



Aviation Investigation Final Report

Location:	Huntington, West Virginia	Accident Number:	ERA09FA145
Date & Time:	January 30, 2009, 13:31 Local	Registration:	N8047C
Aircraft:	Piper PA-34-200T	Aircraft Damage:	Destroyed
Defining Event:	VFR encounter with IMC	Injuries:	6 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The non-instrument-rated pilot departed Lake in the Hills Airport (3CK), Lake in the Hills, Illinois, on a cross-country trip to Raleigh-Durham International Airport (RDU), Raleigh Durham, North Carolina, in the accident airplane without filing a flight plan; therefore, the planned and most of the actual flight routes could not be determined. Further, no record was found that the pilot obtained a weather briefing before the flight. In addition, postaccident weight and balance calculations indicated that, when the airplane took off, it exceeded the allowable weight and center of gravity limits. Another pilot at the airport advised the accident pilot to file a flight plan, recalculate the weight and balance, and obtain a weather briefing; however, no evidence indicates that the pilot did so.

Although visual meteorological conditions were recorded at RDU for the expected time of arrival, snow was forecast and instrument meteorological conditions (IMC) were observed for en route areas between 3CK and RDU for the time before, during, and after the flight. The noninstrument rated pilot exercised poor judgment by attempting a visual flight rules cross country flight, over mountainous terrain, without getting adequate weather information for the flight route, especially in January when snowy conditions are likely.

The accident occurred near Huntington Tri-State Airport (HTS), Huntington, West Virginia, which was about 350 nautical miles (nm) from 3CK and 10 nm southwest of the direct flight route between 3CK and RDU. Federal Aviation Administration (FAA) radar data first recorded the airplane about 1244 central standard time at an altitude of about 9,700 feet about 50 nm southwest of HTS and then showed the airplane turning northeast toward HTS. According to FAA air traffic control (ATC) transcripts, about 1305, the pilot transmitted a “mayday” call to

the HTS ATC tower and then advised, "I'm flying VFR [visual flight rules], low on fuel, and need to land." Subsequently, the local controller asked the pilot if he was capable of instrument flight, and the pilot responded, "yes," even though he was not instrument rated. (The airplane was equipped for instrument flight, and no evidence indicated that an instrument malfunction occurred.) About 8 minutes later, the controller asked the pilot how much fuel was on board, and he answered, "not much." For about 10 minutes, the controller attempted to vector the airplane to HTS. Although the pilot stated several times that he had visual ground contact, he was not able to maintain it, and he never acknowledged that he had the airport in sight.

After about 12 minutes of providing detailed course headings and corrections to the pilot, the final approach controller was able to vector the airplane onto an extended final course for an airport surveillance radar approach to runway 30 at HTS. However, when the airplane was about 3 nm from the runway, it turned about 80 degrees off course to the left. The controller vectored the airplane back to the right, and the airplane turned so far to the right that it proceeded directly opposite the original inbound course. Additionally, the airplane descended below the minimum descent altitude, which the controller issued to the pilot, and which the pilot acknowledged, multiple times.

Weather conditions recorded at HTS, which was about 4 nm northwest of the accident site, included an overcast ceiling at 1,000 feet and a visibility of 3/4 statute mile in snow. Witnesses at the airport and in the vicinity of the crash site described the snowfall at the time of the accident as "heavy" and estimated the visibility to be between 1/4 and 3/4 mile.

The pilot did not request any in-flight weather assistance nor did he seek any ATC assistance before the situation had deteriorated. After the pilot contacted ATC, his communications became fragmented and intermittent, consistent with increased workload resulting from efforts to control the airplane in IMC. Although ATC attempted to guide the pilot to a landing at HTS using an airport radar surveillance approach, these efforts were not effective as evidenced by radar data showing that the pilot could not maintain assigned altitudes or headings, indicating that he was most likely experiencing spatial disorientation during the attempt to maneuver the airplane for landing. The spatial disorientation was likely caused by his operating in reduced visual conditions (clouds and falling snow), which obscured outside references, and his inability to consistently use the airplane's instruments to positively maneuver the airplane when this occurred.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: (1) The pilot's failure to perform adequate preflight planning and to use available in flight resources in a timely manner and (2) his decision to continue visual-flight-rules flight in instrument meteorological conditions despite his lack of an instrument rating and proficiency in instrument flying, which resulted in spatial disorientation and impact with terrain.

