National Transportation Safety Board
Aviation Accident Final Report

Location:	KOTZEBUE, AK	**Accident Number:**	LAX95FA120
Date & Time:	02/25/1995, 1250 AST	**Registration:**	N6479H
Aircraft:	CESSNA 207A	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Scheduled		

Analysis

APPROXIMATELY 10 MINUTES AFTER DEPARTURE, THE PILOT WAS CONTACTED BY A COMPANY PILOT FLYING IN THE OPPOSITE DIRECTION. DURING THEIR CONVERSATION THE PILOT STATED THAT HE WAS 'LOOKING FOR WOLVES.' SHORTLY THEREAFTER, THE COMPANY PILOT TOLD THE PILOT THAT HIS RADIO TRANSMISSIONS WERE BREAKING UP. THE PILOT REPLIED THAT IT WAS PROBABLY BECAUSE HE WAS 'BEHIND A RIDGE.' THE COMPANY PILOT TEMPORARILY WENT OFF FREQUENCY; HOWEVER, WHEN HE SWITCHED BACK HE WAS UNABLE TO CONTACT THE PILOT. THE AIRCRAFT WAS LATER LOCATED ON THE SOUTHWEST SIDE OF A BOX CANYON ABOUT 100 FEET BELOW THE TOP OF THE RIDGE. THE NORMAL COURSE LINE FOR THE ROUTE TYPICALLY FLOWN BY COMPANY PILOTS IS 6 MILES AWAY. THE PILOT HAD NO PRIOR EXPERIENCE IN MOUNTAIN FLYING.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's decision to enter a box canyon area at an altitude inadequate to maintain terrain clearance. The pilot's lack of mountain flying experience was a factor in this accident.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings
1. TERRAIN CONDITION - BLIND/BOX CANYON
2. (C) ALTITUDE/CLEARANCE - INADEQUATE - PILOT IN COMMAND
3. (F) LACK OF TOTAL EXPERIENCE IN TYPE OPERATION - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On February 25, 1995, at 1250 Alaska standard time, a Cessna 207A, N6479H, was destroyed during a collision with rising terrain while turning in a box canyon 25 miles north of Kotzebue, Alaska. The aircraft was owned and operated by Yute Air Alaska, Inc., as Yute Air flight 1907, a scheduled domestic passenger/cargo flight under 14 CFR Part 135 of Federal Aviation Regulations (FARs). Visual meteorological conditions were prevalent at the time and a visual flight rules (VFR) flight plan had been filed for the operation. The certificated commercial pilot sustained fatal injuries. The flight originated from the Ralph Wein Memorial Airport at Kotzebue on the day of the accident at 1235 as a cargo flight to Kivalina, Alaska.

Approximately 10 minutes after departure, the pilot was contacted by a company pilot who was inbound to Kotzebue. During their conversation, the company pilot asked what he was doing. The pilot replied that he was "looking for wolves." Shortly thereafter, the company pilot told the pilot that his radio transmissions were breaking up. The pilot replied that it was probably because he was "behind a ridge." The company pilot then told him that he had to temporarily go off frequency to communicate with Yute Air operations. When the witness switched back about 5 minutes later, he was unable to reestablish contact with the pilot. The highest terrain in the vicinity of the crash site is about 1,600 feet mean sea level (msl).

The pilot from another air taxi operator reported that he was flying in the general vicinity of the accident site about 1300, when he noticed a vertical column of black smoke. Upon investigation, he discovered what he believed to be an aircraft accident site. Search and Rescue personnel later confirmed the identity of the aircraft at the site as Yute Air flight 1907.

The accident site was on the southwest side of a box canyon on the southeast slope of Kaksurok mountain. The site was located at latitude 67.11.39 degrees north and longitude 163.12.11 degrees west, along the 303-degree radial of the OTZ Visual Omni Range (VOR). The accident location was approximately 6 miles east of a direct route from Kotzebue to Kivalina.

