National Transportation Safety Board
Aviation Accident Final Report

Location:	Concord, CA	**Accident Number:**	LAX07FA059
Date & Time:	12/21/2006, 1101 PST	**Registration:**	N1AM
Aircraft:	Piper PA-46-350P	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	4 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

While on an instrument approach for landing, the local tower air traffic controller observed on the BRITE radar repeater scope that the airplane passed the outer marker (OM), 600 feet below the permissible crossing altitude. The controller issued a low altitude alert to the pilot and cleared him to land. The controller also reminded the pilot that the minimum descent altitude for the Localizer Directional Aid (LDA) approach was 440 feet, and provided instructions for the missed approach. At that point the pilot reported that he had the airport in sight and acknowledged the landing instructions. The controller again cleared the pilot to land on the prescribed runway for the instrument approach, and the pilot acknowledged the landing clearance. Shortly thereafter the controller instructed the pilot to execute the missed approach as the radar track showed that the airplane was off course. The pilot was instructed to initiate a climbing left turn to the VOR. The pilot said he had the airport in sight and that he saw one of the cross runways and wanted to land. The controller told the pilot that circling to that runway was not an authorized procedure for the LDA approach and again instructed the pilot to perform the missed approach. A witness stated that he was working on a storage container, about 50 feet in height, when the airplane passed overhead. He estimated the airplane to be about 50 feet higher than the storage container. The airplane made a turn westbound and the witness looked away for a second. When he looked back the airplane was in a nose and left wing down attitude and then it impacted the ground. Another witness located on the airport's north-northeast corner also observed the airplane flying toward the airport. He reported simultaneously hearing the engine power up and observed the left wing stall prior to it impacting the ground. Both witnesses reported that they did not hear anything wrong with the engine. Examination of the airframe, power plant, and propeller revealed no mechanical anomalies that would have precluded normal operation. Internal damage signatures in the engine and propeller were consistent with the production of significant power at the time of impact. A review of the weather in the area revealed that while light rain and mist were occurring near the accident site, no meteorological phenomena existed that would have adversely affected the flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of the pilot to follow the prescribed instrument approach procedures and to maintain an adequate airspeed while maneuvering in the airport environment that led to a stall.

Findings

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

Findings
1. (C) IFR PROCEDURE - NOT FOLLOWED - PILOT IN COMMAND
2. (C) AIRSPEED - NOT MAINTAINED
3. (C) STALL - ENCOUNTERED - PILOT IN COMMAND

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

Findings
4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On December 21, 2006, at 1101 Pacific standard time, a Piper PA-46-350P, N1AM, collided with flat terrain about 200 yards northwest of the approach end of runways 14 Left and Right, at Buchanan Field (CCR), Concord, California. The pilot/owner operated the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. Impact forces and a post-impact fire destroyed the airplane. The commercial multiengine instrument rated pilot, and three passengers were killed. The personal cross-country flight departed Montgomery Field (MYF), San Diego, California, at 0847, with a planned destination of CCR. Day instrument meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan had been filed.

According to a California Highway Patrol (CHP) officer, Highway 4 is oriented along an east/west bound direction. The CHP officer reported that the weather after the accident was light rain with cloudy conditions, and an estimated ceiling of 2,000 feet.

The last few seconds of the accident flight were captured by a security video camera from Kinder Morgan Energy Partners located less than a mile northeast of the accident site. The video showed the airplane enter the upper right-hand corner of the video frame. It then enters a left wing-nose low attitude with the top portion of the airframe facing toward the video camera.

A witness from Kinder Morgan reported observing the accident airplane as it passed over his location. The witness was on top of one of the natural gas storage containers, container 20, when the airplane passed over him on a southbound heading toward the airport. The airplane then made a slight right turn westbound. He looked away for a second and when he looked back, the airplane was in a nose down attitude, and then it impacted the ground. The witness reported that the storage container was about 50 feet in height. He estimated the airplane to be about 50 feet above him.

Another witness located on the north-northeast corner of the airport between the approach end of runways 19R and 14L stated that he could see across the airport, but with a cloud layer and poor visibility above the ground. He observed the airplane make a turn to the west parallel to highway 4 and then make a left turn southbound. As the airplane continued to make the left turn, the left wing dropped, which "stalled" the airplane. The airplane started to spin prior to impacting the ground in a nose down attitude. He also reported that he heard the engine power up as the left wing stalled.

