



Aviation Investigation Final Report

Location:	BOONE, North Carolina	Accident Number:	ATL99LA077
Date & Time:	April 28, 1999, 12:50 Local	Registration:	N12RF
Aircraft:	Beech 23-B24R	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to witnesses, the ceiling was about 50 feet above the ground, and the takeoff appeared to be normal until the collision with trees. According to the FAA Inspector on-scene, the aircraft collided with trees and rising terrain and subsequently the ground in a wooded area about 1.6 miles south of the airport. Examination of the wreckage revealed that the airplane had collided with trees up-slope on the north side of a ridge, at the 3800 foot level. The slope of the ridge was approximately 25 degrees. The initial crash path through the trees was inclined 3-5 degrees. Examination of the engine found it heat damaged from the post-impact fire. All of the accessory components were destroyed. Engine examination and partial disassembly found no evidence of any pre-impact mechanical deficiencies that would have prevented the engine from developing power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilots failure to obtain/maintain proper climb rate during initial climbout. This resulted in the collision with the mountain/hilly terrain.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
2. PROPER CLIMB RATE - NOT OBTAINED/MAINTAINED - PILOT IN COMMAND

Factual Information

On April 28, 1999, at 1250 eastern daylight time, a Beech 23-B24R, N12RF, collided with trees shortly after takeoff from runway 13, at the Boone Airport, in Boone, North Carolina. The airplane was operated by the pilot under the provisions of Title 14 CFR Part 91, and instrument flight rules. Instrument meteorological conditions prevailed, and an IFR flight plan was filed. The pilot received serious injuries, and the airplane was destroyed. There was a post-crash fire. The flight was originating at the time of the accident.

According to the Anderson Flight Service Station, the pilot of N12RF was issued a complete weather briefing including winds aloft. Additionally, the pilot was issued an IFR Clearance from 5A3 (Boone, NC) to BVX (Batesville, AK), at 1232, with a void time of 1250. The pilot requested and was given an altitude assignment of 8000 GPS direct Batesville, and a transponder code of 3563. (See attachment for complete transcript).

According to witnesses, the ceiling was about 50 feet above the ground, and the takeoff appeared to be normal until the collision with trees. According to the FAA Inspector on-scene, the aircraft collided with trees, rising terrain, and subsequently the ground in a wooded area about 1.6 miles south of the airport, coordinates North 36,10.33/West 081,36.56. Examination of the wreckage revealed that the airplane had collided with trees, up-slope on the north side of a ridge, at the 3800 foot level. The slope of the ridge was approximately 25 degrees. The initial crash path through the trees was inclined 3-5 degrees. The aircraft's right wing outboard section was found where it separated and remained in the tree tops. A slash cut in a one-inch diameter tree limb was located on the ground in the area below. The main wreckage ended upright approximately 130 feet from the point of first tree contact, the center section of the main wreckage was burned out by the post-impact fire. All of the major components of the aircraft were located on or about the main wreckage. In the cockpit, the airspeed indicator was located, the needle was positioned over the 106 knots indication. The remainder of the cockpit instruments and controls were destroyed.

The propeller remained attached to the engine with one blade buried in the soil. The opposing blade was curled aft at the tip and exhibited torsional bending. The buried blade was unearthed to reveal aft bending along the broad arc at mid span, the blade tip section also showed torsional bending. Both blades had chordwise scratches and abrasions. The spinner assembly showed signs of rotational impact damage.

Examination of the engine found it heat damaged from the post-impact fire. All of the accessory components were destroyed. The oil sump was burned away, no lubricating oil was found remaining. The oil suction screen was not recovered. The oil pressure filter canister was opened for inspection and found clean, free of contamination or debris. The fuel injector servo was destroyed, the fuel flow divider was opened for inspection and the diaphragm was heat

damaged. The fuel injector nozzles were removed and checked. The #1 & #3 nozzles were clear, the #2 & #4 nozzles were obstructed with water and debris. The top spark plugs were removed for inspection and displayed dry, medium gray color combustion deposits, consistent with normal operation. A borescope was used to check the combustion chambers and barrels of all four cylinders, no pre-impact anomalies associated with the top end cylinder assemblies were note. Severity of the heat damage prevented rotation of the crankshaft. Visual inspection of the exposed area of the rear case, power section and accessory drive gear section revealed no evidence of mechanical malfunction. According to Lycoming, engine examination and partial disassembly found no evidence of any pre-impact mechanical deficiencies that would have prevented the engine from developing power.

The pilot was sent an NTSB Form 6120.1/2 but failed to return it at the time of this report.

Pilot Information

Certificate:	Commercial	Age:	59, Male
Airplane Rating(s):	Single-engine land; Multi-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:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	May 2, 1997
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	625 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N12RF
Model/Series:	23-B24R 23-B24R	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	MC-293
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	IO-360-A1B6
Registered Owner:	SHEILA N. FARMER	Rated Power:	200 Horsepower
Operator:	RAYBURN E. FARMER	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	CLT ,749 ft msl	Distance from Accident Site:	100 Nautical Miles
Observation Time:	12:54 Local	Direction from Accident Site:	120°
Lowest Cloud Condition:	Scattered / 500 ft AGL	Visibility	3 miles
Lowest Ceiling:	Broken / 900 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	9°C / 8°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	(5A3)	Type of Flight Plan Filed:	IFR
Destination:	BATESVILLE , AR (BVX)	Type of Clearance:	IFR
Departure Time:	12:48 Local	Type of Airspace:	Class G

Airport Information

Airport:	BOONE, INC. 5A3	Runway Surface Type:	Asphalt
Airport Elevation:	3120 ft msl	Runway Surface Condition:	Wet
Runway Used:	13	IFR Approach:	None
Runway Length/Width:	3300 ft / 40 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	36.200019,-81.660995(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Butch
Additional Participating Persons:	DONALD E GARDNER; CHARLOTTE , NC EDWARD ROGALSKI; BELLEVIEW , FL EDDIE E WEBBER; WICHITA , KS
Original Publish Date:	June 21, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=46202

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