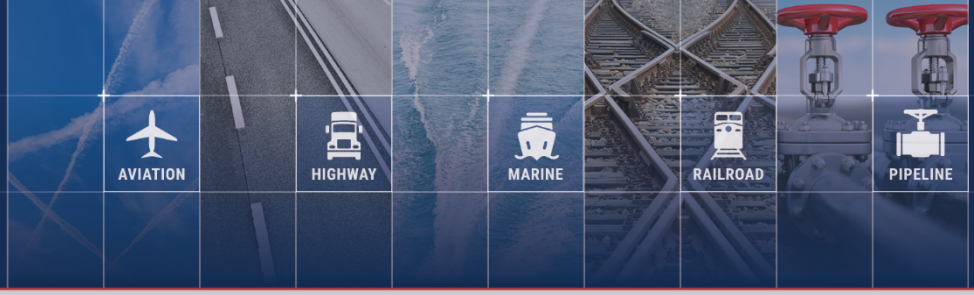

Aviation Investigation Factual Report

Location:	Port Angeles, Washington	**Accident Number:**	SEA04FA154
Date & Time:	August 3, 2004, 21:53 Local	**Registration:**	N79404
Aircraft:	Cessna 182P	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal, 2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

HISTORY OF FLIGHT

On August 3, 2004, about 2153 Pacific daylight time, a Cessna 182P, N79404, registered to a private individual and being operated by Rite Brothers Aviation, was destroyed on impact with trees and terrain, approximately six miles south of Port Angeles, Washington. The instrument rated commercial pilot was fatally injured and the two passengers received minor injuries. The 14 CFR Part 91 personal flight initially took off in night visual meteorological conditions before entering instrument meteorological conditions. No flight plan had been filed. The flight originated at the Fairchild International Airport (CLM), Port Angeles, Washington, approximately eight minutes earlier, and was en route to Boeing Field / King County International (BFI), Seattle, Washington. There was no fire or report of an ELT activation.

During an interview with the passengers on August 5, by investigators from the National Transportation Safety Board and Federal Aviation Administration, and in subsequent written statements, the two passengers reported that they met the pilot, who was also a friend, at the airport about 2100 for the purpose of flying them to Boeing Field to meet friends. The passengers reported that the takeoff was to the east. After departure, they noticed the lights of Port Angeles out the left (north) side of the airplane. They reported that during the climb, the airplane gradually began a turn to the right (south), and then encountered the clouds. The front seat passenger stated that they quickly ascended to approximately 2,000 feet and that the pilot made the statement that they were going to fly above the clouds. The front seat passenger then asked the pilot what mountain was located to their right as it seemed to her that they were in a valley as she could see terrain on both sides of the airplane. The pilot responded "just a minute." The airplane then broke out of the clouds and the front seat passenger could see trees. The pilot responded by pulling up, however, the airplane immediately collided with the tree tops and began to tumble before coming to rest.

The passenger seated in the left rear reported similar circumstances adding that the weather at the airport was partly cloudy around the airport, with Port Angeles being clear. The passenger reported that, "There was no indication of mechanical failure, or physiological problem with the pilot." The passenger also reported that during the climb, she had asked the pilot how fast they were going and he responded 100 knots.

Both passengers reported that the pilot did not indicate to them the intended route of flight to Boeing Field and they did not know why the pilot turned toward the mountains after takeoff. All three were wearing headsets and were able to talk amongst themselves during the flight.

Witnesses at the Heart-of-the-Hills Campground located about half-a-mile north of the accident site reported hearing (engine noise) and seeing an airplane flying low heading to the southwest

at less than 500 feet above ground level. The sound of the engine was heard during this time as the airplane continued toward the mountains. Within seconds of hearing and observing the aircraft, the sound of the impact was heard followed by the engine sound stopping. One witness reported seeing the lights on the airplane (nose, both wingtips and navigation lights). Another witness stated that, "It did not sound like it was having any engine problems. The weather - raining and low clouds."

Park service personnel reported that the Heart-of-the Hills Campground elevation is approximately 1,850 feet mean sea level. Shortly after calls were received from the witnesses reporting the accident, park service personnel began a search. The Fire and Aviation Management Officer reported that he began to hike the hill above the campground and reported that he started hitting misty fog about 500 feet above the campground around 0100 the following morning. The fog got heavier the higher he climbed to about 2,600 to 2,700 feet on the ridgeline. Unable to continue due to the dark night conditions and steep terrain, the officer discontinued his ground search about 0230.

The passengers reported that at daylight, they were able to find their cell phone among the wreckage and called 911. Search and rescue personnel located the accident site about 0800 on August 4, 2004.

