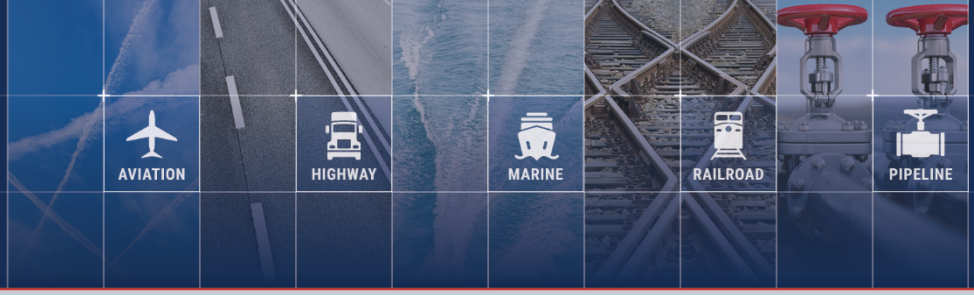

Aviation Investigation Final Report

Location:	Caledonia, Minnesota	**Accident Number:**	CEN14FA034
Date & Time:	November 1, 2013, 15:15 Local	**Registration:**	N6068Y
Aircraft:	Piper PA 23-250	**Aircraft Damage:**	Substantial
Defining Event:	Unknown or undetermined	**Injuries:**	3 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot, a pilot-rated passenger seated in the front right seat, and two additional passengers departed on a cross-country flight in a twin-engine airplane. As they neared an airport, about halfway to their final destination airport, the pilot was cleared by an air traffic controller to conduct an instrument approach to the airport; shortly afterward, the pilot cancelled the clearance. There was no further communication with the pilot. The airplane was found about 590 feet northeast of the runway by a resident who happened to notice the wreckage. Examination of the airframe and engines revealed residual fuel was at the site and in both engines' fuel system components. The landing gear and the flaps were in the retracted positions. The examination did not find any abnormalities with the airframe or engines that would have prevented normal operation. The surviving passenger, who had flown with the pilots on numerous occasions, stated that they would typically stop for a break about halfway to their destination airport, but he could not recall any of the accident details.

Probable Cause and Findings

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

The pilot's loss of control for reasons that could not be determined because the postaccident airplane examination did not reveal any anomalies that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Approach	Loss of control in flight
Maneuvering	Unknown or undetermined (Defining event)
Maneuvering	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On November 1, 2013 around 1515 central daylight time (CDT), a Piper Aztec, PA-23-250 airplane, N6068Y, impacted terrain near the Houston County Airport (KCHU), Caledonia, Minnesota. The private rated pilot, a pilot rated passenger, and one passenger were fatally injured; one passenger received serious injuries. The airplane was substantially damaged. The airplane was registered to Garlam Aviation, Troy, Michigan, and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a cross-country flight. Visual meteorological conditions prevailed and an instrument flight rules (IFR) plan was filed. The flight originated from the Oakland/Troy Airport (KVLL), Troy, Michigan, about 1100 CDT and was en route to KCHU.

There were no reported witnesses to the accident; however, a local resident discovered the airplane wreckage and alerted authorities.

The surviving passenger later reported that his first recollection was wakening up in the hospital. He stated that he could not remember any details surrounding the accident, nor did he recall any comments made to the first responders. In subsequent conversations with the passenger, he still could not recall any details of the accident; however, he did recall events prior to, and shortly after takeoff. He was the first one to arrive at airport, followed afterwards by the others. The pilots conducted a preflight, opened tanks, went under the wing to sample the fuel, and looked at the airplane. The pilot had sandwiches for everyone; he remembered the airplane taxiing out and the run up, and then flying along. He then remembered waking up in the hospital.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with ratings for airplane single and multiengine land, and instrument-airplane. The pilot held a third class medical certificate that was issued on June 12, 2013, with the restriction, "must wear corrective lenses". At the time of the exam the pilot reported 400 total flight hours and 3 hours in last six months.

The pilot rated passenger held a private pilot certificate with ratings for airplane single and multiengine land, and instrument-airplane. The pilot held a third class medical certificate that was issued June 15, 2012, with the restriction, "must wear lenses for distant, have glasses for near vision". At the time of the exam the pilot reported 2,150 total flight hours and 10 hours in the previous six months.

AIRCRAFT INFORMATION

The Piper PA-23-250, Aztec, is a twin-engine, low-wing airplane with retractable landing gear, and Hartzell 2-bladed, constant speed, full-feathering propellers. The airplane was powered by two Lycoming IO-540 reciprocating engines. A review of maintenance records revealed the airplane's last annual inspection was on March 12, 2013, with an aircraft time at 4, 768 hrs. The right engine tachometer time read 1,440 hours since overhaul and the left engine tachometer time read 1,108 hours since overhaul.

METEOROLOGICAL INFORMATION

At 1553, the automated weather observation facility located at the La Crosse Municipal Airport, (KLSE), La Crosse, Wisconsin located about 20 miles northeast of the accident site, reported wind from 320 degrees at 7 knots, visibility 10 miles, a broken ceiling at 3,700 feet, temperature 51 Fahrenheit (F), dew point 38 F, and a barometric pressure of 29.64 inches of mercury.

