Aviation Investigation Final Report

Location:	EDGEWOOD, Texas	**Accident Number:**	FTW01LA052
Date & Time:	January 21, 2001, 15:15 Local	**Registration:**	N6373S
Aircraft:	Nanchang CJ-6A	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the day VFR cross-country flight, the experimental-exhibition airplane was destroyed when it struck a tower guy wire while in cruise flight, and subsequently impacted the ground. The point of contact/paint transfers were on the third (7/16 inch diameter) cable, down from the top of the tower, at 273 feet agl and approximately 20 feet laterally from the northwest side of the tower. The visibility was 10 statute miles below the 3,300 feet overcast. The leading edge of the left wing and the left wing spar exhibited physical evidence of contact with the cable. A section of the left wing outboard leading edge skin was found near the base of the tower. No anomalies were found that would have contributed to a loss of engine power or flight control prior to impact with the tower cable. The lights on the tower were operating at the time of the accident. The tower was not depicted on the current Dallas-Fort Worth Sectional Aeronautical Chart, 65th edition, effective October 5, 2000, found in the aircraft wreckage. The sectional had an aeronautical information cut-off date of August 10, 2000. The tower corporation filed FAA Form 7460-2 indicating that the tower structure reached its greatest height on September 12, 2000. On September 25, 2000, the FAA Aeronautical Chart Division, Obstacle Evaluation Section received the FAA Form 7460-2, and the tower was entered into the Digital Obstacle File on October 2, 2000. The latitude/longitude and obstruction height of the tower were published in the Airport/Facility Directory/Aeronautical Chart Bulletin effective November 30, 2000 to January 25, 2001.

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 obstacle clearance with the tower guy wire while the airplane was in cruise flight. A contributing factor was the pilot's failure to update his navigation chart with the location of the tower during his preflight planning/preparation. In addition, a contributing factor was the pilot's intentional flight of the airplane at a low altitude.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: CRUISE

Findings
1. (C) LOW ALTITUDE FLIGHT/MANEUVER - INTENTIONAL - PILOT IN COMMAND
2. (F) OBJECT - GUY WIRE
3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
4. EN ROUTE CHARTS - INACCURATE
5. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

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

Findings
6. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On January 21, 2001, approximately 1515 central standard time, a Nanchang CJ-6A, experimental-exhibition airplane, N6373S, was destroyed when it struck a tower guy wire while in cruise flight near Edgewood, Texas. The airplane was owned and operated by the pilot under 14 Code of Federal Regulations Part 91. The airline transport pilot and his passenger were fatally injured. Visual meteorological conditions prevailed for the cross-country flight, and a flight plan was not filed. The personal flight departed Magnolia, Arkansas, approximately 1255 with a subsequent refueling stop at Mount Pleasant, Texas, and a final planned destination of Alamogordo, New Mexico. The airplane departed Mount Pleasant approximately 30 minutes prior to the accident.

A mechanic located at Airways Aviation, Brisco Field Airport (LZU), Gwinnett County, Lawrenceville, Georgia, reported that the pilot and passenger arrived at the airport via ground vehicle on January 20, 2001. The mechanic recalled the pilot stated that they "were on a schedule" and had to make the trip. The mechanic was concerned about the "airplane, which was not protected against icing, because it was snowing on 20 January" when the airplane departed LZU. The pilot loaded the airplane for the flight, and during the preflight, filled the "oil tank on the airplane with automotive brand 20W-50 oil." The airplane was based at McCollum Field Airport (RYY), Cobb County, Kennesaw, Georgia, and the passenger drove the ground vehicle to RYY where he was going to board the aircraft.

At 1242, the air traffic controller (LZU) issued the pilot a taxi clearance for a VFR departure on runway 25. Subsequently the pilot, conducted a local flight before departing LZU for the flight to RYY.

Airport personnel at Northside Aviation, Kennesaw, Georgia, reported that the pilot was in the aft seat when the airplane arrived at the Fixed Base Operation (FBO) at RYY. The aircraft was refueled with 14.2 gallons of aviation fuel. Subsequently, the pilot boarded the aft seat, the passenger boarded the front seat, and the aircraft was taxied from the FBO.

