



National Transportation Safety Board Aviation Accident Final Report

Location:	MORELAND, GA	Accident Number:	MIA99FA263
Date & Time:	09/21/1999, 0522 EDT	Registration:	N27343
Aircraft:	Piper PA-31-350	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

The flight was cleared for a localizer approach to runway 32 at Newnan-Coweta County Airport during dark night conditions. About 8 minutes later the pilot reported to air traffic control that he had missed approach and would like to try another approach. The flight was radar vectored to the final approach course and again cleared for the localizer runway 32 approach. The flight was observed on radar to continue the approach until a point about 4 nautical miles from the airport, at which time radar contact was lost. The last observed altitude was 1,600 feet msl. The aircraft collided with 80-foot tall trees, while established on the localizer for runway 32, about 1.3 nautical miles from the runway. About the time of the accident the weather at the airport was reported as a cloud ceiling 200 feet agl, and visibility .75 statute miles. Post crash examination of the aircraft structure, flight controls, engines, propellers, and systems showed no evidence of pre-crash failure or malfunction.

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 the minimum descent altitude while executing a localizer approach. Contributing factors were low ceilings and dark night conditions as well as the trees.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings

1. (F) WEATHER CONDITION - LOW CEILING
2. (C) MINIMUM DESCENT ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND
3. (F) OBJECT - TREE(S)
4. (F) LIGHT CONDITION - DARK NIGHT

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF THE FLIGHT

On September 21, 1999, about 0522 eastern daylight time, a Piper PA-31-350, N27343, registered to Bernhart Aircraft and Equipment Leasing, and operated by Baltimore Air Transport, Inc., as a Title 14 CFR Part 91 positioning flight, collided with trees while making a localizer approach to Newnan-Coweta County Airport, Moreland, Georgia. Instrument meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed. The aircraft was destroyed and the commercial-rated pilot and one passenger were fatally injured. The flight originated from Charlotte, North Carolina, the same day, about 0340.

Transcripts of radio communications between the pilot of N27343 and the FAA Atlanta Approach Control showed the flight was cleared to performed the localizer approach to runway 32 at Newnan-Coweta County Airport, beginning at 0456:36. At 0504:29, the pilot reported he was performing a missed approach and that he would "like to do one more try." The flight was vectored to the final approach course and was again cleared for a localizer approach to runway 32 at Newnan-Coweta County Airport, beginning at 0516:51. The last recorded communications with the pilot was at 0517:58, when the pilot acknowledged that radar service was terminated and that radio frequency change was approved. (See transcripts of radio communications).

Recorded radar data from the FAA Atlanta Approach Control showed the flight performed a localizer runway 32 approach to the Newnan-Coweta County Airport, descending to about 1,500 feet msl. The flight then performed a missed approach and returned for another localizer 32 approach. The flight was last observed on radar at 0521:29, at 1,600 feet msl, at a position about 4 miles from the airport. (See recorded radar data).

Witnesses located in a house adjacent to the crash site reported hearing the aircraft collide with trees, and crash to the ground. They went to the scene and found the wreckage of the aircraft which was on fire.

PERSONNEL INFORMATION

The pilot held a U.S. FAA commercial pilot certificate, last issued on April 8, 1997, with airplane single engine land, airplane multiengine land, airplane single engine sea, and instrument airplane ratings. The pilot held a U.S. FAA flight instructor certificate with airplane single and multiengine ratings, last issued on June 8, 1998. The pilot held a U.S. FAA second class medical certificate, with no limitations, last issued on December 14, 1998. The pilot held a U.S. FAA Statement of Demonstrated Ability, issued on August 22, 1997, following a medical test flight with a U.S. FAA inspector. The Statement of Demonstrated Ability was required for the pilot to meet the requirements of a second class medical certificate due to his not having any useful vision in his right eye. (Additional pilot information is contained on page 3 of this report and in FAA pilot records and pilot information).

AIRCRAFT INFORMATION

Information on the aircraft is contained in this report under Aircraft Information, and in the aircraft logbook information.

METEOROLOGICAL INFORMATION

The Newnan-Coweta County Airport, 0520 surface weather observation was winds calm, visibility .75 statute mile, clouds 200 feet agl overcast, temperature 64 F., dewpoint temperature 64 F., altimeter 29.86 inches hg., remarks partial obscuration.

