



National Transportation Safety Board Aviation Accident Factual Report

Location:	Hot Springs, AR	Accident Number:	FTW04FA172
Date & Time:	07/02/2004, 1043 CDT	Registration:	N4123R
Aircraft:	Piper PA-32-300	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

HISTORY OF FLIGHT

On July 2, 2004, at 1043 central daylight time, a Piper PA-32-300 single-engine airplane, N4123R, was substantially damaged after colliding with mountainous terrain while maneuvering near Indian Mountain, Hot Springs, Arkansas. The instrument rated private pilot/owner, the sole occupant of the airplane, was fatally injured. An instrument flight rules (IFR) flight plan was filed for the cross-country flight that originated at Lebanon-Springfield Airport (6I2), near Springfield, Kentucky, about 0700, destined for Hot Springs/Memorial Airport (HOT), near Hot Springs, Arkansas. Visual meteorological conditions prevailed for the personal flight conducted under 14 Code of Federal Regulations Part 91.

A witness was in her home located on Indian Mountain. She was talking on the telephone, when she heard the sound of an airplane "flying really low" near her home. The witness said the engine sounded normal and "it wasn't sputtering or anything like that...then the sound of the engine stopped very abruptly."

A review of air traffic control communications revealed that the pilot received radar vectors to intercept the localizer course for the ILS RWY 5 approach.

At 1007:39, the pilot contacted the Memphis Air Route Traffic Control Center and advised he was at an altitude of 5,000 feet mean sea level (msl). An approach controller acknowledged the transmission and instructed the pilot to fly a heading of 200 degrees. The pilot responded, "heading two zero zero."

At 1017:29, the controller instructed the pilot to fly a heading of 230 degrees, and the pilot acknowledged.

At 1020:37, the controller asked the pilot, "and four one two three romeo can you reduce your speed about fifteen knots or so", which the pilot responded, "roger."

At 1024:05, the controller requested the pilot's indicated airspeed, which the pilot advised, "three romeo is indicating a hundred and twenty five knots." The controller stated, "roger."

At 1032:18, the controller instructed the pilot to fly a heading of 290 degrees, and the pilot acknowledged.

At 1034:50, the controller instructed the pilot to descend and maintain 4,000 feet msl, and the pilot acknowledged.

At 1035:22, the controller stated, "four one two three romeo fly heading zero one zero and intercept the localizer." The pilot acknowledged by stating, "zero one zero intercept the localizer two three romeo." The controller responded, "and two three romeo, I'm gonna bring you in just a bit high if that's okay." The pilot responded, "two three romeo okay."

At 1035:53, the controller stated, "november four one two three romeo your position is eight miles southeast of Hossy, fly heading zero two zero, intercept the localizer, maintain three thousand till established." The pilot acknowledged the instructions and stated, "two three romeo, maintain three thousand, intercept the local, I'll let you know when I'm established."

At 1038:49, the controller handling the airplane was relieved by another controller. The controller conducted a position relief briefing with the relief controller and had a short discussion regarding the airplane's approach. The controller said to the relief controller, "he's probably gonna miss", which the relief controller responded by saying, "turn him on too early late." The controller replied, "I turned him on too late, probably gonna miss, yeah he's too high, he's missed it now he missed it he's too high."

At 1039:25, the pilot stated, "memphis center two three romeo is established." The relief controller instructed the pilot to, "change to advisory approved report your arrival time this frequency." The pilot acknowledged, and stated, "three romeo switching to advisory." The relief controller stated, "ah well just make sure you got this ah approach you are cleared for the ILS runway five approach and change to advisory approved report your arrival time this frequency." The pilot responded by saying, "two three romeo cleared for the ILS runway five I'll report to you when I am down." No further transmissions were received from the pilot.

