National Transportation Safety Board
Aviation Accident Final Report

Location:	Tajique, NM	**Accident Number:**	FTW03FA055
Date & Time:	12/03/2002, 2035 MST	**Registration:**	N3855C
Aircraft:	Cessna 421C	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

Prior to departing on the first leg of the flight, the dispatcher advised the pilot that he needed him to check the weather. After advising the pilot that he would be flying an additional leg, the dispatcher again advised the pilot that he needed him to check the weather, which the pilot did, as observed by the dispatcher. After reaching 14,500 feet at 2028 the pilot contacted Albuquerque Approach Control, advising the controller that he had information "Yankee" and was requesting a lower altitude. The controller instructed the pilot to proceed via his own navigation and to descend at pilot's discretion. The pilot replied "Roger." From 2034 to 2041 the controller made four attempts to contact the pilot, each without success. At 2039 and 2042 the controller asked two other aircraft in the area to try establishing radio communication with the pilot; neither were successful. At 2033:19 the last radar return with altitude information was received from the aircraft, with a reported altitude of 10,200 feet MSL. A primary radar contact, with no transponder or altitude information, was received at 2033:32, 2.2 nautical miles southeast of the accident site, putting it on a straight line between the last radar contact and destination airport. The accident site was located at the 9,012 foot level of a mountain range, 19 nautical miles southeast of the destination airport. Post-accident examination revealed no anomalies with the airframe or engines which would have prevented normal operations. At 1956, the weather observation facility located at the destination airport reported a few clouds at 800 feet, scattered clouds at 2,500 feet, and overcast clouds at 4,200 feet. The remarks section stated rain ended at 35 minutes past the hour, and mountains obscured northeast to southeast. At 2024, the same weather facility reported scattered clouds at 600 feet and overcast clouds at 4,200 feet.

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 terrain clearance. Factors contributing to the accident were the high mountains, mountain obscuration, the dark night condition, and the pilot's improper in-flight planning/decision making.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT

Findings
1. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
2. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
3. (F) WEATHER CONDITION - OBSCURATION
4. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
5. (F) LIGHT CONDITION - DARK NIGHT

Factual Information

HISTORY OF FLIGHT

On December 3, 2002, approximately 2035 mountain standard time, a Cessna 421C twin-engine airplane, N3855C, was destroyed after impacting terrain while maneuvering near Tajique, New Mexico. The commercial pilot, sole occupant, sustained fatal injuries. The airplane was registered to a private individual, and operated by Air Transport Inc., of El Paso, Texas. Instrument meteorological conditions prevailed for the 14 CFR Part 135 on-demand cargo flight, and a flight plan was not filed. The flight departed from the Alamogordo-White Sands Municipal Airport (ALM), Alamogordo, New Mexico at 1950, and was destined for the Albuquerque International Sunport Airport (ABQ), Albuquerque, New Mexico.

In a telephone interview conducted by the NTSB investigator-in-charge, and in a written statement provided by the company dispatcher on duty the day of the accident, at 1430 the dispatcher advised the pilot of possible icing conditions in the Albuquerque area. He further advised the pilot that he needed to check the weather, and that "if conditions were bad we would be required to use the Lear to do the run." At 1555 the pilot informed the dispatcher that "weather would not be a problem." At 1632, the dispatcher informed the pilot the he would be flying an additional leg, and that "I needed him to check the weather again." At 1633, the dispatcher observed the pilot at the weather station computer and on the telephone. At 1635, he observed the pilot check the weather, and subsequently "the pilot advised me that the weather should still not be a problem. There might be a little problem getting out of ABQ, but he thought he would be able to get around it."

