Aviation Investigation Final Report

Location:	HERMISTON, Oregon	**Accident Number:**	SEA00FA033
Date & Time:	December 22, 1999, 19:00 Local	**Registration:**	N8129R
Aircraft:	Beech 95-B55	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation		

Analysis

Shortly before departure, the pilot was issued an instrument flight rules (IFR) clearance from Hermiston, Oregon to Madras, Oregon. Shortly thereafter, the aircraft departed the airport from runway 04. A witness observed the aircraft enter a shallow turn to the right (south) shortly after departure, however, he lost sight of the aircraft due to trees obscuring his view. Approximately 5 minutes later, the local police received report of a downed aircraft southeast of the airport. The aircraft impacted terrain approximately 1/4 mile south of the departure end of the runway, in a right wing low attitude. The accident occurred during the hours of darkness. Low ceilings and visibility were reported at the time of the accident. No evidence was found to indicate a mechanical malfunction or failure.

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 with terrain. Factors include a dark night, low ceilings and mist.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

2. (F) LIGHT CONDITION - DARK NIGHT
3. (F) WEATHER CONDITION - LOW CEILING
4. (F) WEATHER CONDITION - DRIZZLE/MIST

Factual Information

On December 22, 1999, about 1900 Pacific standard time, a Beechcraft B55 Baron, N8129R, operated by and registered to the private pilot as a 14CFR91 business flight, was destroyed when it collided with terrain about 1/4 mile from the departure end of runway 04. Instrument meteorological conditions prevailed and an instrument flight plan was filed. The private pilot and his passenger were fatally injured. The aircraft was destroyed by impact forces and there was no report of ELT activation. The flight originated from Hermiston Municipal Airport, Hermiston, Oregon, minutes before the accident.

The pilot and a business associate departed Madras, Oregon, earlier that day under visual flight rules (VFR) conditions, with a planned destination of Boardman, Oregon. Due to deteriorating weather conditions, and no published instrument approach at Boardman, the pilot changed his destination to Hermiston, Oregon, (10 miles south of Boardman). The pilot received an instrument flight rules (IFR) clearance from Seattle Air Route Traffic Control Center (ARTCC) and was later cleared for the published instrument approach at Hermiston. After landing, the pilot and his passenger traveled by car to Boardman. At the conclusion of their business, the two men then returned to Hermiston in preparation for the return flight to Madras.

Shortly before departure, Chinook Approach (via McMinnville Automated Flight Service Station [AFSS]) issued the pilot an IFR clearance from Hermiston to Madras, with a void time of 1915 PST. The pilot stated to the Specialist that he was planning on departing runway 04 and climbing to VFR conditions on top. This was the last communication the pilot had with ATC facilities.

Shortly after the accident, Hermiston Police were contacted by a witness who stated he observed the aircraft enter a turn to the south shortly after departure (approximately 1900 PST). The witness then lost sight of the aircraft due to trees obscuring his view. He reported to police that shortly after loosing sight of the aircraft he "heard it wreck". Approximately 10 minutes later, the Hermiston Fire Department located the wreckage southeast of Hermiston Airport.

PERSONNEL INFORMATION

At the time of the accident, the pilot held a private pilot certificate with airplane single-engine land, airplane multi-engine land, and instrument airplane ratings.

Federal Aviation Administration records indicated that the pilot was issued an airplane multi-engine land rating on May 20, 1998.

AIRCRAFT INFORMATION

The Aircraft, N8129R, was manufactured by Beech Aircraft Corporation and was certificated in 1974. It was powered by two Continental IO-470 series engines, rated at 260 horsepower each. According to maintenance records, the aircraft's last annual inspection was performed on April 14, 1999.

METEOROLOGICAL INFORMATION

Surface weather observations from Hermiston showed the accident aircraft departed the airport in mist and low ceilings during the hours of darkness.

