



# Aviation Investigation Final Report

<b>Location:</b>	Amity, Missouri	<b>Accident Number:</b>	CEN23LA280
<b>Date &amp; Time:</b>	July 5, 2023, 14:50 Local	<b>Registration:</b>	N828WP
<b>Aircraft:</b>	BELL HELICOPTER TEXTRON 206L-1	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Collision with terr/obj (non-CFIT)	<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

The pilot reported that during an aerial application flight, the helicopter impacted wires that he failed to see, which resulted in substantial damage to the fuselage and rotor blades. He stated that a road that paralleled the field dipped down, which made the wires appear below the horizon.

The pilot stated that there were no preimpact 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 see and avoid wires while conducting a low-level aerial application flight.

## Findings

<b>Environmental issues</b>	Wire - Awareness of condition
<b>Personnel issues</b>	Identification/recognition - Pilot

## Factual Information

### History of Flight

<b>Maneuvering-low-alt flying</b>	Collision with terr/obj (non-CFIT) (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor; Remote	<b>Age:</b>	43, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Helicopter	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	April 27, 2023
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	February 25, 2023
<b>Flight Time:</b>	(Estimated) 4400 hours (Total, all aircraft), 58 hours (Total, this make and model), 77 hours (Last 90 days, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BELL HELICOPTER TEXTRON	<b>Registration:</b>	N828WP
<b>Model/Series:</b>	206L-1	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	1979	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	45294
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Rolls Royce
<b>ELT:</b>		<b>Engine Model/Series:</b>	250-C30P
<b>Registered Owner:</b>	CEDAR RIDGE AVIATION LLC	<b>Rated Power:</b>	
<b>Operator:</b>	CEDAR RIDGE AVIATION LLC	<b>Operating Certificate(s) Held:</b>	Agricultural aircraft (137)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KSTJ,807 ft msl	<b>Distance from Accident Site:</b>	23 Nautical Miles
<b>Observation Time:</b>	13:53 Local	<b>Direction from Accident Site:</b>	254°
<b>Lowest Cloud Condition:</b>	Scattered / 2500 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>		<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	3 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.04 inches Hg	<b>Temperature/Dew Point:</b>	26°C / 19°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious	<b>Latitude, Longitude:</b>	39.871202,-94.435221(est)

## Preventing Similar Accidents

Preventing Obstacle Collisions in Agricultural Operations (SA-035)

## The Problem

Accidents involving collisions with obstacles, including poles, wires, guy wires, meteorological evaluation towers (MET), or trees, are among the most common types of agricultural aircraft accidents. Some collisions involved obstacles that the pilots did not see (even during survey flights) but others involved obstacles that were known to the pilot and/or had characteristics that would make them visibly conspicuous.

## What can you do?

- Maintain a quick-reference document (paper or electronic) at the operations base that contains field maps, charts, photographs, and details of all known obstacles. Frequently review current aeronautical charts for information about obstacles.
- Before you leave the ground, spend time becoming familiar with all available information about the target field and programming navigation equipment. Such preflight action can help reduce the potential for confusion or distraction in flight.
- Conduct aerial surveys of the target field but do not rely solely on an aerial survey to identify potential obstacles.
- Conduct regular ground surveys of fields. Some towers can be erected in hours, and obstacles can change since you last worked that field.
- When possible, use ground crews. They may be in a better position to see certain obstacles and help you ensure that your aircraft remains clear of them.
- Watch for shadows and irregularities in growth patterns to help identify obstacles.
- Speak with farmers and land owners to raise awareness about obstacle hazards.
- Use GPS and other technology to maintain awareness of obstacle locations.
- Be aware that workload, fatigue, sun glare, and distractions in the cockpit can adversely affect your ability to see, avoid, or remember obstacles.
- Understand the performance limitations and requirements for your aircraft, particularly when operating with heavier loads and at higher density altitudes.
- The National Agricultural Aviation Association's Professional Aerial Applicators' Support System reminds pilots that, when ferrying an aircraft or transitioning between sites, flying above 500 feet reduces obstacle collision risks: "Ferry Above Five and Stay Alive."

See <https://www.nts.gov/Advocacy/safety-alerts/Documents/SA-035.pdf> for additional resources.

The NTSB presents this information to prevent recurrence of similar accidents. Note that this should not be considered guidance from the regulator, nor does this supersede existing FAA Regulations (FARs).

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Williams, David
<b>Additional Participating Persons:</b>	Jane Cram; FAA; Kansas City, MO
<b>Original Publish Date:</b>	August 31, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=192546">https://data.ntsb.gov/Docket?ProjectID=192546</a>

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](#).