Approximately 1326, the air traffic controller (RYY) issued the pilot a VFR takeoff clearance. Following the departure from RYY, there was no further reported air traffic control communication involvement with the flight.

Personnel at Taloney Air Service, Columbus, Mississippi, recalled the flight landed at the Columbus-Lowndes Airport (UBS), and taxied to Taloney Air Service on the afternoon of January 20, 2001. The airplane was refueled with 29 gallons of aviation fuel. The following morning the weather was clear with the temperature approximately 38 degrees Fahrenheit.

The pilot performed the preflight and added a quart of oil to the engine. The VFR flight departed for Magnolia, Arkansas.

At the Magnolia Municipal Airport (AGO), the airplane was refueled with 32 gallons of aviation fuel. Airport personnel stated that the pilot mentioned the heater was not working and it was very cold. The VFR flight departed Magnolia approximately 1255. From Magnolia, the VFR flight proceeded to and landed at Mount Pleasant, Texas, for refueling.

A witness, who was also a pilot of a King Air based at the Municipal Airport, Mount Pleasant, Texas, talked to the pilot of N6373S. The witness observed the pilot refuel his airplane with 14 gallons of aviation fuel, and the passenger add a quart of oil. The witness recalled that the pilot stated they were taking the airplane to Alamorgordo, New Mexico, and the weather was "clear west of Dallas."

The witness reported the weather at Mount Pleasant was approximately "500-600 overcast (AGL) with good visibility." This witness observed the taxi, run up, takeoff, and initial climb, and he observed no discrepancies with the airplane. The airplane departed runway 35 approximately 1500, and subsequently made a left turn to approximately 210 to 240 degrees and leveled off at 300-500 feet agl.

During the accident sequence, one witness, located in his front yard, observed the airplane travel "up then turn sideways." A second witness, in his vehicle traveling west on Highway 80, observed the airplane "go up in the air and then kind of roll over on [its] side." Subsequently, this witness observed the airplane go "down straight into [the] ground." A third witness, who was driving his vehicle on Highway 80, stated the airplane was "out of control." Another witness in the right front passenger seat of this vehicle, stated that she observed the aircraft and it appeared "to clip something, maybe a wire or tower, I'm not sure, but I observed some white colored material floating in the air as though it came off the [air]plane." Additionally, she observed the airplane pass over Highway 80, "weaving left and right and being unstable." Subsequently, the airplane "hit nose first into the ground."

PERSONNEL INFORMATION

A review of portions of the pilot's military records revealed that he entered military flight training in 1985. According to military personnel and acquaintances, the pilot was in the Marine reserves where he flew the Cobra helicopter.

A review of FAA records, portions of military flight records and pilot logbooks revealed, the airline transport pilot held the airplane multiengine land rating with the BAE-125 and CE-500 type ratings. He held commercial pilot privileges for airplane single-engine land, rotorcraft-helicopter, and instrument helicopter. The pilot was issued a first class medical certificate on October 2, 2000, with a limitation for possession of corrective lenses. On the medical application, the pilot indicated 8,500 accumulated flight hours with 500 hours in the previous 6 months. In 1993, the pilot was employed by Atlantic Southeast as a first officer on the EMB-

120. On August 28, 1997, the pilot obtained the CE-500 (Citation) type rating at Flight Safety International, Wichita, Kansas.

The pilot completed a ground and flight training program in June 1999 for the Nanchang CJ-6A aircraft. On July 24, 2000, he added the BAE-125 (Hawker) type rating to his pilot certificate. In 2000, the pilot was employed by Executive Jet Aviation, Inc., as a captain on the CE-560 aircraft, and later that year as a first officer on the BAE-1000A aircraft.

A review of FAA records revealed that the passenger was issued a third class medical certificate and student pilot certificate on June 24, 1999. On the medical application, the student pilot indicated 1,925 accumulated flight hours with 25 hours in the previous 6 months.

