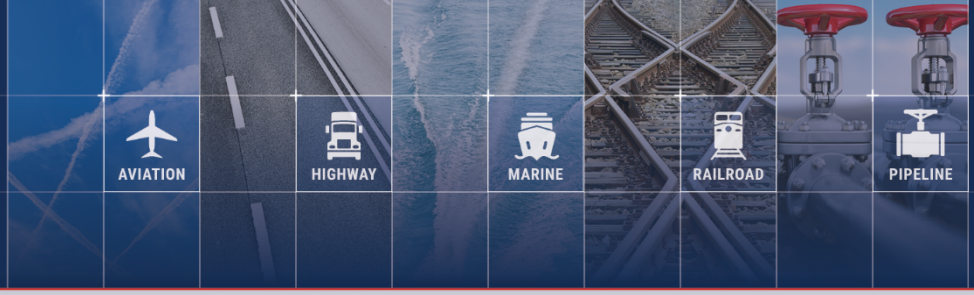

Aviation Investigation Final Report

Location:	Cantwell, Alaska	**Accident Number:**	ANC13FA058
Date & Time:	June 28, 2013, 10:40 Local	**Registration:**	N5JG
Aircraft:	Beech 95-B55	**Aircraft Damage:**	Destroyed
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The accident pilot was the organizer of 18 airplanes participating in a group sight-seeing tour of remote Alaskan locations. The 18 airplanes were divided into two groups, and each group had a leader. The accident airplane served as a separate leader for the entire group and departed about 10 minutes before the other two groups to make arrangements at their next destination and to check weather along their intended route of flight, which took them through a mountain pass.

One of the group leader pilots reported that, as he approached the mountain pass, weather conditions began to deteriorate with low clouds, haze, and restricted visibility. He subsequently received a radio broadcast from another airplane in the area, which indicated that the mountain pass was not open due to poor weather conditions, so he chose to land his group at a nearby airport. The other group leader pilot stated that, after hearing that the first group was going to land at the nearby airport, he also chose to land his group there.

The accident airplane's fragmented wreckage was discovered near the summit of the mountain pass in an area of brush and tundra-covered terrain at an elevation of about 2,370 feet mean sea level near the area where the second group leader turned around. A pilot-rated witness standing on the ground about the time of the accident stated that he observed an airplane flying in and out of the clouds at an altitude of about 400 feet above ground level (agl). Weather at the time of the accident was broken clouds about 250 to 300 feet agl, overcast clouds about 350 feet agl, with thin wispy fog hanging in the trees.

Postaccident examination of the airframe and engines revealed no mechanical malfunctions or anomalies that would have precluded normal operation. Given the lack of mechanical anomalies, the reported weather conditions, the two group leader pilot statements, and the witness statement, it is likely that the accident pilot continued visual flight into instrument meteorological conditions, which resulted in an in-flight collision with mountainous terrain.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's continued visual flight into instrument meteorological conditions, which resulted in an in-flight collision with mountainous terrain.

Findings

Personnel issues	Decision making/judgment - Pilot
Environmental issues	Low ceiling - Contributed to outcome
Environmental issues	Low visibility - Contributed to outcome

Factual Information

History of Flight

Maneuvering	Controlled flight into terr/obj (CFIT) (Defining event)

HISTORY OF FLIGHT

On June 28, 2013, about 1040 Alaska daylight time, a twin-engine Beech Baron 95-B55 airplane, N5JG, was destroyed following a collision with terrain and post-crash fire in an area known as Broad Pass, about 15 miles southwest of Cantwell, Alaska. The airplane was being operated as a visual flight rules (VFR) cross-country flight under the provisions of Title 14, CFR Part 91, when the accident occurred. Of the three people aboard, the first pilot/airplane owner, seated in the left seat, the second pilot, seated in the right seat, and a passenger, all sustained fatal injuries. At the time of the accident, instrument meteorological conditions (IMC) were reported in the areas of Broad and Windy Pass. Visual meteorological conditions prevailed at the airplane's point of departure, and company flight following procedures were in effect. The flight departed the Fairbanks International Airport at approximately 1000, destined for Homer, Alaska, via Windy and Broad Pass.

