



National Transportation Safety Board Aviation Accident Final Report

Location:	TOWNSEND, TN	Accident Number:	MIA98FA038
Date & Time:	12/01/1997, 1634 EST	Registration:	N9033Y
Aircraft:	Cessna C-182E	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

According to flight planning data found in the wreckage, the flight had departed Louisville, Kentucky for Gainesville, Florida. The airplane collided with terrain at the 4,300-foot level of a 4,400-foot ridgeline about 22 miles southeast of Knoxville, Tennessee, about 1:45 hours later. Cloud condition for Knoxville at the time of the accident was, ceiling 3,200 agl, or 4,200 msl. The pilot was not IFR qualified, and when queried by the Green Bay AFSS briefer about his intentions in areas of cloudiness, he stated, 'probably stay below' the clouds. There was no radio or transponder contact with any ATC facility and no flight plan was filed. There was no evidence of any precrash malfunction found with the airframe, engine, or its components, either at the site or in subsequent teardown inspection.

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 VFR flight conditions in a mountainous area resulting in inflight collision with rising terrain.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: CRUISE

Findings

1. (C) VFR FLIGHT INTO IMC - ATTEMPTED - PILOT IN COMMAND
2. TERRAIN CONDITION - RISING

Factual Information

HISTORY OF FLIGHT

On December 1, 1997, about 1634 eastern standard time, a Cessna C-182E, N9033Y, registered to a private individual, operating as a 14 CFR Part 91 personal flight, crashed about 22 miles southeast of Knoxville's McGhee Tyson Airport into mountainous terrain within the Great Smoky Mountain National Park. Visual meteorological conditions prevailed at the closest reporting weather facility, and no flight plan had been filed. The aircraft was destroyed, and the private-rated pilot was fatally injured. The flight last departed Louisville's Bowman Field about 1 hour 45 minutes before the accident.

Transcripts of conversations with a person identified as the pilot of N9033Y and Green Bay Automated Flight Service Station indicates the pilot planned to fly to Kissimmee, Florida, in time to attend a class on Monday, December 1, 1997. The person had obtained two comprehensive weather briefings from Green Bay AFSS, one on Sunday evening, November 30, 1997, at 1923 central standard time, that resulted in his canceling the flight for unsuitable weather, and the second briefing on Monday morning, December 1, 1997, at 0745, where the pilot mentions his intention to try to stay below the observed and forecast ceilings along his route of flight, (see comments at time, 1355:14 and time, 1359:47 on December 1, of AFSS briefing). Transcripts of Green Bay AFSS briefings are included in this report under Reports from Federal Agencies.

The last fueling facility used by the pilot, Triangle Flying Service, at Louisville's Bowman Field, reported that N9033Y took aboard 37.8 gallons of 100 octane low lead fuel about 2 to 2 1/2 hours before the accident. The fixed-base operator, (FBO) had tested their fuel trucks and fuel pump for contaminants and water the morning of the accident with negative results. (See fuel receipt, FBO daily fuel check report).

N9033Y had no reported radio or transponder contact with any ATC facility. There were no witnesses to the accident. The Air Force Rescue Coordination Center received the first ELT resolution at 1706 eastern standard time. The wreckage was found by Civil Air Patrol airborne search on December 2, 1997, at 0913.

PERSONNEL INFORMATION

The pilot's logbook was recovered and showed a total flight time of 460 hours with no logged instrument time. The pilot had completed a biennial flight review on January 29, 1997, and had accumulated 8 hours in the past 90 days. Flight hours accumulated on the accident day are not reflected. FAA records show the pilot did not hold an FAA instrument rating. Additional information on the pilot is contained in this report on page 3, under First Pilot Information and in copies of the pilot's logbook pages, under Other Pertinent Forms and Reports.

AIRCRAFT INFORMATION

An annual inspection of the airplane had been accomplished and signed off the day of the accident. Review of the aircraft logbook revealed a static air and altimeter check was performed on August 6, 1991. Additional information on the aircraft is contained in this report on page 2, under Aircraft Information and in copies of aircraft logbook pages under Other Pertinent Forms and Reports.

METEOROLOGICAL INFORMATION

A day-hiker estimates he was 3 to 4 miles from the crash site at 1634, descending the mountain. He recalls weather conditions at the start of his descent, (within 2 miles of the crash site and about 4,900 feet of elevation) to be, prevailing visibility was 100 to 150 feet in dense fog, temperature was cold enough that some ice had formed on the trees, and there was no wind. McGhee Tyson Airport's ceiling was 3,200 feet agl, or 4,200 feet msl, at the time of the accident. Meteorological information is included in this report on page 3 under Weather Information and also under Factual Report of Meteorological Group Chairman.

