



National Transportation Safety Board Aviation Accident Final Report

Location:	OAK CREEK, WI	Accident Number:	CHI95FA255
Date & Time:	08/01/1995, 1040 CDT	Registration:	N6922S
Aircraft:	BEECH T-34C	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot had been flying about 3 hours and 45 minutes when he acquired an IFR clearance. A short time later he told the controller his engine flamed out. Shortly after this radio call the airplane descended below radar coverage. Witnesses saw the airplane flying about 200 to 300 feet above the ground. They said the wings were banking left and right. They said the airplane made a rapid bank to the right and descended vertically into the ground. The investigation revealed no fuel in the airplane's fuel tanks and no fuel odor around the accident site. The electric stall warning system was tested at the manufacturer and performed to manufacturers' specification. The electrical systems Command Indicator Lights bulbs in both cockpits had stretched filaments. The amount of dual instruction in the accident airplane could not be determined from the pilot's flight time records.

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 an adequate fuel supply, and his failure to maintain airspeed.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings

1. (C) FLUID,FUEL - EXHAUSTION
 2. (C) FUEL SUPPLY - INADEQUATE - PILOT IN COMMAND
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Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
 4. STALL - INADVERTENT - PILOT IN COMMAND
-

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On August 1, 1995, at 1040 central daylight time (cdt), a Beech T-34C-1, N6922S, registered to Shelton Enterprises of Norcross, Georgia, and piloted by a private pilot, was destroyed during a collision with the ground while maneuvering for a forced landing following a total loss of power. Instrument meteorological conditions prevailed at the time of the accident. The personal 14 CFR Part 91 flight was operating on an instrument flight plan. The pilot and passenger were fatally injured. The flight departed Atlanta, Georgia, at 0756 eastern daylight time (edt).

At 1016 cdt the pilot called the Federal Aviation Administration's (FAA) Milwaukee, Wisconsin, General Mitchell International Airport's (Mitchell) approach controller. He advised the controller N6922S was flying at 12,500 feet above mean sea level (msl) and 16 miles north of the Timmerman VOR. The controller issued an IFR clearance into the Lawrence J. Timmerman Airport, Milwaukee, Wisconsin (Timmerman), about 3 minutes later.

The pilot was advised that Timmerman had a ceiling of 300 feet above ground level (agl) and a visibility of 1 1/2 miles with fog. The pilot told the controller the weather was below the instrument approach minimums. He asked if he could go to Mitchell airport. The controller granted the pilot's request, assigning him a westerly heading at 10,000 feet msl.

At 1028 cdt the controller cleared N6922S to a lower altitude. About nine minutes later the pilot said, "And, ah, approach we need to ah get on the ground immediately for ah 6922 Sierra." The controller asked the pilot if he were declaring an emergency. The pilot said that he was declaring an emergency because, "... we had a flame out for a moment but we seem to have gotten the power back now."

After telling the controller the engine was running again, the pilot was told to maintain 2,600 feet msl. Shortly after acknowledging the controller's instructions the pilot told the controller, "We've still got [an] erratic engine." At 1041 cdt the controller said, "Beech 22 Sierra radar contact lost." There were no other radio transmissions between the controller and the pilot of N6922S.

Two witnesses observed N6922S below the clouds. Both witnesses said the airplane was flying level before it made a "hard" right bank and turned upside down. They said the airplane descended vertically into the ground. One witness said N6922S was flying about 200 feet agl. He said its wing's were banking left and right before it banked hard right and descended to the ground.

PERSONNEL INFORMATION

The pilot of N6922S obtained his single-engine land private pilot's license on September 2, 1974. The pilot's flight records were kept in a computer record system. The pilot's wife forwarded the computerized records for January 1, 1992, through July 18, 1995, to the IIC. These records show he had flown the T-34C 105.8 hours during this period. The amount of dual instruction in the T-34C could not be determined from these records. According to the records, he had flown a total of 259.9 hours during the previously stated period. A copy of these records are appended to this report.