Data downloaded from a hand-held global positioning system (GPS) found at the crash site revealed that the airplane departed Springfield about 0700 and proceeded westbound toward Hot Springs. A review of the last eight minutes of recorded data revealed the airplane approached Hot Springs Airport from the southwest, and was abeam HOSSY, the final approach fix, at 1038:08 at an altitude of 3,055 feet mean sea level (msl), and a groundspeed of 127 knots. The airplane made a series of left and right turns as it proceeded along the localizer course toward the airport.

Two minutes and 36 seconds later, the airplane was abeam the missed approach point at an altitude of 2,536 feet msl, and a ground speed of 114 knots. For the next two minutes and 30

seconds, the airplane continued to descend as it proceeded on a northeasterly heading away from the airport. A review of the last 11 seconds of recorded data revealed that the airplane began a left turn to the north before the data ended at 1043:30 at an altitude of 970 feet, and a ground speed of 111 knots. The last GPS coordinate was recorded at 34 degrees, 31 minutes north latitude, and 93 degrees, 01 minutes west longitude, approximately five miles northeast of the airport.

PILOT INFORMATION

The pilot held a private pilot certificate for airplane single-engine land and instrument airplane. His most recent Federal Aviation Administration (FAA) third class medical was issued on August 27, 2002. A review of the pilot's logbooks revealed he had accumulated a total of approximately 1,765 flight hours, of which 115 hours were in simulated instrument conditions and 58 hours were in actual instrument conditions. The pilot was current for instrument flight conditions and had completed a biennial flight review on October 18, 2002.

METEOROLOGICAL CONDITIONS

Hot Springs Airport was equipped with an automated surface observation system (ASOS).

At 1035, the weather was reported as wind from 220 degrees at 8 knots, visibility 8 statute miles, overcast clouds at 7,000 feet agl, broken clouds at 4,200 feet agl, and scattered clouds at 1,200 feet agl. The temperature was 79 degrees Fahrenheit and the dewpoint was 72 degrees Fahrenheit.

At 1053, the wind was from 220 degrees at 4 knots, visibility 7 statute miles, overcast clouds at 2,100 feet agl, broken clouds at 1,300 feet agl, and scattered clouds at 800 feet agl. The temperature was 76 degrees Fahrenheit, and the dewpoint 73 degrees Fahrenheit. The barometric pressure setting was 30.03 inches Mercury, with remarks of lightning northeast of the airport, and that rain began at 1016 and ended at 1020.

A review of weather radar information indicated a line of rain showers northwest of the airport along with scattered areas of precipitation around the area of the Hot Springs Airport at the time of the accident.

AIRPORT INFORMATION

Hot Springs/Memorial Airport was a non-towered airport with an elevation of 540 feet msl. Runway 5 is a 6,595-foot-long and 150-foot-wide asphalt runway, with no displaced threshold. The runway is equipped with high intensity runway edge lights, and a 1,400-foot medium intensity approach lighting system, with runway alignment indicator lights. The pilot also had the capability of turning on the runway lights via the push-to-talk mechanism on the airplane's radio. The airport elevation is 540 feet msl.

A review of the published approach procedure revealed the inbound course for the ILS RWY 5 approach was 050 degrees magnetic, and the missed approach point was 715 feet msl. The crossing altitude at HOSSY, the final approach fix, was 2,300 feet msl. The distance between HOSSY and the missed approach point, which was located a half nautical mile from the end of the runway, was 5.1 nautical miles. The published missed approach procedures were to climb to 1,100 feet msl, then make a climbing right hand turn to 3,000 feet msl via the Hot Springs VOR 123 degree radial to SOCKS intersection and hold.

The FAA performed a flight inspection of the final segment and missed approach procedure for the ILS RWY 5 instrument approach, and found the equipment operation was satisfactory.

