Aviation Investigation Final Report

Location:	Crestview, Florida	**Accident Number:**	ERA24LA215
Date & Time:	May 10, 2024, 15:25 Local	**Registration:**	N969VS
Aircraft:	Hughes 369	**Aircraft Damage:**	Substantial
Defining Event:	Hard landing	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

On the day of the accident, the pilot had been practicing autorotations. The first was a power-on autorotation to the ground, followed by two hovering autorotations, all of which were uneventful. The pilot then briefed and set up for a power off autorotation to the ground. The entry began at 600 ft above ground level (agl) and the glide was normal. He set up a 70-knot glide speed and added collective to keep the rotor at 480 rpm. The helicopter was heavy with fuel and the added pilot-rated passenger, so the decent was faster than anticipated. The pilot reported that at 40 ft agl, he accomplished an “auto-rotative flare attitude” and that the “flare was not aggressive enough for the weight,” and as a result, he held the flare longer than usual. The ground speed bled off, but the leveling of the helicopter was not accomplished in a timely manner. The tail skid contacted the ground hard and the main rotor blades flexed down resulting in contact with the tail boom and the fuselage behind the rotor head. The helicopter’s tailboom and main rotor blades were substantially damaged. The pilot reported that there were no pre-accident mechanic malfunctions or failures 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 pilot’s improper flare, which resulted in a hard landing and the main rotor blades contacting the tail boom.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Landing flare - Not attained/maintained

Factual Information

History of Flight

Autorotation	Hard landing (Defining event)

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	61,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Instrument helicopter	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	September 18, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 20, 2023
Flight Time:	9719 hours (Total, all aircraft), 219 hours (Total, this make and model), 8026 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft)		

Pilot-rated passenger Information

Certificate:	Airline transport; Flight instructor	**Age:**	64,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	September 5, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	January 25, 2023
Flight Time:	10790 hours (Total, all aircraft), 73 hours (Total, this make and model), 8628 hours (Pilot In Command, all aircraft), 18 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	**Registration:**	N969VS
Model/Series:	369 D	**Aircraft Category:**	Helicopter
Year of Manufacture:	1980	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1100833D
Landing Gear Type:	High skid	**Seats:**	4
Date/Type of Last Inspection:	December 4, 2023 100 hour	**Certified Max Gross Wt.:**	3000 lbs
Time Since Last Inspection:	14.2 Hrs	**Engines:**	1 Turbo shaft
Airframe Total Time:	17976.8 Hrs at time of accident	**Engine Manufacturer:**	Rolls Royce
ELT:		**Engine Model/Series:**	250-C20B
Registered Owner:	VERTOL SYSTEMS CO INC	**Rated Power:**	420 Horsepower
Operator:	VERTOL SYSTEMS CO INC	**Operating Certificate(s) Held:**	Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CEW,155 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	120°
Lowest Cloud Condition:	Scattered / 1900 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 2400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	27°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Crestview, FL	**Type of Flight Plan Filed:**	None
Destination:	Crestview, FL	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class E

Airport Information

Airport:	BOB SIKES CEW	**Runway Surface Type:**	
Airport Elevation:	213 ft msl	**Runway Surface Condition:**	Dry;Soft;Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Simulated forced landing

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:**	30.777641,-86.52027(est)

Administrative Information

Investigator In Charge (IIC):	Enders, Ryan
Additional Participating Persons:	Clayton Caessens; FAA/FSDO; Burmingham, AL
Original Publish Date:	June 21, 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=194239