



Aviation Investigation Final Report

Location:	CLEVELAND, Ohio	Accident Number:	BF096FA022
Date & Time:	November 19, 1995, 17:39 Local	Registration:	N721MD
Aircraft:	Beech 58	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	3 Fatal, 2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot received a weather briefing and filed an IFR flight plan for a night/cross-country flight. For departure from runway 24R, he was given clearance for a right turn after takeoff to a heading of 350, then he was cleared for takeoff. The tower controller stated that after the airplane was airborne, he instructed the pilot to contact departure control. The pilot acknowledged, then no further transmission was received from the plane. The controller last saw the airplane at an altitude of about 100 to 200 feet AGL, near the end of the 6,198 foot runway, when it began a right turn to a northerly heading. He then diverted his attention to other work. Subsequently, the airplane crashed on a lake north of the airport. Two passengers survived. They noted no problem with the pilot or airplane before water contact. No preimpact mechanical malfunction or failure of the airplane was found. The pilot of another airplane, who departed shortly after the accident flight, reported he was disoriented when he turned north during departure. He stated there was no visible horizon, overcast clouds blocked light from above, and there were no lights from below. Due to darkness over the lake, he had to '...stay on the instruments...until above the overcast.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper IFR procedure, by failing to maintain a positive rate of climb (and terrain clearance) after takeoff. Factors relating to the accident were: darkness, and the lack of visual references over water and under overcast cloud conditions.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: TAKEOFF

Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - CLOUDS
3. (C) IFR PROCEDURE - IMPROPER - PILOT IN COMMAND
4. (C) PROPER CLIMB RATE - NOT MAINTAINED - PILOT IN COMMAND
5. (F) VISUAL ILLUSION - PILOT IN COMMAND
6. (F) TERRAIN CONDITION - WATER
7. (C) PROPER ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On November 19, 1995, at 1739 eastern standard time, a Beech 58, N721MD, impacted Lake Erie shortly after takeoff from Burke Lakefront Airport, in Cleveland, Ohio. Of the five aircraft occupants, two passengers were retrieved from the water with serious injuries. The pilot and one passenger are missing and presumed dead. The body of the fifth occupant, a 12 year old passenger, was located near Erie, Pennsylvania, in April, 1996. The aircraft was destroyed. Night visual meteorological conditions prevailed for the flight, and an Instrument Flight Rules (IFR) flight plan was filed. The flight operated under 14 CFR Part 91, and originated from Cleveland, Ohio, at 1737, with an intended destination of Raleigh-Durham International Airport, in Raleigh, North Carolina.

According to Federal Aviation Administration (FAA) Air Traffic Control (ATC) records, the pilot received a preflight weather briefing from the Cleveland Automated Flight Service Station (AFSS), and filed an IFR flight plan at about 1554 local time. The pilot of a Gulfstream IV, which was parked on the ramp near the accident airplane, reported that the pilot and passengers requested a tour of the Gulfstream IV before they departed. The Gulfstream pilot stated that the pilot of the accident airplane delayed his departure in an attempt to meet the passenger from the Gulfstream (a popular singer.) The Gulfstream pilot reported that when the passenger/singer had still not arrived at the airport more than an hour later, the pilot of the accident airplane decided to leave without meeting him.

According to FAA records, the pilot requested and received his IFR clearance to Raleigh, North Carolina at about 1720. Approximately 1728, the pilot advised ATC that he was ready to taxi, and received clearance to taxi to runway 24L. At 1732, the pilot stated "...I think I managed to taxi to two four right, will that work for you?" ATC responded "...affirmative...advise when ready." At 1735, the pilot contacted the local controller, and stated "...Lakefront Tower, Baron One Mike Delta is ready on two three right." The local controller cleared the pilot to "...taxi into position and hold, awaiting IFR release." At 1737, the local controller stated: "Baron One Mike Delta, turn right heading three five zero, cleared for takeoff," and the pilot acknowledged the clearance.

The local controller stated that when he observed that the accident airplane was airborne, he instructed the pilot to contact Cleveland Departure Control. At 1738:32, the pilot acknowledged, stating "...good night, sir, thanks a lot." According to ATC records, there were no further transmissions from the pilot.

The tower controller stated that watched the accident airplane during it's departure, until he confirmed that the pilot was beginning a right turn to the assigned heading. He stated that the

accident airplane was approximately 100 to 200 feet in altitude, and near the end of the 6,198 foot long runway, when it began its right turn over the lake. At that point, the tower controller redirected his attention to other business inside the ATC tower cab. The controller stated that approximately a minute or two later "...City operations called me...and asked if I saw smoke out over the lake. I told him that there appeared to be a fire about three miles north....I contacted Cleveland Approach and asked them if they were talking to [the] departure aircraft...they said no."

The United States Coast Guard responded to the accident site, where they located the two surviving passengers in the water.

PERSONNEL INFORMATION

The pilot in command possessed a private pilot's certificate, with single engine and multiengine land airplane privileges, and an instrument rating. He held an FAA Second Class Medical Certificate, with no restrictions or limitations, dated February 22, 1995. The pilot had completed FlightSafety International's initial instructional course in the accident airplane during the week prior to the accident. The FlightSafety International instructors who worked with the pilot in the simulator, and in his airplane, stated that they found him to be an above average student. According to the pilot's flight logbook, he had approximately 1020 hours of total flight experience, including 673 hours of multiengine time. Logbook records indicated that the pilot had about 347 hours in the accident make and model airplane.

