Aviation Investigation Final Report

Location:	Glenwood, Minnesota	**Accident Number:**	CHI05FA042
Date & Time:	December 9, 2004, 17:10 Local	**Registration:**	N587C
Aircraft:	Piper PA-32R-301T	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was substantially damaged when it collided with a fence, terrain and a residence during an instrument approach to the intended destination. The accident flight was operating on an instrument flight rules (IFR) flight plan at a cruise altitude of 10,000 feet mean sea level (msl) prior to descent for the approach. After descent to 6,000 feet msl, further descent to 4,000 feet msl at pilot's discretion was authorized by air traffic control (ATC). The pilot requested to remain at 6,000 feet in order to stay "out of the clouds here [until] the last minute [due to] possible icing." Shortly afterward the pilot requested and was cleared by ATC to climb to 7,000 feet msl when the aircraft encountered "light" rime and mixed icing conditions. The flight was subsequently cleared for the global positioning system (GPS) instrument approach to runway 33. Radar track data indicated that the aircraft began a descent from 7,000 feet about 9 nautical miles (nm) southeast of the destination and intercepted the published approach course. The radar track data plot depicted the airplane crossing the GPS runway 33 approach final approach fix (FAF), located 5 nm south-southeast of the runway threshold, at 6,000 feet msl. The minimum altitude crossing the FAF was 3,000 feet msl, according to the published procedure. Final radar contact was at 4,000 feet msl about 2 nm south-southeast of the airport. The normal floor of radar coverage in the area was 4,000 feet msl. The airplane subsequently impacted terrain about 1 nm north-northwest of the airport. The debris path was oriented on a 150-degree magnetic bearing toward the airport. The inbound course for the GPS approach to runway 33 was 338-degrees magnetic. The published minimum descent altitude (MDA) for the straight-in GPS runway 33 approach was 1,760 feet msl, or 372 feet above ground level (agl). An overcast ceiling at 200 feet agl was recorded at the airport about 15 minutes prior to the accident. Terminal weather forecasts issued for an airport located 14 nm north of the intended destination called for ceilings of 300 feet agl overcast and 2 sm visibility in light snow and mist about the time of the accident. Preflight weather briefings for two previous flights that day had been provided, however, no weather briefing for the accident flight was obtained by the pilot. A post-accident examination did not reveal any airframe or engine anomalies associated with a pre-accident malfunction. FAA regulations required a pilot

to execute a missed approach when operating below the MDA if the aircraft is not "continuously in a position from which a descent to a landing on the intended runway can be made a normal rate of descent using normal maneuvers."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to execute a missed approach and his failure to maintain sufficient altitude and clearance from terrain and obstructions. Contributing factors were the pilot's failure to obtain a preflight weather briefing, his decision to delay descent for approach (icing concerns), cloud ceilings below the minimum descent altitude, in-flight icing conditions, dark night lighting conditions, and the fence and residence.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: APPROACH

Findings
1. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
2. (F) WEATHER CONDITION - BELOW APPROACH/LANDING MINIMUMS
3. (F) WEATHER CONDITION - ICING CONDITIONS
4. IN-FLIGHT WEATHER ADVISORIES - NOT ISSUED - ATC PERSONNEL(ARTCC)

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: APPROACH

Findings
5. (F) DESCENT - DELAYED - PILOT IN COMMAND
6. (C) MISSED APPROACH - NOT PERFORMED - PILOT IN COMMAND
7. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
8. (F) LIGHT CONDITION - DARK NIGHT
9. (F) OBJECT - FENCE

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: APPROACH

Findings
10. TERRAIN CONDITION - GROUND

Occurrence #4: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: APPROACH

Findings
11. (F) OBJECT - RESIDENCE

Factual Information

HISTORY OF FLIGHT

On December 9, 2004, at 1710 central standard time, a Piper PA-32R-301T, N587C, owned and piloted by an instrument-rated private pilot, was substantially damaged during an in-flight collision with a fence and terrain approximately 1 nautical mile (nm) northwest of Glenwood Municipal Airport (GHW), Glenwood, Minnesota. The personal flight was operating under 14 CFR Part 91 on an instrument flight rules (IFR) flight plan. Instrument meteorological conditions prevailed at the time of the accident. The pilot and passenger sustained fatal injuries. The accident flight departed Mount Vernon Airport (MVN), Mount Vernon, Illinois, about 1340.

