National Transportation Safety Board
Aviation Accident Final Report

Location:	GAINESVILLE, GA	**Accident Number:**	ATL95FA057
Date & Time:	03/03/1995, 1943 EST	**Registration:**	N227DM
Aircraft:	CESSNA 208B	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

THE FLIGHT WAS EXECUTING THE NON-PRECISION NDB RWY 4 APPROACH, HAD REPORTED PROCEDURE TURN INBOUND, AND WAS CLEARED TO CHANGE TO ADVISORY FREQUENCY. WITNESSES OBSERVED THE AIRPLANE DESCEND OUT OF THE BASE OF THE OVERCAST CLOUDS IN A 10 DEG NOSE DOWN, 45 DEG LEFT WING DOWN ATTITUDE. THE AIRPLANE IMPACTED TERRAIN ABOUT 3/4 MI SSE OF THE AIRPORT. WITNESSES IN THE AREA REPORTED THAT THE WEATHER WAS CEILINGS OF ABOUT 100 FT AND VISIBILITY OF ABOUT 500 FT IN LIGHT RAIN AND FOG. THE MINIMUM DESCENT ALTITUDE FOR THE APPROACH IS 465 FEET AGL.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOTS FAILURE TO MAINTAIN THE MINIMUM DESCENT ALTITUDE DURING THE APPROACH. THE WEATHER AND DARK NIGHT LIGHT CONDITION WERE FACTORS.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings
1. (F) WEATHER CONDITION - LOW CEILING
2. (F) WEATHER CONDITION - RAIN
3. (F) WEATHER CONDITION - FOG
4. (F) LIGHT CONDITION - DARK NIGHT
5. (C) MINIMUM DESCENT ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On March 3, 1995, at 1943 eastern standard time, a Cessna 208B, N227DM, was destroyed following a collision with terrain, and a post crash fire, during an instrument approach to the Gainesville, Georgia Airport. Both the airline transport/instructor pilot and the private/instrument rated pilot were fatally injured in the accident. The aircraft was being operated under the provisions of 14 Code of Federal Regulations Part 91 by D.M.C. Flying Service, at the time of the accident. Instrument meteorological conditions existed at the time of the accident, and an instrument flight rules flight plan was in effect for the flight. The flight departed Savannah, Georgia, at 1730.

All radio communications with the aircraft were reported to be normal. The flight had been cleared by the Atlanta Air Route Traffic Control Center for the Non-Directional Beacon (NDB) approach and cleared to change radio frequencies to the advisory channel. Witnesses reported observing the aircraft descend out of the base of the overcast clouds in a 10 degree nose down, 45 degree left wing down attitude. The aircraft impacted the trees and terrain about 3/4 mile south southeast of the airport. The trees and terrain at the impact area were approximately 1200 feet above mean sea level.

A pilot, flying on an instrument flight plan, and practicing instrument approaches in the area at the time of the accident, reported the following. He stated that at the time of the accident, he was in a holding pattern waiting for N227DM to complete the approach into Gainesville (GVL). He heard the conversations between Atlanta Approach Control, and the pilot of N227DM, and reported that all conversations were normal. He stated that he had departed Peachtree-Dekalb Airport (PDK), and executed several practice approaches into PDK. He reported that the cloud base at PDK was about 300 feet above ground level (AGL), and that the clouds were solid up to 5,000 feet above mean sea level (MSL). He said that there was no ice accumulation noted during his flight. He stated that during the approaches into PDK, he could see lights straight down below the aircraft about 500 feet AGL, but that there was no forward visibility through the clouds. He did not execute the approach into GVL, because N227DM did not report the approach complete. He stated that he did not expect to see the Gainesville Airport had he executed the approach, as the cloud base at PDK was below the minimum descent altitude for GVL.(See Record of Conversation With Mr. Johnny Masters Attached to This Report.)