WRECKAGE INFORMATION

The airplane wreckage was examined at the accident site on July 3, 2004. All major components of the airplane were accounted for at the scene. The airplane impacted heavily wooded terrain, on an upslope of approximately 60 degrees, and came to rest at an elevation of approximately 950 feet msl. The wreckage came to rest on the south side of Indian Mountain, located inside Hot Springs National Park. The top of the summit was approximately 1,000 feet msl. The wreckage path was oriented on a magnetic heading of 357 degrees, and was approximately 50-feet long.

The point of initial impact appeared to be along a line of several trees, that ran perpendicular to the wreckage path. The trunks of the trees were severed at different heights consistent with the airplane being in a left bank at the time of impact. Impact marks on trees and branches became progressively lower and narrower along the wreckage path.

The main wreckage, which consisted of the engine, fuselage, right wing, and tail control surfaces, came to rest on its left side. The left wing had separated and was found lodged in a tree near the initial impact point. Examination of the wing revealed a large circular-shaped impact mark near the fuel tank, and the wing spar was bent approximately 60 degrees. The main fuel tank was breached, and the tip tank was separated from the wing and found adjacent to the fuselage with the fuel cap secure. The flap and aileron remained attached to the wing and exhibited impact damage. The right wing remained partially attached to the fuselage, and a large circular-shaped impact mark was noted near the wing root. The fuel cap was secure. The flap and aileron remained attached to the wing and exhibited impact damage. The tail control surfaces also exhibited impact damage.

Control cable continuity was established for all flight control surfaces to the cockpit except for the left wing aileron cables, which were found separated at the wing root and exhibited "broom straw" fractures. The flap handle was found in the second notch or 25 degree extended position.

The face of the altimeter was separated from its housing, and the setting in the Kollsman window was 30.04 inches of Mercury.

Examination of the engine revealed impact damage to the #2 cylinder. The engine was rotated and valve train continuity and compression were established for each cylinder, except the #2 cylinder. The magnetos were removed and rotated via a pneumatic drill. Spark was produced on all towers. The top and bottom spark plugs were removed and appeared to be oil soaked.

The two-bladed constant-speed propeller remained attached to the engine and sustained impact damage. One blade was bent aft about 45 degrees, near mid-span. It also exhibited some S-bending and heavy chordwise scratching. The other blade was loose in the hub and was bent forward about 65 degrees. The blade exhibited S-bending, leading edge nicks and gouges.

The fuel servo was found intact and disassembled. The screen was absent of debris and a small amount of fuel was noted in the chamber.

The vacuum pump was removed and disassembled. The coupling was intact and the pump rotated freely by hand. The rotor and vanes were also intact.

Examination of the pitot-static system revealed the pitot tube and plumbing connections were secure. The pitot line was broken in several locations, but the line from the pitot tube and the instrument panel was absent of any blockages. In addition, the pitot and static connections between the airspeed, altimeter, and vertical speed indicator were found secured with no apparent pre-existing anomalies.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on July 6, 2004, by the Arkansas State Crime Laboratory, Little Rock, Arkansas.

Toxicological testing was conducted by the FAA's Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma.

ADDITIONAL INFORMATION

Air traffic control services were provided to the pilot by the Memphis Air Route Traffic Control Center Fayetteville Low Radar controller positions. Two controllers handled the airplane's approach into Hot Springs Airport. A review of FAA air traffic control procedures revealed that FAA Order 7110.65, "Air Traffic Control" paragraph 5-9-2, Final Approach Course Interception stated:

a. Assign headings that will permit final approach course interception on a track that does not exceed the interception angles specified in Table 5-9-1. Approach Course Interception Angle is the distance from interception point to approach gate. Maximum interception angle Less than 2 miles or Triple Simultaneous ILS/MLS Approaches in use, 20 degrees; 2 miles or more 30 degrees (45 degrees for helicopters)

b. If deviations from the final approach course are observed after initial course interception, apply the following:

1. Outside the approach gate: Apply procedures in accordance with subparagraph a, if necessary, vector the aircraft for another approach.