The flight, designated as CYO255, departed the El Paso International Airport (ELP), El Paso, Texas, at 1830, and landed at the Las Cruces International Airport (LRU), Las Cruces, New Mexico, at 1850. The airplane departed LRU at 1900, landing at the Alamogordo-White Sands Regional Airport (ALM), Alamogordo, New Mexico, at 1929. The airplane departed ALM at 1950, with an estimated time en route to ABQ of 50 minutes. After departing ALM, the pilot contacted Albuquerque Approach Control and requested visual flight rules (VFR) flight following. The aircraft was assigned a transponder code of 2654, and at 2010:38 the aircraft's transponder code was changed to 2654. The aircraft continued climbing until reaching 14,500 feet mean sea level (MSL). At 2028 the pilot checked in with Albuquerque Approach Control, advising the controller that he was VFR at 14,500 feet MSL with Automatic Transcribed Information Service (ATIS) "Yankee," and requesting a lower altitude. The controller advised the pilot to proceed via his own navigation for right traffic to runway 03 and to descend at pilot's discretion. The pilot replied "Roger." From 2034 to 2041 the controller made four attempts to contact the pilot of CYO255, but none were successful. At 2039 and 2042 the controller asked two other aircraft in the area to try establishing radio communication with CYO255; both of those attempts also proved unsuccessful.

At 2033:19 the last radar return with altitude information was received from the aircraft with a reported altitude of 10,200 feet MSL. A primary radar contact, with no transponder or altitude information, was then received at 2033:32. This primary radar contact was 2.2 nautical miles southeast of the accident, which put it on a heading of 318 degrees magnetic, a straight line between the last radar contact and the Albuquerque airport (19 nautical miles from the accident site). At 2126 the Albuquerque Air Route Traffic Control Center (ARTCC) advised the company dispatcher on duty that they had lost radar contact with the aircraft.

The accident site was located on the morning of December 4, 2002, at the 9,012 foot level of the Manzano mountain range approximately 1 nautical mile east of Bosque Peak, elevation 9,600 feet above sea level. Rescue personnel examined the accident site that afternoon; however, due to an approaching weather system and other time constraints, only 30 minutes was allotted for the wreckage examination.

The aircraft was subsequently recovered and examined at a salvage facility in Phoenix, Arizona, on December 16, 2002.

PERSONNEL INFORMATION

Federal Aviation Administration records indicated the pilot held a FAA commercial pilot certificate last issued on May 10, 1998, with airplane single-engine land, airplane multiengine land, and instrument airplane ratings. The pilot held a second-class medical certificate, issued on December 2, 2002, with no limitations.

The pilot's logbook, which was located at the accident site, indicated that he had accumulated 2,461 total flight hours, 2,030 hours cross-country, 881 hours of night flight, and 1,543 hours of multiengine flight time. From March 8, 2002 to November 7, 2002, the logbook indicated the pilot had flown two instrument approaches and had accumulated 4.7 hours of instrument time, .7 of which was simulated. During that time period the pilot recorded 245 hours in the accident airplane.

METEOROLOGICAL INFORMATION

At 1956, the weather observation facility at ABQ (located 19 nautical miles northwest of the accident site) reported wind from 340 degrees at 6 knots, visibility 10 statute miles, few clouds at 800 feet, scattered clouds at 2,500 feet, overcast clouds at 4,200 feet, temperature 3 degrees C, dew point minus 1 degree C, altimeter 30.11 inches of Mercury. The remarks section stated rain ended at 35 minutes past the hour, and mountains obscured northeast to southeast.

At 2004, the ABQ special observation was issued reporting wind 340 degrees at 7 knots, visibility 10 statute miles, broken clouds at 600 feet, overcast clouds at 4,200 feet, and ceilings variable between 500 feet and 800 feet, temperature 3 degrees C, dew point minus 1 degree C, altimeter 30.11 inches of Mercury.

At 2022, a second ABQ special observation was issued which reported wind 340 degrees at 8 knots, visibility 10 statute miles, scattered clouds at 600 feet, broken clouds at 1,100 feet, and overcast clouds at 4,200 feet, temperature 3 degrees C, dew point minus 1 degree C, altimeter 30.11 inches of Mercury.