The pilot rated passenger received his single-engine land private pilot certificate on September

1, 1983. He obtained his airline transport pilot certificate and Learjet 25 type rating on September 6, 1993. On November 10, 1994, the pilot passed his 14 CFR Part 135 IFR checkride in the Learjet, according to FAA Form 8410-3. According to his logbooks, he had a total time of 2,552.2 hours, none of which were in the T-34 series of airplanes.

AIRCRAFT INFORMATION

N6922S received its Standard Airworthiness Certificate on November 6, 1990. The airplane's last annual inspection was on July 16, 1993, according to maintenance records provided by the pilot's family. A representative from the aircraft maintenance facility that did maintenance work on N6922S stated the airplane was on a progressive inspection program. He said its last inspection program event was on September 9, 1994. At that time the airplane had 664.4 hours on its airframe. A January 26, 1995, engine logbook entry showed N6922S's engine had a total time of 674.2 hours.

WRECKAGE AND IMPACT INFORMATION

N6922S's wreckage was located about 1.5 miles south of Ryan Road and about 500 feet west of Interstate Highway 94 in Oak Creek, Wisconsin. Its heading was 020 degrees magnetic and a ground scar, about 60 feet long, originated from the center of the wreckage on a magnetic heading of 330 degrees. The propeller had separated from the engine and was found partially buried midway along the ground scar.

The right wing leading edge was crushed upward and aft between the wing root and tip. A downward curve of the wing was observed between the midspan point and wingtip. The wing's top and bottom surfaces were wrinkled, torn, and crushed. The fuel bladder was cut in many areas. The left wing leading edge was crushed aft from its wing root to wingtip. The top and bottom surfaces were wrinkled aft of the crush area. The angle of attack indicator vane was crushed and not movable. The fuel bladder was cut in several areas.

Control cable continuity was established between both ailerons and their control mechanism. Stall strips were found on both wings' leading edges. They were forward of the main landing gear wheel wells.

No fuel was found in either wing fuel bladder. Examination of dirt associated with the ground scars revealed no evidence of fuel. The search for similar fuel residue surrounding the airframe and ground it was resting upon gave negative results.

N6922S's empennage had separated from the fuselage at the vertical stabilizer's dorsal fin leading edge. This assembly was found resting perpendicular to the fuselage. Control cable continuity was observed between the elevator and rudder surfaces and control mechanisms. The left horizontal stabilizer and elevator were bent downward about 30 degrees at the midspan point.

The fuselage, forward of the wing's midchord point, was crushed upward, outward and aft. The fuselage was bent upward at the wing's trailing edge. The front cockpit seat had separated from its mount. The aft cockpit right sidewall had vertical crush lines on it.

The engine was attached to its fuselage mounting. The engine was bent to the right about 45 degrees at its midpoint. Evidence of fuel around the engine was not observed. The engine exhibited impact deformation and fractures on the gearbox, exhaust duct, gas generator case, and accessory gearbox. Power control and reversing linkages displayed impact deformation. All connections and safety wires were intact. The pneumatic lines were impact deformed.

Connections between the lines, and their respective lockwires were intact. The compressor and combustion sections displayed impact crush damage.

The propeller's three blades were attached to the hub. These blades were in the flat pitch setting. The blades were not able to be rotated from that position. One propeller blade was bent aft about 10 degrees at the 3/4 span point. No chordwise scratching was observed on this blade's front surface. A second blade was bent aft about 30 degrees at the midspan point. This blade had chordwise scratching on its front surface. The scratches were largest at the leading edge and diminished in width as they went toward the blade's trailing edge. The third blade had accordion bending from the midspan location outward to the tip. The front surface of this blade had various sized chordwise scratches on it.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies were conducted on N6922S's occupants by the Deputy Chief Medical Examiner for Milwaukee County, Wisconsin, on August 2, 1995. The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, conducted a toxicological examination on the pilot of N6922S. The examination showed 0.008 (ug/mL, ug/g) of phenyltoloxamine was detected in the blood and 0.017 (ug/mL, ug/g) of phenyltoloxamine was detected in the liver fluid. According to the 1993 edition of the Physicians' Desk Reference, phenyltoloxamine is a component of an antihistamine medicine. According to a doctor at CAMI, the reported amounts of the drug would not have an effect on the pilot's performance during flight.

