



Aviation Investigation Final Report

Location:	De Kalb, Texas	Accident Number:	CEN23LA130
Date & Time:	March 11, 2023, 15:30 Local	Registration:	N4164T
Aircraft:	ROBINSON HELICOPTER R44	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Serious, 1 Minor, 2 None
Flight Conducted Under:	Part 91: General aviation - Aerial observation		

Analysis

The flight was conducted to hunt feral hogs. The pilot reported that a group of hogs had entered a large field, and he lowered the collective to maneuver the helicopter closer. When he lowered the collective, he perceived a loss of engine and rotor speed. The helicopter immediately began to lose lift. Once the pilot realized that he could not recover the helicopter, he attempted a running (skid-on) landing. However, the landing skids got stuck in the muddy field, the helicopter rocked forward, and the main rotor blades struck the ground causing the aircraft to roll over.

The pilot reported the low rotor speed warning did not activate when the rotor speed started to decay. He also stated that all required preflight checklists were complied with before the flight began and no anomalies were noted.

A postrecovery examination was unremarkable with exception of the low rotor warning system, which was not operational at the time of the examination. Specifically, the warning system did not activate when the collective control was brought off the low pitch stop and increased to full travel. The reason for the failure of the low rotor warning system was not determined.

Probable Cause and Findings

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

The pilot's inability to maintain control of the helicopter due to his failure to maintain rotor speed. Contributing to the accident was the failure of the helicopter's low rotor speed warning system.

Findings

Personnel issues	Aircraft control - Pilot
Personnel issues	Use of equip/system - Pilot
Aircraft	Central warning - Inoperative

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Maneuvering-low-alt flying	Sys/Comp malf/fail (non-power)
Emergency descent	Collision with terr/obj (non-CFIT)

On March 11, 2023, about 1530 central standard time, a Robinson Helicopter R-44, N4164T, was substantially damaged when it was involved in an accident near De Kalb, Texas. The pilot and one passenger were not injured, a second passenger sustained minor injuries, and a third passenger was seriously injured. The helicopter was operated as a Title 14 *Code of Federal Regulations* Part 91 aerial observation flight.

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The helicopter sustained damage to the fuselage, main rotor blades, and tail boom. The aft portion of the tail boom, with the tail rotor assembly attached, was separated from the remainder of the airframe. It was located adjacent to the fuselage at the accident site.

Postrecovery airframe and engine examinations, which included an 8-minute engine run, did not reveal any evidence of an in-flight structural failure, a flight control malfunction, or an inability of the engine to produce rated power. Although, the separated portion of the tail boom and tail rotor assembly were present at the accident site, they were not with the wreckage when recovered.

The postrecovery examinations were unremarkable with exception of the low rotor warning system, which was not operational at the time of the examination. Specifically, the warning system did not activate when the collective control was brought off the low pitch stop and increased to full travel. The low rotor warning indicator bulb illuminated, and the warning horn

emitted an audible sound when electrical current was applied. The reason for the failure of the low rotor warning system was not determined.

Pilot Information

Certificate:	Private	Age:	38, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	May 20, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	November 2, 2022
Flight Time:	1972 hours (Total, all aircraft), 355 hours (Total, this make and model), 1750 hours (Pilot In Command, all aircraft), 135 hours (Last 90 days, all aircraft), 70 hours (Last 30 days, all aircraft), 10 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER	Registration:	N4164T
Model/Series:	R44	Aircraft Category:	Helicopter
Year of Manufacture:	2008	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1882
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	December 10, 2022 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:	16.9 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2065.3 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-540-F1B5
Registered Owner:	HOTEL SIERRA AVIATION LLC	Rated Power:	260 Horsepower
Operator:	HOTEL SIERRA AVIATION LLC	Operating Certificate(s) Held:	None
Operator Does Business As:	N/A	Operator Designator Code:	N/A

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KTXK,390 ft msl	Distance from Accident Site:	31 Nautical Miles
Observation Time:	15:53 Local	Direction from Accident Site:	95°
Lowest Cloud Condition:	Scattered / 2000 ft AGL	Visibility	9 miles
Lowest Ceiling:	Broken / 2700 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots / 0 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.62 inches Hg	Temperature/Dew Point:	22°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Haworth, OK (PVT)	Type of Flight Plan Filed:	None
Destination:	Haworth, OK (PVT)	Type of Clearance:	None
Departure Time:	15:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	N/A N/A	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	Standing water;Vegetation
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 1 Minor, 1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor, 2 None	Latitude, Longitude:	33.658,-94.6375

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Jimenez Perez; FAA Flight Standards; Irving, TX
Original Publish Date:	January 2, 2025
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=106877

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](#).