



National Transportation Safety Board Aviation Accident Final Report

Location:	FITZGERALD, GA	Accident Number:	ATL97FA021
Date & Time:	12/01/1996, 0820 EST	Registration:	N123SS
Aircraft:	Bellanca 17-31ATC	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot could not recall the accident flight and there were no impact witnesses. He stated it was misting rain during loading & engine run-up. He also noted a weather front moving in from the north, and clear to the southeast. Relatives helped load the airplane, watched it depart, then drove to Florida. After an unknown elapsed time, an ear witness heard fluctuating engine sounds followed by an impact. He found the airplane south of runway 19. The airplane had impacted in a steep left wing & nose down attitude. Subsequent investigation revealed the intake air box alternate air door broken loose. A fresh fracture was evident on the door hinge. The spark plugs were sooted. The fuel injection system tested within limits.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to the blockage of the intake manifold of the induction air system, by the broken alternate air door, and the loss of aircraft control for undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: MANEUVERING

Findings

1. (C) INDUCTION AIR CONTROL,ALTERNATE AIR/DOOR - FAILURE
2. (C) INDUCTION AIR CONTROL,INTAKE MANIFOLD - BLOCKED(TOTAL)

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: MANEUVERING

Findings

3. (C) REASON FOR OCCURRENCE UNDETERMINED
4. AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On December 1, 1996, about 0820 eastern standard time, a Bellanca 17-31ATC, N123SS, collided with the ground during an uncontrolled descent at the Fitzgerald Municipal Airport, Fitzgerald, Georgia. The airplane was operated under the provisions of Title 14 CFR Part 91, and visual flight rules. Visual meteorological conditions prevailed southeast of the airport. A flight plan was not filed for the personal flight. The airline transport pilot was seriously injured, and the three passengers were fatally injured. There was substantial damage to the airplane. The time of the departure was unknown.

The pilot flew into Fitzgerald airport the Wednesday prior to the accident. The airplane had not been flown until the day of the accident. The pilot had the airplane topped-off, with 100LL grade fuel, the afternoon prior to the accident. On the morning of the accident, the pilot obtained weather information by listening to the Weather Channel on television. The pilot recalled a light misting rain falling when he arrived at the airport and during the engine run-up. The pilot recalled the run-up and nothing afterwards.

The pilot's in-laws observed the loading of the airplane and watched the takeoff. They stated that they didn't get wet and did not note any gusty winds, while at the airport. They observed the airplane use most of the runway during the takeoff roll and climb into the clouds, but not as quickly as usual. They left the airport after the takeoff, unaware of the accident.

After an unknown elapsed time, an ear witness heard fluctuations of an aircraft engine followed by the sounds of impact. He discovered N123SS approximately 300 yards beyond the departure threshold of runway 19. According to this investigator, the witness verbally informed the Investigator-In-Charge that it was raining hard with thunder and lightning at the time he heard the impact.

PERSONNEL INFORMATION

The pilot was certificated as an Airline Transport Pilot with B-737, CE-500, DC-9, FK-28, FK-100, MD-80 and LR-JET type ratings. He had more than 11700 total flight hours. The pilot stated that, at the time of the accident, he was a Captain with USAirways in the MD-80 airplane.

The pilot stated that he had flight experience in several general aviation light airplanes. The pilot had been flying this particular airplane, completing the same trip, West Palm Beach to Fitzgerald to West Palm Beach, for the past several years. He recounted an incident in a Mooney 201 during which there was a loss of power during descent. The pilot executed a successful forced landing in shallow water with minor impact damage.

AIRCRAFT INFORMATION

The Bellanca Viking 300A is a four seat, low wing, retractable tricycle landing gear, single engine airplane. The weekend prior to the flight to Fitzgerald, the owner of the airplane had flown to Venice, Florida, in N123SS, for the day. After the departure from Venice, the owner experienced a reduction in engine power. The owner left the airplane in Venice for repairs, which included the replacement of a cracked fuel line. After the airplane was repaired, the accident pilot test flew the airplane, and noted it performed without malfunctions. He then made the flight to Fitzgerald.

The aircraft log, for N123SS, indicated that an annual inspection was performed on September 12, 1996, and was determined to be in airworthy condition. The engine log for this same annual inspection indicated that the induction alternate air door was replaced. According to the engine log, on May 28, 1996, a screw was found loose in the alternate air door as well as the seal missing. The corrective action taken was removing the old door and installing a used serviceable door, with new hardware.

The air induction system for the Bellanca Viking 300A consists of a filtered air intake and an alternate air intake. Under normal operation, the filtered air intake is utilized. In the event the filtered air intake becomes clogged, the alternate air intake, which is a suction operated door in the air box, will become operational. The alternate air door operates by increased air pressure, from internal suction, overcoming the spring resistance, which holds the door closed. See attached diagram.

The Weight and Balance for N123SS for takeoff was calculated as follows:

Item	Weight(lb.)	Arm(in)	Moment
Licensed Empty Weight	2492.2	18.07	45034.054
Pilot and Front Passenger	215.0	20.00	4300.000
Rear Seat Passenger	140.0	53.00	7420.000
Baggage(186 lb. max.)		131.0	84.00
Oil	11004.000	22.5	-41.00
Fuel - 60 gallons	360.0	29.00	-922.500
Auxiliary tank - 15 gallons	90.0	72.00	6480.000
Total Loaded Aircraft	3450.7		83755.554

C.G. = 24.27" aft of datum (Moment / Weight)

The maximum allowable gross weight for the Viking 300A is 3325lbs. The C.G. limitation at 3325lbs is 22.0 to 23.5" aft of datum. The baggage was weighed at the accident sight. This data was based on known weights of the passengers and baggage.

