Aviation Investigation Final Report

Location:	CARLSBAD, New Mexico	**Accident Number:**	FTW96FA075
Date & Time:	December 23, 1995, 18:05 Local	**Registration:**	N1152J
Aircraft:	Aero Commander 112	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The instrument rated private pilot was on an IFR flight from San Marcos, Texas, to Carlsbad, New Mexico. During an ILS RWY 3 approach to the Cavern City Air Terminal at Carlsbad, the pilot executed a missed approach. The pilot reported to ATC that his glide slope failed. While maneuvering in the clouds to reattempt an approach at Carlsbad, the pilot lost control of the airplane and impacted the terrain. A pilot reported the weather at Carlsbad was VFR below 1,100 feet with the tops of the clouds from 7200 to 7500 feet. The pilot was instructed to maintain 7,000 feet. The pilot made three 'mayday' calls prior to stating that, 'five two Juliet totally disoriented.' According to the pilot's log books he had accumulated 44 hours of instrument flight time of which 38.4 hours were logged as actual instrument weather time since July 20, 1993. The pilot's instrument flight instructor reported that whenever the pilot filed an IFR flight plan, he would log the flight as actual instrument weather time. Examination of the airplane and engine did not disclose any pre-mishap discrepancies. Due to the extent of damage, flight control continuity could not be established.

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 aircraft control due to spatial disorientation. Factors were the pilot's lack of total actual instrument weather time and the clouds.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MISSED APPROACH (IFR)

Findings
1. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
2. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
3. (F) WEATHER CONDITION - CLOUDS
4. (F) LACK OF TOTAL INSTRUMENT TIME - PILOT IN COMMAND

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

Factual Information

HISTORY OF FLIGHT

On December 23, 1995, at 1805 mountain standard time, an Aero Commander 112, N1152J, registered to and operated by a private owner as a Title 14 CFR Part 91 flight, was destroyed following an in-flight loss of control while maneuvering in IMC near Carlsbad, New Mexico. Visual meteorological conditions prevailed and an IFR flight plan was filed. The instrument rated private pilot and passenger were fatally injured. The flight departed San Marcos, Texas, about 1534 CST, with a destination of Carlsbad, New Mexico.

During an ILS RWY 3 approach to the Cavern City Air Terminal at Carlsbad, New Mexico, the pilot executed a missed approach. The pilot contacted Albuquerque Center and requested a clearance to Midland, Texas. Albuquerque Center queried the pilot about the missed approach, due to their weather reports showing VFR weather below 1,500 feet AGL. The pilot replied his glide slope had failed. When the airplane was approximately 10 nautical miles southeast of the Carlsbad VORTAC, the pilot requested to reattempt the approach at Carlsbad. At 1802, when the airplane was approximately 13.7 nautical miles from the VORTAC, the pilot was cleared by Albuquerque Center to fly a 14 mile DME arc to the north, maintain 7,000 feet, and to expect clearance back to the VORTAC. The pilot acknowledged the clearance at 1803. At 1804 the pilot made three "mayday" calls and then at 1805 stated that, "five two Juliet totally disoriented." There were no further radio communications from the pilot. There were no reported eye witnesses to this accident.

PERSONNEL INFORMATION

The pilot received his instrument rating on July 20, 1993. During a telephone interview, the flight instructor who administered the instrument training to the pilot, stated that unusual attitude recovery, and missed approach procedures for the loss of glide slope prior to MDA were covered during training. See enclosed record of telephone call.

According to the pilot's log books, he had accumulated 44 hours of instrument flight time since July 20, 1993, of which 39.4 hours were in the accident airplane. Of the 44 hours instrument time, 38.4 hours were logged as actual instrument weather time. The pilot's instrument flight instructor reported to the FAA inspector that whenever the pilot filed an IFR flight plan, he would log the flight as actual instrument weather time.

On September 26, 1995, the pilot's biannual flight review through the Wings program was approved.

AIRCRAFT INFORMATION

A review of the airframe and engine records did not reveal evidence of any uncorrected maintenance defects prior to the flight. The aircraft was equipped for IMC operations. The aircraft records do not show a DME installed and the pilot's instrument flight instructor did not remember seeing one in the aircraft. The aircraft was equipped with a non IFR certified Loran and an auto pilot.

METEOROLOGICAL INFORMATION

The pilot of a Cessna T210, who was executing an instrument approach to Carlsbad near the time of the accident reported to the FAA inspector that while holding at the VORTAC at 8,000 feet MSL, he was VMC above the overcast. He estimated the tops of the clouds were from 7,200 to 7,500 feet MSL. He also reported that during descent he exited the clouds at 1,100 feet AGL. During the descent and approach to Carlsbad the aircraft picked up a trace of ice while in the clouds; however, it was not enough to operate the de-ice boots.

