Aviation Investigation Final Report

Location:	CHERRY VALLEY, New York	**Accident Number:**	NYC00FA225
Date & Time:	August 11, 2000, 20:20 Local	**Registration:**	N9570L
Aircraft:	Grumman American AA-5	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The day before the accident the pilot purchased the airplane. The next day, he departed on a cross-country flight to ferry the airplane home. On the flight prior to the accident, the pilot landed at the wrong airport without a clearance. Once on the ground, the pilot apologized to the tower controller, and advised the controller that he was out of fuel. The airplane was serviced and then departed on the accident flight. A witness at the accident site heard the airplane fly low over his house. He then heard an increase in engine rpm, which last about 2 seconds, and ended with a 'thud.' Weather at the site during the time of the accident was rainy, foggy, and dark, with the base of the clouds about treetop level. The pilot had no recent night flight experience, and did not hold an instrument rating. Examination of the airframe and engine revealed no preimpact failures or malfunctions that would have contributed to the accident.

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 the flight into deteriorating weather, which resulted in his failure to maintain control of the airplane. Factors in the accident were the dark night, fog, low ceiling, and the pilot's inadequate preflight planning.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings
1. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
2. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
3. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
4. (F) LIGHT CONDITION - NIGHT
5. (F) WEATHER CONDITION - FOG
6. (F) WEATHER CONDITION - LOW CEILING

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
7. OBJECT - TREE(S)

Factual Information

HISTORY OF FLIGHT

On August 11, 2000, about 2020 Eastern Daylight Time, a Grumman AA-5, N9570L, was destroyed when it impacted terrain near Cherry Valley, New York. The certificated private pilot was fatally injured. Instrument meteorological conditions prevailed for the personal flight that departed Ithaca, New York, destined for Schenectady, New York. No flight plan was filed, and the flight was conducted under 14 CFR Part 91.

The pilot had purchased the airplane the day before the accident, and was ferrying it home from Peru, Illinois. There were no reported problems with the ferry flight until 1830, when the pilot landed at Ithaca without a clearance. Once on the ground, the pilot apologized to the tower controller, and stated he was out of fuel and that he thought he was landing at Cortland County-Chase Field, Cortland, New York. The controller asked the pilot if the airplane needed to be towed to the ramp. The pilot responded that he thought he had enough fuel to make it. After refueling the airplane, the pilot departed about 1930.

A witness at the accident site reported hearing the airplane fly over his house, "quite low." He then heard an increase in engine rpm, which lasted about 2 seconds. "It got very very loud." The witness then heard a thud, and the engine noise disappeared. After reporting the accident to local authorities, the witness went outside to assess the situation, and to render assistance to the occupant of the airplane. In addition, the witness described the weather at the time of the accident as rainy, foggy, and dark, with the base of the clouds about treetop level.

The accident happened during the hours of darkness. The wreckage was located at 42 degrees, 42.075 minutes north latitude, 74 degrees, 41.950 minutes west longitude, at an elevation of 1,873 feet.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with an airplane single-engine-land rating, and no instrument rating. His last Federal Aviation Administration (FAA) third class medical certificate was dated November 23, 1998. On the application for medical, the pilot reported 325.0 hours of total flight experience. The last entry in the pilot's logbook was dated August 20, 1998. At that point, the pilot had logged 336.4 hours of total flight experience, of which 0.7 hours were at night, and 0.9 hours were in actual instrument conditions. According to an entry in the back of the pilot's logbook, the pilot's last biennial flight review was September 25, 1999, and was conducted in an American Aviation AA-1A.

METEOROLOGICAL INFORMATION

At 2050, Ithaca reported wind calm, visibility 35 miles, 11,000 feet scattered, 20,000 feet broken, temperature 64 degrees Fahrenheit, dew point 64 degrees Fahrenheit, and an altimeter of 29.98 inches of mercury. At 1956, Albany, New York, reported wind 010 degrees at 8 knots, visibility 4 miles in rain and drizzle, 700 feet scattered, 1,700 feet broken, temperature 64 degrees Fahrenheit, dew point 64 degrees Fahrenheit, and an altimeter of 29.95 inches of mercury. In addition, a satellite image taken by GOES 8, at 2015, showed signs consistent with visible moisture in and around the accident site.

A review of FAA records produced no evidence that the pilot had obtained an official weather briefing before departing on the accident flight.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest on a magnetic heading of 155 degrees, on a 15-degree slope, in a wooded area. The trees in the area were approximately 65 feet tall, and produced a solid canopy. The start of the debris path was marked by some freshly broken tree branches atop of some trees, about 100 feet north of the main wreckage. The angle from the start of the debris to the main wreckage was 35 degrees down. Several trees along the debris path displayed slash marks of varying lengths. The main wreckage area was approximately 9 feet long by 7 feet wide, and included the engine, cockpit, portions of both wings, and the tail section.