COMMUNICATIONS and RADAR INFORMATION

Prior to departure, the pilot contacted a Flight Service Station (FSS) and received a weather briefing for the route of flight. The pilot then filed an IFR flight plan from KVLL to KCHU, with an en route time of two and a half hours and five and a half hours of fuel on board. According to a review of air traffic control communications, prior to reaching KCHU, the pilot was cleared for the GPS-A approach; the pilot canceled his IFR clearance about 1405. There was no further communication with the pilot, nor any reported distress calls.

AIRPORT INFORMATION

Houston County Airport (KCHU) is a public use airport, located about 3 miles south of Caledonia, Minnesota. The airport is unattended and does not have a control tower; pilots are to use the Common Traffic Advisory Frequency (CTAF). The airport features a single asphalt runway 13-31, which is 3,499-foot long and 77 foot wide. The field elevation is 1,179 feet mean sea level (msl).

WRECKAGE AND IMPACT INFORMATION

The accident site was located about 590 feet northeast of KCHU's runway, in an open soybean field. The wreckage path consisted of several ground scars and airplane pieces which extended approximately 100 feet from the main wreckage on a 260 degree heading. The first impact point was a ground scar which contained remains of a green navigation light lens. From the first impact point, about 24 feet from the green lens fragments, the ground scar contained several cuts; the next major ground scar contained the airplane's nose baggage door and fragmented pieces of windshield. Both wings had extensive damage, and were twisted in an upward position from the wing roots. The airplane's fuel bladders, located in the wings, were compromised, however, a small amount of fuel was found in the tanks. The left engine and engine mount had mostly separated from, but remained next to, the left wing. The right engine had totally separated from the wing and was located about 15 feet to the right of the main wreckage. The ground scars and wreckage were consistent with the airplane's right wing impact, followed by the right engine and fuselage impact. The airplane came to rest in an upright position, turned about 180-degrees,

and facing the first impact point. The landing gear and flaps were in the retracted positions. Control continuity was established from the tail control surfaces to the forward section of the fuselage; aileron continuity was established out to the left and right bellcranks; the right aileron bellcrank had impact damage.

MEDICAL AND PATHOLOGICAL INFORMATION

The Mayo Clinic, Rochester, Minnesota, conducted autopsies on the pilot and pilot rated passenger. The causes of death were determined to be "multiple blunt force injuries".

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology tests on the pilot and pilot rated passenger. These tests were negative for carbon monoxide, ethanol, and tested drugs.

TEST AND RESEARCH

The wreckage was recovered and examinations of the airplane's engines were conducted. Continuity was established from the front of the crankshaft to the rear gear drive section of each engines, and through their valve trains. The top set of sparkplugs were removed, each engine was rotated by hand; each cylinder produced suction and compression during a thumb test. Both magnetos were removed from each engine; all four rotated freely and produced a spark on each terminal. The engines fuel flow dividers were removed and opened, along with the fuel pumps, and fuel servos. The units contained residual fuel and appeared clear of any contaminants. Both propellers remained attached to their respective engines, and had similar signatures. For identification purposes the propeller blades are referred to as blade A or B. The left engine's propeller blade A appeared straight and absent any polishing or scoring; blade B was bent towards the cambered side, about 12 inches from the hub to about a 45-degree angle. The blade had only minor leading edge polishing near the tip of the blade. The right engine's propeller also had one blade (blade B) bent towards the cambered side, starting about 12 inches from the hub, to about a 45-degree angle. Blade B had only minor leading edge polishing, outboard of the deicing boot. Blade A was relatively straight and absent any scuffs or scoring on the blade.

No abnormalities were found that would have prevented the engines from producing rated power.

ADDITIONAL INFORMATION

The surviving passenger stated that he didn't know why they would be at Caledonia; however, typically they would pick a place about half-way to their destination, to exercise the dogs, use the restroom, and to refuel the airplane. He added that he'd flown with them numerous times, and never observed anything unsafe with the pilots or airplane. The usual routine would be to put the airplane away full of fuel.

Pilot Information

Certificate:	Private	**Age:**	49
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	June 12, 2013
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	357 hours (Total, all aircraft)		

Pilot-rated passenger Information

Certificate:	Private	**Age:**	79
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	June 15, 2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	2150 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N6068Y
Model/Series:	PA 23-250	**Aircraft Category:**	Airplane
Year of Manufacture:	1966	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	27-3265
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:	March 14, 2013 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	4768 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:		**Engine Model/Series:**	IO-540 SER
Registered Owner:	GARLAM AVIATION CO	**Rated Power:**	
Operator:	GARLAM AVIATION CO	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KLSE	**Distance from Accident Site:**	20 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	45°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 3700 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.63 inches Hg	**Temperature/Dew Point:**	11°C / 3°C
Precipitation and Obscuration:			
Departure Point:	Troy, MI (KVLL)	**Type of Flight Plan Filed:**	IFR
Destination:	Caledonia, MN (KCHU)	**Type of Clearance:**	IFR
Departure Time:	11:00 Local	**Type of Airspace:**	

Airport Information

Airport:	Houston County KCHU	**Runway Surface Type:**	
Airport Elevation:	1179 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	Unknown
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 Fatal, 1 Serious	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal, 1 Serious	**Latitude, Longitude:**	43.595275,-91.501388

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	David Nelson; FAA FSDO; Minneapolis, MN Charles Little; Piper Aircraft John Butler; Lycoming Aircraft Engines
Original Publish Date:	November 5, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=88371