Findings

Personnel issues	Weather planning - Pilot
Personnel issues	(general) - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Snow - Not specified
Personnel issues	Spatial disorientation - Pilot
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Maneuvering-low-alt flying	VFR encounter with IMC (Defining event)
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This report was modified on July 21, 2010.

HISTORY OF FLIGHT

On January 30, 2009, at 1331 eastern standard time, a Piper PA-34-200T, N8047C, was destroyed when it struck transmission lines and collided with terrain near Huntington, West Virginia. The certificated private pilot and five passengers were fatally injured. The personal cross-country flight was conducted under 14 Code of Federal Regulations Part 91. The airplane was maneuvering for landing at Huntington Tri-State Airport (HTS), Huntington, West Virginia, when the accident occurred. Instrument meteorological conditions (IMC) prevailed, and no flight plan was filed for the flight, which originated at Lake in the Hills Airport (3CK), Lake in the Hills, Illinois, about 0845 central standard time.

According to a friend of the pilot, the purpose of the flight was to look at airplanes for sale at Raleigh-Durham, North Carolina, and Clearwater, Florida. The friend had been asked to go along, but could not due to a scheduling conflict. On the day of the accident, the friend noticed there were six people on the airplane instead of the planned five and asked about weight and balance, and the pilot assured him that he had completed the proper calculations. The friend further advised the pilot to obtain a weather briefing and file a flight plan before departure. The pilot assured his friend that he would obtain a briefing and file a flight plan from the airplane using his cellular telephone. The friend then left for a hangar, and when he returned at 0845, the airplane was gone.

According to fixed base operator records, the airplane was "topped off" with 68.3 gallons of fuel prior to departure.

The planned route of flight and the route of flight actually flown were unknown. However, a direct flight would have resulted in a course of about 130 degrees true, for a distance of about 580 nautical miles (nm). The direct course would have passed about 10 nm northeast of HTS, which was about 350 nm from the departure airport.

Radar data from the Federal Aviation Administration initially indicated, at 1244, a target, later identified as the accident airplane, with a VFR (visual flight rules) transponder code of 1200, at an altitude of 9,700 feet, about 50 nm southwest of HTS. The airplane subsequently proceeded to the northeast, and approaching HTS, it turned to the southeast, then turned to the east.

According to FAA voice transcripts from the Huntington Air Traffic Control Tower, at 1305, the pilot contacted air traffic control by transmitting a "mayday" call, and further advised the controller, "I'm flying v-f-r...low on fuel, and need a place to land. I'm like, seven miles from you."

At 1307, the controller advised the pilot that the airplane was in radar contact 8 miles southeast of HTS, and that that the Class D airspace was "i-f-r [instrument flight rules] at this time...ceiling one thousand broken, visibility two miles with light snow."

At 1308, the controller directed the pilot to turn to a heading of 360 degrees, which the pilot acknowledged, then advised the controller that the airplane was at 2,600 feet. The controller subsequently asked the pilot if he was "capable of i-f-r flight," and the pilot responded, "yes."

The controller subsequently asked the pilot if he would like an IFR clearance, and the pilot responded that he would. The controller then issued a discrete transponder code and cleared the airplane to 3,200 feet.

Radar data indicated that at the time of the clearance, the airplane was at 2,100 feet above mean sea level. It then climbed to 2,700 feet, descended to 2,000 feet, and climbed back to 2,700 feet.

At 1312, the controller asked the pilot if he could accept a 150-degree heading, and advised the pilot that the airport was off to his left at 1 1/2 miles. The pilot responded, "you want me to go straight?"

At 1313, the controller again directed the pilot to climb to 3,200 feet, and the pilot asked if the airport was behind him, which the controller affirmed that it was, about 3 miles. Just after that, the pilot stated that he had "ground contact," and the controller responded, "I need you to maintain v-f-r and the airport is about three miles west of your position."

