



Aviation Investigation Final Report

Location:	Columbia, Missouri	Accident Number:	CEN09LA597
Date & Time:	September 22, 2009, 09:35 Local	Registration:	N3234M
Aircraft:	Piper PA-12	Aircraft Damage:	Substantial
Defining Event:	VFR encounter with IMC	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Due to adverse weather conditions, the pilot landed at a grass airstrip en route to his destination. The airport manager stated that a front was approaching the airport and that it rained all night. According to the airport manager, the pilot returned to the airport the next morning, started the airplane, and taxied to the fuel pump. The right fuel cap was missing. He drained the fuel sump repeatedly because he found water in the right tank. The airport manager gave the pilot a fuel cap for the right tank so that he could depart. Witnesses reported seeing the airplane flying 50–60 feet above the ground with the engine sputtering and cutting in and out prior to the accident. Airplane impact damage was consistent with a steep nose-down attitude with about 80 degrees of left roll. Witnesses reported heavy cloud cover and limited visibility due to light-to-moderate fog. Observed weather near the accident site was 1/4 mile visibility in fog with an indefinite ceiling at 100 feet. The Weather Depiction Chart depicted an area of instrument-flight-rule (IFR) conditions along and behind the cold front. The accident site was located in an area of IFR conditions, with the departure and planned destination airports under visual flight rules (VFR) conditions. The pilot was not instrument rated, and the airplane was not equipped for IFR flight. The inspection of the engine and airframe revealed no preimpact anomalies. The propeller blades were bent aft from impact forces.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued visual flight into instrument meteorological conditions, which included low ceilings and fog, and his failure to maintain control of the airplane. Contributing to the accident was the partial loss of engine power as a result of water contamination of the fuel.

Findings

Personnel issues	Flight planning/navigation - Pilot
Personnel issues	Incorrect action performance - Pilot
Aircraft	Fuel - Fluid condition
Aircraft	(general) - Inoperative
Environmental issues	Low ceiling - Effect on operation
Environmental issues	Fog - Effect on operation
Environmental issues	Low visibility - Effect on operation
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Maneuvering-low-alt flying	VFR encounter with IMC (Defining event)
Maneuvering-low-alt flying	Fuel contamination
Maneuvering-low-alt flying	Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On September 22, 2009, at 0935 central daylight time, a Piper PA-12, N3234M, sustained substantial damage when it impacted terrain about five miles east-northeast of the Columbia Regional Airport (COU), Columbia, Missouri. The private pilot, who was the sole occupant, received fatal injuries. The 14 Code of Federal Regulations Part 91 personal flight had departed the Montgomery-Wehrman Airport (4MO), Montgomery City, Missouri, about 0845, and was en route to Wichita, Kansas. Instrument meteorological conditions prevailed at the time of the accident. No flight plan was filed.

The pilot purchased the airplane in Pennsylvania on September 20, 2009, and departed in the afternoon on the same day for Wichita, Kansas. It was not determined where the pilot stopped en route that night. On September 21, 2009, the pilot landed at 4MO, a privately owned grass airstrip that was open to the public, due to weather.

The airport manager at 4MO stated that he saw the airplane taxiing to the tie-downs. He helped the pilot tie the airplane down, and then they checked the weather via weather radar on the television. The airport manager stated that a weather front was approaching the airport. The pilot decided to stay at Montgomery City, MO, for the night. The airport manager reported that it rained all night.

According to the airport manager, the pilot returned to the airport the next morning, started the airplane, and taxied to the fuel pump. The right fuel cap was missing. The pilot drained the fuel sump repeatedly because he found water in the right tank. The left tank was checked for water contamination and none was found. The airport manager gave the pilot a fuel cap for the right tank so he could depart.

Witnesses reported seeing the airplane flying at a low altitude prior to the accident. One witness reported that she saw the airplane flying 50 – 60 feet off the ground. The engine was sputtering and cutting in and out. Another witness reported seeing the airplane below the fog. He lost sight of the airplane but he could hear it. He stated that the airplane circled the area two or three times. He stated that the engine was sputtering like it had a fuel problem. A third witness reported that he saw the airplane flying over his property at about 50 – 60 feet above the ground, and the engine was making a sputtering noise. The airplane impacted a grassy field located along the north side of CR 346 near Wise Drive in Callaway County, Missouri. The

accident site was located about 30 nautical miles west, southwest of 4MO.

The 31-year-old pilot held a private pilot's certificate with a single-engine land rating. The pilot was not instrument rated. He held a third-class medical certificate. He started flying in 2001 and had a total flight time of about 284 hours. The pilot's flight logbook indicated that he moved to Alaska in June 2009 and had logged about 29.4 hours of flight time in a Piper J-4. According to a witness, the pilot was planning to fly the accident airplane to Alaska after stopping at Wichita, Kansas.

