Aviation Investigation Final Report

Location:	GREAT FALLS, Montana	**Accident Number:**	SEA95FA017
Date & Time:	November 8, 1994, 10:04 Local	**Registration:**	N180PB
Aircraft:	BEECH 58P	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	4 Fatal
Flight Conducted Under:	Part 91: General aviation		

Analysis

JUST AFTER LIFT OFF, THE PILOT RADIOED THE TOWER THAT HE WAS GOING TO RETURN FOR LANDING. THE CONTROLLER STATED THAT THE AIRPLANE CONTINUED IN A STANDARD RATE TURN TO THE LEFT AT 50 FEET AGL AND A SLOW AIRSPEED. THE AIRPLANE CONTINUED THE LEFT TURN, WHEN THE NOSE OF THE AIRPLANE SUDDENLY DROPPED AND THE AIRPLANE COLLIDED WITH LEVEL OPEN TERRAIN. WITNESSES STATED THAT THEY OBSERVED AN OBJECT, THAT WAS LATER IDENTIFIED AS A GARMENT BAG, FALL FROM THE AIRPLANE NEAR THE END OF THE RUNWAY. EXAMINATION OF THE WRECKAGE REVEALED THAT BOTH CABIN DOORS WERE SECURED AND LOCKED. THE NOSE BAGGAGE DOOR HAD BEEN CONSUMED IN THE FIRE. BOTH LATCHES TO THE DOOR WERE FOUND ON THE GROUND UNDER THE AIRCRAFT'S NOSE. THE INTERNAL LOCKING MECHANISM TO THESE LATCHES WERE IN THE LOCKED POSITION. THE LATCHES CAN BE LOCKED WITHOUT THE DOOR BEING COMPLETELY CLOSED.

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 AIRSPEED. A FACTOR TO THE ACCIDENT WAS: INADEQUATE AIRCRAFT PREFLIGHT.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings
1. (F) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On November 8, 1994, at 1004 mountain standard time, a Beech 58P, N180PB, collided with the terrain shortly after takeoff from Great Falls, Montana. Visual meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed. The airplane was substantially damaged and the airline transport pilot and his three passengers were fatally injured. The flight was departing on a business trip that was conducted under 14 CFR 91, and was en route to Sidney, Montana.

The air traffic controller on duty in the tower reported that after the airplane lifted off and began its left turn over the end of runway 21, the pilot radioed that he would be returning to land. The controller asked which runway the pilot wanted and the pilot replied "two one I think." The controller then cleared the pilot to runway 21. The controller stated that he observed a "puff" of smoke from the right side of the airplane as it continued its left turn at approximately 50 feet above ground level. The controller stated that the nose of the airplane then dropped and the airplane collided with the level terrain approximately one mile south of the airport. The controller stated that the airplane's airspeed appeared to be slower than what he expected, and that the airplane never gained more than 50 feet above ground level throughout a standard rate turn to the left.

Two witnesses that were travelling in trucks on the Frontage Road stated that they saw the airplane in the air at the end of the runway. One witness saw an "orange" object, while the other saw what he thought was a piece of metal falling from the airplane. During a telephone conversation with this second witness, he stated that he was not sure what the object was, but that he saw "something" fall from the airplane. Both stated that the airplane was low to the ground and making a left turn. One witness stated that after the airplane crossed the frontage road, the airplane then made a "half circle" and crashed, while the other witness did not see the airplane hit the ground.

A third witness travelling north on Interstate 15 stated that the airplane was low to the ground as it travelled over the interstate in front of the vehicle about a mile away. This witness stated that the right wing was pointing almost straight to the ground and that the top of the airplane was visible as it crossed the highway. This witness did not see the airplane collide with the ground.

Local authorities located an orange garment bag near the end of runway 21 which was later identified as belonging to one of the passengers in the airplane. The bag contained one business suit.

Neither the bag nor the suit appeared to be damaged.

PERSONNEL INFORMATION

Personnel at the D.A. Davidson Company (registered owner of the airplane) reported that the pilot had been hired approximately two years prior to the accident to fly Davidson company personnel on business flights. When not flying with the Davidson company, the pilot was employed as a 14 CFR 135 pilot at Holman Aviation, Great Falls. Holman Aviation records indicate that in the past 30 days, the pilot had flown 26 hours, with four hours in the Beech 58.

Federal Aviation Administration (FAA) records indicate that the pilot held commercial, airline transport pilot and certificated flight instructor certificates for single and multi-engine land airplanes. The pilot's flight logbook was not made available for review, therefore, total flight times were obtained through the FAA Medical Branch. The pilot reported on his last medical certificate dated February 28, 1994, a total flight time of 8,500 hours.

COMMUNICATIONS

At 0914 hours, the pilot had contacted the Great Falls Flight Service Station via the telephone and requested and received a pre-flight weather briefing from Great Falls to Sidney, Montana. There was no pertinent weather reported during this briefing that was concluded at 0916.