PERSONNEL INFORMATION

The left seat pilot held an airline transport pilot certificate with airplane multiengine land rating, and commercial privileges airplane single engine land, and rotorcraft-helicopter ratings. He held a certified flight instructor certificate with airplane single and multiengine, instrument airplane, and rotorcraft-helicopter ratings. He held a first class medical certificate issued July 28, 1994 with a restriction for the use of corrective lenses. His pilot log book showed that he had obtained 2,005 hours of flight time, of which 201 hours were in the Cessna 208B aircraft. He had accumulated 221 hours of actual instrument flight time, and 99 hours of simulated instrument flight time. He had completed Flight Safety International's Cessna 208 Pilot Initial Training Course on February 21, 1994.

The right seat pilot held a private pilot certificate with airplane single and multiengine land, and instrument airplane ratings. The airplane multiengine land rating was limited to center

line thrust. He held a third class medical certificate issued March 3, 1994, with a restriction for the use of corrective lenses. His pilot log book was not made available. On the last application for a medical certificate, he listed his civilian flight experience as 800 hours of flight time. He attended Flight Safety International's Cessna 208 Aircraft Systems Training Course. His Certificate of Training from Flight Safety remarks that there was no flight training, and that the aircraft simulator training was not completed.

Additional personnel information may be obtained in this report on Page 3 under the section titled First Pilot Information, and in Supplement E of this report.

AIRCRAFT INFORMATION

The Cessna 208B, N227DM, was a single engine, fixed gear, 10 place, turbo propeller airplane. The aircraft was configured for executive seating, and had a lavatory located in the aft section of the cabin.

The aircraft was purchased new in February of 1994 by D.M.C. Flying Service. The last annual inspection of the aircraft was accomplished on January 12, 1995. At the time of the last annual inspection the aircraft and engine had 201.5 hours in service. The amount of flight time the aircraft operated after the last annual could not be obtained.

Additional aircraft information may be obtained in this report on page 2 under section titled Aircraft Information.

METEOROLOGICAL INFORMATION

The Lee Gilmer Memorial Airport in Gainesville, Georgia was in the process of installing an automated weather observation station (AWOS). The AWOS had not been certified at the time of the accident, and the weather reported by the AWOS is not available by means of radio communication. The AWOS was operating at the time of the accident, and recorded the following weather at 2009. Ceiling 200 feet with overcast skies, visibility of one and one half miles. The temperature was reported as 45 degrees fahrenheit, and the dew point was 45 degrees fahrenheit. Winds were from 090 degrees at five nautical miles per hour, and the altimeter setting was 20.25 inches of mercury.

The ceilings in the area at the time were reported by the witnesses on the ground to be about 100 feet above the terrain, and the visibility to be about 500 feet in fog and rain.(See Statement of Mr. Stephen Simpson Attached to This Report.)

Additional Meteorological information may be obtained on page 4 of this report under section titled Weather Information.

AIDS TO NAVIGATION

The Lee Gilmer Memorial Airport in Gainesville, Georgia is served by a non directional beacon (NDB) instrument approach. The published minimum descent altitude for the NDB approach is 1740 feet above mean sea level and 465 feet above ground level. A pilot flying in the area at the time of the accident, stated that he was waiting for N227DM to complete the approach, in order to begin the NDB approach into Gainesville. He stated that he had the NDB tuned into his radio, and that the signal strength seemed to be normal and he was receiving the GVL identification.(See Record of Conversation with Mr. Johnny Masters Attached to This Report.)

WRECKAGE INFORMATION

The aircraft impacted the terrain in a wooded area about 3/4 of a mile south southeast of the Lee Gilmer Memorial Airport. The terrain elevation in the area of the accident site is about 1200 feet above mean sea level.(See Copy of Topographical Map of Area Attached to This Report).

The wreckage was distributed over an area about 319 feet in length, on a magnetic heading of 240 degrees. There were trees, eight inches in diameter at the base, about eighty feet in height located at the beginning of the wreckage path. The trees were broken off about 50 feet above ground level. The elevator trim tab and elevator counter weight were the first pieces of the aircraft wreckage located in the direction of impact from the broken trees. The elevator trim tab and counterweight were located 90 feet in the direction of impact from the beginning of the wreckage site. The trim tab had a "U" shaped indention on the outboard leading edge.

