



Aviation Investigation Final Report

Location:	La Grande, Oregon	Accident Number:	WPR19FA256
Date & Time:	September 8, 2019, 10:00 Local	Registration:	N6300Z
Aircraft:	Piper PA32	Aircraft Damage:	Destroyed
Defining Event:	VFR encounter with IMC	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed on a visual flight rules cross country flight. GPS data revealed that, about 30 minutes into the flight, the airplane began deviating from its previously established on-course heading to the destination. During the last 5 minutes of the flight, the airplane's altitude and heading varied, and during the last minute of the flight, the airplane climbed about 400 ft and its ground speed slowed from 140 knots (kts) to about 53 kts. The airplane then entered a descent that continued until the end of the recorded data, about 450 ft from the accident site. The fragmentation of the airplane and distribution of the wreckage were consistent with a high-speed impact. Examination of the wreckage revealed no evidence of any preimpact mechanical malfunctions or anomalies that would have precluded normal operation.

Weather reports near the departure airport, along the route of flight, and at the destination airport indicated visual meteorological conditions with light rain, 10 statute miles visibility, and overcast cloud ceilings beginning at 3,300 ft above ground level; however, an AIRMET for instrument flight rules conditions and mountain obscuration was valid for the area of the accident site at the time of the accident. Satellite imagery identified cloudy conditions across the accident region, including the accident site, weather radar displayed light rain in the area of the accident site, and witnesses reported rain and heavy fog in the area near the accident site about the time of the accident; therefore, it is likely that the pilot encountered instrument meteorological conditions. The extent of the pilot's preflight weather planning and what information he may have accessed before departure could not be determined.

The pilot held an instrument rating, and the airplane was equipped for instrument flight; however, neither the recency of the pilot's instrument experience nor his level of instrument proficiency could be determined.

Based on the available information, the pilot likely encountered instrument meteorological conditions in flight, which resulted in spatial disorientation, a loss of control, and 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 decision to continue visual flight rules flight into instrument meteorological conditions, which resulted in spatial disorientation and a loss of control.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	Spatial disorientation - Pilot
Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained
Environmental issues	Low visibility - Contributed to outcome

Factual Information

History of Flight

Enroute-cruise	VFR encounter with IMC (Defining event)
Enroute-cruise	Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On September 8, 2019, about 1000 Pacific daylight time, a Piper PA32-300 airplane, N6300Z, was substantially damaged when it was involved in an accident near La Grande, Oregon. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to a relative, the pilot had flown from Ontario Airport (ONO), Ontario, Oregon, to Richland Airport (RLD), Richland, Washington, and was expected to return on the day of the accident. The pilot departed RLD for ONO, as shown in Figure 1.

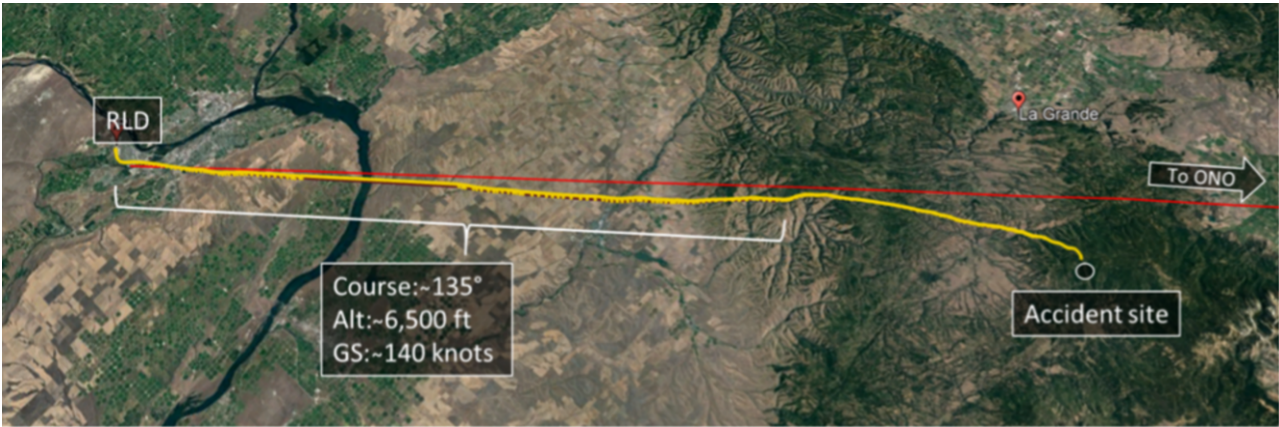


Figure 1. Capture of the flight route of N6300Z.

