Aviation Investigation Final Report

Location:	Challis, Idaho	**Accident Number:**	WPR22LA238
Date & Time:	June 26, 2022, 19:45 Local	**Registration:**	N1231C
Aircraft:	Piper PA20	**Aircraft Damage:**	Substantial
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A witness at the departure airport watched the accident airplane take off and fly into a box canyon. Shortly thereafter, the witness saw a dust cloud in the same area.

A friend of the accident pilot reported that they were camping in the area and had flown to the departure airport earlier in the day. The friend reported that they waited until later in the day to fly back to their camping area due to density altitude considerations. He watched the accident airplane depart to the north and then turn back toward the airport. He then departed in his airplane and flew to the camp site destination, where he expected to meet up with the accident pilot and passenger. He reported them missing when they did not arrive at the camp site.

Postaccident examination of the airplane revealed no evidence of any preexisting mechanical malfunction that would have precluded normal operation.

The accident site was in a box canyon about 1 1/2 miles north of the airport at an elevation of 6,240 ft above mean sea level (msl). The change in elevation from the departure airport to the accident location was about 2,040 ft. As the airplane climbed, the calculated climb performance from the departure airport to the accident site location would have likely degraded from about 477 ft per minute (fpm) to about 360 fpm. The accident is consistent with the pilot turning toward rising terrain with limited climb performance that resulted in the pilot's failure to maintain obstacle clearance and a subsequent 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 turn towards rising terrain with limited climb performance and his subsequent failure to maintain clearance from terrain that resulted in an impact with terrain.

Findings

Personnel issues	Aircraft control - Pilot
Environmental issues	Mountainous/hilly terrain - Effect on equipment

Factual Information

History of Flight

Initial climb	Controlled flight into terr/obj (CFIT) (Defining event)

On June 26, 2022, about 1945 mountain daylight time, a Piper PA-20-135, N1231C, was substantially damaged when it was involved in an accident near Challis, Idaho. The pilot and passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

On day of the accident flight, a witness observed the accident airplane land at the Lower Loon Creek airport (C53), Challis, Idaho. She spoke briefly with the pilot and passenger, who indicated that they were camping at the Johnson Creek Airport (3U2) but were going to spend the day at Lower Loon. Later that evening, she observed the accident airplane taxi, take off, and then fly into the box canyon. Shortly thereafter, she observed a dust cloud.

A friend of the pilot reported that he and the accident pilot were camping at 3U2. Earlier in the day, they had flown to C53 and, due to the density altitude, they waited to depart C53 for the return flight to 3U2, until later that evening. He further added that, at the time of departure, the density altitude was indicating about 6,200 ft msl. He observed the accident airplane depart to the north, climb, and then turn back toward the runway about 1930. He last observed the accident airplane on a southbound heading. Shortly after departing from C53, he observed smoke, which he believed to be a small ground fire. After landing and refueling at McCall Municipal Airport (MYL), McCall, Idaho, he continued his flight to 3U2 where he expected to meet with the accident pilot and passenger. They had not arrived, and he reported N1231C as missing.

Pilot Information

Certificate:	Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	February 19, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 29, 2021
Flight Time:	800 hours (Total, all aircraft), 35 hours (Last 30 days, all aircraft)		

Passenger Information

Certificate:		**Age:**	16,Male
Airplane Rating(s):		**Seat Occupied:**	Unknown
Other Aircraft Rating(s):		**Restraint Used:**	Unknown
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:	Piper	**Registration:**	N1231C
Model/Series:	PA20 135	**Aircraft Category:**	Airplane
Year of Manufacture:	1953	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	20-967
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	May 15, 2022 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1051 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed	**Engine Model/Series:**	O-320
Registered Owner:	On file	**Rated Power:**	140 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Due to a 2,040-ft increase in elevation between the departure airport (4,200 ft msl) and the accident site (6,240 ft msl), the airplane's climb rate, assuming it was within the center of gravity envelope and the pilot was operating within the airplane owner's handbook instructions, would have decreased from about 477 feet per minute (fpm) to about 360 fpm.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	KLLJ,5040 ft msl	**Distance from Accident Site:**	32 Nautical Miles
Observation Time:	19:55 Local	**Direction from Accident Site:**	124°
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:	30.21 inches Hg	**Temperature/Dew Point:**	30°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Challis, ID (C53)	**Type of Flight Plan Filed:**	None
Destination:	Yellow Pine, ID (3U2)	**Type of Clearance:**	None
Departure Time:	19:30 Local	**Type of Airspace:**	Class G

The calculated density altitude for the accident time and location was about 8,980 ft msl and a pressure altitude of 5,974 ft msl.

