National Transportation Safety Board
Aviation Accident Final Report

Location:	Lawrenceville, Georgia	**Accident Number:**	ERA10FA138
Date & Time:	February 8, 2010, 17:05 Local	**Registration:**	N130SP
Aircraft:	Beech 65	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Fatal, 3 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the preflight inspection, some water was present in the fuel sample; it was drained until a clear sample was observed. Subsequently, the fuel tanks were topped off, and the remaining preflight inspection revealed no other anomalies. The pilot initiated a takeoff and upon reaching rotation speed, the airplane became airborne and the landing gear was retracted. The right engine immediately lost power, and the pilot feathered the engine and attempted to return to the airport. Shortly thereafter, the left engine lost power. The pilot informed the air traffic controller that the airplane had lost all power. The airplane subsequently collided with trees and terrain and a postcrash fire ensued. A postaccident examination of the airframe and engine revealed no mechanical malfunctions or failures that would have precluded normal operation. Examination of fuel retrieved from the right main fuel tank, as well as fuel from the fixed base operator, revealed no anomalies. The left fuel selector valve was observed in the plugged port (no fluid flow) position, but it was most likely moved to that position during the accident sequence. The right fuel selector valve was partially aligned with the main fuel passageway and was unobstructed. The reason for the loss of engine power to both engines was not determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of both engines for undetermined reasons.

Findings

Personnel issues	Preflight inspection - Pilot
Not determined	(general) - Unknown/Not determined

Factual Information

HISTORY OF FLIGHT

On February 8, 2010, at 1705 eastern standard time, a Beech 65, N130SP, registered to a private owner, experienced a loss of engine power on both engines and collided with trees in a residential area in the vicinity of Lawrenceville, Georgia. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91 with no flight plan filed. Visual meteorological conditions prevailed. The commercial pilot was fatally injured, and the three passengers received minor injuries. The airplane was destroyed during a post crash fire. The flight was originating from Gwinettt County Airport Briscoe Field (LZU), Lawrenceville, Georgia, at the time of the accident.

The pilot's son who holds an airman certificate stated he and a friend arrived at the airport and observed the airplane on the ramp. He decided to show his friend how a preflight inspection was conducted. A walk around inspection was initiated and he drained the fuel sumps into a sump jar. Water was present when he drained the left sump. He drained the sump until he obtained a clear sample. He completed the preflight inspection and no other anomalies were noted. His father arrived, and ordered the airplane to be topped off with fuel. They entered the airplane and completed all check list items; his father started the airplane and taxied to the run up area. The engine run up was completed and they received takeoff clearance from the control tower. They started the takeoff roll, upon reaching rotation speed, the airplane became airborne and his father retracted the landing gear. The right engine immediately lost full power. His father feathered the propeller, declared an emergency with the control tower, and advised the controller they would be returning to the airport. Shortly thereafter, the left engine lost full power. His father advised the controller he was dead stick, unable to make it back to the airport, and he was going to put the airplane down in the trees.

PERSONAL INFORMATION

The pilot, age 67, held a commercial pilot certificate with ratings for multi-engine land and instrument airplane issued on May 4, 2003. Review of the pilot's logbook and attached log sheet revealed he had 10,099.3 total flight hours of which 1,331.7 hours were in the Beech 65. His last flight review was conducted on November 6, 2009. The pilot had flown 12 hours in the last 90 days, and 3.9 hours in the last 30 days. In addition, the pilot held a second-class medical certificate, issued on March 4, 2008, with the restriction for corrective lenses. The pilot indicated on his application for the second-class medical certificate that he had 9,500 total flight hours.

AIRCRAFT INFORMATION

The airplane was a five-seat airplane with a retractable tricycle landing gear, serial number LF17 (60-03461), manufactured in 1960. Two Lycoming IO-720-A1B 400-horsepower engines, horizontally-opposed eight-cylinder engines powered the airplane. Review of the airplane logbooks revealed that the last annual inspection was conducted on April 17, 2009, at a recorded Hobbs time of 900 hours. The HOBBS meter at the accident site was destroyed. Prior to the accident flight the airplane was stored in a hanger and had not been flown within the last

4 months. Review of the pilot's logbook, revealed that the pilot flew the airplane on September 12, 2009, and on September 19, 2009, for 3.1 hours. The airplane was refueled on February 8, 2010, before the accident at Landmark Aviation with 48.4 gallons of 100 low lead fuel added to the inboard main fuel tanks. The fuel was tested on February 11, 2010, after the accident and no anomalies were noted.

