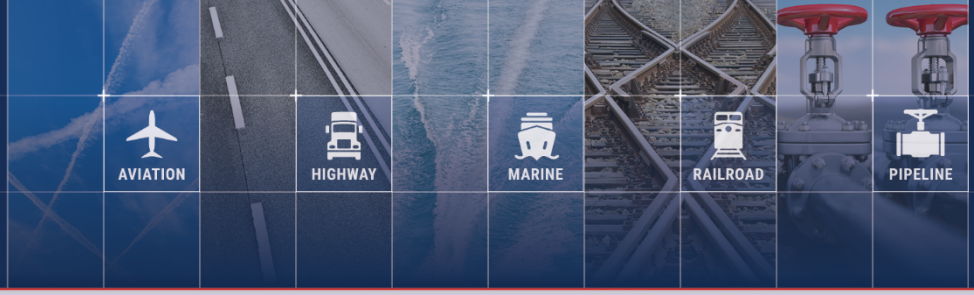

Aviation Investigation Final Report

Location:	Molalla, Oregon	**Accident Number:**	SEA04FA088
Date & Time:	May 18, 2004, 18:30 Local	**Registration:**	N61611
Aircraft:	Cessna A185F	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was completing the final leg of a cross-country flight that originated earlier in the day. Approximately 44 miles west of Boise, Idaho, the pilot received an in-flight weather update for the route of flight. The weather specialist advised the pilot of areas of thunderstorms, icing and mountain obscuration along the intended route of flight. The specialist informed the pilot that VFR flight was not recommended in areas of higher terrain. After receiving the weather update, the pilot informed the specialist that he could see the convective activity ahead of him. After failing to arrive at the planned destination, an Alert Notice (ALNOT) was issued for the missing airplane. The airplane wreckage was later located in mountainous terrain approximately 40 miles southeast of the pilot's planned destination. Widespread areas of instrument meteorological conditions were reported along the pilot's route of flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate in-flight planning/decision which resulted in VFR flight into IMC, and his failure to maintain control. Factors include mountain obscuration, clouds and convective weather conditions.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE

Findings
1. (F) WEATHER CONDITION - ICING CONDITIONS
2. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
3. (F) WEATHER CONDITION - CLOUDS
4. VFR FLIGHT INTO IMC - PILOT IN COMMAND
5. (F) WEATHER CONDITION - THUNDERSTORM

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings
6. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
7. TERRAIN CONDITION - MOUNTAINOUS/HILLY

Factual Information

HISTORY OF FLIGHT

On May 18, 2004, about 1830 Pacific daylight time, a float equipped Cessna A185F, N61611, was destroyed after colliding with mountainous terrain in a remote area approximately 13 miles southeast of Molalla, Oregon. The airplane was owned by the pilot, and was being operated as a visual flight rules (VFR) cross-country flight under the provisions of 14 CFR Part 91, when the accident occurred. The commercial pilot, the sole occupant of the airplane, was fatally injured. No flight plan was filed for the flight that originated from the Burley Municipal Airport, Burley, Idaho, at 1610 mountain daylight time. The pilot's planned destination was Olinger Strip Airport, Hillsboro, Oregon.

On the evening of May 18, family members of the pilot notified the Federal Aviation Administration (FAA) that the airplane was overdue at its planned destination. Subsequent to the report, the Seattle Air Route Traffic Control Center (ARTCC) issued an ALNOT (alert notice) for a missing aircraft, and a search was initiated. The following day (May 19) the aircraft wreckage was located in a heavily wooded area east of Molalla, Oregon.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with airplane single-engine land and airplane single-engine sea ratings. The pilot also held an instrument rating. The most recent medical certificate, a third-class certificate, was issued to the pilot on September 23, 2003, and contained the limitation that the "pilot shall possess glasses that correct for near vision."

On the before mentioned medical certificate application, the pilot indicated that he had accumulated approximately 1,975 total flight hours, including approximately 50 hours in the six months preceding the application date.

Pilot logbook records indicated the pilot completed a flight review on May 20, 2003.

AIRCRAFT INFORMATION

The accident airplane, a 1981 Cessna A185F (serial number 18504236), was issued a standard airworthiness certificate (normal) in March of 1981. The airplane was equipped with Wipaire Wipline 3000 amphibian floats. A Continental IO-520 series engine, rated at 300 horsepower, powered the airplane.

