



Aviation Investigation Final Report

Location:	VICKSBURG, Mississippi	Accident Number:	ATL99FA081
Date & Time:	May 7, 1999, 22:30 Local	Registration:	N5900P
Aircraft:	Piper PA-24-180	Aircraft Damage:	Substantial
Defining Event:		Injuries:	4 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

At 2215, the pilot and his three passengers arrive at the airport and board the airplane. A witness stated that he waved at the airplane as it took off. According to the police report, a few minutes after takeoff, the witness at the airport received a telephone call that reported a downed airplane near Warrenton Lane. Reportedly, this information was not relayed to the local emergency services. The following morning friends of the pilot and passengers began inquiring at the about the location of their friends. Airport personnel contacted the local police and the airplane was found about 1.1 miles off the departure end of runway 01, in a heavily wooded area. Examination of the wreckage found that the airplane had impacted the ground in a 55-degree nose down attitude after striking a tree with the left wing. The airplane came to rest upright on a heading of 090 degrees. No mechanical problems were discovered during the examination of the wreckage.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to obtain and maintain flying speed that resulted in an inadvertent stall, and the collision with trees. A factor is the dark night.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (C) AIRSPEED - NOT OBTAINED/MAINTAINED - PILOT IN COMMAND
3. QUALIFICATION - PILOT IN COMMAND
4. (C) STALL - INADVERTENT - PILOT IN COMMAND

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

Findings

5. OBJECT - TREE(S)

Factual Information

HISTORY OF FLIGHT

On May 7, 1999, about 2230 central daylight time, a Piper PA-24-180, N5900P, collided with trees shortly after takeoff at the Vicksburg Municipal Airport, in Vicksburg, Mississippi. The airplane was operated by the pilot under the provisions of Title 14 CFR Part 91, and visual flight rules. Night visual meteorological conditions prevailed and no flight plan was filed for the flight. The private pilot and three passengers received fatal injuries and the airplane sustained substantial damage. The flight was originating from Vicksburg, Mississippi, at 2215 and was proceeding to Bastrop, Louisiana.

At 2215, a witness at Vicksburg Airport recalled seeing the pilot and his three passengers arrive at the airport and board the airplane. The witness stated that he waved at the airplane as it took off. According to the police report, a few minutes after takeoff, the witness at the airport received a telephone call that reported a downed airplane near Warrenton Lane. Reportedly, this information was not relayed to the local emergency services.

About 0715, on May 8, 1999, friends of the pilot and passengers began inquiring at the Vicksburg Municipal Airport about the location of their friends. Airport personnel contacted the local police and at 1230 CDT the airplane was found about 1.1 miles off the departure end of runway 01, in a small but heavily wooded area. Examination of the wreckage found that the airplane had impacted the ground in a nose down attitude after striking a tree with the left wing. The airplane came to rest upright on a heading of 090 degrees. There was no post-crash fire.

The private pilot/owner purchased the aircraft on May 3, 1999, and had logged 4.2 hours of flight time in the PA-24-180 model aircraft. The pilot and his three passengers reportedly flew from Bastrop, Louisiana, to Vicksburg, Mississippi, a trip of about 58 nautical miles, to spend an evening at a casino in the Vicksburg area. The aircraft had reportedly been fully fueled with 100LL at Bastrop prior to departure. The four occupants departed Vicksburg to return to Bastrop in night VFR conditions at approximately 2230 CDT. No flight plan was filed and no weather briefing was requested for the return cross country flight. The Vicksburg Municipal Airport was an uncontrolled field with no Unicom operator on duty at night. No radio transmissions from the aircraft were recorded or reported. The accident site was found at approximately noon on May 8, 1999, as officials responded to an ELT signal.

PERSONNEL INFORMATION

The Piper PA-24 pilot held a private pilot certificate with airplane single engine land rating. His total flying time was 70.5 hours, with approximately 3.9 hours of night time and 4.2 hours in

the Piper PA-24-180. Examination of the pilots logbook found no endorsement for a complex airplane. According to FAA records the pilot received his private pilot certificate on March 26, 1999. The 26 year old pilot held a current second class medical certificate with no limitations issued on March 31, 1999.