The first pilot owned and operated a tour group business called "Let's Fly Alaska", through which pilots provide their own airplanes, and travel as a group on a guided tour from Washington and then throughout Alaska, before returning to their respective bases.

According to family members, the first pilot had invited the second pilot and his girlfriend to accompany him in his airplane, on the upcoming tour of Alaska. The second pilot had brokered and delivered an airplane for the first pilot, and the trip to Alaska was a thank you for his services.

A picture provided by one of the group leaders to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), shows the airplane departing Fairbanks International Airport, on the accident flight with the second pilot seated in the right front seat. The second pilot was identified in the photo, during the on-scene portion of the investigation by the red shirt that he was wearing.

The first pilot was the lead airplane in a group of 18 airplanes on an aerial tour, when the accident occurred. The 18 airplanes were divided into two groups, a slow group and a fast group, which was determined by each airplane's en route cruise airspeed, and each group had a separate leader. The accident airplane served as a separate leader for the entire group, and would fly ahead of, and separate from the two groups to check weather and make arrangements at the next destination.

During a telephone conversation with the NTSB IIC on July 1, the group leader of the fast group said the accident airplane departed approximately 10 minutes ahead of his group. As his group approached the Windy Pass area, weather conditions began to deteriorate, with low clouds, haze, and restricted visibility. He subsequently received a radio broadcast from another airplane in the area, stating that the pass was not open due to poor weather conditions, so he elected to land his group at the Healy River Airport, Healy, Alaska.

During a separate telephone conversation with the NTSB IIC on June 29, the group leader of the slow group said that after hearing the fast group was landing at the Healy River Airport, he elected to land his group there also. After waiting approximately 45 minutes to 1 hour, he departed Healy River to see if the weather had improved in Windy and Broad Pass. As he approached the area around Broad Pass, weather conditions deteriorated with thick clouds to the ground, and he returned to the Healy River Airport.

During a telephone conversation with the NTSB IIC on August 7, 2014 a pilot rated witness standing on the ground at the Summit Airport about the time of the accident stated that he observed a twin-engine, piston powered Beechcraft airplane fly by the Summit Airport. He said the airplane was about 400 above ground level (AGL), and flying in and out of the clouds. Weather at the time consisted of broken clouds at approximately 250–300 feet AGL, and overcast clouds at about 350 feet AGL, with thin wispy fog hanging in the trees.

PERSONNEL INFORMATION

The first pilot, age 61, held an airline transport pilot certificate with an airplane multi-engine land, and rotorcraft-helicopter rating. Additionally, he held commercial pilot privileges for airplane single-engine land, and single-engine sea. He also held a type rating for a Bell 206 helicopter, and a certified flight instructor certificate with airplane single-engine land, multi-engine land, instrument airplane, rotorcraft-helicopter, and instrument helicopter. His most recent third-class medical was issued on February 10, 2012, with the limitation that he must wear corrective lenses.

No personal flight records were located for the first pilot, and the aeronautical experience listed on page 3 of this report was obtained from a review of the airmen Federal Aviation Administration (FAA) records on file in the Airman and Medical Records Center located in Oklahoma City. On the pilot's application for a medical certificate, dated February 10, 2012 he indicated that his total aeronautical experience was about 4,900 hours, of which 30 were in the previous 6 months.

The second pilot, age 74, held a commercial pilot certificate with an airplane multi-engine land, single engine land, and single engine sea, glider and instrument airplane rating. He also held a certified flight instructor certificate with airplane single engine, multi-engine, and instrument airplane, and an advanced and instrument ground instructor certificate. His most recent second-class medical was issued on June 17, 2013, with the limitation that he must wear corrective lenses.

