Aviation Investigation Final Report

Location:	Monterey, California	**Accident Number:**	LAX01FA014
Date & Time:	October 15, 2000, 12:44 Local	**Registration:**	N1344G
Aircraft:	Beech 35-33	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The non-instrument rated pilot, on a special visual flight rules departure clearance, encountered instrument meteorological conditions upon climbing into a layer of clouds. The pilot experienced spatial disorientation, commenced an uncontrolled descending spiral, and impacted the ocean. Prior to departure from the 254-foot msl airport, the pilot had been advised of the local weather conditions, which indicated the cloud base was about 700 feet agl, and the weather was deteriorating, with a decreasing ceiling and lowering visibility. A witness observed the airplane takeoff. The witness reported losing sight of the airplane seconds after it entered the base of the overlying marine layer of stratus clouds. Recorded radar data indicates that within 2 minutes the airplane had climbed to about 1,400 feet, whereupon it entered a right graveyard-like spiral from which it did not recover. Other witnesses located on the shoreline or in boats on the bay reported hearing the sound of an airplane in a dive and observed the airplane fly out of the clouds, diving steeply toward the water. The airplane pulled out of the dive, and then rolled inverted while climbing. Upon reaching the apex of its short climb it dropped suddenly into what appeared to be a straight downward dive and descended at a near 90-degree angle straight into the water. At no time did the airplane's engine sound as if it were under stress, faltering, or sputtering. The extensively crushed and fragmented wreckage was recovered from the bay and examined, with no preimpact mechanical malfunctions or failures identified.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate in-flight planning/decision by which he conducted visual flight into

instrument meteorological conditions and his failure to maintain control of the airplane. Contributing factors were low ceiling, spatial disorientation and lack of instrument rating.

Findings

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

Findings
1. (F) WEATHER CONDITION - LOW CEILING
2. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
3. (C) VFR FLIGHT INTO IMC - ATTEMPTED - PILOT IN COMMAND
4. (F) LACK OF EXPERIENCE - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
6. (F) SPATIAL DISORIENTATION - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
7. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT

On October 15, 2000, about 1244 Pacific daylight time, a Beech 35-33, N1344G, operated by the pilot, experienced an in-flight loss of control during initial climb from the Monterey Peninsula Airport, Monterey, California. Thereafter, while in an uncontrolled descent, the airplane impacted and sank into an area of the Pacific Ocean known as the Monterey Bay National Marine Sanctuary, about 2 miles northwest of the airport from where the pilot had departed about 1242. The personal flight to Sacramento, California, was performed under 14 CFR Part 91. The airplane was destroyed, and the noninstrument rated private pilot and pilot-rated passenger were fatally injured.

After issuing the pilot of N1344G a special visual flight rules (SFVR) departure clearance, at 1241:24, the Monterey Airport local air traffic controller cleared N1344G to takeoff from runway 28L, and the airplane departed. At 1244:45, the controller stated "Bonanza four four golf radar contact lost say altitude." The controller did not receive any reply from the airplane.

A pilot-witness, in another airplane waiting in sequence for takeoff behind the accident pilot, provided a statement to the National Transportation Safety Board investigator regarding her observations. According to this witness, the pilot occupied the left seat in the accident airplane, and the instrument rated passenger was in the right seat. The airplane's acceleration and initial climb appeared normal. The witness lost sight of the airplane seconds after it departed when it entered the base of the overlying layer of clouds located above and west of the airport.

A jogger, located near the coastline, reported that he heard the sound of an airplane in a dive and observed the airplane fly out of the clouds, diving toward the water. The airplane pulled out of the dive, and then rolled sideways while climbing. Upon "reaching the apex of its short climb..." it "dropped suddenly into what appeared to be a straight downward dive." The airplane descended at what appeared to be a 90-degree angle, and it "dove straight into the water." At no time did the airplane's engine sound as if it were under stress, faltering, or sputtering. The jogger stated that "it sounded very strong."

Numerous other witnesses, who were in boats, also reported observing the airplane during its last few seconds of flight. One boater reported, "I first heard the plane...under full throttle." The plane climbed, went inverted, rolled into a dive, and hit the water at full speed. Another boater commented that "it appeared like he (the airplane) came out of the heavy fog...."

Another boater reported that he was between 300 and 500 yards from the crash site. According to this witness, the airplane "flew out of the low clouds at an angle of approximately

45 to 60 degrees toward the sea."

Five additional boaters reported observing the airplane bank right until becoming inverted and hearing the engine at full throttle. Three other boaters reported the airplane was attempting to pullout of a fall and "it was out of control." The airplane pulled up, the right wing dipped, the plane rolled and twisted counterclockwise (cork screwed) and went up, twisting back almost toward the direction from which it came. It was inverted. Then, it appeared to stall and descend straight down into the water.

PERSONNEL INFORMATION

Pilot.
The left seated pilot held a private pilot certificate and was rated to fly single engine land airplanes. She did not possess an instrument rating. Her last third-class medical certificate was issued in February 1999, with the restriction that corrective lenses be worn.