Download from a hand-held GPS unit revealed that the airplane departed RLD at 0941, turned to the southeast, climbed to about 6,500 ft GPS altitude and maintained about 140 knots (kts) ground speed. The airplane followed a heading consistent with a direct track to ONO. About 70 miles southeast of RLD, about 1010, the airplane began to diverge to the south. During the last 5 minutes of the flight, the track varied, as shown in Figure 2. The airplane’s altitude was between 6,500 to 7,000 ft, and the ground speed was between 130 and 140 knots.



Figure 2. Capture of the last 5 minutes of the recorded flight route. The blue arrow indicates the direction of travel.

About 1019:01, the airplane was about 7,000 ft, at 122 knots, when it entered a descent. At 1019:18, the airplane had descended to 6,698 ft and accelerated to 143 kts. At 1019:37, the airplane began a climb to 7,444 ft and decelerated to 53 kts. The airplane then began a descent that continued until GPS data ended at 1019:47. The last recorded data indicated that the airplane was at 6,278 ft and 109 kts, and about 450 ft from the accident site, as shown in Figure 3.

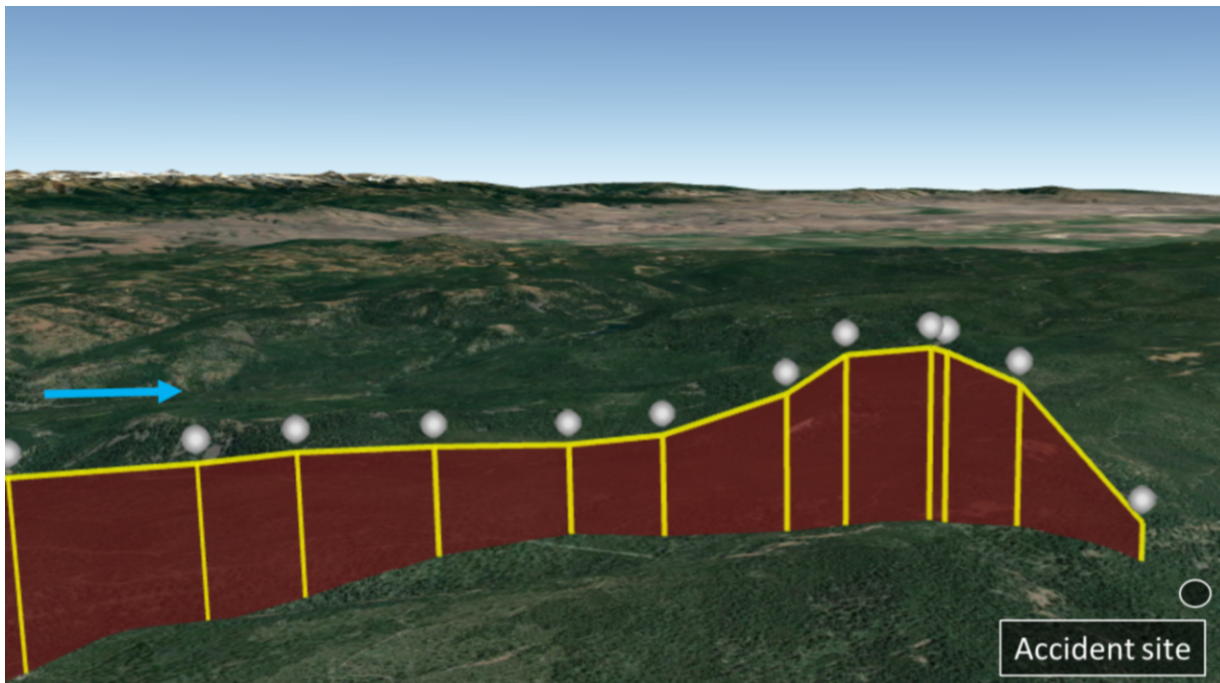


Figure 3. Capture of the last minute of the recorded vertical flight path. The blue arrow indicates the direction of travel.