At 1314:07, the controller stated, "low altitude alert, make sure you maintain ground contact." Radar data indicated that the airplane then descended to about 1,100 feet, but subsequently climbed to 1,400 feet.

At 1314:14, the pilot stated, "I got ground contact, I can keep ah direction," and the controller responded that the airport was 12 o'clock and 3 miles, which the pilot acknowledged.

At 1314:38, the controller advised the pilot that the airport was at 2 o'clock and 2 1/2 miles, and about 10 seconds later, the pilot stated, "I lost ground contact." Radar data indicated that the airplane was at 1,200 feet.

At 1315:05, the pilot asked, "how far?" and the controller responded that runway 30 was at 2 o'clock, about 1 1/2 miles.

At 1315:23, the controller asked the pilot what his heading was, with no response, and about 30 seconds later, the pilot asked, "how low can I go?" The controller responded that the airplane was below his minimum vectoring altitude, and that the field elevation was 820 feet. Radar data indicated that the airplane was about 1,500 feet.

At 1316:15, the controller advised the pilot that on his current heading he was about to fly over the airport, and asked if the pilot still had ground contact. The pilot responded, "no."

At 1316:27, the controller asked the pilot how much fuel he had, and the pilot responded "not much."

At 1316:36, the controller advised the pilot, "we'll give you a surveillance approach to runway three zero, maintain two thousand five hundred and fly a heading of one seven zero."

At 1317:51, a "final" controller contacted the pilot, who acknowledged the transmission.

At 1317:56, the controller advised the pilot to maintain 2,500 feet and fly heading 140 degrees.

At 1318:30, the pilot stated, "I got it to two thousand," and about 1 minute later, stated, "I'm turning right now to the left." Radar indicated that the airplane was at 2,000 feet, and had climbed to 2,500 feet by 1318:45.

At 1318:34, the controller advised the pilot, that when able, to fly heading 120, downwind leg to the surveillance final approach course to runway 30. The pilot did not acknowledge the call, nor the next three calls, but did "ident" when told, "if you hear me, ident."

At 1319:40, the controller stated, "ident received, are you capable of i-f-r flying i-f-r?"

At 1319:47, the pilot responded, but it was unintelligible.

At 1319:49, the controller stated, "this will be vectors to the surveillance final approach course to runway three zero, this will be a no gyro approach, I'll just give you turns, the published minimum descent altitude I'll give you momentarily, when you're able turn ah left, make stan ah half standard rate left turn."

The pilot did not acknowledge, but after two controller requests for a response, the pilot responded, at 1320:29, with, "I turning right now to the left." Radar data indicated that the airplane was at 3,000 feet.

The controller then responded, at 1320:33, with, "roger in a left turn you are presently about four miles southeast of the airport, when you're able, descend and maintain two thousand five hundred." The pilot did not respond.

At 1321:03, the controller advised, "you're correcting nicely now stop your turn stop the turn go

wings level descend and maintain two thousand five hundred." The pilot did not respond.

The controller twice more directed the pilot to "go wings level" without a response, and at 1321:53, stated, "go wings level and hold one heading," again without a response.

At 1322:26, the controller asked, "do you still hear Huntington approach?" and at 1322:36, the pilot asked, "okay do you see me now?" The controller then responded that the airplane was in radar contact about 5 miles south of Huntington, and to fly heading 120, maintain 2,500 feet.

At 1323:38, the controller stated, "again, that heading one two zero fly heading one two zero low altitude alert check your altimeter three zero zero six. About 10 seconds later, the pilot responded with the airplane's call sign. Radar data indicated that the airplane was at 2,300 feet.

At 1324:06, the controller asked if the pilot copied to maintain 2,500 feet or above, that the airplane was going below the minimum vectoring altitude, and to fly heading 120 if able. Radar data indicated the airplane was at 1,700 feet.

The pilot responded, "I got ground contact, I fly heading one two zero." The controller then asked the pilot if he could maintain ground contact, and the pilot responded, "maintain ground contact."

