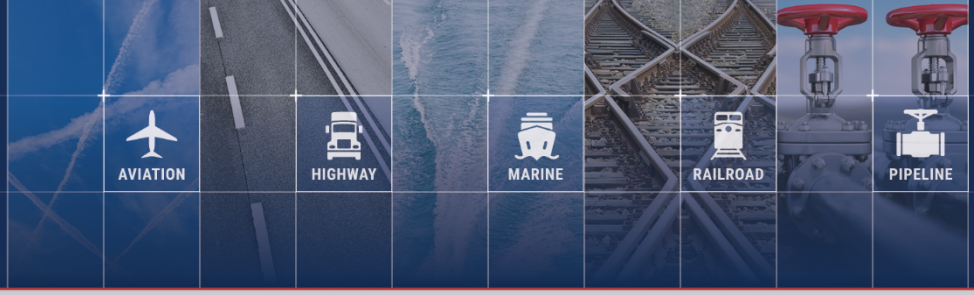

Aviation Investigation Final Report

Location:	Millersburg, Ohio	**Accident Number:**	CEN11FA557
Date & Time:	August 8, 2011, 04:55 Local	**Registration:**	N2286P
Aircraft:	Piper PA-23	**Aircraft Damage:**	Substantial
Defining Event:	Loss of visual reference	**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot received a weather briefing on the day before the visual flight rules flight during which he was informed that the weather conditions near his destination would be deteriorating. The pilot departed in night visual conditions. Toward the end of his planned flight, he flew over the destination airport but was unable to see it due to weather conditions that he described to an air traffic controller as “too thick.” The pilot informed the controller that he wanted to fly back toward Columbus, Ohio. About 1 minute later, the pilot informed the controller that he wanted to change his destination to a second airport, which is located about 24 miles northwest of his original destination. While en route to the second airport, the pilot was informed of a notice to airmen indicating that the runway lights at that airport were out of service. Fourteen minutes later, the air traffic controller in communication with the pilot asked if he wanted another airport or to proceed to his second destination. The pilot stated that, once again, he wanted to head back to Columbus. Shortly thereafter, the pilot informed the controller that he wanted to land at a third airport. On the approach to the third airport, the pilot was initially unable to see it because fog was in the area and the airport beacon was out of service; further, he was using the wrong frequency to activate the pilot-controlled runway lights. An air traffic controller informed the pilot of the correct frequency and shortly thereafter the pilot reported that he had the runway in sight. Several witnesses reported seeing and hearing the airplane as it flew over the area. One witness, who was a pilot living adjacent to the airport, stated that he heard the airplane make three passes over the airport from different directions beginning about 25 minutes before the accident. The airplane subsequently impacted trees and terrain in an upsloping wooded area that bordered the south side of the airport. A postaccident examination of the airplane and engines did not reveal any preimpact mechanical failures or malfunctions that would have precluded normal operation. It is likely that the pilot was unable to see the airport and continued to fly in the vicinity searching for the runway, and subsequently lost situational awareness and struck trees.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain clearance with terrain during the landing approach in night conditions and fog. Contributing to the accident was the pilot's inadequate preflight planning.

Findings

Aircraft	Altitude - Not attained/maintained
Personnel issues	(general) - Pilot
Personnel issues	(general) - Pilot
Environmental issues	Dark - Contributed to outcome
Environmental issues	Fog - Contributed to outcome

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of visual reference (Defining event)
Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On August 8, 2011, about 0455 eastern daylight time, a Piper PA-23 airplane, N2286P, collided with trees and terrain while maneuvering to land at the Holmes County Airport (10G), Millersburg, Ohio. The commercial pilot and two passengers received fatal injuries. The airplane was registered to and operated by the pilot under 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed and no flight plan was filed. The flight originated from the Sullivan County Airport (SIV), Sullivan, Indiana, about 0135.

The original route of flight was intended to be from SIV to the Jefferson County Airpark (2G2), Steubenville, Ohio. The purpose of the flight was to fly one of the passengers to Steubenville, so that she could be with a family member who was having a medical procedure performed.