COMMUNICATION

Federal Aviation Administration (FAA) records revealed the pilot called San Angelo Flight Service Station at 1430 CST, and received a standard weather briefing for an IFR flight from San Marcos, Texas, to Carlsbad, New Mexico. During the weather briefing the pilot was briefed on an Airmet concerning mountain obscuration in eastern New Mexico, and an Airmet concerning the possibility of moderate rime and mixed icing condition below 12,000 feet in clouds and precipitation within western Texas and light to moderate icing below 15,000 feet for New Mexico. However, the briefer stated he had "not seen a lot of reports of icing." The pilot also received the forecast weather for Carlsbad, however, the briefer did not have the current Carlsbad weather. After receiving the weather briefing the pilot filed an IFR flight plan from San Marcos to Midland, Texas.

Following takeoff from San Marcos the pilot established initial contact with Austin approach control and requested an IFR clearance to Midland at 1534 CST. An IFR clearance to Midland was issued. When nearing Midland, the pilot requested the weather for Carlsbad, New Mexico. After obtaining Carlsbad's weather the pilot requested to amend his flight plan to land at Carlsbad. An IFR clearance to Carlsbad was issued. When nearing the Carlsbad airport, the pilot was given a clearance by Albuquerque Center for the ILS Runway 3 approach, and was instructed to maintain 7,000 feet until established on the approach. At 1743 MST the pilot reported outbound on the approach and was issued a frequency change.

At 1754 the pilot reported missed approach and requested to return to Midland and was cleared direct. At 1802 the pilot contacted Albuquerque Center and requested to try the approach at Carlsbad again. The pilot was cleared to fly a 14 DME arc to the north and instructed to maintain 7,000 feet. Albuquerque Center informed the pilot to expect clearance back to the VORTAC after the Cessna T210 reported out of 6,000 feet. The pilot acknowledged the clearance. See the enclosed communication transcripts.

AERODROME INFORMATION

The published minimums for the ILS Runway 3 approach are 200 vertical feet and 1/2 mile horizontal visibility. The published minimums for the ILS Runway 3 localizer approach are 700 vertical feet and 1 1/4 mile horizontal visibility. The minimum descent altitude is 3,493 feet MSL, which would be 647 feet AGL. See the enclosed approach plate.

Flight inspection of the ILS RWY 3 (AMDT.4) approach to Cavern City Air Terminal at Carlsbad, New Mexico, and the 10 DME and 14 DME arcs were satisfactory. Both DME inspections were flown based on the aircraft movement after missed approach from the ILS RWY 3 approach.

WRECKAGE AND IMPACT INFORMATION

The aircraft wreckage was located approximately 15 nautical miles east of Carlsbad, New Mexico, at latitude 32 degrees 18.35 minutes north and longitude 103 degrees 54.18 minutes west. The aircraft was at the initial ground scar on a measured magnetic heading of 160 degrees. The engine was found buried in the impact crater in a near vertical angle. Both wings exhibited leading edge crushing and the green and red position lights were found in their respective ground scars. All aircraft components and wreckage were located within a 150 foot radius from the point of impact.

The propeller assembly was found separated from the engine at the propeller flange. One blade was separated from the propeller hub. It exhibited twisting and the tip was bent aft. The other blade exhibited "S" bending and both blades exhibited chordwise scratching.

Examination of the airplane and engine did not disclose any pre-mishap discrepancies. Due to the extent of damage, flight control continuity could not be established. See enclosed wreckage diagram for wreckage distribution details.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed by Ross E. Zumwalt, M.D., of the Office of the Medical Investigator, in Albuquerque, New Mexico. Toxicological tests were positive for ethanol in the liver. The kidney contained 27.000 mg/dl of ethanol.

According to Dr. Canfield, of the FAA Civil Aviation Medical Institute, in Oklahoma City, Oklahoma, the level of 27.000(mg/dl), 0.027%, ethanol detected in kidney, is below the current FAA allowable level of 0.04%. However, it is not possible in this case to determine if this level is due to post-mortem production or to ingestion.

ADDITIONAL DATA

The aircraft wreckage was released to the owner's representative.

Pilot Information

Certificate:	Private	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	March 9, 1994
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	318 hours (Total, all aircraft), 61 hours (Total, this make and model), 266 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aero Commander	**Registration:**	N1152J
Model/Series:	112 112	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	171
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 9, 1995 Annual	**Certified Max Gross Wt.:**	2650 lbs
Time Since Last Inspection:	16 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2581 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360-C1D6
Registered Owner:	GARY D.MITCHELL	**Rated Power:**	200 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	CNM ,3293 ft msl	**Distance from Accident Site:**	18 Nautical Miles
Observation Time:	17:50 Local	**Direction from Accident Site:**	258°
Lowest Cloud Condition:	Unknown	**Visibility**	7 miles
Lowest Ceiling:	Overcast / 1700 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	1°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SAN MARCOS , TX (T98)	**Type of Flight Plan Filed:**	IFR
Destination:	(CNM)	**Type of Clearance:**	IFR
Departure Time:	15:34 Local	**Type of Airspace:**	Class E

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	

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:**	32.400718,-104.230552(est)

Administrative Information

Investigator In Charge (IIC):	Wigington, Douglas
Additional Participating Persons:	FLOYD A DOCKUM; ALBUQUERQUE , NM GERALD R JAMES; DALLAS , TX
Original Publish Date:	July 17, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=19615