PERSONNEL INFORMATION

At the time of the accident, the pilot held a commercial certificate for single and multi-engine aircraft with an instrument rating. The pilot's flight logbooks indicated a total flight time in all aircraft of approximately 668 hours, with approximately 523 hours as pilot-in-command. A total flight time in the make/model aircraft involved in the accident was approximately 37 hours. The logbook indicated an instrument competency check sign-off on June 12, 2004, with six instrument landing system approaches recorded at Port Angeles. A flight review sign-off was indicated on October 16, 2002, in a Cessna 172.

The pilot held a second class medical certificate dated March 5, 2004. A restriction was listed as must wear lenses for distance - possess glasses for near vision.

The pilot was a resident of Port Angeles, and the flight logbook indicated several years of flying from the Port Angles Airport to airports in the local area, to include several flight to and from Seattle/Boeing Field.

METEOROLOGICAL INFORMATION

Seattle Automated Flight Service Station reported the METAR weather for Port Angeles Airport at 2053 as wind from 270 degrees at 5 knots. Visibility was 10 statute miles with light rain. Few clouds were reported at 2,400 feet, scattered clouds at 2,900 feet and overcast at 3,700 feet. Temperature was 16 degrees C and dewpoint was 14 degrees C. The altimeter setting was 30.01" Hg.

The METAR weather at 2153 reported the wind from 280 degrees at 4 knots. Visibility was 7 statute miles with light rain. An overcast layer was reported at 3,700 feet. Temperature and dewpoint were 14 degrees C. The altimeter setting was 30.02" Hg.

Personnel at Rite Brothers reported that the pilot obtained weather from the computer system located at their facility. Flight plan information was input, however, did not go through due to incomplete information input by the pilot.

WRECKAGE AND IMPACT INFORMATION

On site documentation of the wreckage was conducted on August 5, 2004, by investigators from the National Transportation Safety Board, Federal Aviation Administration and Cessna Aircraft Company.

The wreckage was located in a remote, densely forested area, along terrain that sloped downward at approximately 45 degrees. Coordinates of the wreckage site were determined, with the aid of a hand held global positioning system (GPS), to be 48 degrees, 01.52 minutes North latitude, 123 degrees, 26.13 minutes West longitude, at an elevation of approximately 3,000 feet mean sea level. The terrain to the south rose to heights to about 5,000 feet.

The wreckage distribution path crossed the Angeles Lake Trail in an east-west direction. Trees to the west of the main wreckage were broken approximately 80 feet above ground level. The debris field encompassed an area approximately 310 feet long and approximately 80 feet wide, on a magnetic heading of 090 degrees.

Wreckage located at the initial impact point consisted of the outboard nine feet of the right wing, with the entire aileron attached at the hinges. A leading edge indentation, with brown transfer signatures and aft crushing, was noted 32 inches inboard from the wing tip. The aileron control cable had separated and the ends were frayed.

The left outboard wing, with the lift strut attached to the wing section attach point, was located approximately 50 feet from the initial impact point was entangled in the limbs of a tree approximately 60 feet above ground level.

The left inboard wing, flap and partial fuel tank with the vented fuel cap in place, was located approximately 100 feet from the initial impact point. The remaining section of the left fuel tank was found with a leading edge indention. Along this indentation, brown transfer signatures were noted. The left flap bellcrank and cable were attached, and the separated flight control cable ends were frayed.

The empennage, consisting of the horizontal stabilizer, vertical stabilizer, partially attached left and right elevator, and attached rudder, was located approximately 160 feet from the initial impact point. The counterweights for both elevators and rudder were present. Control cable

continuity was established, from the elevator and rudder bellcranks, forward approximately three feet. The control cable ends for the elevator and the rudder were frayed.

The cabin section of the airplane came to rest topside up, on a heading of approximately 160 degrees, and approximately 225 feet from the initial impact point The cabin section included the area just forward of the front seats and extended back to the aft section of the baggage compartment. The area forward of the front seats, excluding the engine and propeller, was folded under the cabin. A six foot section of the aft fuselage was located approximately 50 feet west of the cabin section.

The engine, with propeller assembly still attached to the crankshaft, was found approximately 100 feet east of the cabin section. The propeller assembly remained attached to the crankshaft. Both propeller blades were free to move in the hub. Propeller blade 1 displayed "S" bending signatures at the tip of the blade with the blade tip torn off. Propeller blade 2 displayed aft bending about mid range with trailing edge gouges at the tip.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by Daniel Selove, MD, Clallam County. The pilot's cause of death was reported as, "Cerebral and cranial trauma due to blunt impact to the head."

Toxicological samples were taken and sent to the Federal Aviation Administration Civil Aeromedical Institute, Oklahoma City, Oklahoma, for analysis. The results of the analysis were negative.

