



National Transportation Safety Board Aviation Accident Final Report

Location:	Merlin, OR	Accident Number:	SEA03FA059
Date & Time:	04/09/2003, 0850 PDT	Registration:	N9785M
Aircraft:	Cessna T207 A	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

During a visual flight rules (VFR) cross-country flight from North Bend, Oregon, to Grants Pass, Oregon, the airplane collided with mountainous terrain approximately seven miles northwest of the pilot's planned destination. Weather data and witness reports outlined areas of low ceilings and low visibility throughout the area during the approximate time of the accident. Post-accident inspection of the aircraft and engine revealed no evidence of a 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 failure to maintain clearance from mountainous terrain while in cruise flight. Factors include low ceilings and mountainous terrain.

Findings

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

Findings

1. (F) WEATHER CONDITION - LOW CEILING

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: CRUISE

Findings

2. (F) OBJECT - TREE(S)
3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
4. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY

Factual Information

HISTORY OF FLIGHT

On April 9, 2003, about 0850 Pacific daylight time, a Cessna T207 A, N9785M, was destroyed when it collided with mountainous terrain in a remote area approximately seven nautical miles northwest of Merlin, Oregon. The airplane was owned by the pilot, and was being operated as a visual flight rules (VFR) cross-country business flight under the provisions of Title 14, CFR Part 91, when the accident occurred. The airline transport pilot-in-command, and the one passenger aboard the airplane were fatally injured. No flight plan was filed for the flight that originated from the North Bend Municipal Airport, North Bend, Oregon, approximately 40 minutes prior to the accident. The pilot's planned destination was the Grants Pass Airport (3S8), Grants Pass, Oregon.

On April 9, family members of the pilot notified the Federal Aviation Administration (FAA) that the airplane was overdue at its planned destination of Grants Pass. 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, about 1300, the aircraft wreckage was located in a heavily wooded area northwest of Grants Pass.

Subsequent to the aircraft's takeoff from North Bend, radar facilities in Salem, Oregon, and Klamath Falls, Oregon, recorded a 1200 beacon code on a southeasterly track, originating from the North Bend area and continuing southeasterly to a point approximately 9 miles northwest of the accident site. The last radar target was recorded at 42 degrees 43 minutes 28 seconds North latitude and 123 degrees 34 minutes 50 seconds West longitude. The target's pressure altitude was 5,200 feet and descending approximately 100 - 200 feet per minute. The last radar return was at 0847 Pacific daylight time.

The Grants Pass Airport is located approximately 66 nautical miles southeast of the North Bend Airport. The terrain is generally classified as mountainous.

PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with single-engine land, multi-engine land/sea, and instrument airplane ratings. In addition to the before mentioned ratings, the pilot held eight individual type ratings, mostly in transport category aircraft.

On his most recent second-class medical application, dated October 1, 2001, the pilot indicated that he had accumulated approximately 34,976 total flight hours, including approximately 97 hours in the six months preceding the application date.

AIRPLANE INFORMATION

The accident airplane, a 1981 Turbo Stationair (serial number 20700729), was issued a standard airworthiness certificate (normal) in September of 1981. The single engine airplane was powered by a turbocharged Continental TSIO-520 series engine, rated at 310 horsepower. Maintenance records indicated that the last inspection, an annual inspection of the airframe, engine and propeller, was completed on April 6, 2003. The airframe total time at inspection was 4,516 hours. No open discrepancies were noted.

METEOROLOGICAL INFORMATION

The closest weather observation facility is the Sexton Summit (KSXT) Automated Surface

Observation System (ASOS), which is approximately six nautical miles east of the accident location. The 0847 observation at KSXT reported, in part: winds from 150 degrees at 7 knots; visibility 1 statute mile; few clouds at 100 feet AGL; scattered clouds at 900 feet AGL; overcast clouds at 1,900 feet AGL; temperature 6 degrees Celsius; dew point 5 degrees Celsius and altimeter setting 30.04 inches.

Additionally, personnel from Josephine County Search and Rescue reported low clouds and overcast skies northwest of Grants Pass, in the general vicinity of the accident on the morning of April 9.

WRECKAGE AND IMPACT INFORMATION

On April 14, 2003, investigators from the National Transportation Safety Board, Cessna Aircraft and the Federal Aviation Administration accessed the wreckage and conducted the on-site portion of the investigation.

The main wreckage was located on public forested land at 42 degrees 36.395 minutes' north latitude and 123 degrees 28.460 minutes' west longitude. The elevation at the main wreckage site was approximately 2,880 feet above sea level. The first identified point of contact was a large conifer tree (estimated to be 125 feet in height) located near the ridge top, uphill from where the main wreckage came to rest. The magnetic bearing from the conifer tree (elevation of approximately 2,950 feet MSL) to the main wreckage was approximately 121 degrees. The terrain sloped down hill from the initial point of contact to the main wreckage.