Company pilots at Yute Air stated that a normal en route altitude for a flight from Kotzebue to Kivalina would be above 2,500 feet msl, and that the course would follow a more direct coastal route. No one contacted in the company could offer an explanation that would have placed the pilot in the vicinity of the crash site.

PERSONNEL INFORMATION

Those employees of the company whom the pilot had contact with immediately prior to the flight reported that he was "up" and exhibiting his usual congenial attitude. There were no indications that the pilot was experiencing any personal, financial, or emotional difficulties.

Review of the company flight department records disclosed that the pilot completed the line and recurrency checks required by 14 CFR 135.295 and 135.299. The flight check was conducted in a Cessna 207A without any noted deficiencies. The pilot's flight and duty times were observed to meet the limitations in the operator's approved operations specifications.

A review of the pilot's flight log revealed that until arriving in Alaska, he had not flown in mountainous areas. The operator also confirmed that mountain flying techniques was not in their training syllabus, since that type of operation was not part of their expected flight procedure.

AIRCRAFT INFORMATION

The Yute Air Kotzebue station manager reported that the aircraft took off with 1,080 pounds of cargo, and a reported 4 hours of fuel on board. The passenger seats had been removed for the operation. Computations established that the aircraft was within the manufacturers prescribed gross weight and center of gravity limitations. Sixty-one gallons of fuel were estimated to be onboard at the time of the accident.

A review of the aircraft log books showed that the aircraft met all prescribed maintenance and inspection requirements of the operators FAA approved maintenance program.

METEOROLOGICAL

A Flight Service Station (FSS) located at the departure airport provided a weather briefing prior to departure. There were no forecasts or reports of inclement weather for the time and route of flight. Pilots flying in the area at the time of the accident reported en route weather conditions of ceiling and visibility unlimited with no turbulence or noticeable winds.

AIDS TO NAVIGATION

The flight was conducted under VFR, and the aircraft was equipped with dual VOR receivers. The departure airport has a VOR transmitter which was in service at the time of the accident.

WRECKAGE AND IMPACT INFORMATION

A postcrash examination of the wreckage revealed that the aircraft had impacted on the rocky outcroppings of a sloping wall in an L-shaped box canyon approximately 100 feet below the crest. The first identifiable ground scars were oriented on a magnetic bearing of 116 degrees. The nose strut was the first piece of debris located beyond the initial impact point (ipi). The next piece of debris was the left pilot's door, which was located beyond the nose strut and further below on the 30-degree downward sloping canyon wall.

The aircraft came to rest approximately 400 feet beyond the ipi and 300 feet below the canyon wall. The final attitude of the aircraft was inverted, on a magnetic orientation of 276 degrees. There were scratches on the top surfaces of both main wings, and the propeller spinner showed evidence of longitudinal crushing. The leading edge of the left wing exhibited evidence of impact damage at approximately midspan. Both main wheels had separated from the fixed landing gear. The left main wheel was located near the bottom of the canyon approximately 500 feet beyond the final position of the aircraft.

The constant speed propeller hub remained attached to the engine crankshaft flange.

The propeller exhibited a forward "S" bend in one blade. The remaining two blades were fractured at a point just beyond midspan. The leading edges of all three blades showed leading edge scarring. No discernable pattern of chordwise scarring was noted on any blade surface. The prop governor was found in mid- range with the mechanical linkage fractured.

A visual inspection of the engine was conducted on site, as well as after recovery. The engine mounts were fractured and the engine was displaced rearward. Drive train continuity was established to the drive pulley through a manual movement of the propeller. Fire damage was observed in the accessory section and on the right side of the case. The front cylinder cooling fins exhibited impact damage. The No. 6 rocker box cover was crushed.

The right magneto had separated form its mount, but was still in place. The oil filler cap was

missing and the oil filler neck and oil filter showed heat distress.

The fuel control unit exhibited heat distress. The fuel screen was clean and free of visible contaminants. The throttle body exhibited heat distress and a hole was observed. The mixture control was near mid-range and the throttle butterfly valve was in the idle position. The associated mixture and throttle cables and linkages were stretched and broken. The fuel injector lines were crushed but not separated. The fuel manifold valve exhibited heat distress. The induction system was crushed and burned. The exhaust system was crushed, distorted, and fractured.

