



Aviation Investigation Final Report

Location:	Eden, Oregon	Accident Number:	WPR24LA082
Date & Time:	January 26, 2024, 13:29 Local	Registration:	N7473D
Aircraft:	Piper PA-18A 150	Aircraft Damage:	Substantial
Defining Event:	Unknown or undetermined	Injuries:	1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and passenger departed on a scenic flight in northern Oregon. At an undetermined point in the 3-hr-and-36-minute flight they landed at the passenger’s airstrip. It is unknown how much time they spent on the ground, as the occupants could not recall any details from the accident flight. The passenger reported that they were returning from his property when they impacted the ground. The airplane crashed in mountainous terrain about 40 nautical miles (nm) north of the departure airport.

Postaccident examination of the airplane revealed no preimpact mechanical anomalies that could have precluded normal operation. The propeller signatures indicated that the engine was under low power or may have been windmilling at the time of impact. It is unknown if the propeller signatures were due to a loss of power or if the pilot manipulated the throttle control before impact. About 2 gallons of fuel were drained from the right fuel tank and about 7 gallons were drained from the left tank after the accident. It is unknown which tank was selected at the time of the accident, as the fuel selector was in the OFF position at the accident site. The fuel tanks were not breached nor did the fuel system show any evidence of an obstruction.

Further evidence suggests that the airplane was also operating in conditions conducive to potentially serious carburetor ice at cruise power; however, it is unknown if the pilot used carburetor heat during the flight.

The investigation was unable to determine why the airplane impacted the terrain.

Probable Cause and Findings

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

An impact with terrain for undetermined reasons.

Findings

Not determined

(general) - Unknown/Not determined

Factual Information

History of Flight

Unknown

Unknown or undetermined (Defining event)

On January 26, 2024, about 1329 Pacific standard time, a Piper PA-18A-150, N7473D, was substantially damaged when it was involved in an accident near Eden, Oregon. The pilot was seriously injured, and the passenger received minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

Both the pilot and passenger stated that they had a limited recollection of the accident flight. The pilot reported that they departed Joseph State Airport (JSY), Joseph, Oregon, at 0955 with 36 gallons of fuel on board, for a scenic flight. At an unknown point during the flight they landed on a private airstrip owned by the passenger. The passenger reported that they were returning from his property when they impacted the ground, about three hours into the flight. The pilot and passenger could not remember any further details.

According to first responders, the fuel selector was in the OFF position at the accident site. A representative of the recovery team reported that he drained about 2-3 gallons from the right-wing fuel tank and about 7 gallons from the left-wing fuel tank.

Postaccident examination of the airplane and engine revealed no preimpact mechanical anomalies that would have precluded normal operation. Both propeller blades were straight and remained attached to the crankshaft at the propeller hub. One blade tip was bent towards the camber side of the blade and the other blade tip was bent towards the blade face. The engine ran smooth and continuously during an engine test run and the fuel system (from the fuel lines at the wing roots to the engine) functioned normally when fuel was plumbed into the lines. A small oil leak was observed at the No. 3 cylinder exhaust tube and the engine was subsequently shut down for safety reasons. The fuel tanks were not compromised.

The airplane impacted mountainous terrain at a field elevation of about 2,900 ft mean sea level (msl) and was about 30 nm from the nearest airport with an onsite weather reporting station. A High-Resolution Rapid Refresh (HRRR) model sounding was created for the accident time and location. As the pilot and passenger were unable to recall their altitude before the airplane crashed, the model sounding was created from various altitudes. At an elevation of 3,900 ft msl, the HRRR sounding indicated the temperature was about 38° F and the dewpoint was about 29° F (“1” in Figure 1); the wind was from 207° at 3 kts.

At an elevation of 4,900 ft msl, the HRRR sounding indicated the temperature was about 32° F and the dewpoint was about 23° F (“2” in Figure 1); the wind was from 204° at 9 kts.

At an elevation of 5,900 ft msl, the HRRR sounding indicated the temperature was about 31° F and the dewpoint was about 20° F (“3” in Figure 1); the wind was from 201° at 11.5 kts.

According to the model sounding, the airplane was operating in conditions conducive to serious icing at cruise power at 3,900 ft msl (1,000 ft above ground level). At higher altitudes, the conditions were conducive to icing at both glide and cruise power.