No personal flight records were located for the second pilot, and the aeronautical experience listed on page 3 of this report was obtained from a review of the airmen Federal Aviation Administration (FAA) records on file in the Airman and Medical Records Center located in Oklahoma City. On the pilot's application for a medical certificate, dated June 17, 2013 he indicated that his total aeronautical experience was about 10,000 hours, of which 75 were in the previous 6 months.

AIRCRAFT INFORMATION

The six-seat, low-wing, retractable tricycle landing gear, Beech Baron 95-B55, serial number TC-1725, was manufactured in 1974. It was powered by two, Continental Motors IO-520-E engines.

The airplane was equipped with dual control yokes, and after-market vortex generators and winglets.

No airframe or engine logbooks were discovered for examination, but an aircraft status sheet was provided to the NTSB IIC. The status sheet indicated that the most recent annual inspection on the airframe and engines was completed on June 7, 2013. At the time of inspection the airplane had a total time in service of 4,805 flight hours.

METEROLOGICAL INFORMATION

The closest weather reporting facility is Healy River Airport, approximately 42 miles north of the accident site. At 1053, an aviation routine weather report (METAR) at Healy River, reported: wind variable at 3 knots, visibility, 6 statute miles in haze, few clouds at 4,700 feet, broken clouds at 7,000 feet, broken clouds at 8,500 feet, temperature, 70 degrees F; dew point 55 degrees F; altimeter, 30.03 inHG.

The FAA maintained weather cameras at Summit, approximately 6 miles northeast of the accident site. The Summit camera recorded images to the northwest, northeast, southeast and southwest. The midpoint for the field-of-view arc for the northwest camera was 320 degrees (true), northeast was 039 degrees, southeast was 149 degrees, and 221 degrees for the southwest camera; the site elevation was 2,398 feet msl.

A reference picture for the southwest camera noted the parks highway at less than 1 statute mile from the camera. A review of the images recorded about the time of the accident indicated low ceilings and visibilities in all directions, with the lowest visibilities, and what appeared to be a patchy low level ground obscuration, captured on the southwest and northwest cameras.

WRECKAGE AND IMPACT INFORMATION

The NTSB IIC, along with two Federal Aviation Administration safety inspectors from the Anchorage Flight Standards District Office (FSDO), and two Alaska State Troopers reached the accident site on the afternoon of June 28.

All of the airplane's major components were found at the main wreckage site. The accident site was located in an area of brush, and tundra-covered terrain with sparsely populated spruce trees at an elevation of approximately 2,370 feet msl. Portions of the burned and fragmented airplane were scattered along a debris path oriented along a magnetic heading of 345 degrees, which measured about 726 feet in length.

An area believed to be the initial impact point was marked by a broken tree top, atop a 25 foot tall spruce tree. The initial ground scar was discernable by disturbed and burned tundra, with broken and cut brush. A broken red navigation light lens, along with small wreckage fragments was found near the initial ground scar. The distance between the initial impact point and the initial ground scar was about 70 feet.

The cockpit and fuselage were located at the main wreckage site and were extensively damage by postcrash fire.

The left wing separated from the fuselage and was fragmented.

The right wing separated from the fuselage, was fragmented and suffered extensive thermal damage.

Both engine assemblies separated from their respective engine firewalls, and sustained impact damage to the front and underside. Numerous exhaust tubes were found in the debris path with scorched and burned tundra underneath and around the exhaust tubes.

Both propeller assemblies separated from their respective engine crankshafts. All of the six propeller blades exhibited substantial bending and torsional "S" twisting. Three of the propeller blades exhibited leading edge gouging, with one of the propeller tips separating from the blade.

The airplane's main landing gear was in the retracted position.