METEOROLOGICAL INFORMATION

The 1253 LZU surface weather observation was: winds were variable, visibility 10 miles, clear, temperature 28 degrees Celsius, dew point temperature 21 degrees Celsius, and altimeter 30.10 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

Examination of the accident site revealed the airplane collided with trees, one mile from the departure end of runway 25, in a residential area and came to rest next to a pond on a heading of 260 degrees magnetic. The crash debris line was about 144 feet in length.
The nose gear assembly was separated from the fuselage and was located along the crash debris line. The cockpit, instrument control panel, throttle, mixture, and propeller control levers were consumed by fire. The fuel control panel and fuel control selectors were fire damaged and unrecognizable. All flight control surfaces were located at the wreckage site and were damaged. Flight control continuity was confirmed from the cockpit aft to all flight control surfaces. All flight control cable separations were consistent with overload. The left and right fuel selector valves were removed and sent to the Federal Aviation Administration (FAA) for further analysis at the aircraft manufacturer. The examination revealed the left fuel selector valve was moved into the plugged port position during the accident sequence. The right selector valve was partially aligned with the main fuel passage way and was unobstructed.

Examination of the left wing revealed it sustained fire damaged and remained attached at the wing root. The inboard section of the wing was reduced to ash and molten metal. The left engine was separated from the wing and was resting inverted on the inboard left wing. The left engine nacelle was fire damaged and buckled. The upper and lower engine cowlings were damaged and were not attached to the engine. The left wing spar remained attached, was buckled aft and burned through. The outboard section of the wing was buckled aft. The leading edge of the wing was damaged from the wing root extending outboard to the wing tip. The left flap was separated from its attachment points and located forward of the leading edge. The left flap track assembly was consumed by fire and its position was not determined. The left main and auxiliary fuel ports and fuel caps were reduced to ash and molten metal. The main fuel and auxiliary fuel tanks and fuel lines were consumed by fire. The left aileron was located along the crash debris line. The left engine nacelle sustained fire damaged and the fuel lines were destroyed. The left main landing gear wheel and tire were located in the molten metal of the inboard wing. The position of the landing gear was not determined.
Examination of the left engine revealed the engines accessories, ignition leads, cables, tubing, hoses, and wires were fire damaged. The oil lines were fire damaged and the engine contained oil. The oil filter was removed, disassembled, and no contamination was noted. The engine oil screen was removed and no contamination was noted in the oil screen or in the engine oil system. The fuel manifold was intact and all fuel lines were still connected to the fuel nozzles at

the cylinders. The fuel nozzles were removed and checked for blockage. No blockage was noted. The fuel lines connected to the nozzles and the fuel manifold were not contaminated. The fuel manifold was safety wired and sealed. The safety wire was removed. Water droplets and oil were found on the vacuum side of the diaphragm. The engine cylinders were examined with a bore scoped and no anomalies were noted. The magnetos were removed and rotated by hand. Spark was observed on all ignition towers on both magnetos. The fuel servo was attached to the engine and removed for examination. The fuel screen was removed from the fuel servo and no fuel or water was noted in the cavity of the servo. Examination of the fuel screen revealed rust on the fuel screen surface. The engine driven fuel pump was removed and no fuel or water was present in the pump. The top spark plugs were removed, and revealed light gray carbon deposits and exhibited normal wear. All of the rocker box covers were damaged and were removed to confirm valve train continuity. The crankshaft was rotated by hand and valve train continuity was confirmed. Suction and compression was present on all cylinders.

The fuselage sustained fire damage and was melted down to the cabin floor. The empennage aft of the rear cabin door was damage. The vertical stabilizer and elevators remained attached to the empennage. The rudder and both elevators were attached to their respective surfaces and sustained damage.

Examination of the right wing revealed it remained attached at the wing root. The right engine separated from the wing with the engine mounts remaining attached to the engine. The engine was located on the left side of the airplane. The right engine nacelle was buckled and fire damaged. The right engine upper and lower cowlings were damaged and remained attached to the engine. The right wing was buckled and sustained fire damaged near the nacelle section of the wing. Fuel was observed leaking from the right wing at the fuel line in the nacelle area and the fuel line was plugged to prevent further leakage. The right main landing gear was fire damage and was in the retracted position. The right flap and aileron remained attached to their attachment points. The right flap was in the retracted position. The right wing main and auxiliary fuel caps were secure with a tight seal. The right main and auxiliary fuel tanks were not ruptured. The right main fuel tank contained about 30 gallons of aviation fuel. No fuel was present in the auxiliary fuel tank. The fuel was tested and did not contain any water or debris.