WRECKAGE AND IMPACT INFORMATION

The airplane crashed in dense forest within the Great Smoky Mountains National Park, at the 4,300-foot level of a 4,400-foot elevation ridgeline that divides Tennessee and North Carolina. The wreckage path is oriented on a heading of 170 degrees, about 20 to 25 degrees upslope at coordinates: N 35 degrees 33.94 minutes, W 83 degrees 46.14 minutes. Initial impact was with trees that left most of the right wing and outer portion of the left wing lodged 35 to 40 feet agl. The main wreckage, consisting of engine, cockpit, inboard left wing, and empennage, impacted the ground about 125 feet from initial tree impact. The propeller and spinner had separated and were found furthest along the wreckage path, left of centerline about 150 feet from initial impact. The spinner exhibited severe counter-clockwise, (viewed from cockpit) rotational crushing. One blade had reversed within the hub 180 degrees and showed chordwise striations with tip fracture. The other blade exhibited slight forward bending along its total span. A heavy layer of fine wood chips covered the entire site.

All airframe components were found in the immediate area. Flight controls and airframe components showed no signs of precrash failure or malfunction. Control integrity to all flight controls was established. The engine and its components showed no evidence of precrash failure or malfunction. The magnetos were not recovered. Compression and timing checks of each cylinder revealed no abnormalities. Spark plug electrodes showed deposit coloration consistent with normal engine operation. Disassembly inspection of the vacuum pump revealed a freely rotating driveshaft, and full integrity of the vanes and carbon block. A certified repair station inspection, with NTSB oversight, of the aircraft's attitude indicator revealed no evidence of precrash mechanical failure or malfunction.

A pencil flightlog showing the following waypoints was found in the cockpit: Capital Field, Wisconsin; Anderson, Indiana; Bowman Field, Kentucky; Knoxville, Tennessee; and Gainesville, Florida. The pilot had written, "fill @ 718.3"(hours on tachometer) and "2:45 inflight" adjacent to the entry labeled, "LOU-BOWMAN".

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on December 3, 1997, at the University of Tennessee's Medical Center, Knoxville, Tennessee, by Dr. Sandra K. Elkins, and revealed cause of death to be blunt force injuries. No findings that could be considered causal were noted. Toxicological tests were conducted at the Federal Aviation Administration Research Laboratory, Oklahoma City, Oklahoma. The tests were negative for ethanol, carbon monoxide, basic, acidic, and neutral drugs.

TESTS AND RESEARCH

The aircraft's LORAN navigation unit was read out at the manufacturer's facility, with FAA oversight, with these findings: "from" waypoint was Knoxville, "to" waypoint was Gainesville, Florida, "bearing to" was 171 degrees, "distance to" was 360 NM, and "present

position" was the crash site coordinates. These figures were verified with a factory simulator as being correct. A copy of the report is included under Reports from Federal Agencies.

ADDITIONAL INFORMATION

The aircraft wreckage was released to Mr. Bob Jones, representing the operator's insurance company, on December 18, 1997. All components retained by NTSB for further examination were returned to Atlanta Air Salvage, Griffin, Georgia, per instructions from Mr. Jones.

Pilot Information

Certificate:	Private	Age:	36, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	11/24/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	460 hours (Total, all aircraft), 8 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9033Y
Model/Series:	C-182E C-182E	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	18254212
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	12/01/1997, Annual	Certified Max Gross Wt.:	2800 lbs
Time Since Last Inspection:	5 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4105 Hours	Engine Manufacturer:	Continental
ELT:	Installed, activated, aided in locating accident	Engine Model/Series:	O-470-R
Registered Owner:	JEFFREY W. MANN	Rated Power:	230 hp
Operator:	JEFFREY W. MANN	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	TYS, 981 ft msl	Distance from Accident Site:	22 Nautical Miles
Observation Time:	1653 EST	Direction from Accident Site:	340°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 3200 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	7°C / 0°C
Precipitation and Obscuration:			
Departure Point:	LOUISVILLE, KY (LOU)	Type of Flight Plan Filed:	None
Destination:	GAINESVILLE, FL (GNV)	Type of Clearance:	None
Departure Time:	1450 EST	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):	ALAN C STONE	Report Date:	11/06/1998
Additional Participating Persons:	CRAIG ROBERTS; NASHVILLE, TN LEAH RIDDLE; WICHITA, KS GEORGE HOLLINGSWORTH; RESTON, VA		
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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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](#).