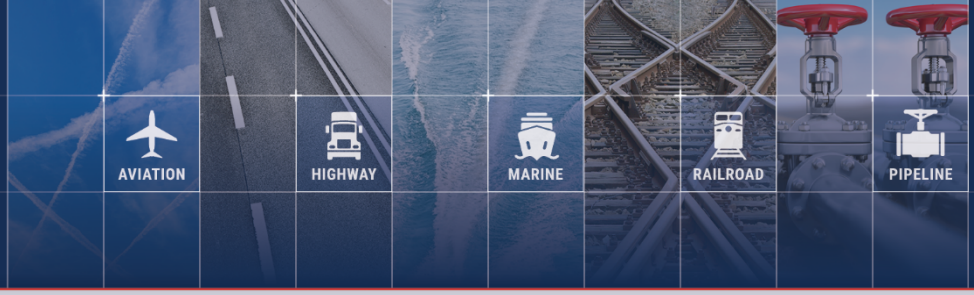

Aviation Investigation Final Report

Location:	GENEVA, Alabama	**Accident Number:**	ATL00FA016
Date & Time:	December 17, 1999, 14:43 Local	**Registration:**	N2215U
Aircraft:	Piper PA-32RT-300	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Fatal, 1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General aviation		

Analysis

According to a pilot witness, the pilot had difficulty starting the aircraft engine. The witness stated that the engine coughed and sputtered and black smoke was coming from the exhaust. Once the engine started, it ran smoothly. The pilot taxied to runway 29, stopped short and did a run-up. Following the run-up the aircraft taxied onto the runway and began its takeoff roll. The witness stated that the aircraft was weaving to the left and right as it proceeded down the runway. He said the aircraft lifted off about 1,000 feet down the runway and then came back down, bouncing on the nose gear. The aircraft again started to climb and banked to the left. He said the aircraft again descended and then climbed again still banking to the left and disappeared behind some trees. Examination of the wreckage did not reveal any anomalies to the airframe, or the engine.

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 adequate airspeed during takeoff which resulted in a stall and the subsequent collision with trees.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) AIRSPEED - INADEQUATE - PILOT IN COMMAND
2. (F) STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
3. OBJECT - TREE(S)

Factual Information

HISTORY OF FLIGHT

On December 17, 1999, at 1443 central standard time, a Piper PA-32RT-300, N2215U, collided with trees and subsequently the ground shortly after takeoff from the Geneva Municipal Airport in Geneva, Alabama. The aircraft was operated by the private pilot under the provisions of Title 14, CFR Part 91, and visual flight rules. Visual meteorological conditions prevailed and no flight plan was filed for the business flight. The pilot rated passenger and a second passenger sustained fatal injuries, the pilot in command sustained serious injuries and the third passenger sustained minor injuries. The flight was originating at the time of the accident.

According to a pilot witness, the pilot in command had difficulty starting the aircraft engine. The witness stated that the engine coughed and sputtered and black smoke was coming from the exhaust. Once the engine did start, it ran smoothly. He observed the pilot taxi up to runway 29, stop short, and do a run-up. After about two minutes of running the engine up, the aircraft taxied onto the runway and begin its takeoff roll. The witness stated that the aircraft was weaving to the left and right as it proceeded down the runway. He said the aircraft lifted off about 1,000 feet down the runway and then came back down, bouncing on the nose gear. The aircraft again started to climb and bank to the left. He said the aircraft again descended and then climbed again, still banking to the left and disappeared behind a tree line. The witness called 911, and reported the accident.

PERSONNEL INFORMATION

The Piper PA-32RT pilot held a private pilot certificate with airplane single engine land rating. His total flying time was estimated at 313 hours, with approximately 20 hours of night time and 300 hours in the Piper PA-32RT. Examination of the pilots logbook found that he had completed a biannual flight review on July 23, 1999. According to FAA records, the pilot received his private pilot certificate on November 5, 1989. The pilot held a current third class medical certificate, issued on April 27, 1998, with limitations that he wears lenses that correct for distant vision and possess glasses that correct for near vision. According to the pilots logbook, he had logged 17 hours in the last 90 days, 6 hours of which were logged in the last 30 days.

The pilot-rated passenger seated in the right front seat held a private pilot certificate for single engine instrument airplane issued on December 3, 1985. His most recent third class medical certificate was issued on July 14, 1999, with a restriction; must wear corrective lenses for near and distant vision. Additionally, the pilot's logbook showed the pilot with a total time of 2,275 hours, 20 of which were accumulated over the last 90 days. The pilot's last biannual flight review was conducted March 11, 1998, in the PA-32RT.

AIRCRAFT INFORMATION

The Piper PA-32RT-300 Lance II, N2215U, SN: 32R-7985092, was manufactured in 1979, and was owned and operated by the pilot and pilot rated passenger. It was a low wing, single engine airplane, powered by a Lycoming IO-540-K1G5D, 300 horse power engine. Maintenance records were not recovered for review.

METEOROLOGICAL INFORMATION

Visual meteorological conditions prevailed at the time of the accident. The official weather observed at the Panama City Bay County International Airport (PFN), at 1443 cst, located about 50 miles southwest of the Geneva Municipal Airport, was the following; winds 080 at 7 knots, visibility 10 statute miles, temperature 57 degrees, dew point 28 degrees, and altimeter 30.18 inches of mercury. Sky conditions were clear.

WRECKAGE AND IMPACT INFORMATION

The accident site was located at Latitude N31 03.130, Longitude W085 52.291. The airplane had departed runway 29 and was observed weaving (fishtailing per witness) down the runway. The airplane lifted off approximately 1/3 down the runway and than bounced the nose gear on the runway at 1,515 feet from the roll out point. The nose gear skid mark was three feet left of centerline. The airplane climbed to an altitude of about 50 feet and then started a climbing left turn and disappeared into some trees. The outboard right wing was destroyed and the right wing tip separated. The airplane traveled for 270 feet and came to rest upright.

The left wing was found separated from the fuselage at the wing root. There was no damage to the inboard fuel tank. The leading edge outboard of the inboard fuel tank was crushed aft at a 45 degree angle. The outboard fuel tank was breached along the leading edge. The wing tip was separated and found with the main wreckage. The aileron remained attached to its hinges. The aileron balance weight was attached to the aileron. There was no damage to the aileron itself. The aileron bell crank remained connected and both aileron cables separated in tension overload near the wing root. Continuity was established from the chain and sprocket assembly, to the tension overload break at the wing root. The flap remained attached at its two inboard hinge points. The outboard hinge separated at the flap. The inboard hinge was bent inboard about forty-five degrees. The main gear was found attached and in the full extended position. There was an 18 inch tear in the bottom of the wing skin located about 68 inches outboard of the root. There were three strips of two inch duct tape covering the tear. All metal within the tear were curled aft.

The right wing was found separated from the fuselage at the wing root. The inboard fuel tank was breached at the outboard leading edge corner. There was blue fuel seeping from that corner. The outboard fuel tank separated from the left and right wing skin but remained attached at the main spar. The outboard leading edge of the tank was crushed aft about three

inches. The remainder of the wing leading edge had a semi-circular indentation that crushed the skin up and aft at a fifty degree angle. The wing tip was separated and found 270 feet from the main wreckage. The aileron remained attached at its hinges. The balance weight was found attached to the aileron. The inboard leading edge was deformed and bent upward. There was a chord wise, forty-five degree wrinkle in the inboard aileron skin. The aileron bell crank was separated from its attachment. The aileron control cables remained attached to the bell crank but were separated in tension overload near the wing root. Continuity was established from the chain and sprocket assembly, to the tension overload break at the wing root. The flap remained attached at its hinges. The inboard edge was bent upwards about 90 degrees. The flap position was unknown. The main gear remained attached and was in the extended position.

