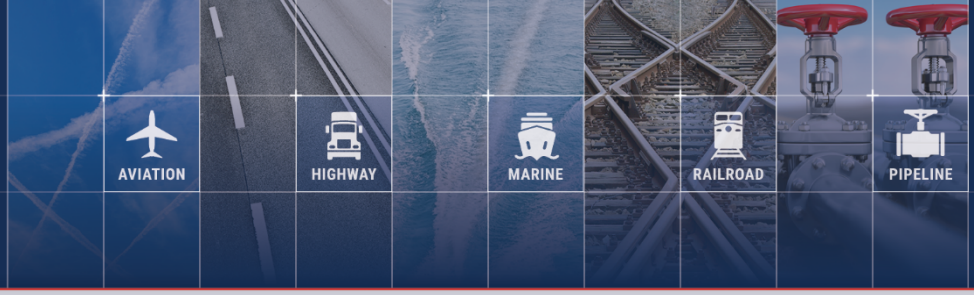

Aviation Investigation Final Report

Location:	Kremmling, Colorado	**Accident Number:**	DFW08FA233
Date & Time:	September 18, 2008, 20:24 Local	**Registration:**	N97TS
Aircraft:	Piper Aerostar PA-60-602P	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to radar and Global Positioning System data, the pilot overflew the airport from the southwest and turned to the west to maneuver into position for landing on runway 9. Several witnesses observed the airplane to the west of the airport at a low altitude, appearing to enter a turn that was followed by a "rapid descent" and impact with the ground. The ground scars and damage to the airplane were consistent with a near-vertical descent and impact. An examination of the airplane and its systems revealed no preaccident anomalies. The moon was obscured by an overcast sky and dark night conditions were prevalent.

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 aircraft control, resulting in an aerodynamic stall and spin.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Maneuvering	Loss of control in flight (Defining event)
Maneuvering	Aerodynamic stall/spin

HISTORY OF FLIGHT

On September 18, 2008, at 2024 mountain daylight time, N97TS, a twin-engine Piper Aerostar, PA-60-602P airplane was destroyed upon impact with terrain while maneuvering for landing at McElroy Airfield (K20V), Kremmling, Colorado. Dark night visual meteorological conditions prevailed. The personal flight was being conducted in accordance with 14 Code of Federal Regulations Part 91 on an instrument flight rules flight plan. The pilot and passenger were fatally injured. The cross-country flight departed the North Las Vegas Airport (KVGT) at 1710 pacific daylight time (PDT) and was en route to K20V.

The airplane's flight path was observed on radar to have flown over the airport from the southwest and then turn to the west to maneuver for landing on runway 9. Several witnesses observed the airplane to the west of the airport indicating it was at a low altitude and appeared to initiate a turn that was followed by a "rapid descent" and impact with the ground.

PERSONNEL INFORMATION

The pilot, age 51, held a private pilot certificate for airplane single-engine land, multiengine land, and instrument airplane. A third-class medical certificate was issued on January 1, 2008, at which time the pilot reported having accumulated 500 total hours, with 120 hours in the preceding six months. The pilot's logbook was not recovered. A certificate was obtained validating the pilot's successful completion of "ground and flight recurrent training in the systems and procedures of the Aerostar 602P/700," dated October 26, 2007.

AIRCRAFT INFORMATION

The twin-engine, low wing, retractable gear airplane, serial number 60-8265036, was manufactured in 1982. Two 290-horsepower Lycoming IO-540-AA1A5 engines (left engine serial number L-21801-48A, right engine serial number L-21799-48A) each powered the airplane driving a three-bladed, metal, constant-speed, full-feathering Hartzell HC-C3YR-2UF propeller. A review of the airplane's logbooks revealed that the last annual inspection was accomplished on February 5, 2008, at a recorded airframe time of 2,758.8 hours, left engine time since major overhaul (TSMOH) of 0 hours, and right engine TSMOH of 1,043.7 hours. Furthermore, entries for oil changes on the engines on September 6, 2008, twelve days prior to the accident, reveal that the airframe had flown about 72 hour since the annual inspection.

METEOROLOGICAL INFORMATION

At 1951 MDT, 31 minutes prior to the accident, the weather at the destination was reported as a scattered cloud layer at 6,000 feet, a broken layer at 6,500 feet, overcast at 8,500 feet, light rain showers, visibility 10 miles, temperature 10 degrees Celsius, dew point 4 degrees Celsius, winds from 120 degrees at 6 knots, and an altimeter setting of 30.00 inches of Mercury.

According to the U.S. Naval Observatory Astronomical Applications Department, Sun and Moon data, the sun set at 1908 and the end of civil twilight was recorded at 1935. The moon rose at 2041 the evening of the accident and was waning gibbous with 86 percent of the moon's visible disk illuminated.

