National Transportation Safety Board
Aviation Accident Final Report

Location:	Marshfield, Wisconsin	**Accident Number:**	CEN09FA070
Date & Time:	November 22, 2008, 23:09 Local	**Registration:**	N67TE
Aircraft:	Piper PA46-500TP	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Witnesses reported that the airplane appeared to be making a normal approach for landing when it suddenly rolled to the left, descended, and impacted the terrain about one-half mile from the runway. On arrival at the scene, the witnesses saw the airplane fully engulfed in flames. The flight was operating in night visual meteorological conditions and the runway lights were illuminated at the time of the accident. The pilot communicated no problems or difficulties while in contact with air traffic control (ATC) during the accident flight. A post-accident examination of the airframe and engine did not reveal any anomalies associated with a pre-impact failure or malfunction. Radar track data and weather observations indicated that the pilot climbed through an overcast cloud layer without the required ATC clearance, en route to his intended destination. The pilot previously had been issued a private pilot certificate with single and multi-engine airplane ratings upon successful completion of the prescribed practical tests. He was subsequently issued a commercial pilot certificate, which included the addition of an instrument airplane rating, based on military flight experience. However, a review of military records and statements from his family indicated that the pilot had never served in the military. The pilot's medical history and toxicology testing showed he had a history of back pain and was taking medication for that condition that commonly causes impairment. However, the time proximity for the pilot having taken the medication prior to the accident flight and any possible impairment, could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain control of the airplane during final approach for landing in night, visual meteorological conditions for undetermined reasons.

Findings

Personnel issues	Aircraft control - Pilot
Personnel issues	Qualification/certification - Pilot
Personnel issues	Prescription medication - Pilot
Aircraft	(general) - Not attained/maintained

Factual Information

HISTORY OF FLIGHT

On November 22, 2008, at 2309 central standard time, a Piper PA46-500TP, N67TE, piloted by a commercial pilot, was destroyed during an in-flight collision with terrain and a post impact fire, about 1/2 miles north-northwest of Marshfield Municipal Airport (MFI), Marshfield, Wisconsin. The night cross-country flight was being conducted under 14 Code of Federal Regulations Part 91, without a flight plan. Visual meteorological conditions prevailed at the time of the accident. The pilot and two passengers sustained fatal injuries. The flight departed Austin Straubel International Airport (GRB), Green Bay, Wisconsin, about 2220. MFI was the intended destination.

At 2220, after takeoff from GRB, the pilot contacted the Green Bay Air Traffic Control Tower (ATCT) radar controller (Green Bay departure). He reported having taken off from runway 18 and turning on course for MFI. At 2228, the departure controller terminated radar service as the airplane left GRB airspace to the west. The flight was about 15 nautical miles (nm) west of GRB and climbing through 10,200 feet mean sea level (msl) at the time.

At 2250, the pilot contacted the Minneapolis Air Route Traffic Control Center (ARTCC). The flight was approximately 10 nm northeast of MFI at the time. He advised the controller that he was inbound to MFI on the Global Positioning System (GPS) Runway 16 approach course. The pilot also inquired about traffic ahead of his position and 1,600 feet below his altitude. The controller informed the pilot that he was not aware of any traffic and that he was below radar coverage in that area. The pilot replied that he would try the local Unicom frequency. Minneapolis ARTCC received no further communications from the pilot.

Radar track data depicted the airplane climbing out from GRB and proceeding west-northwest toward MFI. Initial radar data was recorded at 2221:31 (hhmm:ss). The airplane was about 0.4 nm west of GRB at 2,100 feet msl. About 2230, the airplane leveled at a cruise altitude of 10,500 feet msl en route to MFI. It was approximately 20 nm west of GRB at that time. About 2242, the airplane began a descent from cruise altitude as it continued on course. At 2249:54, the track data depicted the airplane about 11 nm northeast of MFI at 5,700 feet msl. The final radar track data point was recorded 10 seconds later, at 2250:04, with the airplane 10.8 nm northeast of MFI. There was no altitude data associated with the final data point.

Witnesses stated that they observed the airplane approaching MFI and that it appeared to be making a normal approach for landing. However, shortly thereafter the airplane rolled abruptly to the left to a point where they could see the full profile (top) of the aircraft. Both wing tip lights were visible. The nose then dropped and the airplane descended behind a church. A moment later, they witnessed the flash of the post impact explosion.

The airplane came to rest in the backyard of a residence. Local fire authorities subsequently extinguished the post impact fire.