AIRCRAFT INFORMATION

The Beech 58 "Baron", N721MD, had recently been purchased by the pilot in command. Maintenance records indicated that the airframe and two engines had 45 hours total operating time. The only maintenance item documented in the logbooks was an intermittent heater problem. The maintenance write-up stated "...heater works as long as all controls are full open. If [the] vents are closed slightly, breaker in nose pops." The maintenance item was examined by Beech on November 16 and 17, 1995. The maintenance action was described as "...checked heater...removed and replaced heater thermostat assembly." Before the airplane departed from Cleveland, it was refueled with 70 gallons of 100LL aviation fuel.

METEOROLOGICAL INFORMATION

The weather at Burke Lakefront Airport at 2245Z was: Estimated ceiling, 8000 feet overcast; 7 miles visibility; temperature, 38 degrees Fahrenheit (F); dew point, 34 degrees F; winds out of 170 degrees at 7 knots; altimeter setting, 30.23 inches Hg. The pilot in command received a complete preflight weather briefing for his planned flight to Raleigh-Durham International Airport, in Raleigh, North Carolina.

WRECKAGE AND IMPACT INFORMATION

The wreckage was located at N41.31.53/W81.41.88, in about 35 feet of water, approximately 6 miles north of runway 24R at Burke Lakefront Airport. The wreckage was partially broken up, but appeared to be centralized in one spot. After an unsuccessful first attempt to recover the wreckage, inclement weather delayed the recovery effort. When the wreckage was recovered, it was in three major pieces. One piece consisted of the nose section, the left wing with the engine, and a portion of the fuselage, which included the cockpit and the aft facing passenger seats. The left propeller assembly separated from the engine, and was not recovered. The second piece consisted of the empennage, with the horizontal and vertical stabilizers still attached to their aft fuselage fittings. Both elevators were separated from their hinges, and were not recovered. The rudder was attached to the vertical stabilizer. The third section of wreckage consisted of the right wing with the engine and propeller still attached. The wing flap and all but the outboard 5 inches of the right aileron were missing. The right engine propeller blades exhibited evidence of rotational damage. All three propeller blades were curled aft. Various pieces of the airplane, including the aft doors, the front door, the forward facing aft passenger seats with part of the flooring, had washed ashore and were recovered on earlier dates.

The airplane engines were examined, and there was no evidence of preimpact mechanical malfunction. Both engines rotated and exhibited valve action and compression in the cylinders. Fuel and oil were found in both engines. Postaccident examination of the airframe and systems revealed no evidence of preimpact anomaly.

The heater system was examined in the nose section of the airplane. There were no indications of malfunctions or fire within this equipment or the surrounding area.

FIRE

Witnesses observed the fire after the airplane impacted the lake. Postaccident examination of the wreckage revealed no evidence of burned or charred markings indicative of an in flight fire.

MEDICAL AND PATHOLOGICAL INFORMATION

The pilot's body has not been recovered at the time of this writing. There was no autopsy or toxicological examination possible.

ADDITIONAL INFORMATION

The pilot of the Gulfstream IV that was parked on the ramp by the accident airplane, departed about 10 to 15 minutes after the accident. In a postaccident interview, he stated that the weather conditions were such that when he turned to the north during his departure, there was no perceptible horizon. He stated that the overcast layer blocked out any light from the sky, and there were no lights to provide visual reference on the lake. He stated that each time he looked out of the cockpit to get visual clues, it was very disorienting, and he was forced to look back at the flight instrument gauges in order to get his reference. The pilot stated that he had

to fly the airplane by the instrument flight gauges until he got above the cloud layer. Once above the layer, the pilot stated that he had no problems flying the airplane using visual clues.

Pilot Information

Certificate:	Private	Age:	47, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	February 22, 1995
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1020 hours (Total, all aircraft), 347 hours (Total, this make and model), 807 hours (Pilot In Command, all aircraft), 55 hours (Last 90 days, all aircraft), 27 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N721MD
Model/Series:	58 58	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	TH-1753
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	November 10, 1995 Annual	Certified Max Gross Wt.:	5400 lbs
Time Since Last Inspection:	45 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	45 Hrs	Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	IO-550-C
Registered Owner:	MILFORD R. DERRICK	Rated Power:	300 Horsepower
Operator:	MRD LEASING	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	BKL ,584 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	22:45 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Unknown	Visibility	7 miles
Lowest Ceiling:	Overcast / 8000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	3°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	, OH (BKL)	Type of Flight Plan Filed:	IFR
Destination:	RALEIGH-DURHAM , NC (RDU)	Type of Clearance:	IFR
Departure Time:	17:38 Local	Type of Airspace:	Class D

Airport Information

Airport:	BURK LAKEFRONT BKL	Runway Surface Type:	Asphalt
Airport Elevation:	584 ft msl	Runway Surface Condition:	Dry
Runway Used:	24R	IFR Approach:	None
Runway Length/Width:	6198 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Fatal, 2 Serious	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	3 Fatal, 2 Serious	Latitude, Longitude:	41.519828,-81.680595(est)

Administrative Information

Investigator In Charge (IIC):	Cain, James
Additional Participating Persons:	ROBERT E KERNER; CLEVELAND , OH THOMAS R CAMPAGNOLA; WHICHITA , KS EDDIE WEBBER; WHICHITA , KS GEORGE HOLLINGSWORTH; RESTON , VA
Original Publish Date:	November 11, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=9092

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