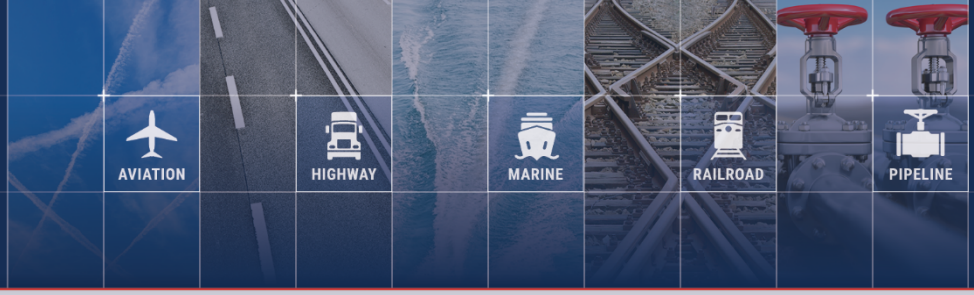

Aviation Investigation Final Report

Location:	JANESVILLE, Wisconsin	**Accident Number:**	CHI99FA311
Date & Time:	August 27, 1999, 15:00 Local	**Registration:**	N12BZ
Aircraft:	Walker BREEZY	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was cleared for takeoff on runway 31 at the Rock County Airport, Janesville, Wisconsin. The manager of the Air Traffic Control Tower said he watched the airplane get airborne just prior to taxiway 'alpha', approximately 2,000 feet down the runway. The airplane climbed out at a 45 degree nose-high pitch attitude. Approximately 100 feet over the intersection of runway 22 and runway 31, the airplane began a left turn. The airplane then turned to the right, 'fishtailed', and 'porpoised' several times. The airplane's nose remained at a high pitch angle the whole time. The airplane began another right turn, but then nosed straight down, hitting the ground. A witness on the ground said that the airplane 'got off in a very short distance, in a ridiculously steep pitch angle.' The airplane started a left turn in a nose-high attitude. The airplane settled, the nose went high, and then the airplane 'fell off to the right into a right-hand spin.' Examination of the airplane revealed no anomalies.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the inadvertent stall. A factor relating to this accident was the pilot's excessive climb rate.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) STALL/SPIN - INADVERTENT - PILOT IN COMMAND
2. (F) PROPER CLIMB RATE - EXCESSIVE - PILOT IN COMMAND

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

Factual Information

HISTORY OF FLIGHT

On August 27, 1999, at 1500 central daylight time (cdt), a Walker Breezy, N12BZ, operated by an airline transport pilot, was destroyed when on takeoff from runway 31 (5,396 feet by 150 feet; dry asphalt) at the Rock County Airport, Janesville, Wisconsin, the airplane departed controlled flight and impacted the terrain.

Visual meteorological conditions prevailed at the time of the accident. The personal flight was being conducted under 14 CFR part 91. No flight plan was on file. The pilot was fatally injured. The intended cross-country flight to Beloit, Wisconsin, was originating at the time of the accident.

Several witnesses on the ground saw the airplane takeoff and climb out at a steep pitch angle.

The manager of the Air Traffic Control Tower (ATCT) at the Rock County Airport said that the airplane was cleared for takeoff at 1450 cdt. The tower manager said he watched the airplane get airborne just prior to taxiway "alpha", approximately 2,000 feet down the runway. The airplane climbed out at a 45 degree nose-high pitch attitude. Approximately 100 feet over the intersection of runway 22 and runway 31, the airplane began a left turn. The airplane then turned to the right and began to fishtail. The airplane porpoised at least twice, maybe three times. The airplane's nose remained at a high pitch angle the whole time. The tower manager said the airplane began another right turn, but then it nosed straight down, hitting the ground. The tower manager telephoned "9-1-1".

A second witness also watched the airplane takeoff. "He got off in a very short distance, in a ridiculously steep pitch angle. He started a left turn. The nose stayed high the whole time. He kind of settled, but was still nose high. It looked as if he had recovered the airplane. Then the nose went high. The airplane fell off to the right into a right-hand spin."

