



Aviation Investigation Final Report

Location:	PINCKNEYVILLE, Illinois	Accident Number:	CHI98FA082
Date & Time:	January 14, 1998, 18:06 Local	Registration:	N54643
Aircraft:	Beech 95-55	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation		

Analysis

The pilot told ATC that he was going to conduct a GPS approach to the destination airport with a landing on runway 18. The pilot subsequently received clearance for and initiated a night IFR approach to runway 18. The airplane impacted trees at the 75 foot level followed by impact with the terrain approximately 3.9 north of the airport. The accident debris track was on the extended centerline of the intended runway and the debris scattered on a heading in the direction of the runway. The elevation of the terrain in the area at the airport, and the accident site are similar. The owner of the airplane stated that the airplane was not equipped with a GPS system. The owner of the airplane said the pilot was known to own a handheld GPS unit. Identified at the accident site was a destroyed handheld GPS unit. The weather at the destination airport was described as 'marginal' for an approach with rain and fog according to the airplane owner who was present at the airport about the time of the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot descent below minimum descent altitude and his intentional operation with known deficiencies in equipment. Factors were the dark night, fog, rain, and the trees.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: APPROACH

Findings

1. (C) MINIMUM DESCENT ALTITUDE - NOT OBTAINED/MAINTAINED - PILOT IN COMMAND
2. (F) LIGHT CONDITION - DARK NIGHT
3. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - INTENTIONAL - PILOT IN COMMAND
4. (F) WEATHER CONDITION - FOG
5. (F) WEATHER CONDITION - RAIN
6. (F) OBJECT - TREE(S)

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On January 14, 1998, after being cleared for a GPS approach to runway 18 at the Pinckneyville Airport, near Pinckneyville, Illinois, a Beech 95-55, N54643, disappeared from radar at 1806 central standard time. The airplane, which was destroyed by impact with the terrain and a post accident fire, was located about 0700 on January 15, 3.9 nautical miles north of the airport of intended landing, in a wooded area. The pilot sustained fatal injuries. The 14 CFR Part 91 business flight was operating on an IFR flight plan. The flight had departed Hillsboro, Illinois, at 1736. Two witnesses reported seeing a "fireball" at the approximate time of the accident and these persons stated that at the time they were experiencing heavy rain and visibility was restricted in fog.

At 1710, an individual identifying himself as the pilot of N54643, contacted the Saint Louis (MO) Automated Flight Service Station (AFSS), by phone, requesting current weather information, and to file an instrument flight rules (IFR) flight plan. He obtained weather for Carbondale located 13 miles southeast of Pinckneyville, and stated to the controller, "I'm gonna file an IFR flight plan to go to Pinckneyville, Illinois, and if I can't get in there on a GPS approach, I'll go on to Carbondale as my alternate."

At 1722, the pilot contacted the owner of the airplane and told him that he was in Hillsboro and was planning a flight to Pinckneyville. He inquired what the current weather was at that location. He was told that the ceiling was "marginal" for an approach, and it was raining. At that point, the pilot told the owner that he would attempt an approach at Pinckneyville, but if he were unable to land, he would continue to Carbondale where the weather was reported to be better.

At 1740, while en route, the pilot telephoned his sons and requested one of them to meet him at the airport. He estimated his time of landing in about 17 minutes.

At 1749, while en route, the pilot of N54643 received a weather report from the Kansas City Air Route Traffic Control Center (ZKC-ARTCC), indicating, "The closest weather for Pinckneyville is the Carbondale weather. Latest Carbondale weather is winds three three zero as six; visibility eight; one thousand three hundred overcast; altimeter three zero zero one. Say approach request." The pilot replied, "Well, I was gonna do the GPS for one eight. If it's just six knows I'm gonna still try that."

At 1806 the accident airplane disappeared from radar about five miles north of the Pinckneyville Airport.

PERSONNEL INFORMATION

The pilot, born January 29, 1943, was the holder of a private certificate with privileges for single and multi-engine land airplane, with an instrument rating. The owner of the accident airplane said that the pilot had about 1,300 hours total time, with 800 hours in multi-engine airplanes and 700 hours in this make and model. The pilot's most recent biennial flight review was on November 4, 1997. He was the holder of a second class medical issued November 18, 1996, with the restriction, "Must wear corrective lenses."

AIRCRAFT INFORMATION

The airplane was a Beech 95-55, N54643, serial number TC-8. The most recent annual inspection was conducted on February 4, 1997, at that time the total hours on the airframe was recorded as 3,345. Exact number of hours at the time of the accident is not known.

The right engine was a Continental IO-470-L, serial number 297562-R. At the time of the last recorded inspection on February 4, 1997, the engine had a total time in service of 146 hours.

The left engine was a Continental IO-470-L, serial number 90423-1-L. At the time of the last recorded inspection on February 4, 1997, the engine had a total time in service of 3,345 hours, and 290 hours since major overhaul.