The 55 year old pilot-rated passenger seated in the right front seat held a commercial pilot certificate and both single and multi-engine instrument instructor certificates (CFII). The CFII's most recent second class medical certificate was issued on October 6, 1997, with a restriction: "Valid for 6 months following the month examined. Must wear corrective lenses for near and distant vision." Additionally, the pilot reported his total civilian hours as 25,000. Examination of the flight controls revealed that both horns of both pilot control yokes were broken. No pilot logbooks were recovered for the CFII.

AIRCRAFT INFORMATION

The Piper PA-24, N5900P, was manufactured in 1959, and was owned and operated by the pilot. It was a low wing, single engine airplane, powered by a Lycoming O-360-A1A, 180 horse power engine. According to the aircraft logbooks, the aircraft received an annual inspection on September 2, 1972, at a tachometer time of 1118 hours. The next annual inspection did not occur until May 1, 1998, with a reported tachometer time of 1128.0 hours. The last and most recent annual inspection occurred on May 1, 1999. According to the aircraft logbooks, the airplane had been maintained in accordance with applicable Federal regulations. However, there were no records found to indicate what happened to the aircraft between September 2, 1972 and May 1, 1998.

METEOROLOGICAL INFORMATION

Night visual meteorological conditions prevailed at the time of the accident. The official weather observed at the Vicksburg/Tallulah Regional Airport (TVR), located about 8 miles northwest of the Vicksburg airport at 2253 was the following: Winds calm, Visibility 10 statute miles, Temperature 59degrees , Dew point 52 degrees, and Altimeter 29.94 inches.

WRECKAGE AND IMPACT INFORMATION

There was a fresh ground impact crater 22 feet from the base of the tree along the wreckage path. There was also freshly broken tree branches about 25 feet above the ground. hit by the aircraft. Airplane wreckage debris was scattered on a 246 degree magnetic heading. The main wreckage rested in an upright position on a 090 degrees heading. The propeller assembly and the outboard end of the left wing separated from the airframe. The airframe was examined at the accident site on May 9, 1999 and again during a post-salvage examination on May 10, 1999.

Examination of the airframe disclosed that the left wing struck a tree during the impact sequence, separating the outboard 69.5 inches of the wing. Impact forces separated the

forward wing mount in an aft direction. The inboard portion of the wing and left aileron remained attached to the main cabin. The left wing displayed compression damage along the leading edge of the entire span. The separated portion of the left wing was located about 13 feet from the base of the tree involved in the accident. The left aileron remained attached to the inboard portion of the wing at the inboard hinge. The left aileron balance weight remained intact and attached to the aileron. The left aileron control rod end was broken at the control surface end, but remained attached to the bellcrank. Flight control cable continuity from the aileron to the pilot control column was established. The left flap was found in the retracted position. The left main fuel tank displayed hydraulic metal deformation consistent with the presence of fuel in the tank at the time of impact. The tank was breached and did not contain fuel during the examination. The left main landing gear was found in a retracted position.

Examination of the airframe also disclosed that the right wing remained attached to the main cabin and displayed severe compression at the root and tip leading edge locations. The main spar and both the forward and aft wing attachments remained in place and intact. The right aileron remained attached to the wing at the hinges and was buckled along the full length. The right aileron balance weight remained intact and attached to the aileron. Flight control cable continuity was established from the right aileron to the pilot control column. The right flap was found in the retracted position. The right main fuel tank was found breached and did not contain fuel during the examination, however fuel was reportedly leaking from this tank during the initial response to the accident by local officials. The right main landing gear was found in the retracted position.

The aft fuselage was found torn open and bent to the right approximately 45 degrees. The fuselage displayed tension tearing on the left side and compression buckling on the right. The fuselage was torn open aft of the rear seating locations. The empennage displayed some minor buckling on the right side of the stabilator. The vertical stabilizer and rudder revealed no notable damage. Continuity of the rudder and stabilator flight control cables was established to the pilot flight control column. The stabilator trim actuator was found in a neutral trim position. The emergency locator transmitter functioned and was instrumental in locating the accident site.

