Aviation Investigation Final Report

Location:	Ashland, Oregon	**Accident Number:**	SEA01FA167
Date & Time:	September 5, 2001, 07:15 Local	**Registration:**	N18414
Aircraft:	Beech 58	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The aircraft made a visual flight rules (VFR) departure from the airport underneath a solid overcast, and headed in a direction that took it toward rising mountainous/hilly terrain. In the area where the pilot approached the mountainous terrain, the clouds were touching the top of the ridges in all quadrants, but the visibility underneath the overcast was extensive. As the pilot attempted to maneuver the aircraft below the overcast in the restrictive environment of the mountain valleys, he inadvertently entered the cloud base, and soon thereafter collided with the terrain.

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 clearance from the terrain after inadvertently entering an area of instrument meteorological conditions (IMC) during a visual flight rules (VFR) flight. Factors include mountainous/hilly terrain and low ceilings in the area where the pilot was maneuvering.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING

Findings
1. (F) VFR FLIGHT INTO IMC - INADVERTENT - PILOT IN COMMAND
2. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

3. (F) WEATHER CONDITION - LOW CEILING
4. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY

Factual Information

HISTORY OF FLIGHT

On September 5, 2001, approximately 0715 Pacific daylight time, a Beechcraft Baron 58, N18414, impacted mountainous terrain about 10 miles southeast of Ashland, Oregon. The pilot and his two passengers received fatal injuries, and the aircraft, which was owned and operated by the pilot, was destroyed. The 14 CFR Part 91 personal transportation flight, which departed Ashland Airport about five minutes prior to the accident, was operating in an area where instrument meteorological conditions existed. According to family members, the flight was en route to Scottsdale, Arizona. Although the pilot received a weather briefing for the planned route of flight, no flight plan had been filed.

On the day prior to the accident, the aircraft arrived at Ashland Municipal Airport around 1700. The pilot had a local fixed-base operator (FBO) add one quart of 15-50 aviation oil to one of the engines and 100 gallons of 100LL (low-lead) aviation fuel to the aircraft's fuel system. These items were paid for at 1740. Individuals who were at the airport while the aircraft was being serviced reported that the pilot commented that he was having the aircraft fueled at that time because he planned on departing in the morning before the gas pumps were open.

According to pilot-rated witnesses who were at the Ashland Airport on the morning of the accident, the pilot and his two passengers arrived at the airport a little before 0700. They then quickly loaded the aircraft, started the engines, and taxied to the southeast end of the runway. Although some of the witnesses commented that it seemed like the party were in a bit of a hurry to depart, they noticed nothing else abnormal about the loading and taxiing of the aircraft. According to two pilots who were waiting for the weather to improve before they departed Ashland Airport, when the subject aircraft reached the end of the taxiway, it did not stop prior to turning onto the runway, but instead immediately started the takeoff roll. These individuals said they did not hear or observe any actions that appeared to them to be a pre-takeoff engine run-up or propeller pitch control check. The aircraft pulled onto the runway shortly after 0700, departed to the northwest, and made a left downwind departure in the general direction of Pilot Rock. According to all the pilot rated witnesses interviewed at the airport, the aircraft's engines sounded normal and strong, and except for not being able to detect a pre-takeoff run-up, there was nothing unusual about the aircraft's takeoff or departure. One non-pilot witness, who was north of the airport, said that it sounded to him like the left engine might not have been running right. The pilot-rated witnesses said that they could hear the pilot synchronize the propeller rpm's just after he turned onto the downwind, and that the rest of his departure was unremarkable.

A short time after 0700, an individual who was bow hunting in dense fog near Pilot Rock heard the aircraft coming in his direction. According to this individual, although he could not see it,

he heard the aircraft from a long way off, and he could clearly hear it getting closer. He reported that the engines sounded smooth and strong, and that except for the fact that it sounded like it was getting very close to him, there was nothing that made him think it was experiencing trouble. Just as the aircraft appeared to be going past him to the other side of the mountain, he heard a muffled thud, which he later realized was the aircraft impacting the terrain. About four hours after the impact, the wreckage was inadvertently discovered by an another individual who was checking roads and gates in the area. A damaged wrist watch that was found in the wreckage had stopped running, and was indicating 0709.

PERSONNEL INFORMATION

The pilot-in-command, and owner of the aircraft, held a private pilot certificate with single-engine, multi-engine and instrument ratings. Although the pilot indicated on his aircraft insurance application that he had completed an FAA physical on February 12, 2001, according to the Federal Aviation Administration's Medical Records Branch, the pilot's latest submitted medical was on January 6, 1999. A discussion with the FAA-approved medical examiner who performed the aforementioned medical revealed that he had no record of any updated medical since that time. At the time of the medical in 1999, the pilot reported 10,000 hours total flying time.

One of the passengers, the pilot's son, was issued a student pilot's certificate on April 4, 1997, but that certificate was no longer current.