2. Inside the approach gate: Inform the pilot of the aircraft's position and ask intentions...The intent is to provide for a track course intercept angle judged by the controller to be no greater than specified by this procedure.

c. EN ROUTE. When using a radarscope range above 125 NM, the controller shall solicit and receive a pilot report that the aircraft is established on the final approach course. If the pilot has not reported established by the final approach gate, inform the pilot of his/her observed position and ask intentions."

Review of air traffic communications and radar data (not GPS data) revealed at 1035:53, when the airplane was approximately 5.5 miles southwest of HOSSY intersection an approach controller instructed the pilot to, "fly heading 020 degrees intercept the localizer and maintain 3,000 feet until established." The pilot acknowledged the transmission and the airplane began a right turn towards the airport. Over the next two minutes, the airplane tracked a 020-degree heading but remained south of the final approach course. At 1038:10, the airplane was just southeast of HOSSY at an altitude of 3,000 feet msl. At this point, the airplane was 700 feet above the published approach altitude, which was 2,300 feet msl, and the pilot had not reported established on the final approach course. This would be considered an abnormal approach by air traffic control and the approach controller did not advise the pilot of his position or inquire about his intentions.

At 1038:49, the approach controller conducted a position relief briefing and discussed the airplane's approach with the relief controller. The controller stated to the relief controller, "he's probably gonna miss", and the relief controller responded by saying, "turn him on too early late." The controller replied, "I turned him on too late, probably gonna miss, yeah he's too high, he's missed it now."

At 1039:25, the pilot reported established on the final approach course. The airplane was 2.5 miles past HOSSY and three miles from the runway at an altitude of 3,000 feet msl. The relief controller responded, "roger change to advisory approved report your arrival time this frequency." The pilot replied, "three romeo switching to advisory." The controller then replied, "well just make sure you got this approach you are cleared for the i l s runway five approach and change to advisory approved report your arrival time this frequency." The pilot responded and said, "two three romeo cleared for the i l s runway five I'll report to you when I

am down." This would be considered an abnormal approach by air traffic control and the approach controller did not advise the pilot of his position or inquire about his intentions.

Both approach controllers were aware of the airplane's abnormal approach and did not provide known information that may have assisted the pilot in determining whether to continue with the approach or take alternate action.

Pilot Information

Certificate:	Private	Age:	54, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	08/27/2002
Occupational Pilot:		Last Flight Review or Equivalent:	10/18/2002
Flight Time:	1765 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N4123R
Model/Series:	PA-32-300	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32-40441
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	01/02/2004, Annual	Certified Max Gross Wt.:	3400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4339 Hours as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, aided in locating accident	Engine Model/Series:	IO-540
Registered Owner:	Larry D. Sanders	Rated Power:	250 hp
Operator:	Larry D. Sanders	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	HOT, 540 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1043 CST	Direction from Accident Site:	45°
Lowest Cloud Condition:	Scattered / 800 ft agl	Visibility	7 Miles
Lowest Ceiling:	Broken / 1300 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.03 inches Hg	Temperature/Dew Point:	25° C / 23° C
Precipitation and Obscuration:			
Departure Point:	Springfield, KY (6I2)	Type of Flight Plan Filed:	IFR
Destination:	Hot Springs, AR (HOT)	Type of Clearance:	IFR
Departure Time:	0700 CDT	Type of Airspace:	Class E

Airport Information

Airport:	Hot Springs/Memorial Field (HOT)	Runway Surface Type:	Asphalt
Airport Elevation:	540 ft	Runway Surface Condition:	Wet
Runway Used:	5	IFR Approach:	ILS
Runway Length/Width:	6595 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	34.526667, -93.024722

Administrative Information

Investigator In Charge (IIC):	Leah D Yeager
Additional Participating Persons:	Dave Williamson; FAA FSDO, SW11; Little Rock, AR Michael McLure; The New Piper Aircraft Company; Prosper, TX
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .