

Aviation Investigation Final Report

Location: Woodruff, Wisconsin Accident Number: CEN10FA557

Date & Time: September 23, 2010, 20:13 Local Registration: N570ER

Aircraft: Piper PA-44-180 Aircraft Damage: Destroyed

Defining Event: Loss of control in flight **Injuries:** 2 Fatal

Flight Conducted Under: Part 91: General aviation - Personal

Analysis

The accident occurred during a night cross-country flight in instrument meteorological conditions with reported moderate turbulence. Review of air traffic control data indicated that the instrument-rated pilot had difficulty navigating from the initial approach fix to the final approach fix. Radar track data showed that the pilot initially turned the wrong direction and ultimately made several course reversals that were not in accordance with the published approach procedure. Radar data also indicated that the pilot had difficulty maintaining an altitude appropriate for the segment of the approach; the airplane's altitude increased and decreased in excess of 500 feet. In addition, on several instances, the pilot allowed the airplane to descend below the prescribed minimum altitudes for the approach. The airplane eventually impacted a river in an uncontrolled descent about ½ mile north of the final approach fix. A postaccident examination of the airplane revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

During a recent checkout in the accident airplane, the pilot demonstrated a lack of instrument flight proficiency, and following the checkout, he was authorized to rent the accident airplane for visual flight rules (VFR) flights only. The flight instructor who provided the checkout flight reported that the pilot had difficulty maintaining situational awareness and aircraft control when flying only by reference to the flight instruments.

Probable Cause and Findings

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

The pilot's decision to attempt an instrument approach in turbulent night instrument meteorological conditions with a recently-identified deficiency with his instrument flight proficiency, which resulted in a loss of airplane control as a result of spatial disorientation.

Findings

| Personnel issues | Aircraft control - Pilot | |
|----------------------|---|--|
| Personnel issues | Spatial disorientation - Pilot | |
| Environmental issues | Clouds - Effect on operation | |
| Environmental issues | Convective turbulence - Effect on operation | |
| Personnel issues | Recent instrument experience - Pilot | |

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Factual Information

History of Flight

| Approach-IFR initial approach | Loss of control in flight (Defining event) |
|-------------------------------|--|
| Uncontrolled descent | Collision with terr/obj (non-CFIT) |

On September 23, 2010, about 2013 central daylight time, a Piper model PA-44-180 airplane, N570ER, was destroyed during an impact with the Trout River, near Woodruff, Wisconsin. The commercial pilot and his passenger were fatally injured. The airplane was registered to and operated by JA Aero Inc., under the provisions of 14 Code of Federal Regulations Part 91, while on an instrument flight rules (IFR) flight plan. Night instrument meteorological conditions prevailed for the cross-country flight that departed the Aurora Municipal Airport (ARR), Sugar Grove, Illinois, at 1819, and was en route to Lakeland Airport (ARV), near Woodruff, Wisconsin.

At 1746, an individual representing N570ER, contacted the Princeton Automated Flight Service Station (AFSS) to request a weather briefing and to file an IFR flight plan. The pilot filed for an 1800 departure from ARR, with direct routing to ARV, and a cruise altitude of 6,000 feet mean sea level (msl). He estimated his time en route to ARV would be about 2 hours, and that the airplane had 4 hours of fuel onboard. He identified Wausau Downtown Airport (AUW), Wausau, Wisconsin as his alternate destination.

The weather briefer provided a full weather briefing, which consisted of a synopsis of the current and forecast weather conditions. The weather briefer told the pilot there was a warm front extending over Wisconsin that was producing widespread light to heavy rain showers. The briefer also told the pilot that instrument meteorological conditions (IMC) would prevail throughout the evening, with occasional moderate turbulence below 10,000 feet, and icing conditions above 16,000 feet. Additionally, with the approach of a cold front, there were strong wind conditions along the planned route. The weather briefing concluded at 1758.

According to Federal Aviation Administration (FAA) air traffic control documentation, at 1808, the pilot established communication with ARR ground control and requested an IFR clearance to ARV. The flight was cleared via radar vectors to SIMMN intersection (near DeKalb, Illinois) and then direct to ARV. At 1819, the flight was cleared for takeoff on runway 18 and after departure it proceeded northwest toward SIMMN before being cleared direct to ARV. The flight was handled by multiple air traffic control facilities as it continued northbound toward ARV.

