



Aviation Investigation Final Report

Location:	MARION, Virginia	Accident Number:	IAD96FA050
Date & Time:	March 18, 1996, 01:00 Local	Registration:	N54839
Aircraft:	Piper PA-23-250	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot told ATC that he saw the runway (runway 26) during the first localizer approach, but the airplane was too fast to make the landing, so he missed the approach. The pilot was cleared for the second localizer approach to the destination airport at 0048. At approximately 0100, the airplane struck a 100-foot tall tree, and collided with terrain about 1 mile east of the airport. The airport elevation is 2559 feet, and the published minimum descent altitude for the airport was 3020 feet msl, with 1 mile visibility. The reported visibility at the destination airport was 1/4 mile in fog. The localizer approach was test flown by the FAA the day after the accident and it operated satisfactory.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's failure to maintain adequate altitude/clearance during the instrument approach (FAF/Outer Marker to Threshold IFR), which resulted in the in-flight collision with trees. A related factor was the foggy weather conditions.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings

1. (F) WEATHER CONDITION - FOG

2. (C) IFR PROCEDURE - NOT FOLLOWED - PILOT IN COMMAND
3. OBJECT - TREE(S)

Factual Information

HISTORY OF FLIGHT

On March 18, 1996, at 0100 eastern standard time (EST), a Piper PA-23-250, N54839, collided with trees while on a localizer approach to runway 26 at Mountain Empire Airport, in Marion, Virginia. The certificated commercial pilot, the sole occupant, was fatally injured. The airplane was destroyed. Instrument meteorological conditions prevailed and an instrument flight rules (IFR) flight plan was filed. The positioning flight was conducted under 14 CFR Part 91. The flight originated from Lonesome Pine Airport, Wise, Virginia, at about 0001 EST. The intended destination was Marion, Virginia.

According to one of the employees at Empire Aviation, the pilot reported for duty about 1000 EST on March 17, 1996. The pilot departed Marion about 2108 EST to pick up some passengers in Charlotte, North Carolina. He picked up the passengers in North Carolina, dropped them off in Wise, Virginia, then returned to the home base airport in Marion.

According to air traffic control (ATC) records, at 0022 EST, air traffic control (ATC) cleared the pilot for the localizer approach to runway 26. At 0041 EST, the pilot advised ATC that he was executing the missed approach. At 0042 EST, the pilot reported that he saw the runway, "...but could not get slowed down enough..." to make the landing.

According to the Atlanta Air Route Traffic Control Center (ARTCC) records, the pilot was cleared for a second localizer approach at 0048 EST. The pilot acknowledged. There is no record of any other radio transmissions from the pilot. Excerpts from ATC transcripts are appended.

A witness reported that she "...caught a glimpse of a light in the sky coming from the right side of the road down onto the interstate. Then I saw something hit the pavement and burst into flames... ." The aircraft impacted trees that were about 100 feet tall, located near the approach end of the runway, and collided with terrain coming to rest on a highway and was destroyed by fire.

The accident occurred during the hours of darkness at 36 degrees, 54 minutes north latitude and 81 degrees, 19 minutes, 1 second west longitude.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with single and multi-engine land ratings. He also held certificated flight instructor (CFI) and instrument airplane ratings. The last entry date in the CFI's logbook was December 5, 1995, at which time he had recorded approximately 1923

hours of flight time. In his log book, he had logged over 318 hours in the accident make and model airplane, more than 230 hours of actual instrument time, and 427 hours of night flight time. The last recorded actual instrument time and night time in the CFI's log book occurred October 31, 1995. According to FAA records, the pilot's most recent second class medical certificate was issued on February 28, 1996, and included the restriction that the pilot must wear corrective lenses.

AIRCRAFT INFORMATION

The Piper PA-23-250 airplane, serial number 27-7554140, was equipped with two Lycoming IO-540-C4B5 engines. According to the airplane logbook, the airplane had accumulated approximately 6030 hours of flight time. The left engine had about 451 hours since major overhaul and right engine had about 462 hours of flight time since major overhaul. The left engine had approximately 3425 hours of flight time since new, and the right engine had approximately 3199 hours of flight time since new. The most recent annual inspection was completed on December 14, 1995.

METEOROLOGICAL INFORMATION

At 0100 EST, Mountain Empire Airport, Marion, Virginia, located about 1 mile west of the accident site, issued the following observation:

Sky condition, partially obscured, measured ceiling, 200 feet overcast; visibility, 1/4 mile in fog; temperature, 43 degrees Fahrenheit (F); dew point, 41 degrees F; winds out of 040 degrees at 4 knots; and altimeter, 29.91 inches Hg.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted trees and collided with terrain, then came to rest on a highway during the second approach to the destination airport. Examination of the accident site revealed that the airplane was on a magnetic heading of 260 degrees, slightly left of the runway center line. Investigation revealed impact damage to a line of 100 foot tall trees, located 1.75 miles east of the runway. The airplane's right wing tip separated from the main wreckage, and was located left of the tree line. The aircraft impacted the ground inverted, slid down an embankment onto interstate I-81 and was destroyed by fire.

