



# National Transportation Safety Board Aviation Accident Factual Report

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<b>Location:</b>	Sanford, ME	<b>Accident Number:</b>	ERA19LA287
<b>Date &amp; Time:</b>	09/28/2019, 1035 EDT	<b>Registration:</b>	N21EH
<b>Aircraft:</b>	Robinson R44	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Instructional		

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On September 28, 2019, about 1035 eastern daylight time, a Robinson R44 helicopter, N21EH, was substantially damaged when it impacted the ground while taxiing at Sanford Seacoast Regional Airport (SFM), Sanford, Maine. The pilot sustained serious injuries. The solo instructional flight was conducted under Title 14 *Code of Federal Regulations* Part 91. Day, visual meteorological conditions prevailed, and no flight plan was filed. The flight originated at Laconia Municipal Airport (LCI), Laconia, New Hampshire about 1000.

A witness reported that the helicopter was taxiing about 15 ft above a taxiway when it began to spin at a high rate of speed. The helicopter then went vertical and crashed nose first in the grass, adjacent to the paved surface. Another witness observed the helicopter enter a spin to the left, then to the right before going vertical into the ground. A third witness reported that the weather was "clear but windy." The witnesses were met by first responders and assisted the pilot at the scene.

An inspector with the Federal Aviation Administration responded to the accident site and examined the wreckage. Substantial damage was noted on the main rotor blades, tail rotor assembly, and fuselage. There was no fire. The inspector reported that the pilot was completing a three-leg cross-country flight when the accident occurred. He was receiving instruction on the R44 and was not rated in helicopters. The pilot was asked on two occasions during his recovery about the circumstances of the accident; he had no recollection of the event.

The wreckage was recovered to a storage facility for further examination. The nose of the helicopter was crushed in a manner consistent with a nose-low impact with the ground. The tail boom was partially separated from the airframe. The engine was secured to the airframe. The main rotor system remained attached and the blades were impact-damaged along the length of both blades. Flight control continuity was established from the main and tail rotor assemblies to the cockpit. Both tail rotor blades remained attached to the tail rotor system.

The engine received minor damage during the accident sequence and test run on the airframe. The engine started immediately and was operated for about 1 minute before it was shut down.

No mechanical anomalies were noted that would have precluded normal operation of the airframe or engine.

At 1056, the recorded wind at SFM was variable at 4 knots; however, witnesses reported that at the time of the accident, the wind had "picked up" and there were "gusts."

### Student Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	50, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	04/19/2019
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	222 hours (Total, all aircraft), 44 hours (Total, this make and model)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Robinson	<b>Registration:</b>	N21EH
<b>Model/Series:</b>	R44 Undesignat	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	2000	<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	0881
<b>Landing Gear Type:</b>	Skid;	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	09/18/2019, Annual	<b>Certified Max Gross Wt.:</b>	2401 lbs
<b>Time Since Last Inspection:</b>	17 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1886 Hours as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-540-F1B5
<b>Registered Owner:</b>	Southern Maine Helicopter Llc	<b>Rated Power:</b>	225 hp
<b>Operator:</b>	York County Helicopters	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	York County Helicopters	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	SFM, 244 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1056 EDT	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	Variable	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	20° C / 14° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Laconia, NH (LCI)	Type of Flight Plan Filed:	None
Destination:	Sanford, ME (SFM)	Type of Clearance:	None
Departure Time:	1000 EDT	Type of Airspace:	Class G

## Airport Information

Airport:	Sanford Seacoast Regional (SFM)	Runway Surface Type:	N/A
Airport Elevation:	244 ft	Runway Surface Condition:	Dry
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	43.393889, -70.708056 (est)

## Administrative Information

Investigator In Charge (IIC):	Ralph E Hicks
Additional Participating Persons:	Dennis Tremblay; FAA/FSDO; Portland, ME Hannah Warren; Robinson Helicopter; Torrance, CA James Childers; Lycoming Engines; Williamsport, PA
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=100346">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=100346</a>