At 1912:58 (hhmm:ss), the pilot established contact with Minneapolis Air Route Traffic Control Center (ARTCC) and reported the airplane being level at 6,000 feet msl. At 1938:13, the controller provided the current weather conditions at the destination airport. The weather conditions included a surface wind from the southeast at 8 knots, 5 miles visibility with light rain, scattered clouds at 500 feet above ground level (agl), a broken ceiling at 1,000 feet agl, and an overcast ceiling at 2,000 feet agl. At 1939:42, the

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pilot requested the RNAV/GPS Runway 18 instrument approach procedure to ARV. At 1940:11, the flight was cleared to the initial approach fix FEGOG.

At 1943:11, the controller asked the pilot if he was operating in instrument meteorological conditions. The pilot replied that the airplane was still in the clouds (radar track data indicated that the airplane was still flying at 6,000 feet msl). At 1953:20, the flight was cleared for the RNAV GPS Runway 18 approach into ARV and to descend to 3,500 feet msl. According to radar track data, the airplane was 29 miles south of FEGOG at 6,000 feet msl when cleared for the instrument approach.

At 2003:03, after reaching FEGOG intersection, the flight proceeded west toward the intermediate fix, MIGPY. At 2005:03, the flight was about 2 miles east of MIGPY when it turned northbound (the opposite direction of the intended final approach course). The flight continued northbound until 2006:04 when it began a left 270-degree turn back toward east. During this turn, at 2006:16, the pilot reported that they were "getting bumped around a lot" and asked for radar vectors to an unspecified location. At 2006:44, the controller told the pilot that the airplane was cleared for the approach and that it appeared that the flight was already established on the final approach course inbound (radar track data indicated that the airplane was about 1.4 miles north of MIGPY). The pilot replied, "Um, yes sir." The controller then cleared the pilot to change to the airport advisory frequency.

At 2006:59, the pilot requested radar vectors back to the final approach course. Radar track data indicated that the airplane had just crossed through the final approach course heading west-southwest. The controller told the pilot that the final approach course was not depicted on his radar display, to which the pilot replied, "Alright, well thank you very much."

At 2007:14, the controller reissued the approach clearance and asked the pilot if he wanted to proceed to MIGPY intersection to complete the procedure turn to the final approach course. Radar track data showed the flight was about 1 mile northwest of MIGPY. The pilot replied that he would like to complete the procedure turn at MIGPY. At 2007:44, the controller asked the pilot to report when reestablished on the final approach course. At 2007:49, the pilot replied "Okay, thanks." Radar track data indicated the flight was crossing MIGPY heading east at that time.

After crossing MIGPY, the flight turned to a northeast heading for about 24 seconds before making a right turn to the south-southwest. At 2009:13, the controller asked the pilot if he was established on the final approach course. The pilot replied, "um, negative sir, we're about uh, a little bit off here." The controller responded, "okay, uh, just uh, if you need to go back over the initial approach fix again that's no problem I got no traffic up there, just let me know when you're inbound." At 2009:31, the pilot replied, "Okay, thanks a lot, zero echo romeo." About 10 seconds later, at 2009:43, the pilot reported being over MIGPY. The radar track data indicated that the flight then continued southbound from MIGPY toward the final approach fix PEHEK.

At 2011:18, the controller asked the pilot if he was established on the final approach course inbound. After not receiving a reply, at 2011:28, the controller asked the pilot again if he was established on the final approach course. After still not receiving a reply, at 2011:43, the controller asked if the pilot could hear him over the radio. The pilot replied, "Uh, loud and clear, zero echo romeo." The controller then asked the pilot for a third time if he was established on the final approach course. At 2011:51, the pilot replied "affirmative sir, zero echo romeo." Radar track data indicated that the airplane was about 2 miles north of the final approach fix on a southerly course toward the destination airport. The controller then

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told the pilot to change over to the airport advisory frequency, but to report upon landing on the controller's frequency. The pilot replied, "okay, well, uh, I'm sorry what did you want me to do?" The controller repeated his instructions, "November five seven zero echo romeo, when you land the plane on the ground, call on this frequency, and I will take your down time on this frequency." At 2012:10, the pilot replied, "thanks a lot for your help, zero echo romeo." The pilot did not make any additional radio transmissions on the ARTCC frequency.