METEOROLOGICAL INFORMATION

At 0756, approximately 15 minutes prior to the accident, the surface aviation weather observation (METAR) at Rogue Valley International Airport, which is located about 25 miles northwest of the accident site, reported 3,500 overcast, 10 miles visibility, winds 300 degrees at 8 knots, a temperature of 56 degrees Fahrenheit, and a dew point of 42 degrees.

According to the other pilots who were waiting for the weather to improve around the Ashland airport prior to making their departures, in many places to the south, north, and east of the airport, the clouds were touching the tops of the hills. To the northwest, toward Medford, the clouds had started to lift, and the witnesses could see some areas where the sun was streaming through. They said that although there were some areas near the airport where the clouds were not touching the tops of the hills, in the direction the subject aircraft departed, the clouds appeared thicker, and there were no areas where they could see room between the clouds and the top of the hills. It was the opinion of these pilots that if the pilot of the Baron had flown about five miles northwest, he could have found an opening where he would have been able to climb above the cloud layer. They further stated that to them it appeared that to the southeast, there was no place where a pilot could climb up out of the valley and get over the clouds while maintaining flight in visual meteorological conditions (VMC).

According to the bow hunter who was near Pilot Rock, the weather was very clear underneath

the clouds, and he could see a very long distance. He said that as he was heading to the area he planned on hunting, he first ran into the fog/low clouds as he turned off the paved freeway frontage road onto the unpaved Pilot Rock Road (about 400 feet lower than the impact site). He said that although it was very clear underneath, the clouds themselves were very dense, and that he figured he could see 50 feet at the most. He said that he did not come across any areas where there was an opening between the top of the hills and the bottom of the clouds. He also reported that there was a steady wind blowing the clouds up against the northwest side of the hills, and in some places they were spilling over and down the southeast side.

Another individual, who lived in a house located about eight miles northwest of the accident site, reported they went outside specifically to check the weather, sometime between 0730 and 0800. This person, who's home is located at an altitude of 4,600 above sea level (MSL), said that there was a solid overcast above their home, which he estimated to be between 100 and 300 feet off the ground. He further said that the clouds were thick and very solid, and did not start breaking up until after 0900. He also said that in the area that he could see, the clouds were right down on the ridges, and that there was a steady wind of about 10 knots out of the north.

When the individual who inadvertently discovered the wreckage arrived in the area around 1045, the overcast had broken up in much of the area, but the tops of most of the hills were still covered in clouds. He said that the wind was blowing about 30 miles per hour, and the clouds on the hills did not dissipate until around 1200.

WRECKAGE AND IMPACT INFORMATION

The aircraft impacted the northwest side of a ridge in the Siskiyou Mountains about 10 miles southeast of Ashland, Oregon. The impact site was approximately 5,000 feet above sea level, and about one mile north of Pilot Rock. The geographic coordinates at of the site, which was approximately 100 to 150 feet below the top of the ridge, were North 42 degrees, 02.55 minutes, West 122 degrees, 32.88 minutes. The wreckage track ran on a magnetic heading of 133 degrees along a sparsely treed upslope of approximately 35 degrees. The area had been previously logged, and there were a number of stumps and fallen trees on the rocky dirt terrain. Approximately half of the trees on the slope were about 100 feet tall, with the remainder being new growth about eight to twelve feet high. The wreckage track extended approximately 210 feet.

The initial impact scar was a shallow scrape about six inches wide and four feet long. This scar gradually widened for another 15 feet before becoming part of an impact crater where the left propeller and left engine were imbedded in a tree stump. This crater was approximately two feet deep and seven feet wide. In the bottom of the crater, near its beginning, there where a number of small fragments from the left engine, along with the propeller, which had imbedded itself into the tree stump below the original surface of the terrain. A considerable amount of dirt and rocks had been push up out of the ground by the impact, and had formed a berm on the uphill lip of the crater. The left engine itself had rolled down the hill and came to

rest on a logging road about 80 feet below the stump. The right propeller was found buried near the down-track edge of the crater, approximately three feet below the original surface of the terrain. From this crater to the point where the largest single portion of the aircraft came to rest (approximately 80 feet down track), there was a wreckage trail made up of a large number of airframe, engine, and systems fragments that had been torn apart and strewn across the hillside. Much of this trail was composed of items that had been part of the left wing. Except for the remains of the right engine and one of the fuel cells, the severity of the impact damage to these fragments made them difficult to identify. The largest single portion of the wreckage was composed of the remnants of the right wing, a small section of the heavily-damaged aft fuselage, and the empennage. The empennage was the only portion of the aircraft that had retained an overall shape similar to what it was prior to the impact, but the majority of its structure was dented, torn, rippled and twisted. Due to the extensive amount of overall damage and the partial disintegration of much of the aircraft, flight control continuity was unable to be established. The passenger door and the cargo door were both located on top of a relatively flat knoll approximately 100 feet past the main wreckage. Both had separated from the fuselage at their hinges, and neither showed any significant damage. The oxygen bottle, the last item found along the wreckage track, was located about thirty feet past these two doors.