Maintenance records indicated that the last annual inspection of the airframe, to include the engine and propeller, was completed on September 14, 2003. The airframe total time at

inspection was 1,457 hours. No open discrepancies were noted.

METEOROLOGICAL INFORMATION

The closest weather observation facility is McNary Field Airport, Salem, Oregon (KSLE), located approximately 23 miles west of the accident site.

The METAR observation for KSLE at 1756 PDT reported in part: winds from 210 degrees true at 10 knots; visibility 10 statute mile; scattered clouds at 2,000 feet AGL, scattered clouds at 4,900 feet, overcast skies at 7,500 feet; temperature 15 degrees Celsius (C); dew point 11 degrees C.

The METAR observation for KSLE at 1856 PDT reported in part: winds from 210 degrees true at 10 knots; visibility 10 statute mile; scattered clouds at 3,500 feet AGL, overcast skies at 8,000 feet; temperature 14 degrees C; dew point 10 C.

The Terminal Aerodrome Forecast (TAF) for KSLE current for the period surrounding the accident indicated: wind from 220 degrees at 12 knots; visibility better than 6 miles; scattered clouds at 2,000 feet; broken clouds at 3,000 feet; overcast skies at 4,500 feet.

An Area Forecast current for the Northern Cascades expected scattered to broken clouds at 2,500 feet; broken clouds at 12,000 feet with tops to FL200; with widely scattered rain showers and isolated thunderstorms with tops to FL400.

The NWS had two AIRMETs current at the time of the accident over the region. AIRMET Sierra for IFR conditions and mountain obscuration in clouds and mist and AIRMET Zulu for occasional moderate rime-to-mixed icing conditions in-clouds and in-precipitation between the freezing level identified at 8,000 feet over the area to 20,000 feet for portions of Washington, Oregon, and California.

COMMUNICATIONS

A printed transcript of communications between the pilot of N61611 and the Cedar City Automated Flight Service Station Flight Watch was obtained from the FAA. The following is a summery of the transcript:

At 1615:11 the pilot initiated communications with Flight Watch and requested weather information for Hillsboro, Oregon. The pilot stated he was 44 miles east of Boise.

At 1616:00 the specialist advised the pilot of a Convective SIGMET along his route of flight and informed the pilot of a line of thunderstorm, 25 miles wide, moving from the northeast to the southwest at 30 knots. The specialist informed the pilot of an AIRMET for Western Oregon outlining areas of mountain obscuration and moderate rime or mixed icing in clouds and precipitation. The specialist added that VFR in areas of higher terrain was not recommended.

The specialist informed the pilot that he would have to fly south to Klamath Falls or Lakeview to clear the area of thunderstorms.

At 1618:14 the pilot of N61611 acknowledged the specialist and stated he could see "...the convective activity ahead of him."

Refer to attached transcript for additional information.

WRECKAGE AND IMPACT INFORMATION

Personnel from the National Transportation Safety Board accessed the wreckage site on May 20, 2004. On May 21, a second attempt to access the accident site was unsuccessful due to weather conditions.

The wreckage was located on steep wooded terrain at 45 degrees 00 minutes' 13 seconds north latitude and 122 degrees 20 minutes' 01 second west longitude. The wreckage site elevation was approximately 3,800 feet above mean sea level. The wreckage came to rest approximately 75 feet south (down hill) of a basalt cliff face.

The airplane impacted terrain in a nose-low attitude, oriented on a northwesterly heading. The forward section of the airplane, from the firewall forward, was partially buried and rested beneath the wreckage debris pile. The aft cabin area and empennage remained attached and were bent in a reverse direction approximately 180 degrees.

The cockpit controls and instrument panel sustained extensive impact damage and a majority of the navigation instrumentation was destroyed. The navigation and communication radios and associated wiring harnesses were heavily damaged and displaced from the installed positions.

The right wing remained partially attached to the fuselage. Leading edge accordion type aft crushing was noted along the entire span of the wing. The wing section was rotated in an upward direction relative to the longitudinal axis. The lift strut was detached from the wing assembly, but remained attached to the fuselage. The aileron and wing flap were found attached to their respective mounting points and the control cables were present.

The inboard section of the left wing and associated wing flap remained partially attached to the fuselage. Extensive aft crushing and leading edge damage was noted to the wing section. The outboard section of the wing separated just outboard of the wing flap and was located adjacent to the wreckage. The aileron was attached and the control cables were present. Aft crushing and leading edge damage, similar to the damage on the inboard section of the wing, was noted to the section of wing. A large crush pattern extended from leading edge of the inboard section of the left wing to the adjoining outboard section of wing.

