



Aviation Investigation Factual Report

Location:	Fairfield, Washington	Accident Number:	SEA01FA070
Date & Time:	April 10, 2001, 21:50 Local	Registration:	N21565
Aircraft:	Cessna 182P	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation		

Factual Information

HISTORY OF FLIGHT

On April 10, 2001, approximately 2112 Pacific daylight time, the pilot of a privately owned Cessna 182P airplane, N21565, contacted the Seattle, Washington, FAA Automated Flight Service Station (AFSS) and requested and received an abbreviated weather briefing for a flight from Felts Field, Spokane, Washington, to Pullman/Moscow Regional Airport, Pullman, Washington. During this contact, the pilot stated that he intended to depart Felts Field about 20 minutes after the call. About 2139 (1 hour and 39 minutes after the Felts Field air traffic control [ATC] tower closed for the evening), the approach control radar at Spokane International Airport recorded a radar return coming off Felts Field. This radar target tracked generally southeastbound (i.e., generally toward Pullman) until radar contact was lost with the target about 2150 approximately 18 nautical miles southeast of the Spokane approach control radar (located at Spokane International Airport), in the vicinity of Fairfield, Washington. The FAA reported that there was no ATC radio contact with the aircraft generating this radar return. The following day, concerned individuals reported the pilot as missing when he failed to arrive at work. A search for the aircraft was then initiated. The substantially damaged wreckage of N21565 was found later that day about 3 miles west of Fairfield, and the private pilot (who owned the aircraft) and one passenger were found fatally injured within the aircraft wreckage. At 2153, Felts Field reported marginal visual flight rules (MVFR) conditions (ceiling 1,800 feet broken, visibility 10 miles in light rain), and Pullman reported instrument flight rules (IFR) conditions (ceiling 700 feet overcast, visibility 4 miles in light snow and mist, ceiling variable from 500 feet to 1,100 feet). The FAA reported that no flight plan was filed for the accident flight. There was also no report of an emergency locator transmitter (ELT) activation.

Review of a re-recording of the Seattle AFSS Preflight 1 (PF1) briefer position communications disclosed that the pilot of N21565 contacted the briefer about 2112 and requested the current conditions for a flight from Spokane to Pullman. The briefer asked if the pilot was departing from Spokane International Airport, and the pilot replied that he was departing from Felts Field. The briefer asked if the pilot was leaving that evening, and the pilot replied in the affirmative, stating he was leaving in about 20 minutes. The briefer then told the pilot that Felts Field had issued a special meteorological observation at 9 minutes past the hour, indicating that light rain had started. The briefer gave Felts Field conditions as 2,000 feet scattered, ceiling 2,500 feet broken, 3,400 feet overcast, visibility 10 miles in light rain, wind calm, temperature 4 degrees, and dewpoint 1 degree. He gave Pullman conditions as light rain, marginal visual flight rules (MVFR), ceiling 1,400 feet broken, 2,000 feet overcast, and visibility 9 miles in light rain. He also advised that AIRMET meteorological advisories were in effect for mountain obscuration and icing, with freezing level from the surface to 4,000 feet. The briefer then asked if the pilot needed terminal forecasts or other weather information. The pilot replied that he did not, that he would check the Automatic Terminal Information Service (ATIS) at Felts

Field and then decide. The briefer then advised the pilot as to how to obtain weather information inflight if needed, and solicited pilot reports (PIREPs). The call then ended.

According to the Spokane approach control radar data, the altitude of the radar return originating from Felts Field (elevation 1,953 feet) never exceeded 3,400 feet above sea level. The target began a descent from 3,400 feet at 2148:36, descending to its last recorded altitude of 3,000 feet at 2150:31. A plot of the last radar return (at 2150:31) on a Seattle sectional aeronautical chart disclosed terrain elevation in the area of the last recorded radar return as approximately 2,500 feet above sea level. The accident site was located about 2 nautical miles south of the last recorded radar position.