The left and right ailerons, left and right flaps, vertical stabilizer, left and right horizontal stabilizers, left and right elevators, and rudder were all identified. Both elevator trim tabs were attached to their respective elevators, and the elevator trim jackscrew was in the cruise flight range. The left and right aileron trim tabs, which were not adjustable from the cockpit, were not recovered. The rivet holes for both of these tabs were elongated.

Except for a 2-foot by 2-foot section behind the pilot seat that was crushed and fragmented, flight control continuity was verified from the left aileron, right aileron, and elevator to the pilot control yoke. Control continuity was also verified from the rudder to the floor of the pilot station. Continuity could not be verified to the actual rudder pedals because of impact damage. Both aileron counter weights had separated from their respective aileron torque tubes. Fracture surfaces for both of these areas were consistent with overload.

The engine was partially separated from the airframe, and was in a 3-foot hole that was designated as the main wreckage crater. On top and around the engine were sections of the firewall and instrument panel. The engine tachometer was found on top of the engine. Its glass face was missing, and the once round case was now oval. The face of the tachometer was also deformed, and covered the tachometer time. No other engine instruments were recovered.

The propeller hub was attached to the engine propeller flange. The No. 1 propeller blade had separated from the hub, and was located in the main wreckage crater under the engine. The

No. 2 blade remained attached to the propeller hub. Both blades displayed "S" bends, chordwise scratches, and leading edge gouges. In addition, the fracture surface on the leading edge of the No. 1 blade was consistent with tension, and on the trailing edge it was consistent with compression.

The left magneto was separated from the engine, and was located in the main wreckage crater. A rotational force was applied to the left magneto, and spark was observed on all four towers. The right magneto was also separated from the engine. The only portion of the right magneto recovered was the gear that mated with the engine accessory section. The top four sparkplugs were removed. The electrodes for the No. 1, and 3 sparkplugs were grayish in color. The electrodes for the No. 2, and 4 were packed with mud.

The propeller was removed and the engine crankshaft was rotated via the vacuum pump drive gear. Thumb compression was obtained on the No. 1, 2, and 4 cylinders. Compression was not obtained on the No. 3 cylinder, but air could be heard escaping from an area of impact damaged on the cylinder.

The electric fuel boost pump was attached to the firewall. The input port and output port had partially separated from the pump, exposing the inside. The engine driven fuel pump was fragmented, with a portion of the pump still attached to the engine accessory section. The carburetor was fragmented, and was separated from the engine. It was located in the main wreckage crater, and packed with dirt. Neither the throttle plate, nor the float system was recovered.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was preformed on the pilot, on August 12, 2000, at the Fox Hospital in Oneonta, New York.

A toxicological test was performed on the pilot by the FAA Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma, on November 15, 2000.

ADDITIONAL INFORMATION

According to a witness that flew the pilot to pick up the airplane the day before the accident in Peru, the pilot had a handheld GPS which he used on the flight out to Ohio, and planned to use for the return trip home. In addition, the witness reminded the pilot not to be in a hurry to get home. The pilot assured the witness that he would stop en route and spend the night if he could not complete the flight during the day. The witness did not think the pilot had any recent night experience. The witness added that he was "shocked" to hear that the pilot was within 50 miles of home at 2020 when the accident happened.

The airplane, minus the engine and a GPS receiver, were released on August 13, 2000, to the owner's representative. The engine and GPS receiver were then released to the owners

representatives on October 26, 2000.

Pilot Information

Certificate:	Private	**Age:**	58,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
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 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	November 23, 1998
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	336 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman American	**Registration:**	N9570L
Model/Series:	AA-5 AA-5	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal; Utility	**Serial Number:**	AA5-0570
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	2200 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	O-320
Registered Owner:	RONALD WNUK	**Rated Power:**	180 Horsepower
Operator:		**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:**	Night/dark
Observation Facility, Elevation:	UCA ,743 ft msl	**Distance from Accident Site:**	44 Nautical Miles
Observation Time:	20:50 Local	**Direction from Accident Site:**	329°
Lowest Cloud Condition:	Scattered / 11000 ft AGL	**Visibility**	35 miles
Lowest Ceiling:	Broken / 20000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/ None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	18°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ITHACA (ITH)	**Type of Flight Plan Filed:**	None
Destination:	SCHENECTADY (SCH)	**Type of Clearance:**	None
Departure Time:	19:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	42.790588,-74.750473(est)

Administrative Information

Investigator In Charge (IIC):	Muzio, David
Additional Participating Persons:	MIKE MAHAN; ALBANY , NY GREG ERIKSON; WILLIAMSPORT , PA
Original Publish Date:	May 8, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=49958