



Aviation Investigation Final Report

Location:	Auburn, Washington	Accident Number:	WPR22LA220
Date & Time:	June 18, 2022, 16:23 Local	Registration:	N944BC
Aircraft:	ROBINSON HELICOPTER COMPANY R44 II	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor was providing initial flight training to the student. After completing hover and pattern work, they transitioned to a raised grass helicopter practice pad on the airport. After the student completed a successful set-down, the instructor asked him to lift the helicopter into a hover. As the helicopter lifted off the ground, it began to move aft, and the instructor applied forward cyclic. However, the helicopter continued, and he felt the right skid touch the ground. The helicopter then started to roll, and sensing that this could be the beginning of a dynamic rollover event, he reduced collective pitch control, however the helicopter yawed to the left and rolled over. The fuselage and tailboom were substantially damaged. The pilot reported that there were no mechanical failures or malfunctions 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 student pilot’s loss of helicopter control and the flight instructor’s delayed remedial action while providing hover training which resulted in a dynamic rollover.

Findings

Personnel issues	Aircraft control - Student/instructed pilot
Personnel issues	Monitoring other person - Instructor/check pilot
Personnel issues	Delayed action - Instructor/check pilot
Environmental issues	Soft surface - Effect on equipment

Factual Information

History of Flight

Maneuvering-hover	Loss of control in flight (Defining event)
Maneuvering-hover	Dynamic rollover

Pilot Information

Certificate:	Commercial; Flight instructor; Private	Age:	44, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	Helicopter	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	October 18, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 14, 2022
Flight Time:	530 hours (Total, all aircraft), 132 hours (Total, this make and model)		

Student pilot Information

Certificate:	None	Age:	13, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	None None	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	5 hours (Total, all aircraft), 4 hours (Total, this make and model), 4 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER COMPANY	Registration:	N944BC
Model/Series:	R44 II	Aircraft Category:	Helicopter
Year of Manufacture:	2013	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	13484
Landing Gear Type:	None; Skid	Seats:	4
Date/Type of Last Inspection:	March 1, 2022 Annual	Certified Max Gross Wt.:	2500 lbs
Time Since Last Inspection:	35 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1349.8 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	IO-540-AE1A5
Registered Owner:		Rated Power:	245 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:	KSEA,369 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	16:53 Local	Direction from Accident Site:	334°
Lowest Cloud Condition:	Few / 3700 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 5000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	16°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Auburn, WA	Type of Flight Plan Filed:	None
Destination:	Auburn, WA	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	AUBURN MUNI S50	Runway Surface Type:	
Airport Elevation:	63 ft msl	Runway Surface Condition:	Soft;Vegetation
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	47.324274,-122.22765

Administrative Information

Investigator In Charge (IIC):	Simpson, Elliott		
Additional Participating Persons:	Rod Ziegler; FAA FSDO; Seattle		
Original Publish Date:	November 3, 2022	Investigation Class:	4
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=105294		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).