The last radar return was recorded during the hours of darkness. The crash site was located at approximately 47 degrees 23.2 minutes North latitude and 117 degrees 14.4 minutes West longitude.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with an airplane single-engine land rating, issued on May 8, 1998. He also held a third-class medical certificate dated July 6, 2000, which carried a restriction requiring the pilot to wear corrective lenses for near and distant vision. The pilot did not hold an instrument rating.

The pilot's logbook was recovered from the aircraft wreckage during the on-site examination. Review of this logbook disclosed that the pilot's first flight was on May 2, 1997. The pilot logged an "FAA check ride" on April 30, 1998, and, following four flights totaling 4.1 hours and an instructor endorsement dated May 6, 1998, stating that the instructor had given the pilot "additional flight and ground instruction", and logged a second "FAA check ride" on May 8, 1998. During the four flights in between the two FAA check rides, the logged flight events included navigation, stalls, takeoffs and landings, soft and short field takeoffs and/or landings, instrument flight, and VOR orientation. The pilot received an instructor endorsement for high-performance airplanes on May 16, 1998.

According to the pilot's logbook, the pilot last completed a flight review on May 29, 2000, although the instructor endorsement for this flight referenced 14 CFR 61.107(a) rather than 14 CFR 61.56, the governing regulation for flight reviews. The pilot's logbook did not contain any entries after this flight review. An additional log was found in the aircraft wreckage that indicated the accident aircraft had been operated frequently since the May 29, 2000, flight review. The three most recent flights in this log prior to the accident flight were logged on March 5, 6, and 7 (year not recorded; a partial entry for April 10, indicating only a starting tachometer time, was entered immediately after the March 7 entry). This log recorded dates, starting and ending tachometer times for each flight, airports of operation, and the annotation "night" for some flights (including the three most recent flights), but did not indicate who flew the aircraft on each flight.

According to the pilot's logbook, as of the last entry (May 29, 2000), the pilot's total time was 333.6 hours including 267.6 hours pilot-in-command (PIC), 11.9 hours of night time, and 190.1 hours total/178.9 hours PIC in the Cessna 182.

AIRCRAFT INFORMATION

The aircraft received its last annual inspection signoff on February 19, 2001, about 2 months before the accident. The aircraft logbook indicated that the ELT battery had been changed during this inspection.

METEOROLOGICAL INFORMATION

The surface synopsis in the San Francisco, California, Area Forecast issued April 10, 2001 at 1945, indicated that at 2000, a cold front existed along a line from Havre, Montana, to Malad City, Idaho, to Seattle, Washington. The forecast for Washington east of the Cascade Mountains was for scattered to broken clouds at 3,000 feet, overcast clouds at 5,000 feet, and cloud tops at flight level (FL) 220, with scattered visibilities of 3 to 5 statute miles in light rain showers. AIRMET Zulu for ice and freezing level, issued on April 10, 2001 at 1845 and valid until 0100 on April 11, 2001, advised of occasional moderate rime and mixed icing in clouds and in precipitation between 6,000 feet and 16,000 feet, with conditions continuing beyond 0100 on April 11. The freezing level from the Cascades eastward was forecast to be from the surface to 4,000 feet.

An amended Terminal Aerodrome Forecast (TAF) for Felts Field (elevation 1,953 feet), issued at 1708 on April 10, 2001, forecast winds from 220 degrees at 12 knots (gusting to 19 knots), prevailing visibility greater than 6 statute miles with showers in vicinity, ceiling 5,000 feet broken, and overcast at 10,000 feet. Temporary conditions of light rain and snow showers, ceiling 3,000 feet broken, and overcast at 4,000 feet were forecast for the period between 1700 and 2100. Forecast conditions from 2100 on April 10 to 0300 on April 11 were: winds from 020 degrees at 4 knots, prevailing visibility greater than 6 statute miles in light rain, ceiling 4,000 feet broken, and overcast at 6,000 feet. Between 0300 and 0700 on April 11, forecast conditions were: wind from 030 degrees at 6 knots, prevailing visibility greater than 6 statute miles in light rain and snow, ceiling 3,500 feet broken, and overcast at 7,000 feet.