The minimum altitude for the approach segment between MIGPY and the final approach fix PEHEK was 3,200 feet msl. Radar track data indicated that the airplane descended from 3,000 feet msl to 2,100 feet between MIGPY and PEHEK. At 2012:28, the final radar return was recorded about 1.2 miles northwest of PEHEK and 6.5 miles north of the runway 18 threshold.

A witness reported hearing an airplane overfly his residence, located about 1 mile southeast of MIGPY, on three occasions between 2000 and 2100. The witness, who was also a certificated commercial pilot, stated that he did not hear any abnormal engine sounds or abrupt power changes. Ultimately, the sound of the airplane receded away from his position toward the southeast. The witness reported that when the airplane was overflying his residence there was a strong, gusting wind from the south, moderate to heavy rain showers, and a 400 foot overcast ceiling.

On September 24, 2010, at 1114, a Civil Air Patrol ground search team located the airplane with the assistance of an airborne search plane. The wreckage was located in the Trout River, about 6 miles north of the runway 18 threshold.

PERSONNEL INFORMATION

According to Federal Aviation Administration (FAA) records, the pilot, age 26, held a commercial pilot certificate with single and multi-engine land airplane and instrument airplane ratings. He also held a flight instructor certificate with a single engine land airplane rating. His last aviation medical examination was completed on September 2, 2010, when he was issued a second-class medical certificate with a restriction for corrective lenses. A search of FAA records showed no previous accidents, incidents, or enforcement proceedings.

The most recent pilot logbook entry was dated September 18, 2010. At that time, the pilot had accumulated 936.0 hours total flight time, of which 869.1 hours were logged as pilot-in-command. He had logged 920.4 flight hours in single-engine airplanes and 15.6 hours in multi-engine airplanes. He had logged 1.6 hours in the Piper model PA-44-180 before the accident flight. He had accumulated 5.8 hours in actual instrument conditions, 47.4 hours in simulated instrument conditions, and 52.2 hours at night. He had logged 523.7 hours during the past year, 313.2 hours during the prior 6 months, 152.3 hours during previous 90 days, and 41.4 hours in the last 30 days.

According to the pilot's employer, he had completed four additional flights, totaling 8.4 hours, since his last logbook entry. Additionally, the employee records indicated that he had flown 2.6 hours in the 24 hour period before the accident flight.

During the 12 months before the accident, the pilot had logged 27 instrument approaches, 4.0 hours in actual instrument conditions, 3.9 hours in simulated instrument conditions, and 35.0 hours at night. During the 3 months before the accident, the pilot had logged 10 instrument approaches, 1.5 hours in actual instrument conditions, 1.7 hours in simulated instrument conditions, and 9.7 hours at night.

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During the month before the accident, the pilot had logged 1.7 hours at night, but had not logged any instrument approaches or instrument time.

The pilot's last regulatory checkride was completed on August 8, 2010, in a Piper model PA-23-150 airplane, when he took his practical exam to obtain his commercial multi-engine land airplane rating. His previous flight review was completed on May 31, 2010, in a Cessna model 172M.

On, September 9, 2010, the pilot received a checkout in the accident airplane at JA Aero Inc. The flight instructor who provided the checkout reported that the pilot performed all of the commercial multiengine airplane maneuvers to the FAA practical test standards. However, the flight instructor stated that the pilot had difficulty maintaining altitude and heading during simulated instrument conditions. The pilot also demonstrated a lack of situational awareness during an instrument approach. Specifically, he descended below altitude minimums, deviated off course, and was unable to maintain a stabilized approach. Following the checkout, the pilot was authorized to rent the accident airplane for visual flight rules (VFR) flights only.

AIRCRAFT INFORMATION

The accident airplane was a 2002 Piper PA-44-180 (Seminole), serial number 4496146, certificated by the FAA under Type Certificate A19SO. The airplane was a four-place, low-wing, T-tail design, with a retractable, tricycle landing gear configuration. The unpressurized airplane had a maximum takeoff weight of 3,800 pounds and was equipped for operation under instrument flight rules.

The airplane was powered by two wing-mounted reciprocating engines. The left engine was a Lycoming O-360-A1H6, serial number L-36063-36A. The right engine was a Lycoming LO-360-A1H6, serial number L-742-71A. They were four-cylinder, normally aspirated, carbureted engines, each capable of developing 180 horsepower. The airplane was equipped with Hartzell HC-C2YR-2CEUF, serial number AU10995B, and HC-C2YR-2CLEUF, serial number AU11529B, adjustable pitch, constant speed propellers.

