



Aviation Investigation Final Report

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| Location: | WINNSBORO, South Carolina | Accident Number: | MIA98LA240 |
| Date & Time: | September 5, 1998, 11:17 Local | Registration: | N28395 |
| Aircraft: | Grumman AA-5B | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Instructional | | |

Analysis

Returning to their home field after conducting practice instrument approaches, in cruise flight at 2,500 feet msl, the pilot and his safety pilot/passenger experienced a gradual loss of power. They turned toward, and were given distance and headings from Columbia ATC to the nearest airfield when they decided they wouldn't make it, and landed in a grass pasture sustaining substantial damage. Post-crash examination and operation of the engine, on the aircraft, using the pre-crash fuel source, revealed nothing that would have caused the loss of power. Using the reported meteorological conditions at the time of the accident, reference to carburetor icing charts puts this flight within the region labeled, 'visible icing @ glide and cruise power'.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power for undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings

1. WEATHER CONDITION - CARBURETOR ICING CONDITIONS
2. REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Findings

- 3. TERRAIN CONDITION - GRASS
- 4. (C) SOFT FIELD LANDING/PROCEDURE - NOT FOLLOWED - PILOT IN COMMAND

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings

- 5. TERRAIN CONDITION - HIGH VEGETATION
- 6. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

On September 5, 1998, about 1117 eastern daylight time, a Grumman AA-5B Tiger, N28395, registered to a private individual, operating as a 14 CFR Part 91 instructional flight, made a forced landing to a grass field following a loss of engine power near Ridgeway, South Carolina. Visual meteorological conditions prevailed and no flight plan was filed. The airplane received substantial damage and the private-rated pilot and a noncurrent instructor/safety pilot were not injured. The flight left Columbia, South Carolina, about 1036.

The pilots stated, having finished performing practice instrument approaches at Columbia Metropolitan Airport, and en route to their home base in Lancaster County, South Carolina, in cruise flight at an altitude of 2,500 feet msl, they experienced a gradually worsening rough running engine. They performed emergency procedures for a rough running engine, including use of carburetor heat, turned toward the Winnsboro NDB, collocated at Fairfield County Airport, Winnsboro, South Carolina, the closest airfield, and declared an emergency with Columbia ATC. They were given an immediate vector for Fairfield County Airport, reported to be 10 miles from their location, but the roughness and loss of power continued until they felt their only option was an emergency landing to a grass pasture short of the runway. They further stated that as they neared their touchdown point, they realized the grass was much higher than anticipated, and had some rough spots in the terrain. Touchdown resulted in bouncing that did most of the damage to the airframe.

Subsequent examination of the engine and airframe by FAA personnel revealed no obvious cause for the loss of engine power. All engine controls were checked for continuity and functioned normally. Uncontaminated fuel was confirmed contained in both fuel tanks, as well as the electric fuel boost pump and the carburetor. All components of the ignition system functioned normally. The engine was started and run to near takeoff power, on the airplane, with the fuel supply that was aboard, precrash. A carburetor heat and magneto functional check proved satisfactory. The engine was shut down and re-examined with no defects noted. The report of the FAA examination is included in this report under, "Reports from Other Federal Agencies".

Reference to carburetor icing probability charts reveals that an ambient temperature of 86 degrees F and a dew point temperature of 68 degrees F, as reported by Columbia AFSS for the time period of the accident, would put the flight's probability well within the region labeled, "visible icing @glide and cruise power". A copy of the chart is included in this report under, "Other Pertinent Forms and Reports".

Pilot Information

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| Certificate: | Private | Age: | 70, Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 3 Valid Medical-w/ waivers/lim | Last FAA Medical Exam: | September 5, 1997 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | 1020 hours (Total, all aircraft), 900 hours (Total, this make and model), 950 hours (Pilot In Command, all aircraft), 6 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--------------------------|---------------------------------------|-----------------|
| Aircraft Make: | Grumman | Registration: | N28395 |
| Model/Series: | AA-5B AA-5B | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | AA5B0588 |
| Landing Gear Type: | Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | June 24, 1998 Annual | Certified Max Gross Wt.: | 2400 lbs |
| Time Since Last Inspection: | 5 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 2333 Hrs | Engine Manufacturer: | Lycoming |
| ELT: | Installed, not activated | Engine Model/Series: | O-360-A4K |
| Registered Owner: | THOMAS W. NUNNERY | Rated Power: | 180 Horsepower |
| Operator: | | Operating Certificate(s) Held: | None |
| Operator Does Business As: | | Operator Designator Code: | |

Meteorological Information and Flight Plan

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|---|-------------------------|---|-------------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | CAE ,577 ft msl | Distance from Accident Site: | 25 Nautical Miles |
| Observation Time: | 10:56 Local | Direction from Accident Site: | 177° |
| Lowest Cloud Condition: | Scattered / 9000 ft AGL | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 3 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 230° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | 30°C / 20°C |
| Precipitation and Obscuration: | N/A - None - Haze | | |
| Departure Point: | COLUMBIA , SC (CAE) | Type of Flight Plan Filed: | None |
| Destination: | LANCASTER , SC (LKR) | Type of Clearance: | None |
| Departure Time: | 11:00 Local | Type of Airspace: | Class E |

Airport Information

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|-----------------------------|---|----------------------------------|----------------|
| Airport: | | Runway Surface Type: | |
| Airport Elevation: | | Runway Surface Condition: | Rough |
| Runway Used: | 0 | IFR Approach: | |
| Runway Length/Width: | | VFR Approach/Landing: | Forced landing |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|---------------------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 34.370662,-81.079452(est) |

Administrative Information

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| Investigator In Charge (IIC): | Stone, Alan |
| Additional Participating Persons: | DWAYNE PITTSBARGER; COLUMBIA, SC |
| Original Publish Date: | January 28, 2000 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=43862 |

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).