The pilot's husband reported that his wife's total flight time was about 2,320 hours, all of which were obtained flying the accident airplane. The husband indicated that his wife was current in the airplane, and she had flown it earlier during the week. The pilot's last biennial flight review was satisfactorily accomplished in May 2000.

Pilot-rated Passenger.
The right-seated pilot-rated passenger held a commercial pilot certificate and was rated to fly single engine and multiengine land airplanes. She possessed an instrument rating. In addition, she held a certified flight instructor (CFI) certificate for single engine and multiengine land airplanes, and instruments. Her CFI certificate bore an expiration date of May 31, 2001.

The pilot-rated passenger's last third-class medical certificate was issued in October 1998, with the restriction that corrective lenses be worn for near and distant vision. In October 1998, the pilot reported to the Federal Aviation Administration (FAA) that her total flight time was 2,525 hours.

AIRCRAFT INFORMATION

The airplane's airworthiness certificate was issued in 1959, in the standard normal category. Since 1971, the airplane has been registered in the name of the pilot's husband, an FAA certificated airframe and powerplant mechanic. The husband's name appears in the airplane's airframe and engine logbooks as the person having performed maintenance during the previous year.

FAA personnel reviewed the airplane's maintenance records and reported, in part, that several airworthiness directives had not been recorded as to their method of compliance. Also, several required yearly inspections were not recorded in the logbooks.

The airplane's owner reported to the Safety Board investigator that the airplane was not equipped with an autopilot or a dual control yoke. It had a "throw over" type control column. The airplane was equipped with the requisite instruments to fly into instrument meteorological conditions. He also stated that the airplane's fuel tanks were nearly full at the time of the accident.

METEOROLOGICAL INFORMATION

In pertinent part, at 1213, Monterey Peninsula Airport (elevation 254 feet mean sea level (msl)) reported its weather as the surface wind was from 320 degrees at 7 knots; visibility was 5 miles in mist; and a broken ceiling existed at 700 feet above ground level (agl).

About 10 minutes after the accident, at 1254, Monterey reported its surface wind was from 310 degrees at 7 knots. The visibility had decreased to 4 miles in mist. The overcast ceiling had lowered to 500 feet agl.

A witnesses to the accident airplane's departure reported that, at the time of the accident, a low elevation marine layer of stratus clouds prevailed over the airport. The witness indicated that the clouds extended westward beyond the shoreline and over the water.

Regarding the accident pilot's knowledge of the local weather conditions, at 1206, the Monterey ground controller advised the pilot to "standby" because the airport was "just about to go IFR." ("IFR" refers to instrument flight rules and indicates that the airport's weather conditions are below that which is required for flight under visual flight rules (VFR)." One minute later, upon being advised that the airport's ceiling was 700 broken, the pilot requested a SVFR departure clearance.

At 1218, the ground controller issued the pilot a clearance to taxi for takeoff and inquired if the pilot had heard the weather he had given other aircraft. The pilot responded "that's affirmative."

At 1223, the pilot was issued a SVFR departure clearance. In pertinent part, the pilot was instructed to "maintain special VFR" while in the airport's airspace. The pilot read back the clearance to the controller.

AIDS TO NAVIGATION

A review of the FAA's records of facility operation was performed. All electronic aids to navigation pertinent to the accident site area and the airplane's route of flight following its departure from Monterey were reported functional at the time of the accident.

COMMUNICATION

The Monterey air traffic control tower's air-to-ground radio communication tapes were

reviewed for evidence of communication difficulties and anomalies. None was noted.

WRECKAGE AND IMPACT INFORMATION

With the assistance of the United States Coast Guard and local municipal authorities, the main wreckage was recovered from the Monterey Bay, where it had sunk to about 58 feet. The wreckage was found at global positioning satellite (GPS) coordinates of 36 degrees 36.774 minutes north latitude by 121 degrees 52.260 minutes west longitude. The wreckage was examined immediately following its recovery. There was no evidence of fire.

MEDICAL AND PATHOLOGICAL INFORMATION

An acquaintance of the accident pilot reported that she had observed the pilot a few hours prior to the accident and during her departure. The accident pilot appeared and acted normal.

Postmortem examinations were performed on the left-seated pilot and on the right-seated passenger/pilot by the Monterey County Sheriff-Coroner.

The FAA Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma, performed toxicology tests on specimens from both pilots. No evidence of ethanol, or any screened drugs, was found in blood from either pilot.

TESTS AND RESEARCH

Airframe Examination.

The left aileron and retracted flap were observed attached to wing structure, which was found attached to the fuselage. The wing exhibited chordwise crushing in an aft direction.

The right aileron and retracted flap were observed attached to the wing, which was found separated from the fuselage about 6 inches outboard of the upper main spar's attachment fitting. The lower main spar cap was found separated in aft bending about 3 feet outboard of the attachment fitting. The wing exhibited chordwise crushing in an aft direction.

The left horizontal stabilizer and elevator were observed attached to the empennage. The leading edge of the stabilizer was observed deformed in an aft direction.

