



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	SKWENTNA, AK	<b>Accident Number:</b>	ANC95LA158
<b>Date &amp; Time:</b>	09/01/1995, 1200 AKD	<b>Registration:</b>	N30GA
<b>Aircraft:</b>	Short Brothers SC-7	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal

**Flight Conducted Under:** Part 91: General Aviation - Positioning

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## Analysis

THE PILOT HAD DEPARTED A REMOTE AIRSTRIP ON THE RETURN PORTION OF A CARGO FLIGHT. AN INSTRUMENT FLIGHT PLAN WAS ON FILE WITH THE ARTCC. AFTER DEPARTURE, THE PILOT ATTEMPTED TO CONTACT ARTCC TO OPEN HIS FLIGHT PLAN BUT COMMUNICATIONS WERE NOT ESTABLISHED. THE AIRPLANE STRUCK MOUNTAINOUS TERRAIN ABOUT 6 MILES SOUTH OF THE DEPARTURE AIRPORT. RADAR DATA SHOWED THAT AFTER DEPARTURE, THE AIRPLANE CLIMBED WESTBOUND AND THEN TURNED SOUTHBOUND TOWARD HIGHER TERRAIN. IT CIRCLED SOUTHWEST OF THE AIRPORT AND TURNED EASTBOUND WHILE CLIMBING TO 5,300 FT MSL. THE AIRPLANE THEN TURNED SOUTHBOUND AGAIN TOWARD THE ACCIDENT SITE. THE LAST RECORDED RADAR DATA WAS AT 5,200 FT MSL. THE AIRPLANE STRUCK A RIDGELINE ABOUT 4,800 FT MSL. AIRMETS WERE IN EFFECT FOR IFR CONDITIONS, LOW CEILINGS, MOUNTAIN OBSCURATIONS, RAIN, FOG, AND ICING IN CLOUDS AND IN PRECIPITATION. A WITNESS REPORTED THAT WHEN THE AIRPLANE ARRIVED AT THE AIRPORT, THE AIRFRAME HAD A COATING OF ICE. WHEN THE AIRPLANE DEPARTED, SNOW WAS FALLING AT THE AIRPORT.

## 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. THE WEATHER WAS A FACTOR.

## Findings

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Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: MANEUVERING

### Findings

1. (F) WEATHER CONDITION - LOW CEILING
2. (F) WEATHER CONDITION - ICING CONDITIONS
3. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND
4. TERRAIN CONDITION - MOUNTAINOUS/HILLY

## Factual Information

### History of the Flight

On September 1, 1995, about 1200 Alaska daylight time, a Short SC-7, N30GA, crashed in mountainous terrain, about 83 miles west of Skwentna, Alaska. The airplane was being operated as a cross-country positioning flight to Merrill Field, Anchorage, Alaska, under Title 14 CFR Part 91 when the accident occurred. The airplane, operated by North Star Air Cargo Inc., Anchorage, Alaska, was destroyed. The certificated airline transport pilot, the sole occupant, received fatal injuries. Instrument meteorological conditions prevailed in the area of the accident. The accident flight originated at the Farewell airport, Farewell, Alaska, about 1150.

On the first portion of the accident flight, the airplane was being operated on a cargo flight with a passenger to Farewell, on an instrument flight plan. The pilot cancelled his flight plan at 1108 and landed at Farewell. After unloading, the pilot departed on the return portion of the flight. An instrument flight plan for the return flight was on file with the Anchorage Air Route Traffic Control Center (ARTCC). The route of flight was from Farewell via Winor intersection on Airway V440 to Anchorage and Merrill Field.

At 1155:30, the pilot contacted the Anchorage ARTCC by giving his call sign. His transmission was acknowledged by the controller and the pilot then stated..."ah good morning (unintelligible) east of the (unintelligible)." At 1158:35, the air traffic controller responded by stating..."November 30GA Anchorage Center, radio check." No further communication was received from the pilot. The controller attempted to reestablish voice communication with the pilot at 1209:46 without results.

A review of radar plot data provided to search personnel revealed that after departure, the airplane climbed westbound and then turned southbound toward high terrain. At 1155:56, while attempting to establish communication with the Anchorage ARTCC, the airplane was about 5.5 miles southwest of Farewell at 4,800 feet mean sea level (msl). The radar data indicated that the airplane circled southwest of the airport and turned eastbound while climbing to 5,300 feet msl. The airplane then turned southbound again toward the accident site. The last recorded radar data was at 1200:33 at 5,200 feet msl.

The airplane did not arrive in Anchorage and was reported overdue by company personnel. An alert notice (ALNOT) was issued by the FAA at 2022 and a search mission was initiated. The wreckage of the airplane was located on September 5, 1995, at 1223 by a passing airplane. The accident airplane struck a ridgeline about 4,800 feet msl, about 6 miles south of Farewell.

The accident occurred during the hours of daylight at latitude 62 degrees, 24.74 minutes north and longitude 153 degrees, 59.08 minutes west. The accident site was about 3.5 miles southeast of Winor intersection.

### Crew Information

The pilot held an airline transport pilot certificate with airplane single-engine land and multiengine land ratings. The most recent second-class medical certificate was issued to the pilot on April 27, 1995 and contained the limitation that the holder shall wear corrective lenses.