Minimal damage was noted to the empennage and associated control surfaces. All fixed and

movable control surfaces remained attached in their respective positions and the control cables were present.

The float assembly separated from the airframe as a unit and was found adjacent to the main wreckage. The assembly was intact. The landing gear was observed in the retracted position. Extensive impact type damage was noted to the forward section of each float. Aft crushing and upward bending was noted from the bumper of each float aft to the forward spreader bar.

All aircraft components were located in the immediate area of the main wreckage.

MEDICAL AND PATHOLOGICAL INFORMATION

Postmortem examination of the pilot was conducted by the Oregon State Medical Examiner's Office on May 21, 2004. According to the postmortem report, the pilot's cause of death was attributed to "multiple fractures and internal injuries."

The FAA Civil Aeromedical Institute (CAMI), Oklahoma City, Oklahoma, performed toxicology tests on the pilot. According to the postmortem toxicology report, results were negative for illegal drugs. See attached report for specific test parameters and results.

TESTS AND RESEARCH

On June 9, 2004, representatives from the National Transportation Safety Board, Cessna Aircraft and the Federal Aviation Administration examined the wreckage at a hangar facility in Independence, Oregon.

Impact damage was noted to the engine assembly and associated engine components. Both crankcase halves and cylinder assemblies were intact. Cylinders 1 and 2 sustained impact related damage. Accessory gear train continuity was established by manually rotating the crankshaft. Valve train continuity and compression was established for cylinders 3, 4, 5 and 6 when the crankshaft was manually rotated. Both magnetos and respective ignition harnesses sustained impact damage. The left magneto was displaced from its respective mounting pad. The right magneto remained attached to its mounting pad. Both magnetos produced spark when manually rotated. The top spark plugs were removed and examined with no irregularities noted. The fuel manifold valve and associated fuel lines were intact. The top cover plate was removed from the manifold and a small amount of fuel was observed. The vacuum pump was intact and the drive coupling was in place. Disassembly of the unit revealed that the rotor and vanes were in place. The vanes were whole. Multiple fractures were noted in the rotor block.

The propeller spinner and hub assembly sustained extensive impact related damage with only one propeller blade still attached to the assembly. The two reaming blades were located in the immediate area of the main wreckage. Leading edge damage, bending and chord wise scratching was noted to all three propeller blades.

ADDITIONAL DATA / INFORMATION

Radar data was obtained from the FAA and included all transponder codes and primary targets for the time period 0245:01 - 0258:38 UTC. The radar tracks presumed to be attributable to N61611 began at 0245:05 UTC and ended at 0258:28 UTC. The identity of the 1200 codes labeled as N61611 end near the accident site and presumed to be correct based on the known facts about the accident. The radar track indicated the airplane was traveling in a northwesterly direction in a controlled descent from 11,700 feet MSL. The last radar target, (with mode C reporting) at 0257:52, showed the aircraft at 5,000 feet MSL on the northwesterly heading. The last radar target at 0258:28, still on a heading of about 300 degrees, terminates about 2.5 miles southeast from the crash site.

On June 9, 2004, the aircraft wreckage, located in Independence, Oregon, was released to PAC Northwest, Redmond, Washington. The Safety Board retained no parts or components.

Pilot Information

Certificate:	Commercial	**Age:**	64,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**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:**	September 23, 2003
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	May 20, 2003
Flight Time:	1975 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N61611
Model/Series:	A185F	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18504236
Landing Gear Type:	Retractable - ; Amphibian	**Seats:**	4
Date/Type of Last Inspection:	September 14, 2003 Annual	**Certified Max Gross Wt.:**	3350 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1457 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	IO-520
Registered Owner:	Richard H. Wood	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KSLE,214 ft msl	**Distance from Accident Site:**	23 Nautical Miles
Observation Time:	17:56 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:	Scattered / 2000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 7500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / 17 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	15°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	BURLEY, ID (BYI)	**Type of Flight Plan Filed:**	None
Destination:	HILLSBORO, OR (OR81)	**Type of Clearance:**	None
Departure Time:	16:10 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	45.003612,-122.33361

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	Thomas B McGar; FAA-FSDO; Hillsboro , OR Henry Soderlund; Cessna Aircraft ; Wichita , KS Andrew Hall; Cessna Aircraft ; Wichita , KS
Original Publish Date:	February 24, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=59242