Aviation Investigation Final Report

Location:	MARTINSBURG, Pennsylvania	**Accident Number:**	NYC98FA127
Date & Time:	June 10, 1998, 13:04 Local	**Registration:**	N60721
Aircraft:	Piper 601P	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Shortly after the airplane took off, a witness about 1 mile from the airport observed the airplane about 150 feet above the ground in a left turn, before it disappeared into the clouds. A witness across from where the airplane crashed stated he was in his shed when he heard the sound of an airplane overhead. When the sound faded and returned, like the airplane had circled above the shed, he stepped outside and looked for the airplane. He saw the airplane exit the clouds in a near vertical position and impact the ground. He described the engine noise as loud and smooth. The airplane impacted in a field about 3/4 miles from the departure airport and was consumed by a post crash fire. Streaks of oil were observed on the leading edge of the right horizontal stabilizer extending to its upper and lower surfaces. Disassembly of both engines did not reveal any pre-impact mechanical malfunctions. A weather observation taken after the accident reported included a visibility of 2 miles with light drizzle and mist, and the ceiling was 400 foot overcast. Witnesses described the weather at the accident site as '...pretty foggy,' and worse than the conditions reported at the airport.

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 airspeed due to spatial disorientation, which resulted in an inadvertent stall and subsequent collision with terrain. A factor in the accident was the low ceiling.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. FLUID,OIL - LEAK
2. (F) WEATHER CONDITION - LOW CEILING
3. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
4. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
5. STALL - INADVERTENT

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
6. TERRAIN CONDITION - CROP

Factual Information

HISTORY OF FLIGHT

On June 10, 1998, about 1304 eastern daylight time, a Piper PA-601P, N60721, was destroyed when it impacted terrain after takeoff from the Altoona-Blair County Airport (AOO), Martinsburg, Pennsylvania. The certificated commercial pilot and two passengers were fatally injured. Instrument meteorological conditions prevailed and an instrument flight rules (IFR) flight plan had been filed for the flight that departed AOO about 1300, destined for Syracuse, New York. The personal flight was conducted under 14 CFR Part 91.

At 1113, the pilot telephoned the Altoona Flight Service Station, and obtained a weather briefing for the flight. At 1252, the pilot called the Altoona FSS by radio and requested airport advisories, and his IFR clearance. At 1300, the pilot radioed that he was departing runway 20. There were no further radio transmissions received from the airplane.

In a written statement, a witness who was at AOO said:

"...I heard the aircraft takeoff but I did not look out to see which runway he used. Shortly after takeoff (1 to 2 minutes) I heard what sounded like 6 to 8 power changes. The power changes sounded smooth and deliberate....I walked outside. While looking in the direction of the sound for what seemed like several seconds, I saw the aircraft come out of the clouds pointed straight down spinning slowly in a clockwise direction. It went out of my sight and I saw a bright light and smoke come up from behind the grade...."

In a telephone interview, a witness who lived about 1 mile south of the airport stated she was in her car when she heard the sound of an airplane overhead. She looked up into the clouds and saw the airplane for about 3 or 4 seconds in a left turn before it disappeared into the clouds. She described the airplane as "very low" and she thought it might hit one of the grain silos, which were about 150 feet tall. Additionally, she described the engine sound as "real loud," and constant.

A witness who lived across from where the airplane crashed stated he was in his shed when he heard the sound of an airplane overhead. When the sound faded and returned, like the airplane had circled above the shed, he stepped outside and looked for the airplane. He saw the airplane exit the clouds in a near vertical position. It impacted the ground, pivoted forward, and exploded. He described the engine noise as loud and smooth.

The accident occurred during the hours of daylight about 40 degrees, 17 minutes north latitude, and 78 degrees, 18 minutes west longitude.

PERSONELL INFORMATION

The pilot held a commercial pilot certificate with an instrument rating for multiengine land airplanes. He also held a private pilot certificate with an instrument rating for single engine land airplanes.

The pilot reported 1,100 hours of total flight experience on his most recent Federal Aviation Administration (FAA)Second Class Medical Certificate, which was issued February 2, 1997.

The pilot's logbook was not located. A representative from the pilot's family stated the pilot had owned the airplane about 7 or 8 years, and flew it regularly. Using the airplane's maintenance records and information provided by the airplane's co-owner, the pilot's flight time in the airplane between January 1997, and February 1998, was estimated to be about 38 hours.

AIRCRAFT INFORMATION

According to maintenance records, the airplane's last annual inspection was performed on September 25, 1997. At that time, the airplane's total airframe time was about 6,550 hours.

The last known flight prior to the accident was by the airplane's co-owner, who flew the airplane for 1 hour on May 24, 1998. In a telephone interview, he stated he experienced no problems with the airplane and the flight was uneventful.

METEOROLOGICAL INFORMATION

A weather observation taken at AOO, after the accident reported: Wind 160 degrees at 5 knots; Visibility 2 miles with light drizzle and mist, Ceiling 400 feet overcast. However, witnesses described the weather at the accident site as "...pretty foggy," and worse than the conditions reported at the airport.