All airplane components were located at the accident site. The main wreckage, consisting of the charred remains of the fuselage, engine, propeller assembly, right wing and a large section of the empennage, were located at the southeast end of the wreckage distribution path, approximately 792 feet from the first identified point of contact. The remains of the fuselage were found inverted and were extensively damaged by impact forces and post-crash fire. The cockpit controls, instrument panel and cabin area was destroyed by fire and impact forces. The engine assembly was partially separated from the fuselage. The propeller assembly was found attached to the crankshaft flange. All three propeller blades remained attached to the hub assembly. Nominal bending was noted to propeller blade number one. Propeller blade number two was bent forward, near mid-span, approximately 90 degrees. Aft bending and trailing edge gouging was noted to propeller blade three. All three blades were loose in the propeller hub assembly.

A section of the left wing spar, and associated lift strut, was located approximately 25 feet southeast of the initial point of contact. A large section of the left wing was located in a tree along the approximate centerline of the wreckage track, approximately 175 feet southeast of the initial point of contact. The wing was approximately 70 feet up from the base of the tree. Further down the wreckage track, approximately 205 feet from the initial point of contact, a section of the left elevator was located near the top of a large conifer tree. The remainder of the elevator was located with the main wreckage.

Numerous system components and pieces of wreckage was scattered between the initial point of contact and the main wreckage. The wreckage track generally ran from northwest to southeast. A number of large conifer trees along the wreckage track had been topped and de limbed.

MEDICAL AND PATHOLOGICAL INFORMATION

Representatives from the Oregon State Medical Examiner's Office, Portland, Oregon, conducted a postmortem examination on April 14, 2003. According to the postmortem report, the pilot's cause of death was attributed to "Severe massive blunt trauma." The manner of death was listed as accidental.

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 carbon monoxide, cyanide, ethanol, legal and illegal drugs. See attached report for specific test parameters and results.

TESTS AND RESEARCH

On May 22, 2003, representatives from Teledyne Continental Motors, Cessna Aircraft and the National Transportation Safety Board examined the airplane's engine.

Extensive impact and thermal damage was noted to the engine assembly and associated engine components. Portions of the exhaust tubing, intake tubing and balance tube were crushed and distorted. Both crankcase halves and all cylinder assemblies sustained impact and thermal damage, but were intact. Valve train and accessory gear continuity was established by manually rotating the engine's crankshaft. Valve actuation was noted. Compression was produced in all six cylinders when the crankshaft was manually rotated. Impact and thermal damage was noted to the turbo charger and coupled components, however, the intake was clear and the turbine rotated freely. Both magnetos produced spark in progression when the crankshaft was rotated. The top six spark plugs were removed and examined with no irregularities noted. The engine fuel pump was intact. The unit was removed and visually inspected. The pump was manually rotated and the drive coupling was intact. The fuel manifold valve and associated fuel lines were intact. The valve was removed, disassembled and visually examined. The diaphragm was intact and the screen was free of contaminates. The vacuum pump was intact. When removed, the pump rotated freely via the drive coupling. Disassembly of the unit revealed that the rotor and vanes were whole, in position, and moved freely. The engine oil pump and associated filter were intact. Disassembly and examination of the unit revealed that the pump cavity and associated gears were intact and no evidence of foreign debris was found. The oil filter was opened and oil was present. No foreign debris was noted.

Examination and teardown of the airplane's engine revealed no evidence of a mechanical malfunction or failure.

ADDITIONAL INFORMATION

On October 30, 2003, the airplane wreckage and associated components were released to the pilot's family in Anchorage, Alaska.

Pilot Information

Certificate:	Airline Transport	Age:	75, Male
Airplane Rating(s):	Multi-engine Land; 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 2 With Waivers/Limitations	Last FAA Medical Exam:	10/01/2001
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	34976 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9785M
Model/Series:	T207 A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	20700729
Landing Gear Type:	Tricycle	Seats:	8
Date/Type of Last Inspection:	04/06/2003, Annual	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4516 Hours as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520
Registered Owner:	Richard E. Crow	Rated Power:	310 hp
Operator:	Richard E. Crow	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:		Condition of Light:	Day
Observation Facility, Elevation:	KSXT, 3832 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	0847 PDT	Direction from Accident Site:	83°
Lowest Cloud Condition:	Few / 100 ft agl	Visibility	1 Miles
Lowest Ceiling:	Overcast / 1900 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	150°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	6° C / 5° C
Precipitation and Obscuration:			
Departure Point:	NORTH BEND, OR (OTH)	Type of Flight Plan Filed:	None
Destination:	GRANTS PASS, OR (3S8)	Type of Clearance:	None
Departure Time:	0815 PDT	Type of Airspace:	Class G

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:	
Total Injuries:	2 Fatal	Latitude, Longitude:	42.606667, -123.475000

Administrative Information

Investigator In Charge (IIC):	Dennis J Hogenson	Report Date:	03/02/2004
Additional Participating Persons:	Terry L Wilmeth; FAA-FSDO; Hillsboro, OR Mike Grimes; Teledyne Continental Motors; Mobile, AL Greg Schmidt; Cessna Aircraft; Wichita, KS		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).