



# Aviation Investigation Final Report

---

<b>Location:</b>	SILER CITY, North Carolina	<b>Accident Number:</b>	ATL95LA129
<b>Date &amp; Time:</b>	July 5, 1995, 10:18 Local	<b>Registration:</b>	N70216
<b>Aircraft:</b>	BENSEN                      B-8M	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

---

## Analysis

THE PILOT TAXIED TO RUNWAY 04 AND STARTED HIS TAKEOFF. ACCORDING TO WITNESSES, THE GYROCOPTER USED ABOUT 2500 FEET OF THE RUNWAY FOR THE TAKEOFF. THEY REPORTED THAT THE GYROCOPTER BOUNCED ON THE RUNWAY SEVERAL TIMES BEFORE BECOMING AIRBORNE. AS THE GYROCOPTER MADE A RIGHT CLIMBING TURN, ONE WITNESS SAW PIECES OF THE GYROCOPTER FALLING FROM THE AIR. THE AIRCRAFT IMPACTED THE GROUND 1/4 MILE SOUTH OF THE AIRPORT. EXAMINATION OF THE AIRCRAFT DISCLOSED EVIDENCE OF MAIN ROTOR BLADE CONING, AND MAIN ROTOR CONTACT WITH THE RUDDER CONTROL SURFACE. EXAMINATION OF THE AIRCRAFT FAILED TO DISCLOSE A MECHANICAL MALFUNCTION. A REVIEW OF WEATHER DATA REVEALED THAT CONDITIONS WERE FAVORABLE FOR THE FORMATION OF CARBURETOR ICE. AN EXAMINATION OF THE PILOT'S QUALIFICATIONS INDICATED THAT THE HE WAS NOT ROTORCRAFT OR GYROCOPTER RATED.

## 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 CONTROL OF THE GYROCOPTER WHICH RESULTED IN AN INFLIGHT BREAKUP. A FACTOR WAS THE PILOT'S LACK OF A ROTORCRAFT OR GYROCOPTER CERTIFICATION.

## Findings

---

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: CLIMB

### Findings

1. (C) FLIGHT CONTROLS - IMPROPER USE OF - PILOT IN COMMAND
2. (F) LACK OF CERTIFICATION - PILOT IN COMMAND

-----

Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: DESCENT - UNCONTROLLED

-----

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

On July 5, 1995, at 1018 eastern daylight time, Bensen Gyrocopter, B-8M, N70216, broke up in flight shortly after takeoff from a private airstrip near Siler City, North Carolina. The personal flight operated under the provisions of 14 CFR Part 91 with no flight plan filed. Visual weather conditions prevailed at the time of the accident. The aircraft was destroyed, and the pilot received fatal injuries. The accident occurred during the initial takeoff attempt from Siler City.

The pilot taxied to runway 04 for a takeoff. According to witnesses, the takeoff attempt used about 2500 feet of the runway surface. The aircraft bounced several times on the runway surface before becoming airborne. After liftoff, the aircraft climbed to 200 feet and the pilot made a right climbing turn. As the aircraft reached the midway point of the runway on the downwind leg of the traffic pattern, witnesses observed the aircraft start a series of pitching oscillations, which culminated in the aircraft flipping inverted. One witness observed the aircraft as it came apart in flight, and fell to the ground.

Examination of the aircraft wreckage and accident site disclosed that wreckage debris was scattered over an area 900 feet long. Examination of the wreckage revealed main rotor and rudder control surface contact in flight. Further examination of the main rotor system disclosed that both rotor blades were deformed upward. The flight control examination also failed to disclose a mechanical problem. The propeller wood propeller blades were broken at both tips. An examination of the engine assembly failed to disclose a mechanical problem. The magneto assembly produced an ignition spark during the functional check.

A review of the pilot's qualifications indicated that he was not helicopter nor gyrocopter rated. The review of the pilot's flight log indicated that he had received several hours of dual helicopter instruction, but there was no record of a helicopter nor gyrocopter pilot flight check.

The postmortem examination of the pilot was conducted by Dr. Robert L. Thompson on July 6, 1995 at the Office of the Chief Medical Examiner in Chapel Hill, North Carolina. The toxicological examination was negative for alcohol, and drugs.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	26, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Center
<b>Other Aircraft Rating(s):</b>	Gyroplane	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	June 6, 1994
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	220 hours (Total, all aircraft), 9 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BENSEN	<b>Registration:</b>	N70216
<b>Model/Series:</b>	B-8M B-8M	<b>Aircraft Category:</b>	Gyroplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	880730
<b>Landing Gear Type:</b>		<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>	March 26, 1994 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>	8 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	24 Hrs	<b>Engine Manufacturer:</b>	McCulloch
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	43181A
<b>Registered Owner:</b>	JOHN R. ZIMMERMAN	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	GSO ,926 ft msl	<b>Distance from Accident Site:</b>	30 Nautical Miles
<b>Observation Time:</b>	10:51 Local	<b>Direction from Accident Site:</b>	300°
<b>Lowest Cloud Condition:</b>	Scattered / 1900 ft AGL	<b>Visibility</b>	5 miles
<b>Lowest Ceiling:</b>	Overcast / 16000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	28°C / 22°C
<b>Precipitation and Obscuration:</b>	N/A - None - Haze		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:12 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	BLAIR FIELD 5W8	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	614 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	4	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>	5000 ft / 75 ft	<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal	<b>Latitude, Longitude:</b>	35.720104,-79.459808(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Powell, Phillip
<b>Additional Participating Persons:</b>	ED MURNANE; WINSTON SALEM , NC
<b>Original Publish Date:</b>	February 27, 1996
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=3589">https://data.nts.gov/Docket?ProjectID=3589</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).