



Aviation Investigation Final Report

Location:	Riggins, Idaho	Accident Number:	GAA19CA098
Date & Time:	December 16, 2018, 12:00 Local	Registration:	N4385B
Aircraft:	Cessna 170	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The pilot of the ski-equipped airplane reported that he aborted his first attempt to take off, and during his second takeoff attempt with a tailwind, shortly after rotation, the airplane settled back onto the snow-packed runway. He added that the airplane lifted off again, but when it was about 5 ft above the ground and near the end of the runway, a wind gust pushed the airplane down onto the runway. Subsequently, the airplane overran the runway, and the right wing impacted a tree. The pilot did not know the wind direction and speed because the airport did not have a windsock or weather reporting station.

The airplane sustained substantial damage to the wings.

The pilot reported that there were no preimpact mechanical failures or malfunctions with the airplane that would have precluded normal operation.

The pilot chose to depart to the north due to rising terrain and tall trees on the south end of runway. The pilot further reported he had landed and taken off from this airport previously without incident.

The airport elevation was about 7,600 ft, and the runway was 1,800 ft long. The airplane owner's manual recommended a takeoff distance of 3,420 ft at 7,000 ft elevation and 40°F with zero wind velocity and from a hard level surface. The manual also stated that, under the most favorable condition of smooth, packed snow at 30°F, the takeoff distance for a ski-equipped airplane was about 10% greater than that for a wheel-equipped airplane. Per a supplemental type certificate (STC), the airplane underwent an engine conversion to a 180-horsepower, constant-speed propeller engine. No takeoff performance data were provided on the STC.

Probable Cause and Findings

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

The pilot's improper preflight performance planning and his subsequent failure to attain sufficient speed for the airplane to climb with a tailwind.

Findings

Aircraft	Climb rate - Not attained/maintained
Environmental issues	Tree(s) - Contributed to outcome
Environmental issues	Tailwind - Response/compensation
Personnel issues	Performance calculations - Pilot

Factual Information

History of Flight

Takeoff	Other weather encounter
Takeoff	Loss of control in flight (Defining event)
Takeoff	Collision with terr/obj (non-CFIT)
Takeoff	Runway excursion

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	64, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	March 20, 2018
Occupational Pilot:		Last Flight Review or Equivalent:	June 14, 2018
Flight Time:	(Estimated) 21500 hours (Total, all aircraft), 2000 hours (Total, this make and model), 21200 hours (Pilot In Command, all aircraft), 137 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N4385B
Model/Series:	170 B	Aircraft Category:	Airplane
Year of Manufacture:	1956	Amateur Built:	
Airworthiness Certificate:	Normal; Restricted (Special)	Serial Number:	26729
Landing Gear Type:	Tailwheel; Ski; Ski/wheel	Seats:	4
Date/Type of Last Inspection:	August 29, 2018 Annual	Certified Max Gross Wt.:	2200 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	6729.8 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C126 installed, activated, did not aid in locating accident	Engine Model/Series:	O-360-4A4
Registered Owner:		Rated Power:	180 Horsepower
Operator:	On file	Operating Certificate(s) Held:	On-demand air taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KGIC, 3314 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	19:35 Local	Direction from Accident Site:	320°
Lowest Cloud Condition:	Scattered / 3000 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 8500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	Clear air / None
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.97 inches Hg	Temperature/Dew Point:	6°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	McCall, ID (KMYL)	Type of Flight Plan Filed:	Company VFR
Destination:	Riggins, ID (PVT)	Type of Clearance:	None
Departure Time:	10:15 Local	Type of Airspace:	Class G

Airport Information

Airport:	Buffalo Hump (Concord) private PVT	Runway Surface Type:	Snow
Airport Elevation:	7600 ft msl	Runway Surface Condition:	Snow
Runway Used:	01	IFR Approach:	None
Runway Length/Width:	1800 ft / 50 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	45.58361,-115.681663(est)

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Christopher Lang; FAA; Spokane, WA
Original Publish Date:	September 26, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98778

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