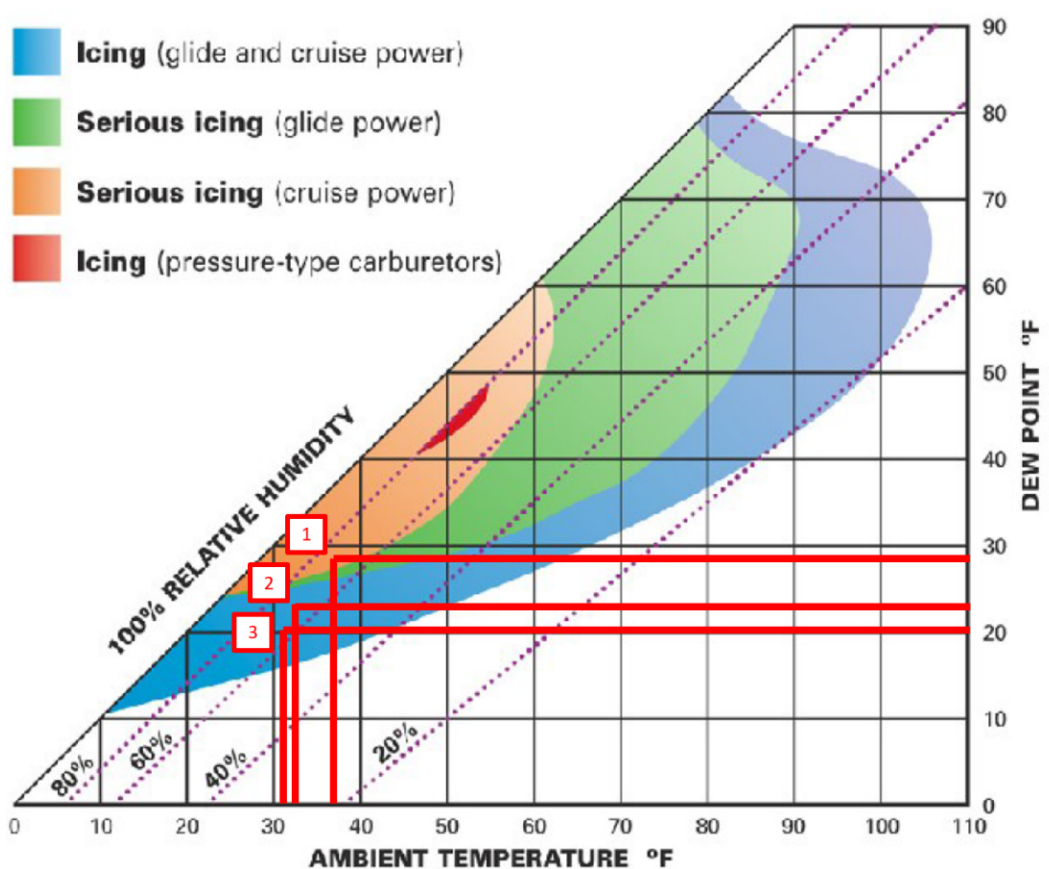


Figure 1: Carburetor icing probability chart from Federal Aviation Administration Special Airworthiness Information Bulletin CE-09-35

According to the airplane manufacturer, a manual was not developed for this airplane as it was not required when it was certificated under Civil Aviation Regulations 3. In addition, no fuel consumption information was found in the airplane’s type certificate. Fuel computations were derived from the Lycoming engine manual, which listed fuel consumption of 16.1 gph at 2,700 rpm and 200 hp, 12.3 gph at 75% power and 150 hp, and 9.5 gph at 65% power and 130 hp. The fuel consumption for the accident flight was computed based on the fuel quantity determined by recovery personnel at the accident site and the total time in flight (216 minutes). The total calculated rate of consumption from the accident flight was about 8 gph.

The airplane crashed about 40 nm miles north of its departure airport. The estimated time en route from the accident site to the pilot's departure airport was calculated using a normal cruise airspeed of about 85 kts, and the rate of fuel consumption during the accident flight. If the pilot had elected to proceed home from the accident site, the engine would have consumed about 3-4 gallons of fuel.

Pilot Information

Certificate:	Private	Age:	44, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 19, 2023
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 31, 2023
Flight Time:	1008.1 hours (Total, all aircraft), 532.2 hours (Total, this make and model), 22.3 hours (Last 90 days, all aircraft), 4.3 hours (Last 30 days, all aircraft)		

Passenger Information

Certificate:		Age:	Male
Airplane Rating(s):		Seat Occupied:	Rear
Other Aircraft Rating(s):		Restraint Used:	4-point
Instrument Rating(s):		Second Pilot Present:	
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:	N7473D
Model/Series:	PA-18A 150	Aircraft Category:	Airplane
Year of Manufacture:	1957	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	18-5808
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	February 24, 2024 Annual	Certified Max Gross Wt.:	1750 lbs
Time Since Last Inspection:	60 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	10046 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C91A installed, not activated	Engine Model/Series:	O-320-A2B
Registered Owner:	On file	Rated Power:	150 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KALW, 1205 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	01:05 Local	Direction from Accident Site:	285°
Lowest Cloud Condition:		Visibility:	0.5 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.25 inches Hg	Temperature/Dew Point:	-2°C / -2°C
Precipitation and Obscuration:	Moderate - Freezing - Fog		
Departure Point:	Joseph, OR (JSY)	Type of Flight Plan Filed:	None
Destination:	Joseph, OR (JSY)	Type of Clearance:	None
Departure Time:	09:55 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor	Latitude, Longitude:	45.9624,-117.5821

Administrative Information

Investigator In Charge (IIC):	Stein, Stephen
Additional Participating Persons:	Troy Helgeson; Lycoming Engines; Williamsport, PA Kathryn Whitaker; Piper Aircraft Company; Vero Beach, FL Craig Karel; Federal Aviation Administration; Boise, ID
Original Publish Date:	November 26, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=193733

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).