COMMUNICATIONS

A review of a transcript of radio communications between the accident airplane and Denver Center revealed that the accident pilot reported obtaining Kremmling (K20V) weather at 2008. At 2013, Denver Center issues a descent clearance to 14,000 feet mean sea level. The pilot reads back the clearance in acknowledgment. At 2016, the accident pilot reports the destination airport in sight and Denver Center clears the pilot for a visual approach to Kremmling airport. At 2017, the pilot reads back the clearance in acknowledgment. This is the last communication made by the accident pilot to Denver Center. There is no record of a distress call being made by the pilot.

FLIGHT RECORDERS

The pilot utilized a hand-held Garmin GPSMAP 496 Global Positioning System (GPS). The unit was sent to the National Transportation Safety Board (Safety Board) Vehicle Recorders Laboratory in Washington, D.C., in attempt to extract data from the unit. The GPS sustained extensive impact damage; however, the flash memory device was removed and data was extracted from the unit. The unit recorded tracklog points from the point of departure until arrival in the Kremmling area. When plotted on a map, the tracklog depicts the accident airplane approach the airport from the southwest and then perform a left, descending turn in the vicinity of the airport. At 2023:32 the unit recorded an altitude of 9,511 feet. At 2023:44, the unit recorded an increase in altitude to 10,131 feet. At 0223:51, the altitude started to decrease. The last line of data was recorded at 2024:08 at an altitude of 7,409 feet. When plotted on a map, the last nine tracklog points depict a steep spiral descent.

WRECKAGE AND IMPACT INFORMATION

The wreckage of the airplane was located in a meadow approximately two miles west of the airport. The airplane impacted the soft, level terrain in a near vertical attitude remaining upright with damage and debris distribution consistent with a near zero forward groundspeed. The airplane was destroyed due to impact forces and post crash fire.

The pilot's attitude indicator's housing was impact-damaged and displayed about a 28-degree descent with approximately 5 degrees of right bank. The vertical speed indicator was found separated from the airplane with a descent reading of almost 6,000 feet per minute. The airspeed indicator displayed a reading of 90 knots. The altimeter displayed about 7,950 feet with a barometric pressure setting of 30.36.

MEDICAL AND PATHOLOGICAL INFORMATION

The autopsy was performed by the Arapahoe County Coroner's Office on September 22, 2008, as authorized by the Grand County Coroner's office. The autopsy concluded that the cause of death was due to multiple blunt force injuries.

During the autopsy, specimens were collected for toxicological testing to be performed by the FAA's Civil Aerospace Medical Institute, Oklahoma City, Oklahoma, (CAMI Reference #200800233001). The specimens submitted for testing were "unsuitable for analysis. They were considerably decomposed." Tests for carbon monoxide, cyanide, volatiles, and drugs were not performed.

TESTS AND RESEARCH

The wreckage was recovered and relocated to a hangar in Greeley, Colorado, for further examination. Investigators from the Safety Board and Teledyne Continental Motors examined the wreckage on October 9, 2008.

The left engine was found still attached to the left wing and firewall. The propeller was found separated at the crankshaft flange. Thumb compression and engine driven train continuity was established. The left magneto produced spark at all terminals when rotated by hand. The right magneto sustained thermal damage and did not produce any spark when rotated by hand. The fuel servo and injectors were found free of debris. No pre-impact anomalies were discovered with the left engine.

The right engine was found attached to the firewall. The propeller remained attached to the engine. Thumb compression and engine driven train continuity was established. Both magnetos displayed evidence of thermal damage and could not be tested. The fuel servo and injectors were found free of debris. No pre-impact anomalies were discovered with the right engine.

Pilot Information

Certificate:	Private	**Age:**	51,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 With waivers/limitations	**Last FAA Medical Exam:**	January 1, 2008
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 26, 2007
Flight Time:	500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper Aerostar	**Registration:**	N97TS
Model/Series:	PA-60-602P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	60-8265036
Landing Gear Type:	Tricycle	**Seats:**	6
Date/Type of Last Inspection:	February 5, 2008 Annual	**Certified Max Gross Wt.:**	6000 lbs
Time Since Last Inspection:	72 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	2786 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-540 Series
Registered Owner:	BDW EQUIPMENT LEASING LLC	**Rated Power:**	
Operator:	Floyd Brooks Williams	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	K20V,7411 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	17:51 Local	**Direction from Accident Site:**	80°
Lowest Cloud Condition:	Scattered / 6000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 6500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	120°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	10°C / 4°C
Precipitation and Obscuration:	Light - Showers - Rain		
Departure Point:	Las Vegas, NV (KVGT)	**Type of Flight Plan Filed:**	IFR
Destination:	Kremmling, CO (K20V)	**Type of Clearance:**	IFR
Departure Time:	17:10 Local	**Type of Airspace:**	

Airport Information

Airport:	McElroy Airfield K20V	**Runway Surface Type:**	
Airport Elevation:	7411 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	Visual
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	40.052223,-106.416946

Administrative Information

Investigator In Charge (IIC):	Gamble, William
Additional Participating Persons:	John J Muldoon; FAA FSDO; Denver, CO Troy Helgeson; Lycoming Engines; Williamsport, PA
Original Publish Date:	January 7, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=68953