The accident airplane was a Piper PA-12, serial number 12-2113. The engine was a 100-horsepower Lycoming O-235-C engine. The aircraft logbooks indicated that the last annual maintenance inspection was conducted on July 6, 2009. At the time of the inspection, the airframe total time was about 1,369 hours and the engine total time was about 1,449 hours. The logbook indicated that the previous annual maintenance inspection was conducted on March 20, 1999. At the time of that inspection, the time on the airframe was 1,365 hours and the engine time was 1,445 hours.

A deputy from the Callaway County Sheriff's department reported that as he responded to the accident notification and was driving to the accident site, he observed the weather in the area. He noted that there was heavy cloud cover and limited visibility. It had rained earlier but it was not currently raining. He observed areas with light to moderate thickness of fog, but there was no fog at the crash site.

At 0854, the observed weather at COU , located about 5 miles west-southwest of the accident site, was: Wind 260 degrees at 5 knots, 1/4 mile visibility in fog, indefinite ceiling at 100 feet, temperature 17 degrees Celsius (C), dew point 17 degrees C, altimeter 29.99 inches of Mercury (Hg).

At 0954, the observed weather at COU was: Wind 250 degrees at 6 knots, 1/4 mile visibility in fog, indefinite ceiling at 100 feet, temperature 17 degrees C, dew point 16 degrees C, altimeter 30.02 inches of Hg.

The Surface Analysis Chart for the area near the accident site depicted a low pressure system with the cold front along the flight path and east of the accident flight. The Weather Depiction Chart depicted an area of instrument flight rules (IFR) conditions along and behind the cold front. The accident site was located in an area of IFR conditions, with the departure and planned destination airports under visual flight rules (VFR) conditions.

There was no record of the pilot having obtained a formal preflight weather briefing from the Federal Aviation Administration's (FAA) Automated Flight Service Station (AFSS) or by computer utilizing the Direct User Access Terminal System (DUATS).

The airplane impacted a field at coordinates 38 degrees, 51 minutes, 39 seconds North latitude, 092 degrees, 08 minutes, 07 seconds West longitude. The airplane main wreckage

was localized at the point of ground impact. The left wing was bent aft from the wing root to the wing tip, and the leading edge exhibited crushing and buckling. The outboard section of the left wingtip was deformed by crushing and bending. The right wing remained attached to the fuselage. It sustained substantial damage, but it did not exhibit bending or crushing damage to the outboard section of the wing. The empennage remained attached to the fuselage and was found crushed and buckled near the center of the main wreckage. The engine was found in a crater at the impact site. The propeller remained attached to the engine flange. Both propeller blades were bent aft. The flight control cables were found attached to the control surface clevises.

An FAA airworthiness inspector examined the engine. He reported that the cylinders exhibited deformation of the fins from impact forces. The propeller was removed to access the crankshaft flange. The flange exhibited bending signatures. The starter ring adapter was fractured in many pieces. The top sparkplugs were removed, and they appeared worn but functional. The crankshaft was rotated, and the internal components of the engine rotated and no interference or binding was noted. The left magneto was broken off the engine. The magneto produce spark at the harness cap when rotated by hand. The carburetor was broken off of the oil sump below the mounting flange. The oil sump had a large hole in it from impact forces.

An autopsy of the pilot was performed at the Boone/Callaway County Medical Examiner's office on September 23, 2009. The "Cause of Death" was a result of "blunt trauma" injuries as a result of a small airplane crash. A Forensic Toxicology Fatal Accident Report was prepared by the FAA Civil Aeromedical Institute. The results were negative for carbon monoxide, cyanide, and ethanol. Quinine was detected in the liver and kidney.

Pilot Information

Certificate:	Private	Age:	31, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	July 31, 2008
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	284 hours (Total, all aircraft), 226 hours (Pilot In Command, all aircraft), 29 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N3234M
Model/Series:	PA-12	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	12-2113
Landing Gear Type:	Tailwheel	Seats:	3
Date/Type of Last Inspection:	July 6, 2009 Annual	Certified Max Gross Wt.:	1750 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1369 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-235-C
Registered Owner:	Dolphin Sales Inc	Rated Power:	100 Horsepower
Operator:	Jared Hobough	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	COU,889 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	08:54 Local	Direction from Accident Site:	60°
Lowest Cloud Condition:		Visibility	0 miles
Lowest Ceiling:	Indefinite (V V) / 100 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.98 inches Hg	Temperature/Dew Point:	17°C / 17°C
Precipitation and Obscuration:			
Departure Point:	Montgomery City, MO (4MO)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	08:45 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	38.860832,-92.135276

Administrative Information

Investigator In Charge (IIC):	Silliman, James
Additional Participating Persons:	Al Rager; FAA Kansas City FSDO; Kansas City, MO
Original Publish Date:	May 28, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=74783

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