



Aviation Investigation Final Report

Location:	Hibbing, Minnesota	Accident Number:	CEN23LA385
Date & Time:	August 27, 2023, 12:15 Local	Registration:	N19BH
Aircraft:	BELL HELICOPTER TEXTRON CANADA 206	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	1 None
Flight Conducted Under:	Part 133: Rotorcraft ext. load		

Analysis

The helicopter was operating at a remote, unimproved landing zone (LZ) with a ground crew consisting of firefighters. They were conducting aerial firefighting training with an external load consisting of a 50 ft longline and a water bucket. The LZ consisted of about 2.5 ft tall prairie grass, with the tail of the helicopter going up slope. During the landing to the LZ, the tail rotor impacted a backpack on the ground. The helicopter landed upright and the pilot shutdown the helicopter. The pilot performed a self-assessment of the damage sustained to the tail rotor blades and then flew the helicopter back to the airtanker base with the ground crew onboard.

The helicopter sustained substantial damage to both tail rotor blades and the tail rotor hub. The pilot reported there were no preimpact mechanical malfunctions or failures with the airframe or the engine that would have precluded normal operation.

The pilot was in radio contact with the ground crew during the training. However, during the landing, there was no communication between the ground crew and the pilot either via radio or hand signal.

The orange-colored backpack was owned and was used by the ground crew. According to the operator, the pilot and the ground crew had worked together previously conducting aerial firefighting operations and the pilot had landed to the LZ several times in the past.

Probable Cause and Findings

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

The ground crew's failure to secure the backpack at the landing zone (LZ), that resulted in the tail rotor impacting the backpack during the landing. Contributing to the accident was the pilot's inadequate selection of an area at the LZ, the lack of awareness of the backpack at the LZ, and the absence of communication between the pilot and the ground crew during the landing.

Findings

Aircraft	(general) - Damaged/degraded
Environmental issues	Ground equipment - Effect on equipment
Personnel issues	Decision making/judgment - Pilot
Personnel issues	Monitoring environment - Pilot
Personnel issues	Monitoring environment - Ground crew
Environmental issues	Ground equipment - Awareness of condition
Personnel issues	Use of equip/system - Ground crew
Personnel issues	Lack of communication - Pilot
Personnel issues	Lack of communication - Ground crew
Personnel issues	CRM/MRM techniques - Pilot
Personnel issues	CRM/MRM techniques - Ground crew

Factual Information

History of Flight

Maneuvering-low-alt flying	Simulated/training event
Maneuvering-low-alt flying	External load event (Rotorcraft)
Landing-flare/touchdown	Off-field or emergency landing
Landing-flare/touchdown	Miscellaneous/other
Landing-flare/touchdown	Collision during takeoff/land (Defining event)

Pilot Information

Certificate:	Commercial	Age:	39,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	May 8, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 20, 2023
Flight Time:	(Estimated) 3107 hours (Total, all aircraft), 86 hours (Total, this make and model), 3065 hours (Pilot In Command, all aircraft), 154 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELL HELICOPTER TEXTRON CANADA	Registration:	N19BH
Model/Series:	206 L-4	Aircraft Category:	Helicopter
Year of Manufacture:	2008	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	52370
Landing Gear Type:	High skid	Seats:	7
Date/Type of Last Inspection:	March 23, 2023 100 hour	Certified Max Gross Wt.:	4450 lbs
Time Since Last Inspection:	54 Hrs	Engines:	1 Turbo shaft
Airframe Total Time:	6063.6 Hrs at time of accident	Engine Manufacturer:	Rolls-Royce
ELT:	C126 installed, not activated	Engine Model/Series:	250-C30P
Registered Owner:	ABC Helicopters, Inc.	Rated Power:	650 Horsepower
Operator:	Brainerd Helicopter Service, Inc.	Operating Certificate(s) Held:	Rotorcraft external load (133), On-demand air taxi (135), Agricultural aircraft (137)
Operator Does Business As:	Brainerd Helicopter Service, Inc.	Operator Designator Code:	JTJL

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KHIB, 1339 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	11:53 Local	Direction from Accident Site:	192°
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:	30.12 inches Hg	Temperature/Dew Point:	17°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hibbing, MN (HIB)	Type of Flight Plan Filed:	None
Destination:	Hibbing, MN	Type of Clearance:	None
Departure Time:	11:30 Local	Type of Airspace:	Class E

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:	47.426218,-92.826765(est)

Administrative Information

Investigator In Charge (IIC):	Hodges, Michael
Additional Participating Persons:	Daniel Sindt; FAA Minneapolis FSDO; Minneapolis, MN
Original Publish Date:	October 26, 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=192954

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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](#).