The accident pilot contacted the Miami Automated Flight Service Station (AFSS) about 0615 on the morning of the accident. He proceeded to file three IFR flight plans. The first was from Page Field Airport (FMY), Ft. Myers, Florida, to Southwest Georgia Regional Airport (ABY), Albany, Georgia. The second was from ABY to MVN, and the third was from MVN to GHW.

The pilot was provided with weather conditions for the first and second flights. Due to a tornado watch and convective Significant Meteorological Information (SIGMET) weather advisories effective for the route of flight from ABY to MVN, the pilot declined further weather information for the third flight (MVN-GHW) at that time.

About 0945, the pilot contacted the Macon AFSS and requested an abbreviated weather briefing for the route of flight from ABY to MVN. He was provided updated weather conditions for that route of flight. The pilot did not mention a planned flight from MVN to GHW to the briefer. No weather information related to that flight was provided.

No contacts, either on the ground or in-flight, were made with any AFSS along the route of the accident flight. This included Kankakee, St. Louis, Ft. Dodge and Princeton AFSS.

The FAA provided air-to-ground communications between the accident pilot and air traffic control (ATC) facilities, as well as radar track data for the accident flight. The radar track data was processed and plotted by the NTSB. Copies of all available FAA ATC transcripts and the NTSB plots of FAA radar data are included with the docket material associated with this accident file.

At 1342, the pilot contacted Kansas City Air Route Traffic Control Center (ARTCC) and reported that the flight was airborne off of MVN. The flight was subsequently cleared to GWH at an altitude of 10,000 feet mean sea level (msl). Control of the flight was handled through multiple FAA ATC facilities during the en route portion of the flight.

About 1550, responsibility for ATC services was transferred to the Minneapolis ARTCC. The flight was operating at 10,000 feet msl at that time. Minneapolis ARTCC provided ATC services throughout the remainder of the flight.

At 1637, the controller instructed the pilot to descend and maintain 6,000 feet msl. At 1641, the controller issued a clearance to descend to 4,000 feet msl at pilot's discretion. The pilot replied that he wished to stay at 6,000 feet in order to stay "out of the clouds here [until] the last minute [due to] possible icing." The controller replied that the flight could remain at 6,000 feet and reissued the clearance to descend to 4,000 feet msl at pilot's discretion.

At 1649, the pilot reported accumulating a "fair amount" rime and mixed ice at 6,000 feet. He requested and was cleared to climb to 7,000 feet msl. When asked he characterized the icing intensity as "light." He estimated the cloud tops were about 6,200 feet msl.

At 1659, the pilot stated that he was planning the global positioning system instrument approach to runway 33 (GPS RWY 33) at GHW and requested radar vectors. He also requested that the flight remain at 7,000 feet msl as long as practical due to icing. The controller replied that radar vectors for the approach at GHW could not be provided because radar coverage was not available in that area at lower altitudes. The controller also noted that descent was at the pilot's discretion. The plotted radar track data indicated that the flight was approximately 19 nm southeast of GHW at that time.

The minimum altitude for radar coverage in the vicinity of GHW was typically 4,000 feet msl, according to the FAA.

Radar data indicated that the aircraft began a descent out of 7,000 feet msl about 1703:08 (HHMM:SS). The flight was approximately 9 nm south-southeast of GHW at that time.

The radar data plot depicted the aircraft's flight path intercepting the GPS RWY 33 approach course at 1703:48, at an altitude of 6,800 feet msl. According to the radar data, the flight crossed the final approach fix, located 5 nm from the runway, at 1705:18, at an altitude of 6,000 feet msl. The published minimum crossing altitude was 3,000 feet msl.

At 1706:33, the controller cleared the flight for approach to GHW and requested the pilot report being established on the approach. The pilot acknowledged the approach clearance and reported established on the approach at that time. The controller authorized the pilot to change to the airport advisory frequency. The pilot acknowledged that instruction at 1706:54. No further communications were received from the accident aircraft.

