



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Carrollton, Georgia	Accident Number:	ERA11LA179
Date & Time:	March 4, 2011, 11:30 Local	Registration:	N6015F
Aircraft:	Beech C23	Aircraft Damage:	Substantial
Defining Event:	Fire/smoke (non-impact)	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

According to the pilot, the purpose of the flight was to pick up the airplane after the completion of an annual inspection. He said that the inspection was completed, and during the engine start, the fuel pressure gauge showed no pressure; however, the engine started and ran normally with no anomalies noted during the takeoff or initial climb. About 2,000 feet mean sea level and 4 miles from the airport, smoke was observed coming from the engine cowling and the engine ran roughly. Witnesses stated that smoke and flames trailed from the airplane as it landed back at the departure airport, steered into the grass infield, and the occupants egressed. The instrument panel, cockpit, cabin area, and right wing were consumed by fire. A postaccident examination revealed that the fuel line from the fuel boost pump to the carburetor was disconnected. Closer examination revealed melted metals and soot accumulated on the threads of the male fitting of the pump, and on the threads of the female b-nut fitting of the fuel line, consistent with the line being disconnected prior to the fire. The fuel line was in close proximity to the carburetor fuel strainer that would routinely be removed during an annual inspection. A t-fitting on the line routed fuel to the fuel pressure indicator. With the affected line disconnected, fuel pressure would not register on the gauge, but the engine would continue to operate.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The mechanic's failure to re-connect a fuel line following an annual inspection. Contributing to the accident was the pilot's improper decision to depart with a known mechanical deficiency.

Findings

Aircraft	Fuel distribution - Incorrect service/maintenance
Personnel issues	Scheduled/routine maintenance - Maintenance personnel
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Prior to flight	Aircraft maintenance event
Enroute-climb to cruise	Fire/smoke (non-impact) (Defining event)
Taxi-from runway	Fire/smoke (non-impact)

On March 4, 2011, about 1130 eastern standard time, a Beech C23 Sundowner, N6015F, was destroyed following an in-flight fire and emergency landing after takeoff from West Georgia Regional Airport (CTJ), Carrollton, Georgia. The certificated flight instructor (CFI) and private-rated pilot receiving instruction were not injured. Visual meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed for the flight, which departed CTJ about 1125. The instructional flight was conducted under the provisions of 14 Code of Federal Regulations Part 91.

The CFI stated that the purpose of the flight was to pick up the airplane after the completion of an annual inspection. He brought the student along to conduct training on the return flight.

No anomalies were noted during a preflight inspection of the airplane. The CFI stated that, during the engine start, they observed that the fuel pressure gauge indicated zero, but that the engine started and ran normally, and no anomalies were observed during the takeoff or initial climb.

According to the CFI, they departed CTJ under visual flight rules (VFR) and intended to obtain an IFR clearance after takeoff. While communicating with air traffic control (ATC), about 2,000 feet mean sea level, and about 3 miles east of CTJ, the engine began to run roughly, and smoke was observed coming from under the cowling. The pilots turned back towards the airport, and announced to ATC that they would be returning to CTJ.

The CFI performed a visual approach to runway 17, and stated that there was a significant amount of smoke in the cockpit. After landing, both pilots egressed the airplane, and called emergency services, the airplane's owner, and ATC by telephone to notify them of the accident.

The pilot receiving instruction provided a written statement, and his account of events was consistent with that of the CFI.

A witness stated that he saw the airplane about 20 feet above the runway, with the engine running, as it trailed smoke and flames.

The CFI held a commercial pilot certificate with ratings for airplane single- and multiengine land. He held a flight instructor certificate for airplane single-engine, multiengine, and

instrument airplane. His most recent Federal Aviation Administration (FAA) first class medical certificate was issued November 8, 2010. The pilot reported 3,500 total hours of flight experience, of which 1,200 hours were in the accident airplane make and model.

The pilot receiving instruction held a private pilot certificate with a rating for airplane single-engine land. His most recent FAA third class medical certificate was issued August 4, 2010. He reported 63 total hours flight experience, all of which were in the accident airplane make and model.

According to FAA records, the airplane was manufactured in 1979. The airplane's maintenance records revealed that the airplane had accrued 6,132.8 total aircraft hours as of its most recent annual inspection, which was completed March 1, 2011. The entries annotated that run-up checks were completed and that no leaks were noted.

The 1137 weather observation at CTJ included an overcast ceiling at 2,300 feet, visibility 10 miles, winds from 140 at 10 knots, gusting to 21 knots, temperature 12 degrees C, dewpoint 7 degrees C, and an altimeter setting of 30.38 inches of mercury.

Photographs of the airplane provided by an FAA inspector revealed that the airplane's engine compartment received significant fire damage. The instrument panel, cockpit, cabin area, and right wing were consumed by fire. The inboard section of the left wing out to the landing gear was also destroyed by fire.

A detailed examination of the wreckage performed by an FAA inspector revealed that the fuel line from the electric fuel boost pump to the carburetor was disconnected. Closer examination revealed melted metal and soot accumulated on the threads of the male fitting of the pump, and on the threads of the female b-nut fitting of the fuel line, consistent with the line being disconnected prior to the fire. The fuel line was in close proximity to the carburetor fuel strainer that would routinely be removed during an annual inspection.

According to the inspector, a t-fitting on the line routed fuel to the fuel pressure indicator. With the affected line disconnected, fuel pressure would not register on the gauge, but the engine would continue to operate.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	49,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	November 8, 2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 6, 2009
Flight Time:	3500 hours (Total, all aircraft), 1200 hours (Total, this make and model), 3400 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	Age:	57,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	August 4, 2010
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 28, 2011
Flight Time:	63 hours (Total, all aircraft), 63 hours (Total, this make and model), 15 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N6015F
Model/Series:	C23	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	M-2134
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	March 1, 2011 Annual	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:	1 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	6132 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O&VO-360 SER
Registered Owner:	QUALITY AVIATION INC	Rated Power:	180 Horsepower
Operator:	QUALITY AVIATION INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	CTJ, 1161 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	11:37 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Thin Overcast / 2300 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 2300 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.37 inches Hg	Temperature/Dew Point:	12°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Carrollton, GA (CTJ)	Type of Flight Plan Filed:	IFR
Destination:	Atlanta, GA (PDK)	Type of Clearance:	VFR
Departure Time:	11:25 Local	Type of Airspace:	

Airport Information

Airport:	West Georgia Regional Airport CTJ	Runway Surface Type:	Asphalt
Airport Elevation:	1161 ft msl	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	5503 ft / 100 ft	VFR Approach/Landing:	Forced landing;Full stop

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	33.625556,-85.15139(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Steve M Johnson; FAA/FSDO; Atlanta, GA
Original Publish Date:	December 1, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=78495

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