Both witnesses reported that the airplane was flying low and appeared to be at a slow airspeed. They did not hear anything wrong with the engine.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the 78-year-old pilot held a commercial pilot certificate with airplane single, multi-engine land, and instrument airplane ratings. The pilot's instrument rating had been issued on June 15, 1984.

The pilot was issued a second-class medical certificate on August 22, 2006. The medical certificate contained the limitations that the pilot must wear corrective lenses and possess glasses for near and interim vision.

The pilot was issued a mechanic certificate with airframe and power plant ratings on August 23, 1995.

An examination of the pilot's logbook indicated an estimated total flight time of 3,628.17 hours. The pilot flew an estimated 93.0 hours from March 2006, until December 20, 2006, (the last entry in the logbook) in the accident airplane. He logged an estimated 25.0 hours in the last 90 days, and 6.0 hours in the last 30 days. The pilot's personal logbook contained an entry that indicated that a biennial flight review had been completed on May 5, 2006. The 5.4-hour flight review included an instrument proficiency check.

On June 24 and 25, 2006, the pilot logbook indicated that he had attended a 2-day National Check Pilot Standardization course (Flight Instructor Refresher Clinic). The pilot was not a certificated flight instructor.

AIRCRAFT INFORMATION

The airplane was a 1989 six-seat, pressurized, Piper PA-46-350P, serial number 4622061. A review of the airplane's logbooks showed that on June 2, 1999, the original Lycoming TIO-540-AE2A engine had been replaced with a Pratt and Whitney Canada (PWC) PT6A-34 engine. On September 12, 2002, the engine was converted to a PWC PT6A-35 engine, serial number PEC-RR009. In both instances, the PWC engine had been modified under a supplemental type certificate (STC) by JetProp LLC, Spokane, Washington. The turboprop engine was installed under STC ST00541SE.

The annual/100-hour inspection had been completed on May 11, 2006, with a total airframe time of 2,170.6 hours, and a total engine time of 486 hours. A Hartzell HC-E4N-3I, serial number HH1482, propeller had been installed on the airplane as part of STC ST00541SE on September 12, 2002. At the last annual/100-hour inspection, the recorded total time was 486.1 hours.

The pilot maintained a flight log for the airplane. On October 3, 2006, the Pitot/Static system check was performed with no discrepancies noted. On October 23, 2006, he received, and had installed, a VistaNAV unit. The unit was test flown on October 29. The entry for November 7, 2006, indicated that the VistaNAV had failed, but no reason was provided in any of the subsequent entries. The entry for December 20, 2006, showed the airplane's total time as 2,244.29 hours. There were no further entries in the flight log.

Fueling records obtained from Gibbs Flying Service established that the airplane was last fueled on December 20, 2006, with the addition of 52 gallons of Jet A fuel.

METEOROLOGICAL CONDITIONS

The aviation routine weather report (METAR) issued for CCR at 0953 reported winds from 330 degrees at 3 knots; visibility 3 statute miles with light rain, a broken cloud layer at 5,000 feet and an overcast cloud layer at 6,000 feet; temperature 07 degrees Celsius, dew point 04 degrees Celsius; altimeter setting of 30.29 inches of Mercury (inHg).

The METAR issued for CCR at 1053 reported winds from 100 degrees at 5 knots; visibility 2 statute miles with light rain and mist, an overcast cloud layer at 3,200 feet; temperature 07 degrees Celsius, dew point 04 degrees Celsius; altimeter setting of 30.28 inHg.

The METAR issued for CCR at 1111 reported winds from 070 degrees at 4 knots; visibility 2.5

statute miles with light rain and mist, a broken cloud layer at 2,900 feet and an overcast cloud layer at 3,400 feet; temperature 07 degrees Celsius, dew point 04 degrees Celsius; altimeter setting of 30.27 inHg.

A staff meteorologist for the National Transportation Safety Board reported that the surface analysis chart for 1000 depicted a low-pressure system over Alberta, Canada, with a cold front that extended south-southwest across Alberta, western Montana, northern Idaho, eastern Oregon, and northern California to the Pacific Ocean.

