Aviation Investigation Final Report

Location:	Shaktoolik, Alaska	**Accident Number:**	ANC23FA042
Date & Time:	June 16, 2023, 11:35 Local	**Registration:**	N91361
Aircraft:	Cessna 180	**Aircraft Damage:**	Substantial
Defining Event:	Collision during takeoff/land	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The pilot and passenger were departing downhill in a southwesterly direction from a remote, sloped airstrip located on a mountain ridgeline. According to a witness, the pilot had three trips planned to the airstrip that day, transporting hunters and gear to a nearby village. The witness stated that, upon the pilot's return to the airstrip following the first flight of the day, he reported to the pilot that, since his previous departure, the winds had increased and were "gusting and changing a lot." He watched the initial portion of the takeoff roll; nothing appeared abnormal, and he did not watch the remainder of the takeoff. He stated that, during previous departures, the airplane would typically dip out of sight below the departure end of the airstrip before continuing its climb out of the valley. When he did not see the airplane continue the climb, he went to the edge of the ridgeline and saw that the airplane had impacted tundra about 300 ft below the airstrip.

A small cluster of trees was present about 2/3 of the way down the left side of the 750-ft-long airstrip. One tree was fractured and displayed fragments of red paint that matched the accident airplane's paint color. The left horizontal stabilizer displayed a concave dent perpendicular to the leading edge about 1 ft outboard of the stabilizer root. Tree sap and embedded tree fibers were observed in the leading edge of the horizontal stabilizer.

Examination of the airframe and engine revealed no evidence of any preimpact mechanical failures or malfunctions that would have precluded normal operation.

Review of weather information indicated the presence of north/northeasterly surface wind conditions in the area of the accident site. Another pilot, who responded to the accident site about 45 minutes after the accident, reported that the wind was "unusual" and variable, gusting 10-12 knots from the north before gusting 5 knots from the south and repeating. Based on the

available information, it is likely that the pilot encountered gusting tailwind conditions during the takeoff, which resulted in the airplane veering left and impacting a tree, followed by a loss of control and impact with terrain.

Probable Cause and Findings

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

The pilot's encounter with gusting tailwind conditions during takeoff, which resulted in impact with a tree, a loss of control, and subsequent impact with terrain.

Findings

Environmental issues	Tree(s) - Effect on equipment
Personnel issues	Aircraft control - Pilot
Environmental issues	Sudden wind shift - Effect on equipment
Environmental issues	Tailwind - Effect on equipment
Environmental issues	Mountainous/hilly terrain - Effect on equipment
Environmental issues	Sloped/uneven terrain - Effect on equipment

Factual Information

History of Flight

Initial climb	Collision during takeoff/land (Defining event)

On June 16, 2023, about 1135 Alaska daylight time, a Cessna 180H airplane, N91361, was substantially damaged when it was involved in an accident near Shaktoolik, Alaska. The pilot and passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 135 on-demand charter flight.

The airplane was operated by Golden Eagle Outfitters, Inc. in support of a remote bear hunting excursion. Two hunting guides were waiting on a remote off-airport mountain ridgeline airstrip near their camp to be picked up and flown to Unalakleet Airport (PAUN) after a hunting trip. An hour before the accident, the pilot departed with two hunters/clients and told the guides he would be back to pick them up. When the pilot returned, he boarded one of the guides and some of their gear, then arranged to return for the other and the remaining gear.

The guide who witnessed the accident stated that the winds “were gusting and changing a lot” and increased during the hour they waited for the pilot’s return. He stated he had flown with the pilot many times and had witnessed the pilot perform takeoffs and landings from the airstrip many times.

The airstrip was about 750 ft long and situated atop a down-sloping, rock- and grass-covered ridgeline. The airplane normally landed uphill on about a 060° heading, then departed in the opposite direction, downhill, on a heading about 240°. During previous departures, after takeoff, the airplane would dip below the airstrip off the departure end, out of sight, then climb back into view and out of the valley.

