



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Port Orford, Oregon	Accident Number:	WPR17FA052
Date & Time:	January 13, 2017, 11:25 Local	Registration:	N81839
Aircraft:	Piper PA 28-236	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The 79-year-old private pilot was making a local personal flight in his airplane when he reported over the aircraft emergency frequency that he was losing vision in one of his eyes. About the same time, a radar target using the emergency transponder squawk code was acquired traveling northbound along the coastline. The airplane wreckage was subsequently located on a beach close to the last radar target. The damage to the airplane was consistent with a high-speed, left wing-low impact due to a loss of control.

According to the pilot's son, the pilot had been diagnosed with multiple chemical sensitivity and had a history of sudden vision loss, sometimes in just one eye but at other times in both eyes, which had been attributed to his chemical sensitivity. He had not reported the episodes of vision loss or the chemical sensitivity on any of his Federal Aviation Administration (FAA) medical applications. His most recent FAA medical certificate had expired 5 years before the accident, and it had been 5 years since he had accomplished a flight review. The pilot continued to fly, and his flight instructor, who had given the pilot his last flight review and flew with him 1 year before the accident, reported a significant degradation in the pilot's flying skills.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of vision during cruise flight, which resulted in a loss of aircraft control. Contributing to the accident was the pilot's decision to fly with a known medical condition.

Findings

Personnel issues	Illness/injury - Pilot
Personnel issues	Decision making/judgment - Pilot
Aircraft	(general) - Not attained/maintained
Personnel issues	Visual function - Pilot
Personnel issues	Qualification/certification - Pilot

Factual Information

History of Flight

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

On January 13, 2017, about 1125 Pacific standard time, a Piper PA28-236 airplane, N81839, impacted a beach near Port Orford, Oregon. The private pilot was fatally injured, and the airplane sustained substantial damage. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed, and no flight plan had been filed. The local personal flight departed Southwest Oregon Regional Airport (OTH), North Bend, Oregon, at 1016.

The pilot's son stated that earlier in the week, his father had told him he planned to fly the airplane along the Oregon coast once the weather had cleared.

On the morning of the accident, having received his takeoff clearance from the OTH air traffic control tower, the pilot indicated his intention to depart to the north and fly along the coast. At 1019, about 3 minutes after takeoff, he advised being clear of the airport's Class D airspace. At 1046, he reported to OTH tower that he was 10 miles north of the airport at 1,500 ft. He requested and was granted a transition southbound along the coastline to the west, and the tower controller requested that he report crossing the extended centerline of runway 4; the pilot reported his position at 1052. The tower controller acknowledged and requested that the pilot report when he had exited the airport's airspace to the south. The pilot responded affirmative; however, by 1103, the tower controller had not received an update. The controller requested a position report, and the pilot responded, "I'm having trouble with err headphones err, say again." The controller asked that the pilot verify he was clear of the airspace, but only a muffled response was received.

About 10 minutes later, controllers at the Seattle Air Route Traffic Control Center (Seattle Center) received reports from the crews of both a Coast Guard helicopter and an Air Force airplane that the pilot was transmitting on the aircraft emergency frequency (121.5Mhz), indicating that he had lost vision in one eye.

Due to terrain, radar data was limited; however, at 1122, a radar target using the emergency transponder squawk code of 7700 was acquired traveling northbound along the coastline, just west of Port Orford, about 44 miles southwest of OTH. The target was present for 24 seconds, during which time it descended from 1,300 to 1,225 ft mean sea level while traveling at a groundspeed of about 100 knots.

An Alert Notice was subsequently issued, and at 1307, a Coast Guard helicopter crew located the airplane wreckage on a beach, 4 miles north of the last recorded radar target and 3.5 miles south of Cape Blanco State Airport (5S6).

Pilot Information

Certificate:	Private	Age:	79, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	September 10, 2009
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 27, 2011
Flight Time:	(Estimated) 1300 hours (Total, all aircraft), 1300 hours (Total, this make and model)		

The 79-year-old pilot held a private pilot certificate with ratings for airplane single-engine land and instrument airplane. His most recent third-class medical certificate was issued on September 10, 2009, with the limitation that he must have available glasses for near vision; this medical certificate expired on September 30, 2011. At the time of the medical examination, he reported a total flight experience of 1,300 hours.

The pilot's most recent flight review took place on October 27, 2011. The flight instructor who performed the review stated that, during the flight review, the pilot showed good judgement and flying skills but was a little "rusty." The flight instructor reported that he last flew with the pilot about 1 year before the accident and that during that flight he noticed a considerable degradation in the pilot's performance. He stated that the pilot had difficulty with basic flying skills, appeared confused during radio communications, and was flying "well behind the airplane." Following the flight, when the flight instructor relayed his concern about the pilot's flying skills, the pilot told the flight instructor that he was aware of his shortcomings but felt confident he could get current with a little more flight instruction. The instructor shared an adjacent hangar to the pilot's hangar and had known him for about 15 years. He was surprised that the pilot had flown on the day of the accident, as he was not aware of him taking any more flying lessons and was not sure that the pilot had flown again since the year before.

