



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	KOTZEBUE, AK	<b>Accident Number:</b>	ANC98FA152
<b>Date &amp; Time:</b>	09/17/1998, 1430 AKD	<b>Registration:</b>	N1809Q
<b>Aircraft:</b>	Cessna 207	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled		

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## Analysis

The airline transport pilot departed on a CFR Part 135 cargo/mail flight for a remote coastal village. When the flight did not reach the destination, an aerial search was initiated. The wreckage was located the following day in mountainous terrain, 21 miles from the departure airport. The airplane had collided with rising terrain. An AIRMET for mountain obscuration in clouds and precipitation was issued for the pilot's planned route of flight. A pilot that departed about 20 minutes after the accident airplane's departure, had a similar route of flight. He characterized the weather conditions along the accident airplane's route as 'very low visibility with rain, fog and varied layers of cloud cover.' This pilot stated that he changed his route in order to avoid the worsening weather conditions. He added that with satisfactory weather conditions, and given the intended destination of the accident airplane, the standard route of flight would be directly over the mountain that the accident airplane collided with.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued VFR flight into instrument meteorological conditions. Factors associated with the accident were low ceilings, mountainous/hilly terrain features, rain, and fog.

## Findings

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

### Findings

1. (F) WEATHER CONDITION - LOW CEILING
  2. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND
  3. (F) WEATHER CONDITION - FOG
  4. (F) WEATHER CONDITION - RAIN
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: UNKNOWN

### Findings

5. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY

## Factual Information

### HISTORY OF THE FLIGHT

On September 17, 1998, about 1430 Alaska daylight time, a wheel equipped Cessna 207 airplane, N1809Q, was destroyed during a collision with mountainous terrain, about 21 miles northwest of Kotzebue, Alaska. The airplane was being operated as a visual flight rules (VFR) on-demand cargo/U.S. mail flight under Title 14, CFR Part 135, when the accident occurred. The airplane was registered to, and operated by, Village Aviation, Bethel, Alaska. The solo certificated airline transport pilot received fatal injuries. Visual meteorological conditions prevailed at the time of departure, and a VFR flight plan was filed. The flight originated at the Ralph Wien Memorial Airport, Kotzebue, about 1423, and was en route to Point Hope, Alaska.

Witnesses reported that the accident airplane departed Kotzebue headed to the north, a routine departure that limits flight over open water. The airplane was reported overdue when it failed to arrive. An aerial search was initiated about 1730. An emergency locator transmitter (ELT) signal was detected, but poor weather conditions kept the searchers from reaching the accident airplane.

The airplane wreckage was located the following day, about the 1,800 feet msl level of Mount Noak, latitude 67.09.69 north, and longitude 163.02.33 west.

According to the company's director of operations, the accident pilot had previously flown a round trip to Kivalina, Alaska, earlier in the day. Kivalina is located about 80 miles northwest of Kotzebue, along the same route of flight as the accident airplane's route of flight. The operator said that the accident pilot logged 1.5 hours during the earlier flight. A flight manifest provided by the operator indicated that the pilot returned to Kotzebue at 1355, reloaded the airplane, and departed at 1423, en route to Point Hope.

Radar data provided by the FAA disclosed a radar track in the area of the accident that matched the departure time and heading of the accident flight. The radar track indicated that a target at 1425:35, departed to the north from Kotzebue, and turned to the left, heading about 300 degrees. The last radar target at 1431:10, still on a heading of about 300 degrees, terminates about 4 miles southeast from the crash site. A copy of the ARTCC controller's computer screen is included in this report.

### PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with an airplane multiengine land rating. The pilot also held commercial pilot privileges with an airplane single-engine land, and airplane single-engine sea ratings. The most recent first-class medical certificate was issued to the pilot on May 5, 1998, and contained the limitation that the holder must wear corrective lenses.

The pilot was hired by Village Aviation on October 5, 1997. On October 13, 1997, the pilot completed his initial part 135 check ride in accordance with FAR 135.293 and 135.299.