Final radar contact with the accident flight was at 1706:59 at 4,000 feet msl. The flight's position at that time was approximately 2 nm south-southeast of GHW. Radar contact was not reestablished with the aircraft.

A witness to the accident reported that she was in the front yard of her residence, which was located approximately 1 nm northwest of GHW. She stated that she heard the airplane prior to being able to see it. She noted that it sounded as if it was at a low altitude. She reported that she spotted the airplane's light. She stated that it approached from the north, appeared to dive down and impact the ground. She noted that it was completely dark at the time and recalled weather conditions as "misty and foggy."

According to the published procedure, an aircraft flying the GPS RWY 33 approach to GHW must cross the final approach at a minimum altitude of 3,000 feet msl and commence a descent to the minimum descent altitude (MDA). The MDA for a straight-in approach to runway 33 was 1,760 feet msl, or 372 feet above ground level (agl). The MDA for a circling approach was 1,820 feet msl, or 427 feet agl. A flight visibility of 1 statute mile (sm) was required for landing under both conditions.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with airplane single-engine land and instrument airplane ratings, which was issued on June 29, 2001. The pilot was issued a third-class airman medical certificate with no restrictions or limitations on July 17, 2003.

The pilot had logged 710.9 hours total flight time and 684.6 hours in the same make and model as the accident aircraft. He had logged 93.1 hours in the accident airplane. Logged night flight time was 19.1 hours. The most recent night flight time was logged as 2.0 hours on October 21, 2003. Total instrument flight time was 84.5 hours with 2.8 hours logged within the previous 90 days.

The pilot's most recent flight review endorsement was dated August 22, 2003. The logbook contained a complex airplane endorsement dated August 7, 2000, and a high performance airplane endorsement dated August 13, 1999.

A separate flight log in the form of a single, tabulated sheet of paper was recovered at the accident site. It listed a flight on November 28, 2004, from GHW to ANE, which was 1.5 hours in duration. The log indicated the ending hour meter time was 337.7. The last line indicated a flight from GHW to MVN to ABY to FMY on December 5, 2004. No flight or hour meter times were noted for that flight.

AIRCRAFT INFORMATION

The accident airplane was a 2003 Piper PA-32R-301T Saratoga, serial number 3257324. The airplane was a single-engine, low wing design with a retractable tricycle landing gear configuration.

The airplane was powered by a 300-horsepower Lycoming TIO-540-AH1A engine, serial number L-11377-61A. The engine was a six-cylinder, turbocharged, fuel injected arrangement.

According to maintenance logbooks, an annual inspection was completed on October 4, 2004, at 317.1 hours. The static system, altimeter, transponder and altitude encoder were inspected on June 3, 2003, at 16.0 hours with no discrepancies noted.

The airplane was issued an airworthiness certificate on April 28, 2003, as a new aircraft. The accident pilot purchased the airplane on April 14, 2004.

METEOROLOGICAL INFORMATION

The GHW Automated Weather Observing System (AWOS) recorded, at 1655: Overcast clouds at 200 feet above ground level; visibility 1-1/4 statute miles in mist; wind from 050 degrees at 8 knots; temperature and dew point 02 degrees Celsius; and altimeter setting 29.68 inches of Mercury.

Review of recorded AWOS observations throughout the day at GHW indicated that ceilings were 200 feet agl overcast with visibilities less than 2 sm at each observation from 0055 and continuing through the time of the accident. Restrictions to visibility included fog, mist and light snow.

A terminal forecast for GHW was not normally issued. Terminal forecasts for Chandler Field Airport (AXN), Alexandria, Minnesota, located 14 nm north of GHW, are noted below.

Alexandria (AXN) Terminal Forecast, issued at 1121:
Conditions forecast at 1200, overcast clouds at 300 feet agl and 1 sm visibility in mist, temporarily vertical visibility 100 feet agl and lateral visibility 1/4 sm in light rain, snow and fog;
Conditions forecast at 1500, overcast clouds at 300 feet agl and 2 sm visibility in light snow and mist, temporarily vertical visibility of 100 feet and lateral visibility of 3/4 sm in light snow and mist.

