



National Transportation Safety Board Aviation Accident Final Report

Location:	Chino, CA	Accident Number:	LAX08FA026
Date & Time:	11/06/2007, 0918 PST	Registration:	N30GC
Aircraft:	BEECH A100	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Executive/Corporate		

Analysis

The reported weather at the time of the accident was calm winds, a 1/4-mile visibility in fog and a vertical visibility of 100 feet. Shortly after takeoff for the instrument-flight-rules flight, the airplane made a slight turn to the left and impacted the tops of 25-foot trees about a 1/2 mile from the runway. An enhanced ground proximity warning system was installed on the airplane and data extraction from the system indicated that the airplane achieved an initial positive climb profile with a slight turn to the left and then a descent. A witness reported hearing the crash and observed the right wing impact the ground and burst into flames. The airplane then cartwheeled for several hundred feet before coming to rest inverted. The airframe, engines, and propeller assemblies were inspected with no mechanical anomalies noted that would have precluded normal flight.

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 a positive climb rate during an instrument takeoff. Contributing to the accident was the low visibility.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) WEATHER CONDITION - FOG
 2. (F) WEATHER CONDITION - LOW CEILING
 3. IFR PROCEDURE - ATTEMPTED - PILOT IN COMMAND
 4. (C) CLIMB - NOT MAINTAINED - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. OBJECT - TREE(S)
6. TERRAIN CONDITION - OPEN FIELD

Factual Information

HISTORY OF FLIGHT

On November 6, 2007, at 0918 Pacific standard time, a Beech A100 (King Air), N30GC, impacted trees about 3/4 mile from the departure end of runway 26R at Chino Airport (CNO), Chino, California. The wreckage came to rest inverted in an open field located on the California Department of Corrections and Rehabilitation (CDCR) facility near the airport. The owner operated the airplane under the provisions of 14 CFR Part 91 as a business flight. The airplane was destroyed. The commercial instrument rated pilot and the passenger were fatally injured. Instrument meteorological conditions prevailed for the flight. An instrument flight rules (IFR) flight plan had been filed from CNO to Visalia Municipal Airport (VIS), Visalia, California.

Responding Federal Aviation Administration (FAA) inspectors were informed by friends of the owner that he has flown to Visalia at least once a week to oversee a business that he operates. The accident pilot was not the regular pilot for the company, but was named on the insurance policy as an approved pilot-in-command.

A witness, located at the youth authority facility at the CDCR parking lot, about 150 yards northeast of the main wreckage, reported hearing a crashing sound. When he looked to the south, he saw the accident airplane impact the ground on its right side. A portion of the right wing and engine struck the ground and "burst into flames." The airplane then cartwheeled and came to rest upside down about 100 yards from where he first observed the airplane impact the ground. He notified the CDCR control tower of the accident and responded to the site to render aid to the occupants of the airplane. Shortly thereafter, additional CDCR officers responded to the site and put out the fire located at the left engine area.

PERSONNEL INFORMATION

A review of FAA airman and medical records on file in Oklahoma City, Oklahoma, revealed that the 66-year-old pilot held a commercial pilot certificate with ratings for airplane single and multi-engine land and instrument airplane.

The pilot held a second-class medical certificate issued on September 02, 2007. It had the limitations that the pilot must wear corrective lenses and possess glasses for near and distant vision.

According to the primary pilot for the airplane owner, the accident pilot had worked for the company for a little over a year. Examination of the pilot's logbook indicated an estimated total flight time of 3,133.4 hours. He logged 24.6 hours in the King Air in the last 90 days, and 2.9 hours in the last 30 days. He had an estimated 76.8 hours in this make and model. The pilot recorded in his logbook a total of 77.9 hours of actual instrument time, which included 2.5 hours of actual instrument time, and 8.7 hours of night flight in the accident airplane since August 2006. During that same time period, the pilot flew 42 instrument approach and landings, with 11 instrument approach and landings in the accident airplane. The pilot recorded one instrument approach and landing in the preceding 90 days prior to the accident.

