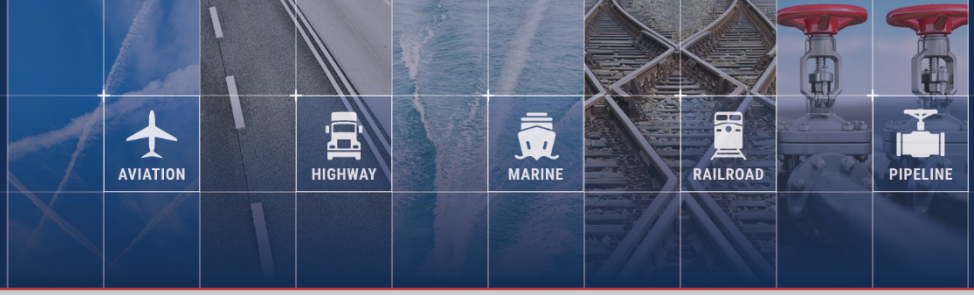

Aviation Investigation Final Report

Location:	Livonia, New York	**Accident Number:**	ERA23LA157
Date & Time:	March 21, 2023, 13:30 Local	**Registration:**	N73905
Aircraft:	Bell 47G-2A-1	**Aircraft Damage:**	Substantial
Defining Event:	Abnormal runway contact	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During a practice autorotation with a tail wind, the pilot began the maneuver and the helicopter initially lost airspeed; the pilot immediately corrected with forward cyclic input, which also increased his descent rate. The higher than normal descent rate continued, and he began the power recovery earlier than normal. Shortly before touchdown, the pilot noticed a slope in the terrain with the rising side to his aft. The helicopter continued to descend and the helicopter's tail rotor contacted the ground during the landing flare. The resulting impact resulted in a loss of control and substantial damage to the tail boom and tail rotor. The pilot stated that there were no preimpact malfunctions or failures of 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 pilot's delayed action to arrest the high descent rate during a practice autorotation in tailwind conditions which ultimately resulted in loss of control.

Findings

Aircraft	Descent rate - Not attained/maintained
Personnel issues	Delayed action - Pilot

Factual Information

History of Flight

Landing-flare/touchdown	Abnormal runway contact (Defining event)

Pilot Information

Certificate:	Airline transport	**Age:**	62,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	February 10, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 20000 hours (Total, all aircraft), 460 hours (Total, this make and model)		

Student pilot Information

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

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	**Registration:**	N73905
Model/Series:	47G-2A-1	**Aircraft Category:**	Helicopter
Year of Manufacture:	1963	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	2860
Landing Gear Type:	None; Skid	**Seats:**	3
Date/Type of Last Inspection:	July 3, 2022 Annual	**Certified Max Gross Wt.:**	2950 lbs
Time Since Last Inspection:	10 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	9400 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	VO-435
Registered Owner:	FROST HOLLOW HELICOPTER LLC	**Rated Power:**	220 Horsepower
Operator:	FROST HOLLOW HELICOPTER LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ROC,540 ft msl	**Distance from Accident Site:**	18 Nautical Miles
Observation Time:	13:54 Local	**Direction from Accident Site:**	347°
Lowest Cloud Condition:	Scattered / 9000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	14 knots / 25 knots	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.3 inches Hg	**Temperature/Dew Point:**	11°C / -4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Livonia, NY	**Type of Flight Plan Filed:**	
Destination:	Livonia, NY	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	42.826067,-77.585174(est)

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Anthony Luttrell; FAA/FSDO; Rochester, NY
Original Publish Date:	June 23, 2023
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=106929