PERSONNEL INFORMATION

The accident pilot held a commercial pilot certificate with single and multi-engine land airplane, and instrument airplane ratings. He was issued a Third-Class Airman Medical and Student Pilot Certificate on November 5, 2005. The medical certificate noted no limitations. The pilot completed a flight review and instrument proficiency check on September 12, 2008, as part of a Meridian training course.

The pilot's logbook was recovered from the wreckage; however, it was damaged by the post impact fire and sections of the pages were not readable. Legible entries ranged from September 9 through September 27, 2008 on the first page, and from October 9 through November 16, 2008 on the second page. Although the year was not noted on the legible entries, comments associated with flights on October 27 and November 5th corresponded to maintenance log entries. Flight time totals brought forward on the first page were: 767 hours total flight time, 548 hours single-engine airplane, 219 hours multi-engine airplane, 209 hours night, and 60 hours actual instrument, with 76 instrument approaches.

A review of the Federal Aviation Administration (FAA) airmen certification records revealed that the pilot was issued a private pilot certificate with a single-engine land airplane rating on February 22, 2006. On the application for that certificate, he reported a total civilian flight time of 122 hours. On May 20, 2006, the pilot was reissued a private pilot certificate with the addition of multi-engine airplane rating. He reported a total civilian flight time of 249 hours at that time.

On September 28, 2006, the pilot was issued a commercial pilot certificate with single and multi-engine land airplane, and instrument airplane ratings. The certificate was issued on the basis of prior military flight experience. The pilot's application noted a total flight experience of 11,384 hours, with flight time in United States Navy F-14 and T-44 aircraft.

In support of his application, the pilot furnished a resume and an instrument rating request form to the FAA. The resume noted Naval Academy attendance from 1986 to 1990. From 1990 until 1993, the resume listed flight training and operational squadron assignments. He resigned his active duty commission in 1993, and continued to serve as a Navy reservist. No unit assignments were listed related to Navy reserve duty.

The U.S. Navy Instrument Rating Request form, dated November 22, 2005, indicated that the pilot had successfully completed the training program. The rating form noted a total pilot time of 11,009 hours, with 8,602 hours actual instrument time and 1,001 hours of simulated instrument time. The form listed "Total Years Flying Experience (Military and Commercial)" as 15 years.

A search of personnel records by the U.S. Navy did not reveal any record corresponding to the accident pilot. Additionally, the pilot's wife and father informed the NTSB that he had never served in the military.

The pilot completed a Meridian training course after he took delivery of the accident airplane. According to training vendor records, the training was conducted between September 8th and September 12th, 2009. The records indicated that the pilot was issued a flight review and an

instrument proficiency check endorsement at the conclusion of the course. The course consisted of 20 hours of ground training in airplane systems, performance, normal procedures and emergency procedures. The pilot also completed 8.5 hours of simulator training and 5.0 hours of flight training covering normal, emergency, and instrument procedures.

The pilot provided a summary of his flight experience to the Meridian training vendor prior to the course. The form was dated July 30, 2008. He reported a total flight time of 749 hours, with 219 hours of multi-engine time and 60 hours of instrument time. He indicated that he had accumulated 195 hours during the previous year, 59 hours during the previous 90 days, and 24 hours during the previous 30 days. He listed 60 hours as his "total time in type."

National Transportation Safety Board (NTSB) records indicated that the pilot was involved in a previous accident on June 2, 2006, in Faribault, Minnesota. The accident involved a runway excursion and gear collapse during landing. The NTSB determined that the pilot had lost directional control precipitating the accident. No anomalies were identified with respect to the airplane. The pilot satisfactorily completed a re-examination checkride with an FAA inspector on October 25, 2006.

The pilot had owned four other Piper aircraft within in a 23-month period preceding the accident. FAA records indicated that he bought and sold the following airplanes during that time period.

February 5, 2007 ~ July 13, 2007: 2003 Piper Archer II (PA-28-181) -- N7702H
July 13, 2007 ~ February 15, 2008: 2006 Piper Saratoga II TC (PA-32R-301T) -- N477HP
January 31, 2008 ~ April 9, 2008: 2008 Piper Matrix (PA-46R-350T) -- N3028G
April 9, 2008 ~ September 24, 2008: 2007 Piper Malibu Mirage (PA-46-350P) -- N1064S
September 5, 2008: 2008 Piper Malibu Meridian (PA-46-500TP) -- N67TE

Aircraft manufacturer records indicated that the accident pilot was involved in an incident with the Malibu Mirage, N1064S, on April 23, 2008. According to the manufacturer, the pilot declined manufacturer requests to examine the airplane. FAA airworthiness records indicated that the firewall was repaired and the engine mount replaced on June 5, 2008. The reason for the repair work was not included with those records.