Both the left and right propellers had recent overhauls at the time of the annual inspection on February 4, 1997.

The most recent altimeter, static, and transponder inspection was recorded in the logbook as being performed on January 3, 1997. The pilot's altimeter was replaced February 4, 1997; however, there is no indication of a static check being performed after that installation. During the on-scene investigation, the pilot's altimeter was not identified.

COMMUNICATIONS

A transcript of telephone and radio communications is attached as an addendum to this report. There is no indication of an emergency call from the airplane prior to the accident.

WRECKAGE AND IMPACT INFORMATION

The main wreckage was located 3.9 miles north of the Pinckneyville Airport. The wreckage was on the extended centerline of runway 18. The wreckage trail was measured as 352 feet from the first indication of broken branches in treetops to the furthestmost piece of wreckage identified. The debris trail through the trees was on a heading of 185 degrees magnetic.

About 75 feet from the ground, in the first tree showing broken branches was a piece of the airplane identified as coming from the wing leading edge. There were small pieces scattered

around the bottom of that tree. Additional trees leading south from the initial impact site had scars ranging from 70 feet down to about 50 feet. In this trail one large cut branch was located at the foot of one tree. The branch was about 9 inches in diameter and had a diagonal cut.

There was a general disintegration of the airplane as it progressed through the trees. The fuselage came to rest inverted on a heading of 200 degrees at a distance of 283 feet from the beginning of the wreckage trail. Both wings were severed. The right wing was fragmented while the left wing remained mostly intact. The empennage remained attached to the fuselage. Both engines were released and continued beyond the fuselage in the direction of travel.

There was chordwise polishing on front and back of the propeller blades. Propeller blade leading edges had gouging and there was trailing edge damage. Both propellers were damaged with twisting and bending of the blades. The right propeller remained attached to the engine and was rotated to establish continuity through the engine. The left propeller was released at the propeller flange.

No pre-existing anomalies were found during the on-scene examination of the engines, propellers, or airframe.

MEDICAL AND PATHOLOGICAL INFORMATION

A post mortem examination of the pilot was performed at the request of the Perry County (IL) Coroner's Office on January 16, 1998. The cause and manner of death was shown as due to blunt trauma secondary to an airplane accident. Findings during the autopsy were of "Moderate atherosclerosis of left anterior descending coronary artery with focal 60% narrowing by atheromatous plaque, and severe atherosclerosis of distal right coronary artery with focal 80% narrowing by concentric atheromatous plaque." However the pathologist stated, "No evidence of thrombotic occlusion of the coronary arteries is seen."

Toxicological examination of specimens from the pilot found ethanol detected in the muscle; however, the report stated, "The ethanol found in this case is from post mortem ethanol production.

FIRE

A large fan shaped area of fire emanated from the area of impact through the woods. The cockpit and cabin area of the airplane was destroyed by fire. The ignition source was not identified; however, aviation fuel was present, and was released during the impact with trees and the terrain.

ADDITIONAL INFORMATION

During an interview with the owner of the airplane, he indicated that the airplane did not have installed a Global Positioning System (GPS), certified for instrument approaches. He said that the pilot owned a "handheld" GPS. During the on-scene portion of the investigation a "handheld" GPS unit was found in the wreckage; however, it was inoperable and showed evidence of heat artifact. The unit found was manufactured with a function, which allowed the user to "monitor" a GPS approach, but was not certified for primary approach use.

Parties to the investigation were the Federal Aviation Administration, Flight Standards District Office, Springfield, Illinois; Beech Aircraft, Wichita, Kansas; and Continental Motors, Mobile, Alabama.

The wreckage was released to representatives of the owner on January 20, 1998.

Pilot Information

Certificate:	Private	Age:	54, 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:	Yes
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	November 18, 1996
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1300 hours (Total, all aircraft), 700 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N54643
Model/Series:	95-55 95-55	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	TC-8
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	February 4, 1997 Annual	Certified Max Gross Wt.:	4880 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	3345 Hrs	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-470-L
Registered Owner:	CHEROKEE AERO AVIATION	Rated Power:	260 Horsepower
Operator:		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:	Night/dark
Observation Facility, Elevation:	MDH ,411 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	17:54 Local	Direction from Accident Site:	160°
Lowest Cloud Condition:	Unknown	Visibility	5 miles
Lowest Ceiling:	Overcast / 1300 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	3°C / 2°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	HILLSBORO , IL (3K4)	Type of Flight Plan Filed:	IFR
Destination:	(PJY)	Type of Clearance:	IFR
Departure Time:	17:36 Local	Type of Airspace:	Class E

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	38.070106,-89.380569(est)

Administrative Information

Investigator In Charge (IIC): Wilson, Stephen

Additional Participating Persons: RUSSELL E ATKINS; SPRINGFIELD , IL
R S BOYLE; MOBILE , AL
PAUL E YOOS; WITHITA , KS

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Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=10729>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).