The accident airplane was issued a standard airworthiness certificate on June 27, 2002. JA Aero Inc. purchased the airplane in June 2010. The recording hour meter used to track maintenance events indicated 5,312.9 hours at the accident site. The airframe had accumulated a total service time of 5,312.9 hours at the time of the accident. The left engine had accumulated a total service time of 6,759.9 hours and 217.9 hours since the last overhaul. The right engine had accumulated a total service time of 4,188.9 hours and 1,798.9 hours since the last overhaul. The left propeller had accumulated a total service time of 4,526.9 hours and 446.9 hours since the last overhaul. The right propeller had accumulated a total service time of 2,644.9 hours and 741.9 hours since the last overhaul.

The airplane's last annual inspection was completed on August 17, 2010, at 5,244 hours airframe total time. A 50-hour inspection was completed on September 16, 2010, at 5,306 hours airframe total time. The static system, altimeter system, automatic pressure altitude reporting system, and transponder were last tested on July 22, 2010, at 5,236.1 hours airframe total time. A postaccident review of the maintenance records found no history of unresolved airworthiness issues.

Aircraft fueling records indicated that the airplane had been topped-off with 10.4 gallons of 100-low lead aviation fuel before the accident flight departed ARR.

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METEOROLOGICAL INFORMATION

At the time of the pilot's preflight weather briefing, the departure airport (ARR) had unrestricted visibility, gusting wind conditions, and a broken ceiling of 6,000 feet agl. The planned destination (ARV) was reporting gusting wind conditions, moderate rain, 5 mile visibility, scattered clouds at 700 feet agl, broken cloud ceiling at 2,500 feet agl, and an overcast ceiling at 3,400 feet agl. The briefer told the pilot that the weather conditions deteriorated north of Oshkosh, Wisconsin, with moderate to heavy rain conditions for the remainder of the intended route. There were reports of surface visibilities being 2-5 miles, with broken to overcast cloud ceilings as low as 800 feet. Additionally, there was an urgent pilot report of severe turbulence at 12,000 feet over Mosinee, Wisconsin.

The forecast for the southern half of Wisconsin, between 1900 and 2200, included broken ceilings between 3,000 and 4,000 feet agl, and an overcast ceiling at 12,000 feet agl. The forecast also included 3-5 mile visibilities with rain showers and widely scattered thunderstorms with cloud tops of 40,000 feet msl.

The forecast for the northern half of Wisconsin included cloud ceilings between 2,000 and 3,000 feet agl, 3-5 mile visibilities with rain and mist, and isolated embedded thunderstorms with cloud tops of 37,000 feet msl. The terminal forecast for the Rhinelander, Wisconsin, included occasional 2 mile visibilities with moderate rain showers, scattered clouds at 1,500 feet agl, and an overcast ceiling at 2,500 feet agl.

The National Weather Service (NWS) Surface Analysis Chart for 1900 central daylight time depicted a deep low pressure system over Minnesota with a warm front extending over the northern Wisconsin. There was an extensive area of low ceilings and visibilities with rain and mist. At 1900, the accident site was located immediately north of the warm front, and the frontal passage had already occurred by the time of the accident.

The NWS Weather Depiction Chart for 2000 central daylight time showed an extensive area of IFR conditions along and north of the warm frontal boundary and marginal VFR conditions over much of central and northern Wisconsin.

At 2010, infrared satellite imagery depicted an overcast layer of clouds over the accident site and the cloud tops around 16,500 feet msl.

The destination airport (ARV) was equipped with an automated surface observing system (ASOS). A postaccident review of the surface observations from the night of the accident showed marginal VFR conditions with periods of IFR conditions beginning 1500 until the time of the accident.

At 1955 cdt, the ARV ASOS reported the following weather conditions: Wind 210 degrees true at 12 knots, gusting 19 knots; visibility 5 miles with heavy drizzle; overcast ceiling at 900 feet above ground level (agl); temperature 21 degrees Celsius; dew point 20 degrees Celsius; altimeter setting 29.51 inches of mercury.

