Aviation Investigation Final Report

Location:	Austin, Texas	**Accident Number:**	FTW02FA087
Date & Time:	March 1, 2002, 16:41 Local	**Registration:**	N7236L
Aircraft:	Beech A36	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The instrument-rated private pilot received a preflight weather briefing from a flight service station, and was informed of light turbulence and a forecast of marginal VFR conditions becoming VFR at the destination airport near the estimated time of arrival. The flight departed and flew to the destination airport. Prior to beginning an ILS approach, the pilot was informed of IFR weather conditions, which consisted of a ceiling and visibility below the minimum prescribed altitudes for the approach. The pilot executed a stable ILS approach to the runway and, according to radar data, declared a missed approach at the decision height. The pilot was issued missed approach instructions at three separate times, and acknowledged the first two sets of instructions; however, did not respond to the final instruction to switch communication frequencies. Subsequently, the airplane was located on the airport property. Witness marks at the accident site and airplane crush angles were consistent with the airplane stalling prior to impacting the ground, and then a fire erupting. Examination of the airframe and engine, and their logbooks, did not reveal any pre-existing anomalies. Additionally, toxicological test results for the pilot revealed unquantified levels of dyphenhydramine (a sedating antihistamine).

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 airspeed, resulting in a stall. Contributing factors were the low ceiling, fog, and the unforecast weather conditions..

Findings

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

Findings
1. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
2. (F) WEATHER CONDITION - LOW CEILING
3. (C) STALL - INADVERTENT - PILOT IN COMMAND
4. (F) WEATHER CONDITION - FOG
5. (F) WEATHER FORECAST - INACCURATE
6. USE OF INAPPROPRIATE MEDICATION/DRUG - PILOT IN COMMAND

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

Factual Information

HISTORY OF FLIGHT

On March 1, 2002, at 1641 central standard time, a Beech A36 single-engine airplane, N7236L, was destroyed when it impacted terrain during a missed approach at the Austin Bergstrom International Airport (AUS), near Austin, Texas. The airplane was registered to and operated by the pilot. The instrument rated private pilot and his non-pilot rated passenger received fatal injuries. The flight was in instrument meteorological conditions at the time of the accident, and an instrument flight rules (IFR) flight plan was filed for the 14 Code of Federal Regulations Part 91 personal flight. The 320-nautical mile cross-country flight originated from the Wiley Post Airport (PWA), Oklahoma City, Oklahoma, at 1358, and was destined for Austin.

At 0959, the pilot contacted the Mc Alester Automated Flight Service Station (MLC AFSS) and requested a weather briefing for an IFR flight from PWA to AUS departing at 1400 cst. The briefer informed the pilot of an Airmet for light turbulence along the route of flight. The briefer also informed the pilot of the terminal forecast for AUS, which included: Before 1600, clouds scattered and broken at 400 and 1,500 feet, respectively. After 1600, clouds scattered at 3,000 feet, ceiling 6,000 feet broken, and visibilities greater than 6 miles. At 1358, the airplane departed PWA and flew to Austin.

According to FAA air traffic control (ATC) records, at 1616, the flight was at 6,000 feet and contacted Austin Terminal Radar Approach Control Facility (AUS TRACON). At 1617, the flight was issued the weather for AUS (wind from 020 at 4 knots, visibility 1/4 miles in fog, runway 17L runway visual range (rvr) 1,800 feet at touchdown, 2,000 feet at mid-field and 2,000 at feet roll-out, and ceiling 100 foot overcast) and was told to expect the instrument landing system (ILS) approach to runway 17L.

At 1629, the flight was cleared for the ILS approach to runway 17L. At 1633, the flight was cleared to land on runway 17L. At 1637, the pilot declared a missed approach and the tower controller issued the following instructions: Fly runway heading and maintain 3,000 feet. The pilot acknowledged. At 1638, the tower controller issued the following instructions: As soon as speed and altitude permit turn left heading 080 degrees and maintain 3,000 feet. The pilot acknowledged the instructions. At 1638:49, the flight was instructed to contact approach on 125.32, and the pilot acknowledged. The flight did not check in on 125.32, and no distress calls were received.

Radar data from the approach phase of flight revealed, the airplane was in a steady descent and only small heading changes were made during the approach. The airplane descended to an altitude of 700 feet msl (209 feet agl) and then a climb was initiated to 400 feet. At 1638:50, the final radar return was received, and the final radar return depicted the airplane at

900 feet msl (500 feet agl).

