



Aviation Investigation Final Report

Location:	Lago Vista, Texas	Accident Number:	CEN25LA084
Date & Time:	November 11, 2024, 10:50 Local	Registration:	N1243Y
Aircraft:	BELL HELICOPTER TEXTRON CANADA 505	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

While conducting an instructional flight, the flight instructor reported that he and the student pilot were practicing straight-in autorotation approaches in the helicopter with a power recovery. The helicopter was configured with a throttle control switch rather than a twistable throttle control. During the fifth autorotation approach, the flight instructor forgot to move the throttle control from “Idle” to “Fly” prior to flaring the helicopter. The helicopter descended and landed hard on the runway. During the hard landing, the helicopter sustained substantial damage to the tailboom. The flight instructor reported that there were no mechanical malfunctions or failures that contributed to the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The flight instructor’s improper recovery from a practice autorotation which resulted in a hard landing.

Findings

Aircraft

Powerplant parameters - Incorrect use/operation

Factual Information

History of Flight

Approach	Simulated/training event
Autorotation	Hard landing (Defining event)

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	53,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	5-point
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	August 28, 2024
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 15, 2024
Flight Time:	9160 hours (Total, all aircraft), 83.8 hours (Total, this make and model), 6000 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 80 hours (Last 30 days, all aircraft), 4.4 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	42,Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	None	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	120 hours (Total, all aircraft), 7.3 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL HELICOPTER TEXTRON CANADA	Registration:	N1243Y
Model/Series:	505	Aircraft Category:	Helicopter
Year of Manufacture:	2018	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	65137
Landing Gear Type:	High skid	Seats:	5
Date/Type of Last Inspection:	October 10, 2024 100 hour	Certified Max Gross Wt.:	3680 lbs
Time Since Last Inspection:		Engines:	1 Turbo shaft
Airframe Total Time:	366.4 Hrs at time of accident	Engine Manufacturer:	Safran
ELT:	Not installed	Engine Model/Series:	Arrius 2R
Registered Owner:	TURBINES LTD	Rated Power:	492 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:	KRYW	Distance from Accident Site:	0 Nautical Miles
Observation Time:	09:30 Local	Direction from Accident Site:	-1°
Lowest Cloud Condition:		Visibility	8 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.1 inches Hg	Temperature/Dew Point:	25°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lago Vista, TX	Type of Flight Plan Filed:	None
Destination:	Lago Vista, TX	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	LAGO VISTA TX/RUSTY ALLEN RYW	Runway Surface Type:	Asphalt
Airport Elevation:	1230 ft msl	Runway Surface Condition:	
Runway Used:	33	IFR Approach:	None
Runway Length/Width:	3800 ft / 50 ft	VFR Approach/Landing:	Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	30.498583,-97.969472(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Joshua Smith; FAA FSDO; San Antonio, TX
Original Publish Date:	February 12, 2025
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=199574

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).