



National Transportation Safety Board Aviation Accident Final Report

Location:	Stanley, ID	Accident Number:	WPR12LA283
Date & Time:	06/30/2012, 1415 MDT	Registration:	N773C
Aircraft:	STINSON 108	Aircraft Damage:	Substantial
Defining Event:	Loss of lift	Injuries:	1 Serious, 3 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

Before taking off from the 5,000-foot turf-dirt airstrip located at an altitude of 6,370 feet mean sea level, the pilot checked his performance charts and calculated that the density altitude was about 9,200 feet; this was 3,200 feet above the 6,000-foot maximum altitude listed in the takeoff performance charts. He also noted that at the time of departure, the wind was from 30 degrees at 10 knots, with gusts to 20 knots, which was close to a nearly direct tailwind for the takeoff from runway 23. The pilot indicated that the airplane was within 86 pounds of its maximum gross takeoff weight. When the airplane was about three-quarters of the way down the runway during the takeoff roll and not yet airborne, the pilot was about to abort the takeoff, but a gust of wind lifted the airplane in the air. The pilot thought the airplane would remain airborne, but when he could not get the airplane to climb as expected, he attempted to locate an open field to land in. However, the airplane subsequently encountered a downdraft, collided with a stand of trees, and came to rest inverted about 1.64 nautical miles from the departure end of the runway. A postaccident examination of the airplane and engine revealed no 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 inadequate preflight planning and decision to takeoff at a density altitude outside of the airplane's takeoff performance envelope, with a tailwind, and near the airplane's maximum gross weight, which resulted in the airplane's inability to climb and clear trees.

Findings

Aircraft	Climb capability - Capability exceeded (Cause)
Personnel issues	Decision making/judgment - Pilot (Cause) Performance calculations - Pilot (Cause)
Environmental issues	High density altitude - Effect on operation (Cause) Tailwind - Effect on operation Gusts - Effect on operation Tree(s) - Not specified

Factual Information

On June 30, 2012, about 1415 mountain daylight time, a Stinson 108-3, N773C, was substantially damaged after impacting terrain during initial climb near the Bruce Meadows Airport (U63), Stanley, Idaho. The certified commercial pilot sustained serious injuries, and the three passengers sustained minor injuries. Visual meteorological conditions prevailed for the local flight, which was being operated in accordance with 14 Code of Federal Regulations Part 91, and a flight plan was not filed. The flight was destined for the McCall Municipal Airport (MYL), McCall, Idaho. The pilot reported a departure time of 1400.

In a report submitted to the National Transportation Safety Board investigator-in-charge (IIC), as well as during a personal telephone conversation with the IIC about 5 weeks after the accident, the pilot reported that prior to departure he checked the airplane's performance charts and determined that the density altitude to be about 9,200 feet; this was determined to be 3,200 feet above the maximum altitude listed in the takeoff performance charts for this make and model airplane equipped with a metal propeller, or 6,000 feet. The pilot further reported that while on takeoff roll from the near mile long turf-dirt [air]strip, he was not getting as much lift as expected. The pilot added that when he was about three-quarters of the way down the [5,000-foot] runway, elevation 6,370 feet mean sea level (msl) [and still not airborne], he was going to abort the takeoff but a gust of wind put the airplane in the air. The pilot stated that he thought he would be ok, but when he could not get the airplane to climb as expected he attempted to locate an open field to land in, but got caught in a downdraft and subsequently impacted a stand of trees. The airplane came to rest inverted about 1.64 nautical miles (nm) from the departure end of runway 23, at an elevation of 6,432 feet msl. The pilot reported to the IIC that at the time of takeoff the airplane weighed 2,314 pounds; the airplane's maximum gross takeoff weight is 2,400 pounds. The pilot reported no anomalies with the airplane or the engine prior to or during the flight that would have precluded normal operation.