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N81839
Model/Series:	PA 28-236 236	Aircraft Category:	Airplane
Year of Manufacture:	1980	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-8011099
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	March 20, 2016 Annual	Certified Max Gross Wt.:	3000 lbs
Time Since Last Inspection:	1 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2725.8 Hrs as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-540-J3A5D
Registered Owner:	On file	Rated Power:	250 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

The airplane was manufactured in 1980 and purchased by the pilot in 1992. The most recent maintenance event was an annual inspection that was completed on March 20, 2016, at a total airframe time of 2,725.8 flight hours. During the period between October 2011 and March 2016, the airplane received four annual inspections and had accrued 11.5, 1.7, 4.2, and 13.7 hours of annual flight time, respectively, between the inspections.

The airplane was maintained by the pilot's flight instructor, who also performed the annual inspections. He stated that to the best of his knowledge, the pilot was the only person who flew the airplane.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KOTH, 17 ft msl	Distance from Accident Site:	38 Nautical Miles
Observation Time:	19:15 Local	Direction from Accident Site:	19°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.31 inches Hg	Temperature/Dew Point:	7°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	NORTH BEND, OR (OTH)	Type of Flight Plan Filed:	None
Destination:	NORTH BEND, OR (OTH)	Type of Clearance:	None
Departure Time:	10:16 Local	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	42.806945,-124.532218

Due to rising tides, the airplane was expeditiously removed from the accident site by a local automobile towing and recovery company. An FAA inspector performed a brief visual assessment of the airplane wreckage after it had been loaded onto the recovery trailer; however, the recovery company disposed of the airplane before the National Transportation Safety Board was able to perform a more thorough examination. Therefore, the following information was derived from photographs provided by the Oregon State Police.

The airplane came to rest surrounded by water in the middle of the northern tip of a sandspit, about 50 ft from the ocean and 600 ft from the beach cliffs to the east (Photo 1). A debris field consisting of the nose landing gear and small composite fragments led from the ocean swash to the main wreckage. Beyond the wreckage, sand and cabin contents had been ejected about 50 ft east.



Photo 1 – Location of Wreckage on the Sandpit

The cabin was on a north heading and had sustained crush damage from the firewall through to the leading edge of the vertical stabilizer. The left wing had folded back parallel to the tailcone and was resting on top of the left horizontal stabilizer. The left wing had sustained leading edge crush damage through to the main spar along its entire length with the damage deeper and more pronounced at the tip. The right wing remained attached to the cabin and had sustained leading edge crush damage through to the main spar along its entire length (Photo 2). All flight control surfaces remained attached to their respective attach points.



Photo 2 – Accident Site Facing North

The engine remained partially attached to the firewall and was submerged in the sand. The three blades of the propeller remained attached to the hub, which had broken away from the crankshaft.

Medical and Pathological Information

According to the pilot's son, the pilot had a longstanding diagnosis of "multiple chemical sensitivity." In addition, he had episodes of sudden vision loss, sometimes in just one eye but at other times in both eyes, which had been attributed to his chemical sensitivity. The most recent event had occurred while he was driving on a highway about 1 year before the accident. During that event, he lost all vision and was only able to exit the highway by feeling the vibration of the rumble strips.

Regarding the chemical sensitivity, the pilot's son stated that his father was particularly sensitive to odors such as perfumes and soaps. This condition had been present for as long as he could remember but

came to a head in 2007, when the pilot began to experience strong and rapid onset of flu-like symptoms and hives. When driving, he would always drive with the windows open, in a specific vehicle, because other vehicles could trigger his symptoms. He was able to fly without experiencing any symptoms and attributed this to the fresh air at altitude. His son had also noticed a recent deterioration of the pilot's hearing. He was regularly misinterpreting words the week before the accident, and his son recommended that he have his hearing checked.

The flight instructor stated that the pilot was hesitant to discuss his medical condition but had stated a few years before the accident that he was not going to fly anymore because his medical certificate had expired. The flight instructor was not aware of issues with the pilot's eyesight, but about 5 to 6 years prior, he had seen the pilot's face go very red and become inflamed. The pilot told him that this was due to chemical sensitivities.

According to the autopsy performed by the Curry County Medical Examiner, Curry County, Oregon, the pilot's cause of death was massive blunt trauma. Due to the severity of damage to the body, the eyes could not be examined. There were no obvious signs of natural disease in the brain, but the cerebral vessels were described as having "diffuse, moderate to focally severe atherosclerosis." The heart was described as having "concentric hypertrophy measuring approximately 2 cm in thickness. The right ventricle averages 0.8 cm in thickness." The coronary arteries showed areas of multivessel, moderate to severe calcific atherosclerosis approaching 70 to 80% narrowing.

Toxicology testing performed by the FAA's Bioaeronautical Sciences Research Laboratory did not identify the presence of any screened drug substances or ingested alcohol.

At the time of the pilot's last medical certificate application in 2009, he reported occasional heartburn and the use of over-the-counter medication to treat it. He did not disclose the chemical sensitivity diagnosis nor his vision problems on any of his FAA medical certificate applications.

Administrative Information

Investigator In Charge (IIC):	Simpson, Elliott
Additional Participating Persons:	Erik Ramseyer; Federal Aviation Administration FSDO; Hillsboro, OR
Original Publish Date:	September 4, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=94606

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](#).