The left propeller assembly separated from the propeller mounting flange and was located on the embankment. One of the propeller blades on the left propeller assembly exhibited bending, and chordwise scratches. The main landing gear and the nosewheel were located in the down and locked position. The right flap separated and the left flap was destroyed by fire. The fuselage, left wing, right wing, ailerons and the flight instruments were damaged by post-impact fire. Details of the wreckage distribution are in the wreckage diagram, appended.

The airplane was moved to a hangar at Mountain Empire Airport, Marion, Virginia, where it was

examined on March 18, 1996, under the supervision of the NTSB. The flight control cables were connected to their respective bellcranks. Flight control continuity could not be established due to fire damage. The tail section remained intact, and had come to rest at the crash site, inverted. The rudder trim measured 5 1/2 threads, and there were no threads revealed for the elevator trim. According to Piper, this represents a neutral rudder position and a full nose down position for the elevator.

The engines were examined in the hangar at the Mountain Empire Airport on March 19 and March 20, 1996. Both left and right engines were subjected to impact and fire damage.

The left engine accessories and accessory housing were removed. The accessory gear area contained deposits of previously melted metal. Some of the previously melted metal deposits were removed and the engine rotated manually which resulted in the operation of the cylinder valves. Compression in all cylinders was confirmed, using the thumb method. The left and right magnetos were destroyed by post-impact fire. Engine continuity was confirmed throughout the engine including the propeller governor drive.

The top spark plugs from the right engine were removed. The engine was rotated manually which resulted in the operation of the cylinder valves, and compression in all cylinders was confirmed, using the thumb method. The left magneto sustained fire damage and would not rotate when turned manually. The right magneto was fire damaged but it rotated when turned manually and its spark-producing capability was confirmed. Engine continuity was confirmed throughout the engine including the accessory drive train.

Examination of the engines did not reveal any evidence of preimpact anomaly

MEDICAL AND PATHOLOGICAL INFORMATION

A Medical Examination was done by Dr. Oxley, Medical Examiner of the State of Virginia, in Roanoke, Virginia, on March 19, 1996. Toxicological examination was conducted by the FAA Civil Aeromedical Institute (CAMI), in Oklahoma City, Oklahoma, on July 19, 1996. The pilot's toxicological report indicated that 5.000 mg/dl of acetaldehyde was detected in the blood. All other toxicological results were negative for tested substances. According to medical personnel from CAMI, the positive results could be indicative of the pilot taking over-the-counter pain killer medication (tylenol).

ADDITIONAL INFORMATION

According to the Instrument Approach Procedure Charts, the published missed approach for the Localizer runway 26 approach is as follows:

"Climb to 4400 feet 259 degree bearing from MK NDB then climbing right turn to 6000 feet direct to MK NDB and hold." The elevation for Mountain Empire Airport is 2559 feet, minimum descent altitude was 3020 feet Mean Sea Level, and visibility 1 statute mile.

According to the FAA Instrument Flying Handbook, it states in Part:

"No person may operate an aircraft below the prescribed minimum descent altitude or continue an approach below the decision height unless-

- (a) The aircraft is in a position from which a normal approach can be made to the runway of intended landing; and
- (b) The approach threshold of the runway, or approach lights or other markings identifiable with the approach end of that runway, is clearly visible to the pilot.
- (c) If, upon arrival at the missed approach point, or at any time thereafter, any of the above requirements are not met, the pilot shall immediately execute the appropriate missed approach procedure."

A flight test of the localizer at Mountain Empire Airport (MKJ) was conducted on March 19, 1996, by the FAA. According to the FAA, the test was satisfactory. Details of the flight check are appended.

The aircraft wreckage was released to Jamie Mc Arthur, insurance representative for Crittenden Adjustment Company, on March 20, 1996.

Pilot Information

Certificate:	Commercial	Age:	31, 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:	February 28, 1996
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	1935 hours (Total, all aircraft), 318 hours (Total, this make and model), 1852 hours (Pilot In Command, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N54839
Model/Series:	PA-23-250 PA-23-250	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	27-7554140
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	December 14, 1995 Annual	Certified Max Gross Wt.:	5200 lbs
Time Since Last Inspection:	18 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	6049 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-540-C4B5
Registered Owner:	HARRIS ENTERPRISES, INC.	Rated Power:	310 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:	Dawn
Observation Facility, Elevation:	MKJ ,2559 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	01:00 Local	Direction from Accident Site:	260°
Lowest Cloud Condition:	200 ft AGL	Visibility	0.25 miles
Lowest Ceiling:	Overcast / 200 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	40°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	6°C / 5°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	WISE , VA (LNP)	Type of Flight Plan Filed:	IFR
Destination:	(MKJ)	Type of Clearance:	IFR
Departure Time:	00:01 Local	Type of Airspace:	Class C

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	Localizer only
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	1 Fatal	Latitude, Longitude:	36.829677,-81.510498(est)

Administrative Information

Investigator In Charge (IIC):	Drake-nurse, Beverley
Additional Participating Persons:	DAVID L BURGESS; CHARLESTON , WV JIM BROWN; WILLIAMSPORT , PA DAN MC ANALLY; VERO BEACH , FL
Original Publish Date:	March 31, 1998
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=28005

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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](#).