According to military personnel and acquaintances, the passenger was a military aerial observer in the Marine reserves.

AIRCRAFT INFORMATION

The Nanchang CJ-6A aircraft (S/N 3732019) was manufactured in 1982, and subsequently, imported from China to the United States. The aircraft was equipped with a 285 horsepower Housai H6A air-cooled nine cylinder radial engine and a Housai J9-G1 metal two-bladed constant speed propeller. On June 1, 1998, the aircraft was issued the FAA registration number of N6373S and an experimental-exhibition airworthiness certificate with operating limitations. The aircraft was registered to the pilot on July 8, 1999.

The last recorded maintenance on the Nanchang CJ-6A aircraft was a yearly condition inspection, which was conducted at 580.7 hours total aircraft time on February 10, 1999. At the time of this inspection, the engine (S/N 2066019) had accumulated 1.7 hours since major overhaul.

The Airways Aviation mechanic reported that the pilot flew the airplane to LZU on October 29, 2000, for the mechanic to perform a condition inspection. The airplane had been modified to an air-racing configuration by the previous owner. During the modification, various items, including, but not limited to the communication radio, transponder, and circuit breakers, were moved to the aft panel. A Garmin Global Positioning System (GPS) was mounted over the rear instrument panel. The wings were shortened by "about three and a half feet per side." Following these modification, the aircraft was to be flown solo from the aft seat.

On January 20, 2001, when the pilot came to get the aircraft, the mechanic had not recorded the condition inspection in the maintenance records. The mechanic stated that "the airplane was in good condition with regards to mechanical operation. There were no major mechanical discrepancies on the airplane. However, the lack of data on many of the modifications that the airplane had prevented us from being able to sign off on the airplane."

METEOROLOGICAL INFORMATION

At 1453, the weather observation facility at Tyler, Texas (approximately 30 nautical miles southeast of Edgewood), reported the wind from 120 degrees at 7 knots, with a visibility of 10 statute miles, a few clouds at 1,300 feet and overcast sky at 3,300 feet. The temperature was 3 degrees Celsius with a dew point of 1 degree Celsius. The altimeter setting was 30.40 inches of Mercury.

Local authorities, who responded to the accident site, reported that the sky was overcast with the "visibility clear."

WRECKAGE AND IMPACT INFORMATION

The American Tower Corporation, Houston, Texas, reported that the Edgewood Tower (latitude 32 degrees 41 minutes 39 seconds North; longitude 095 degrees 51 minutes 55 seconds West) guy wire system had three anchor points at the ground. The guy wire system was composed of 4 pairs of wires at each anchor point with each pair of guy wires extending from the ground to different points on the tower. The American Tower Corporation recorded the upper point of contact/paint transfers on the third tower cable (7/16 inch guy wire) down from the top of the tower, at 273 feet above ground level (agl), and approximately 20 feet laterally from the northwest side of the tower (419 feet agl, 886 feet msl).

A section of the left wing outboard leading edge skin, approximately 12 inches by approximately 5 feet, was found near the base of the tower. Pieces of plexiglass and the left wing landing light lens were found in the vicinity of the tower.
The FAA inspector, who responded to the accident site, found the airplane resting on level ground approximately 25 yards from the Edgewood High School building and approximately 0.33 nautical miles on a measured 230 degree magnetic heading from the telecommunications tower. The engine was found separated from the aircraft approximately 5 feet beyond the main wreckage. The propeller blades were twisted and exhibited gouges and striations. The pitot tube from the outboard right wing was found in the initial ground scar, which extended toward the main wreckage. The empennage came to rest in the inverted position.

The leading edge of the left wing, outboard of the landing light, was folded up and aft along the main spar for approximately 5 feet. Physical evidence of cable striations were found along the folded metal and the main spar. Flight control continuity was confirmed. The landing gear were found in the retracted position. The integrity of the fuel system was compromised. The flap selector was found in the up position detent. The canopy bolts exhibited deformation consistent with shear overload. The seat belts were found frayed, stretched, and separated from the attachment points.