Airport Information

Airport:	LOWER LOON CREEK C53	**Runway Surface Type:**	
Airport Elevation:	4200 ft msl	**Runway Surface Condition:**	Rough
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

At the time of departure, the calculated density altitude for the airport was about 6,500 ft and a pressure altitude of 3,930 ft.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	Fire at unknown time
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	44.822667,-114.82533

First responders located the airplane wreckage by air, about 1 ½ miles north of C53. The airplane impacted steep, rising mountainous terrain at an elevation of about 6,240 ft msl on an approximate southerly heading. The main wreckage came to rest upright about 30 ft below the initial impact point and was mostly consumed by fire. All major structural components of the airplane were observed at the accident site.

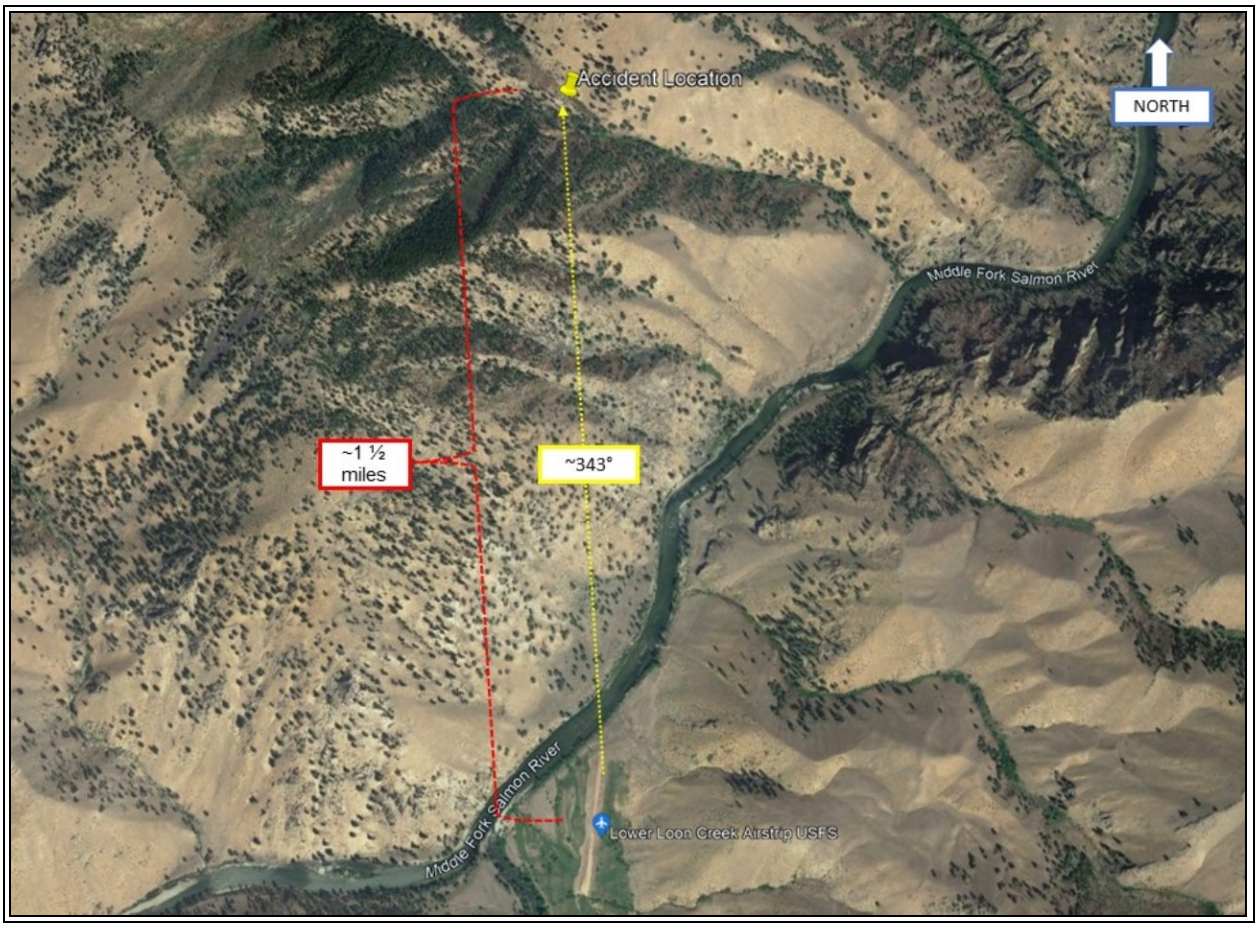
Accident Location
NORTH
Middle Fork Salmon River
~1 ½ miles
~343°
Middle Fork Salmon River
Lower Loon Creek Airstrip USFS

Figure 1: Overview of the accident site location.

Postaccident examination of the recovered airframe and engine did not reveal evidence of any mechanical anomalies that would have precluded normal operation.

Flight control continuity was established from the cockpit to all primary flight controls. Numerous separations were noted within the flight control system with signatures consistent with overload separation or due to the recovery process.

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Kevin Harvey; Federal Aviation Administration; Boise, ID Kathryn Whitaker; Piper Aircraft, Inc.; Vero Beach, FL Troy R Helgeson; Lycoming Engines; Williamsport, PA
Original Publish Date:	February 8, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=105391