# Aviation Investigation Final Report

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| **Location:** | Crewe, Virginia | **Accident Number:** | GAA18CA574 |
| **Date & Time:** | September 29, 2018, 15:30 Local | **Registration:** | N6148P |
| **Aircraft:** | Piper PA24 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | Aerodynamic stall/spin | **Injuries:** | 1 None |
| **Flight Conducted Under:** | Part 91: General aviation - Personal | | |

## Analysis

The pilot reported that, after a cross-country flight, he wanted to fuel the airplane at the airport, but the fuel tanks were locked. He then flew to a nearby airport to fuel the airplane, but once over the airport, he was told via the UNICOM frequency that the airport was closed for construction and that he would not be able to land.

He returned to the departure airport, and as he reduced power and performed his "gump" check, the engine lost total power. He switched from the left fuel tank to the right fuel tank, turned the fuel pump on, and pumped the throttle to no avail. He continued downwind and abeam the runway numbers and added flaps. On base, he felt the airplane was low and decided to head straight for the runway. Near the beginning of the runway, the airplane aerodynamically stalled and landed hard. The airplane slid about 300 ft and came to rest in the grass adjacent the runway.

The airplane sustained substantial damage to the left wing.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

The Federal Aviation Administration inspector reported that he verified that the left fuel tank was completely empty. He also removed the drain plug from the carburetor, which was also empty. Additionally, the insurance adjuster reported that he looked into the fuel tanks with a scope and saw that the left fuel tank was "bone dry" and that the right tank had about 12 gallons of fuel.

## 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 adequate airspeed and his exceedance of the airplane's critical angle of attack, which resulted in an aerodynamic stall. Contributing to the accident was the pilot's improper fuel management, which resulted in fuel starvation and the subsequent total loss of engine power.

## Findings

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| **Personnel issues** | Aircraft control - Pilot |
| **Aircraft** | Airspeed - Not attained/maintained |
| **Aircraft** | Angle of attack - Capability exceeded |
| **Aircraft** | Fuel - Fluid management |
| **Personnel issues** | Use of equip/system - Pilot |

# Factual Information

## History of Flight

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| **Approach** | Fuel starvation |
| **Approach** | Loss of engine power (total) |
| **Approach** | Attempted remediation/recovery |
| **Landing** | Aerodynamic stall/spin (Defining event) |
| **Landing** | Hard landing |
| **Landing** | Runway excursion |

## Pilot Information

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| **Certificate:** | Private | **Age:** | 51,Male |
| **Airplane Rating(s):** | Single-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Unknown |
| **Instrument Rating(s):** | None | **Second Pilot Present:** | No |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 3 With waivers/limitations | **Last FAA Medical Exam:** | August 21, 2017 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | November 2, 2017 |
| **Flight Time:** | (Estimated) 448 hours (Total, all aircraft), 157 hours (Total, this make and model) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Piper | **Registration:** | N6148P |
| **Model/Series:** | PA24 250 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | 1959 | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 24-1249 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 4 |
| **Date/Type of Last Inspection:** | May 21, 2018 Annual | **Certified Max Gross Wt.:** | 2800 lbs |
| **Time Since Last Inspection:** | | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | | **Engine Manufacturer:** | Lycoming |
| **ELT:** | Installed, activated | **Engine Model/Series:** | O-540 SERIES |
| **Registered Owner:** | On file | **Rated Power:** | 250 Horsepower |
| **Operator:** | On file | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | KBKT,440 ft msl | **Distance from Accident Site:** | 9 Nautical Miles |
| **Observation Time:** | 19:35 Local | **Direction from Accident Site:** | 130° |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | / | **Turbulence Type Forecast/Actual:** | None / None |
| **Wind Direction:** | | **Turbulence Severity Forecast/Actual:** | N/A / N/A |
| **Altimeter Setting:** | 30.25 inches Hg | **Temperature/Dew Point:** | 26°C / 19°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Crewe, VA (W81 ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | Crewe, VA (W81 ) | **Type of Clearance:** | None |
| **Departure Time:** | 15:00 Local | **Type of Airspace:** | Class G |

## Airport Information

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| **Airport:** | CREWE MUNI W81 | **Runway Surface Type:** | Asphalt |
| **Airport Elevation:** | 422 ft msl | **Runway Surface Condition:** | Dry |
| **Runway Used:** | 33 | **IFR Approach:** | None |
| **Runway Length/Width:** | 3300 ft / 60 ft | **VFR Approach/Landing:** | Forced landing |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 1 None | **Latitude, Longitude:** | 37.183612,-78.101943(est) |

## Administrative Information

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| **Investigator In Charge (IIC):** | Benhoff, Kathryn |
| **Additional Participating Persons:** | Jay Venable; FAA; Richmond, VA |
| **Original Publish Date:** | April 8, 2019 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | This accident report documents the factual circumstances of this accident as described to the NTSB. |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=98393 |