



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Terra Alta, West Virginia	Accident Number:	ERA23LA307
Date & Time:	July 21, 2023, 11:05 Local	Registration:	N9913K
Aircraft:	Bell 206	Aircraft Damage:	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	Injuries:	2 Serious
Flight Conducted Under:	Part 91: General aviation - Aerial observation		

Analysis

The pilot was operating the helicopter near maximum gross weight about 400 ft above ground level, following the terrain for an aerial observation flight. About 10 seconds into a descent, over a hilltop toward the next power transmission line, the helicopter encountered a strong tailwind. Noting a loss of airspeed, the pilot lowered the collective to gain airspeed; however, the helicopter continued to slow and descend. The pilot further lowered the collective and pushed the cyclic forward, but this was ineffective in increasing the helicopter's airspeed. Given the low operating profile in the confined surveying location between power transmission lines and trees, the pilot did not have adequate space to compensate for the tailwind condition or turn the helicopter into the wind. Consequently, the helicopter continued to descend until it impacted the ground.

The pilot reported that there were no preimpact mechanical malfunctions or failures of the helicopter that would have precluded normal operation and stated (and a review of meteorological data confirmed) that the stronger than anticipated tailwinds arrived before the forecasted time.

Probable Cause and Findings

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

The pilot's inability to maneuver the helicopter for recovery after experiencing a strong, unanticipated tailwind in a confined operating area, which resulted in a descent and subsequent impact with terrain.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Airspeed - Attain/maintain not possible
Environmental issues	Tailwind - Effect on operation

Factual Information

History of Flight

Maneuvering-low-alt flying	Other weather encounter
Uncontrolled descent	Collision with terr/obj (non-CFIT) (Defining event)

On July 21, 2023, about 1105 eastern daylight time, a Bell 206B, N9913K, was substantially damaged when it was involved in an accident near Terra Alta, West Virginia. The pilot and a crewmember sustained serious injuries. The helicopter was operated as a Title 14 *Code of Federal Regulations* Part 91 aerial observation flight.

The pilot and equipment operator departed Morgantown Municipal Airport/Walter L Bill Hart Field (MGW), Morgantown, West Virginia, about 1039 to survey power transmission lines in the local area. The pilot was operating the helicopter near its maximum gross weight, at an altitude of 400 to 450 ft above ground level, and an airspeed of 45 knots. After completing one survey line, they topped a hill and were about 10 seconds into their descent, following the terrain toward the next power transmission line, when the pilot felt a "push." According to the pilot, the helicopter's airspeed started to drop due to a tailwind, so he gently lowered the collective. The helicopter continued to descend and he noted that the airspeed had bled off to a value below effective translational lift. He pushed the cyclic forward for airspeed and further lowered the collective, with about 85% power applied; however, the helicopter continued to lose altitude and the helicopter's proximity to the power transmission lines and trees prevented him from being able to turn the helicopter into the wind to recover. Realizing that he could not recover, he hugged the tree line to avoid hitting the power lines. When the helicopter dropped below the trees, he pulled up on the collective to cushion the landing. The helicopter impacted the ground skids first and swung to the right. The pilot reported that he did not experience any mechanical malfunctions or failures with the helicopter during the accident flight.

Examination of the accident site by a Federal Aviation Administration inspector revealed that the helicopter came to rest on its right side between the trees and the power transmission lines. Examination of the wreckage revealed that the cockpit was crushed, the skids had separated, and the main rotor had sheared off at the shaft.

When asked about the weather that day, the pilot responded that they were not expecting that weather at that hour, and that the high wind had not been forecast to begin until 2 1/2 hours later. He added that they never flew if the gusts were greater than 15 knots. He was later informed that at the time of the accident the wind was gusting between 15 and 20 knots.

The 1105 automated weather report from Garrett County Airport (2G4), Oakland, Maryland, located about 16 miles northeast of the accident site, included variable wind of 6 knots gusting

to 13 knots. The Terminal Aerodrome Forecast (TAF) issued for MGW included westerly wind at 6 knots, increasing to 8 knots gusting to 16 knots at 1300. A High-Resolution Rapid Refresh (HRRR) model obtained from the NOAA Air Resource laboratory for the accident site area at 1100 indicated a surface wind from 290° at 9 knots with potential gusts to 15 knots.

Pilot Information

Certificate:	Commercial	Age:	32, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	September 30, 2022
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 28, 2023
Flight Time:	1389 hours (Total, all aircraft), 177 hours (Total, this make and model), 1337 hours (Pilot In Command, all aircraft), 123 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft)		

Cabin crew Information

Certificate:	None	Age:	41, Male
Airplane Rating(s):	None	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	None	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N9913K
Model/Series:	206 B	Aircraft Category:	Helicopter
Year of Manufacture:	1976	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2055
Landing Gear Type:	None; Skid	Seats:	5
Date/Type of Last Inspection:	July 8, 2023 100 hour	Certified Max Gross Wt.:	3200 lbs
Time Since Last Inspection:	33.1 Hrs	Engines:	1 Turbo shaft
Airframe Total Time:	13088 Hrs as of last inspection	Engine Manufacturer:	Rolls Royce
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	250-C20B
Registered Owner:	MAINE HELICOPTERS INC	Rated Power:	
Operator:	MAINE HELICOPTERS INC	Operating Certificate(s) Held:	Rotorcraft external load (133), Commuter air carrier (135), On-demand air taxi (135), Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	2G4,2933 ft msl	Distance from Accident Site:	14 Nautical Miles
Observation Time:	11:05 Local	Direction from Accident Site:	57°
Lowest Cloud Condition:	Few / 600 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 1100 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots / 13 knots	Turbulence Type Forecast/Actual:	Unknown / Unknown
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / Unknown
Altimeter Setting:	29.96 inches Hg	Temperature/Dew Point:	18°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Morgantown, WV (MGW)	Type of Flight Plan Filed:	None
Destination:	Elkins, WV (EKN)	Type of Clearance:	VFR
Departure Time:	10:39 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	39.455514,-79.592732

Administrative Information

Investigator In Charge (IIC):	Spencer, Lynn
Additional Participating Persons:	Richard Brady; FAA/FSDO; Charleston, WV Helen Tsai; Transportation Safety Board of Canada; Quebec
Original Publish Date:	July 5, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=192695

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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](#).