AIRCRAFT INFORMATION

The accident airplane was a 2008 Piper PA46-500TP Meridian, serial number 4697364. The aircraft was a 6-place, pressurized, single-engine airplane, with a retractable, tricycle landing gear configuration. It was powered by a 850 shaft-horsepower Pratt & Whitney Canada PT6A-42A turbo-propeller engine derated to 500 shaft-horsepower, and a Hartzell HC-E4N-3Q 4-bladed propeller assembly. The airplane was certified under FAA Type Certificate A25SO. The airplane was issued a Standard Airworthiness Certificate on July 24, 2008, as a new aircraft. The accident pilot purchased the airplane on September 5, 2008.

Records were provided by the fixed base operator/service facility that delivered the airplane and conducted a recent inspection. The service facility completed a 50-hour warranty inspection on November 4, 2008, at a total airframe time of 53.5 hours. The records indicated

that all applicable airworthiness directives had been complied with at that time.

METEOROLOGICAL INFORMATION

The closest weather reporting facility to the accident site was the destination airport, MFI, located approximately 0.5 miles south-southwest at an elevation of 1,277 feet msl. The airport was equipped with an Automated Surface Observation System (ASOS) and reported the following conditions surrounding the time of the accident.

At 2254, winds from 160 degrees at 3 knots, visibility 10 miles, broken clouds at 2,900 feet above ground level (agl), overcast clouds at 3,500 feet agl, temperature -4 degrees Celsius, dew point -8 degrees Celsius, and altimeter 30.25 inches of mercury.

At 2354, winds from 180 degrees at 5 knots, visibility 10 miles, broken clouds at 2,900 feet above ground level (agl), overcast clouds at 3,500 feet agl, temperature -4 degrees Celsius, dew point -8 degrees Celsius, and altimeter 30.24 inches of mercury.

The departure airport, GRB, was equipped with an ASOS and reported the following conditions surrounding the time of departure.

At 2153, winds from 190 degrees at 3 knots, visibility 10 miles, scattered clouds at 5,000 feet agl, overcast clouds at 7,000 feet agl, temperature -4 degrees Celsius, dew point -9 degrees Celsius, and altimeter 30.32 inches of mercury.

At 2253, winds from 200 degrees at 5 knots, visibility 10 miles, overcast clouds at 6,500 feet agl, temperature -3 degrees Celsius, dew point -9 degrees Celsius, and altimeter 30.31 inches of mercury.

AIRPORT INFORMATION

Marshfield Municipal Airport was a non-towered airport located about 1 mile south of the city at an elevation of 1,277 feet. It was served by two asphalt runways: Runway 16-34 was 5,000 feet by 100 feet; and Runway 4-22 was 3,600 feet by 100 feet.

Pilot controlled medium intensity runway lights were installed on both runways. The lights were preset to low intensity and could be automatically increased to medium intensity by a pilot via the aircraft radio. Surveillance video showed that the runway 16-34 lights increased from low to medium intensity at 2259. They returned to low intensity at 2316.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in the backyard of a residence about 0.5 nautical miles (nm) north-northwest of MFI. The roof of the residence and an adjoining deck were damaged as a result of the accident. An approximate 3-foot by 2-foot section of the roof above the soffit was penetrated. A red plastic fragment consistent in color and appearance to the left navigation (wing tip) light lens was recovered from the soffit.

The airplane came to rest upright, oriented on an approximate magnetic heading of 278 degrees. It was destroyed by impact forces and a post impact fire. The 4-bladed propeller assembly had separated from the engine immediately aft of the propeller hub. It was embedded into the ground and located about 60 feet west of the main wreckage. The damaged section of the roof was approximately 100 feet west of the airplane.

The main wreckage consisted of the fuselage, wings, empennage, and engine. The fuselage and wings were consumed by the post impact fire. The left wing was folded aft along the fuselage. The left aileron and flap had separated from the wing. They were located with the main wreckage. The right wing remained in position relative to the airframe. The right aileron had separated and was lying adjacent to the wing. The right flap remained attached at the flap tracks; however, portions of the flap had been consumed by the fire. The aileron control cables were continuous from their respective bellcranks to the cockpit area, with two exceptions. The left and right aileron balance cables were separated near the wing roots. Appearance of the cable failures was consistent with overload failures. The flap actuator jackscrew was positioned consistent with full flap deflection (36 degrees). Fractures in the flap actuator torque tube appeared consistent with impact damage.