Alexandria (AXN) Terminal Forecast, issued at 1339:
Conditions forecast at 1400, overcast clouds at 100 feet agl and 1/4 sm visibility in fog, temporarily 300 feet agl overcast and 1/2 sm visibility in light rain, snow and fog;
Conditions forecast at 1700, overcast clouds at 300 feet agl and 2 sm visibility in light snow and mist, temporarily vertical visibility of 100 feet and lateral visibility of 3/4 sm in light snow and mist.

Area forecasts covering central and southern Minnesota effective during the time of the accident flight are noted below.

Area Forecast for Minnesota issued at 0445 and valid until 1700:
Central one-third of state - Overcast ceilings at 1,000 feet agl with visibilities at 3-5 sm in mist. After 1300 the possibility of light snow was forecast. The outlook portion of that forecast beginning at 1700 was for instrument conditions due to cloud ceilings with freezing rain and

snow.

Southern one-third of state - Broken to overcast ceilings at 1,000-1,500 feet agl and cloud tops at 5,000 feet msl. Visibilities were forecast to be 3-5 sm in mist. The outlook was for instrument conditions due to cloud ceilings with snow.

Area Forecast for Minnesota issued at 1345 on December 9th and valid until 0200 on December 10th:
Southern one-half of state - Overcast ceilings at 1,000 feet agl with visibilities of 3-5 sm in mist. Occasional light rain and snow was also forecast.

An Airman's Meteorological Information (AIRMET) weather advisory for in-flight icing conditions was issued at 1445 and valid until 2100. The area covered by the AIRMET was bounded on the southern end by a line from Nodine, Minnesota (ODI) to Redwood Falls, Minnesota (RWF). The area included GHW. The AIRMET advisory warned of occasional moderate rime and mixed icing from the freezing level through 16,000 feet msl. The freezing level was forecast to be between 4,000 and 6,000 feet msl.

An AIRMET for instrument conditions was issued at 1445 and valid until 2100. The AIRMET advisory area was north of a line from Niles, Michigan, to Iowa City, Iowa, to 60 miles north of O'Neill, Nebraska, and included GHW. The AIRMET warned of occasional to widespread cloud ceilings below 1,000 feet agl and visibilities below 3 sm in precipitation, mist and fog.

Airman's Meteorological Information (AIRMET) weather advisories contain information of operational interest to all aircraft, but concerns phenomena considered potentially hazardous to light aircraft and aircraft with limited operational capabilities. An AIRMET includes forecast of moderate icing, moderate turbulence, sustained surface winds of 30 knots or greater, and widespread areas of ceilings less than 1,000 feet and/or visibilities less than 3 sm.

Significant Meteorological Information (SIGMET) are weather advisories concerning non-convective weather that is potentially hazardous to all aircraft. They report weather forecasts that include severe icing not associated with thunderstorms, severe or extreme turbulence or clear air turbulence (CAT) not associated with thunderstorms, dust storms or sandstorms that lower surface or in-flight visibilities to below 3 sm, and volcanic ash.

Convective SIGMETs is a weather advisory issued for hazardous convective weather that affects the safety of every flight. Convective SIGMETs are issued for severe thunderstorms with surface winds greater than 50 knots, hail at the surface greater than or equal to 3/4 inch in diameter, or tornadoes. They are also issued to advise pilots of embedded thunderstorms, lines of thunderstorms, or thunderstorms with heavy or greater precipitation that affect 40 percent or more of a 3,000 square foot or greater region.

WRECKAGE DESCRIPTION

The airplane impacted a barbed-wire fence and a pasture in a sparsely populated area about 1 nm northwest of GHW. The impact path continued through the back and side yards of the adjacent residence. The main wreckage came to rest in the front yard. The residence sustained minor damage.

The location of the main wreckage was 45 degrees 39 minutes 5 seconds north latitude, 095 degrees 20 minutes 23 seconds west longitude as determined by a handheld GPS receiver. The site was on a 296-degree magnetic bearing from GHW at 0.93 nautical miles. The debris path was approximately 375 feet in length and was oriented on a 150-degree magnetic bearing.

Three depressions through the vegetation were observed and appeared to be the start of the impact path. The two outside depressions were about 11-feet 5-inches apart. The middle depression was centered between the other two. Height of the undisturbed brush was approximately 3 feet.