The pilot contacted the Indianapolis air route traffic control center (ARTCC) at 0138 requesting visual flight rules (VFR) flight following, stating that he had just departed SIV and was en route to 2G2. At 0145, the pilot reported to air traffic control that they were in a layer of clouds and that he was going to climb to 7,500 feet. The airplane subsequently descended to 5,500 feet and continued on toward 2G2.

At 0325, the airplane was instructed to contact Cleveland ARTCC. The pilot checked in with Cleveland and was given a squawk code. At 0341, the pilot was advised to contact Pittsburgh approach control.

The pilot contacted Pittsburgh approach and was cleared through the Class B airspace and instructed to maintain VFR. The pilot advised the controller that he was going to descend to 3,500 feet and that he intended to land at 2G2. The controller instructed the pilot to report having the airport in sight.

At 0351, the controller asked the pilot how he was doing and the pilot responded that he was looking for the airport and couldn't find it. The controller informed the pilot that the airport was to his north. The controller then told the pilot that he could descend to 3,000 feet and the controller issued a vector to the airport. At 0353, the controller informed the pilot that he was over the airport. The pilot was unable to see the airport stating it was a little "too thick." The controller asked the pilot what his intention was and the pilot responded that he wanted to fly back toward Columbus. The controller asked the pilot if he had enough fuel and the pilot

responded that yes he did. The controller instructed the pilot to maintain VFR and suggested an altitude of 4,500.

At 0354, the pilot reported that they wanted to proceed to the Carrollton County Airport, Carrollton, Ohio (TSO). TSO is located approximately 24 miles northwest of 2G2. The controller instructed the pilot to contact the Cleveland ARTCC and to let them know what his intentions were. The pilot acknowledged the instruction and subsequently checked in with the Cleveland ARTCC.

At 0404, the controller advised the pilot that there was a Notice to Airmen (NOTAM) that the runway lights for runway 7/25 were out of service.

At 0417, the controller asked the pilot if he wanted to try another airport or if he still wanted to go to TSO. The pilot responded that they were going to head back to Columbus at 6,500 feet. The pilot was instructed to contact the Indianapolis ARTCC and the pilot complied with that instruction.

The pilot informed the controller, at 0438, that he was changing his destination from Columbus to 10G. The controller acknowledged the change. Approximately 0437, the controller informed the pilot that he was over the airport and asked if he could see the ground. The pilot stated that he could see the ground and he was looking for the airport. A short time later the controller informed the pilot that he was now east of the airport and asked the pilot if he could see the airport. The pilot replied that they could not see the airport. About a minute later the controller asked the pilot if he clicked the lights on. The pilot responded yes, but that apparently they weren't working. The controller stated that there were no NOTAMS regarding the lights. The pilot responded "ok … just must be obscured to us then." The controller then informed the pilot that the frequency for the lights was 123.4. When the pilot did not respond, the controller again stated that the frequency for the lights was 123.4 and asked the pilot if that was the frequency that he used. The pilot responded "123.4?" At 0453, the controller twice informed the pilot that radar contact was lost and asked if he could hear her. The pilot then responded that he had the runway in sight. The controller verified with the pilot that he had the runway in sight. The controller instructed the pilot to squawk VFR and that radar service was terminated. The pilot responded, "thank you, good day."

Several witnesses reported seeing and hearing the airplane between 0430 and 0445 as it flew over the Millersburg area. One witness, who was a pilot living adjacent to the airport, stated he heard the airplane make three passes over the airport from different directions beginning around 0430. He stated that around 0500 he went to the airport, turned on the runway lights, and made a call over the universal communications (UNICOM) frequency inquiring if the airplane circling the airport needed assistance. He did not receive a reply. He assumed the airplane diverted to another airport "…where the fog was not as thick… ." This witness stated the airplane sounded normal and as if both engines were running. He stated there was fog in the area at the time he heard the airplane and that he could see vertically through the fog.