At 1642, the Austin Air Traffic Control Tower (AUS ATCT) notified the Airport Fire Department, Police Department, and airport personnel of a possible airplane accident and a search was initiated. At 1740, airport personnel located the airplane approximately 1/4 mile east of the departure end of runway 17L (east of the runway 35R localizer centerline in the southeast corner of the airport). The airplane was found engulfed in flames. Airport Rescue Fire Fighters (ARFF) responded and a pathway was cleared through heavy brush and trees into the accident site. At 1845, ARFF accessed the accident site, and at 1850, the fire was extinguished.

PERSONNEL INFORMATION

The pilot was issued a private pilot certificate on April 18, 1987. He held single and multi-engine land ratings and an instrument rating. On July 9, 2001, he completed his most recent biennial flight review (BFR). According to the check pilot who administered the BFR, the accident pilot completed appropriate maneuvers for an airplane check-out and the BFR. He stated that some basic instrument flying was accomplished and approximately three instrument approaches were flown. The check pilot does not recall the pilot being deficient in any areas. According to insurance company records, as of July 2001 the pilot had accumulated a total of 682 hours, of which 210 were in the make and model of the accident airplane, and 604 were in retractable gear airplanes. The pilot's logbook was not located during the investigation.

He held a third class medical certificate that was issued on June 1, 2001.

AIRCRAFT INFORMATION

The 1985 model airplane was equipped with a 300-horsepower Teledyne Continental IO-550-B engine (serial number 296620R) and a 3-bladed, constant speed McCauley propeller. The airplane was also equipped with a KFC-150 flight director (autopilot).

On April 22, 2000, the airplane underwent its most recent pitot-static inspection. On May 22, 2001, the airframe and engine underwent their most recent annual inspections, at which time they had accumulated a total of 2,082.8 hours and 522.2 hours since major overhaul, respectively. A review of the airframe, engine and propeller logbooks did not reveal any uncorrected maintenance entries.

AERODROME INFORMATION

Austin Bergstrom International Airport's runway 17L is 9,000 feet long and 150 feet wide. The runway is equipped with high intensity runway lights (HIRL), a standard 2,400 foot high intensity approach lighting system with centerline sequenced flashers (ALSF-II), and an Precision Approach Path Indicator (PAPI-L). Runway 17L is also equipped with an ILS approach and landing system. The decision height for the ILS runway 17L approach is 691

feet msl, (200 feet agl) and the minimum landing visibility is 0.5 miles or a runway visual range of 1,800 feet.

On March 5, 2003, a flight inspection, conducted by the FAA, of the instrument landing system revealed no anomalies with any part of the system, including the localizer, glide slope, distance measuring equipment, and lighting system.

METEOROLOGICAL INFORMATION

At 1619, the weather observation facility at AUS issued a special meteorological aerodrome report (METAR) with the following weather conditions: wind from 020 degrees at 3 knots, visibility 1/4 statute mile, runway 17L visual range 1,800 feet variable 2,000 feet, fog, ceiling 100 feet overcast, temperature 14 degrees Celsius, dew point 14 degrees Celsius, and an altimeter setting of 29.97 inches of Mercury.

At 1653, the weather observation facility at AUS reported the following weather conditions: overcast ceiling at 100 feet, visibility 1/4 statute miles in light rain and fog, temperature 14 degrees Celsius, dew point 14 degrees Celsius, runway visual range 2,000 feet variable to 2,400 feet, and an altimeter setting of 29.91 inches of Mercury.

According to emergency response personnel, the ground visibility was limited to approximately 15-20 feet due to heavy fog.

WRECKAGE AND IMPACT DATA

The main wreckage was located 2,410 feet east of the departure end of runway 17L. A Global Positioning System (GPS) recorded the accident location at north 030 degrees 10.810 minutes latitude and west 097 degrees 39.011 minutes longitude, at an elevation of 462 feet msl. The airplane came to rest intact in a wooded area on a measured magnetic heading of 190 degrees. The only trees with freshly severed limbs were located directly above the main wreckage. The cockpit and cabin were consumed by a fire. Both wings sustained fire damage from their roots outboard to midspan. Both wing leading edges were crushed aft to the front wing spars (from wing-tip to wing-tip). The left main landing gear assembly was displaced upward through the left wing's upper wing skin. The tail section was intact; however, sustained fire damage. The landing gear was found extended, and the flaps were found extended 15 degrees (approach setting). Flight control continuity was established for the elevator, elevator trim, rudder, rudder trim, aileron, and aileron trim control surfaces. According to a Raytheon Aircraft (Beech) representative, the elevator trim was determined to be 10 degrees tab down (nose high).

