National Transportation Safety Board
Aviation Accident Final Report

Location:	BUDA, TX	**Accident Number:**	FTW00FA103
Date & Time:	03/26/2000, 0840 CST	**Registration:**	N130MR
Aircraft:	Cessna 525	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The flight was approaching a private airport (elevation 983 feet msl), that did not have an instrument approach system, during instrument meteorological conditions. The pilot informed the air traffic controller that he had the airport in sight, and cancelled his instrument flight plan. The twin turbofan airplane impacted a tree approximately 4,000 feet northeast of the airport in an upright position. The airplane then impacted the ground in an inverted position approximately 200 yards from the initial impact with the tree. The weather observation facility located 16 miles northeast of the accident site was reporting an overcast ceiling at 400 feet agl, and visibility 4 statute miles in mist. The weather observation facility elevation was 541 feet msl. Local residents in the vicinity of the accident site stated that there was heavy fog and drizzle at the time of the accident. The pilot had filed an alternate airport (with a precision instrument approach); however, he elected not to divert to the alternate airport. Examination of the wreckage did not reveal any evidence of pre-impact anomalies that would have prevented operation of the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inadequate in-flight decision to continue a visual approach in instrument meteorological conditions which resulted in his failure to maintain terrain clearance. Contributing factors were the fog, drizzle, and low ceilings.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: APPROACH - VFR PATTERN - BASE LEG/BASE TO FINAL

Findings
1. (F) WEATHER CONDITION - FOG
2. (F) WEATHER CONDITION - DRIZZLE/MIST
3. (F) WEATHER CONDITION - LOW CEILING
4. APPROACH AIDS - NOT AVAILABLE
5. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
6. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
7. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On March 26, 2000, approximately 0840 central standard time, a Cessna Citation 525 twin turbofan airplane, N130MR, was destroyed when it impacted terrain during a visual approach to a private airport near Buda, Texas. The airplane was registered to and operated by a private individual. The airline transport pilot, sole occupant, was fatally injured. Instrument meteorological conditions prevailed and an instrument flight rules (IFR) flight plan was filed for the Code of Federal Regulations Part 91 flight. The cross-country flight originated from Houston, Texas, approximately 0745.

The flight departed the Sugar Land Municipal Airport near Houston, Texas, and was destined for the private airport (Rutherford Ranch 85TX) to pick up three passengers. According to air traffic control records, the pilot cancelled the IFR flight plan approximately 3-5 miles southeast of Austin, Texas. The pilot reported that he had the airport in sight. That was the last radio communication controllers had with the pilot. Radar data on the aircraft, while its transponder was squawking 1200 [visual flight rules (VFR)], depicted the airplane descending from 2,400 feet msl to 1,000 feet msl (at an average descent rate of 1,900 feet per minute), before radar data was lost. The last radar return from the airplane indicated that it was at 1,000 feet msl and approximately 5,000 feet northeast of the approach end of the runway. No distress calls from the pilot were reported.

PERSONNEL INFORMATION

The pilot received his airline transport pilot certificate with an airplane multi-engine land rating on December 12, 1996. The pilot also held a commercial certificate with an airplane single-engine land rating. The pilot was enrolled in FlightSafety's CitationJet Pilot Initial Course from April 19, 1999, to May 1, 1999. The course was comprised of 39.0 hours of academic curriculum, which consisted of systems training. Included in the course was 18.0 hours of Level C/D Simulator flight training. On May 1, 1999, the pilot obtained a type rating for single pilot operations in the Cessna 525 Citation in a Level C/D Simulator. The pilot was issued a first class medical certificate on November 23, 1999, with the limitation, "Must wear corrective lenses for near and distant vision."

According to the pilot's last medical certificate application, the pilot reported having accumulated 5,850 total flight hours. Review of the pilot's logbooks revealed that the pilot did not log any flights after February 15, 1999. According to the pilot's log books and the aircraft's flight logs, the pilot had accumulated a total of 5,887.4 flight hours, of which 154.2 hours were in the Cessna Citation. As of February 15, 1999, the pilot had accumulated a total of 327.5 hours of actual instrument flight time. Due to the fact that the pilot had not logged the details of the flights, which occurred after February 15, 1999, it could not be determined whether the pilot met the currency requirements for IFR operations.

Review of the pilot's logbooks revealed that he flew to 85TX on at least 142 separate occasions since December 1985.

