



National Transportation Safety Board Aviation Accident Final Report

Location:	SMACKOVER, AR	Accident Number:	FTW99FA060
Date & Time:	01/02/1999, 0650 CST	Registration:	N7676C
Aircraft:	Piper PA-32-300R	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The instrument-rated private pilot lost control of the airplane while maneuvering in night instrument meteorological conditions. The pilot originally requested a lower altitude in an attempt to make a VFR approach to El Dorado's Downtown Airport (F43). The pilot was unsuccessful so he requested an ILS approach to South Arkansas Regional Airport (ELD). The controller informed the pilot that he had lost radar contact with the airplane and asked the pilot if he could navigate to the outer marker for the approach. The pilot answered in the affirmative and was cleared for the approach. Radar contact with the airplane was lost for about 27 minutes. During this time, witnesses reported hearing an airplane flying very low numerous times over their homes. Subsequently, the controller re-identified the airplane on radar south of F43 climbing through 2,000 feet msl and turning towards the north. Attempts to reestablish radio contact with the pilot were unsuccessful. The last radar returns received indicated the airplane was in a right hand turn at 3,000 feet msl. Examination of the airplane revealed no evidence of any pre-impact mechanical discrepancies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's spatial disorientation resulting in a loss of control of the airplane and the ensuing stall/spin. Factors were the low ceilings and the night condition.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings

1. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
2. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
3. STALL/SPIN - ENCOUNTERED - PILOT IN COMMAND
4. (F) WEATHER CONDITION - LOW CEILING
5. (F) LIGHT CONDITION - NIGHT

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings

6. OBJECT - TREE(S)

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On January 2, 1999, approximately 0650 central standard time, a Piper PA-32-300R airplane, N7676C, was destroyed when it impacted trees and terrain following a loss of control while maneuvering near Smackover, Arkansas. The instrument-rated private pilot, who was the owner of the aircraft and sole occupant, sustained fatal injuries. Night instrument meteorological conditions prevailed for the Title 14 CFR Part 91 personal flight for which an IFR flight plan was filed. The flight originated from the Arkadelphia Municipal Airport, Arkadelphia, Arkansas, at approximately 0600 and was destined for El Dorado's Downtown Airport (F43), Arkansas.

According to air traffic control (ATC) personnel, the pilot requested a lower altitude in an attempt to make a visual approach to the Downtown Airport (F43) near El Dorado, Arkansas, but was unsuccessful. The pilot then requested, and was cleared for, the instrument landing system (ILS) approach to runway 22 at the South Arkansas Regional Airport (ELD) near El Dorado, Arkansas. The pilot was informed by ATC that radar contact was lost at 0612:32. ATC asked the pilot if he could navigate to the outer marker for the ILS 22 approach at ELD. The pilot responded in the affirmative. The pilot was then cleared for the ILS approach for runway 22.

After the pilot reported he was established on the ILS, the controller advised the pilot to switch to the advisory frequency for ELD and instructed the pilot to return to his frequency during the missed approach or to cancel the IFR flight plan. The pilot acknowledged the instructions and that was the last communication recorded with the pilot.

During telephone interviews conducted by the NTSB investigator-in-charge (IIC), witnesses, who were located about 2 miles west of F43 and 6 miles east southeast of ELD, reported hearing an airplane fly over their houses "numerous times at a very low altitude" around 0630. Many witnesses stated that the airplane woke them from their sleep. A pilot-rated witness stated that he thought the plane was going to "fly through his house" so he woke his wife. They heard the airplane pass several times while "climbing and descending" and thought "the pilot was in trouble."

According to radar data, ATC did not have radar contact with the flight for about 27 minutes. At 0639:18, radar returns were picked up from N7676C south of the Downtown Airport. The airplane then made a climbing right turn to the north while ATC tried to make contact with the pilot. Radar data indicates that the airplane made a gradual left turn to the west once over the town of El Dorado at about 3,200 feet. The airplane then made a gradual right turn towards the north. The last radar return was at 0648:06 and indicated that the aircraft was still in a right turn at an altitude of 3,000 feet. (See the enclosed radar plot for more information on radar data.)

When the IFR flight plan was not closed, a search for the airplane was initiated. The airplane was located two days after the accident on January 4, 1999, approximately 1130, in a heavily wooded area, six nautical miles northeast of the South Arkansas Regional Airport, and ten nautical miles northwest of the Downtown Airport.

PERSONNEL INFORMATION

According to FAA medical records, the pilot was issued a third class medical certificate on January 24, 1997. The last pilot logbook entry was dated April 19, 1998. According to the pilot logbook, the most recent biennial flight review occurred on April 16, 1988. Additionally, there was no record of an instrument competency check, nor any record of instrument flight rules currency. According to the airplane insurance application and a few of the pilot logbooks, the pilot had accumulated a total of approximately 3,800 flight hours, of which an unknown amount of hours were in the same make and model as the accident airplane. No other pilot records were located during the course of the investigation.