Another witness who was outside his residence located about 2 ¼ miles northeast of the airport reported hearing the airplane at 0445. This witness stated the airplane was low and headed south when it flew almost directly over his house. He stated he was able to see a “flash” from the light (rotating beacon) on the tail of the airplane and wondered why an airplane was flying in the fog. The witness reported that the airplane’s engines sounded normal.

The wreckage was located by a State Highway Patrol helicopter on August 9, 2011, at approximately 1130.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with airplane single-engine land, airplane multi-engine land, and instrument ratings issued March 26, 2011. The pilot was issued a third-class airman medical certificate, with no restrictions, on August 10, 2009.

The pilot’s logbook contained flights dated from June 12, 1994, when the pilot began flying, through August 3, 2011. The logbook indicated the pilot had approximately 412 hours of total flight time. The logbook showed the pilot had a total of 74 hours of multi-engine flight time, of which 73 hours were in the accident airplane. The pilot had a total of 11.1 hours of actual instrument flight time of which 8.5 hours were in the accident airplane. In addition, the logbook showed the pilot had a total of 71.7 hours of simulated instrument flight time, of which 7.0 hours were in the accident airplane and 16.7 hours were in a flight simulator.

Federal Aviation Administration airman records indicate the pilot’s certification history as follows:

October 7, 1986 - Private pilot certificate issued with airplane single-engine land rating.

May 20, 2010 - Failed practical test for instrument rating. Areas to be re-examined were "Air Traffic Control Clearances and Procedures" and "Instrument Approach Procedures."

May 23, 2010 - Passed instrument flight test.

May 26, 2011 - Failed practical test for multi-engine rating. Areas to be re-examined were "Takeoffs, Landings, and Go-Arounds."

May 26, 2011 - Re-tested on same day and passed multi-engine flight test.

AIRCRAFT INFORMATION

The accident airplane was a Piper PA-23, serial number 23-897. It was a four-place, low-wing, twin-engine airplane with retractable landing gear. The airplane was purchased by the accident pilot on September 20, 2010. The airplane was issued a standard airworthiness certificate on

January 30, 1957. The airplane was equipped with two Lycoming O-320-A3B engines.

Maintenance records indicate that the last annual inspection on both the airplane and engines was conducted on July 28, 2011. The total airframe time at the time of the inspection was 5,720.84 hours. The total time on the left engine at the time of the inspection was 5,720.84 and the time since major overhaul was 450.73. The total time on the right engine was 5,713.21 and the time since major overhaul was 540.84.

The total aircraft and engine times at the time of the accident could not be determined due to the amount of postimpact damage; however, the pilot's logbook showed he had flown the airplane 11 hours, not including the accident flight, since the last annual inspection.

Two fuel receipts were found at the accident site. One receipt dated July 30, 2011, showed the airplane was fueled with 90.8 gallons of 100LL aviation fuel. The only flight in the pilot's logbook after the airplane was fueled was a 1 hour flight on August 3, 2011. The second fuel receipt that was dated and time stamped August 8, 2011, at 0010, indicated the airplane was fueled with 45.2 gallons of 100LL aviation fuel. The total amount of fuel onboard at takeoff could not be determined.

METEOROLOGICAL INFORMATION

The pilot received a weather briefing from the Princeton Contract Flight Service Station on August 7, 2011, at 1639. The pilot requested a "standard briefing" for a VFR flight from SIV to 2G2 departing at 0230.

The briefer stated to the pilot that there would "definitely be some heavier cloud cover" along the route due to a low pressure system in the area. The briefer provided the terminal forecast for Wheeling, West Virginia, stating that after 0100, the forecast called for westerly wind at 4 knots, 5 miles visibility with mist, and scattered clouds at 10,000 feet. He also stated that after 0500 the Wheeling weather was forecast to be variable wind at 3 knots, 2 miles visibility with mist, scattered clouds at 300 feet, and broken clouds at 1,500 feet. He informed the pilot that the forecast was valid until 0900. The pilot stated that he would probably call back, but that he was going to continue with his VFR plans. The pilot did state that he had instrument flight rules (IFR) capability with a Garmin 430 and he could go direct.

Witnesses reported that there was fog in the area when they heard the airplane. One of the witnesses stated that because of the terrain, it was not uncommon for there to be fog in the area.