At 2024, a third ABQ special observation reported wind from 350 degrees at 7 knots, visibility 10 statute miles, scattered clouds at 600 feet, overcast clouds at 4,200 feet, temperature 3 degrees C, dew point minus 1 degree C, and an altimeter setting of 30.11 inches of Mercury.

At 2056, the ABQ weather observation facility reported wind from 010 degrees at 7 knots, visibility 10 statute miles, scattered clouds at 600 feet, scattered clouds at 800 feet, overcast clouds at 4,200 feet, temperature 3 degrees C, dew point minus 1 degree C, altimeter setting 30.12 inches of Mercury, and mountains obscured northeast through southeast.

WRECKAGE AND IMPACT INFORMATION

According to a Global Positioning System (GPS) receiver, the accident site was situated at north 034 degrees 45.54 minutes latitude and west 106 degrees 24.79 minutes longitude at an

elevation of 9,012 feet MSL. Ground scars indicated the aircraft first impacted terrain in a slight nose high, wings level attitude. A 35-foot long by 40-foot wide area of ground was disturbed at the initial impact point. Both propellers impacted a short rock outcropping and the aircraft became airborne again. The aircraft then cleared a 20-foot high vertical rock wall 20 feet from the rock outcropping. While airborne the tail section, from the front of the vertical stabilizer aft, separated from the aircraft and came to rest on the ground 380 feet from the initial impact point. The remainder of the aircraft continued forward and came to rest inverted 950 feet from and 200 feet above the initial impact point on a heading of 312 degrees magnetic from the initial impact point. The fuselage came to rest facing 90 degrees to the left of the direction of travel. The mishap location was on the east side of a mountain range southeast of the Albuquerque, New Mexico metropolitan area. The highest portion of the range on the aircraft's projected course was 9,330 feet MSL, approximately 8 nautical miles from where the main wreckage came to rest.

The separated tail section did not exhibit any damage indicative of ground impact. The front of the fuselage had been pushed aft until there was only approximately 4 inches between the instrument panel and the front seats, which were the only seats in the aircraft. The fuselage had vertical wrinkles along its length with the most deformation noted towards the front of the aircraft.

Control cable continuity was not confirmed until after the aircraft was recovered. All observed cable separations were either the result of recovery cuts or tension overload. Continuity was confirmed from each flight control surface to the instrument panel area. All of the flight controls remained attached to their respective aerodynamic surfaces, except for the left aileron. The left aileron was located at the accident site. Both control yoke tubes had been separated from the firewall. The horns on the left yoke were both separated.

The right wing had separated just outboard of the fuselage. A 4-foot to 5-foot section of the wing spar remained attached to the fuselage. This section was bent aft. The left wing, from the engine nacelle inboard, remained attached to the fuselage and was removed by the recovery crew.

The aircraft was in a cargo configuration and was only equipped with two seats. The cabin was opened along the bottom of the fuselage from the instrument panel to the aft pressure bulkhead. The cabin floorboards were pushed up. A cargo net was found attached to a fitting on the left side of the cabin floor behind the pilot's seat. When rescue crews arrived on site, the pilot was found belted into his seat. The front of the seat was estimated to be 4 inches from the instrument panel.

The left side cockpit control panel, which includes controls for the deicing systems, was heavily damaged and individual switch positions could not be confirmed.

The left engine had separated from its mounts and was found lying next to the fuselage. The engine had sustained heavy impact damage. The oil sump had separated from the engine and the front of the engine case around the propeller shaft had separated into multiple pieces leaving the case open. Most of the accessories had separated from the engine. The induction and exhaust systems were crushed and broken. The cylinder head of the #5 cylinder had separated. The engine's turbocharger was intact and could be rotated by hand. The fuel control unit's fuel screen was clear of debris and the diaphragm was intact. The spark plugs exhibited normal wear.