TAFs are not issued for Pullman/Moscow Regional Airport (elevation 2,555 feet). The TAF for Lewiston, Idaho (elevation 1,438 feet), issued on April 10, 2001 at 1635, forecast conditions as winds from 330 degrees at 5 knots, visibility greater than 6 statute miles with showers in vicinity, scattered clouds at 5,000 feet, and ceiling 12,000 feet broken. Temporary conditions of light rain, ceiling 2,500 feet broken, and overcast at 5,000 feet were forecast for the period between 1900 and 2300. From 2300 on April 10, 2001, to 0600 on April 11, 2001, conditions were forecast as winds variable at 3 knots, visibility greater than 6 statute miles in light rain,

scattered clouds at 1,500 feet, and ceiling 3,500 feet overcast.

The 2109 automated METAR observation at Felts Field, taken just before the pilot's 2112 call to the Seattle AFSS, reported conditions at Felts Field as calm winds, visibility 10 statute miles in light rain, scattered clouds at 2,000 feet, ceiling 2,500 feet broken, overcast at 3,400 feet, temperature 4 degrees C, dewpoint 1 degree C, and altimeter setting 29.81 inches Hg, with a remark that rain began at 8 minutes past the hour. At 2153, Felts Field reported conditions as: wind from 030 degrees true at 4 knots, visibility 10 statute miles in light rain, ceiling 1,800 feet broken, overcast at 2,300 feet, temperature 3 degrees C, dewpoint 2 degrees C, and altimeter 29.81 inches Hg, again with a remark that rain began at 8 minutes past the hour.

The 2053 automated METAR observation at Pullman/Moscow Regional Airport reported conditions as: winds from 080 degrees true at 8 knots, visibility 9 statute miles in light rain, ceiling 1,400 feet broken, overcast at 2,000 feet, temperature 2 degrees C, dewpoint 1 degree C, and altimeter setting 29.79 inches Hg. At 2128, conditions at Pullman/Moscow Regional were reported as: wind from 070 degrees true at 10 knots, visibility 5 statute miles in rain and mist, ceiling 700 feet broken, overcast at 1,400 feet, temperature 2 degrees C, dewpoint 1 degree C, and altimeter setting 29.78 inches Hg. At 2153, Pullman/Moscow Regional conditions were reported as: wind from 090 degrees true at 11 knots, visibility 4 statute miles in light snow and mist, ceiling 700 feet overcast, temperature 2 degrees C, dewpoint 1 degree C, and altimeter 29.77 inches Hg, with remarks that rain ended and snow began at 51 minutes past the hour, and ceiling variable between 500 and 1,100 feet. At 2207, the Pullman/Moscow visibility had dropped to 2 1/2 statute miles in light snow and mist, temperature dropped to 1 degree C, and altimeter setting had dropped to 29.76 inches Hg with other conditions reported the same as in the 2153 observation. At 2222, Pullman/Moscow conditions were reported as: winds from 080 degrees true at 10 knots, visibility 1 1/2 statute miles in light snow and mist, ceiling 700 feet overcast, temperature 1 degree C, dewpoint 0 degrees C, and altimeter setting 29.76 inches Hg. Conditions at Pullman/Moscow Regional began to improve at 2237, with visibility of 2 1/2 miles in light snow and mist, scattered clouds at 500 feet, ceiling 1,100 feet broken, and overcast at 1,800 feet. Pullman/Moscow next reported MVFR conditions (3 statute miles visibility in light snow and mist, few clouds at 500 feet, ceiling 1,100 feet broken, and overcast at 2,900 feet) at 2244. Pullman/Moscow did not report full visual flight rules (VFR) conditions until 0002 on April 11, at which time a visibility of 6 statute miles in unknown precipitation and mist, scattered clouds at 1,900 feet, and overcast at 3,800 feet was reported. (NOTE: For definitions of IFR, MVFR, and VFR conditions, refer to the ADDITIONAL INFORMATION section below.)

