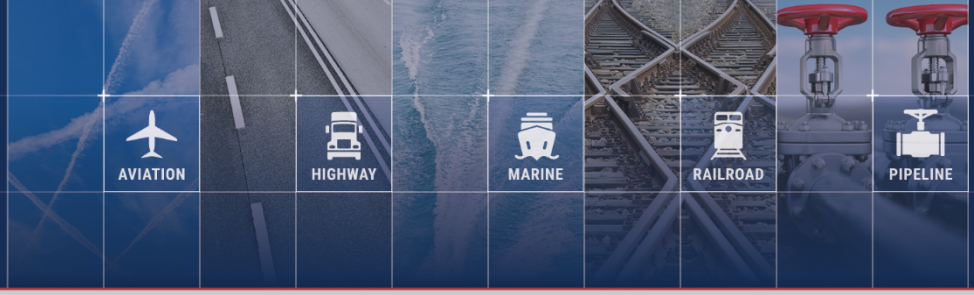

Aviation Investigation Final Report

Location:	Lincoln, Montana	**Accident Number:**	WPR10FA273
Date & Time:	May 30, 2010, 08:30 Local	**Registration:**	N44MC
Aircraft:	Piper PA-34-220T	**Aircraft Damage:**	Substantial
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The instrument-rated pilot was on a visual-flight-rules cross-country flight over mountainous terrain in instrument meteorological conditions. The airplane was one of a flight of twelve participating in a guided air tour. Approximately 20 minutes after takeoff, the pilot of the accident airplane reported that he was encountering clouds at 8,500 feet and had received a global-positioning-system low-altitude alert. Minutes later there was an indistinct radio transmission believed to be the accident pilot; the transmission was followed by a radio transmission believed to be the passenger of the accident airplane who stated they had a problem and the airplane had hit trees. Scattered to broken cloud layers existed between 7,000 to 7,500 feet, with rain and mountain obscuration in the area of the accident. The wreckage was located in steep tree-covered terrain at 6,780 feet. Multiple trees with fresh slash marks were noted in the area of the wreckage. Postaccident examination of the aircraft wreckage showed no evidence of a preimpact mechanical malfunction or failure.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's decision to continue flight into an area of low ceilings and low visibility and his failure to maintain sufficient clearance from mountainous terrain.

Findings

Personnel issues	Weather planning - Pilot
Personnel issues	Decision making/judgment - Pilot
Environmental issues	Low ceiling - Effect on operation
Environmental issues	Low visibility - Effect on operation
Environmental issues	Mountainous/hilly terrain - Effect on operation
Aircraft	Altitude - Not attained/maintained

Factual Information

History of Flight

Enroute-cruise	VFR encounter with IMC
Enroute-cruise	Loss of visual reference
Enroute-cruise	Controlled flight into terr/obj (CFIT) (Defining event)

HISTORY OF FLIGHT

On May 30, 2010, about 0830 mountain daylight time, a Piper PA-34-220T Seneca airplane, N44MC, sustained substantial damage following an in-flight collision with trees and mountainous terrain approximately 7 miles west of Lincoln, Montana. The private pilot and passenger were fatally injured. The airplane was registered to R&D Aviation, Inc, of Huntington Woods, Michigan, and operated by the pilot as a visual flight rules (VFR) cross-country flight under the provisions of Title 14 Code of Federal Regulations (CFR) Part 91. Instrument meteorological conditions prevailed in the vicinity at the time of the accident. A VFR flight plan was filed but not activated for the flight that originated from Helena, Montana at 0812. The pilot's planned destination was Cranbrook, British Columbia, Canada (CYXC).

The airplane was one of a flight of twelve participating in a guided air tour. The multiple day tour originated at Helena on May 30, with a planned final destination of Friday Harbor, Washington. The tour itinerary included multiple overnight stops throughout Canada and Alaska before a planned arrival at Friday Harbor on June 13. The tour group planned to depart Helena on May 29, but was delayed by one day due to poor weather conditions.

The accident airplane departed Helena at 0812. Approximately 20 minutes later the pilot of the accident airplane reported (to the tour organizer who was piloting the lead aircraft) that he was "5 miles to Seeley Lake at 8,500 feet." Shortly thereafter, the accident pilot reported that he was "encountering clouds at 8,500 feet and receiving a low-altitude alert on his GPS [ground positioning unit]." The group leader stated that he advised the accident pilot to remain in visual conditions and maintain visual contact with the ground. The lead pilot reported that "minutes" later there was a indistinct radio transmission believed to be the accident pilot, followed by a radio transmission believed to be the passenger of the accident airplane who stated "we have a problem" followed by "we've hit trees."

There was no further radio communications with the accident pilot. Later that day, at 1202, the Federal Aviation Administration (FAA) issued an Alert Notice (ALNOT) for the missing airplane.

On June 1, about 1430, Montana Civil Air Patrol personnel located the airplane wreckage in a heavily wooded remote area west of Lincoln, Montana.

PERSONNEL INFORMATION

The pilot, age 60, held a private pilot certificate with ratings for airplane single engine land, multiengine land and instrument airplane. On the pilot's most recent application for a FAA medical certificate, dated September 21, 2009, the pilot listed 1,522 total flight hours and 39 flight hours during the six month period preceding the application.