The right engine remained attached to the wing and the case was intact. The #6 cylinder sustained impact damage, exposing a valve stem and springs. The right engine fuel pump coupling was intact and rotated freely by hand. The fuel control unit screen was clear of debris and the diaphragm was intact. Both magnetos produced spark to the top magneto leads. The vacuum, hydraulic and fuel pumps remained attached to the engine. The vacuum pump was intact internally. The top spark plugs exhibited normal wear.

The fuel system tanks and lines were compromised during the impact sequence. The left fuel selector was intact and indicated a right main tank setting; the position of the fuel valve in the left wing could not be definitively determined. While the right fuel selector handle was missing, the back of the selector assembly was consistent with being in the OFF position. The right fuel valve located in the wing was in the OFF position. The cables going from each fuel selector to its respective fuel valve were separated. The fuel cross-feed cutoff handle was down and in the open position. Both crossfeed cutoff valves in the wings were in the open position.

Only three propeller blades were recovered from the accident site. The outboard 1 foot of blade #1 was separated. The blade was twisted and exhibited heavy leading and trailing edge damage. Gouging was present on the blade running diagonally to the chord. Blade #2 was twisted and exhibited chordwise gouging. The blade was bent approximately 180 degrees onto itself. The blade also exhibited heavy leading edge damage. Blade #3 exhibited "S" bending at the tip. Long, chordwise scratches and gouges were present. Part of the tip was missing and heavy leading edge damage was present.

PATHOLOGICAL AND TOXICOLOGICAL INFORMATION

The autopsy of the pilot was performed at the Office of the Medical Investigator, Albuquerque, New Mexico, on December 6, 2002. The medical examiner determined the cause of the pilot's death to be "Multiple Injuries".

Toxicology samples were sent to the Federal Aviation Administration Civil Aeromedical Institute in Oklahoma City, Oklahoma, for analysis. The results of the analysis was reported as negative for ethanol, cyanide, carbon monoxide and controlled substances.

ADDITIONAL INFORMATION

The airplane was released to the owner's representative on April 7, 2003.

Pilot Information

Certificate:	Commercial	**Age:**	46, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	12/02/2002
Occupational Pilot:		**Last Flight Review or Equivalent:**	11/06/2002
Flight Time:	2500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N3855C
Model/Series:	421C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Utility	**Serial Number:**	0121
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	11/19/2002, Annual	**Certified Max Gross Wt.:**	8750 lbs
Time Since Last Inspection:	21.1 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	8539.4 Hours as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	GTSIO-520L
Registered Owner:	Gerald and Vicotria Wingett	**Rated Power:**	375 hp
Operator:	Air Transport Inc.	**Operating Certificate(s) Held:**	On-demand Air Taxi (135)
Operator Does Business As:		**Operator Designator Code:**	GSGA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Night/Dark
Observation Facility, Elevation:	ABQ, 5355 ft msl	**Distance from Accident Site:**	22 Nautical Miles
Observation Time:	2024 MST	**Direction from Accident Site:**	135°
Lowest Cloud Condition:	Scattered / 600 ft agl	**Visibility**	10 Miles
Lowest Ceiling:	Overcast / 4200 ft agl	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	350°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	3°C / -1°C
Precipitation and Obscuration:			
Departure Point:	Alamogordo, NM (ALM)	**Type of Flight Plan Filed:**	None
Destination:	Albuquerque, NM (ABQ)	**Type of Clearance:**	None
Departure Time:	1950 MST	**Type of Airspace:**	Class G

Airport Information

Airport:	Albuquerque International Apt. (ABQ)	**Runway Surface Type:**	
Airport Elevation:	5355 ft	**Runway Surface Condition:**	
Runway Used:	NA	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

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:**	34.758889, -106.407500

Administrative Information

Investigator In Charge (IIC):	Thomas M Little	**Report Date:**	03/30/2004
Additional Participating Persons:	Kenneth D Hand; Federal Aviation Administration; Albuquerque, NM Henry Solderlund; Cessna Aircraft Company; Wichita, KS Scott Boyle; Continental Motors; Arvada, CO		
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/.		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available here.