An outboard section of the right aileron, about three feet in length was located about 25 feet, in the direction of impact from the elevator trim tab. there was a "U" shaped indention in the aileron.

The aircraft engine displayed severe impact damage including complete separation of the reduction and accessory gearbox housings, separation of the flange "C" retaining bolts, and moderate to severe compressional deformation of the exhaust duct and gas generator case. Severe circumferential rubbing and machining were displayed by the compressor turbine disc and interstage baffle, and the power turbine disc and baffle. The compressor 1st stage blade tips and shroud displayed strong circumferential rubbing.

There was no indication of pre-impact failure of the aircraft flight controls. The aircraft propeller showed signs of chordwise scratching and twisting toward low pitch.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the left seat pilot was conducted by Dr. Steven F. Dunton, the Medical Examiner for the city of Gainesville, Georgia, on March 4, 1995.

A toxicological examination of the left seat pilot was conducted by the Toxicology and Accident Research Laboratory of the Federal Aviation Administration in Oklahoma City, Oklahoma. The toxicology report was negative for the use of drugs and alcohol.

An autopsy of the right seat pilot was conducted by Dr. Steven F. Dunton, the Medical Examiner for the city of Gainesville, Georgia, on March 4, 1995.

A toxicological examination of the right seat pilot was conducted by the Federal Aviation Administration Toxicology and Accident Research Laboratory in Oklahoma City, Oklahoma. The toxicology report was negative for the use of drugs. The report showed 11.000 milliliters per deciliter (0.01%) ethanol in the blood, 6.000 milliliters per deciliter (0.01%) acetaldehyde in the blood, and 1.000 milliliters per deciliter (0.001%) acetaldehyde in the lung fluid. The report noted that the ethanol found in this case is most likely from postmortem ethanol production.

ADDITIONAL INFORMATION

The aircraft wreckage was released to Mr. Harry Brooks, the owners insurance representative, on March 5, 1995.

Pilot Information

Certificate:	Airline Transport; Flight Instructor	**Age:**	46, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Helicopter; Instrument Airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	**Last Medical Exam:**	07/28/1994
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	2005 hours (Total, all aircraft), 201 hours (Total, this make and model), 1887 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	**Registration:**	N227DM
Model/Series:	208B 208B	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	208B-0364
Landing Gear Type:	Tricycle	**Seats:**	10
Date/Type of Last Inspection:	01/12/1995, Annual	**Certified Max Gross Wt.:**	8750 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo Prop
Airframe Total Time:		**Engine Manufacturer:**	P&W
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-114A
Registered Owner:	DMC FLYING SERVICE	**Rated Power:**	675 hp
Operator:	DMC FLYING SERVICE	**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Night/Dark
Observation Facility, Elevation:	GVL, 1277 ft msl	**Observation Time:**	2009 EST
Distance from Accident Site:	1 Nautical Miles	**Direction from Accident Site:**	330°
Lowest Cloud Condition:	Unknown / 0 ft agl	**Temperature/Dew Point:**	7°C / 7°C
Lowest Ceiling:	Overcast / 200 ft agl	**Visibility**	1.5 Miles
Wind Speed/Gusts, Direction:	5 knots, 90°	**Visibility (RVR):**	0 ft
Altimeter Setting:	30 inches Hg	**Visibility (RVV):**	0 Miles
Precipitation and Obscuration:			
Departure Point:	SAVANNAH, GA (SAV)	**Type of Flight Plan Filed:**	IFR
Destination:	(GVL)	**Type of Clearance:**	IFR
Departure Time:	1730 EST	**Type of Airspace:**	Class D

Airport Information

Airport:	LEE GILMER MEMORIAL (GVL)	**Runway Surface Type:**	Asphalt
Airport Elevation:	1275 ft	**Runway Surface Condition:**	
Runway Used:	4	**IFR Approach:**	ADF/NDB
Runway Length/Width:	4999 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	ROFF H SASSER,	**Adopted Date:**	10/26/1995
Additional Participating Persons:	DUDLEY W BOONE; ATLANTA, GA		
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.ntsb.gov/pubdms/.		

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