AIRCRAFT INFORMATION

The 1995-model 8-seat Cessna Citation (serial number 525-0097) was equipped with 2 Williams International FJ-44-1A turbofan engines (Left engine s/n: 1215; Right engine s/n:

1204). According to the aircraft maintenance records, the airplane underwent a Continuous Airworthiness Inspection Program developed by the Cessna Aircraft Company. The aircraft underwent its latest inspection on March 18, 2000, when a Phase 11 inspection was completed at an aircraft total time of 710.1 hours. On December 7, 1999, the airplane underwent Phase B, 7, 9, and 10 inspections at an aircraft total time of 651.9 hours. On March 5, 1999, the airplane underwent Phase B, 1, 2, 3, 4, 7, 9, and 10 inspections at an aircraft total time of 518.5 hours. On December 7, 1999, both engines underwent a Phase 1 Check at engine total times of 651.9 hours. On November 9, 1998, the airplane underwent an altimeter and air data system test and inspection. No uncorrected maintenance discrepancies were noted in the maintenance records.

AERODROME INFORMATION

The airport was a private ranch airport with a paved runway. The orientation of the runway was north/south. The runway was 3,800 feet long and approximately 100 feet wide. The north end of the runway was at an elevation of 983 feet msl. The airport did not have a rotating beacon and there was no published instrument approach to either runway. There were no runway lights or instrument approach lights.

METEOROLOGICAL INFORMATION

The pilot called the Montgomery County Automated Flight Service Station at 0716, and informed the weather briefer that he would like to file two flight plans. The first flight plan was for the flight to the private airport near Buda, and the pilot filed Austin/Bergstrom International Airport (AUS) as the flight's alternate airport (AUS had precision instrument approaches available). The second flight plan was for a return trip with passengers. The pilot then requested the current conditions at AUS and San Marcos, Texas. The weather briefer stated that the most current weather conditions at AUS was wind from 130 degrees at 3 knots; visibility 7 statute miles in drizzle; an overcast ceiling at 900 feet agl; and temperature and dew point 21 degrees Celsius. The briefer then continued with the weather conditions at San Marcos, which was reporting wind from 160 degrees at 3 knots; visibility 9 statute miles; overcast ceiling at 800 feet agl; temperature 22 degrees Celsius; dew point 19 degrees Celsius. The weather briefer asked if the pilot needed additional information to which the pilot responded in the negative. The pilot did not receive forecast information from the weather briefer.

At 0839, the weather observation facility at AUS (located 16 miles northeast of the accident site, and at an elevation of 541 feet msl) reported the wind from 170 degrees at 8 knots; visibility 4 statute miles in mist; an overcast ceiling at 400 feet agl; temperature and dew point of 21 degrees Celsius; and an altimeter setting of 30.01 inches of mercury.

Local residents in the vicinity of the accident site reported that there was "heavy fog and heavy drizzle" at 0830.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest approximately 4,000 feet northeast of the private airport in a sparsely wooded area adjacent to cedar and oak trees. A freshly tree marked the beginning of the wreckage path. Adjacent to the broken tree lay one of the aircraft's lower fuselage antennas and a fractured section of the right main landing gear door. The wreckage energy path was along a measured magnetic heading of 225 degrees. The initial ground impact scar was a line perpendicular to the wreckage energy path, equal in length to the horizontal stabilizer, located

approximately 200 yards from the broken tree. In the middle of the initial impact mark were remnants of the beacon light, which was installed on the top of the vertical stabilizer. The next ground scar was approximately 8.5 feet wide. Shattered pieces of 1/2-inch thick plexiglass similar to the cockpit windshield were found in this ground scar.

The cockpit came to rest inverted approximately 75 feet from the initial ground scar. The fuselage, aft of the cockpit, was folded over, with the bottom skin of the fuselage lying on the bottom skin of the cockpit. The fuselage remained attached to the cockpit by the belly skin and control cables. The left wing and left engine were on the right side of the energy path and remained attached to the fuselage. The right wing was separated outboard of the right main landing gear, and was located on the left side of the energy path, wrapped around the trunk of an oak tree. The right engine was separated from the aircraft, except for the generator cables, and was resting atop of a broken cedar tree. The landing gear was found in the extended position, and the flaps were found in an approach setting. The top side of both engines sustained impact damage. The smell of jet fuel was present at the accident site.

Flight control continuity from the cockpit to the rudder and left aileron were confirmed. Flight control continuity from the cockpit to the top of the horizontal stabilizer was confirmed; however, the push/pull rods for the elevator were separated at the lower attach points. The right aileron control cables were found separated and displayed a horsetail appearance.