Overall, the aircraft showed evidence of fire which had consumed the majority of the aircraft's fuselage to a point below the midpoint water line and aft from the firewall to the vertical stabilizer. Fire damage extended laterally into the area of both wings where the main fuel tanks are located. Both main fuel tanks showed evidence of containment failure and fire involvement. The fuel selector was found positioned on the left tank.

Flight control continuity was established. The position of the electric-driven flap actuator indicated that the flaps were fully retracted. The position of the manual-driven elevator trim actuator was neutral.

The cargo, which included canned soda pop, bread, and pretzels, was found inside the remaining fuselage and scattered in the vicinity of the final position of the aircraft. The Yute Air station manager reported that the accident aircraft was equipped with both cargo nets and tie-downs.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy and a toxicological screen were performed. The screen for alcohol and drugs was negative; however, 27% carbon monoxide blood saturation was detected.

FIRE

Due to the remote location and rugged nature of the terrain, no fire fighting equipment was employed.

SURVIVAL ASPECTS

The aircraft was equipped with both seat belts and shoulder harnesses. Due to the extent of the fire and limited time on site, it was not determined if one or both were being employed at the time of the accident.

TESTS AND RESEARCH

The engine was recovered, secured, and shipped to the Teledyne Continental Motors facility in Mobile, Alabama, for inspection and testing. After arrival at the facility, the engine was inspected, crash damaged parts were replaced or repaired, and the engine was placed in a test cell for performance evaluation. After starting, the engine ran normal and produced rated power.

ADDITIONAL INFORMATION

The wreckage was recovered and stored in a Yute Air facility in Kotzebue. The wreckage was released to a representative of the registered owner on June 6, 1995.

The emergency locator transmitter (ELT) was located by search and rescue personnel. It was

found in a burned portion of the empennage with the switch in the armed position. No pilots flying in the vicinity at the time of the accident, nor search and rescue personnel on the ground reported hearing any ELT signals.

Pilot Information

Certificate:	Flight Instructor; Commercial	**Age:**	25, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	02/02/1995
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	1607 hours (Total, all aircraft), 333 hours (Total, this make and model), 1457 hours (Pilot In Command, all aircraft), 195 hours (Last 90 days, all aircraft), 67 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	**Registration:**	N6479H
Model/Series:	207A 207A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	20700539
Landing Gear Type:	Tricycle	**Seats:**	7
Date/Type of Last Inspection:	02/17/1995, 100 Hour	**Certified Max Gross Wt.:**	3800 lbs
Time Since Last Inspection:	22 Hours	**Engines:**	1 Reciprocating
Airframe Total Time:	8434 Hours	**Engine Manufacturer:**	CONTINENTAL
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-F
Registered Owner:	WILLIAM L. JOHNSON	**Rated Power:**	285 hp
Operator:	YUTE AIR ALASKA	**Operating Certificate(s) Held:**	Commuter Air Carrier (135)
Operator Does Business As:	YUTE AIR ALASKA	**Operator Designator Code:**	YAAA

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:**	28 Nautical Miles
Observation Time:	1300 AST	**Direction from Accident Site:**	125°
Lowest Cloud Condition:	Clear / 0 ft agl	**Visibility**	35 Miles
Lowest Ceiling:	None / 0 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	70°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	-30°C / -18°C
Precipitation and Obscuration:			
Departure Point:	, AK (OTZ)	**Type of Flight Plan Filed:**	VFR
Destination:	KIVALINA, AK (KVL)	**Type of Clearance:**	None
Departure Time:	1235 AST	**Type of Airspace:**	Class G

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	ROBERT R CRISPIN	**Report Date:**	10/27/1995
Additional Participating Persons:	ROBERT E SHEPHERD; FAIRBANKS, AK ROBERT S BOYLE; ARVADA, CO DAVID S RYAN; 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.ntsb.gov/pubdms/.		