National Transportation Safety Board
Aviation Accident Final Report

Location:	TELLURIDE, CO	**Accident Number:**	DEN00FA037
Date & Time:	01/02/2000, 0950 MST	**Registration:**	N421CF
Aircraft:	Cessna 421B	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The non-instrument rated private pilot departed Montrose, Colorado, southbound in a Cessna 421B. According to radar data, the airplane climbed from 14,300 to 16,600 feet msl at a rate of 1,792 fpm. The data shows that 19 seconds later, the airplane lost 4,000 feet of altitude, or descended at a rate of 12,631 fpm. The airplane then climbed back to 13,300 feet msl at a rate of 1,448 fpm, and then disappeared from radar. The airplane crashed in snow covered mountainous terrain. Snowmobilers, who were in the vicinity of the impact site at the time of the accident, said that snow showers made visibility less than 1/2 sm. A pilot departing Telluride Regional Airport (located 33 nm at 045 degrees from the crash site), on a heading of 300 degrees, at approximately 1015 said that it was clear right over Telluride. He said that as he climbed out, he got into weather at 12,000 feet msl, and didn't break out until 22,000 feet msl. He also said that he experienced no icing or turbulence during his climb out.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The non-instrument rated pilot's intentional flight into IMC, and his subsequent spatial disorientation that resulted in an inadvertent stall. A factor was the snow showers weather condition.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CLIMB - TO CRUISE

Findings
1. (F) WEATHER CONDITION - SNOW
2. (C) VFR FLIGHT INTO IMC - INTENTIONAL - PILOT IN COMMAND
3. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
4. (C) STALL - INADVERTENT - PILOT IN COMMAND

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

Findings
5. TERRAIN CONDITION - MOUNTAINOUS/HILLY
6. TERRAIN CONDITION - SNOW COVERED

Factual Information

HISTORY OF FLIGHT

On January 2, 2000, at approximately 0950 mountain standard time, a Cessna 421B, N421CF, was destroyed following impact with terrain near Telluride, Colorado. The non-instrument rated private pilot, the sole occupant in the airplane, was fatally injured. The airplane was being operated by the pilot under Title 14 CFR Part 91. Instrument meteorological conditions prevailed for the cross-country personal flight that originated from Montrose, Colorado, approximately 35 minutes before the accident. The pilot had not filed a flight plan; family members said the pilot was en route to Las Cruces, New Mexico.

The family reported the pilot missing on January 4, and a search was commenced. Search and rescue team members located the airplane at approximately 1430 on January 6. There was approximately 18 to 24 inches of snow on the ground at the accident site.

Federal Aviation Administration (FAA) radar documented the airplane's departure from Montrose at approximately 0915 on January 2. At 0946:19, the airplane began a 1,792 feet per minute (fpm) rate of climb from 14,300 feet msl to 16,600 feet msl. The radar shows that 19 seconds later, the airplane lost 4,000 feet of altitude, or 12,631 fpm rate of descent. The airplane then climbed back to 13,300 feet msl at a rate of 1,448 fpm. One more primary radar return was recorded at 0948:34 (no altitude was documented), and then the airplane disappeared from radar.

PERSONNEL INFORMATION

The pilot's old flight logbook (his current logbook was never found) indicated that he received his private pilot license on March 19, 1970. The pilot purchased N421CF in November of 1998, and he attended a Cessna 421B ground and flight training school, Double Eagle Aviation, Tucson, Arizona, in January of 1999. On his application for the school, he reported that he had 1,500 hours of single-engine flight time, and 1,500 hours of multiengine flight time. Instructors at the school reported that the pilot had good natural flying skills and was a quick learner. They did report that he was "somewhat weak with instrument reference."

The pilot reported on an insurance application, on December 11, 1999, that he had 3,700 hours of flight experience, and 200 hours of flight experience in N421CF. The pilot's last FAA medical certificate was dated March 31, 1999. The pilot did not have an instrument rating.

AIRCRAFT INFORMATION

The airplane was a twin engine, propeller-driven, pressurized aircraft, which was manufactured in 1974 by Cessna Aircraft Company. It could seat eight people. The airplane was powered by two Teledyne Continental GTSIO-520-H turbocharged, six cylinder, reciprocating, horizontally opposed, fuel injected engines which had a maximum takeoff rating of 375 horsepower at sea level. The last annual inspection was performed in Montrose, Colorado, on May 11, 1999. At the time of the accident, the aircraft maintenance records and hour meter suggest that the airframe had accumulated approximately 3,154 hours.

Fuel purchase records from Montrose Regional Airport indicate that N421CF received 108 gallons of 100LL aviation fuel on December 23, 1999.

METEOROLOGICAL CONDITIONS

At 0953, the weather conditions at the Cortez Municipal Airport, Cortez, Colorado (elevation 5,914 feet), 170 degrees 22 nautical miles (nm) from the accident site, were as follows: wind 240 degrees at 5 knots; visibility 5 statute miles (sm) with snow showers; cloud condition broken 2,400 feet, overcast 3,200 feet; temperature 28 degrees Fahrenheit; dew point 28 degrees Fahrenheit; altimeter setting 29.84 inches of mercury.