The left side of the tail cone was deformed along its longitudinal axis. The right side had a 45 degree wrinkle starting at the Emergency Locator Transmitter inspection plate and continued forward to the leading edge of the dorsal fin. There was no damage to the vertical fin, rudder, stabilator and anti servo trim tab. Continuity was established from the rudder horn, forward to the rudder pedals. The left rudder cable was separated at the eye bolt, at the rudder pedal. Continuity was established from the stabilator forward to the "T" bar assembly. The jackscrew measured five and one half threads. The forward right cabin door was separated from the forward fuselage skin. The window was broken out and the door locks were broken. The cabin roof was cut and peeled aft about three feet to remove the persons in the pilot and co-pilot seats. The windscreen was broken into numerous pieces. The instrument panel and the forward cabin floor separated just forward of the front seat rails. The nose gear separated from the engine frame and its position was not determined. The pilot's control wheel yoke was broken on the left side. The co-pilot's control wheel yoke was broken on the left side. The forward baggage door was separated and found bent into a "V" shape. The belly of the airframe separated aft of the flap torque tube. The flap torque tube control arm was found in the "0" degree flap position. The left side of the fuselage skin was separated and exposed the inside of the cabin. The left cabin door remained attached to its hinges but fractured the door skin at the upper hinge. The rear baggage door was found attached at its hinge. The fuel selector valve was found in the left main tank position. A sample of blue fuel was obtained from the selector valve sump. The fuel sample was tested with "Kolor Kut" and tested negative for water contamination. The belly of the airplane was covered with oil starting at the fire wall and continued aft to the tail of the airplane. The tail tie down was bent aft about forty-five degrees and scraped on the bottom. All brake cylinders were tested and found to be operational.

The propeller remained attached to the engine and exhibited torsional bending and heavy surface abrasion of all three blades. Two consecutive blades were curled at the tip; the internal pitch change mechanism of one blade was broken. The third blade was bent aft near mid span along a broad arc. The propeller governor unit was found intact. The governor control arm was found in the high pitch/low rpm position.

Examination of the engine on-scene found the following:

The ignition harness was severely damaged in multiple locations. Both top engine mount brackets were fractured. The #5 intake push rod tube was damaged, and the #6 intake and exhaust push rod tube was damaged. The fuel servo adapter was cracked at the manifold/sump attachment. The magneto mount pad was dislodged, however the attachment hardware remained in place. The engine assembly was rotated and continuity of the crankshaft, camshaft, valve train, and accessory drives was established. Each cylinder produced compression when the engine was rotated. The alternate air door was found in the alternate air position. The engine exhaust system was found to be clean and clear of obstructions. At the conclusion of the on-scene examination, no evidence of any pre-impact mechanical deficiencies were found that would have prevented power from being developed prior to the mishap. Following the examination the engine was shipped to the Textron Lycoming facility in Williamsport, Pennsylvania, for further examination.

On February 7, 2000, the engine was removed from the secured shipping container and prepared for the engine test run, under the supervision and observation of the FAA.

According to Lycoming and the FAA observer, the test run examination showed that the engine was capable of running and producing power. There were no mechanical discrepancies and/or anomalies found during the engine examination and/or engine test run to show that the engine was not capable of running and producing power prior to the mishap. When the examination was complete, the engine was returned to Atlanta Air Salvage, Inc., Griffin, Georgia.

MEDICAL AND PATHOLOGICAL INFORMATION

There was no toxicology done on the first pilot. The second pilot/passenger toxicology revealed no carbon monoxide, no cyanide, and no ethanol. However, Atenolol was detected in the blood, and urine. Sildenafil was detected in the blood and urine. Desmethylsildenafil was detected in the blood and urine, and 13.837 ug/ml, ug/g Acetaminophen was detected in the urine. The above listed drugs are used in high blood pressure medication, Tylenol and Viagra.

Autopsies were conducted on the two fatalities at the Alabama Department of Forensic Sciences, Dothan, Alabama.

ADDITIONAL INFORMATION

The wreckage was released to Mr. Keith Wright, a representative of the pilot's insurance company, AIG Aviation, Inc. Atlanta, Georgia.

Pilot Information

Certificate:	Private	**Age:**	58,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 27, 1998
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	313 hours (Total, all aircraft), 313 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N2215U
Model/Series:	PA-32RT-300 PA-32RT-30	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32R-7985092
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3216 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-540-K1G5D
Registered Owner:	CHARLES WILLIAM WOOD	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PFN ,20 ft msl	**Distance from Accident Site:**	50 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	169°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	14°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(33J)	**Type of Flight Plan Filed:**	None
Destination:	DOTHAN , AL (DHN)	**Type of Clearance:**	None
Departure Time:	14:43 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	GENEVA MUNICIPAL AIRPORT 33J	**Runway Surface Type:**	Asphalt
Airport Elevation:	101 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	29	**IFR Approach:**	None
Runway Length/Width:	3984 ft / 98 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal, 1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal, 1 Serious, 1 Minor	**Latitude, Longitude:**	31.030918,-85.869888(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Butch
Additional Participating Persons:	GEORGE A COLBOW; BIRMINGHAM , AL
Original Publish Date:	September 26, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=48352