Records from the FAA Flight Service Station, Raleigh, North Carolina, show a person identifying himself as the pilot of N27343, called at 0210 and requested an abbreviated pilot weather briefing for an IFR flight from Charlotte, North Carolina, to Newnan, Georgia, and after the brief, filed an IFR flight plan. (See ATC data).

WRECKAGE AND IMPACT INFORMATION

The aircraft crashed in a wooded area behind a house located at 358 Teasley Trail, Moreland, Georgia. Examination of the crash site showed the aircraft first collided with trees about 80 feet agl and 940 feet msl, while on a 320-degree heading. Ground level at the initial collision point was about 95 feet below the approach end of runway 32, and was about 1.3 statute miles from the runway. The aircraft was established on the localizer at this point. Three trees were impacted in this area and about the top 5-6 feet of the trees were separated. About 100 feet past the initial tree impact point, additional trees were impacted and the right and left wing tips were found on the ground below the trees. Several tree limbs that had been cut by rotating propellers were found in this area.

About 200 feet from initial tree impact, the right outboard wing, from the engine nacelle to the tip, was found in the top of a tree. Additionally, the left aileron and right wing flap were found in this area. Between 300 and 350 feet from initial impact, the left and right elevators and horizontal stabilizers, empennage, outboard left wing, vertical fin and rudder, left engine cowling, and cabin roof with rear cabin door were located. At about 400 feet from initial tree impact, the forward cabin roof and overhead switch panel were located. At about 450 feet from initial tree impact, was the main wreckage, which consisted of the main cabin, inboard wings, engine nacelles, engines, and propellers. A postcrash fire had erupted in the main wreckage area.

All components necessary for flight were located on the wreckage or around the crash area, except for the right aileron counterweight. The separation point of the right aileron counterweight was consistent with overstress separation during the crash sequence. Each wing and horizontal stabilizer had damage from tree impact. Continuity of all flight control and flap control cables was confirmed and all separation points in the cables were consistent with overstress. The landing gear was found extended and the wing flaps were found extended to the 15-degree, or approach, position. Both wing tip navigation light bulbs had stretched filaments in a direction toward the front of the aircraft. The left and right front seat lap belts were found buckled. The shoulder harness inertial reels were found with the shoulder harnesses retracted and no damage to the reels. The autopilot pitch and yaw axis actuators were found in the disengaged position. The roll axis actuator had separated during the crash sequence and was not located. The cabin heater was opened and no evidence of leakage was found.

Examination of the aircraft fuel system showed the right fuel selector valve was in the inboard tank position and the right firewall shutoff valve was open. The control cables for these valves had not been pulled by impact forces. The right fuel strainer had been burned and there was no debris in the screens. The right electric fuel boost pump and right electric fuel emergency pump rotated normally and showed no evidence of failure or malfunction. No blockage in the remains of the right wing and engine fuel lines was detected. The left fuel

selector valve and fire wall shutoff valve were found in the off position. The control cables for these valves had been pulled by impact forces. The left fuel strainer had been burned and there was no debris in the screens. The left electric fuel boost pump rotated normally and showed no evidence of failure or malfunction. The left electric fuel emergency fuel pump separated during the crash sequence and was not recovered. No blockage in the remains of the left wing and engine fuel lines was detected. The left and right electric fuel boost pump switches were found in the on position in the cockpit. The postcrash fire occurred in the area of the inboard fuel tanks.

The left and right engine assemblies rotated normally during post accident examination. Continuity of each valve train, camshaft, crankshaft, and accessory drive was confirmed. Each cylinder produced compression. Each spark plug had deposit color consistent with normal engine operation. Each oil screen and filter was free of debris. Each turbocharger rotated after the accident and were found to have ingested debris during the crash sequence. The left and right engine dual magnetos fired across each sparkplug post when rotated by hand. All magneto switches in the cockpit were found in the on position. Each propeller governor pumped oil when rotated by hand. Each engine-driven fuel pump operated and pumped fluid when rotated. Each engine vacuum pump turned freely when rotated by hand and showed no evidence of failure or malfunction when disassembled. Each hydraulic pump rotated freely when turned by hand.

The left and right fuel injector inlet screens were free of debris. The left injector operated within manufacturers specifications when placed on a test bench. The right fuel injector operated at maximum fuel flow on the test bench. Teardown examination of the right fuel injector showed the internal components had sustained damage from the post crash fire. All fuel injector lines and injectors were unobstructed.