A third witness saw the airplane on climb out. He said that the airplane was just above the "hangar roof line. At approximately 150 feet above ground level, the aircraft pitched up and stalled. The right wing dropped off, the aircraft turned to the right, and leveled off. The aircraft was now headed down runway 04. The aircraft pitched up again and stalled. The right wing again dropped off, and it appeared that the pilot may have tried a wing-over maneuver to pick up airspeed. As the aircraft went out of sight behind the hangar roof line, it was at a steep nose-down vertical angle."

A fourth witness saw the airplane taxi and take off from in front of his hangar. He said that the airplane departed runway 31 and immediately went into what looked like a maximum climb

rate. He describe the airplane as "just hanging there". The witness said that "the right wing dropped. but the pilot recovered. The airplane then turned to an easterly heading and again went into what looked like a max rate of climb." The witness said the airplane's right wing dropped again and then entered a spiral which continued until the airplane impacted the ground. The witness said that the airplane's engine sounded fine the entire time. "When he hit the ground, you could hear the engine still running."

PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with single and multi-engine land, instrument airplane ratings. Federal Aviation Administration Airman Records showed the pilot once held a flight instructor certificate for single-engine land, instrument airplanes. The instructor certificate was last renewed on April 29, 1995.

According to the Federal Aviation Administration Medical Certification Branch, the pilot reported having 8,500 total flight hours at his medical examination for a second class medical certificate, on July 27, 1999. The pilot also reported as having flown 50 hours within the previous 6 months of the medical examination.

AIRCRAFT INFORMATION

The airplane was owned and operated by the pilot and used for pleasure. The airplane was constructed between May, 1982, and September, 1984, by Robert L. Walker of St. Charles, Illinois. A Special Airworthiness Certificate listed the airplane category as "experimental", and its purpose as "operate amateur-built aircraft". The airplane was operated by the builder until it was sold in September, 1994. The airplane was operated in Maine, until the pilot purchased the airplane in 1998. An aircraft logbook entry citing the last recorded condition inspection, dated June 1, 1998, indicated the airplane was trailered to Wisconsin, and reassembled there. An aircraft registration listing the pilot as the owner, dated June 18, 1999, was recovered from the airplane.

A mechanic for Gail Force, Incorporated, Janesville, Wisconsin, said that the airplane came in for an annual condition inspection, approximately 2-1/2 weeks prior to the accident. Work performed on the airplane included a repair on the fuel sending unit, an engine cylinder, and the left strobe light.

The mechanic said that no work was performed on the airplane's flight controls. He said that all of the wing inspection panels were pulled, and he looked through the wings. He said that no cables were frayed. The mechanic said that the general condition of the wings looked good and all of the control surfaces were normal. The mechanic said he also inspected the cables under the seats.

A technician work sheet obtained from Gail Force, Incorporated, dated August 12, 1999, indicated that work was also performed on the oil temperature and pressure gauges. the

ammeter, and the airplane's brakes. The total airframe time recorded on the work sheet was 276.4 hours. A copy of the technician work sheet is provided as an addendum to this report.

Another mechanic for Gail Force, Incorporated, said that during the condition inspection, he lubricated and "ragged" the cables. The cables were never disassembled for inspection. The mechanic said that the accident flight was the airplane's first flight after the condition inspection.

METEOROLOGICAL CONDITION

The weather reporting station at the Rock County Airport, at 1500 cdt, reported the weather as 3,700 feet scattered cloud conditions, 6 miles visibility with haze, temperature of 81 degrees Fahrenheit, dew point of 70 degrees Fahrenheit, winds of 6 knots at 250 degrees magnetic, and an altimeter of 29.96 inches of Mercury (Hg).

The manager of the Rock County Airport ATCT said that at 1450 cdt, they briefed the pilot that the wind conditions were 250 degrees at 6 knots, and that runway 22 was the active runway. The pilot requested to takeoff from runway 31. The tower approved the request.

The tower manager said that the wind conditions were the same at the time of the accident, and increased to 8 knots, 10 minutes after the accident.

