Aviation Investigation Final Report

Location:	Decatur, Alabama	**Accident Number:**	ATL05FA139
Date & Time:	August 6, 2005, 10:45 Local	**Registration:**	N3468B
Aircraft:	Beech BE-D35	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Shortly after takeoff from the Decatur Pryor Airport, in Decatur, Alabama, witnesses, observed the airplane at about 100 to 150 feet above a tree line near the crash site. The airplane was nose high and slow, and no engine sound was reported. Witnesses stated that the airplane nosed up slightly, rolled left, then pitched nose down and then collided with the ground. The airplane wreckage was located in a heavily wooded area, near a cotton field to the south of the accident site about 5.6 nautical miles southwest of the airport. On scene examination of the accident found the airplane resting on its partially extended landing gear on a 095-degree magnetic heading, with the engine in a 45-degree nose down angle. Examination of the cockpit found the fuel selector on the right fuel tank. Examination of the right fuel tank found it intact with 3 ounces of fuel remaining. There was no fuel found in the engine fuel lines or fuel pump. There were no mechanical problems reported by the pilot or discovered during the post-accident examination of the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's mismanagement of the fuel supply, which resulted in a loss of engine power due to fuel starvation, and subsequent inadvertent stall/spin during the forced landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) FLUID,FUEL - STARVATION/EXHAUSTION
2. (C) FUEL MANAGEMENT - IMPROPER - PILOT IN COMMAND

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

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
4. STALL/SPIN - INADVERTENT - PILOT IN COMMAND

Occurrence #4: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On August 6, 2005, at 1045 central daylight time, a Beech D35, N3468B, registered to and operated by the commercial pilot collided with the ground shortly after takeoff from runway 18 at, Decatur Pryor Airport, in Decatur, Alabama. The accident occurred 5.6 nautical miles southwest of the Decatur Pryor Airport. The personal flight was operated under the provisions of Title 14 CFR Part 91 and visual flight rules. Visual meteorological conditions prevailed and no flight plan was filed for the local flight. The pilot received fatal injury's, the pilot rated passenger received serious injuries and the airplane sustained substantial damage. The flight originated from the Decatur Pryor Airport in Decatur, Alabama on August 6, 2005, at 1035.

According to a mechanic, the first flight of the morning was a post maintenance flight check. The mechanic and the pilot conducted a pre-flight inspection which included a 20 minute ground run. During the preflight inspection the pilot inspected the left main and auxiliary fuel tanks, noting that the auxiliary fuel tank was full. The mechanic did not observe how much fuel was in the wing tanks. Following the ground run the engine cowling was opened, and no leaks or problems were noted. The pilot and mechanic flew the airplane doing four takeoff and landings. The mechanic stated that this took about an hour. The mechanic noted that the fuel selector was on the left tank during the entire test flight, and that following the flight he observed that the fuel quantity gage indicated 1/4. After returning to the hangar, the cowling was opened again, with no leaks or problems noted. According to the mechanic, shortly after they landed the pilot and pilot rated passenger departed and the accident happened shortly afterwards. The mechanic stated that he did not observe the departure.

According to other witnesses, the airplane was observed about 100 to 150 feet above a tree line near the crash site. The airplane appeared to be nose high and slow, and no engine sound was reported. Witnesses stated that the airplane nosed up slightly, rolled left, then pitched nose down and then collided with the ground. Witnesses telephoned the 911 operator and reported the accident.

PERSONNEL INFORMATION

A review of information on file with the FAA Airman's Certification Division, Oklahoma City, Oklahoma, revealed the pilot was issued a commercial pilot certificate on April 14, 1990, with ratings for rotorcraft helicopter and private pilot privileges for airplane single, and instrument airplane. A review of records on file with the FAA Aero Medical Records revealed the pilot held a second-class medical certificate issued on April 13, 2004, with a restriction that he must wear lenses for distant vision. The pilot reported on his application for the medical certificate that he had accumulated 4,600 total flight hours, and a review of the pilot's logbook revealed

that the pilot had accumulated 4,000 total flight hours. The flight book review also disclosed that the pilot had accumulated in excess of 500 hours in the accident airplane.

AIRCRAFT INFORMATION

A review of maintenance records revealed that the last recorded total time for the airframe was during the annual inspection on August 1, 2005, of 6,553.44 hours, and an engine total time of 505.99 since factory overhaul. The altimeter system, static pressure system, and transponder were inspected on June 6, 2004. The engine logbooks revealed that the engine was overhauled on August 5, 1991, and installed on September 17, 1991.

METEOROLOGICAL INFORMATION

The nearest weather reporting facility at the time of the accident was Huntsville International Airport in Huntsville, Alabama. The 1053 surface weather observation was: scattered clouds at 7,500 feet AGL, visibility 5 statute miles in haze, temperature 28-degrees Celsius, dew point temperature 22-degrees Celsius, wind variable at 4 knots, and altimeter 30.13. Visual meteorological conditions prevailed at the time of the accident.

WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was located in a heavily wooded area, near a cotton field to the south of the accident site. On scene examination of the accident found the airplane resting on its partially extended landing gear on a 095-degree magnetic heading. Initial impact point was found about 25 feet east of the main wreckage. The initial impact point found one propeller blade and windshield shards scattered over the ground in a three square foot area. The initial impact heading was 150-degrees magnetic.

The left wing showed crush damage from the wing root out to the wing tip and aft to the forward spar. The left fuel tank had no traces of fuel and the fuel tank was breached. The firewall had been crushed inward. The left cockpit yoke was found with the pilot who occupied the left seat and the right yoke was found detached from the yoke column and laying in the airplane. The fuel selector was found in the right fuel tank position. The airspeed indicator read 124 miles per hour. The suction gauge, oil temperature gauge, fuel pressure gauge, fuel gauge, and cylinder head temperature gauge all were at readings of "0." The turn coordinator's circuit breaker had been popped and the miniature aircraft was found fully deflected to the left. The autopilot switch was found engaged. The oil pressure gauge read 78 pounds and the oil temperature gauge was found in the yellow arc. The amperage gauge showed a positive charge. The tachometer showed 600 RPM. The propeller control was in the full forward position and the throttle control was open approximately 2 inches. The carburetor heat control was in the off position and the cowl flap was open. Continuity was established from the control column area rearward to the ruddervator control surfaces and servo tabs. Left hand and right hand aileron continuity was established from the wing root to the control surface at the landing gear carry-through structure. The right and left hand main landing gear inboard

doors and right and left hand main actuator rods (at landing gear gearbox) confirmed that landing was in transit at the time of impact. The empennage was twisted from the rear bulkhead aft. The auxiliary fuel tank contained an unknown quantity of fuel and was nearly full. The fuel selector placard denoted a capacity of 20 gallons of fuel for the auxiliary tank. There was no damage to the tail section of the airplane. The right wing leading edge sustained crush damage aft to the forward spar. The right fuel tank was found intact and contained 3 ounces of fuel.

The engine was found in a nose down, approximate 45-degree angle (to the right) from the firewall. The upper cowling was found approximately 4-feet from the nose of the aircraft. The engine was separated from the firewall and mounts. The engine-driven fuel pump was removed and inspected. Continuity was established from the fuel-pump adapter to the engine. The fuel pump rotated freely by hand and fuel was not present. The fuel drive coupling was intact, attached to the pump, and the spline-drive exhibited normal wear signatures. The fuel pump adapter drive receptacle exhibited normal wear signatures. Fuel was not found in the engine fuel lines. The upper spark plugs were removed, examined, and found to exhibit normal fouling signatures (in accordance with the Champion "aviation check-a-plug" comparison chart). The cylinders were inspected with a boroscope and exhibited normal wear signatures in accordance with Teledyne Continental Motors Service Bulletin (SB) 03-3, latest revision. The crankshaft was rotated through its full range, drivetrain continuity was established, and thumb compressions were obtained from each cylinder.

MEDICAL AND PATHOLOGICAL INFORMATION

The State Medical Examiner, Alabama Department of Forensic Sciences, Huntsville Division, Huntsville, Alabama conducted a postmortem examination of the pilot on August 7, 2005. The reported cause of death was "Blunt force injuries due to a aircraft crash", and the manner of death was accident. The Forensic Toxicology Research Section, Federal Aviation Administration, Oklahoma City, Oklahoma performed postmortem toxicology of specimens from the pilot. There was no carbon monoxide or cyanide detected in the blood and no ethanol was detected in the vitreous.

ADDITIONAL INFORMATION

The airplane wreckage was released to Harry Books a representative for the insurance company on August 16, 2005.

Pilot Information

Certificate:	Commercial; Private	**Age:**	57,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	April 1, 2004
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 1, 2005
Flight Time:	4600 hours (Total, all aircraft), 500 hours (Total, this make and model), 21 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N3468B
Model/Series:	BE-D35	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	D-3694
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	July 1, 2005 Annual	**Certified Max Gross Wt.:**	2700 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	6553.4 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	E-225-8
Registered Owner:	On file	**Rated Power:**	225 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	HSV,629 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	10:53 Local	**Direction from Accident Site:**	100°
Lowest Cloud Condition:	Scattered / 7500 ft AGL	**Visibility**	5 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	28°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Decatur, AK (DCU)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	Unknown
Departure Time:	10:35 Local	**Type of Airspace:**	

Airport Information

Airport:	Decatur Regional Airport DCU	**Runway Surface Type:**	Asphalt
Airport Elevation:	592 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	18	**IFR Approach:**	None
Runway Length/Width:	5096 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	34.61861,-87.051666

Administrative Information

Investigator In Charge (IIC):	Wilson, Ralph
Additional Participating Persons:	Clay C Perkins; Birmingham FSDO; Birmingham, AL Eric Thomas; Teledyne Continental Motors; Mobile, AL
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Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=62159