



Aviation Investigation Final Report

Location:	Galveston, Texas	Accident Number:	CEN25LA067
Date & Time:	December 31, 2024, 12:20 Local	Registration:	N441HQ
Aircraft:	ROBINSON HELICOPTER R44	Aircraft Damage:	Substantial
Defining Event:	Dynamic rollover	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

Due to recent precipitation in the area, the heliport, consisting of a flat grass, artificial turf and dirt field, was soft. The private heliport, that is equipped with a windsock, is located about 800 ft away from the Gulf of Mexico. Due to the soft ground conditions, the operator's fuel truck was parked farther away from the helipad. The pilot reported the purpose of the flight was to reposition the helicopter from the current helipad to another helipad at the heliport, to be near the fuel truck to obtain fuel. At the time of the takeoff, the pilot reported the wind condition originating from about 340°, was 16 to 18 kts, with gusts of 25 to 26 kts. As the pilot initiated the takeoff from the artificial turf helipad with the helicopter oriented to the north, the pilot reported the wind "helped push" the helicopter slightly rearward. During the rearward movement, the right skid extension became embedded in the artificial turf, the helicopter entered a dynamic rollover sequence, and the helicopter came to rest on its right side. The pilot was able to egress from the front right seat via the fractured windshield.

The helicopter sustained substantial damage to the main rotor system, the fuselage, the tailcone, and the empennage. The pilot reported there were no preimpact mechanical malfunctions or failures with the airframe or the engine that would have precluded normal operation. According to the airframe manufacturer, there are no published wind limitations for starting and takeoff, however, in ground effect hover controllability has been substantiated in a 17 kt wind from any direction up to 9,600 ft density altitude. The operator did not have any published wind limitations for starting and takeoff, however the operator reported that the wind condition is typically 15 to 25 kts at the heliport. A review of the Federal Aviation Administration (FAA) Advisory Circular 150/5390-2D Heliport Design did not find any published guidance on the usage of artificial turf at heliports, nor was any published guidance found in the FAA Helicopter Flying Handbook FAA-H-8083-21B regarding artificial turf hazards with dynamic rollover.

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 terrain clearance during the takeoff from the helipad in high and gusting wind conditions, that resulted in the right skid extension embedding in the artificial turf, and a subsequent dynamic rollover sequence.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Gusts - Effect on equipment
Environmental issues	High wind - Effect on equipment
Aircraft	Aux gear (tail/rotorcft skid) - Damaged/degraded
Environmental issues	Soft surface - Effect on equipment

Factual Information

History of Flight

Takeoff	Other weather encounter
Takeoff	Dynamic rollover (Defining event)
Takeoff	Collision during takeoff/land
Post-impact	Evacuation

Pilot Information

Certificate:	Commercial; Remote	Age:	32, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	January 17, 2024
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 20, 2024
Flight Time:	(Estimated) 550.4 hours (Total, all aircraft), 474.8 hours (Pilot In Command, all aircraft), 103.1 hours (Last 90 days, all aircraft), 51.8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER	Registration:	N441HQ
Model/Series:	R44 NO SERIES	Aircraft Category:	Helicopter
Year of Manufacture:	2002	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1155
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	December 6, 2024 100 hour	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3878.24 Hrs at time of accident	Engine Manufacturer:	Lycoming Engines
ELT:		Engine Model/Series:	O-540-F1B5
Registered Owner:	Spitzer Helicopter, LLC	Rated Power:	260 Horsepower
Operator:	Galveston Helicopter Adventures, LLC	Operating Certificate(s) Held:	Certificate of authorization or waiver (COA)
Operator Does Business As:	Galveston Helicopter Adventures, LLC	Operator Designator Code:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KGLS,9 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	11:52 Local	Direction from Accident Site:	248°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	17 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.01 inches Hg	Temperature/Dew Point:	19°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Galveston, TX	Type of Flight Plan Filed:	None
Destination:	Galveston, TX	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Private Heliport None	Runway Surface Type:	Grass/turf
Airport Elevation:	10 ft msl	Runway Surface Condition:	Dry;Soft;Vegetation
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:	0 ft / 0 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	29.30454,-94.771416(est)

Administrative Information

Investigator In Charge (IIC):	Hodges, Michael
Additional Participating Persons:	Timothy Sexton; FAA Houston FSDO; Houston, TX
Original Publish Date:	January 30, 2025
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=199496

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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](#).