The witness watched the initial portion of the downhill takeoff roll, and nothing appeared abnormal, so he turned away and did not watch the remainder of the takeoff. When he did not hear the engine noise during climbout or see the airplane climbing, he ran to the ridgeline’s edge and saw the airplane had impacted the tundra 300 ft below the airstrip. He sent an SOS alert from his personal GPS tracker, then hiked down to the airplane to check for survivors.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	68,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	November 22, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	February 6, 2023
Flight Time:	(Estimated) 27625 hours (Total, all aircraft), 5825 hours (Total, this make and model)		

Passenger Information

Certificate:		**Age:**	45,Male
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	3-point
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N91361
Model/Series:	180 H	**Aircraft Category:**	Airplane
Year of Manufacture:	1969	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18052045
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	October 13, 2022 100 hour	**Certified Max Gross Wt.:**	2800 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	16920.9 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	C126 installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-520 SERIES
Registered Owner:	On file	**Rated Power:**	300 Horsepower
Operator:	JAMES B. TWETO	**Operating Certificate(s) Held:**	Commuter air carrier (135)

According to the Pilot's Operating Handbook (POH), the Cessna 180's maximum takeoff gross weight is 2,800 pounds. The airplane's weight and balance listed the airplane's empty weight as 1,969 pounds.

Based on weight of the occupants, cargo, and fuel, the estimated gross weight of the airplane at takeoff was 2,578 pounds, about 222 pounds under the maximum gross weight of the airplane.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	FSH,23 ft msl	**Distance from Accident Site:**	31 Nautical Miles
Observation Time:	10:56 Local	**Direction from Accident Site:**	253°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 11000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	15 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	10°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.65 inches Hg	**Temperature/Dew Point:**	12°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Unalakleet, AK (PAUN)	**Type of Flight Plan Filed:**	Company VFR
Destination:	Unalakleet, AK (PAUN)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

The pilot departed from and was returning to Unalakleet Airport (PAUN), located 42 miles southwest of the accident site, at an elevation of 27 ft.

Shaktoolik Airport (PFSH) had the closest official weather station to the accident site, about 31 miles west-southwest at an elevation of 24 ft.

The observations from the PFSH automated weather observation system around the accident time identified visual meteorological conditions with a northerly wind between 15 and 20 knots, while PAUN identified southwesterly winds between 5 to 10 knots and visual meteorological conditions.

Weather data retrieved from the National Weather Service Aviation Weather Center experimental website indicated a 10- to 15-knot northeast wind over the accident site.

The winds and temperature aloft forecast valid for the closest point to the accident site was 020° and 13 knots at 3,000 ft.

A search of archived information indicated that the accident pilot did not request weather information from Alaskan Flight Services. It is unknown what weather information, if any, the accident pilot checked or received before or during the accident flight.

A pilot who responded to the accident site about 45 minutes after the accident said that the winds were “unusual” that day. Winds were variable, gusting 10 to 12 knots from the north, calmed, then gusted 5 knots from the south, and then the pattern repeated.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	64.528214,-160.08637

Examination of the airstrip revealed a small cluster of trees about 2/3 of the distance from the beginning of the airstrip, on the left side and downslope. One 12-ft tree, about 4 inches in diameter, was fractured about 4 ft from its base. The separated portion of the tree was found next to its trunk and displayed fragments of red paint that matched the accident airplane's paint color.