The Seattle AFSS preflight briefer stated that the pilot requested an abbreviated briefing. The Seattle AFSS preflight briefer re-recording indicated that the pilot requested only the current conditions for Spokane and Pullman, and that the briefer passed those conditions to the pilot. The briefer did not issue a "VFR not recommended" (VNR) advisory but did advise the pilot of light rain at Felts Field and marginal VFR ceiling at Pullman, as well as of AIRMETs for mountain obscuration and icing in Washington state. The briefer also offered terminal aerodrome forecasts to the pilot, which the pilot declined.

FAA Order 7110.10N, "Flight Services", which "prescribes procedures and phraseology for use by air traffic personnel providing flight services", states that an abbreviated briefing should be provided (among other conditions) "when the pilot requests that the briefing be limited to specific information." The order states: "When a pilot desires specific information only, provide the requested information. If adverse conditions are reported or forecast, advise the pilot of this fact. Provide details on these conditions in [the manner prescribed for a standard briefing], at the pilot's request." FAA Order 7110.10N does not contain any guidance on issuance of a VNR advisory for an abbreviated briefing.

U.S. Naval Observatory astronomical data indicated that at Fairfield on April 10, the sun set at 1932, evening civil twilight ended at 2004, moonset occurred at 0750 and moonrise occurred at 2249.

WRECKAGE AND IMPACT DATA

Investigators from the NTSB, FAA, Cessna Aircraft Company, and Teledyne Continental Motors responded to the accident scene and performed an on-site examination of the aircraft wreckage on April 12, 2001, and a follow-up wreckage examination (including a field disassembly/functional examination of the aircraft's Continental O-470-R engine) at the facilities of Discount Aircraft Salvage, Deer Park, Washington, on April 13, 2001. The on-site wreckage examination revealed a generally west-to-east wreckage/damage pattern, approximately 400 to 450 feet long, commencing with a group of broken trees and terminating with the main aircraft wreckage. The detached outboard half of the aircraft's left wing, and the left wing lift strut, were located in a south-to-north flowing creek, adjacent to the west bank of the creek and about 100 feet east of the broken trees. The detached inboard half of the left wing was located just east of the east bank of the creek. An east-west oriented ground scar was located just west of the main aircraft wreckage (comprising the complete aircraft in sections less the left wing), which had impacted and come to rest with its nose on a generally northerly heading on an approximate 45-degree, west-facing slope. All of the principal wreckage components and ground damage were located on the west-to-east line from the broken trees to the main wreckage. During the wreckage examinations, investigators found no evidence of any pre-impact mechanical or structural failures of the aircraft. However, the aircraft's ELT switch (a three-position switch with OFF, ON, and ARMED positions), located on the ELT, was found in the OFF position when the ELT was removed from the aircraft. Investigators subsequently function-tested the ELT, which was physically intact as found, in the ON and ARMED switch positions. During the function test, the unit emitted a signal when switched to the ON position, and also emitted a signal when switched to the ARMED position and subjected to a mechanical shock. Incident reports prepared by Spokane County, Washington, sheriff's deputies who responded first to the accident scene did not indicate that the first responders had switched the unit off after their arrival at the scene.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy on the pilot was conducted by the Spokane County Medical Examiner's Office, Spokane, Washington, on April 12, 2001. The pathologist's opinion as to cause of death was as follows:

...At autopsy he was found to have sustained widespread blunt impact injuries.... it appears reasonable to cite pulmonary contusions and lacerations...due to blunt impact injury to the chest. Anterior facial and cranial injuries were also present, possibly representing contributory causes of death. The manner of death is accidental (related to a light aircraft ground impact). No significant systemic disease state or toxicologic abnormality was identified which would have interfered with this individual to act as pilot-in-command of the aircraft.