WRECKAGE AND IMPACT INFORMATION

The aircraft wreckage was examined at the accident site on June 11, and 12, 1998. Examination of the wreckage revealed the airplane impacted a corn field about 3/4 miles southeast from AOO, and came to rest upright on a magnetic course of 120 degrees. All major components of the airplane were accounted for at the scene.

Except for where the airplane came to rest, there were no ground scars in the accident site area.

The main wreckage, which measured about 29 feet long, included the cabin, aft portion of the fuselage, both wings, and both engines, was consumed by a post crash fire. About a 4

foot section of the tail, which included the vertical stabilizer, rudder, horizontal stabilizer, and elevator was found 32 feet from the main wreckage and was not damaged by fire. Streaks of oil were observed on the leading edge of the right horizontal stabilizer extending past its upper surface. The underside of right horizontal stabilizer contained oil streaks from the leading edge of the horizontal stabilizer extending onto the elevator.

The airplane's flight controls were actuated by push/pull rods. The push/pull rods located in the main wreckage were destroyed, which precluded a check of flight control continuity. The push/pull rods which remained in the tail section could be moved to cause deflections in the rudder and elevator, respectively.

Initial examination of the airplane's engines was conducted at the accident site. Both engines were extensively damaged by fire. The top spark plugs were removed from both engines. The spark plug electrodes were intact and exhibited uneven wear. The combination dipstick/oil filler cap for both engines was found in place, however, the filler neck was consumed by fire. Both engine's were unable to be rotated and were retained for further examination.

The propeller's from both engines were found partially buried in the ground. The left engine propeller and spinner remained attached to the hub. Two propeller blades from the left engine were visible. One blade contained "s" bending, and the blade tip was curled and had separated. One propeller blade was found in the ground under the engine. That bladed contained leading edge nicks, gouges, and chordwise scratches. The right engine propeller and spinner remained partially attached to the hub. One propeller blade was visible and it was bent forward. All three blades from the right engine contained leading edge nicks and chordwise scratches.

Additionally, the right engine's vacuum pump housing, the airplane's directional gyro, and an unidentified instrument housing with gyro were forwarded to the NTSB's Materials Laboratory, Washington, DC, for examination.

TEST AND RESEARCH

On August 5, 1998, both engines were dissembled at their manufacturer, Textron Lycoming, Williamsport, Pennsylvania, in the presence of an NTSB Investigator.

Disassembly of the engines did not reveal any pre-impact mechanical malfunctions.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by Dr. Charles Berkey, of the Altoona-Blair County Coroner's Office.

The toxicological testing report from the FAA Toxicology Accident Research Laboratory,

Oklahoma City, Oklahoma, was negative for drugs and alcohol for the pilot.

ADDITIONAL INFORMATION

According to airport personnel, the accident flight was the airplane's first flight after it had been washed by the pilot, three days before the accident.

Radar

The airplane was issued a transponder code of 7455. Radar information obtained from the Cleveland Air Route Traffic Control Center revealed three radar returns coded 7455. The first return at 1702:40, was at an altitude of 3,300 feet, and was located about 1 mile southeast of AOO. The second radar return at 1702:52, at 3,300 feet, was located about 1/2 miles from the first return, on a magnetic course of about 350 degrees. The final radar return was at 1703:04, at an altitude of 3,100 feet, and was located about a 1/4 mile from the second radar return, on a magnetic course of about 100 degrees. The accident site was located about 3/4 miles from the last radar return, on a magnetic course of about 310 degrees.

Wreckage Release

The airplane wreckage was released on June 12, 1998, to Mr. Ernest Despain, a representative of the owners insurance company.

Pilot Information

Certificate:	Commercial; Private	**Age:**	50,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 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	February 2, 1997
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1100 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N60721
Model/Series:	601P 601P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	P07368063360
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	September 25, 1997 Annual	**Certified Max Gross Wt.:**	6000 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	IO540-S1A5
Registered Owner:	MOUNTAIN AEROSTAR INC.	**Rated Power:**	290 Horsepower
Operator:	DANIEL A. BURWELL	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	AOO ,1504 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	13:05 Local	**Direction from Accident Site:**	135°
Lowest Cloud Condition:	Unknown	**Visibility**	2 miles
Lowest Ceiling:	Overcast / 400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	14°C / 14°C
Precipitation and Obscuration:	Light - None - Drizzle		
Departure Point:	, PA (AOO)	**Type of Flight Plan Filed:**	IFR
Destination:	SYRACUSE , NY (SYR)	**Type of Clearance:**	IFR
Departure Time:	13:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	ALTOONA-BLAIR COUNTY AOO	**Runway Surface Type:**	Asphalt
Airport Elevation:	1504 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	20	**IFR Approach:**	None
Runway Length/Width:	5466 ft / 100 ft	**VFR Approach/Landing:**	None

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:**	40.310966,-78.319313(est)

Administrative Information

Investigator In Charge (IIC):	Schiada, Luke
Additional Participating Persons:	JAMES L HEATHER; ALLEGHENY , PA HENRIK VEJLSTRUP; ALLEGHENY , PA GREGORY ERIKSON; WILLIAMSPORT , PA
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Note:	
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