



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Fowlerton, Texas	Accident Number:	CEN23LA086
Date & Time:	January 10, 2023, 12:40 Local	Registration:	N811S
Aircraft:	ROBINSON HELICOPTER R44	Aircraft Damage:	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Aerial observation		

Analysis

The pilot reported that the flight's purpose was to guide cattle while at low altitude. During a turn with trees in the vicinity, the pilot heard a noise and felt a bump in the flight controls. The helicopter began to spin uncontrollably and impacted terrain, which resulted in substantial damage to the main rotor system, tail rotor system, fuselage, and tail boom.

Examination revealed that the tail rotor gear box and tail rotor (TR) blades were separated from the helicopter. The gear box housing fracture surfaces were consistent with overload. The size/shape of the dents and tree debris lodged in the leading edge of the TR blades was consistent with the size/shape of the tree branches that were broken.

The pilot reported that there were no preaccident mechanical malfunctions or failures 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 failure to maintain clearance with trees, which resulted in an uncontrollable spin due to tail rotor damage.

Findings

Personnel issues	Monitoring environment - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Tree(s) - Contributed to outcome

Factual Information

History of Flight

Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT) (Defining event)
-----------------------------------	---

Pilot Information

Certificate:	Commercial	Age:	67,Male
Airplane Rating(s):	None	Seat Occupied:	Front
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	Helicopter	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	October 14, 2022
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 14, 2021
Flight Time:	36920 hours (Total, all aircraft), 3500 hours (Total, this make and model), 128 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER	Registration:	N811S
Model/Series:	R44	Aircraft Category:	Helicopter
Year of Manufacture:	2020	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	30072
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	October 28, 2022 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	691 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	0540F-1B5
Registered Owner:	SMITH HELICOPTERS INC	Rated Power:	210
Operator:	SMITH HELICOPTERS INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KCOT,472 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	18:53 Local	Direction from Accident Site:	296°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	24°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cotulla, TX (PRI)	Type of Flight Plan Filed:	None
Destination:	Cotulla, TX (PRI)	Type of Clearance:	None
Departure Time:	10:30 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	28.255431,-98.739375(est)

Administrative Information

Investigator In Charge (IIC):	Folkerts, Michael
Additional Participating Persons:	Keenon Wood; Flight Standards District Office; San Antonio, TX
Original Publish Date:	March 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.nts.gov/Docket?ProjectID=106607

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](#).