At 1324:31, the controller told the pilot to "maintain v-f-r," and turn left to heading 030. "I'm gonna try and turn you on a four mile final." The pilot responded with "zero three zero."

At 1325:15, the pilot contacted the controller, who acknowledged the call, then asked, "could you get me back to the airport?" The controller responded, "affirmative, fly heading zero three zero and if able, maintain v-f-r at your current altitude if you have ground contact, if not, climb and maintain two thousand five hundred." The pilot responded that he had ground contact.

The controller subsequently reaffirmed the 030-degree heading, which the pilot acknowledged, and subsequently, that the landing runway was 30, the altimeter setting was 30.06, winds were calm, and that the runway did not have approach lights, but was broomed and plowed, "you'll see the dark strip in the snow and the runway lights are all the way up."

At 1326:27, the controller reaffirmed the 030-degree heading.

At 1327:37, the controller again reaffirmed the 030-degree heading, "it's a left turn zero three zero, you appear to be in a right turn, again, heading of zero three zero when able. The pilot responded, "Yes I, I do have right now zero three zero," and the controller replied, "roger, check your ah, check your ah d-g for [precession] you're heading, you're tracking about zero nine zero." Radar data indicated the airplane's altitude at 1,500 feet.

The controller then issued a heading of 360, and transmissions between the pilot and controller indicated that the airplane was maintaining the 360-degree heading

At 1327:52, the controller advised the pilot to maintain a 360-degree heading and current altitude, which radar data indicated was 1,700 feet, and that he would have "lower in a mile."

At 1328:04, the controller advised the pilot to turn left to 330, which the pilot acknowledged. During the next several transmissions, the controller advised the pilot to maintain heading 330, and altitude which the pilot acknowledged.

At 1329:16, the controller advised the pilot to fly heading 300, which the pilot acknowledged.

At 1329:25, the controller confirmed the heading of 300, and advised, "now on course three and one half miles from the runway."

At 1329:32, the controller stated, "now descend to your minimum descent altitude [MDA], published minimum descent altitude is one three zero zero" and repeated the 1,300-foot MDA three additional times. The pilot responded, "one thousand three hundred."

At 1329:46, the controller stated, "again a heading of three three zero, correction three zero zero," which the pilot did not acknowledge.

At 1329:51, the controller advised the pilot that the airplane was 3 miles from the runway, "heading three zero zero," which the pilot did not acknowledge.

At 1329:59, the controller stated, "slightly left of course heading three zero zero," which the pilot acknowledged.

Radar data indicated that the airplane had made a left turn, about 80 degrees off course, and was heading southwest.

At 1330:04, the controller stated, "right turn, in a right turn, turn right heading three two zero, three twenty, three two zero in a right turn," and the pilot responded with, "zero."

Radar data indicated that the airplane began a turn back to its right.

At 1330:18, the controller stated, "two miles southeast of the airport, heading is three three correction, three two zero. The controller subsequently called for a left turn to 310 at 1330:27, then to 300 at 1330:37. There were no acknowledgements from the pilot.

Radar data indicated that the airplane was then tracking toward the northeast.

At 1330:45, the controller stated, "you're now going the wrong way, heading is three zero zero climb ah to where you have v-f-r contact with the ground, I see you're in the, altitude indicates

you're climbing."

Radar data indicated that the airplane was tracking farther toward the east, then turned briefly toward the north, but subsequently back toward the east. It then turned toward the southeast, opposite the direction of the inbound course to the airport.

There were no further transmissions from the airplane.

Radar data also indicated that while the airplane was headed northeast, it climbed to 1,700 feet. As it turned to the east, the airplane descended to 1,500 feet, and 4 seconds later, as it was heading southeast, the last radar contact, at 1330:58, indicated that it was at 1,000 feet.

In a written statement, a witness near the crash site said that he was outside sleigh riding in the snow with his daughter when a small airplane passed overhead. He watched the airplane "make a quick fly-by at [the] treetops next to the tallest powerlines." The witness estimated that 10 minutes later he heard "the familiar sound of an airplane taking a nosedive." He ran to the front of his house with his daughter, where he saw the airplane descend through the trees and into terrain.

