National Transportation Safety Board
Aviation Accident Final Report

Location:	Sandersville, GA	**Accident Number:**	MIA01LA211
Date & Time:	08/09/2001, 0948 EDT	**Registration:**	N899RW
Aircraft:	Beech BE-200	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious, 5 Minor
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

The flight made two instrument approaches to minimums and executed two missed approaches before the crew elected to land about 25 miles south and wait for the low ceiling condition to improve. An hour later, having topped off fuel tanks, confirmed by telephone that destination weather was improving, the flight re-launched to their original destination. They executed a GPS-A, (circling) instrument approach, broke out of instrument conditions about 100 ft. above minimums, (600 feet, agl) and about 1mile from the runway, and started a right downwind turn to enter a left base leg for landing runway 30. During the turn to final approach, the crew extended the landing gear and flaps for landing, and according to the co-pilot, the pilot flew through the extended runway centerline requiring a, " teardrop turn back toward the runway. In the turn the bank angle was about 45 degrees, the descent rate increased rapidly and a faint warning [stall warning] sounded, the nose then pitches down and [the PIC] screams as he shoves both throttles full forward and using both hands pulls the yoke back and as soon as the nose came above the horizon the plane impacted the ground wings were fairly level mains hit first and we paralleled the runway about fifty feet or so to the right of the runway". The impact sheared the landing gear, shed the propellers, broke the engines from their mounts, started a fire in the left engine, and broke open the fuselage 3 feet aft of the cabin pressure bulkhead. The two pilots and three of four passengers received minor injuries, and one passenger received serious injuries. The cockpit voice recorder was shipped to the NTSB Vehicle Recorders Laboratory in Washington, DC. Readout of data recorded from the cockpit area microphone revealed that 6.4 seconds before impact the stall warning sounded, and 4.4 seconds before impact the altitude alerter sounded.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in command's failure to maintain airspeed during the approach, resulting in an inadvertent stall and in-flight collision with the terrain during an uncontrollable descent.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

Findings
1. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
2. (C) STALL - INADVERTENT - PILOT IN COMMAND

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

Findings
3. TERRAIN CONDITION - GRASS

Factual Information

On August 9, 2001, about 0948 eastern daylight time, a Beech King Air 200, N899RW, registered to Warren Manufacturing, Inc., operating as a Title 14 CFR Part 91 corporate flight, crashed in the vicinity of Sandersville, Georgia. Instrument meteorological conditions prevailed and an instrument flight plan had been filed. The airplane received substantial damage, the ATP-rated captain, ATP-rated first officer, and three passengers received minor injuries, while one passenger received serious injuries. The flight originated from Dublin, Georgia, about 10 minutes before the accident.

According to the pilot, during his preflight check of en route weather, ceilings were reported IFR over the route of flight from origination, Birmingham, Alabama, to destination, Sandersville, Georgia, but a check of area airports near the destination revealed, "weather would be of little factor." Upon reaching destination, it became obvious that an instrument approach would be necessary, and the flight requested heading vectors from FAA Macon Approach Radar to a point just outside of the initial approach fix for the GPS-A approach to Sandersville's Kaolin Field. Having executed the GPS-A approach to minimums with no runway in sight, the flight executed a missed approach, and requested that Macon Approach Radar provide vectors to the Kaolin NDB. Following an NDB approach to minimums with no break out, the flight executed another missed approach, proceeded to Dublin, about 23 miles south, and landed to wait out the low ceiling condition. After a ground wait of about an hour, during which about 158 gallons of Jet-A fuel was on loaded, and a telephone call was made to the fixed-base operator at Kaolin Field for a visual update of the ceiling, the flight departed Dublin at 0938 for another attempt.

The following is the pilot-in-command's account of what evolved during the second attempt to land on Kaolin Field's runway 30, "At 1200+ feet msl which was 200+ msl feet above the minimum, I had a good clear visual on the entire runway and landing environment. I disengaged the yaw damper. I started to make my left turn and planned to land [approximately] 1000 feet down the runway leaving 4000 feet for a safe and smooth landing. During the turn to the left, I noticed the plane did not respond in a manner to which I was accustom. Aileron functions seemed as normal, but rudder and elevator performance felt different. Looking back, it was as though the airflow was disturbed over the area. Attitude of the nose in the turn was sluggish."

The last seconds of the accident were described by the pilot-in-command as, "Keeping in mind that this was [approximately] a five second window of events to follow, I will try to outline what I remember during the last five seconds prior to impact and count them out accordingly:

Five seconds: Aircraft did not respond or continue to turn and with the nose above the horizon I could tell our descent rate seemingly doubled I added power.

Four seconds: Stall Warning Sounded, I did not hear nor did the aircraft seem to respond with any form of thrust. Aircraft nosed over and we were headed at what seemed a 45 degree angle down directly toward the wooded area by the runway.

Three seconds: I knew at this point we were going in, but I had to do what ever it took to prevent the aircraft from hitting the trees.

Two seconds: Instinct took over and whatever I did, and I could not tell you what it was, but I got the aircraft to turn to the left, parallel to the runway, enough to miss the forrest and got the

nose up in the last second prior to impact. I don't know if it was [SIC] or myself that yelled we are not going to make it. With only what I figured to be three seconds before we went nose first into the trees, I did not raise the flaps first then the gear as my mind was consumed with one thought, I have three seconds before we crash, keep it out of the trees."