### AIRCRAFT INFORMATION

The engine had accumulated a total time in service of 2,550.9 hours, and 1,000.9 since major overhaul.

### METEOROLOGICAL INFORMATION

The closest weather observation facility is Kotzebue, which is 21 nautical miles southeast of the accident site. On September 17, 1998, at 1353, an Aviation Routine Weather Report (METAR) was reporting in part: Wind, 110 degrees (true) at 15 knots; Visibility, 9 statute miles; ceiling, 4,100 overcast; temperature, 46 degrees F; dew point, 44 degrees F; altimeter, 29.33 inHg. Witnesses located in Kotzebue reported that weather conditions to the northwest, and specifically in the direction of Mount Noak, were much worse than that being reported at the airport.

Noatak, Alaska, is located 24 miles north of the accident site. At 1355, an unaugmented AWOS was reporting, in part: Wind, 040 degrees (true) at 5 knots; visibility, 10 statute miles; clouds, 200 feet scattered, 900 feet scattered, 1,600 feet overcast; temperature, 44 degrees F; dew point, 39 degrees F; altimeter, 29.35 inHg.

Point Hope, Alaska, the pilot's intended destination, is located about 109 miles northwest of the accident site. At 1355, an unaugmented AWOS was reporting, in part: Wind, 360 degrees (true) at 11 knots; visibility, 5 statute miles; clouds, 1,600 feet overcast; temperature, 39 degrees F; dew point, 37 degrees F; altimeter, 29.37 inHg.

An area forecast for the Northern Seward Peninsula valid until 0000, was reporting, in part: Clouds and weather, 1,500 feet scattered, 2,500 feet scattered, 4,500 feet broken, 7,000 feet overcast, tops at 14,000 feet with increasing layers to 25,000 feet, with occasional light rain.

An AIRMET valid until 1800, was forecasting mountain obscuration in clouds and precipitation along the pilot's planned route of flight from Kotzebue to Point Hope.

The terminal forecast for Kotzebue valid from 0400 until September 18, at 0400, was reporting, in part: Wind, 180 degrees at 10 knots; Visibility greater than 6 statute miles; clouds and sky condition, 4000 feet scattered, 8000 feet broken. Temporary changes expected between the valid forecast times, light rain showers; clouds and sky condition, 4000 feet broken.

A pilot that departed from Kotzebue about 20 minutes after the accident airplane's departure, had a similar route of flight. He characterized the weather conditions along the route as "very low visibility with rain, fog and varied layers of cloud cover." The pilot stated that he changed his route in order to avoid worsening weather conditions. He added that with satisfactory weather conditions, and given the intended destination of the accident airplane, the standard route of flight would be directly over the mountain that the accident airplane collided with.

## COMMUNICATIONS

Review of recorded telephone communications between the pilot and the Fairbanks FSS, revealed that at 0817:06, the pilot called the flight service station specialist at the preflight position. During the course of the conversation, the pilot requested, and received, current and forecast weather conditions for the surrounding area, and along the intended route of flight. The FAA flight service station specialist advised the pilot that weather conditions in the area were forecast to deteriorate, including the possibility of occasional mountain obscuration. The pilot filed a VFR flight plan for the accident flight at 1420:08.

A complete transcript of the recorded conversations between the pilot, and the Fairbanks FSS, is included in this report.

## WRECKAGE AND IMPACT INFORMATION

The NTSB investigator-in-charge examined the airplane wreckage at the accident site on September 18. The airplane was located in an area of rolling hills, at an elevation of about 1800 feet msl. The area consisted of rocks, about 12 inches in diameter, and was situated on about a 20-25 degree slope.

The main fuselage, and associated debris path was oriented on a 300 degree heading. (All headings/bearings noted in this report are magnetic).

About 100 feet downhill from the main wreckage site was a crater measuring about 8 feet in diameter, and 3 feet deep. This crater is believed to be the point of original impact.