In a written statement, a second witness said she was travelling westbound in her car along a state road near the crash site. She further stated, "The snow was very heavy (very limited visibility) and the wind was blowing on the left side of my car." She drove in the heavy snow about another 1/4 mile when the snow "quit" and she saw the airplane headed eastbound towards her at "powerline/treetop level." The witness also noted that the airplane was flying "very low" and thought the airplane was surveying the powerlines due to the "ice storm." The witness then watched in her rearview mirror as the airplane "headed towards the trees" and an "orange burst" appeared. She believed a transformer had exploded, so she continued to her home where she learned of the accident on the television news.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with ratings for airplane single engine and multiengine land, as well as glider. The pilot's logbook was not recovered, and his total flight experience could not be determined. His most recent FAA second class medical certificate was issued on December 17, 2008, and the pilot reported 2,200 total hours of flight experience on that date. The pilot did not possess an instrument rating.

AIRCRAFT INFORMATION

According to FAA records, the airplane was manufactured in 1975. The airplane's maintenance logbooks were not recovered, and the airplane's maintenance and inspection history could not be determined. However, the left engine tachometer indicated 4,296.29 hours, and the right engine tachometer indicated 4,348.08 hours at the crash site.

METEOROLOGICAL INFORMATION

At 1348, the weather conditions recorded at HTS, located about 4 nautical miles northwest of the accident site at a 828-foot elevation, included an overcast ceiling at 1,000 feet, visibility 3/4 mile in snow, temperature -3 degrees Celsius (C), dew point -4 degrees C, and an altimeter setting of 30.06 inches of mercury. The winds were from 290 degrees at 3 knots.

At the time of the accident, one air traffic controller stated that the snowfall had gotten "thicker" and he estimated the visibility at 3/4 mile.

The Tri-State Airport Fire Department Chief was on the parking ramp at the airport waiting for the accident airplane to arrive. He stated that the visibility was less than 1/4 mile due to heavy snow at the time of the accident.

According to a weather forecast issued at 0328, by the National Oceanic and Atmospheric Administration (NOAA), snow was expected in the eastern half of Ohio, the northeastern part of Kentucky, and all of West Virginia.

The Terminal Aerodrome Forecast (TAF) for HTS, issued on January 30, 2009, at 0624, forecasted, for a 24-hour period commencing at 0700, overcast skies at 1,400 feet, 6 statute miles visibility, and light snow showers and mist. Temporary forecast conditions, 0700 to 0900, included overcast skies at 800 feet, 4 statute miles visibility in light snow showers and mist. Temporary forecast conditions, from 1200, included a broken cloud layer at 3,000 feet, visibility in excess of 6 statute miles.

The TAF issued at 0956, forecasted for a 21-hour period commencing at 1000, overcast skies at 2,000 feet, 6 statute miles visibility, and light snow showers and mist. Temporary conditions, from 1000 to 1200, included a broken cloud layer at 1,500 feet, 1/2 statute mile visibility in snow showers. Temporary forecast conditions, from 1200, included a broken cloud layer at 3,000 feet, visibility in excess of 6 statute miles.

The TAF issued at 1242, forecasted for a 24-hour period commencing at 1300, a broken cloud layer at 1,500 feet, 4 statute miles visibility in light snow showers and mist. Temporary forecast conditions, from 1300 to 1700, included a broken cloud layer at 900 feet, 2 statute miles visibility, light snow showers, blowing snow, and mist.

HTS recorded weather observations during the day included, at 0651, overcast skies at 900 feet, 1 1/2 statute miles visibility in snow and mist; at 0751, overcast skies at 900 feet, 2 1/2 statute miles visibility in snow and mist; at 0851, a broken cloud layer at 2,000 feet, 1 1/2 statute miles visibility in light snow; at 0920, a broken cloud layer at 2,000 feet, 1/4 statute mile visibility in heavy snow, at 0958, scattered clouds at 200 feet, overcast skies at 900 feet, 1/2 statute mile visibility in heavy snow; at 1043, a few clouds at 200 feet, a broken cloud layer at 600 feet and overcast skies at 1,400 feet, 3/4 statute mile visibility in heavy snow; at 1151, a broken cloud layer at 1,000 feet, 3/4 statute mile visibility in light snow; at 1201, a broken cloud

layer at 1,000 feet, 2 statute miles visibility in light snow, and at 1307, a broken cloud layer at 1,000 feet, 2 statute miles visibility in snow.