According to the copilot, as the pilot commenced his left turn to final approach, he flew through the extended runway centerline requiring a, " teardrop turn back toward the runway. In the turn the bank angle was about 45 degrees, the descent rate increased rapidly and a faint warning [stall warning] sounded, the nose then pitches down and [the PIC] screams as he shoves both throttles full forward and using both hands pulls the yoke back and as soon as the nose came above the horizon the plane impacted the ground wings were fairly level mains hit first and we paralleled the runway about fifty feet or so to the right of the runway". The copilot stated that it was a normal procedure to disengage the yaw damper somewhere prior to final approach to enhance rudder feel. He added that the flight controls appeared to operated normally throughout the en route portion of the flight as well as during the three previous approaches.

According to an FAA Inspector, witnesses at Kaolin Field stated that the aircraft was first observed circling as if to land on runway 30. The aircraft was observed to enter a steep left bank and high rate of descent, and impact the ground about 100 feet right of the runway's right edge. The aircraft first impacted the ground slightly left wing down about 40 feet beyond runway 30's threshold, shearing the left main landing gear and igniting a fire in the left engine. During the approximately 200 yard slide in the grass, the remaining two landing gear sheared and both propellers separated. The aircraft came to rest, heading about 120 degrees with the fuselage broken open about 3 feet aft of the cabin pressure bulkhead. The left nacelle and adjacent wing panel was consumed due to the engine fire, and the left side fuselage was scorched. Both engines had drooped to the ground having broken loose from their respective mounts. The passengers exited the aircraft via the left side passenger loading door. The crew exited the aircraft via the right side overwing exit.

The Cockpit Voice Recorder, (CVR), Fairchild model A100S, serial no. 02070, was removed from the aircraft and shipped to the NTSB Vehicle Recorders Division, Washington, DC for review. The following data was extracted from the recorder; the flight from Dublin to Sandersville took about 9 1/2 minutes. About 2 minutes after takeoff, the flight was cleared for the VOR/GPS A instrument approach to Sandersville. About 3 minutes before the accident, the landing gear was extended and the crew indicated that they were looking for a road. About 2 minutes before the accident, one of the crew asked the other, "is that 1340?", and the other crew member replied, "Yup, 20 to go" followed by "ground contact". About 1 minute prior to the accident, the crew indicated that they had less than one mile to go for a descent "down to 1000". About 30 seconds later, the crew identified the location of the airport, and extended the flaps to full down. About 6.4 seconds before impact, a sound consistent with the stall warning horn can be heard, which lasts for 2.9 seconds. About 4.4 seconds before impact, a sound consistent with the altitude alerter begins and lasts for about 1.4 seconds. The Report of Investigation-Cockpit Voice Recorder is an attachment to this report.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	**Age:**	47, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	06/17/2001
Occupational Pilot:		**Last Flight Review or Equivalent:**	08/01/2001
Flight Time:	4900 hours (Total, all aircraft), 978 hours (Total, this make and model), 4000 hours (Pilot In Command, all aircraft), 65 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport; Flight Instructor	**Age:**	31, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	06/19/2001
Occupational Pilot:		**Last Flight Review or Equivalent:**	02/13/2001
Flight Time:	6500 hours (Total, all aircraft), 1100 hours (Total, this make and model), 5500 hours (Pilot In Command, all aircraft), 80 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N899RW
Model/Series:	BE-200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	BB1637
Landing Gear Type:	Retractable - Tricycle	**Seats:**	11
Date/Type of Last Inspection:	05/24/2001, AAIP	**Certified Max Gross Wt.:**	12500 lbs
Time Since Last Inspection:	42.9 Hours	**Engines:**	2 Turbo Prop
Airframe Total Time:	996.7 Hours as of last inspection	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	PT6-42A
Registered Owner:	Warren Manufacturing, Inc.	**Rated Power:**	850 hp
Operator:	Warren Manufacturing, Inc.	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	MCN, 354 ft msl	**Distance from Accident Site:**	44 Nautical Miles
Observation Time:	0953 EDT	**Direction from Accident Site:**	245°
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	Overcast / 500 ft agl	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	24°C / 23°C
Precipitation and Obscuration:			
Departure Point:	Dublin, GA (DBN)	**Type of Flight Plan Filed:**	IFR
Destination:	Sandersville, GA (OKZ)	**Type of Clearance:**	IFR
Departure Time:	0940 EDT	**Type of Airspace:**	Class E

Airport Information

Airport:	Kaolin Field (OKZ)	**Runway Surface Type:**	Asphalt
Airport Elevation:	439 ft	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	Circling; Global Positioning System
Runway Length/Width:	5015 ft / 75 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious, 3 Minor	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious, 5 Minor	**Latitude, Longitude:**	32.965833, -82.836389

Administrative Information

Investigator In Charge (IIC):	Alan C Stone	**Report Date:**	10/23/2002
Additional Participating Persons:	Beotis Wright; Atlanta, GA Robert L Ramey; Raytheon Aircraft Company; 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.ntsb.gov/pubdms/.		