Aviation Investigation Final Report

Location:	Dawsonville, Georgia	**Accident Number:**	ATL07FA081
Date & Time:	April 26, 2007, 14:30 Local	**Registration:**	N9247T
Aircraft:	Piper Aircraft PA-38-112	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

On the morning of the accident, the instrument-rated pilot called an automated flight service station (AFSS) for a weather briefing. The briefer informed the pilot that there were thunderstorms and rain showers that extend to his destination. Following the briefing, the pilot ended the conversation with, "let me figure out which way is the best way to go and then maybe ill call back and file." No further calls from the pilot were received by any AFSS. According to a witness, who was a certified flight instructor and lived near the mountainous accident site, he stepped out onto his back deck and watched a white T-tail airplane flying about an "approximate altitude of 2600 to 3000 feet mean sea level (MSL), headed in a north northeast direction, flying level." The witness stated that the airplane was flying about 300 feet above the base of the lowest cloud layer, in and out of the clouds. The airplane was reported missing by family members the following morning and located by the Civil Air Patrol the next day. Examination of the wreckage did not reveal any evidence of any preimpact mechanical anomalies. The pilot had over 3000 hours of total flight time. The pilot did not file an instrument flight rules flight plan and continued his flight into adverse weather, with a low cloud ceiling, while crossing mountainous terrain.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot’s improper decision to continue visual flight rules flight into instrument meteorological conditions, with a low cloud ceiling, over mountainous terrain.

Findings

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

Findings
1. WEATHER CONDITION - LOW CEILING
2. TERRAIN CONDITION - MOUNTAINOUS/HILLY

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

Findings
3. OBJECT - TREE(S)
4. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND
5. (C) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On April 26, 2007, about 1430 eastern daylight time, a Piper PA-38-112, N9247T, crashed into trees and rising mountainous terrain at the Amicalola Falls State Park in Dawsonville, Georgia, while attempting to stay below overcast cloud conditions. The certificated commercial pilot was killed, and the airplane sustained substantial damage. The flight was operated as a personal flight under the provisions of 14 Code of Federal Regulations (CFR) Part 91, and no flight plan was filed. Instrument meteorological conditions (IMC) prevailed in the vicinity of the accident site. The flight originated from Habersham County Airport (AJR), Cornelia, Georgia, about 1400; destined for Lunken Field (LUK), Cincinnati, Ohio.

The airplane was reported missing by family members on April 27, 2007. The Dayton, Ohio, Federal Aviation Administration (FAA) Flight Service Station (FSS) issued an Alert Notice (ALNOT) at 1247, and a search was initiated. On April 28, 2007, the airplane was located by the Civil Air Patrol at 1446. A ground team arrived at the accident site at 1630, and confirmed that this was the missing airplane and pilot. The airplane had impacted several trees and came to rest on a 020-degree magnetic heading in rocky terrain at an elevation of 3200 feet mean sea level (MSL).

A witness, who lived in the local area and was an active certified flight instructor (CFI), stated that he had been instructing and flying in this area for over 4 years. When he heard an airplane flying in these mountains, on a day with low ceilings, it caught his attention immediately. He stepped out onto his back deck and watched a white T-tail airplane flying about an "approximate altitude of 2600 to 3000 feet MSL, headed in a north northeast direction, flying level." The CFI stated that the airplane was flying about 300 feet above the base of the lowest cloud layer, in and out of the clouds. The CFI added that he was not aware of the accident until he heard about it on the news.

PERSONNEL INFORMATION

The pilot, age 78, held a commercial pilot certificate with ratings for airplane single-engine land, airplane multiengine land, and instrument airplane, updated on August 3, 2004. He also held a third-class medical certificate, issued on August 24, 2006, with a restriction that he must wear corrective lenses. The pilot's most recent medical certificate showed that he had accumulated 3,000 hours of flight time. The pilot's logbook was not recovered for examination.

AIRCRAFT INFORMATION

The two-seat, low-wing, fixed-gear airplane was manufactured in 1978. It was powered by a

Lycoming O-235-L2C, 115-horsepower engine, and equipped with a Sensenich Model 72CK-O-56 fixed pitch propeller. The airplanes logbooks were not recovered for examination.

METEOROLOGICAL INFORMATION

The nearest weather reporting station was located at Gainesville, Georgia (GVL), approximately 15 miles southeast from the accident site. The 1353 surface weather observation at GVL was: wind 170 degrees at 8 knots, gusting to 18 knots, visibility 10 statute miles, few clouds at 3600 and scattered layers at 4300 and 5500 feet. Temperature was 24 degrees Celsius, dew point temperature 14 degrees Celsius, and an altimeter setting of 29.96 inches of mercury.