The empennage was partially consumed by the fire. Intact portions of the vertical and horizontal stabilizers exhibited discoloration consistent with the fire. The rudder and elevators remained attached to the stabilizers. The elevator and rudder control cables were continuous to the cockpit area.

Examination of the engine revealed deformation consistent with impact forces and thermal damage due to the post impact fire. The compressor and turbine blades exhibited deformation and scraping damage consistent with rotation at the time of impact. The compressor shroud and turbine housing also exhibited scoring.

The propeller assembly was oriented downward and was buried about 2 feet into the ground. The spinner was deformed onto the hub and twisted consistent with rotation at impact. The propeller blades exhibited chordwise scratching. One propeller blade was fractured approximately 6 inches from the blade root. The separated portion of the blade was located with the propeller assembly. The remaining blades were intact. One of those blades was bent aft about 30 degrees at the root.

No anomalies consistent with a pre-impact failure of the airframe or engine/propeller assembly were observed.

Thermal damage to the airplane's avionics precluded recovery of any flight data retained by any of the units.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was performed on November 24, 2008, at Marshfield Clinic, Marshfield, Wisconsin. The cause of death was attributed to multiple injuries sustained in the accident.

A review of the pilot's medical records maintained by the FAA Aerospace Medical Certification Division revealed that the pilot had reported hospitalization and physician visits for back pain on his only medical certificate application, dated November 5, 2005. There was no indication that the FAA sought any additional information from the pilot regarding his back pain. The pilot's family reported that the pilot had suffered from back pain due to a motorcycle accident many years earlier. The pilot had sought care on multiple occasions and had undergone an outpatient surgical procedure about 4 years prior to the accident.

The FAA Civil Aerospace Medical Institute Forensic Toxicology Report stated that the testing was negative for carbon monoxide, cyanide or ethanol. However, the report stated that testing was positive as noted below.

0.922 (ug/ml, ug/g) Diazepam detected in Blood;
0.111 (ug/ml, ug/g) Diazepam detected in Urine;
2.273 (ug/ml, ug/g) Nordiazepam detected in Blood;
0.332 (ug/ml, ug/g) Nordiazepam detected in Urine;
0.161 (ug/ml, ug/g) Oxazepam detected in Blood;
0.11 (ug/ml, ug/g) Oxazepam detected in Urine;
0.123 (ug/ml, ug/g) Temazepam detected in Blood;
0.076 (ug/ml, ug/g) Temazepam detected in Urine.

The FAA toxicology report noted that the blood sampled was taken from the chest cavity. Further, the autopsy report stated, in part, that "routine toxicological (drug and alcohol) tests showed a high level of diazepam with therapeutic levels of oxazepam and temazepam in the blood. . . . The drug levels should be interpreted with caution due to the extensive injuries of the body and the source of the blood itself."

ADDITIONAL INFORMATION

Surveillance video provided by the fixed base operator at MFI depicted the accident airplane taxiing from the hangar area toward the active runway at 1626; about 6 hours prior to the accident flight.

History of Flight

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

Pilot Information

Certificate:	Commercial	**Age:**	41,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	November 5, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 12, 2008
Flight Time:	749 hours (Total, all aircraft), 60 hours (Total, this make and model), 59 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N67TE
Model/Series:	PA46-500TP	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	4697364
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	November 4, 2008 100 hour	**Certified Max Gross Wt.:**	5092 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo prop
Airframe Total Time:	53 Hrs as of last inspection	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed	**Engine Model/Series:**	PT6A-42A
Registered Owner:		**Rated Power:**	500 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	MFI,1277 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	22:54 Local	**Direction from Accident Site:**	160°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 2900 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.25 inches Hg	**Temperature/Dew Point:**	-4°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Green Bay, WI (GRB)	**Type of Flight Plan Filed:**	None
Destination:	Marshfield, WI (MFI)	**Type of Clearance:**	None
Departure Time:	22:20 Local	**Type of Airspace:**	

Airport Information

Airport:	Marshfield Municipal MFI	**Runway Surface Type:**	Asphalt
Airport Elevation:	1277 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	16	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 100 ft	**VFR Approach/Landing:**	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	2 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal	**Latitude, Longitude:**	44.651943,-90.196945

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Wesley J Hakari; FAA-Milwaukee FSDO; Milwaukee, WI Michael C McClure; Piper Aircraft, Inc.; Vero Beach, FL Marc Gratton; Pratt & Whitney Canada; Longueuil, Quebec
Original Publish Date:	November 9, 2009
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=69485