A ground scar was observed after the depressions in the direction of the main wreckage. The ground scar was approximately 18 feet long and 6 feet wide. The nose landing gear had separated from the aircraft and was located in the ground scar. The air conditioning door, normally installed on the bottom of the fuselage aft of the cabin area, was separated and located at the northwest end of the ground scar.

The left wing separated from the airframe at the wing root. It was located approximately halfway between the initial impact and the main wreckage. The left aileron remained attached and was free to rotate on its hinges. The inboard end of the fuel tank was compromised. The fuel tank cap was secure.

The left aileron control cable was intact from the aileron bellcrank to the wing root. The inboard end of the cable was frayed in a manner consistent with overload. Movement of the cable actuated the aileron. The return cable was located with the fuselage. The return cable remained attached to the left aileron bellcrank arm; however, the arm was separated from the bellcrank pivot shaft. The fracture surface was consistent with overload.

The left flap was separated from the wing and located approximately midway between the initial impact point and the left wing assembly.

The aft cabin and cargo doors had separated from the airframe at the hinges and were located in the debris path.

The outboard 4-feet of the right wing had separated from the inboard portion of the wing and was located in the debris path. The section was located about 15 feet from the main wreckage in the debris path. The remaining inboard portion of the right wing was separated and located adjacent to the fuselage. The leading edge exhibited leading edge crushing. A section containing the right main landing gear wheel well had separated from the remainder of

the wing and the fuselage and was also located adjacent to the fuselage.

The right flap was bent and dented. It had separated from the wing with the exception of the inboard hinge which remained intact. This hinge was common to the wing section containing the right wheel well.

The right aileron had separated and was located in the debris path. The outboard end of the aileron assembly was bent aft over the outboard one-third of the span. The skin was buckled and separated at the trailing edge in the vicinity of the bend.

The right aileron bellcrank was dislodged from the wing. The aileron cables remained attached to the bellcrank. The control rod between the aileron and the bellcrank had separated. The rod end remained attached to the bellcrank. The fracture surface was consistent with overload.

The fuselage came to rest on its left side. The left side of the empennage was deformed. The vertical stabilizer was separated from and lying adjacent to the empennage. The rudder remained attached to the vertical stabilizer. The right side of the horizontal stabilizer remained attached to the empennage.

The left half of the stabilator had separated from the remainder of the assembly and was located in the debris path. The left half of the anti-servo tab remained attached to the stabilator section. The stabilator and tab skin were torn and buckled.

Rudder and stabilator control continuity were verified from the control surfaces to the cabin area. Stabilator trim continuity was verified to the cabin area. The trim actuator was observed in a position consistent with 2-degrees nose down.

The pilot's control wheel, universal joint and aileron sprocket were intact. The aileron control cable chain was in position on the pilot's control wheel sprocket. The pilot's control wheel shaft was bent downward relative to the fuselage at the point it protruded through the instrument panel.

The engine was dislocated downward and rotated to the left relative to the fuselage. The propeller blades exhibited S-shaped bending and were twisted toward low pitch. All propeller blades remained attached to the hub.

Engine piston, valve train and accessory section continuity were confirmed via crankshaft rotation. Compression and suction was obtained at all cylinders. Spark plug electrodes were light gray in appearance consistent with normal wear. A spark was observed at all ignition wires when the crankshaft was rotated.

The fuel servo housing had separated from the engine assembly. The butterfly valve was intact and free to rotate. The fuel servo inlet line was removed. A small amount of fluid (approximately 1/2 ounce) was drained. The fluid was consistent in appearance and odor to

aviation fuel. The fuel divider assembly was opened. The diaphragm and cavity were wet in appearance and an odor similar to aviation fuel was present.

The turbocharger assembly was intact. Dirt and debris was removed from the intake. The impeller blades appeared intact and the impeller disc was free to rotate. Engine control continuity was confirmed.

The attitude indicator and turn coordinator were disassembled. The internal components of the instruments were intact and the mechanisms were free to move. No gyro housing score marks were observed on the attitude indicator. The turn coordinator gyro was not enclosed in a housing. Both gyros were free to rotate.

The vacuum pump was intact and the drive shaft was free to rotate. The pump was disassembled. The vanes and rotor were intact.