On April 26, 2008, at 0817, the pilot called the Anderson Automated Flight Service Station (AFSS) for a briefing from Hilton Head, South Carolina (HXD) to Covington, Kentucky (CVG)/LUK area via Asheville, North Carolina (AVL), for a departure time of around 1000. The briefing included information on a cold front that extended from the central portion of Missouri all the way down across the Mississippi, lower Mississippi valley pushing eastward. The briefer informed the pilot that there were thunderstorms and rain showers that extend to his destination. "Basically from Cincinnati all the way down across the eastern portion of Tennessee into Alabama and within the next five hours that whole line will be along your route of flight across Kentucky eastern Tennessee western North Carolina and western South Carolina." Following the briefing according to the AFSS recorded conversation transcript, the pilot ended the conversation with, "let me figure out which way is the best way to go and then maybe I'll call back and file." No further calls from the pilot were received by the AFSS.

WRECKAGE AND IMPACT INFORMATION

The airplane was located in a remote densely wooded area and came to rest about 142 feet down from the top of the 3,380-foot mountain ridge.

Examination of the wreckage found that the fuselage had come to rest in the upright position. The left side of the fuselage at the wing root area was crushed upwards. Both cabin doors were separated. A screwdriver and unfastened door screws were found on the left side of the cabin area. A blanket and pillow were found forward of the right wing. This is where rescuers located the pilot. The left side bottom fuselage skins were crushed up and aft. The left metal control yoke right handle was bent forward. The bottom left side of the instrument panel was broken and fragmented. The windshield and rear window were broken and separated. The fuel selector handle was observed in the left fuel tank position. The fuel gascolator bowl had damage. The fuel gascolator fuel screen was free from blockage. The throttle and mixture levers in the cockpit were found in the full forward position. The flap handle area was damaged. Flight control continuity was established to all flight controls, except for impact related separations.

The left wing was destroyed by impact. About 10 feet of the inboard wing remained attached at the wing root. Two feet outboard from the wing root, the leading edge displayed circular

impact deformation crushing, aft to the main spar. The left aileron had impact damage at the inboard area and remained attached to the outboard wing. The bellcrank was separated from its attachment points and both bellcrank arms were bent. The left flap had impact damage and remained attached to the inboard wing.

About 9 feet of the main spar remained attached at the right wing root. The main spar was bent aft approximately 1 foot. The outboard section of the right wing, which measured about 6 feet, was found 30 feet aft of the main wreckage site. The outboard leading edge skin of the right wing was separated and found about 75 feet aft of the main wreckage site. The right fuel tank was separated and destroyed. The fuel finger screen was free from blockage. The right aileron remained partially attached to the outboard wing section. The aileron cables and bellcrank stops were attached.

The empennage was partially separated aft of the cabin area and was bent downwards and to the right relative to the longitudinal axis of the airplane. Both the left and right sides of the outboard stabilizer were damaged and separated. The left elevator had impact damage and was separated and found on the left side of the vertical stabilizer. The right side of the elevator was also separated and found at the right wing area. The elevator cables were attached. The vertical stabilizer and rudder had impact damage and remained attached. Both rudder cables were attached to the rudder horn. The rudder balance weight remained attached. No airframe anomalies were noted during the on-site examination.

The engine remained partially attached to the firewall and was displaced downward approximately 30 degrees and to the left about 20 degrees.

The engine was removed from the airframe and partially disassembled for examination at the site. The alternator, right magneto, oil cooler, oil filter, engine driven fuel pump, carburetor, induction tubing, exhaust system and engine mount were impact damaged.

The carburetor was impact fractured across the throttle bore and partially separated from the engine. The carburetor fuel inlet screen was removed and found free of contaminants. A liquid with an odor like aviation gasoline drained from the carburetor when it was turned on its side. The engine driven fuel pump was impact damaged. A liquid with an odor like aviation gasoline drained from the pump when it was removed and turned on its side.

The right magneto was impact separated from the engine. Both magnetos were rotated by hand and produced spark from the sparkplug terminal ends and all ignition leads. The sparkplugs exhibited gray coloration and worn normal condition.

The vacuum pump was removed and the drive coupling found intact. The pump produced pressure at the outlet port when rotated by hand.

The oil filter was impact damaged and was not examined. The oil suction screen was removed and found free of contaminants. Oil was found throughout the engine and oil was expelled

from the engine oil pump as the engine was rotated.

The engine was rotated by means of a tool inserted in the vacuum pump drive pad, and continuity of the crankshaft to the accessory section and to the valve train was confirmed. Compression and suction were observed at all four cylinders as the engine was rotated. The interiors of all four cylinders were examined using a lighted borescope and no anomalies were noted. There were no indications of preimpact damage to or failure of the engine.

Examination of the propeller found the attaching bolts broken and the propeller and started ring gear support were separated from the crankshaft flange. Both propeller blades were bent. One propeller blade was bent and twisted aft approximately 10 degrees about mid-span. The other blade was bent forward approximately 30 degrees about mid-span. The propeller tip was bent forward and this blade exhibited trailing edge "S" bending. Numerous pieces of wood, cut about a 45-degree angle with black and red paint transfer, were found along the wreckage path.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on April 30, 2007 by the Division of Forensic Sciences, Georgia Bureau of Investigation (GBI), Decatur, Georgia. The autopsy findings reported the cause of death as multiple blunt force trauma.

Forensic toxicology was not performed on specimens from the pilot by the FAA’s Aeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. According to the GBI they did not have any remaining specimens to send to the laboratory.

