Aviation Investigation Final Report

Location:	SNOQUALMIE PASS, Washington	**Accident Number:**	SEA99FA126
Date & Time:	July 17, 1999, 13:00 Local	**Registration:**	N98C
Aircraft:	Cessna T-337 G-P	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While en route from Lewistown, Montana, to Olympia, Washington, on an instrument flight plan, the pilot developed a problem with the aircraft's autopilot and elected to cancel his instrument flight plan and proceed to Seattle, Washington, where repairs to the aircraft could be made. The pilot stated he was going to continue on his IFR flight plan until reaching Ellensburg, Washington, and then '...change to VFR and drop down and fly through the pass.' Approximately 30 minutes after the pilot canceled his IFR flight plan, a witness observed an aircraft 'with two tail fins' fly out of the clouds and proceed westbound along the Interstate Highway. The witness, who did not see the crash, also stated that the visibility was 100-300 feet, and the clouds were low to the ground. The aircraft collided with mountainous terrain approximately 25 miles east of Seattle, Washington.

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 clearance from mountainous terrain while maneuvering below low ceilings. Factors include low ceilings and inadequate in-flight planning.

Findings

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

Findings

1. (F) WEATHER CONDITION - LOW CEILING

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: CRUISE

Findings
2. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
3. (F) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On July 17, 1999, about 1300 Pacific daylight time (PDT), a Cessna T-337 G-P Skymaster, N98C, operated by the private pilot as a 14CFR91 personal/pleasure flight, was destroyed when it collided with terrain approximately three nautical miles west of Snoqualmie Pass, Washington. Instrument meteorological conditions prevailed and no flight plan was filed. The private pilot and his passenger received fatal injuries. The aircraft was destroyed by impact forces and fire, and there was no report of ELT activation. The flight originated from Lewistown Municipal Airport, Lewistown, Montana, approximately three hours prior to the accident.

According to friends and family members, the pilot had just purchased the aircraft and was planning to fly it from Minnesota to his home in Anchorage, Alaska, with overnight stops in Lewistown, Montana, and Olympia, Washington. On July 17, 1999, approximately 2000 PDT, the Federal Aviation Administration (FAA) was notified by family members of the pilot that the aircraft was overdue at its destination in Olympia, Washington. Seattle Center issued an ALNOT (alert notice) and Washington State Department of Transportation (DOT) was notified. A search for the aircraft was initiated by Washington State DOT on the morning of July 18, 1999. Search and rescue personnel located the aircraft wreckage on July 23, 1999, in the area of Granite Mountain, approximately 48 miles east of Seattle, Washington.

The accident occurred during the hours of daylight at 47 degrees, 24 minutes north, 121 degrees, 27 minutes west.

A King County Sheriff's Deputy, located in the Snoqualmie Pass Recreation Area, approximately three miles east of the accident site, reported that approximately 1230 PDT, he observed an aircraft fly out of the clouds and proceed westbound along Interstate 90. He estimated that the aircraft was 200 feet above ground level (AGL), and that the visibility was 100 to 200 feet. He described the aircraft as white with a dark stripe and having "two tail fins."

PERSONNEL INFORMATION

At the time of the accident, the pilot held a private pilot certificate with an instrument rating in multi-engine land, single-engine land, and single-engine sea airplanes. According to an insurance application dated May 24, 1999, the pilot indicated that he had accumulated 2,900 hours of total flight time, 2,700 hours of pilot-in-command time, and 921 hours of multi-engine time. The application also indicated that the pilot received a flight review on August 5, 1998. The pilot indicated on the insurance application that he had "0" hours in the "aircraft to be insured".

Medical records obtained from the Federal Aviation Administration Airmen Records, Oklahoma City, Oklahoma, indicated that the pilot held a third class medical certificate dated December 11, 1997. There were no restrictions on the pilot's medical certificate.

METEOROLOGY INFORMATION

At 1256 PDT, the hourly weather observation (METAR) for Stampede Pass, 9 miles southeast of the accident site, was wind from 230 degrees at 8 knots, visibility 1/4 mile, with light rain and fog. The temperature was 6 degrees C.

At 1356 PDT, the hourly weather observation for Stampede Pass was winds from 230 degrees at 9 knots, visibility 1/4 mile, with light rain and fog and a temperature of 7 degrees C.

COMMUNICATIONS

On July 16, 1999, at 1642 mountain daylight time (MDT), the evening before the accident, the pilot contacted Great Falls Automated Flight Service Station (AFSS) and filed an instrument flight rules (IFR) flight plan from Lewistown, Montana, to Chehalis, Washington. The pilot estimated that he would be departing Lewistown at 1030 MDT on July 17th, and that the flight would take approximately three hours and 45 minutes. The pilot also reported that he had approximately five hours of fuel aboard the aircraft. After filing the flight plan, the pilot requested a forecast for his intended destination. The specialist reported that the terminal forecast for Olympia, Washington, (18 nautical miles north of Chehalis) was for low ceilings and low level moisture.

Later that evening, at 2118 MDT, the pilot contacted Great Fall AFSS and requested a weather forecast for Olympia. The specialist reported that the Olympia forecast was " ...one thousand five hundred scattered ceiling two eight hundred broken [and] four thousand overcast."

On July 17, 1999, at 0714 PDT, while still on the ground at Lewistown, Montana, the pilot contacted Great Falls AFSS and asked the specialist for the weather between Lewistown, Montana, and Chehalis, Washington. The specialist reported that weather advisories for the Cascades westward, called for the mountains to be occasionally obscured by clouds, mist and rain and that IFR conditions were being reported in the area.