According to a friend of the pilot, an estimated 65 percent power would have yielded about 165 knots true airspeed. That, in turn would have yielded an en route time, depending on climb and altitude, of 3 1/2 to 4 hours to RDU. Weather, recorded at RDU at both 1251 and 1351, included a few clouds at 5,500 feet and 10 statute miles visibility.

A search of Flight Service Station records revealed that the pilot did not obtain a weather briefing, did not file a flight plan, and received no other services for the accident flight.

WRECKAGE AND IMPACT INFORMATION

The airplane main wreckage rested on rising, wooded, snow-covered terrain, about 625 feet elevation, at 38 degrees, 20 minutes, and 36 seconds north latitude, and 082 degrees, 29 minutes, 21 seconds west longitude. All major airplane components were accounted for at the scene, and were scattered upslope on terrain that rose to approximately 865 feet elevation beyond the accident site.

The original impact points were two high-tension power lines, one severed, and one damaged, about 200 feet above the ground, and 700 feet above mean sea level. The main wreckage impacted rising terrain about 120 degrees magnetic, 480 feet beyond power lines, and came to rest inverted and oriented toward the direction of travel. Several branches, as well as tree trunk sections about 6 inches in diameter, displayed clean angular cuts and were scattered along the wreckage path. A 6-foot length of 3-inch braided cable, consistent with the severed power line, was entangled with the wreckage.

The wings, landing gear, vertical stabilizer, and rudder, were separated and fragmented along the entire wreckage path. Control cable continuity was established from the cockpit to the points of cable breaks and bellcrank separations out to the flight control surfaces. Both engines and both two-bladed propeller systems were separated from their mounts and their respective engines.

Each propeller blade was identified as "A" or "B" for the purposes of identification and accountability. The "B" blade of the left propeller system was not immediately recovered, but the fracture at the hub was consistent with overload. The three remaining blades displayed similar twisting, bending, and chordwise scratching. The "B" blade on the right engine propeller displayed striations on the leading edge consistent with wire abrasion.

On February 26, 2009, the "B" blade of the left propeller was recovered and photographed by the airport fire department in the vicinity of the crash site. Examination of those photographs revealed damage consistent with the 3 propeller blades previously examined.

Examination of the engines after recovery from the crash site showed both were impact

damaged, and stripped of their accessories. The upper spark plugs were removed, and all electrodes were intact, light tan and gray in color, and displayed no abnormal wear. All four magnetos were rotated by hand and produced spark at all terminal towers. Both fuel manifolds were removed and examination revealed that they contained fuel and were absent of debris. Fuel odor was noted at the site as well as sooting on some of the fuel tanks. Several separated components displayed fire damage and/or sooting from small, post-impact fires.

The crankshafts were rotated by hand at the accessory drive and continuity was established through the powertrain and valve train to the accessory sections, except where rockers and valves were impact damaged or completely separated. Compression was confirmed on all cylinders using the thumb method.

MEDICAL AND PATHOLOGICAL INFORMATION

The Office the Chief Medical Examiner for the State of West Virginia performed the autopsy on the pilot in Charleston, West Virginia. The autopsy report indicated that the pilot died as a result of "multiple injuries."

The FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing of the pilot. Fluid and tissue specimens from the pilot tested negative for carbon monoxide, cyanide, and ethanol.

TESTS AND RESEARCH

Weight and balance calculations were performed using weight and balance documents recovered at the site, the actual weights of the occupants, and the baggage recovered at the scene. Calculations revealed the airplane weighed about 4,902 pounds at takeoff, with a center of gravity at 98.4 inches aft of datum. The manufacturer's center of gravity range at maximum gross weight was 90.6 to 95.0 inches aft of datum. The manufacturer's maximum allowable gross weight was 4,570 pounds.