At 2015 cdt, the ARV ASOS reported the following weather conditions: Wind 210 degrees true at 14 knots, gusting 20 knots; visibility 5 miles with light rain; broken ceiling at 900 feet agl, overcast ceiling 1,400 agl; temperature 21 degrees Celsius; dew point 20 degrees Celsius; altimeter setting 29.51 inches of mercury.

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The closest upper air sounding station was located near Green Bay, Wisconsin, about 116 miles southeast of the accident site. At 1900, the upper air sounding wind profile indicated a high potential for turbulence and low-level wind shear near the surface. At the planned cruise altitude of 6,000 feet msl, the reported winds aloft were 235 degrees at 48 knots. The reported winds aloft at 3,000 feet msl was 205 degrees at 40 knots.

The United States Naval Observatory reported that the local sunset and end of civil twilight was at 1853 and 1923, respectively. The local moonrise was at 1836 and a full moon phase would have been visible at altitudes above the overcast ceiling.

AIDS TO NAVIGATION

The flight had been cleared for the RNAV/GPS Runway 18 instrument approach into ARV. The flight proceeded direct to FEGOG, an initial approach fix. The approach procedure began at FEGOG with a westbound segment (271 degrees) to the intermediate fix MIGPY. Aircraft are required to maintain at or above 3,300 feet msl between FEGOG and MIGPY. Upon reaching MIGPY, no procedure turn was required, and the approach continued with a southbound course (181 degrees) to the final approach fix PEHEK. Aircraft are required to maintain at or above 3,200 feet between MIGPY and PEHEK. The final approach fix was 4.8 miles north of the runway 18 threshold. After crossing PEHEK, aircraft without vertical navigational equipment were required to maintain at or above 2,200 feet until passing RAMIW. After passing RAMIW, located 1.8 miles north of the runway 18 threshold, aircraft were allowed to descend to the minimum descent altitude of 2,040 feet msl, or 2,100 feet msl for a circling approach. The missed approach point was the end of runway 18.

AIRPORT INFORMATION

The Lakeland Airport (ARV), located about 3 miles northwest of Woodruff, Wisconsin, was served by two runways: 18/36 (5,150 feet by 100 feet, asphalt); and 10/28 (3,602 feet by 75 feet, asphalt). The airport elevation was 1,630 feet msl. Runway 18 was equipped with runway lighting and a four-box visual approach indicator. There were two Notices to Airman active for ARV; the runway 28 precision approach path indiator (PAPI) was out of service, and the distance measuring equipment (DME) for the instrument landing system (ILS) runway 36 approach was out of service.

WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was located in the Trout River, about 6 miles north of the intended destination. All airframe structural components and flight control surfaces were accounted for at the accident site. All observed structural component failures were consistent with overstress separation. Flight control continuity could not be established between the individual flight control surfaces and their respective cockpit controls due to damage. However, all observed flight control cable separations were consistent with overstress or were cut to facilitate wreckage recovery. The forward fuselage and cockpit were fragmented. The right wing remained connected to the main cabin. It exhibited leading edge crushing and main spar deflection outboard of the engine nacelle. The right aileron had separated from the wing and was fragmented outboard of the engine nacelle. The left aileron had separated from the wing root and was fragmented outboard of the engine nacelle. The left aileron had separated from the wing and was fragmented. The empennage control surfaces remained attached the

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vertical stabilizer, which remained attached to the aft fuselage. The throttle, propeller, mixture, and carburetor heat control positions could not be determined because of impact damage.

Both engines were separated from their respective wing nacelles. Both propellers had separated from their respective crankshaft flanges. The crankshaft flange fractures exhibited features consistent with overstress separation. The propeller blades exhibited spanwise bending and twisting. Internal engine and valve train continuity were confirmed as each engine crankshaft was rotated. Compression and suction were noted on all engine cylinders in conjunction with crankshaft rotation. After being drained of river water and allowed to air dry, all four engine magnetos provided spark on all leads when rotated. Both engine driven vacuum pumps provided suction when rotated. Further disassembly of the vacuum pumps revealed no anomalies. A disassembly of the vacuum-driven attitude indicator revealed minor rotational scuffing to the rotating gyro and its housing.

The postaccident examination of the airplane revealed no evidence of any mechanical malfunctions or failures that would have precluded normal operation.