On November 19-20, 2013, following recovery of the airplane's wreckage to Wasilla, Alaska, a wreckage exam and layout was conducted under the direction of the NTSB IIC. Also present was an air safety investigator from Hawker Beechcraft Corporation.

The vertical stabilizer and rudder sustained impact damage, but remained attached to their respective attach points.

The left horizontal stabilizer remained attached to the empennage, but the outboard portion separated at approximately mid-span. The left elevator separated into three sections, with the inboard portion staying attached to the elevator horn, but separating at the center hinge.

The right horizontal stabilizer separated from the empennage at both spars, and suffered extensive impact damage. The right elevator remained attached at the outboard and center hinges, but separated from the right elevator horn at both the elevator and elevator support.

The left flap separated at both flap tracks and the flap actuator, and exhibited upward bending of both the left and right edges. The flap actuator measured about 1 7/8", corresponding to a flaps retracted position.

The right flap separated at both flap tracks and the flap actuator, and sustained impact damage. The right flap actuator measured 1 3/8", corresponding to a flaps retracted position.

After the wreckage was recovered, aileron control continuity was established from the control column to the left and right fractured aileron bellcranks, and in the balance cable to the left and right bellcranks. Elevator control continuity was established from the upper and lower arm elevator bellcranks, to the point where the cables were cut for recovery, to the control column. Rudder control continuity was established from the forward rudder control bellcrank, to where the cables were cut for recovery, to the aft rudder bellcrank.

The fragmented cockpit and fuselage had extensive thermal damage. Many cockpit controls and switches were damaged, and could provide no meaningful data. The flap switch was in the off position and the flap indicator was in the up position. The landing gear switch was in the up position.

The examination of the airframe and engines revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

MEDICAL AND PATHOLOGICAL INFORMATION

First Pilot

A postmortem examination was conducted under the authority of the Alaska State Medical Examiner, Anchorage, Alaska, on July 1, 2013. The cause of death for the pilot was attributed to multiple blunt force injuries.

The Federal Aviation Administration (FAA) Civil Aeromedical Institute performed toxicology examinations for the pilot on September 27, 2013, which was negative for carbon monoxide, and ethanol. The toxicological examination revealed unspecified levels of Ibuprofen in the pilot's urine, and 0.039 ug/ml of Morphine detected in the urine.

Ibuprofen is an over-the-counter Non-Steroidal Anti-Inflammatory drug, used as an anti-inflammatory medication for the treatment of aches and pains, and as an antipyretic to reduce fever.

Morphine is a prescription narcotic used for the treatment of moderate to severe pain. The cutoff for federal workplace testing of urine is 2.000 ug/ml, the level of morphine detected was well below this level and the medication was not detected in the blood.

Second Pilot

A postmortem examination was conducted under the authority of the Alaska State Medical Examiner, Anchorage, Alaska, on July 1, 2013. The cause of death for the pilot rated passenger was attributed to blunt force injuries.

The Federal Aviation Administration (FAA) Civil Aeromedical Institute performed toxicology examinations for the second pilot on August 23, 2013, which was negative for carbon monoxide, and ethanol. The toxicological examination revealed unspecified levels of Atorvastatin, Norverapamil, Quinine, and Verapamil in the blood and urine, 0.046 ug/ml of Zolpidem detected in the blood, and 0.018 ug/ml of Zolpidem detected in the urine.

Atorvastatin (marketed under the trade name Lipitor) is a prescription medication used to treat lipid disorders and elevated cholesterol.

Quinine is an anti-malarial used in the treatment of malarial and off label treatment of leg cramps, it is also a component of tonic water.

Verapamil is a prescription calcium channel blocker to treat high blood pressure and angina.

Norverapamil is the primary active metabolite of verapamil.

Zolpidem (marketed under the trade name Ambien) is a prescription medication used for the short-term treatment of insomnia characterized by difficulties with sleep initiation.