The right horizontal stabilizer and elevator were not recovered. The stabilizer's spar attachment point to the empennage was observed deformed in an aft direction.

The vertical stabilizer and rudder assemblies were found attached to the empennage and exhibited little impact damage.

The fuselage was destroyed and fragmented. The cockpit was observed crushed in an aft

direction. Portions of the forward fuselage were found connected to the aft fuselage principally only by control cables. The continuity of the flight control system was confirmed between the aft fuselage and the elevator control surfaces.

The landing gear position control switch was found in the "UP" position, and the landing gear appeared retracted. A portion of the impact-damaged throw over control yoke assembly was recovered. Its preimpact (left or right side) position was not confirmed since the internal position locking mechanism was not recovered; however, when first observed it was oriented on the left side. The airplane was equipped with dual rudder pedals. The right side locking pin and related assembly was not located.

Instruments and Systems.
The impact damaged and salt water contaminated artificial horizon and directional gyroscope were partially disassembled. Circumferential scoring was observed on the artificial horizon's case. No scoring was apparent on the rotor. No scoring was observed on the directional gyroscope's rotor. A faint trace of circumferential scoring was observed in its housing.

The gyroscope contained in the turn coordinator was not located. The instrument's case was also impact damaged.

The vacuum pump's drive coupling was found intact, and it freely rotated. The vanes in the pump were observed intact. No blockages were noted in the static ports.

Fuel.
The fuel manifold was disassembled and no discrepancies were noted. Fuel was observed in the main fuel line leading to the flow divider. The cockpit's fuel selector valve was not found.

Propeller Examination.
The propeller hub was observed separated from its crankshaft-mounting flange. The leading edge of one blade was gouged. Both blades were bent in an aft direction. They were observed torsionally twisted toward the low pitch position and partially deformed into an "S" shape.

Engine Examination.
The engine was found separated from the fuselage. The oil dipstick was found with the engine.

The crankshaft was rotated and finger compression was felt on all cylinders except cylinder number six. Piston movement and valve action was observed with cylinder number six during rotation of the crankshaft. The continuity of the engine's gear and valve train was confirmed. The magnetos were found separated from the engine at their mounting flanges. They were found internally contaminated with salt water. The magnetos were disassembled, and no evidence of preimpact damage was noted.

The engine driven fuel pump drive coupling was found intact, and the pump was free to rotate.

No evidence of internal damage was noted.

The oil screen was observed clean and devoid of foreign material. The Continental engine participant reported that the spark plugs appeared in a serviceable condition.

ADDITIONAL INFORMATION

Radar Track Information.
A review of FAA recorded radar data indicates that the airplane was first tracked as it accelerated and became airborne over runway 28L. Upon reaching midfield, the airplane's Mode C altitude reporting transponder indicated its elevation was about 400 feet. (The airport's elevation is 254 feet msl.) The airplane flew over the departure end of the runway at a recorded altitude of 700 feet. Thereafter, the airplane tracked in a northwesterly direction until crossing the shoreline at 1,300 feet, at which point it commenced a right climbing turn to a 1,400-foot maximum altitude. The radar data then indicates that as the right turn continued, the airplane commenced descending in a spiral-like manner until radar contact was lost in the vicinity of the crash site.

Wreckage Release.
All of the recovered wreckage was released to the owner's assigned insurance adjuster on October 18, 2000. No parts were retained.

Pilot Information

Certificate:	Private	**Age:**	65,Female
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	February 23, 1999
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	May 25, 2000
Flight Time:	2320 hours (Total, all aircraft), 2320 hours (Total, this make and model), 2320 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N1344G
Model/Series:	35-33 35-33	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	CD-23
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 1, 2000 Annual	**Certified Max Gross Wt.:**	2900 lbs
Time Since Last Inspection:	19 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4335 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	IO-470-J1
Registered Owner:	Neil C. Alair	**Rated Power:**	225 Horsepower
Operator:	BETTY L. ALAIR	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MRY,254 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	12:54 Local	**Direction from Accident Site:**	124°
Lowest Cloud Condition:	Unknown	**Visibility**	4 miles
Lowest Ceiling:	Overcast / 500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	310°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.05 inches Hg	**Temperature/Dew Point:**	13°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Monterey, CA (MRY)	**Type of Flight Plan Filed:**	None
Destination:	SACRAMENTO, CA (SAC)	**Type of Clearance:**	Special VFR
Departure Time:	12:42 Local	**Type of Airspace:**	Class C

Airport Information

Airport:	Monterey Peninsula MRY	**Runway Surface Type:**	
Airport Elevation:	254 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

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:**	36.612777,-121.871109

Administrative Information

Investigator In Charge (IIC):	Pollack, Wayne
Additional Participating Persons:	Michael Schaadt; WP-FSDO San Jose, CA; San Jose, CA Robert Ramey; Raytheon Aircraft Company; Wichita, KS John Kent; Teledyne Continental Motors; Seagoville, TX
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