The 1853 METAR observation at Hermiston, reported winds from 080 degrees at 4 knots; visibility 5 statute miles and mist; overcast clouds at 500 feet AGL; temperature 0 degree C; dew point temperature -1 degrees C; altimeter setting 30.72 inches hg.

The 1919 SPECI (special) observation at Hermiston, reported winds from 080 degrees at 4 knots; visibility 4 statute miles and mist; overcast clouds at 300 feet AGL; temperature 0 degrees C; dew point temperature 0 degrees C; altimeter setting 30.72 inches hg.

WRECKAGE AND IMPACT INFORMATION

The wreckage was located in an open field approximately 1/4 mile southeast of Hermiston Airport. The terrain in the immediate area of the wreckage was level. The surface consisted of a soft sandy type soil and was sown with a short cover crop. The wreckage distribution track measured approximately 494 feet in length on a magnetic heading of 180 degrees (see wreckage diagram and attached photos).

A large crescent shape ground scar, originating at the northern end of the wreckage distribution path, was identified as the aircraft's initial impact point(see attached photo #2). Pieces of plastic, identified as part of the aircraft's right wingtip, were scattered in the immediate area of the ground scar.

Numerous aircraft system components, engine components, and pieces of aircraft structure were scattered between the aircraft's initial impact point and the area where the main wreckage mass was located.

A section of the aircraft's right wing tip and right inboard flap was located approximately 235 feet from the initial impact point and 20 feet left of the wreckage track center line. The section of flap, measuring approximately 25 inches long, was identified as the inboard piece of the flap. A section of the aircraft's right wing tip, measuring approximately 35 inches in length, was located in the immediate area of the wing flap. Extensive leading edge damage and accordion type aft bending was noted to the right wingtip.

The aircraft's right propeller assembly was located approximately 253 feet south of the initial ground scar, and 28 feet right of the wreckage track center line. The propeller and propeller hub separated as a unit from the crankshaft, at the crankshaft flange. Both propeller blades were found in the hub. Aft bending (mid span), and leading edge abrasions were noted to both blades.

The aircraft's left propeller assembly was found approximately 343 feet south of the initial ground scar. The propeller assembly was found with one of the two blades, blade A, was embedded in the ground. The propeller and propeller hub separated as a unit forward of the crankshaft flange. Both propeller blades were still attached to the hub. Aft bending, leading edge gouging and chord wise scratching was noted to blade A. Leading edge damage, aft bending and twisting was noted to blade B.

The main wreckage mass was found approximately 420 feet from the origin of the wreckage distribution path. The fuselage was found inverted on a magnetic heading of approximately 035 degrees. The left wing was partially attached to the fuselage. Extensive leading edge damage and rearward crushing was noted from the wing root to the wing tip. The flap and aileron were attached to their respective hinges and the flap was observed to be in the up position. Control continuity from the left aileron to the center of the wreckage mass was established. The left main landing gear remained attached to the left wing, but was free to swing from the up position to the full down position. The landing gear linkage indicated that the gear was in the up position prior to the accident.

The empennage section of the aircraft was found inverted in the area of the main wreckage. The horizontal and vertical stabilizers were intact, with the rudder and elevator attached to their respective hinges. The right horizontal stabilizer and elevator were bent downward (mid span) at approximately a 45 degree angle. Control continuity was established from the empennage to the remains of the cabin area.

The aircraft's right wing, with exception of the wing tip and a portion of the flap, were located with the main wreckage. The right wing was found separated from the fuselage at the wing root. Extensive leading edge damage and aft bending was noted to the wing. The wings upper skin had separated both forward and aft of the upper spar cap, exposing the wing spar. The right aileron was attached to its respective hinges and the aileron push rod was in place. The right aileron bell crank was fractured. Pre-impact control continuity for the right aileron to the bell crank was established. The right main landing gear had separated from the wing and was found north of the main wreckage mass.

