



# Aviation Investigation Final Report

<b>Location:</b>	TRAVERSE, Michigan	<b>Accident Number:</b>	CHI94LA234
<b>Date &amp; Time:</b>	July 19, 1994, 20:16 Local	<b>Registration:</b>	N8255N
<b>Aircraft:</b>	PIPER PA-28-140	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	4 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

DURING INITIAL CLIMBOUT FROM TAKEOFF A PASSENGER STATED HE FELT THE AIRPLANE 'BUMP' SEVERAL TIMES. WHEN ATC TOLD THE PILOT TO TURN, THE PASSENGER SAID HE FELT MORE BUMPING AS THE AIRPLANE DESCENDED INTO THE TREES. GROUND WITNESSES OBSERVED THE AIRPLANE PITCHING UP AND DOWN WHILE FLYING LOW. THEY STATED THE ENGINE SOUNDED LIKE IT WAS RUNNING AT FULL POWER. THE ON-SCENE INVESTIGATION REVEALED FULL NOSE UP TRIM, A TAKEOFF WEIGHT 196 POUNDS OVER CERTIFICATED GROSS WEIGHT. THE ENGINE WAS TEST RUN AT THE MANUFACTURER. THE ENGINE PRODUCED 100 PERCENT OF RATED POWER DURING THE TEST RUN.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: poor preflight planning and preparation by the pilot for not calculating the weight and balance of his airplane before departure. Factors associated with the accident were the airplane's weight and balance was exceeded, and the pilot's lack of recent experience in the accident airplane.

## Findings

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

Findings

1. (F) AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND
2. (F) LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT - PILOT IN COMMAND
3. (C) PREFLIGHT PLANNING/PREPARATION - POOR - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. OBJECT - TREE(S)

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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. TERRAIN CONDITION - GROUND

## Factual Information

On July 19, 1994, at 2016 eastern daylight time (edt), a Piper PA- 28-140, N8255N, registered to Cherry Capital Aviation of Traverse City, Michigan, and piloted by a private pilot, was destroyed when it collided with trees and terrain during a forced landing. The airplane had departed runway 18 at the Cherry Capital Airport shortly before the accident. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 flight was not operating on a flight plan. The pilot and two passengers received serious injuries, a third passenger received minor injuries. The flight departed Traverse City, Michigan, at 2013 edt.

N8255N's pilot was cleared for a left-hand turn out after takeoff from runway 18. At the time he was cleared, the controller was working a Cessna that was inbound for a left hand downwind to runway 18. After verifying the Cessna's position the controller changed N8255N's turnout direction to the right. N8255N's pilot acknowledged the clearance and turned to the right according to the controller.

One of N8255N's passenger's written statements said the airplane was climbing when the pilot was told to turn to the right. He said: "As we were turning, the plane bumped a little for approximately two to three seconds... ." He said after another passenger and he had made a comment about the "bumping" the airplane "...bumped again and again... ." Another passenger asked the pilot what the bumping was and the pilot said, according to the written statement, "Not good." The written statement continues, "As we were turning I noticed that we were slowly losing altitude... ." An interview with the passenger confirmed his written statement.

Witnesses observed the airplane fly past at a low altitude, repeatedly porpoising. The front seat passenger said the airplane began to "...wave..." back and forth soon after takeoff.

He said there were no engine problems during the flight. Two witnesses reported that N8255N's engine was running at "...full force..." and "...at climb power... ." One witness, a Michigan State Police Trooper, observed the airplane flying low and said it appeared to him that the airplane was too heavy for flight.

Before departing on the flight, the pilot of N8255N had it refueled with 34 gallons of fuel. The person refueling the airplane stated: "I thought it strange that four people were going in an aircraft with such a small useful load." The Grand Traverse Sheriff's Department obtained N8255N's occupants weights from their driver's licenses.

The passengers total weight was 685 pounds. The airplane's fuel weight was 204 pounds. Using the airplane's weight and balance data the airplane's takeoff gross weight and center of gravity were calculated. Its takeoff weight was 2,346 pounds and center of gravity (C.G.) was 90.6 aft of datum. N8255N's maximum gross weight was 2,150 pounds. Its C.G. range 88.6.

to 96.0 inches aft of the datum at its maximum gross weight. The on-scene investigation revealed that airplane had full nose "UP" trim.

According to the pilot's logbook, his last flight in a Piper PA- 28-140 was July 1, 1992. His logbook showed one hour of dual instruction on that date. This flight was in N8255N. The remarks section stated: "Check-out/pleasure." There was no instructor signature in this entry. The next most current flight in the Piper PA-28 series airplane (PA-28-181) was on September 13, 1991, according to his logbook. During five months before the accident, the pilot had flown 4.9 hours in Cessna 150 airplanes.

N8255N's engine had a total time of 2,8821.7 hours on it before being overhauled. The engine had 118.7 hours since it was overhauled. The engine was sent to the manufacturer for test running. The test run was described as normal, the engine ran to the manufacturer's specifications. The runup test report is appended to this report.

The NTSB Form 6120.1/2 was not filed by the pilot due to his injuries.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	25, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<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--no waivers/lim.	<b>Last FAA Medical Exam:</b>	March 18, 1993
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	103 hours (Total, all aircraft), 1 hours (Total, this make and model), 69 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N8255N
<b>Model/Series:</b>	PA-28-140 PA-28-140	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	28-25466
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	July 5, 1994 100 hour	<b>Certified Max Gross Wt.:</b>	2050 lbs
<b>Time Since Last Inspection:</b>	14 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4301 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-320
<b>Registered Owner:</b>	CHERRY CAPITAL AVIATION	<b>Rated Power:</b>	150 Horsepower
<b>Operator:</b>	CHERRY CAPITAL AVIATION	<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>	TVC ,624 ft msl	<b>Distance from Accident Site:</b>	3 Nautical Miles
<b>Observation Time:</b>	20:33 Local	<b>Direction from Accident Site:</b>	60°
<b>Lowest Cloud Condition:</b>	Scattered / 8000 ft AGL	<b>Visibility</b>	8 miles
<b>Lowest Ceiling:</b>	Overcast / 14000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	190°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	25°C / 21°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	, MI	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	CHARLEVOIX , MI (CVX )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	20:15 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	CHERRY CAPITAL AIRPORT TVC	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	624 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	18	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>	150 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>	3 Serious	<b>Aircraft Fire:</b>	On-ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	4 Serious	<b>Latitude, Longitude:</b>	44.760417,-85.699508(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gattolin, Frank
<b>Additional Participating Persons:</b>	WOODY BEST; GRAND RAPIDS , MI FRANK GURISH; NEW CUMBERLAND , PA THOMAS J DUDDY; WILLIAMSPORT , PA
<b>Original Publish Date:</b>	February 24, 1995
<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=9598">https://data.nts.gov/Docket?ProjectID=9598</a>

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