AIRCRAFT INFORMATION

The maintenance logbooks, except the propeller logbook, for N7676C were not located. According to the certified mechanic who worked on the aircraft, an annual inspection was completed on the airplane on September 22, 1998. The mechanic stated that the aircraft engine had approximately 60 hours since the last overhaul. The propeller logbook indicated that the Hartzell HL-C2YK-1BF propeller was overhauled on June 23, 1998. The airplane was equipped with an IFR approved King KLN 89-B GPS on September 30, 1998.

A record of a Supplemental Type Certificate for the installation of a Precise Flight, Inc., standby vacuum system was located in the airplane wreckage. The system was installed and approved for flight on July 14, 1986.

METEOROLOGICAL INFORMATION

At 0650, the weather at South Arkansas Regional Airport was reported as wind from 310 degrees at 14 knots gusting to 21 knots, visibility of 7 statute miles, an overcast ceiling of 400 feet agl, temperature 48 degrees Fahrenheit, dewpoint 48 degrees Fahrenheit, and an altimeter setting of 29.71 inches of Mercury.

According to the U.S. Naval Observatory, the time of sunrise was 0715.

The witnesses who heard an aircraft around the time of the accident stated that dark night conditions prevailed and thunderstorms had just moved through the area prior to their hearing the airplane.

AIDS TO NAVIGATION

A commuter airplane flew the ILS runway 22 approach into South Arkansas Regional Airport the day of the accident. No navigation anomalies were reported.

WRECKAGE IMPACT INFORMATION

The airplane wreckage encompassed a linear area 336 feet in length with the centerline of the energy path oriented on a measured magnetic heading of 030 degrees. The main wreckage, which consisted of the fuselage, empennage, vertical stabilizer, and the right horizontal stabilator, came to rest inverted adjacent to a pine tree on a measured magnetic heading of 080 degrees.

Sections of the left horizontal stabilator were found approximately 196 feet southwest of the main wreckage area. A 17-inch section of the left horizontal stabilator had a 6-inch semicircular indentation on the leading edge.

Both wings were found separated from the aircraft. The left inboard wing section was found inverted next to the main wreckage area. The inboard section of the right wing was found

inverted 80 feet north of the main wreckage with a 9-inch semicircular indentation on the top half of the leading edge, near the wing root.

A 60 foot pine tree, located fifty feet southwest of the main wreckage, was missing the top section. A four foot section of a 9-inch diameter pine tree was found approximately 140 feet northeast of the main wreckage area with white paint chips embedded in the bark.

The airplane's engine, its accessories, and the propeller were found buried four feet in the ground and could not be examined in the field.

Flight control continuity was confirmed from the rudder pedals to the rudder. The elevator and aileron continuity was compromised due to the extent of the damage; however, all the primary flight control surfaces were accounted for at the accident site.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy on the pilot was performed by the Arkansas State Crime Laboratory located in Little Rock, Arkansas. Toxicology results were negative for drugs and alcohol, although 0.397 and 0.954 ug/ml, ug/g of phentermine (an anorexiant taken for weight loss), was detected in the blood and liver fluid respectively.

TESTS AND RESEARCH

The engine was examined on February 18, 1999, at Air Salvage of Dallas, in Lancaster, Texas, in the presence of the NTSB IIC and representatives of both the engine and airframe manufacturers. The engine was removed from the airframe for the examination. The propeller was attached to the engine with both propeller blades bent back and displaying chordwise scrapes and leading edge gouges. A 4.5 inch section of one blade tip was missing.

The engine crankshaft was rotated, and crankshaft continuity was confirmed to the accessory section. All six pistons moved while the crankshaft was rotated. There was thumb compression on all cylinders except the number 2 and 5 cylinders. There was valve action on each of the valves except the number one intake and exhaust valves and the number two intake valve. The push rods were detached on these valves.

The dual magneto was in place and attached but destroyed by impact damage. The vacuum pump was not attached. The vacuum pump's flexible drive shaft and rotor were found fractured. The vacuum pump vanes were found intact.

ADDITIONAL DATA

The aircraft was released to the owner's representative on March 17, 1999.

Pilot Information

Certificate:	Private	Age:	69, Male
Airplane Rating(s):	Multi-engine Land; Single-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 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	07/24/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	3800 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N7676C
Model/Series:	PA-32-300R PA-32-300R	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32R-7680057
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	09/22/1998, Annual	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-540-K1A5D
Registered Owner:	GRIFFITH H. FERRELL JR.	Rated Power:	
Operator:	GRIFFITH H. FERRELL JR.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	ELD, 277 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	0650 CST	Direction from Accident Site:	40°
Lowest Cloud Condition:	Thin Overcast / 400 ft agl	Visibility	7 Miles
Lowest Ceiling:	Overcast / 400 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	14 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	9° C / 9° C
Precipitation and Obscuration:			
Departure Point:	ARKADELPHIA, AR (M89)	Type of Flight Plan Filed:	IFR
Destination:	EL DORADO, AR (F43)	Type of Clearance:	IFR
Departure Time:	0600 CST	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	NICOLE LUPINO	Report Date:	05/12/2000
Additional Participating Persons:	WILBURN KEITH; LITTLE ROCK, AR		
Publish Date:			
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).