COMMUNICATIONS

The manager of the Rock County Airport ATCT said that at 1450 cdt, the pilot called the tower via telephone, and told them that he didn't have a radio, and would need a visual signal to clear him for takeoff. At 1459 cdt, with the airplane positioned facing the tower at the approach end of runway 31, the tower signaled the pilot with a light gun, giving him a green light signal and clearing him to takeoff.

WRECKAGE AND IMPACT INFORMATION

The NTSB on scene investigation began on August 27, 1999, at 1830 cdt.

The airplane main wreckage was found resting inverted in a field adjacent to runway 22 (6,701 feet by 150 feet), 2,126 feet from the approach end, and 138 feet northwest of the runway's right edge.

The airplane's main wreckage consisted of a tandem-seat cockpit area, tricycle nose gear, a tubular frame fuselage, the left and right wings, main landing gear, engine, pusher-propeller, and empennage. The airplane's fuselage was oriented on a 178 degree magnetic heading.

A debris field, consisting of pieces of fabric, fuselage frame tubing, and laminated wood shards, was located immediately southeast of the main wreckage. The debris field fanned

outward in a 130 degree arc, for 111 feet. The debris field was 115 feet at it's widest point, at the extent of the arc.

A ground scar was located immediately southeast of the airplane, just beneath the nose gear and front pilot seat. The scar was 16 inches long, 13 inches wide and 7 inches deep. Small pieces of fiberglass and remains (a wing and head) of a chrome-plated automobile-type hood ornament resembling the upper torso of a winged human female, were found embedded in the ground scar. A second ground scar was located 26 inches aft of the first ground scar, just beneath where the airplane's engine, main landing gear, and wing's main spar at the carry-through area, was located. The scar was 17 inches wide, 16 inches long and 7 inches at its deepest point. Pieces of the airplane engine's air filter, wing fabric, and paint chips were located in the second ground scar.

Running outward from the second ground scar, in an eastwardly and westwardly direction, were two impressions in the ground, each approximately 16 feet long and 7 inches wide. Numerous small paint chips and a few pieces of fabric were found along the two impressions. Nine feet outboard of the second ground scar, along the westward-running impression, was a 12-inch square area which contained broken glass and reflective material from the airplane's landing light. The impressions were revealed after the airplane wreckage was lifted from the accident site.

The airplane's cockpit area, forward floor, control console, nose wheel, and tube support structure, was bent upward and crushed aft into the rear cockpit area. The control console was crushed inward and aft. The rudder pedals were pushed upward and aft into the control console. The front seat control stick was broken off at the base. The flap handle and throttle quadrant were broken off. The pilot's seat was pushed upward and aft. The rear seat floor was buckled upward and crushed aft. The rear seat was bent upward and pushed aft into the fuselage frame supporting the engine and battery. The nose wheel was broken off. The wheel pan was fractured into several pieces.

The airplane had a single, high-wing configuration, where the left and right wings were connected by a carry-through spar, running through a center wing section. The carry-through spar also acted as the main spar to both wings, and ran through the center of the wings just forward of mid-chord. Both of the airplane's wings remained attached to the fuselage by the support structure surrounding the engine and going to the center wing section. The wings remained attached through the center wing section by the carry-through spar.

The span of the airplane's left wing was crushed inward from the leading edge aft to the main spar. The front portion of the left wing tip was crushed inward and bent down. The left aileron was intact. The outboard 13 inches of the aileron, beginning at the outboard hinge, was bent downward and crushed aft. The left fuel tank was broken open. A 43 inch wide inboard section of the left wing's top fabric was torn aft longitudinally. The flap was attached at the hinges and actuator arm, and found in a slightly hyper-retracted position. The inboard 22 inches of the airplane's left flap was broken downward. There was a downward dent in the

flap's trailing edge located 30 inches inboard of the flap's outer edge. Flight control continuity to the left aileron was confirmed.

The forward and aft struts to the left wing were attached at the wing mounting bolts and showed no damage. The metal bar where the struts apex and mount to the airplane's fuselage tubing was broken downward.

