



National Transportation Safety Board Aviation Accident Data Summary

Location:	Neihart, MT	Accident Number:	WPR14FA362
Date & Time:	09/02/2014, 1230 MDT	Registration:	N34880
Aircraft:	CESSNA 177B	Injuries:	1 Fatal, 1 Serious, 2 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

While flying in mountainous terrain to show one of the passengers the area, the pilot entered a canyon that started to narrow as the canyon's walls rose so the pilot initiated a climb. The airplane then experienced a downdraft followed by a second downdraft, and the pilot found a low spot in the trees and attempted a climbing turn; however, the airplane would not climb and started brushing the trees. The airplane descended into the ground, and a postimpact fire ensued. The pilot reported no anomalies with the airframe or engine that would have precluded normal operation, and postaccident examination revealed no evidence of preimpact mechanical malfunctions or failures that would have precluded normal operation.

Weather charts revealed gusty wind conditions with vertical air mixing and an increased potential for turbulence in the accident area. Weather model soundings and simulations revealed that the layer from the surface through 10,000 feet mean sea level was unstable, indicating that the airplane likely encountered wind magnitudes as high as 30 knots, gusty winds, and updrafts and downdrafts in the mountainous terrain. Further, the airplane likely experienced turbulence and encountered downdrafts with a tailwind component at a velocity between 100 and 200 ft per minute.

Calculation of the airplane's weight and balance revealed that throughout the flight, the airplane was operating about 114 pounds over maximum gross weight and outside (forward) of the center of gravity envelope. It is likely that the airplane was unable to climb over the terrain as a result of the airplane's weight and balance configuration combined with the weather conditions in the area.

Flight Events

Prior to flight - Aircraft loading event
Maneuvering-low-alt flying - Turbulence encounter
Maneuvering - Controlled flight into terr/obj (CFIT)

Probable Cause

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

The pilot's failure to maintain clearance from terrain while maneuvering at low altitude in turbulent conditions over mountainous terrain. Contributing to the accident was the pilot's improper decision to traverse the mountainous area with the airplane over its maximum gross weight and with a forward center of gravity.

Findings

Aircraft-Aircraft oper/perf/capability-Aircraft capability-Climb capability-Capability exceeded - C
Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Altitude-Not attained/maintained - C

Aircraft-Aircraft oper/perf/capability-Aircraft capability-Maximum weight-Capability exceeded - F
Aircraft-Aircraft oper/perf/capability-Aircraft capability-CG/weight distribution-Capability exceeded - F

Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - F
Environmental issues-Conditions/weather/phenomena-Turbulence-(general)-Effect on operation - C
Environmental issues-Physical environment-Terrain-Mountainous/hilly terrain-Effect on operation - C

Pilot Information

Certificate:	Private	Age:	55
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	118 hours (Total, all aircraft), 35 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N34880
Model/Series:	177B	Engines:	1 Reciprocating
Operator:	WILSEY CHRISTOPHER	Engine Manufacturer:	LYCOMING
Air Carrier Operating Certificate:	None	Engine Model/Series:	O-360-A1F6D
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	GTF, 3680 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	13 knots/ 19 knots, 250°
Temperature:	19°C / 3°C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Great Falls, MT (GTF)	Destination:	White Sulphur S, MT (7S6)

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal, 1 Serious, 1 Minor	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Samantha A Link	Adopted Date:	01/14/2016
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90006		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.