The pilot completed a flight review on August 8, 2007. As part of the accident pilot's recurrent training, he attended the SIMCOM Training Center in Scottsdale, Arizona, in 2006 and 2007. According to the pilot's logbook, he had satisfactorily completed an instrument proficiency check (FAR 61.57(d)) on October 25, 2007. The SIMCOM training is designed specifically for

the King Air, and included instrument proficiency.

AIRCRAFT INFORMATION

The airplane was a 1973 Beech A100, serial number B-177. A review of the airplane's logbooks revealed a total airframe time of 11,848.8 hours at the last phase inspection, which was completed on June 16, 2007.

Left Engine

A Pratt and Whitney-Canada PT6A-28 serial number PCE-51364 turbo-prop engine was installed on the left side. Total time on the left engine at the last phase inspection, dated June 16, 2007, was 10,056 hours.

Right Engine

A Pratt and Whitney-Canada PT6A-28 serial number PCE-PG-0045 turbo-prop engine was installed on the right side. Total time on the right engine at the last phase inspection, dated June 16, 2007, was 2,469.7 hours.

The airplane was equipped with two 4-bladed Hartzell Propeller Inc., propeller assemblies. According to the FAA's airworthiness registration paperwork, on July 30, 1992, Hartzell/Raisbeck Quiet Turbofan Propellers were installed on the airplane in accordance with supplemental type certificate from Raisbeck Engineering number SA5661NM. On May 26, 2005, new Hartzell propellers (left serial number FY2715 and right serial number 2717) were installed on the airplane.

A Bendix/King (Honeywell) enhanced ground proximity warning system (EGPWS) KGP 560, was installed on the airplane.

Fueling records at Champion Air Services at CNO indicated that the airplane was last fueled on November 6 with the addition of 51 gallons of Jet-A aviation fuel. Examination of the maintenance and flight department records revealed no unresolved maintenance discrepancies against the airplane prior to departure.

METEOROLOGICAL CONDITIONS

At 0924, shortly after the accident occurred, Chino airport recorded the following weather conditions: winds were calm; visibility was 1/4 mile in fog; the vertical visibility was 100 feet; the temperature was 11 degrees Celsius; dew point was 11 degrees Celsius; and the altimeter setting was 30.03 inches of Mercury.

The 0853 aviation routine weather report (METAR) reported calm wind conditions; 1 /4 mile visibility, fog, an indefinite ceiling at 100 feet; the temperature was 11 degrees Celsius; dew point was 11 degrees Celsius; and altimeter setting 30.03 inches of Mercury. (A full meteorological report is appended to this report)

COMMUNICATIONS

At 0846, the morning of the accident, the pilot filed an IFR flight plan with the San Diego Automated Flight Service Station (AFSS). The pilot requested to file an IFR flight plan and asked if there were any TFR's (temporary flight restrictions) along his route of flight. At 0849, when the AFSS briefer asked if there was anything else, the pilot indicated that he had gotten his weather off of the internet and that everything looks "like I am in good shape as far as that goes other than getting out of Chino." The briefer replied that it looked like Chino had, "a little

bit of a haze situation still in the San Joaquin valley but that's all that's going on."

At 0908, ATC transcripts for CNO indicated that the pilot called for his IFR clearance and was advised it was on request. He then asked if weather information ROMEO was still current. The ground controller (GC) advised that information SIERRA was current with a 1 /4 mile visibility and fog. The GC asked what the pilot's intentions were, to which the pilot replied that he wanted to get his clearance and depart as soon as possible. The GC issued taxi instructions to the active runway.

At 0912, the GC called SCT requesting the accident airplane's IFR clearance. Two minutes later, the GC issued the IFR clearance to the pilot and advised the pilot to contact the tower for departure. At 0915, the pilot contacted CNO ATC and requested a departure and squawk code. After receiving a release from SCT Pomona sector, CNO ATC cleared the accident airplane for takeoff, with a read back of the clearance by the pilot.

At 0918, CNO ATC attempted to contact the accident pilot three times, with no response from the pilot. CNO ATC contacted SCT Pomona Sector and asked if they were speaking to the pilot; SCT replied that they were not in contact with the pilot. CNO ATC advised that he thought the airplane was down west of the airport. At 0922, the SCT supervisor called CNO ATC and asked if emergency equipment had been sent to the site. CNO personnel replied that all equipment had been sent the site.