METEOROLOGICAL INFORMATION

At the time of the flight, visual meteorological conditions prevailed southeast of the airport, and instrument meteorological conditions prevailed to the north.

On December 1, 1996, at 0850 eastern standard time (EST), the Automatic Terminal Information Services (ATIS) for Southwest Georgia Airport, Albany, Georgia, located 48 nautical miles (nm) west of Fitzgerald, was reporting winds from 210 degrees at 10 knots (kt), a ceiling of 800 feet overcast, visibility of 2 1/2 miles, lightening and thundershowers overhead moving east. At 0850 EST, the ATIS for Bacon County Airport, Alma, Georgia, located 40 nm east of Fitzgerald, was reporting winds 210 degrees at 10 kt, a ceiling of 8000 feet overcast, occasional lightening in clouds overhead.

Weather information was obtained for Fitzgerald Airport, from 0701 EST to 0921 EST. At 0821, the reported weather was temperature 66 degrees Fahrenheit, dewpoint 65 degrees Fahrenheit, wind 200 degrees at 13 kt, barometric pressure of 29.87" mercury. From 0701 to 0921, the temperature and dewpoint become closer, and from 0841 to 0921, they became the same at 65 degrees Fahrenheit. The barometric pressure increases from 29.83 to 29.90", between 0701 and 0921 EST.

The pilot stated that he obtained weather information by watching the Weather Channel

on the television, about 0600 to 0700 EST, the morning of the accident. He stated that he noted a weather front moving in from north of the airport, with a discernible cloud front. He also stated that southeast of the airport was clear. During the run-up, he recalled a light misting rain falling.

WRECKAGE AND IMPACT INFORMATION

The wreckage was found approximately 300 yards south of the runway 19 departure threshold, near a peanut patch. A ground scar was observed, with debris from the left wingtip found adjacent to it. Beyond that, debris from the engine cowling was found, leading up to the main wreckage. The airplane was found upright.

The spinner was found crushed aft and peeled around the propeller dome. All three propeller blades were twisted spanwise toward lower pitch. All three blades had scrape marks running chordwise on the cambered side. One propeller blade was bent aft. One blade had several 1/4" deep gouges on the leading edge.

The engine, and the attached nose gear frame, were displaced aft of their original position. The nose gear was found collapsed, as if in the process of retracting. The air box was attached to the engine and partially opened, revealing the detached alternate air door inside the box. The right hinge of the alternate air door was broken; the clear fracture surface was rough, granular, and irregular in appearance. Also, the spring was missing. The alternate air box originally was mounted on the aft side of the injector servo. It was found crushed between the engine and the firewall. The firewall was found displaced 3 - 6 in. aft of its original position. The engine and propeller were found on top of the instrument panel.

The fuselage was broken just forward of the front seats. Both control columns were broken off upward. The control bar, just forward of the instrument panel, was found intact. The empennage was found intact. Control cable and push-pull rod continuity to all flight controls was observed.

The left wing was separated from the airframe approximately seven feet outboard of the root. The wing tip rib was found adjacent to the ground scar, as mentioned above. Other pieces were scattered from the first crater to the main wreckage. The left wing flap trailing edge was folded under the wing. The right wing leading edge plywood was found disrupted, approximately three to four feet outboard, exposing the spar and root. The right wing flap trailing edge was found in the up position.

Examination of the instrument panel was performed. See Supplement B for configurations. The throttle, manifold pressure, and mixture controls, were found in the full forward position. The manual turbocharger was found in the closed position.

MEDICAL AND PATHOLOGICAL INFORMATION

On December 1, 1996, a toxicological test was performed on the pilot by the Dorminy Medical Center, 200 Perry House Road, Fitzgerald, Georgia. The toxicological examination report indicated an ethanol level of <10 mg/dl. According to the Dorminy Medical Center, ethanol levels of 0 - 10 mg/dl are reported as <10 mg/dl.

TEST AND RESEARCH

The engine was examined on December 9, 1996, at the Jackson County Airport, Jefferson, Georgia. Mechanical continuity was observed as the engine was rotated by hand. The

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	Registration:	N123SS
Model/Series:	17-31ATC 17-31ATC	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	74-31079
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	09/12/1996, Annual	Certified Max Gross Wt.:	3325 lbs
Time Since Last Inspection:	25 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1895 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	17-31ATC
Registered Owner:	ROBERT L. BENTZ	Rated Power:	300 hp
Operator:	ALBERT J. TOWNSEND	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ABY, 197 ft msl	Distance from Accident Site:	48 Nautical Miles
Observation Time:	0845 EST	Direction from Accident Site:	81°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	2.5 Miles
Lowest Ceiling:	Overcast / 800 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	210°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	18° C / 18° C
Precipitation and Obscuration:			
Departure Point:	(FZG)	Type of Flight Plan Filed:	None
Destination:	WEST PALM BEACH, FL (PBI)	Type of Clearance:	None
Departure Time:	0820 EST	Type of Airspace:	Class G

Airport Information

Airport:	FITZGERALD AIRPORT (FZG)	Runway Surface Type:	Asphalt
Airport Elevation:	365 ft	Runway Surface Condition:	Wet
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	5002 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	3 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal, 1 Serious	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	PRESTON E HICKS	Report Date:	03/31/1998
Additional Participating Persons:	BOB WEST; COLLEGE PARK, 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.nts.gov/pubdms/ .		

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