The pilot held a second-class medical certificate issued on September 21, 2009. The medical certificate stipulated a limitation that required the pilot to wear corrective lenses while exercising the privileges of the medical certificate.

Personal flight time logbook records for the pilot were not located.

AIRCRAFT INFORMATION

The airplane was a Piper PA-34-220T Seneca, serial number 34-8133095. The low-wing, twin-engine airplane was powered by two Teledyne Continental Motors TSIO-360 reciprocating engines, each rated at 200 maximum continuous horsepower.

Maintenance records for the airplane showed that an annual inspection of the airframe and engines was completed in April of 2010. No open maintenance discrepancies were noted.

METEOROLOGY INFORMATION

The aviation weather observation at the departure airport in Helena, approximately 45 miles southeast of the accident site, at 0853 was, in part, calm winds, visibility unrestricted at 10 miles, a few clouds at 5,000 feet, temperature 7 degrees Celsius (C), dew point 3 degrees C, altimeter 30.00 inches of Mercury.

The aviation weather observation at Drummond, Montana, approximately 30 miles southwest of the accident site, at 0840 was, in part, calm winds, visibility unrestricted at 10 miles, broken clouds at 5,500 feet, temperature 7 degrees Celsius (C), dew point 4 degrees C.

A pilot flying in the vicinity of the accident site, about the time of the accident, reported a scattered to broken cloud layer with bases between 7,000 to 7,500 feet msl, with rain and mountain obscuration.

WRECKAGE AND IMPACT INFORMATION

The crash site was located in mountainous terrain at an elevation of approximately 6,780 feet. The terrain angle was approximately 30-40 degrees with a dense cover of conifer trees. The wreckage debris field encompassed an area approximately 45 feet in length (from approximately southeast to northwest). A large conifer tree with fresh slash marks was observed adjacent (upslope) to the impact crater. The tree was topped approximately 25 feet

above its base. Multiple trees with fresh slash marks were observed along the wreckage path.

A majority of the wreckage was located in the confines of a large impact crater measuring approximately 15 feet in diameter and approximately 4 feet deep. The fuselage was oriented to a heading of approximately 270 degrees magnetic. All aerodynamic flight control surfaces and a majority of the aircraft components were located in the immediate area of the impact crater. The main wreckage, which consisted of the cockpit, fuselage and both engines, was located within the confines of the impact crater. The forward section of the airplane was destroyed. The wings, empennage and associated flight control surfaces were located adjacent to the main wreckage. The outboard end of the right wing, from an area near half span of the aileron to the tip of the wing, and aileron tip, were missing and not recovered. Heavy impact damage consistent with tree strikes was noted to both wings.

Both engines and associated propeller assemblies were located within the impact crater. The engine assemblies were partially separated from their respective firewalls and located at the bottom of the crater.

MEDICAL AND PATHOLOGICAL INFORMATION

Postaccident toxicological testing was performed by the FAA's Civil Aerospace Medical Institute. The postmortem toxicology report indicated that specimens from the pilot tested positive for acetaminophen and diphenhydramine. Ethanol was detected in the pilot's muscle specimens. Information noted in the July 30, 2010, toxicological report indicated that the ethanol found was from sources other than ingestion.

Diphenhydramine (commonly known by the trade name Benadryl) is an over-the-counter antihistamine with sedative effects, often used to treat allergy symptoms or as a nighttime sedative.

ADDITIONAL INFORMATION

On July 13, 2010, the engines were examined at a hangar facility in Belgrade, Montana, by representatives from the National Transportation Safety Board, Teledyne Continental Motors and Piper Aircraft. The engines sustained extensive impact related damage; however, no evidence of internal component failure, anomalous wear or preimpact mechanical malfunction was noted.

Pilot Information

Certificate:	Private	**Age:**	60,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Unknown
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 With waivers/limitations	**Last FAA Medical Exam:**	September 21, 2009
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1522 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N44MC
Model/Series:	PA-34-220T	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	34-8133095
Landing Gear Type:	Retractable - Tricycle	**Seats:**	7
Date/Type of Last Inspection:	April 7, 2010 Annual	**Certified Max Gross Wt.:**	4570 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	3851 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	C126 installed, activated, aided in locating accident	**Engine Model/Series:**	TSIO-360 SER
Registered Owner:	R & D AVIATION INC	**Rated Power:**	225 Horsepower
Operator:	Marc A. Dobrowitsky	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KHLN,3877 ft msl	**Distance from Accident Site:**	42 Nautical Miles
Observation Time:	08:53 Local	**Direction from Accident Site:**	128°
Lowest Cloud Condition:	Few / 5000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	7°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Helena, MT (HLN)	**Type of Flight Plan Filed:**	None
Destination:	(CYXC)	**Type of Clearance:**	None
Departure Time:	08:12 Local	**Type of Airspace:**	

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:**	47.008888,-112.819168(est)

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	Thomas Hillesland; FAA FSDO; Helena, MT Andrew L Swick; Teledyne Continental Motors; Mobile, AL Mike McClure; Piper Aircraft Company; Vero Beach, FL
Original Publish Date:	July 18, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=76164