The aircraft's annunciator light panel included a Vacuum Inop warning function. The Vacuum Inop annunciator light should be illuminated when vacuum pressure falls below 4.0 inches of Mercury, according to the pilot's operating handbook for the aircraft.

The Vacuum Inop bulb from the annunciator panel was removed. The bulb filament did not appear to be stretched, which is consistent with being extinguished at the time of impact.

The altimeter was set to 29.61 inches of Mercury when observed at the accident site. The recording hour meter indicated 359.7 hours at the accident site.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was performed at the Ramsey County Medical Examiner's Office in St. Paul, Minnesota, on December 10, 2004.

The FAA Civil Aerospace Medical Institute toxicology report for the pilot was negative for all substances tested.

ADDITONAL INFORMATION

A fuel receipt was recovered in the wreckage. The receipt was dated December 9, 2004, at 1426. It noted the accident aircraft's registration, N587C, and indicated 65 gallons of 100 low lead aviation fuel were purchased. The facility providing the fuel was Air Evac Flightline in Mt. Vernon, Illinois. Air Evac Flightline is a fixed base operator at MVN.

Regarding landing under IFR, 14 CFR 91.175(c) stated that no pilot may operate an aircraft below the authorized minimum descent altitude (MDA) for the instrument approach procedure being flown unless it is "continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers."

In addition, 14 CFR 91.175(e) stated that a pilot "shall immediately execute an appropriate missed approach procedure" when the aircraft is being operated below MDA or upon arrival at the missed approach point and the requirements of 14 CFR 91.175(c) are not met.

FAA Order 7110.65P, Air Traffic Control, (paragraph 4-7-10 / IFR -- Approach Information), specifies procedures to be used by controllers while providing air traffic service. The order requires controllers to issue approach information to pilots destined to an airport to which they provide approach control services. This information is to include the approach clearance or type of approach; runway if different from that to which the instrument approach is made; surface wind; ceiling and visibility if less than 1,000 feet and/or 3 miles, respectively; and the altimeter setting. The handbook notes that the last three items may be omitted in the event the pilot advises that automated weather at the airport (if available) has been received.

According to the ATC transcript, weather conditions at GHW were not issued to the pilot by ATC. Additionally, the pilot did not indicate having received the GHW AWOS broadcast.

The FAA, New Piper Aircraft and Lycoming Engines were parties to the investigation.

The wreckage was released at the conclusion of the on-scene investigation and was acknowledged by the sheriff of Pope County, Minnesota.

Pilot Information

Certificate:	Private	**Age:**	65,Male
Airplane Rating(s):	Single-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 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	July 17, 2003
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	August 22, 2003
Flight Time:	711 hours (Total, all aircraft), 685 hours (Total, this make and model), 661 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 9 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N587C
Model/Series:	PA-32R-301T	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3257324
Landing Gear Type:	Retractable - Tricycle	**Seats:**	7
Date/Type of Last Inspection:	October 4, 2004 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	42.6 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	359.7 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	TIO-540-AH1A
Registered Owner:	On file	**Rated Power:**	300 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	GHW,1393 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	16:55 Local	**Direction from Accident Site:**	116°
Lowest Cloud Condition:		**Visibility**	1.25 miles
Lowest Ceiling:	Overcast / 200 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.68 inches Hg	**Temperature/Dew Point:**	2°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mount Vernon, IL (MVN)	**Type of Flight Plan Filed:**	IFR
Destination:	Glenwood, MN (GHW)	**Type of Clearance:**	IFR
Departure Time:	13:40 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Glenwood Municipal GHW	**Runway Surface Type:**	Asphalt
Airport Elevation:	1393 ft msl	**Runway Surface Condition:**	
Runway Used:	33	**IFR Approach:**	Circling;Global positioning system
Runway Length/Width:	4500 ft / 75 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	45.65139,-95.339721

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Casey Heggerston; FAA-Mineapolis FSDO; Minneapolis, MN Brian Teter; FAA-Minneapolis FSDO; Minneapolis, MN Michael McClure; New Piper Aircraft ; Vero Beach, FL Gregory Erikson; Lycoming Engines; Williamsport, PA
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Last Revision Date:	
Investigation Class:	Class
Note:	
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