Toxicology tests on the pilot were conducted by the FAA Civil Aeromedical Institute (CAMI), Oklahoma City, Oklahoma. The CAMI toxicology tests screened for carbon monoxide, cyanide, ethanol, and legal and illegal drugs and did not detect any of these substances.

SURVIVAL ASPECTS

The pilot did not file a flight plan and did not communicate with ATC during the accident flight. The aircraft was reported as missing by concerned individuals when the pilot failed to arrive at work the following morning. A search for the aircraft was then initiated. The FAA issued an Alert Notice (ALNOT) on the missing aircraft on April 11 at 0947. According to the Spokane County Sheriff's report of the incident, a deputy was first dispatched to the accident site on April 11 at 1617, when the wreckage was spotted by an individual in a helicopter. The deputy's account of his response, contained in the sheriff's report, stated that upon arriving at the accident site and looking into the aircraft wreckage, "I could tell both victims had received fatal injuries."

A telephone query to the Washington State Department of Transportation Aeronautics Division disclosed that no ELT signals were ever received from the accident aircraft. At the accident scene, investigators discovered the ELT's switch in the OFF position. The aircraft maintenance records indicated that the ELT battery had been changed during the aircraft's last annual inspection. Records of the sheriff's response did not indicate that any first responders had switched the ELT off upon, or after, arrival of aid personnel at the crash site. When function-tested by investigators, the ELT operated as described in WRECKAGE AND IMPACT DATA above.

TESTS AND RESEARCH

The aircraft's Apollo 820 Global Positioning System (GPS) receiver was removed from the aircraft wreckage and sent to the facilities of its manufacturer, UPS Aviation Technologies of

Salem, Oregon, to attempt to retrieve any pertinent data on the accident flight from the unit. The last active flight plan inserted in the unit was found to be a "Direct To" flight plan, direct to Pullman/Moscow Regional Airport (PUW).

ADDITIONAL INFORMATION

FAA Advisory Circular (AC) 00-45E, "Aviation Weather Services", defines IFR, MVFR, and VFR conditions as follows:

IFR - Ceiling less than 1,000 feet and/or visibility less than 3 miles.

MVFR (Marginal VFR) - Ceiling 1,000 to 3,000 feet inclusive and/or visibility 3 to 5 miles inclusive.

VFR - No ceiling or ceiling greater than 3,000 feet and visibility greater than 5 miles.

The aircraft wreckage was released to Mr. Bradley L. Hernke, claims manager for United States Aviation Underwriters Inc., Seattle, Washington, on November 28, 2001.

Pilot Information

Certificate:	Private	Age:	45, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 6, 2000
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 29, 2000
Flight Time:	334 hours (Total, all aircraft), 191 hours (Total, this make and model), 268 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N21565
Model/Series:	182P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	18261717
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	February 19, 2001 Annual	Certified Max Gross Wt.:	2950 lbs
Time Since Last Inspection:	6.5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3142.5 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-470-R
Registered Owner:	On file	Rated Power:	230 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:		Condition of Light:	Night/dark
Observation Facility, Elevation:	SFF, 1953 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	21:53 Local	Direction from Accident Site:	332°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 1800 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	12°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.8 inches Hg	Temperature/Dew Point:	3°C / 2°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Spokane, WA (SFF)	Type of Flight Plan Filed:	None
Destination:	Pullman, WA (PUW)	Type of Clearance:	None
Departure Time:	21:39 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	47.387222,-117.239723

Administrative Information

Investigator In Charge (IIC):	Nesemeier, Gregg
Additional Participating Persons:	Will Hicks; FAA - Spokane FSDO; Spokane, WA W B Welch; Cessna Aircraft Co.; Wichita, KS R S Boyle; Teledyne Continental Motors; Arvada, CO
Report Date:	January 19, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=52077

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).