Examination of the right engine revealed the engine accessories, ignition leads, cables, tubing, and wires were fire damaged. The fuel tubing, fuel selector valve, and fuel pump was intact inside the engine nacelle. Examination of the fuel lines, fuel servo, fuel manifold, and fuel injector lines revealed small traces of fuel. The fuel was tested for water, and no water or debris was detected in the fuel. The fuel selector valve exhibited evidence of fuel leakage (blue staining) at the selector surface. The oil lines were damaged and oil was present throughout the engine cavity. The oil filter was removed and examined; and no contaminants were found in the filter. The engine oil screen was removed and no contamination was noted. The fuel manifold was still intact and all fuel lines were still connected to the fuel nozzles at the cylinders. The fuel nozzles were removed and checked for blockage, and no blockage was noted. The fuel lines were connected to the fuel nozzles and the fuel manifold. The top spark plugs were removed and revealed light gray carbon deposits and exhibited normal wear. The magnetos were removed and rotated by hand. Spark was produced at all ignition towers on both magnetos. The fuel servo was attached to the engine and removed for examination. The fuel screen was removed from the fuel servo and approximately 5 ounces of fuel was recovered

from the fuel servo. No water was present in the fuel servo. Examination of the fuel filter screen revealed no contamination.

The numbers 3, 5, and 7 cylinders were damaged. The crankshaft was rotated by hand. Suction and compression was present and valve train continuity was present on cylinders 1, 2, 4, 6, and 8.

The left propeller blade hub was still attached to the engine, and the blades were fire damaged. Two of the blades were attached to the propeller hub, and the third propeller blade was separated from the propeller hub and located under the wreckage. The propeller blade/hub fracture surfaces were aligned, and noted at low pitch.
The right propeller blade hub was attached to the engine. Two of the propeller blades were attached to the blade/hub, and the other blade was not located. One blade was bent 90° with a large aft bend, and the other blade was bent forward towards the outer 4 inches of the tip. The missing blade hub pilot tube was fractured, and the two installed blades were at a high pitch position.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on February 9 2010, by Office of the Medical Examiner, Gwinnett County, Georgia. The cause of death was reported as “smoke and soot inhalation with thermal injuries.”
Forensic toxicology was performed on specimens from the pilot by FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. No ethanol or drugs was detected in the blood, and 0.32 (ug/ml) of cyanide was detected in the blood.

History of Flight

Initial climb	Loss of engine power (partial)
Emergency descent	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing
Emergency descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial	**Age:**	67,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Glider; Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 4, 2008
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	November 6, 2009
Flight Time:	10099 hours (Total, all aircraft), 1332 hours (Total, this make and model), 12 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N130SP
Model/Series:	65	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	LF17(60-03461)
Landing Gear Type:	Retractable - Tricycle	**Seats:**	5
Date/Type of Last Inspection:	April 17, 2009 Annual	**Certified Max Gross Wt.:**	6590 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	9234 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	IO-720
Registered Owner:		**Rated Power:**	400 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:	LZU,1061 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	17:05 Local	**Direction from Accident Site:**	260°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	9°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lawrenceville, GA (LZU)	**Type of Flight Plan Filed:**	None
Destination:	Lawrenceville, GA (LZU)	**Type of Clearance:**	VFR
Departure Time:	17:05 Local	**Type of Airspace:**	

Airport Information

Airport:	Lawrenceville Airport-Briscoe LZU	**Runway Surface Type:**	Asphalt
Airport Elevation:	1061 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	6000 ft / 100 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	3 Minor	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 3 Minor	**Latitude, Longitude:**	33.968612,-83.989723

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric
Additional Participating Persons:	David Andrew; FAA Atlanta FSDO; College Park, GA Edward Rogalski; Textron/Lycoming; Williamsport, PA Eric Thomas; Hawker Beechcraft Corporation; Wichita, KS Tom McCreary; Hartzell Propellers; Piqua, OH
Original Publish Date:	December 13, 2011
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=75353