At 0922:49, SCT Pomona sector asked if he went right off into the fog, "you guys didn't see him once he departed westbound." CNO ATC reported that he saw the primary target on radar, and about 800 feet, just off the departure end of the runway the primary target disappeared.

AIRPORT INFORMATION

The Airport/ Facility Directory, Southwest U. S., indicated Chino Airport runway 26R was 4,858 feet long and 150 feet wide. The runway surface was composed of asphalt.

The FAA instrument approach procedure charts for CNO runway 26 left and right under the NOTE section titled Take-off minimums and (obstacle) departure procedures define Category A/B standard departure with a required minimum climb of 270 feet per nm to 4,800 feet with Category C/D standard departure requiring a minimum climb of 410 feet per nm to 4, 800 feet.

The published IFR obstacle departure procedure for runway 26R at CNO is a climbing left turn, direct to the Paradise VORTAC (Very High Frequency Omni-Directional Radio Range Tactical Air Navigation Aid).

WRECKAGE AND IMPACT INFORMATION

Investigators from the National Transportation Safety Board, the FAA, and Beech examined the wreckage at the accident scene. The main wreckage came to rest in the center of a relatively flat plowed field, 3,950 feet west of the departure end of runway 26R.

The debris path was along an approximate 300-degree magnetic heading, and was 500 feet in length. The first identified point of impact (FIPC) was two trees that were about 25 feet in height. The two trees were 10 feet apart in tandem with each other. The first tree had the top portion of it cut off, with a portion of the tree bark farther down the tree freshly removed. Tree sap was still evident and the bark had a light colored appearance. A section of a wing leading edge fuel tank came to rest at the base of the first tree. The fuel tank exhibited semicircular crush damage, with a diameter similar to that of the tree trunk. Near the top of the second tree

was an embedded portion of a flight control cable. Seventy-five feet to the west of FIPC, was a group of three trees. The tree branches of the tree farthest to the south were severed and strewn along the area in front of the trees.

Debris located between the FIPC and the group of three trees consisted of the right wing tip and an aileron at the base of a tree, as well as other portions of the right wing and right horizontal stabilizer pieces. The remainder of the debris path continued in a northwesterly direction with a ground scar evident from the first identified ground impact to the main wreckage.

The right engine and propeller, and right main landing gear and wing root sustained fire damage, and came to rest about 250 feet from the FIPC. The left propeller blade and hub, as well as, the left elevator came to rest approximately 50 feet forward of the right engine. The remaining components in the debris path were aluminum airplane skin and structural fragments.

The main wreckage came to rest inverted underneath a water irrigation pipe on a magnetic heading of 310 degrees, approximately 1,250 feet forward of the FIPC. The wreckage consisted of the fuselage; the left engine and a portion of the wing remained attached to the fuselage at the wing root. The left horizontal stabilizer and vertical stabilizer, along with a portion of the right stabilizer and right wing section, remained attached to the fuselage at their respective attach points.

The left engine was canted about 30 degrees outboard, fractured at its mounts, and had sustained post impact fire damage. The vertical stabilizer exhibited crush damage trailing rearward about 2 feet from the tip, and was buried 6 inches into the soil. Plow marks followed the vertical stabilizer 200 feet back towards the direction of the initial impact point. The cockpit area sustained crush damage from the tip of the nose to the top of the cockpit windows. The nose landing gear was located stowed in its bay. The main cabin area remained relatively intact. Examination of the landing gear and actuators confirmed that the landing gear was in the UP position. Examination of the flap actuators confirmed that the flaps were in the retracted position.

MEDICAL AND PATHOLOGICAL INFORMATION

The San Bernardino County Coroner conducted an autopsy on the pilot on November 9, 2007. The autopsy stated that the cause of death was blunt force injuries as a result of an airplane accident. The FAA Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma, performed a toxicological analysis from samples obtained during the autopsy. The results of the analysis of the specimens were negative for carbon monoxide, cyanide, volatiles, and tested drugs.

TESTS AND RESEARCH

Investigators examined the airframe, engines, and propeller assemblies. Investigators verified that all major components of the airplane were present during the reconstruction. Flight control cable continuity was confirmed from the forward elevator and rudder bellcrank to the aft rudder and elevator bellcrank. The left and right aileron control cables remained attached to the aileron control column chain. Both wings had separated from the fuselage, and the aileron control cables exhibited a broomstrawed appearance at their respective points of separation.