TESTS AND RESEARCH

A handheld global positioning system (GPS) was recovered from the wreckage and forwarded to the National Transportation Safety Board Vehicle Recorders Division, Washington, DC. Data was successfully extracted from the GPS and a plot was generated, depicting the accident airplane flying into rising terrain.

ADDITIONAL INFORMATION

According to review of recorded radar data for 30 minutes before the time of the accident, between 1409 and 1422 an aircraft with a transponder code 1200 was tracking westbound toward the crash site. During this period, the aircraft descended from 3000 feet to 2500 feet. The aircraft's target disappeared until 1424, when it reappeared on a northeasterly track at 3000 feet. The aircraft continued northeast bound until 1429, climbing to 3200 feet. The aircraft's targets then stopped moving, and the displayed Mode C altitude report became invalid. The transponder continued to function, replying on code 1200 until 1455, but not moving. At 1534, the beacon code changed to 1100. At 1534, the code changed to 7100 and then 7700. The Mode C altitude continued to be invalid. At 1613 the altitude report changed to

3200. At 1958, the beacon code changed to 7771, again with invalid Mode C. At 2003, the beacon code changed back to 7700 and the transponder continued operating until 2058:08, when the final target was observed. The altitude display between 2003 and 2058 varied between 3100 and 3300 feet.

Although the aircraft was not receiving air traffic control (ATC) services, controllers at Atlanta Air Route Traffic Control Center (ZTL) observed the 7700 emergency transponder code on their radar displays beginning at 1534 and began to have aircraft in the area monitor emergency frequency 121.5 for emergency locator transmitter (ELT) signals. Several aircraft reported hearing ELT signals.

At 1552, the ZTL traffic management coordinator contacted the Air Force Rescue Coordination Center (AFRCC) to notify them of the ELT reports and observed 7700 code. During the call, the ZTL controller stated that there were "numerous ELT reports …north of Atlanta," and that he did not believe that an incident number had been assigned. The AFRCC controller replied, "We do have one… somewhere near Atlanta…" She continued, "We have one near the Madison Municipal airport." The ZTL and AFRCC controllers continued to discuss the existing incident report, which was located in the area south of Atlanta. The ZTL controller stated that the reports he was calling about were north of Atlanta, and that, "…we actually show an emergency beacon flashing north of the airport." The AFRCC controller responded, "…you're showing…" and then asked the ZTL controller to provide the ELT reports. He did so, and the call concluded. No incident number was provided to ZTL by the AFRCC.

The discussion of AFRCC incident numbers is significant because each discrete incident reported to the AFRCC such as a possible downed aircraft is assigned a unique incident number. According to subsequent discussions with AFRCC management, the controller taking the call thought that the reports being provided were additional information related to the existing incident south of Atlanta, so no new incident was opened. She also did not understand that the ZTL report of "an emergency beacon flashing north of the airport" was related to observation of a 7700 emergency code on radar. Consequently, when the Madison Municipal airport incident was closed, all the information passed by ZTL about the ELT reports and radar observations north of Atlanta were closed out and no search-and-rescue activities were initiated.

According to the Incident Commander, Georgia (GA) Civil Air Patrol (CAP), he was first notified of the missing airplane about 0630 on Saturday, April 28. The search for the airplane had started in South Carolina (SC) the day before. He stated that the SC CAP had done a tremendous amount of research and had already involved Colorado (CO) CAP to analyze the radar data. He learned the N-number of the airplane as well as its color and that it had landed at AJR about 1250. He received emails from the SC CAP with information about the pilot, his airplane, as well as some initial radar data from CO CAP showing the airplane going into AJR. An initial set of coordinates for a search location were provided northwest of AJR. He distributed the information to others in the GA CAP and mobilized both air and ground resources to the AJR area. Eventually, approximately 60-70 people were involved in the search

effort.

The GA CAP Incident Commander had a conference call with SC CAP personnel around noon on the day of the recovery, and CO CAP had already supplied a refined position. He directed search aircraft to that location and the airplane was "found rather rapidly."

Pilot Information

Certificate:	Commercial	**Age:**	78,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:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	August 1, 2006
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	3000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper Aircraft	**Registration:**	N9247T
Model/Series:	PA-38-112	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	38-78A0295
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	1670 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2642.57 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	O-235-L2C
Registered Owner:	Samuel O. Smiley	**Rated Power:**	115 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GVL,1276 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	13:53 Local	**Direction from Accident Site:**	101°
Lowest Cloud Condition:	Few / 3600 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / 18 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	24°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cornelia, GA (AJR)	**Type of Flight Plan Filed:**	None
Destination:	Cincinnati, OH (LUK)	**Type of Clearance:**	None
Departure Time:	14:00 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	34.593887,-84.226943

Administrative Information

Investigator In Charge (IIC):	Wilson, Ralph
Additional Participating Persons:	Jose Geuits; FAA/FSDO; College Park, GA Robert Martellotti; Piper Aircraft; Vero Beach, FL Mike Childers; Textron Lycoming; Elizabethton, TN
Original Publish Date:	December 3, 2008
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=65658