The cockpit and cabin were consumed by fire; however, the directional gyro (DG) and attitude indicator (AI) flight instruments were recovered and disassembled at the accident site. The DG's outer casing was intact and sustained little impact related damage. The DG's brass gimbal and gimbal housing displayed light circumferential scoring. The AI's outer casing

displayed impact and fire damage. The AI's brass gimbal and gimbal housing exhibited heat damage and were sooted.

The engine remained attached to the airframe and was embedded in a crater that was approximately 3 feet deep. The engine's accessory section was the only portion of the engine that was visible. The engine was removed from the ground and the propeller hub was crushed; however, it remained attached to the engine. One propeller blade remained attached to the propeller hub; however, it was loose. This blade displayed leading edge polishing and a slight "S" type bend. Two blades separated from the propeller hub and were found in the bottom of the crater that the engine was extricated from. Both blades displayed a twist toward the direction of rotation, leading edge gouges and leading edge polishing.

The engine was examined at the accident site. The crankshaft was incapable of rotation due to impact and fire damage. All of the accessories, except for the air conditioner compressor, remained attached to the engine. The exterior of all engine accessories displayed fire damage including sooting and discoloration. The top spark plugs were removed and moderate wear was noted when the Champion Aviation Check-A-Plug Card (AV-27) was referenced. The main fuel screen was removed from the fuel injector, and was clear. The fuel manifold was opened and its internal parts exhibited thermal damage. Its diaphragm was melted to its screen. The fuel pump, which sustained fire and impact damage, was removed and its coupling was in place. The oil filter was removed, cut open and no metal was observed in the filter element. The vacuum pump's drive coupling was separated. The vacuum pump's internal carbon vanes (6) were removed. Five vanes were intact and one vane was shattered. The vacuum pump's rotor was cracked into five pieces. The vanes, rotor and their housing displayed heat damage and sooting.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Office of the Medical Examiner of Travis County, Austin, Texas. Toxicological testing, performed by the FAA's Civil Aeromedical Institute of Oklahoma City, Oklahoma, revealed that no alcohol was detected in lung and muscle samples; however, unquantified levels of diphenhydramine were detected in liver and muscle samples. According to an FAA Assistant Regional Flight Surgeon, "Dipenhydramine is an antihistamine used in the treatment of allergic symptoms. It causes significant drowsiness, therefore it is not recommended for use while performing safety-sensitive activities."

ADDITIONAL INFORMATION

The airplane was released to the owner's representative on April 22, 2002.

Pilot Information

Certificate:	Private	**Age:**	63,Male
Airplane Rating(s):	Single-engine land; Multi-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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 1, 2001
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	July 9, 2001
Flight Time:	682 hours (Total, all aircraft), 210 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N7236L
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	E-2268
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	May 22, 2001 Annual	**Certified Max Gross Wt.:**	3650 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2082.8 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-550-B
Registered Owner:	Morris S. Curry	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:	N/A	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	AUS,542 ft msl	**Distance from Accident Site:**	
Observation Time:	16:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	0.25 miles
Lowest Ceiling:	Overcast / 100 ft AGL	**Visibility (RVR):**	2000 ft
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.7 inches Hg	**Temperature/Dew Point:**	14°C / 14°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	Oklahoma City, OK (PWA)	**Type of Flight Plan Filed:**	IFR
Destination:	Austin, TX (AUS)	**Type of Clearance:**	IFR
Departure Time:	13:58 Local	**Type of Airspace:**	Class C

Airport Information

Airport:	Austin Bergstrom Intl AUS	**Runway Surface Type:**	Concrete
Airport Elevation:	542 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	17L	**IFR Approach:**	ILS
Runway Length/Width:	9000 ft / 150 ft	**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	30.180276,-97.650276

Administrative Information

Investigator In Charge (IIC):	Ragogna, Jason
Additional Participating Persons:	Ramon Barrera; Federal Aviation Administartion; San Antonio, TX Carlos F Gallardo; Federal Aviation Administration; San Antonio, TX Brian D Cassidy; Raytheon Aircraft Company; Wichita, KS Timothy D Rainey; Raytheon Aircraft Company; Wichita, KS John T Kent; Teledyne Continental Motors; Seagoville, TX
Original Publish Date:	July 23, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=54286