The aircraft's left engine was found approximately 88 feet south of the main wreckage mass and 3 feet right of the wreckage track centerline. The engine sustained moderate impact damage. The engine's left magneto, alternator and starter had separated from the engine and were found in the area of the main wreckage mass. The engine's vacuum pump, right magneto and ignition harness were still attached to their respective drive pads and spark plugs.

The aircraft's right engine was found approximately 20 feet south of the right engine and 8 feet left of the wreckage track center line. The engine had broken away from the firewall at the mounts and sustained moderate frontal impact damage. Both of the engine's magnetos and ignition harnesses were still attached to their respective drive pads and spark plugs. The starter, alternator and vacuum pump were still attached to the engine and sustained moderate impact damage.

MEDICAL AND PATHOLOGICAL INFORMATION

An Autopsy was performed on the pilot by Clifford C. Nelson, M.D., Oregon State Medical Examiners Office, Portland, Oregon. The medical examiner determined that the pilot's cause of death was due to blunt force head, chest, neck and extremity trauma.

Toxicology samples from the pilot were sent to the Federal Aviation Administration Civil Aeromedical Institute, Oklahoma City, Oklahoma, for analysis. See attached toxicology report for results.

ADDITIONAL INFORMATION

On December 23, 1999, the aircraft wreckage was recovered by Specialty Aircraft Company, and transferred to their facility in Redmond, Oregon.

On February 23, 2000, the aircraft's engines were examined by representatives from Teledyne Continental Motors and the National Transportation Safety Board.

Extensive impact damage was noted to both engine assemblies and their associated components. The top spark plugs, from both engines, were visually inspected and displayed normal operating signatures. Both magnetos from the left engine produced spark when rotated by hand. The magnetos from the right engine both produced spark when the engine's crankshaft was manually rotated. The fuel pumps from both engines were removed. Visual inspection and functional tests of the fuel pumps revealed no evidence of malfunction or failure. The fuel flow manifold's were disassembled. The diaphragm's from the right and left manifolds were intact and both screens were free of contaminants. The fuel injector lines and injector nozzles from the right and left engines were clear and free of contaminants. The "wet" type vacuum pumps from both engines were removed and inspected. Both vacuum pumps produced airflow when manually rotated. The internal components, including the vanes and rotors, were intact and unremarkable. The left engine's crankshaft rotated by hand and compression was established in all cylinders. Gear and valve train continuity was established. The right engine's crankshaft also rotated and gear and valve train continuity was established. All six cylinders developed compression.

Post accident teardown and inspection of the aircraft's engines revealed no evidence of a mechanical malfunction or failure.

The aircraft wreckage was released to Double Press Manufacturing, Incorporated, Madras, Oregon, on April 4, 2000.

Pilot Information

Certificate:	Private	**Age:**	67,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:**	May 31, 1998
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	2870 hours (Total, all aircraft), 346 hours (Total, this make and model), 45 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N8129R
Model/Series:	95-B55 95-B55	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TC-1738
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	April 14, 1999 Annual	**Certified Max Gross Wt.:**	5100 lbs
Time Since Last Inspection:	155 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	2902 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed	**Engine Model/Series:**	IO-470-L
Registered Owner:	GENE AST	**Rated Power:**	260 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	HRI ,644 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	03:19 Local	**Direction from Accident Site:**	320°
Lowest Cloud Condition:	Unknown	**Visibility**	4 miles
Lowest Ceiling:	Overcast / 300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	0°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	, OR (HRI)	**Type of Flight Plan Filed:**	IFR
Destination:	MADRAS , OR (S33)	**Type of Clearance:**	IFR
Departure Time:	19:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	45.850856,-119.210884(est)

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	DAN BACHELDER; HILLSBORO , OR MIKE J GRIMES; MOBILE , AL JERRY D STAAB; WICHITA , KS BRIAN D CASSIDY; WICHITA , KS
Original Publish Date:	May 8, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=48376