MEDICAL AND PATHOLOGICAL INFORMATION

The autopsies with toxicological screening for the pilot and passenger were performed by the

Office of the Medical Examiner of Dallas County, Dallas, Texas. The toxicological screening performed by the medical examiner detected no alcohol or performance-impairing drugs.

The FAA Civil Aeromedical Institute's (CAMI) Forensic Toxicology and Accident Research Center examined the specimens taken by the medical examiner. According to CAMI, the toxicological findings were negative.

ADDITIONAL INFORMATION

The FAA inspector and tower personnel reported that the lights on the telecommunications tower were operating at the time of the accident. Following the accident, the tower personnel issued a NOTAM for the lights out of service. During an interview, conducted by the NTSB investigator-in-charge (IIC), tower personnel reported that the NOTAM was issued until the company could check the tower guy wires and lights for damage from the aircraft impact.

A review of the American Tower Corporation data revealed that the corporation filed notification with the FAA on December 23, 1999, for the proposed construction of the tower at Edgewood, Texas. On August 3, 2000, the corporation amended the location coordinates and the height of the tower by filing FAA Form 7460.1. On July 3, 2000, and August 22, 2000, respectively, the FAA issued their aeronautical study determination that the proposed tower structure did not exceed obstruction standards and would not be a hazard to air navigation provided that the obstruction was marked and/or lighted in accordance with FAA Advisory Circular 70/7460-1J, Obstruction Marking and Lighting, Chapters 4, 8, and 13. On September 14, 2000, the American Tower Corporation filed FAA Form 7460.2, Notice of Actual Construction, indicating that the tower structure reached its greatest height on September 12, 2000.

The telecommunication tower was not depicted on the current Dallas-Fort Worth Sectional Aeronautical Chart, effective October 5, 2000, found in the aircraft wreckage.

A review of the FAA data, by the NTSB IIC, revealed that on September 25, 2000, the FAA Aeronautical Chart Division, Obstacle Evaluation Section received the FAA Form 7460-2, Notice of Actual Construction of the Edgewood tower. The tower was entered into the Digital Obstacle File on October 2, 2000.

The Dallas-Fort Worth Sectional Aeronautical Chart, (65th Edition October 5, 2000) had an aeronautical amendment cut-off date of August 10, 2000, for the receipt of all aeronautical data to be included on that edition. The received data for the latitude/longitude and obstruction height of the tower had been published in the Airport/Facility Directory/Aeronautical Chart Bulletin effective November 30, 2000 to January 25, 2001. The purpose of the Aeronautical Chart Bulletin is to provide major changes in aeronautical information that have occurred since the last publication date of each Sectional Aeronautical Chart, thus making pilots aware of the new obstacle data. The tower was depicted on the March 22, 2001, edition of the Dallas-Fort Worth Sectional Aeronautical Chart.

The airplane was released to the owner's representative.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	43,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	October 2, 2000
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	July 24, 2000
Flight Time:	8500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Nanchang	**Registration:**	N6373S
Model/Series:	CJ-6A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	3732019
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	February 10, 1999 Condition	**Certified Max Gross Wt.:**	1400 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2361 Hrs as of last inspection	**Engine Manufacturer:**	China
ELT:	Not installed	**Engine Model/Series:**	Housai-6A
Registered Owner:	WILLIAM A. HINDMAN	**Rated Power:**	285 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	TYR,544 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	120°
Lowest Cloud Condition:	Few / 1300 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 3300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	120°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.38 inches Hg	**Temperature/Dew Point:**	3°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mount Pleasant, TX (MSA)	**Type of Flight Plan Filed:**	None
Destination:	Alamogordo, NM (ALM)	**Type of Clearance:**	None
Departure Time:	14:45 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	32.697223,-95.872497

Administrative Information

Investigator In Charge (IIC):	Roach, Joyce
Additional Participating Persons:	William C Nelson; FAA Flight Standards District Office; Dalllas, TX
Original Publish Date:	July 2, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=51361