ADDITIONAL INFORMATION

RADAR data obtained from the Federal Aviation Administration and the U.S. Air force 84th RADES, indicated that the aircraft was first picked up on radar at 2150 at an elevation of 1,400 feet. The tracking continues to indicate a steady climb to about 3,000 feet with an arcing right turn tracking to the south. The last target indicated the aircraft at 3,000 feet at 2153:28, at 48 degrees 01 53.895 minutes north latitude, and 123 degrees 25 39.190 minutes west longitude.

At the time of the accident, the emergency locator transmitter (ELT) did not emit a signal. Rescue personnel who were first on site reported that they observed the unit which was partially exposed, and located at the aft end of the section of cabin. The Park Service Officer photographed the unit and reported that the switch was in the "OFF" position. The officer reported that no members of the rescue team disturbed the unit.

During the on site documentation of the wreckage by the NTSB Investigator-in-Charge, the unit was found partially contained in the support bracket. The fuselage structure around the unit was compromised. The external antenna cable remained attached to the unit, however, the cable itself was broken a few feet forward of the unit. The switch was confirmed in the "OFF" position.

The unit was removed from the accident site for further testing. The unit was sent to a Federal Aviation Administration Inspector from the San Jose, California, Flight Standards District Office, who in turn took the unit to ACK Technologies for testing. Prior to disassembly, the unit was found to perform normally when the switch was placed in the "ON" position. Further testing of the "G" switch found that the unit would not activate when the unit was struck with the technicians hand simulating an impact sufficient to activate the switch when in the "ARMED" position. After several attempts the unit finally activated. The technician noted that the G switch ball, which is normally very audible inside the unit, could not be heard at all until the unit was struck "quite hard" and freed the ball. After this, the unit functioned normally.

The unit was then opened to inspect for internal damage. The batteries were found to be installed correctly and within the shelf life of the batteries. Impact damage was noted on the positive side of the battery case. The "G" switch was then cut open and examined. A black powder residue was found inside on the ball and inside the switch cylinder.

The wreckage was removed from the accident site on August 7, by personnel from AvTech Services, Kent, Washington, and transported to a secured facility in Maple Valley, Washington. On August 13, 2004, investigators from the NTSB, FAA, and Cessna Aircraft completed the wreckage documentation. During this time, the wreckage was reconstructed, verifying all flight control surfaces were present. Several circular impact indentations were noted to the leading edge of both wings and the right side horizontal stabilizer. Brown colored transfer as well as fragments of wood were noted within the folds of metal within the indentations.

During the cockpit documentation, it was noted that the navigation and communication units displayed notable impact damage. The frequencies of both units were noted but none matched frequencies for the local area.

The engine was inspected to verify accessory gear and valve train continuity. Both magnetos produced a spark when rotated by hand. The top side spark plugs were removed and normal wear signatures were noted to the electrodes. Compression was developed in each cylinder except for number 1. The carburetor was broken from its mount. The vacuum pump was removed and found that the shaft was intact. The unit was opened to inspect the rotor and vanes. The vanes were found intact, however the rotor was fragmented.

The wreckage and maintenance logbook documentation was released to the owner's representative on August 18, 2004. The ELT was returned to AvTech Services on September 2, 2004. Personal items of the pilot's, which were found in the wreckage were returned to a family member on September 9, 2004.

Pilot Information

Certificate:	Commercial	**Age:**	57,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 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	March 5, 2004
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 16, 2002
Flight Time:	668 hours (Total, all aircraft), 37 hours (Total, this make and model), 523 hours (Pilot In Command, all aircraft), 45 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N79404
Model/Series:	182P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18261815
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	July 30, 2004 Annual	**Certified Max Gross Wt.:**	2950 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	O-470-50
Registered Owner:	Rite Brothers Aviation, Inc.	**Rated Power:**	235
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	CLM,291 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	21:53 Local	**Direction from Accident Site:**	320°
Lowest Cloud Condition:		**Visibility**	7 miles
Lowest Ceiling:	Overcast / 3700 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	14°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Port Angeles, WA (CLM)	**Type of Flight Plan Filed:**	None
Destination:	Seattle, WA (BFI)	**Type of Clearance:**	None
Departure Time:	21:45 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	2 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 2 Minor	**Latitude, Longitude:**	48.031112,-123.436943

Administrative Information

Investigator In Charge (IIC):	Eckrote, Debra
Additional Participating Persons:	Bruce A Kitelinger; FAA-FSDO; Renton, WA Greg Schmidt; Cessna Aircraft Company; Wichita, KS
Report Date:	December 2, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=59832