TESTS AND RESEARCH

The angle of attack system's rudder shaker unit was examined at the manufacturer. The unit and its rudder pedal shaker motors operated normally during the test procedure. The FAA Principal Avionics Inspector's and manufacturer's report are appended to this report.

N6922S's P&W PT6A-25 engine was inspected at the manufacturer's facility. Pre-impact engine damage was not observed during the engine examination. Turbine blade and corresponding shroud areas displayed light rubbing on their surfaces. About one ounce of fuel was found in the fuel control unit. The diaphragm in the bypass valve was intact. The fuel pump filter was clean and about one to two ounces of fuel was found in the filter. All fuel nozzles, except one, met the manufacturer's 15.0 gallons per hour (gph) fuel flow specification during testing. The one fuel nozzle not meeting this figure flowed at 13.4 gph.

ADDITIONAL DATA/INFORMATION

The FAA's ARTCC factual report showed the pilot contacted the Indianapolis, Indiana, ARTCC at 0837 central daylight time. The airplane was about 180 nautical miles from its departure point. The pilot asked for VFR flight following into Oshkosh, Wisconsin, at 12,500 feet above mean sea level. Indianapolis and Chicago ARTCC's chronological history of the flight up to the time the pilot contacted Mitchell approach control showed N6922S made no intermediate stops.

According to an FAA flight plan form found at the accident sight, the pilot estimated the flight to Oshkosh, Wisconsin, would take 3 hours to complete. The form showed 4 hours of fuel on board for the flight. N6922S received 79.0 gallons of turbine fuel on the morning of July 31, 1995. An employee of the fixed base operator that refueled N6922S said, "As far as we know [the pilot] departed PDK the next A.M. with a full load of fuel." The accident flight's approximate flight time was 3 hours and 45 minutes.

According to the T-34C-1 Aircraft Flight Manual (AFM), the hourly range would vary between 3.0 and 4.7 hours. The range in hours will vary according to the power setting, altitude flown, air temperatures, and the number of times the airplane climbed or descended to different altitudes.

The front and rear cockpit's electrical command control panel were examined. The switches were broken and their position at the time of ground collision could not be determined. The Command Indicator Lights from both cockpits were examined. The bulbs from both fixtures had stretched and broken filaments. Each bulb had two posts the filament is usually attached too. The posts were not out of alignment with each other in either bulb. According to the AFM the Command Indicator Light will be illuminated when there is electrical power to the airplane's system.

The wreckage was released to Mr. K. F. Blaha of the J.A. Air Center, West Chicago, Illinois, on August 2, 1995.

Pilot Information

Certificate:	Private	Age:	55, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	10/18/1994
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	3005 hours (Total, all aircraft), 106 hours (Total, this make and model), 17 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	Registration:	N6922S
Model/Series:	T-34C T-34C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	GM-89
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	09/09/1994, 100 Hour	Certified Max Gross Wt.:	4325 lbs
Time Since Last Inspection:		Engines:	1 Turbo Prop
Airframe Total Time:		Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A-25
Registered Owner:	SHELTON ENTERPRISES	Rated Power:	400 hp
Operator:	SHELTON ENTERPRISES	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MKE, 723 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1012 CDT	Direction from Accident Site:	40°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	3 Miles
Lowest Ceiling:	Overcast / 300 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	18° C / 17° C
Precipitation and Obscuration:			
Departure Point:	ATLANTA, GA (PDK)	Type of Flight Plan Filed:	IFR
Destination:	MILWAUKEE, WI (MKE)	Type of Clearance:	IFR
Departure Time:	0756 EDT	Type of Airspace:	Class C

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): FRANK S GATTOLIN **Report Date:** 05/30/1996

Additional Participating Persons: KAREN KRUEGER; MILWAUUEE, WI
CHARLES EBERT; MILWAUKEE, WI
TOM BERTHE; LONGUEULL/QBC, CN
JOHN WARD; WICHITA, KS

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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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