At 1031 MDT, the pilot contacted Salt Lake City Air Route Traffic Control Center (ARTCC). The pilot stated he had just departed Lewistown and he would like to open his IFR flight plan. The aircraft was cleared "as filed" and was instructed to climb and maintain flight level one eight zero (18,000 feet)".

At 1122 PDT, the pilot contacted Seattle ARTCC and stated the aircraft's autopilot was malfunctioning and he wanted to change his destination to Boeing Field in Seattle, Washington, where repairs could be made. The pilot stated he wanted to continue on his IFR

flight plan until reaching Ellensburg, Washington, and then "...change to VFR and drop down and go through the pass."

Approximately one hour later, at 1219 PDT, the pilot of N98C contacted Seattle Center ARTCC and cancelled his IFR flight plan.

At 1222 PDT the pilot of N98C contacted Seattle ARTCC and asked the specialist "...what the weather was going to be like going through Snoqualmie Pass." The specialist reported that the weather in the Seattle area and across the Cascades was "pretty poor."

WRECKAGE AND IMPACT INFORMATION

The accident site was approximately 25 miles east of Seattle, Washington, in a heavily wooded area on the southwestern slope of Granite Mountain. The wreckage was scattered over mountainous terrain covering a distance of approximately 100 feet. The elevation at the accident site is approximately 3,500 feet from sea level with a terrain angle of approximately 40-45 degrees. The wreckage was distributed on a magnetic heading of 035 degrees, and traveled uphill from the initial impact point.

The initial impact point was the top of a conifer tree measuring approximately 75 feet in height. Numerous pieces of the aircraft were scattered between the initial impact point and the main wreckage burn area.

A section of the aircraft's left wing and aileron were found at the base of a conifer tree, 15 feet from the initial impact point, and 25 feet left of the wreckage track center line. Contact marks were noted on the tree, approximately 12 feet up from its base.

Approximately 17 feet from the initial impact point, and approximately 15 feet right of the wreckage track center line, a section of the aircraft's right wing and a piece of the right aileron were found at the base of a tree. Approximately five feet further up the wreckage track center line, the outboard section of the same wing was found folded around the base of a large conifer tree.

Approximately 27 feet from the initial impact point, and 63 feet southwest from the main wreckage's final resting point, a large ground impact scar was observed. The ground impact scar was oval, measuring about 15 feet in length and approximately 9 feet wide. Pieces of the aircraft's right flap, right wing and right fuel cell were found in the immediate area of the ground impact scar. The fuel cell was located outside of the wing structure.

Approximately 61 feet from the initial impact point, and 12 feet right of the wreckage track center line, the aircraft's forward propeller, pilot's side control yoke and right fuel tank were found. The forward propeller and propeller hub were intact, but were separated from the engine's crankshaft. Rearward crushing was noted to the propeller's spinner. Leading edge nicks and gouges, aft bending and chordwise scratching were noted to both propeller blades.

The aircraft's horizontal stabilizer, vertical stabilizers and aft propeller were located approximately 78 feet from the initial impact point, and five feet right of the wreckage track center line. Leading edge nicks and gouges, and chordwise scratching were noted to both aft propeller blades. Forward bending was noted to blade A, while aft bending was noted to blade B.

Approximately 90 feet from the initial impact point, sections of the tail booms were found at the base of a conifer tree. Both of the tail sections had separated from the fuselage, aft of the rear bulkhead. A large section of the aircraft's left flap and right fuel tank were located in the same area.

Approximately 100 feet from the initial impact point, the aircraft's main cabin area and both engines were found in the center of a large burn area. The aircraft's fuselage, including the instrument panel and cockpit controls, were destroyed by fire and impact forces (Refer To Photograph #1). Due to extensive damage to the fuselage and wings, control continuity could not be confirmed. Both of the aircraft's engines were destroyed by fire and impact forces.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed by Sigmund Menchel, M.D. of the King County Medical Examiners Office. According to the autopsy report, the pilot's cause of death was blunt impact injuries.

Toxicology samples were sent to the Federal Aviation Administration Civil Aeromedical Institute, Oklahoma City, Oklahoma, for analysis. The results of the analysis were reported as negative.

ADDITIONAL DATA / INFORMATION

Due to terrain conditions, the wreckage was not recovered from the accident site.

Custody of the wreckage was transferred to the owner's estate, in Anchorage, Alaska, on January 6, 2000.

Pilot Information

Certificate:	Private	**Age:**	57,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; 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 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	December 11, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	2900 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N98C
Model/Series:	T-337 G-P T-337 G-P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	P3370135
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	July 12, 1999 Annual	**Certified Max Gross Wt.:**	4700 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	2025 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-360-C
Registered Owner:	DENNIS L. WALDOCK	**Rated Power:**	210 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	SMP ,3800 ft msl	**Distance from Accident Site:**	9 Nautical Miles
Observation Time:	12:56 Local	**Direction from Accident Site:**	130°
Lowest Cloud Condition:	Unknown	**Visibility**	4 miles
Lowest Ceiling:	Overcast / 100 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	6°C / 6°C
Precipitation and Obscuration:	N/A - None - Fog		
Departure Point:	LEWISTOWN , MT (LWT)	**Type of Flight Plan Filed:**	None
Destination:	SEATTLE , WA (BFI)	**Type of Clearance:**	None
Departure Time:	10:31 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	47.419097,-121.37062(est)

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	DON MICKNAK; SEATTLE , WA MICHAEL L STOCKHILL; SEATTLE , WA SETH D BUTTNER; WICHITA , KS
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Note:	
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