The instrument panel and flight controls were found deformed and broken by impact forces. The landing gear switch was found in the landing gear extended position. This switch was found bent downward approximately 90 degrees. The left and right main landing gear and the nose gear were found retracted. The flap selector handle was found in the second notch extended position. The flap selector handle was found bent forward at about mid-span. The fuel selector valve was found with the two pointers oriented to left tank and off. The valve was removed for examination. During the removal a few drops of fuel were noted at the left fuel tank supply line. This line was also found fractured near the fuel selector valve fitting. No evidence of fuel staining or spillage was noted in the area near this fracture. It was found that air could not be passed from the left or right fuel tank to the engine supply fitting (fuel selector off) with the pointers in this position.

engine sustained impact damage. The propeller governor was broken off at the mounting flange. The speed lever was broken off and the control cable was attached to the speed lever. The magnetos were in place and attached. The magneto to the engine timing was marked with white paint and the magnetos were removed. The impulse coupling on the left magneto functioned. Both magnetos produced spark at all four posts when the shafts were rotated by hand. The ignition harness was destroyed. The spark plugs were removed and had deposits consistent with normal operation. The number 1 and number 3, lower spark plugs were wet with oil. The carburetor was broken off at the mounting flange, the bowl was fractured exposing the composite floats, and the carburetor was destroyed. The throttle cable was attached. The mixture control cable was broken off of the control arm. The fuel pump was in place and attached. The 'T' fitting was broken out of the boss on the discharge side of the fuel pump. The fuel pump was removed and the pump produced a flow of liquid when operated by hand. The starter was in place and attached and the starter drive housing was broken off. The generator was in place and attached but not examined. The vacuum pump was in place and attached. The vacuum pump was removed and the drive shaft was intact and could be rotated by hand. The rocker box covers were removed. The crankshaft was rotated using the vacuum pump drive. There was valve action, accessory section gears train action, and the field compression check of all four cylinder was normal.

The wreckage was removed from the crash site on Monday May 10, 1999 to a hangar at the Vicksburg Municipal Airport where the engine was partially disassembled in order to remove the crankshaft. The thru bolt nuts were cut off - the oil sump was removed - the accessory housing was removed - the crankcase was partially split - the through bolts were then cut - the connecting rods were removed - the crankshaft was removed. The oil pump was free. Several tappet bodies were severely spalled. Several camshaft lobes were severely worn, showed signs of distress, and had surface irregularities.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy on the pilot was not performed. The toxicology examinations were negative for alcohol and drugs.

ADDITIONAL INFORMATION

The wreckage was released to Mr. Robert Norris, Insurance Adjuster, Universal Loss Management Dallas, Texas.

Pilot Information

Certificate:	Private	Age:	25, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	March 31, 1999
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	71 hours (Total, all aircraft), 4 hours (Total, this make and model), 31 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N5900P
Model/Series:	PA-24-180 PA-24-180	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-985
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 1, 1999 Annual	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:	12 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1744 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, aided in locating accident	Engine Model/Series:	O-360-A1A
Registered Owner:	MATTHEW C. STRICKLAND	Rated Power:	180 Horsepower
Operator:		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:	TVR ,86 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	22:53 Local	Direction from Accident Site:	320°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	15°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	, MS (VKS)	Type of Flight Plan Filed:	None
Destination:	BASTROP , LA (2F8)	Type of Clearance:	None
Departure Time:	22:30 Local	Type of Airspace:	Class E

Airport Information

Airport:	VICKSBURG MUNICIPAL VKS	Runway Surface Type:	Asphalt
Airport Elevation:	106 ft msl	Runway Surface Condition:	Dry
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	5000 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	2 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Fatal	Latitude, Longitude:	32.320629,-90.869682(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Butch
Additional Participating Persons:	DONNA Z EVANS; JACKSON , MS
Original Publish Date:	November 30, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=46276

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