TESTS AND RESEARCH

Engines

On November 19-20, 2013, an engine examination was performed by Continental Motors, Inc., under the supervision of the NTSB IIC. No anomalies, contamination, or evidence of malfunction was found in any of the engine accessories. The cylinders, pistons, valve train, crankshaft, and other internal components were all without evidence of anomaly or malfunction.

Both magnetos were removed from each engine and the coupling was rotated via an electric drill. When the coupling was rotated, strong blue spark was produced from each terminal, in rotational order.

Video Cameras

The airplane was outfitted with numerous video cameras, mounted at various locations on the exterior of the airplane. Five cameras were recovered from the aircraft wreckage, and were sent to the NTSB, Vehicle Recorder Division in Washington D.C. The microSD card from each camera was removed and the file system examined. In addition, file fragments were successfully recovered as video files. However, review of the video files confirmed none of the files recovered were of the accident flight. A complete brief of the video footage is available in the public docket.

Electronic Devices

Nine electronic devices were recovered from the accident site, and were sent to the NTSB, Vehicle Recorder Division in Washington D.C. None of the nine devices contained pertinent data to the investigation. A complete brief of the electronic devices is available in the public docket.

ADDITIONAL INFORMATION

Pilot in Command (PIC)

In a statement provided to the NTSB IIC by the first pilot's widow, she reported that in the fall of 2012 her husband was undergoing chemotherapy treatment for cancer, and at that time considered himself medically unqualified to serve as PIC. She said that he then arranged to have the second pilot accompany him on his trip to Alaska, because he qualified as PIC, and met all of the FAA and insurance policy requirements.

The widow of the first pilot provided two documents to the NTSB IIC, the first was a "Waiver and Liability Release by Lets Fly Alaska" on page 2, the second pilot listed his name in the PIC section, the aircraft registration number was N5JG, and he signed the document under the PIC signature block. The document was dated October 10, 2012.

The second document was a reservation form for Let's Fly Alaska. In the PIC section the second pilot listed his pertinent information. At the top of the page, written in handwritten letters, were the words "Flying with me", the comments section at the bottom of the document stated in part "Would plan to fly with [first pilots name] as cockpit or front seat passenger".

In a statement provided by the group leader of the fast group, he stated that "Only afterwards do we now understand that probably the only person who didn't understand he was PIC was [second pilot's name]."

The operator did not submit an NTSB Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1).

Pilot Information

Certificate:	Airline transport	**Age:**	61
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane; Instrument helicopter	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	February 10, 2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 13, 2012
Flight Time:	4900 hours (Total, all aircraft)		

Pilot-rated passenger Information

Certificate:	Commercial	**Age:**	74
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Glider	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	June 17, 2013
Occupational Pilot:		**Last Flight Review or Equivalent:**	September 1, 2012
Flight Time:	10000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N5JG
Model/Series:	95-B55	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TC-1725
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 7, 2013 Annual	**Certified Max Gross Wt.:**	5100 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	4805 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	C126 installed, not activated	**Engine Model/Series:**	IO-520SERIES
Registered Owner:	Dale W. Hemman	**Rated Power:**	300 Horsepower
Operator:	Dale W. Hemman	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PAHV,1263 ft msl	**Distance from Accident Site:**	42 Nautical Miles
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Few / 4700 ft AGL	**Visibility**	6 miles
Lowest Ceiling:	Broken / 7000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.03 inches Hg	**Temperature/Dew Point:**	21°C / 13°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	Fairbanks, AK (PAFA)	**Type of Flight Plan Filed:**	Company VFR
Destination:	Homer, AK	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	2 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal	**Latitude, Longitude:**	63.257221,-149.250549(est)

Administrative Information

Investigator In Charge (IIC):	Banning, David
Additional Participating Persons:	Danny Odom; Federal Aviation Administration; Anchorage, AK Brain Webber; Beechcraft Nicole Charnon; Continental Motors Inc
Original Publish Date:	September 8, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=87325