The accident site was located ahead of the cold front. Station models also depicted winds from the southeast at 10 knots or less ahead of the cold front, calm winds near the front, and no apparent wind shift north of the cold front. Rain, fog, and haze restricted visibility in the vicinity of the front, with broken to overcast clouds. The weather stations in the vicinity of the accident site reported marginal VFR (MVFR) conditions with visibilities that ranged from 3 to 5 miles in continuous rain, and overcast skies between 2,000 and 4,300 feet, with a freezing level at 8,500 feet over the accident area.

COMMUNICATIONS

Audio Transmissions

The Safety Board investigator-in-charge (IIC) reviewed recorded audio transmissions between the pilot and CCR tower personnel. After passing the outer marker (OM), tower personnel asked the pilot to report the airplane's altitude. The pilot reported 700 feet. The controller indicated that the altitude for crossing over the OM was 1,300 feet. The controller issued a low altitude alert, cleared the pilot to land 19R, and instructed the pilot to report the missed approach. The controller also issued the minimum descent altitude for the LDA (Localizer (type) Directional Aid) as 440 feet.

The controller asked the pilot if he had the airport in sight, with the pilot replying in the affirmative. The controller then cleared the pilot to land on 19R, with the pilot acknowledging the landing clearance.

Shortly thereafter, the controller instructed the pilot to execute the missed approach as the flight was off course and headed away from the airport. The controller instructed the pilot to start a climbing left turn to the VOR (very high frequency Omni-directional range). The pilot reported that he had the airport insight for runway 14. The controller instructed the pilot to go-around, and that he was not cleared for landing on runway 14.

Controller Statements

The airplane was in contact with CCR tower personnel at the time of the accident. According to local controller at CCR, the pilot had been cleared to make an LDA approach with instructions for the VOR missed approach procedures for runway 19R. The pilot reported that he had the field insight, at which point the controller observed the airplane off course. The local controller instructed the pilot to execute the missed approach. The pilot stated that he had runway 14; however, the controller again instructed the pilot to execute the missed approach.

The ground controller at CCR stated that he observed the airplane about 3/4 mile north of the airport and 1/4 mile west of the runway centerline start a turn to the west. The ground controller overheard the local controller instruct the airplane to execute the missed approach. He then heard the pilot report that he had runway 14 in sight. He heard the local controller reiterate the instructions to execute the missed approach as the airplane had past the missed

approach point. The ground controller started to coordinate the missed approach with Travis Approach when he heard the local controller say that the airplane was going down. The ground controller looked up to see the accident airplane in a nose dive toward the ground off the departure end of runway 32R.

AIRPORT INFORMATION

The Airport/ Facility Directory, Southwest U. S., indicated that CCR, runway 19R was 5,001 feet long and 150 feet wide, at an elevation of 26 feet mean sea level (msl). The runway surface was composed of asphalt, concrete, and porous friction courses (PFC). Runway 14L was 4,602 feet long and 150 feet wide, with a runway surface composed of asphalt, concrete, and PFC. Runway 14R was 2,799 feet long and 75 feet wide, with a runway surface composed of asphalt.

According to the FAA approved LDA approach chart for runway 19R, in the notes section it indicated that circling was not authorized west of runway 1L-19R. The approach course was on a 181-degree magnetic heading. The missed approach procedure was to climb to 900 feet, then a climbing left turn to 3,500 feet direct to CCR VOR/DME (distance measuring equipment).

WRECKAGE AND IMPACT INFORMATION

Investigators responded to the accident site, and noted that the first identified point of impact (FIPC) was an impression in the ground similar to the length of a wing and the propeller assembly, that was contained on the south side of the center median of highway 4. Investigators found the pitot tube (normally located on the outboard section of the left wing) embedded in the soft dirt. Forward of the wing impression was the propeller assembly embedded in the soft dirt that abutted the highway asphalt. Two angular cut marks were found in the asphalt next to the propeller. The propeller mounting flange showed an angular, granular separation features. The airplane came to rest facing on a 320-degree magnetic heading, about 100 feet south of the center median in an open grassy area between the eastbound lanes of Highway 4 and Marsh Street, and 200 yards from runway's 14L and 14R. The debris path was along a magnetic bearing of 140 degrees.