The left propeller, which was embedded in the tree stump, displayed extensive heavy leading edge damage on all three blades. Two of the blades were missing portions of their tips and showed S-bending. Two of the blades showed heavy chord-wise scratching and scarring. Two of the blades showed longitudinal twisting. One was bent forward about 20 degrees, and one was bend back about 30 degrees near its midpoint. All three blades of the right propeller showed light, but extensive, leading edge damage. One blade, which showed exaggerated S-bending, and heavy leading edge impact damage near its tip, displayed chordwise abrasive removal of the forward two inches of paint along nearly its entire span. On this same blade, most of the black paint on the back of the propeller tip had also been rubbed off in a chordwise direction. Nearly all of the gray paint on the front of a second blade, which was bent back almost 90 degrees near its midpoint, had been burnished off, and what remained showed extensive chordwise scratching. The third blade, which remained relatively straight, was missing a one-half inch portion of its tip, and displayed chordwise scratching of its leading edge along most of its span.

The left engine suffered massive impact damage, including separation of a portion of the nose section, which exposed the alternator drive, numbers five and six connecting rods, and a portion of the crankshaft. The crankshaft has broken off through the area of the oil seal, and the oil sump had been crushed back and broken open. The top of number five and six cylinders were severely damaged, but the rockers were still in place. The starter, oil filter, alternator, vacuum pump, and both magnetos had been torn from their mountings, and a portion of the accessory mounting area of the case had broken off. The fuel injection throttle body had suffered massive impact damage, but was still attached by its linkage. The rocker/valve system and the portions of the engine components that could be seen through the case failures showed no indication of overheat stress, lack of lubrication, or pre-impact contamination. The fuel control and fuel manifold screens were free of debris, and the spark

plugs were clean and dry with no unusual wear or buildup of contaminates. Rotational continuity could not be established due to the extent of the damage. The vacuum pump vanes and coupler showed no damage or unusual wear, and a crack through the body of the rotor was clean with a granular light gray appearance.

The right engine also suffered severe impact damage, with the case fractured near the crankshaft exit point and in the alternator mounting area. The crankshaft had failed just aft of the nose oil seal and had a small degree of bending just aft of the fracture. Both magnetos and the oil filter had separated from the case, and the oil sump was crushed aft and torn open. There was no evidence of oil starvation or overheat stress, and the rocker/valve train showed no evidence of pre-impact malfunction. The screens in the fuel control unit and manifold valve were clean, and there was no evidence of obstruction to any of the individual fuel lines downstream of the manifold valve. The number one spark plug had lead deposits on it, and the number five plug had an oily appearance, with the remainder showing no buildups or contamination. None had an abnormal coloration, and there was no indication that any of them had not been firing. The electrode wear was smooth and uniform, but had started to take on the classic football shape .

ADDITIONAL DATA AND INFORMATION

An autopsy was performed on the pilot and his son (a former student pilot) by the Oregon Deputy State Medical Examiner. The manner of death for both was determined to be accidental, with the cause of death being massive blunt trauma injuries.

Toxicological examinations were performed on the same two individuals by the Federal Aviation's Toxicology and Accident Research Laboratory. The test for carbon monoxide and cyanide was not performed on either individual. The test for drugs was negative for both individuals, and the test for volatiles was negative for ethanol in the son. The test for volatiles in the pilot indicated a level of ethanol greater than 50 (mg/dl, mg/hg) and a level of acetaldehyde greater than 3 (mg/dl, mg/hg) in the muscle.

The aircraft wreckage was released to Bob Cole, of Universal Loss Management, on December 1, 2001. At the time of release, the wreckage was located at HLM Air Service, Independence , Oregon.

Although both engine log books were found in a document holder at the accident site, a search for the airframe and propeller logs at the pilot’s home and business, as will as at his two primary maintenance providers, was unsuccessful.

Pilot Information

Certificate:	Private	**Age:**	61,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 Expired	**Last FAA Medical Exam:**	January 6, 1999
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	10000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N18414
Model/Series:	58	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TH-861
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	October 31, 2000 Annual	**Certified Max Gross Wt.:**	5400 lbs
Time Since Last Inspection:	80 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	3094 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520C
Registered Owner:	Dean R. Beckett	**Rated Power:**	285 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KMFR,1330 ft msl	**Distance from Accident Site:**	25 Nautical Miles
Observation Time:	06:56 Local	**Direction from Accident Site:**	310°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 3300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	13°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ashland, OR (S03)	**Type of Flight Plan Filed:**	None
Destination:	Scottsdale, AZ (SDL)	**Type of Clearance:**	None
Departure Time:	07:10 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	2 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal	**Latitude, Longitude:**	42.149551,-122.529067(est)

Administrative Information

Investigator In Charge (IIC):	Anderson, Kurt
Additional Participating Persons:	James Black; Portland FSDO
Original Publish Date:	June 18, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53459