MEDICAL AND PATHOLOGICAL INFORMATION

On September 25, 2010, an autopsy was performed on the pilot at the Fond du Lac County Medical Examiner's Office, located in Fond du Lac, Wisconsin. The cause of death for the pilot was attributed to multiple blunt-force injuries sustained during the accident.

The FAA's Civil Aerospace Medical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on samples obtained during the pilot's autopsy. No carbon monoxide, cyanide, ethanol, or drugs were detected.

Pilot Information

| Certificate: | Commercial; Flight instructor | Age: | 26 |
|---------------------------|---|-----------------------------------|-------------------|
| 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 single-engine | Toxicology Performed: | Yes |
| Medical Certification: | Class 2 With waivers/limitations | Last FAA Medical Exam: | September 2, 2010 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | August 8, 2010 |
| Flight Time: | (Estimated) 936 hours (Total, all aircraft), 1.6 hours (Total, this make and model), 869 hours (Pilot In Command, all aircraft), 152.3 hours (Last 90 days, all aircraft), 41 hours (Last 30 days, all aircraft), 2.5 hours (Last 24 hours, all aircraft) | | |

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Aircraft and Owner/Operator Information

| Aircraft Make: | Piper | Registration: | N570ER |
|-------------------------------|---|-----------------------------------|-----------------|
| Model/Series: | PA-44-180 | Aircraft Category: | Airplane |
| Year of Manufacture: | 2002 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 4496146 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | August 17, 2010 Annual | Certified Max Gross Wt.: | 3800 lbs |
| Time Since Last Inspection: | 68.9 Hrs | Engines: | 2 Reciprocating |
| Airframe Total Time: | 5312.9 Hrs at time of accident | Engine Manufacturer: | Lycoming |
| ELT: | C91A installed, activated, aided in locating accident | Engine Model/Series: | O-360-A1H6 |
| Registered Owner: | JA Aero, Inc. | Rated Power: | 180 Horsepower |
| Operator: | JA Aero, Inc. | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

| Conditions at Accident Site: | Instrument (IMC) | Condition of Light: | Night |
|----------------------------------|-----------------------|--------------------------------------|------------------|
| Observation Facility, Elevation: | ARV,1629 ft msl | Distance from Accident Site: | 6 Nautical Miles |
| Observation Time: | 20:15 Local | Direction from Accident Site: | 180° |
| Lowest Cloud Condition: | | Visibility | 5 miles |
| Lowest Ceiling: | Broken / 900 ft AGL | Visibility (RVR): | |
| Wind Speed/Gusts: | 14 knots / 20 knots | Turbulence Type Forecast/Actual: | / Convective |
| Wind Direction: | 210° | Turbulence Severity Forecast/Actual: | / Severe |
| Altimeter Setting: | 29.51 inches Hg | Temperature/Dew Point: | 21°C / 20°C |
| Precipitation and Obscuration: | Light - None - Rain | | |
| Departure Point: | Sugar Grove, IL (ARR) | Type of Flight Plan Filed: | IFR |
| Destination: | Woodruff, WI (ARV) | Type of Clearance: | IFR |
| Departure Time: | 18:19 Local | Type of Airspace: | Class E |

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Airport Information

| Airport: | Lakeland Airport ARV | Runway Surface Type: | Asphalt |
|----------------------|----------------------|----------------------------------|-----------------------------------|
| Airport Elevation: | 1629 ft msl | Runway Surface Condition: | Wet |
| Runway Used: | 18 | IFR Approach: | Global positioning system;RNAV |
| Runway Length/Width: | 5150 ft / 100 ft | VFR Approach/Landing: | None |

Wreckage and Impact Information

| Crew Injuries: | 1 Fatal | Aircraft Damage: | Destroyed |
|------------------------|---------|-------------------------|----------------------|
| Passenger Injuries: | 1 Fatal | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 Fatal | Latitude, Longitude: | 46.024723,-89.738891 |

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Administrative Information

| Investigator In Charge (IIC): | Fox, Andrew |
|-----------------------------------|---|
| Additional Participating Persons: | William D Coppernoll; Federal Aviation Administration - Milwaukee FSDO; Milwaukee, WI |
| Original Publish Date: | June 2, 2014 |
| Last Revision Date: | |
| Investigation Class: | <u>Class</u> |
| Note: | The NTSB traveled to the scene of this accident. |
| Investigation Docket: | https://data.ntsb.gov/Docket?ProjectID=77388 |

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.

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