The debris path between the crater, and the main wreckage site displayed signs of extensive fuselage fragmentation. Debris consisting of small pieces of plexiglas, aluminum, a door frame assembly, and various landing gear components, were in the debris path.

All of the airplane's major components were located at the main wreckage site. Both wings had extensive leading edge crushing, extending about 12 inches aft of the leading edge. The right wing remained attached to the main fuselage attach points. The left wing was separated from the attach points, and came to rest on the right side of the main wreckage, alongside the right wing.

The main cockpit/cabin area of the fuselage was extensively crushed and distorted. The primary crush zone extended from the firewall area back to about the aft door post, and encompassed the pilot and front seat passenger area. The fuselage was buckled and folded, and the empennage was in an inverted, uphill position.

The flight control surfaces remained connected to their respective attach points. Due to extensive impact damage, flight control continuity could not be confirmed.

The propeller crankshaft flange was broken. Four of the six propeller bolts attaching the propeller to the crankshaft flange were sheared. The two remaining bolts were attached to the broken portion of the flange, which remained attached to the propeller hub. The propeller hub and blade assembly was located about 100 feet uphill from the main wreckage site. All three blades were loose in the hub, but remained attached to the hub and propeller blade assembly. All three propeller blades displayed multiple leading edge gouges, and torsional "S" bending.

The engine was separated from the fuselage, and positioned just downhill from the main wreckage site. It sustained extensive impact damage to the forward, and underside portion of the engine. The intake and exhaust tubes were torn from their mounting positions. Portions of the exhaust tubes were located next to the engine, and displayed extensive crushing, bending, and folding, producing sharp creases that were not cracked or broken along the creases.

#### MEDICAL AND PATHOLOGICAL INFORMATION

A postmortem examination of the pilot was conducted by the Alaska State Medical Examiner, 5700 E. Tudor Road, Anchorage, Alaska, on September 21.

#### SEARCH AND RESCUE

Search personnel from Kotzebue were requested by the Alaska State Troopers office in Bethel. An aerial search was initiated about 1730 by the Civil Air Patrol's Kotzebue Squadron. An emergency locator transmitter (ELT) was detected about 1800, and tracked to the accident site. Weather conditions at the accident site would not allow searchers to locate the airplane, and hampered rescue efforts until the following morning. A positive identification of the accident

site was obtained at first light, the following morning.

## ADDITIONAL DATA / INFORMATION

The Safety Board did not take custody of the wreckage, and no parts or components were retained.

### Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	59, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	05/05/1998
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	8891 hours (Total, all aircraft), 446 hours (Total, this make and model), 4400 hours (Pilot In Command, all aircraft), 98 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N1809Q
<b>Model/Series:</b>	207 207	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	20700787
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	08/26/1998, 100 Hour	<b>Certified Max Gross Wt.:</b>	3800 lbs
<b>Time Since Last Inspection:</b>	71 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	12268 Hours	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	IO-520F
<b>Registered Owner:</b>	VILLAGE AVIATION, INC.	<b>Rated Power:</b>	300 hp
<b>Operator:</b>	VILLAGE AVIATION, INC.	<b>Operating Certificate(s) Held:</b>	On-demand Air Taxi (135)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	HYQA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	OTZ, 11 ft msl	Distance from Accident Site:	21 Nautical Miles
Observation Time:	1353 ADT	Direction from Accident Site:	130°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	9 Miles
Lowest Ceiling:	Overcast / 4100 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	8° C / 7° C
Precipitation and Obscuration:			
Departure Point:	, AK (OTZ)	Type of Flight Plan Filed:	VFR
Destination:	POINT HOPE, AK (PHO)	Type of Clearance:	VFR
Departure Time:	1423 ADT	Type of Airspace:	

## Wreckage and Impact Information

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

## Administrative Information

Investigator In Charge (IIC):	CLINTON O JOHNSON	Report Date:	03/30/2000
Additional Participating Persons:	ERIC L JONES (FAA); FAIRBANKS, AK JACK E SMITH; ANCHORAGE, AK		
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).