Weather conditions recorded at the Wheeling Ohio County Airport (HLG), Wheeling, West Virginia, located 13 miles south-southeast of the pilot's original destination of 2G2 were:

At 0353: wind 250 degrees at 3 knots, visibility 9 miles, overcast clouds at 1,200 feet, temperature 21 degrees Celsius (C), dew point 19 degrees C, and altimeter 29.74 inches of

mercury.

Weather conditions recorded at the Akron Canton Regional Airport (CAK), Canton, Ohio, located 30 miles north-northeast of TSO (the pilot's first alternate destination) and 37 miles from 10G were:

At 0351: wind 270 degrees at 8 knots, visibility 2 ½ miles with mist, overcast clouds at 400 feet, temperature 21 degrees C, dew point 19 degrees C, and altimeter 29.72 inches of mercury.

At 0451: wind 270 degrees at 9 knots, visibility 3 miles with mist, broken clouds at 300 feet, temperature 21 degrees C, dew point 19 degrees C, and altimeter 29.72 inches of mercury.

Weather conditions recorded at the Wayne County Airport (BJJ), Wooster, Ohio, located 18 miles north of the accident site were:

At 0410: wind 240 degrees at 4 knots, visibility 4 miles with mist, scattered clouds at 400 feet, temperature 21 degrees C, dew point 19 degrees C, and altimeter 29.74 inches of mercury.

At 0456: wind calm, visibility 4 miles with mist, scattered clouds at 300 feet, temperature 19 degrees C, dew point 19 degrees C, and altimeter 29.74 inches of mercury.

AIRPORT INFORMATION

10G is located at the top of a ridge surrounded by hills and valleys. The area on the south side of the airport consisted of heavily wooded terrain that sloped down into a valley of a ridge line. The area south of the airport is sparsely populated with few ground references visible at night.

The UNICOM frequency for the airport was 123.0. The airport was equipped with medium intensity runway edge lights and runway end identification lights that were pilot controlled on a radio frequency of 123.4. The operation of the pilot controlled lighting was verified following the accident. The airport's rotating beacon was out of service at the time of the accident.

WRECKAGE AND IMPACT INFORMATION

The accident site was in a heavily wooded area about 1/4-mile southeast of the approach end of runway 27 at 2G2. The wreckage was located on the up sloping terrain of a valley that bordered the south side of the airport. The slope of the terrain at the accident site varied between 20 and 30 degrees. The wooded area contained trees that varied in height between 75 to 100 feet. A path of broken trees along a magnetic heading of 280 degrees led up to the location of the main wreckage. Impact damage indicated the airplane contacted the terrain in a nose down attitude then flipped inverted. The entire airplane was located in the general area of the main wreckage.

The forward fuselage area, including the cockpit and instrument panel, was destroyed by impact forces and a post impact fire. The empennage was partially separated from the forward cabin just aft of the rear baggage area.

The vertical stabilizer and rudder were separated from the empennage. The top portion of the vertical stabilizer and rudder exhibited rearward concave crushing consistent with a tree strike. The rudder remained attached to the vertical stabilizer and the rudder trim tab remained attached to the rudder. The rudder trim was in a neutral position.

The horizontal stabilizers sustained impact damage and were separated from the empennage. The right elevator remained attached to the horizontal stabilizer. The left elevator which was separated at the hinge points was found at the wreckage site. The leading edge of both the left and right sides of the horizontal stabilizer exhibited rearward concave crushing consistent with a tree strike. The elevator travel stops were intact with no damage noted. The elevator trim setting could not be established.

The left wing was partially attached to the fuselage. The entire leading edge of the wing was crushed aft, with the most significant damage being outboard of the engine nacelle. Both left wing fuel tanks were ruptured. The inboard section of the wing sustained fire damage. The flap remained partially attached to the wing. The inboard aileron hinge was separated from the aileron. The aileron balance weight was in place. The aileron trim tab indicated a slight upward position. The engine nacelle was attached to the main spar. The nacelle was crushed downward and aft. The engine remained attached to the engine mounts in the nacelle.