At 0953, the weather conditions at the Animas Air Park, Durango, Colorado (elevation 6,684 feet), 110 degrees 45 nm from the accident site, were as follows: wind 110 degrees at 4 knots; visibility 1 sm with snow showers; cloud condition broken 800 feet, overcast 1,800 feet; temperature 25 degrees Fahrenheit; dew point 25 degrees Fahrenheit; altimeter setting 29.84 inches of mercury.

Snowmobilers, who were in the vicinity of the impact site, said snow showers made visibility less then 1/2 sm at approximately 0950. Telluride Regional Airport (elevation 9,078 feet), 045 degrees at 33 nm, reported having 6 to 8 inches of snow throughout the day. A pilot departing Telluride Regional Airport, on a heading of 300 degrees, at approximately 1015, said that it was clear right over Telluride. He said that as he climbed out he got into weather at 12,000 feet mean sea level (msl), and didn't break out until 22,000 feet msl. He also said that he experienced no icing or turbulence during his climb out.

WRECKAGE AND IMPACT INFORMATION

The airplane crashed in rolling mountainous terrain (elevation 8,250 feet) partially covered with 5 to 20 foot tall trees (N37 degrees, 43.50 minutes; W108 degrees, 25.20 minutes). Missing branches from the trees on a ridge line (elevation 8,500 feet) overlooking the first impact point suggest that the airplane was approximately 30 degrees nose low and in a 25 degrees right bank. The missing branches on the northwest side of the ridgeline were longitudinally oriented 320 degrees.

Descending down the ridgeline towards a small valley below was a scattered debris path comprised of components of the right outboard wing: the right wing auxiliary (inboard) fuel tank, a 4 foot wing spar section, the right wing aileron, and the right wing tip main fuel tank. As the debris path crossed the 300-foot wide meadow, its ground track changed to 334 degrees. At this point, the terrain began to rise, and two 4x10 foot craters were located (860 feet from the debris field start point). Each crater contained propeller blades (five of the six blades were found, the sixth was found after the snow melted in the spring). Several small red plastic lens fragments were found approximately 10 to 14 feet to the right of the right hand crater.

The left engine was found on the right side of the debris path, at the 990-foot point, and the right engine was found on the left side of the debris path, at the 1,150 foot point. Physical evidence at the accident site suggested that the airplane impacted the terrain, at the 860-foot point, inverted.

The fuselage and empennage were found 1,550 feet from the debris path start point. The last piece of wreckage, a wheel, was found 1,600 feet from the debris path start point.

All the major components of the airplane were accounted for at the accident site. The flight control surfaces were all identified, but control cable continuity could not be established due to impact damage. Both engines were severely impact damaged; neither crankshaft could be rotated. There was no evidence of pre or postimpact fire. No preimpact engine or airframe anomalies, which might have affected the airplane's performance, were identified.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Southwest Memorial Hospital, Cortez, Colorado, on January 7, 2000.

The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on the pilot. According to CAMI's report (#200000009001), carbon monoxide and cyanide tests were not performed. No volatiles or drugs were detected in the muscle samples.

ADDITIONAL DATA

The airplane, including all components and logbooks, was released to a representative of the owner's insurance company on August 28, 2000.

Pilot Information

Certificate:	Private	**Age:**	53, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	03/31/1999
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	3700 hours (Total, all aircraft), 200 hours (Total, this make and model), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N421CF
Model/Series:	421B 421B	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	421B-0513
Landing Gear Type:	Retractable - Tricycle	**Seats:**	8
Date/Type of Last Inspection:	05/11/1999, Annual	**Certified Max Gross Wt.:**	7250 lbs
Time Since Last Inspection:	100 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	3154 Hours	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	GTSIO-520-H
Registered Owner:	CLARENCE C. BRASIER	**Rated Power:**	375 hp
Operator:	CLARENCE C. BRASIER	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	CEZ, 5914 ft msl	**Distance from Accident Site:**	22 Nautical Miles
Observation Time:	0953 MST	**Direction from Accident Site:**	170°
Lowest Cloud Condition:	Thin Broken / 2400 ft agl	**Visibility**	5 Miles
Lowest Ceiling:	Overcast / 3200 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	-2°C / -2°C
Precipitation and Obscuration:			
Departure Point:	MONTROSE, CO (MTJ)	**Type of Flight Plan Filed:**	None
Destination:	LAS CRUCES, NM (LRU)	**Type of Clearance:**	None
Departure Time:	0915 MST	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	JAMES F STRUHSAKER	**Report Date:**	04/19/2001
Additional Participating Persons:	ROBERT C MCINTYRE; SALT LAKE CITY, UT TOM MOODY; WICHITA, KS SCOTT BOYLE; MOBILE, AL		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		