The left and right propellers had rotation damage to all propeller blades and one blade on each propeller had a piece of blade tip separated by impact forces. Each propeller spinner had rotational damage. Teardown examination of each propeller showed the pitch change knobs on each blade had separated in overstress due to impact forces and each blade was free to rotate in the hub. No evidence of precrash failure or malfunction of the propellers were found.

An altimeter was found separated from the instrument panel and lying adjacent to the main wreckage. The altimeter was identified by maintenance records as having been installed in the left, or pilot's instrument panel. The altimeter read 8,600 feet and the barometric setting was 29.86 inHg. (The last reported altimeter setting at Newnan-Coweta County Airport was 29.86 inHg.) Teardown examination showed the altimeter had received extensive internal damage due to impact forces. No evidence to indicate precrash failure or malfunction of the altimeter was found.

MEDICAL AND PATHOLOGICAL INFORMATION

Postmortem examination of the pilot and passenger was performed by Frederic N. Hellman, M.D., and Mark A. Koponen, M.D., Georgia Bureau of Investigation, Division of Forensic Sciences, Atlanta, Georgia. The cause of death in each was attributed to blunt force injuries. No findings which could be considered causal to the accident were reported.

Postmortem toxicology studies on specimens obtained from the pilot and passenger were performed by Dennis V. Canfield, Ph.D., FAA Toxicology Laboratory, Oklahoma City,

Oklahoma, and Robert Brown, Jr., Ph.D and S. Zakir Ali, Ph.D., Georgia Bureau of Investigation, Division of Forensic Sciences, Atlanta, Georgia. The studies were negative for carbon monoxide, cyanide, ethanol, and drugs.

TEST AND RESEARCH

Title 14 CFR Part 91.175c states, where a minimum descent altitude (MDA) is applicable no pilot may operate an aircraft at any airport below the authorized MDA unless the aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers and the flight visibility is not less than the visibility prescribed in the standard instrument approach being used. The prescribed visibility published on the Newnan-Coweta County Airport, localizer runway 32 approach chart is 1 statute mile, and the published MDA is 1,280 feet msl. At the time of the accident the reported visibility was .75 statute mile, and the aircraft collided with trees about 940 feet msl. (See approach chart).

A handheld Garmin GPS 90, global positioning system receiver was found in the wreckage. The unit was examined at Garmin International, Inc., and was found to have sustained internal impact damage and could not be readout. (See Garmin report).

ADDITIONAL INFORMATION

The aircraft wreckage was released by NTSB to Ronnie Powers, President, Atlanta Air Salvage, on September 23, 1999. Components retained by NTSB for further examination were returned to Atlanta Air Salvage.

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	35, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/14/1998
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	2000 hours (Total, all aircraft), 250 hours (Total, this make and model), 1800 hours (Pilot In Command, all aircraft), 230 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N27343
Model/Series:	PA-31-350 PA-31-350	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	31-7752163
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	09/11/1999, AAIP	Certified Max Gross Wt.:	7368 lbs
Time Since Last Inspection:	23 Hours	Engines:	2 Reciprocating
Airframe Total Time:	8340 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-J2BD
Registered Owner:	BERNHART ACFT. AND EQUIP. LEAS	Rated Power:	350 hp
Operator:	BALTIMORE AIR TRANSPORT, INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	B7LA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	CCO, 970 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	0520 EDT	Direction from Accident Site:	320°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	0.75 Miles
Lowest Ceiling:	Overcast / 200 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	18° C / 18° C
Precipitation and Obscuration:			
Departure Point:	CHARLOTTE, NC (CLT)	Type of Flight Plan Filed:	IFR
Destination:	(CCO)	Type of Clearance:	IFR
Departure Time:	0340 EST	Type of Airspace:	Class C

Airport Information

Airport:	NEWNAN COWETA COUNTY (CCO)	Runway Surface Type:	Asphalt
Airport Elevation:	970 ft	Runway Surface Condition:	Wet
Runway Used:	32	IFR Approach:	Localizer Only
Runway Length/Width:	5007 ft / 100 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	2 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	JEFFREY L KENNEDY	Report Date:	03/09/2001
Additional Participating Persons:	GEORGE GUNN; ATLANTA, GA KIM FARRINGTON; ATLANTA, GA GERALD JAMES; WILLIAMSPORT, PA KRIS WETHERELL; VERO BEACH, FL		
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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