model), 46 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HELICOPTERES GUIMBAL	Registration:	N522TF
Model/Series:	CABRI G2	Aircraft Category:	Helicopter
Year of Manufacture:	2022	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1314
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	August 11, 2023 Annual	Certified Max Gross Wt.:	1500 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	346 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-J2A
Registered Owner:	TRUFLIGHT HELICOPTER ACADEMY LLC	Rated Power:	165 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	,733 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	12:35 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:		Visibility	
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	16 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:		Temperature/Dew Point:	0°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Owasso, OK (O38)	Type of Flight Plan Filed:	None
Destination:	Claremore, OK	Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	Avian Country Estates Airport OK15	Runway Surface Type:	Grass/turf
Airport Elevation:	750 ft msl	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	2600 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	36.376111,-95.705278(est)

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	David Robinson; FAA FSDO ; Oklahoma City, OK
Original Publish Date:	April 19, 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=193547

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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](#).