



# Aviation Investigation Final Report

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<b>Location:</b>	DAWSON, Maryland	<b>Accident Number:</b>	NYC99FA161
<b>Date &amp; Time:</b>	June 26, 1999, 12:31 Local	<b>Registration:</b>	N1548N
<b>Aircraft:</b>	Piper J3C-85	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal, 1 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

Three Piper J3 Cubs departed an airport in a valley with higher terrain nearby, and a density altitude of about 3,000 feet. Each airplane turned toward rising terrain, consisting of lower finger ridges and canyons, and a higher main ridge. The first airplane carrying only a pilot climbed faster than the terrain, and turned downwind. The second and third airplanes each carried a pilot and passenger and tried to follow similar paths. The pilot of the third airplane, which was operated about 100 pounds (9%) over gross weight, reported he watched the second airplane descend into trees. After overflying the second airplane, he encountered descending air which drove him into the trees. The pilot reported no problems with the airplane or engine. The pilots were briefed on alternate departure routes that would not require an immediate climb over rising terrain, but they were not used. FAA publications advised of the need to download weight when operating with higher density altitudes, and to approach ridgelines at a 45 degree angle to allow for escape in case of turbulence or descending air.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper decision to turn toward rising terrain with inadequate terrain clearance. Factors were the density altitude, downdraft, and the pilot's decision to operate at a weight in excess of the maximum allowable gross weight.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: MANEUVERING

### Findings

1. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
2. (F) WEATHER CONDITION - DOWNDRAFT
3. (F) AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND
4. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
5. (C) ALTITUDE/CLEARANCE - INADEQUATE - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

### Findings

6. OBJECT - TREE(S)

## Factual Information

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	54,U
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Rear
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	November 12, 1998
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	550 hours (Total, all aircraft), 130 hours (Total, this make and model), 40 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N1548N
<b>Model/Series:</b>	J3C-85 J3C-85	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	23081
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	August 27, 1998 Annual	<b>Certified Max Gross Wt.:</b>	1220 lbs
<b>Time Since Last Inspection:</b>	130 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4029 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	C-85-12
<b>Registered Owner:</b>	SAMUEL A. LYONS	<b>Rated Power:</b>	85 Horsepower
<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>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<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>		<b>Temperature/Dew Point:</b>	32°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	DAWSON, MD (NONE)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	NEW CASTLE, VA (VA85)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	12:30 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	HIGH ROCK AIRPORT NONE	<b>Runway Surface Type:</b>	Grass/turf
<b>Airport Elevation:</b>	760 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	2	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	1700 ft / 100 ft	<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	1 Fatal	<b>Aircraft Fire:</b>	On-ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal, 1 Serious	<b>Latitude, Longitude:</b>	39.529312,-78.87976(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Hancock, Robert
<b>Additional Participating Persons:</b>	DAVID F GILLEN; BALTIMORE, MD
<b>Original Publish Date:</b>	June 22, 2000
<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=46667">https://data.nts.gov/Docket?ProjectID=46667</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](#).