Three hunters located at their campsite reported that they heard an airplane fly over but could not see it. After the airplane passed, they heard a pop, and then silence. They indicated that the weather at the time was rainy with heavy fog. The campsite was less than one half mile northeast of the accident site.

Pilot Information

Certificate:	Commercial	Age:	82, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	June 20, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	2243 hours (Total, all aircraft), 2243 hours (Total, this make and model)		

The pilot held a commercial pilot certificate with ratings for airplane single-engine land, airplane multiengine land, and instrument airplane, and a flight instructor certificate with ratings for airplane single and multiengine. The pilot's recent logbook was not made available, and it could not be determined if he was instrument current. There was no documentation of an instrument proficiency check within the past year. The pilot did not hold an FAA medical certificate but had completed the requirements for operation under BasicMed on March 24, 2018.

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N6300Z
Model/Series:	PA32 300	Aircraft Category:	Airplane
Year of Manufacture:	1968	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	32-40487
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	September 12, 2018 100 hour	Certified Max Gross Wt.:	3400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	C91 installed, not activated	Engine Model/Series:	TI0-540 SER
Registered Owner:	On file	Rated Power:	310 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

The pilot purchased the airplane in December 1994, and in 2001, installed an S-TEC Systems autopilot and a Garmin GNS-430 GPS/com/VLOC/GS (IFR) system. In June 2005, the pilot upgraded to a GNS-430W wide area augmentation system (WAAS) and a GTX-345, which provided ADS-B capability and weather information for the GNS-340W. A Garmin 296 hand-held GPS was also onboard the airplane and contained the entire accident flight in non-volatile memory.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KLGD, 2718 ft msl	Distance from Accident Site:	17 Nautical Miles
Observation Time:	10:00 Local	Direction from Accident Site:	54°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	Overcast / 3300 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	13°C / 11°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Richland, WA (RLD)	Type of Flight Plan Filed:	None
Destination:	Ontario, OR (ONO)	Type of Clearance:	None
Departure Time:	09:00 Local	Type of Airspace:	Class G

Automated weather for RLD about the time of the departure included wind from 150° at 5 knots, 10 miles or greater visibility, scattered clouds at 6,000 ft above ground level (agl), overcast ceiling at 6,500 ft agl, temperature 19°C, dew point temperature 13°C, and barometric pressure of 29.86 inches of mercury.

Automated weather for ONO about the time of departure from RLD included wind from 320° at 5 knots, 10 statute miles or greater visibility, light rain, a broken cloud ceiling at 8,000 ft agl, overcast ceiling at 9,500 ft agl, temperature 18°C, dew point temperature 15°C, and barometric pressure of 29.87 inches of mercury.

The closest weather reporting station to the accident site was La Grande/Union County Airport (LGD), La Grande, Oregon, located about 15 miles northeast of the accident location at an elevation of about 2,715 ft mean sea level (msl). The automated report at 0956 recorded wind from 300° at 8 knots, 10 miles or greater visibility, light rain, overcast ceiling at 3,300 ft agl, temperature 13°C, dew point temperature 11°C, and barometric pressure 29.94 inches of mercury.

Satellite imagery identified cloudy conditions across the accident region. Infrared imagery depicted minimum brightness temperatures immediately above the accident location of about -31°C, which, when considering the high-resolution rapid refresh sounding, corresponded to cloud top heights near 26,400 ft msl, as shown in Figure 4.