The center wing section, located over the airplane's engine was crushed downward onto the engine, and mount tubing structure. The top trailing edge of the section showed a semi-circular shaped scoring mark, approximately 8 inches long and 2 inches wide at the radius apex, running in a clockwise direction. At the outboard edge of the scoring mark was a 1-1/2 inch long longitudinally-running tear in the trailing edge.

The span of the airplane's right wing was crushed inward from the leading edge aft to the main spar. The right wing tip was buckled aft. The wing fabric showed several longitudinally-running tears beginning at the leading edge and running aft to the aft spar. The airplane's right aileron was bent upward 44 inches inboard of the outer edge, and showed a downward bend approximately 19 inches outboard of its inner edge. The right fuel tank was bent upward and crushed aft. The tank was broken open at its outboard wall. The right flap was attached by the hinges and actuator arm, and found in the retracted position. The flap showed an upward dent in the trailing edge, 18 inches outboard of the inner edge. Flight control continuity to the right aileron was confirmed.

The forward and aft struts to the right wing were attached at the wing mounting bolts. The forward strut showed no damage. The aft strut showed a 30 degree downward bend, 28 inches inboard of the wing attach bolt. The metal bar where the struts apex and mount to the airplane's fuselage tubing was broken forward and down.

The metal fuselage tubing, which supported the engine mounts and wings, was bent downward and left, and canted approximately 15 degrees. The fuselage tubing at the main landing gear legs was twisted left approximately 10 degrees. The main landing gear legs and tires showed no damage. A 7 inch long, 3 inch wide pieces of fiberglass was broken vertically from the outer wall of the right wheel pan, approximately 1 inch forward of the wheel axle bolt. The inner wall showed an 11 inch long crack beginning at the wheel opening and running vertically, approximately 6 inches forward of the right landing gear leg.

The left wheel pan showed a 7 inch long vertically-running crack in the outer pan wall, beginning at the wheel opening, 6 inches forward of the wheel axle bolt.

The metal tubing comprising the aft fuselage showed no damage. There was no damage observed to the vertical stabilizer and rudder, and no damage observed to the horizontal stabilizer and elevator. Control continuity to the elevator and rudder were confirmed.

Examination of the airplane's engine, engine controls, and airplane systems revealed no

anomalies.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was conducted by the Rock County, Wisconsin, Medical Examiner, on August 28, 1999, in Madison, Wisconsin.

The results of FAA toxicology testing of specimens from the pilot were negative for all tests conducted.

ADDITIONAL INFORMATION

Parties to the investigation were the Federal Aviation Administration Flight Standards District Office, Milwaukee, Wisconsin, and Textron Lycoming, Wayne, Illinois.

The airplane wreckage was returned and released to Gail Force, Express, Incorporated, Janesville, Wisconsin.

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	34,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	July 27, 1999
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	8500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Walker	**Registration:**	N12BZ
Model/Series:	BREEZY BREEZY	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	001
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	August 12, 1999 Annual	**Certified Max Gross Wt.:**	1820 lbs
Time Since Last Inspection:	0 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	278 Hrs	**Engine Manufacturer:**	Lycoming
ELT:		**Engine Model/Series:**	O-290-D
Registered Owner:	MARK T. JACOBSON	**Rated Power:**	125 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:	JVL ,808 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	15:00 Local	**Direction from Accident Site:**	130°
Lowest Cloud Condition:	Scattered / 3700 ft AGL	**Visibility**	6 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	250°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	27°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(JVL)	**Type of Flight Plan Filed:**	None
Destination:	BELOIT , WI (44C)	**Type of Clearance:**	None
Departure Time:	15:00 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	ROCK COUNTY AIRPORT JVL	**Runway Surface Type:**	Asphalt
Airport Elevation:	808 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	31	**IFR Approach:**	None
Runway Length/Width:	5396 ft / 150 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	42.650569,-88.949256(est)

Administrative Information

Investigator In Charge (IIC):	Bowling, David
Additional Participating Persons:	STEPHEN TALBOTT; MILWAUKEE , WI GREGORY A ERIKSON; WAYNE , IL
Original Publish Date:	November 30, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=47180