A Federal Aviation Administration (FAA) aviation safety inspector reported that the airplane had sustained substantial damage to the main fuselage, the empennage, and both wings. The inspector further reported that an inspection of the mixture control was performed but the control cable was bent preventing the movement at the carburetor. The cable was disconnected at the carburetor mixture control arm and the arm moved freely from stop to stop. The inspector also provided the IIC with documentation relative to the airplane's Franklin, model 6A4-165-B3 engine, which was equipped with a Marvel Schebler, model MA-4-5 carburetor. With respect to USE OF MIXTURE CONTROL IN FLIGHT, the information revealed, "When adjusting the mixture control for altitudes higher than 3,000 feet, move the [mixture] control in and out slowly, with the throttle at cruising position until the highest RPM is attained. The carburetor mixture will then be correctly adjusted for that throttle position and load at that particular altitude." When questioned by the IIC what the leaning procedures were for the engine, the pilot stated that the Franklin engine could not be leaned for takeoff. The inspector's onsite and postaccident examinations of the airplane and engine revealed no mechanical anomalies that would have prevented normal operation.

Local law enforcement personnel provided the IIC with statements submitted by both backseat passengers. The left rear seat passenger reported that after takeoff and when they were above the trees, it felt like they encountered a pocket of air that pushed them down into the trees. The right rear seat passenger stated that about 5 minutes into the flight they didn't have enough lift

or air [to fly], which is when the pilot called to brace for impact. The passenger reported that the airplane then flew into the trees, was twisting, and then hit the ground and nosed over. Law enforcement personnel reported to the IIC that the left rear seat passenger stated that the right front seat passenger did not remember the crash at all, nor did he remember a lot of the day.

At 1351, the weather reporting facility at the McCall Municipal Airport (MYL), McCall, Idaho, the closest weather reporting facility in proximity to the accident site, which is located about 44 nautical nm northwest, reported wind 160 degrees at 8 knots, variable from 120 degrees to 190 degrees, visibility 10 miles, sky clear, temperature 27 degrees Celsius (C), dew point 3 degrees C, and an altimeter setting of 30.00 inches of mercury.

History of Flight

Prior to flight	Preflight or dispatch event
Takeoff	Other weather encounter
	Loss of lift (Defining event)
	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial	Age:	70, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	04/10/2011
Occupational Pilot:	No	Last Flight Review or Equivalent:	04/26/2011
Flight Time:	4927 hours (Total, all aircraft), 124 hours (Total, this make and model), 2580 hours (Pilot In Command, all aircraft), 11 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	STINSON	Registration:	N773C
Model/Series:	108 3	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	108-3773
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	07/17/2010, Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:	34 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1544 Hours	Engine Manufacturer:	Franklin
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	6A4165
Registered Owner:	Leslie B Gropp	Rated Power:	165 hp
Operator:	Leslie B Gropp	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MYL, 5024 ft msl	Observation Time:	1351 MDT
Distance from Accident Site:	44 Nautical Miles	Direction from Accident Site:	310°
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	27° C / 3° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	8 knots, 160°	Visibility (RVR):	
Altimeter Setting:	30 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Stanley, ID (U63)	Type of Flight Plan Filed:	None
Destination:	McCall, ID (MYL)	Type of Clearance:	None
Departure Time:	1400 MDT	Type of Airspace:	

Airport Information

Airport:	Bruce Meadows Airport (U63)	Runway Surface Type:	Dirt; Grass/turf
Airport Elevation:	6370 ft	Runway Surface Condition:	Dry
Runway Used:	23	IFR Approach:	None
Runway Length/Width:	5000 ft / 110 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	3 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 3 Minor	Latitude, Longitude:	44.406667, -115.351667

Administrative Information

Investigator In Charge (IIC):	Thomas Little	Adopted Date:	09/05/2013
Additional Participating Persons:	Michael Misnick; Federal Aviation Administration; Boise, ID		
Publish Date:	09/05/2013		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=84136		

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