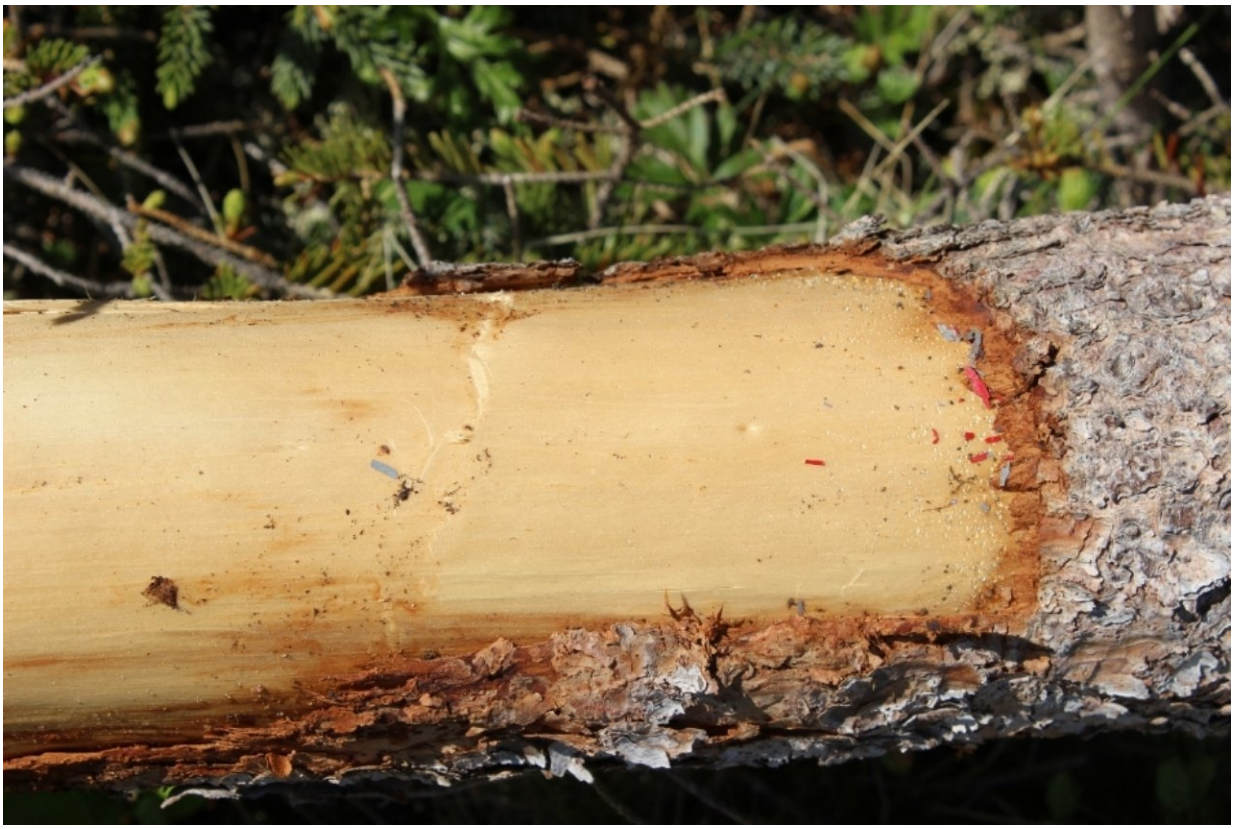

Figure 1. View of the fractured tree with fragments of red paint.

Examination of the wreckage revealed that it impacted tundra in a steep, nose-down, wings-level attitude about 1,200 ft from the broken tree. The wings were displaced by impact and the right wing leading edge was uniformly crushed aft along its span. The upper and lower wing skins were crushed aft in compression. Flight control continuity was established through several breaks to the flight control surfaces. All breaks and separations were consistent with impact and overstress failure. The engine was separated from the airframe and came to rest inverted behind the left wing. The propeller hub was fractured, and the propeller blades were separated from the hub.

The left horizontal stabilizer displayed a concave dent perpendicular to the leading edge about 1 ft outboard of the stabilizer root. Tree sap and embedded tree fibers were observed in the leading edge of the horizontal stabilizer. The right horizontal stabilizer and elevator did not exhibit leading edge impact signatures, and the elevator remained attached.

The engine was separated and located forward of the initial ground impact point and behind the left wing. It came to rest upside down; the oil pan was crushed upward. The fuel boost pump was observed fractured into pieces. The fuel lines were also fragmented.

The engine exhibited heavy impact damage to the nose and sump and, except for the impact damage, the internal components of the engine were intact. The internal engine components

exhibited normal operating signatures. The crankshaft flange was impact fractured. The crankshaft would not rotate by hand until the case was opened due to impact damage.

The right magneto was removed and produced spark when tested. The left magneto would not rotate. It was disassembled and the stator in the housing was displaced from its location, which was adjacent to impact damage on the external housing.