At 0956, the pilot requested the IFR clearance to Sidney. The controller cleared the flight to Sidney as filed. The pilot correctly read back the clearance to the controller and the flight was instructed to taxi to runway 21.

At 1001, the pilot notified the controller that he was ready for take off. The controller then cleared the pilot for take off.

At 1003, the pilot notified the controller that he "needed to go around and land." The controller asked the pilot which runway he wanted, and the pilot replied "two one I think."

There were no further transmissions from the pilot.

WRECKAGE AND IMPACT INFORMATION

The wreckage is located approximately one mile south of the airport and on the south side of Interstate 15 in an open flat field. The ground was covered with dry low grass. The area around the wreckage for approximately 300 feet was burned from the post crash fire. There were no tall obstructions in the immediate area.

The first evidence of ground impact was a five foot gash in the soil. This area contained evidence of fragments from the left wing tip. A magnetic bearing of 50 degrees was measured from this point to the main wreckage. Another ground disturbance was located at 24 feet into

the distribution path and continued to 50 feet. At the end of this disturbance, a section of the left wing with a fuel float attached were located. Approximately 58 feet into the distribution path, the left propeller and hub was located. All three blades remained attached to the hub. The blades were bent aft and displayed "S" bending. Eighty-two feet to the right of this point, a three foot section of the left wing tip was located. At 94 feet into the path, the right propeller and hub was located. All three blades remained attached to the hub and displayed similar bending signatures as the left blades. From approximately 85 feet to the final resting point of the main wreckage at 137 feet, the grass was laid over flat.

The main wreckage was laying on its belly and positioned on a magnetic bearing of 350 degrees. The left wing was severely damaged and had been consumed by fire. The left engine was laying right side up and displayed evidence of heat distress. The inboard section of the left flap was visible, however, the remainder of the flap and aileron had been consumed by fire.

The right wing was in place and the skin sections were burned away, however, parts of the wing structure remained. Evidence of the flap and aileron were still in place and displayed fire damage. The right engine was laying inverted on the right side of the airframe near the nose. The cockpit area was completely destroyed by fire. The nose area was crushed rearward and had been consumed by fire. Cardboard boxes containing paperwork with the D.A. Davidson logo were found in the nose cargo compartment. Other loose paperwork was scattered and blown around the area. The baggage compartment door, located on the right side of the nose, had been completely consumed by fire. The forward and aft latches on the door were found on the ground under the nose area, as this part of the fuselage was laid over on its right side. The forward latch with the key lock was found with the interlocking mechanism in the locked position, and the key lock locked. The aft latch does not have a key lock, however, the interlocking mechanism was also found in the locked position. Both the hooks on the latches and the loops on the frame appeared undamaged.

The empennage area was intact with the horizontal stabilizers in place and the elevators attached. The vertical stabilizer was in place with the rudder attached. The aft control cable attachments were intact and the cables ran forward to the cockpit area.

Both cabin doors were in the locked and secured position.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed by Dr. J. Henneford, Columbus Hospital, Great Falls, Montana. The cause of death was reported as internal injuries of head and chest due to blunt force impacts.

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

TESTS AND RESEARCH

On October 31, 1994, Beech Aircraft, Wichita, Kansas, had completed a series of flight tests in a Beech 58TC, which is similar in design to the Beech 58P. The purpose of the flight testing was to determine the aircraft's flight and performance characteristics with the nose baggage door open. Testing in several flight configurations determined no adverse aircraft control or performance problems.

ADDITIONAL INFORMATION

Both engines were shipped to Teledyne Continental Motors, Mobile, Alabama, for engine teardown and inspection. During the inspection, there was no evidence found to indicate a mechanical failure or malfunction. See attached teardown report for details.

The wreckage was released to the owner's representative on January 25, 1995. The wreckage was stored at Rocky Mountain Air, Great Falls, Montana. The engines were returned to Rocky Mountain Air at the completion of the engine teardown on December 15, 1994. The nose cargo door latches were returned to the owner's representative in Billings, Montana, on April 26, 1995.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	50,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):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	February 28, 1994
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	8500 hours (Total, all aircraft), 26 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	**Registration:**	N180PB
Model/Series:	58P 58P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TJ-251
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	March 25, 1994 Annual	**Certified Max Gross Wt.:**	5400 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	1445 Hrs	**Engine Manufacturer:**	CONTINENTAL
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	TSIO-520-WB
Registered Owner:	DAVIDSON, D.A.	**Rated Power:**	325 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GTF ,3674 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	10:05 Local	**Direction from Accident Site:**	20°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	15 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	2°C / -9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	IFR
Destination:	SIDNEY (SDY)	**Type of Clearance:**	IFR
Departure Time:	10:01 Local	**Type of Airspace:**	Class E

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Precautionary landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	3 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	4 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Eckrote, Debra
Additional Participating Persons:	SCOTT BOYLE; ARVADO , CO KENNETH MCNEES; HELENA , MT PAUL E YOOS; WICHITA , KS
Original Publish Date:	June 29, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=42037