The pilot's side flight instruments were recorded by investigators with the following results:

Airspeed indicator - 56 knots

Altimeter - 30.04

Horizontal situation indicator - 270 degrees, bug set at 110 degrees

Rate of Turn - 2 times the standard rate of turn

Vertical speed indicator - 1,000 feet down

Flap switch - UP

Hobbs - 269.5

Power levers - Left: 1/4 range, Right: mid-range

Fuel condition levers - Left and Right above low idle

Propeller levers - Just forward of feather

The Bendix/King EGPWS remained intact and was removed and shipped to Honeywell for download. Twenty-two data blocks were retrieved from the downloaded information, with 30 seconds recorded. The recorded groundspeed ranged from 114 knots at the first recorded data block to 167 knots at the last recorded data block. The terrain elevation was recorded as 600 feet. The uncorrected altitude block showed 594 feet, with a peak altitude of 888 feet, and the last recorded uncorrected altitude block was 500 feet.

Both the left and right engine's showed similar rotational signatures through the entire compressor and turbine sections, which the manufacturer's representative reported was indicative of the engine producing power. All the fittings for the compressor discharge air were in place and retained by their respective lockwire. The left engine's power turbine blades were accounted for, with blade tip rubbing present. The right engine's power turbine blades were fractured at various locations within the airfoil, with the blades bent opposite the direction of rotation.

Left and Right Propeller Assemblies

The examination of the left and right propeller assemblies showed aft bending and rotational damage; nicks and gouges along the leading and trailing edge of the propeller blades, chordwise scratching, and S-bending. According to the manufacturer's representative, internal damage to the pitch change components was a result of the propeller blades being "harshly actuated toward low/reverse pitch." As a result the cylinders disconnected from both hubs. He also reported that both propellers were rotating at the time of impact and not in the feathered position.

Pilot Information

Certificate:	Commercial	Age:	66, 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 With Waivers/Limitations	Last FAA Medical Exam:	09/01/2007
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	10/01/2007
Flight Time:	3136 hours (Total, all aircraft), 25 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	Registration:	N30GC
Model/Series:	A100	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	B-177
Landing Gear Type:	Retractable - Tricycle	Seats:	11
Date/Type of Last Inspection:	06/01/2007, Continuous Airworthiness	Certified Max Gross Wt.:	12008 lbs
Time Since Last Inspection:		Engines:	2 Turbo Prop
Airframe Total Time:	11849 Hours as of last inspection	Engine Manufacturer:	Pratt & Whitney Canada
ELT:	Installed, not activated	Engine Model/Series:	PT6A-27-28
Registered Owner:	RHB-JMJ LLC	Rated Power:	680 hp
Operator:	RHB-JMJ LLC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CNO, 650 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	0918 PST	Direction from Accident Site:	80°
Lowest Cloud Condition:	Partial Obscuration	Visibility	
Lowest Ceiling:	Indefinite (V V) / 100 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	11 °C / 11 °C
Precipitation and Obscuration:	Fog		
Departure Point:	Chino, CA (KCNO)	Type of Flight Plan Filed:	IFR
Destination:	Visalia, CA (KVIS)	Type of Clearance:	IFR
Departure Time:	1918 PST	Type of Airspace:	

Airport Information

Airport:	Chino Airport (CNO)	Runway Surface Type:	
Airport Elevation:	650 ft	Runway Surface Condition:	
Runway Used:	N/A	IFR Approach:	Unknown
Runway Length/Width:		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:	33.978056, -117.660278

Administrative Information

Investigator In Charge (IIC):	Tealeye Cornejo	Report Date:	05/06/2009
Additional Participating Persons:	Ron Gonzales; Federal Aviation Administration; Riverside, CA Neil Sandvik; Hawker Beechcraft; Wichita, KS Marc Gratton; Pratt and Whitney Canada; Longueuil, Canada, Tom McCreary; Hartzell Propeller Inc; Piqua, OH		
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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.nts.gov/pubdms/ .		

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