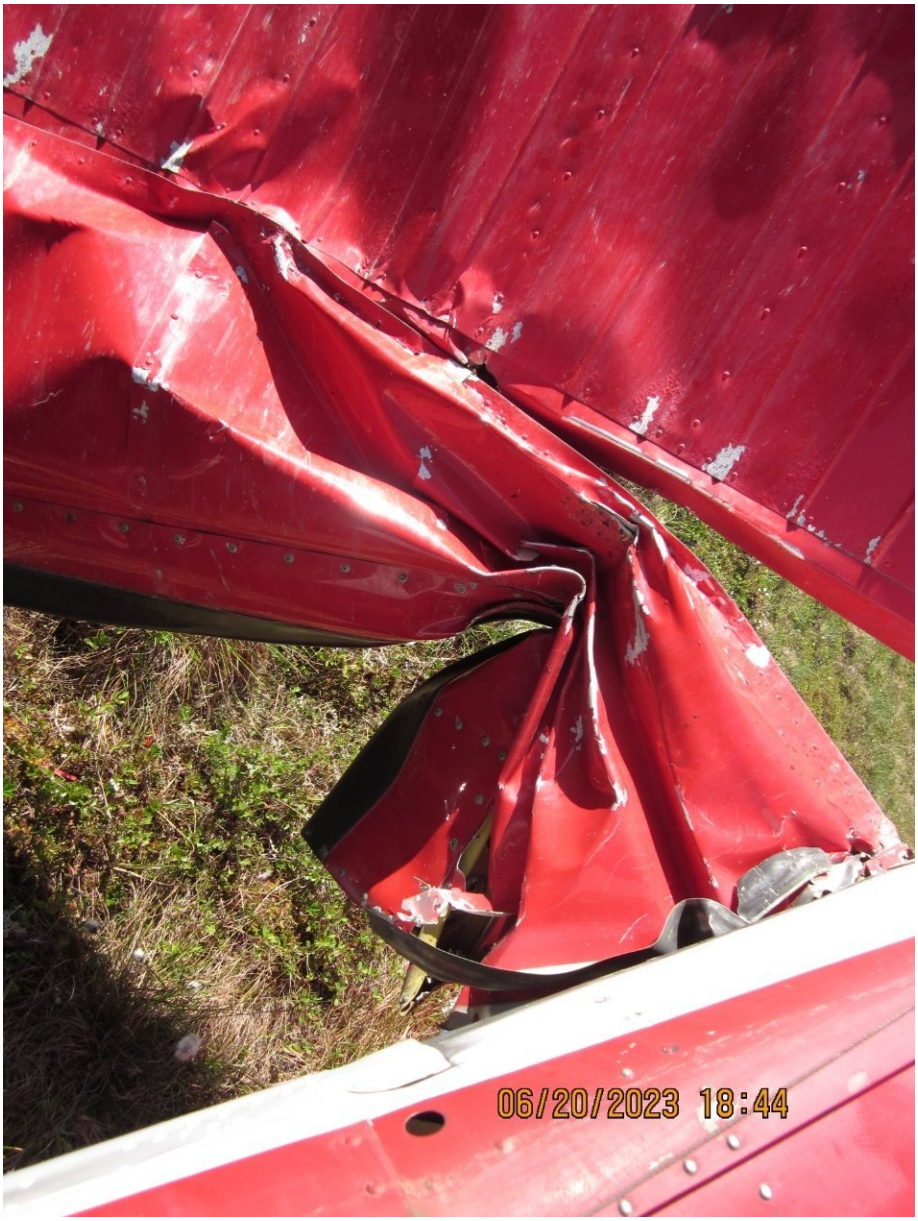

Figure 2. View of the aft crushing on the horizontal stabilizer.

A Garmin Aera 760 portable GPS unit was removed from the airplane and sent to the National Transportation Safety Board (NTSB) Vehicle Recorders Laboratory for further examination and data download. The device was opened, and the memory chip was dislodged from the circuit

board and significant damage was observed. The data from the chip was downloaded; however, the accident flight was not captured.

Medical and Pathological Information

An autopsy of the pilot was performed by the Alaska State Medical Examiner, Anchorage, Alaska. According to the autopsy report, the cause of death was multiple blunt force injuries and the manner of death was accident. Toxicology testing performed at the FAA Forensic Sciences Laboratory found no drugs of abuse.

Administrative Information

Investigator In Charge (IIC):	Hill, Millicent
Additional Participating Persons:	Erik Wilson; FAA/FSDO; Fairbanks, AK Casey Love; Textron; Wichita, KS J. Ferrell; Continental; Mobile, AL
Original Publish Date:	July 22, 2025
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=192387