Aviation Investigation Final Report

Location:	Grand Forks, North Dakota	**Accident Number:**	CEN24LA343
Date & Time:	September 6, 2024, 10:30 Local	**Registration:**	N896J
Aircraft:	ROBINSON HELICOPTER R44	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that she was teaching her student to hover as part of a flight lesson. She transferred the flight controls to her student but continued to monitor the cyclic, collective, and tail rotor controls. The helicopter drifted aft and to the right while pitching nose up, as the student increased aft cyclic. The flight instructor attempted to correct by increasing forward cyclic but the tail struck the ground. The flight instructor stated that the helicopter began to violently vibrate, and she heard a grinding noise. As she lowered the collective, the helicopter impacted the ground, and the right skid broke off. The helicopter rolled over and came to rest on its right side, sustaining substantial damage to the main rotor system, tail boom, and tail rotor system.

The flight instructor reported that there were no preimpact mechanical failures or malfunctions 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 student pilot's failure to maintain helicopter control which resulted in impact with the ground. Contributing to the outcome was the flight instructor's delayed remedial action.

Findings

Aircraft	(general) - Not attained/maintained
Personnel issues	Aircraft control - Student/instructed pilot
Personnel issues	Delayed action - Instructor/check pilot

Factual Information

History of Flight

Maneuvering-hover	Loss of control in flight (Defining event)
Maneuvering-hover	Attempted remediation/recovery
Maneuvering-hover	Collision with terr/obj (non-CFIT)

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	21,Female
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	3-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	January 16, 2024
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 454.9 hours (Total, all aircraft), 49.4 hours (Total, this make and model), 315.8 hours (Pilot In Command, all aircraft), 28.3 hours (Last 90 days, all aircraft), 5.9 hours (Last 30 days, all aircraft), 1.2 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	**Age:**	19,Female
Airplane Rating(s):	None	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-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:**	August 6, 2024
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 3.9 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER	**Registration:**	N896J
Model/Series:	R44	**Aircraft Category:**	Helicopter
Year of Manufacture:	2022	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30086
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	May 29, 2024 100 hour	**Certified Max Gross Wt.:**	2200 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1191.8 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	O-540-FIB5
Registered Owner:	UNIVERSITY OF NORTH DAKOTA	**Rated Power:**	260 Horsepower
Operator:	UNIVERSITY OF NORTH DAKOTA	**Operating Certificate(s) Held:**	Pilot school (141)
Operator Does Business As:		**Operator Designator Code:**	OG5S

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GFK,832 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	10:30 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Few / 6000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	Unknown / None
Wind Direction:	10°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.31 inches Hg	**Temperature/Dew Point:**	16°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Grand Forks, ND (GFK)	**Type of Flight Plan Filed:**	None
Destination:	Grand Forks, ND (GFK)	**Type of Clearance:**	VFR
Departure Time:	09:30 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Grand Forks International Airport GFK	**Runway Surface Type:**	
Airport Elevation:	845 ft msl	**Runway Surface Condition:**	Dry
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	47.947278,-97.173778(est)

Administrative Information

Investigator In Charge (IIC):	Maxon, Cory
Additional Participating Persons:	Shawn McClain; FAA; Fargo, ND
Original Publish Date:	January 10, 2025
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=195081