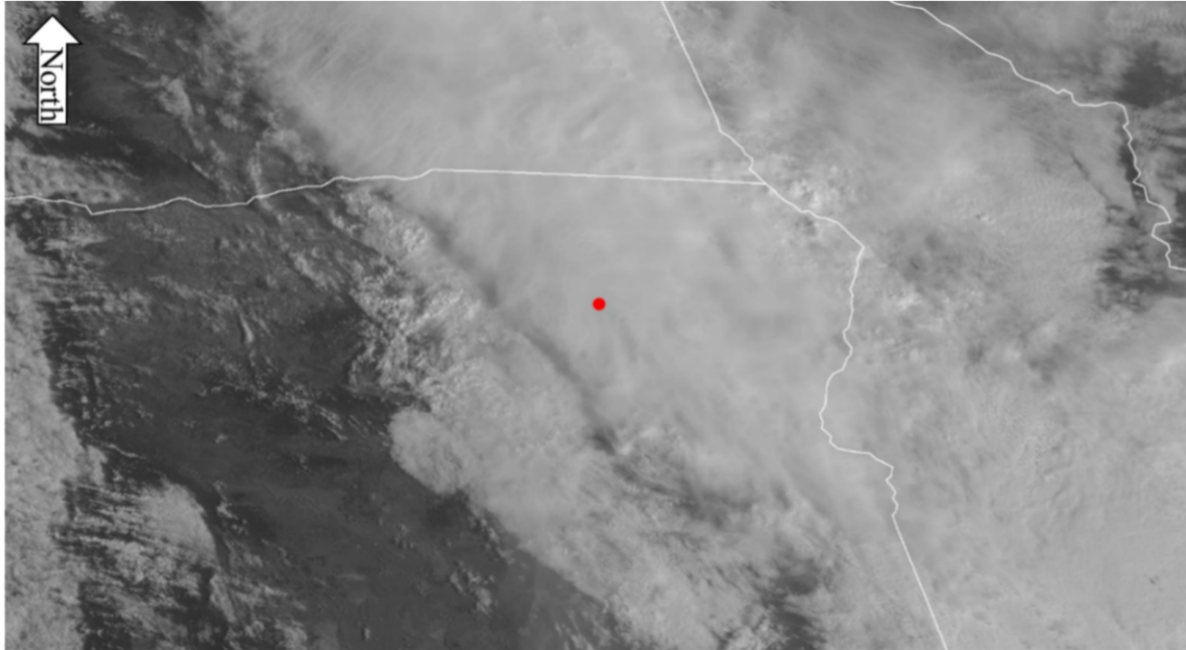


Figure 4. Satellite imagery showing cloud coverage. The accident site is identified by a red dot.

Weather radar from Pendleton, Oregon, located about 40 miles northwest of the accident site at an elevation of 1,580 ft msl, identified the accident site in an area of light precipitation, as shown in Figure 5.