The right wing was partially separated from the fuselage. The four foot outboard section of the wing was separated from the inboard section. The inboard section of the wing sustained substantial impact damage and was partially consumed by the post impact fire. Both right wing fuel tanks were ruptured from impact and fire damage. The flap which sustained impact and fire damage remained attached to the wing. The aileron was separated from the wing at its hinges and the actuator was bent upward. The aileron trim tab remained attached to the wing and it was bent downward. The aileron balance weight was separated from the aileron and it was located in the debris path along with the fiberglass wingtip which sustained impact damage. The aileron control bell crank was fractured with the cables attached. The right engine nacelle was destroyed by the post impact fire. The engine remained partially attached to the engine mounts and firewall.

Continuity of all of the flight controls was established from the control surfaces to the forward cabin area and from the forward cabin area to the cockpit flight controls. Breaks in the control cables exhibited broomstraw signatures consistent with overload.

The main landing gear were in the down and locked position. The nose gear was separated from the main wreckage. The flap actuator indicated the flaps were in the up position.

Both engines sustained impact damage in addition to the fire damage sustained by the right

engine. The engine accessories were removed from the engine and inspected. No preimpact anomalies were noted with the accessories that were inspected. The magnetos from both engines produced spark when rotated by hand. Both engines were rotated by hand using a tool inserted in the vacuum pump drive housing. Thumb compression was obtained on all of the cylinders. Crankshaft and valve train to the cylinders was verified. The cylinders were examined using a lighted boroscope and no anomalies were noted.

The right engine propeller was separated from the engine at the crankshaft flange and was buried in the ground. One propeller blade was bent rearward and twisted beginning about midspan. The other blade was bent rearward near the root of the blade. The outboard third of the blade contained an “S” curve and was slightly twisted. The leading edge of both blades sustained impact damage.

The left engine propeller remained attached to the engine and was removed from the engine during the engine examination. One blade sustained fire damage on the outboard half of the blade. The outboard half of the same blade was bent rearward and slightly twisted. The outboard third of the other blade was twisted. The leading edge of this blade tip sustained impact damage.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot at the Stark County Coroner’s Office, Canton, Ohio, on August 11, 2011. The death of the pilot was attributed to injuries sustained in the accident.

Toxicology testing for the pilot was performed by the FAA Civil Aerospace Medical Institute. The test results revealed 10.47 (ug/ml, ug/g) Acetaminophen was detected in urine, along with Dextrorphan which was detected in urine and blood.

Pilot Information

Certificate:	Commercial	**Age:**	48,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	August 10, 2009
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	March 26, 2011
Flight Time:	412 hours (Total, all aircraft), 73 hours (Total, this make and model), 34 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N2286P
Model/Series:	PA-23	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	23-897
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	July 28, 2011 Annual	**Certified Max Gross Wt.:**	3500 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	5721 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed	**Engine Model/Series:**	O-320-A3B
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:**	Night
Observation Facility, Elevation:	BJJ,1136 ft msl	**Distance from Accident Site:**	18 Nautical Miles
Observation Time:	04:56 Local	**Direction from Accident Site:**	3°
Lowest Cloud Condition:	Scattered / 300 ft AGL	**Visibility**	4 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.73 inches Hg	**Temperature/Dew Point:**	19°C / 19°C
Precipitation and Obscuration:	N/A - None - Mist		
Departure Point:	Sullivan, IN (SIV)	**Type of Flight Plan Filed:**	None
Destination:	Millersburg, OH (10G)	**Type of Clearance:**	VFR flight following
Departure Time:	01:35 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Holmes County 10G	**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	
Total Injuries:	3 Fatal	**Latitude, Longitude:**	40.534721,-81.945556

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Steve Steele; FAA-CLE-FSDO; Cleveland, OH John Drago; FAA-CLE-FSDO; Cleveland, OH Ronald Maynard; Piper Aircraft; Vero Beach, FL John Butler; Lycoming Engines; Williamsport, PA
Original Publish Date:	July 18, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=81433