The Kollsman window for the pilot's altimeter had a setting of 30.03 inches of mercury and the altimeter was indicating 800 feet msl. The Kollsman window for the co-pilot's altimeter was set at 30.02 inches of mercury and was indicating 1,100 feet msl. The radar altimeter setting was found to be set at 175 feet.

Both left and right engines, a Honeywell flight guidance computer (FGC), a King KLN 90B global positioning system (GPS), and an Allied Signal Global Navigation System (GNS) were removed from the wreckage for further examination.

PATHOLOGICAL INFORMATION

An autopsy on the pilot was performed by the Travis County Medical Examiner's Office. According to the medical examiner, the pilot died as a result of "craniocerebral trauma sustained in an airplane crash." Toxicology tests for carbon monoxide, cyanide, ethanol, and drugs were performed at the Civil Aeronautical Medical Institute. An unspecified amount of phenylpropanolamine and pseudoephedrine were present in the pilot's urine, both of which are drugs commonly used in over-the-counter nasal decongestants.

TESTS AND RESEARCH

On April 2, 2000, the Honeywell FGC was examined by Honeywell engineering personnel for failure data and significant flight events. According to the Honeywell personnel, the nonvolatile information from the FGC was downloaded and examined. There were no fault codes stored during the last 5 hours of operation on the unit.

On April 20, 2000, the engines were examined under the supervision of the NTSB investigator-in-charge at the engine manufacturer's facility. Disassembly of the left and right engines revealed that the low pressure drive shaft on each engine was twisted and sheared in two. Dirt and debris were noted throughout both engines to their turbine sections. Pieces of plexiglass were noted in the left engine compressor section. According to the manufacturer, "the failure torque of the low pressure drive shaft was estimated to be 31,800-31,900 inch-pounds." The

maximum low pressure drive "shaft torque at take-off is approximately 7,100-7,200 inch-pounds."

Examination of the King KLN 90B GPS and the Allied Signal GNS were conducted under the supervision of an FAA inspector at the manufacturer's facility. According to the FAA inspector and the manufacturer's representative, there was no nonvolatile information stored on either unit concerning the accident flight.

ADDITIONAL INFORMATION

The wreckage was released to the owner's representative on March 5, 2001.

Pilot Information

Certificate:	Airline Transport; Commercial	**Age:**	41, 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 1 Valid Medical--w/ waivers/lim.	**Last Medical Exam:**	11/23/1999
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	5887 hours (Total, all aircraft), 154 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	**Registration:**	N130MR
Model/Series:	525 525	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	525-0097
Landing Gear Type:	Retractable - Tricycle	**Seats:**	8
Date/Type of Last Inspection:	03/18/2000, Continuous Airworthiness	**Certified Max Gross Wt.:**	10400 lbs
Time Since Last Inspection:	10 Hours	**Engines:**	2 Turbo Fan
Airframe Total Time:	720 Hours	**Engine Manufacturer:**	Williams Intl
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	FJ-44-1A
Registered Owner:	MIKE G. RUTHERFORD	**Rated Power:**	1900 lbs
Operator:		**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	AUS, 541 ft msl	**Observation Time:**	0839 CST
Distance from Accident Site:	16 Nautical Miles	**Direction from Accident Site:**	75°
Lowest Cloud Condition:	Unknown / 0 ft agl	**Temperature/Dew Point:**	21°C / 21°C
Lowest Ceiling:	Overcast / 400 ft agl	**Visibility**	4 Miles
Wind Speed/Gusts, Direction:	8 knots, 170°	**Visibility (RVR):**	0 ft
Altimeter Setting:	30 inches Hg	**Visibility (RVV):**	0 Miles
Precipitation and Obscuration:			
Departure Point:	HOUSTON, TX (SGR)	**Type of Flight Plan Filed:**	IFR
Destination:	(85TX)	**Type of Clearance:**	IFR
Departure Time:	0745 CST	**Type of Airspace:**	Class G

Airport Information

Airport:	RUTHERFORD RANCH (85TX)	**Runway Surface Type:**	Asphalt
Airport Elevation:	970 ft	**Runway Surface Condition:**	Wet
Runway Used:	19	**IFR Approach:**	None
Runway Length/Width:	3800 ft / 100 ft	**VFR Approach/Landing:**	

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):	NICOLE L CHARNON	**Adopted Date:**	07/10/2001
Additional Participating Persons:	ED TRAYHAN; SAN ANTONIO, TX HENRY SODERLUND; WICHITA, KS CHRIS GREENE; WALLED LAKE, MI		
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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