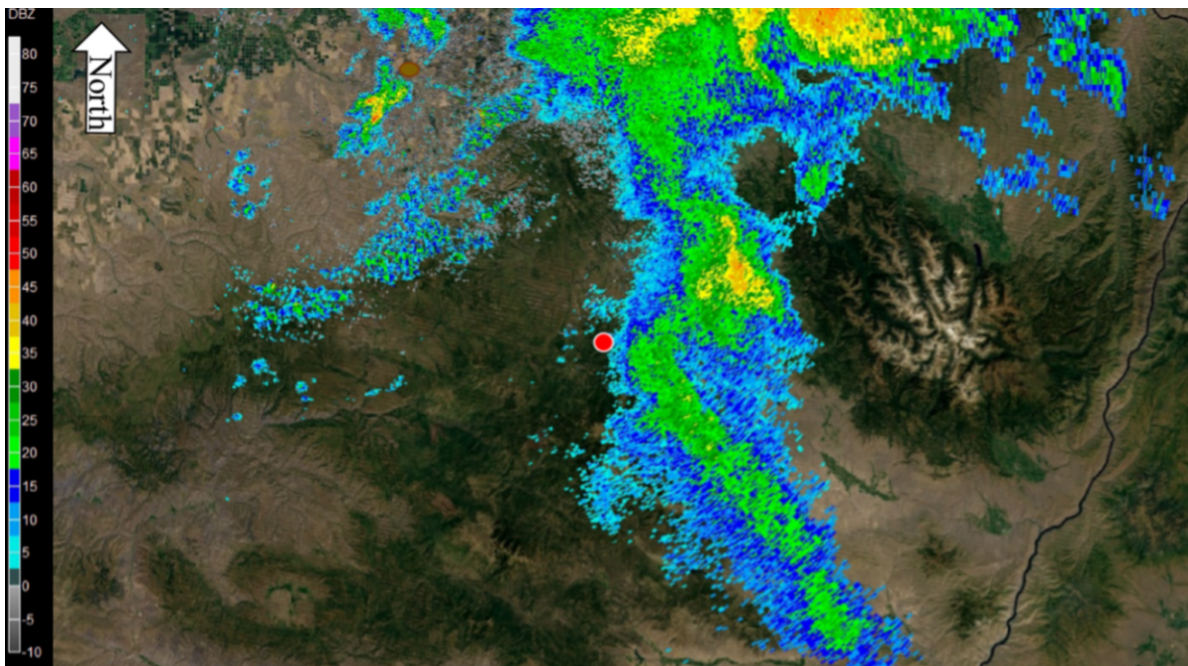


Figure 5. Weather radar showing light precipitation. The accident site is identified by a red dot.

AIRMET Sierra, issued at 0745 for instrument flight rules conditions and mountain obscuration below 17,000 ft msl, was active for the accident location at the accident time.

Whether the pilot accessed any preflight weather information could not be determined.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	45.146389,-118.293334(est)

The airplane came to rest on a steep slope in wooded terrain at an elevation of 5,901 ft msl. The vegetation surrounding the accident site comprised mostly of pine trees ranging in height from saplings to about 80 ft tall. The airplane was oriented on a heading of about 225° magnetic, facing downhill on a slope of about 30°. The first point of impact was a freshly cut swath of trees located northeast of the wreckage and extended about 200 ft. Numerous components, including sections of the left and right wings, engine cylinders, fragments of the fuselage, and parts of the main landing gear, were found along the debris path. Multiple trees at the top of the debris field exhibited damage beginning about 50 ft above the ground and continuing down at a constant angle.

The airframe and engine were heavily damaged. The instrument panel and firewall were fractured into multiple pieces. The flight instruments were unreadable. Both wings and the engine separated from the fuselage. The left and right wings were heavily damaged and fragmented into multiple sections. The stabilator separated from the empennage. Three cylinders were separated from the left side of the engine case. Large portions of the engine case had separated from the engine, exposing the inside of the case. One propeller blade displayed spanwise curling and about 6 inches of the propeller tip was missing. The opposite propeller blade displayed minimal damage.

Examination of the airframe and engine revealed no mechanical malfunctions or failures that would have precluded normal operation.

Additional Information

The Pilot's Handbook of Aeronautical Knowledge, FAA-H-8083-25B, states, in part,

Under normal flight conditions, when there is a visual reference to the horizon and ground, the sensory system in the inner ear helps to identify the pitch, roll, and yaw movements of the aircraft. When visual contact with the horizon is lost, the vestibular system becomes unreliable. Without visual references outside the aircraft, there are many situations in which normal motions and forces create convincing illusions that are difficult to overcome... Unless a pilot has many hours of training in instrument flight, flight should be avoided in reduced visibility or at night when the horizon is not visible. A pilot can reduce susceptibility to disorienting illusions through training and awareness and learning to rely totally on flight instruments.

Administrative Information

Investigator In Charge (IIC):	Salazar, Fabian
Additional Participating Persons:	Mark Platt; Lycoming Engines; Phoenix, AZ Kathryn Whitaker; Piper Aircraft; Phoenix, AZ Gregory Horrell; Boise, FSDO; Boise, ID
Original Publish Date:	October 15, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=100236

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