The engine remained connected to the engine mounts and airframe. The cockpit area had been destroyed; however, both wings remained attached to the airframe. The left wing of the airplane separated about midspan; however, it came to rest with the airplane in its approximate normal position. Both wings were crushed from the leading edge to the trailing edge and were pushed in, in an aft and upward direction. The right wing fuel tank, a wet wing, had split open at the rivet line.

Various pieces of the airplane were strewn along Highway 4 and were removed by CHP officers to facilitate the reopening of the highway. The various pieces were marked and a position location was noted. (CHP wreckage diagram appended to this report).

MEDICAL AND PATHOLOGICAL INFORMATION

The Contra Costa County Office of the Sheriff-Coroner's Division performed an autopsy on the pilot on December 22, 2006. The FAA Forensic Toxicology Research Team, 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

Examination of the recovered airframe flight control system components revealed no evidence of a preimpact mechanical malfunction.

Examination of the engine showed contact signatures to the compressor turbine guide vane ring, compressor shroud, compressor turbine, power turbine guide vane ring, power turbine shroud, the power turbine, and the power turbine housing. The Pratt and Whitney Canada representative indicated that the damage was consistent with the engine producing power at the time of impact and that there were no indications of any preimpact mechanical malfunction.

Investigators observed s-bending, twisting, rotational scoring, and leading edge damage of the propeller blades. There were also multiple blade angle witness marks on the preload plates; these witness marks showed varied blade angles. The Hartzell representative indicated that the rotational damage to the propeller blades and witness marks showed that there was engine power, and the propeller was rotating and not in the feathered position.

Pilot Information

Certificate:	Commercial	**Age:**	78, Male
Airplane Rating(s):	Multi-engine Land; 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	**Last Medical Exam:**	08/01/2006
Occupational Pilot:		**Last Flight Review or Equivalent:**	05/01/2006
Flight Time:	3628 hours (Total, all aircraft), 25 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Piper	**Registration:**	N1AM
Model/Series:	PA-46-350P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	4622061
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	05/01/2006, Annual	**Certified Max Gross Wt.:**	4300 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo Prop
Airframe Total Time:	2470.6 Hours	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-35
Registered Owner:	John Frank Mauricio Trustee	**Rated Power:**	350 hp
Operator:	John Frank Mauricio Trustee	**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	CCR, 26 ft msl	**Observation Time:**	1111 PDT
Distance from Accident Site:		**Direction from Accident Site:**	320°
Lowest Cloud Condition:		**Temperature/Dew Point:**	7°C / 4°C
Lowest Ceiling:	Broken / 2900 ft agl	**Visibility**	2.5 Miles
Wind Speed/Gusts, Direction:	4 knots, 70°	**Visibility (RVR):**	
Altimeter Setting:	30.27 inches Hg	**Visibility (RVV):**	
Precipitation and Obscuration:	Light - Mist; Light - Rain		
Departure Point:	San Diego, CA (MYF)	**Type of Flight Plan Filed:**	IFR
Destination:	Concord, CA (CCR)	**Type of Clearance:**	IFR
Departure Time:	0847 PST	**Type of Airspace:**	

Airport Information

Airport:	BUCHANAN FIELD (CCR)	**Runway Surface Type:**	Asphalt
Airport Elevation:	26 ft	**Runway Surface Condition:**	Wet
Runway Used:	19R	**IFR Approach:**	LDA
Runway Length/Width:	5001 ft / 150 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	3 Fatal	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	4 Fatal	**Latitude, Longitude:**	37.997778, -122.060833

Administrative Information

Investigator In Charge (IIC):	Tealeye C Cornejo	**Adopted Date:**	07/30/2008
Additional Participating Persons:	Glenn Gathright; Federal Aviation Administration; Oakland, CA Charles Little; Piper Aircraft; Vero Beach, FL Thomas Berthe; Pratt and Whitney - Canada; Longueuil, Tom McCreary; Hartzell Propeller Inc.; Piqua, OH		
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/.		