The zero fuel weight of the accident airplane was calculated to be 4,343.9 pounds, at 99.02 inches aft of datum.

ADDITIONAL INFORMATION

FAA-H-8083-3A, "Airplane Flying Handbook," states, "The flight characteristics of the multiengine airplane will vary significantly with shifts of the center of gravity (CG) within the approved envelope....At aft CGs, the airplane will be less stable, with a slightly lower stalling speed, a slightly faster cruising speed, and less desirable stall characteristics....Aft CG limits are determined by the minimum acceptable longitudinal stability....It is contrary to the airplane's operating limitations and the CFRs to exceed any weight and balance parameter.

FAA-H-8083-25, "Pilot's Handbook of Aeronautical Knowledge," states, "Spatial disorientation

specifically refers to the lack of orientation with regard to the position, attitude, or movement of the airplane in space.”

FAA Advisory Circular (AC) 60-4A, “Pilot’s Spatial Disorientation,” states that one of the conditions contributing to spatial disorientation “is commonly called ‘white-out.’ ‘White-out’ is generally caused by fog, haze, or falling snow blending with the snow-covered earth surface which may obscure all outside references. Therefore, the use of flight instruments is essential to maintain proper attitude when encountering any of the elements which may result in spatial disorientation.”

According to the AC, among the steps “which should assist materially in preventing spatial disorientation” were:

- (1) Before you fly with less than 3 miles visibility obtain training and maintain proficiency in aircraft control by reference to instruments.
- (2) Check weather forecasts before departure, en route, and at destination. Be alert for weather deterioration.
- (3) Do not attempt visual flight rule flight when there is a possibility of getting trapped in deteriorating weather.
- (4) Rely on instrument indications unless the natural horizon or surface reference is clearly visible.

FAA AC 61-134, “General Aviation Controlled Flight into Terrain Awareness,” states,

“According to National Transportation Safety Board (NTSB) and FAA data, one of the leading causes of GA accidents is continued VFR flight into IMC... The importance of complete weather information, understanding the significance of the weather information, and being able to correlate the pilot’s skills and training, aircraft capabilities, and operating environment with an accurate forecast cannot be emphasized enough....VFR pilots in reduced visual conditions may develop spatial disorientation and lose control.”

Pilot Information

Certificate:	Private	Age:	60, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	November 30, 2006
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	2200 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N8047C
Model/Series:	PA-34-200T	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	34-7670112
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	4570 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	at time of accident	Engine Manufacturer:	CONT MOTOR
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TSIO-360 SER
Registered Owner:	WESVIN INC	Rated Power:	200 Horsepower
Operator:	Wieslaw Dobrzanski	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	HTS,828 ft msl	Distance from Accident Site:	4 Nautical Miles
Observation Time:	13:48 Local	Direction from Accident Site:	300°
Lowest Cloud Condition:		Visibility	1 miles
Lowest Ceiling:	Overcast / 1000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.05 inches Hg	Temperature/Dew Point:	-3°C / -4°C
Precipitation and Obscuration:	Heavy - Blowing - Snow		
Departure Point:	Lake in Hills, IL (3CK)	Type of Flight Plan Filed:	None
Destination:	Raliegh-Durham, NC (RDU)	Type of Clearance:	VFR
Departure Time:	09:00 Local	Type of Airspace:	TRSA

Airport Information

Airport:	Huntington Tri-State Airport HTS	Runway Surface Type:	Asphalt
Airport Elevation:	828 ft msl	Runway Surface Condition:	Snow
Runway Used:	30	IFR Approach:	ASR
Runway Length/Width:	6517 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	5 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	6 Fatal	Latitude, Longitude:	38.343334,-82.556114

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Dave J Green; FAA/FSDO; Charleston, WV Mike McClure; Piper Aircraft, Inc; Vero Beach, FL Sarah Irwin; Teledyne Continental Motors; Mobile, AL
Original Publish Date:	October 6, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=73295

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](#).