According to the pilot/operator report submitted by the operator, the pilot's total aeronautical experience consists of about 11,389 hours, of which 2,200 hours were accrued in the accident

airplane make and model. In the preceding 90 and 30 days prior to the accident, the report lists a total of 178 and 47 hours respectively.

#### Aircraft Information

The operator reported that the airplane had accumulated a total time in service of 15,798 flight hours. The most recent phase inspection was accomplished on August 19, 1995, 20.9 flight hours before the accident.

The left engine had accrued a total time in service of 10,157.4 hours of operation. The right engine had accrued 7,097.0 hours. Examination of the maintenance and flight department records revealed no unresolved maintenance discrepancies against the airplane prior to departure.

#### Meteorological Information

The closest weather observation station is located 13 nautical miles north-northeast of the accident site. At 1137, an aviation weather reporting station (AWRS) at Farewell Lake was reporting in part: Sky condition and ceiling, sky partially obscured, estimated ceiling 1,800 feet overcast; visibility, 12 miles; temperature, 48 degrees F; dew point, 46 degrees F; wind, 270 degrees at 7 knots; altimeter, 29.57 inHg; remarks, fog obscuring 3/10 of the sky, east pass closed, no special observations taken.

At 1234, the AWRS was reporting in part: Sky condition and ceiling, estimated ceiling 1,800 feet overcast; visibility, 10 miles in light rain; temperature, 49 degrees F;...communication failure.

A weather briefing was obtained and both FAA flight plans for the flight to Farewell and return, were filed by the operator utilizing the GTE direct user access terminal (DUAT) system. A review of the DUAT services provided by computer request revealed that the operator reviewed weather information that included surface observations, terminal forecasts, winds aloft, pilot reports, AIRMETS, and NOTAMS.

The DUAT weather report included flight precautions for the Cook Inlet and Susitna Valley that were valid until 1800 and stated in part: AIRMET for IFR and mountain obscuration, occasional ceilings below 1,000 feet and visibility below 3 miles in light rain and fog, continuing beyond 1200, otherwise 1,000 feet scattered, 2,500 broken, 4,000 broken to overcast, 6,000 overcast, tops at 16,000, occasional visibility 3 to 5 miles in light rain and fog. Merrill and Rainy passes; IFR ceilings with rain and fog. Scattered moderate turbulence below 8,000 feet especially near channeled terrain. Icing and freezing level; occasional moderate rime icing in clouds and in precipitation between 6,500 to 16,000 feet, continuing beyond 1200, freezing level 6,500 feet.

An AIRMET for the Kuskokwim Valley was valid until 1200 and stated in part: Scattered ceilings below 1,000 feet and visibility below 3 miles in light rain and fog, otherwise 1,500 scattered, 4,000 broken with layers to 20,000, scattered visibilities 4 to 6 miles in light rain and fog; no significant turbulence; occasional moderate rime icing in clouds and in precipitation from 5,500 to 14,000 feet, continuing beyond 1200, freezing level 5,500 feet.

A witness who works at Farewell reported to Alaska State Troopers that when the accident airplane arrived, the airframe had a coating of ice. When the airplane departed, snow was falling at the airport.

## Communications

The pilot attempted to establish communications with the Anchorage ARTCC but was not successful. As a result, the instrument flight plan that the pilot previously filed was not activated. A transcript of the air to ground communications between the airplane and the Anchorage ARTCC is included in this report.

A radar plot of the airplane's route was prepared by the Anchorage ARTCC for search and rescue personnel. A copy of the radar plot is included in this report.

## Wreckage and Impact Information

The accident site was located on the north facing slope of a mountain slope, about 200 feet below the ridgeline. The area was described by Alaska State Troopers as a steep and unstable talus slope without any means of securing the airplane from sliding about 2,000 feet downslope. The National Transportation Safety Board investigator-in-charge (IIC) did not travel to the accident site. The wreckage was examined by an Alaska State Trooper with the assistance of volunteer members of the Alaska Mountain Rescue Group on September 6, 1995. They reported that the airplane was located on 36 degree upsloping terrain. Debris from the airplane were scattered upslope from the wreckage. About 2 inches of snow was covering the slope.

All of the airplane's major components were found at the main wreckage area. The cockpit was extensively crushed aft and under the center portion of the fuselage. The left wing was extensively crushed and folded in an aft direction. The engines were also folded under the center portion of the wreckage. The main landing gear were crushed upward under the fuselage. A section of the right wing was detached and lying just below the main wreckage. The two vertical stabilizers were attached to the horizontal stabilizer. Both rudders were linked together and moving in the wind. The rudder trim tabs were deflected to the right. The elevator trim tabs were deflected downward. The electrical bus panel separated from the airplane and was lying uphill from the main wreckage.

## Medical and Pathological Information

A postmortem examination of the pilot was conducted under the authority of the State of Alaska, Office of the State Medical Examiner, 5700 E. Tudor, Anchorage, Alaska, on September 7, 1995.

## Additional Information

The Safety Board did not travel to the accident site and did not take custody of the wreckage. No parts or components were retained by the Safety Board.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Commercial	<b>Age:</b>	42, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<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>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last Medical Exam:</b>	04/27/1995
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	11389 hours (Total, all aircraft), 2200 hours (Total, this make and model), 11081 hours (Pilot In Command, all aircraft), 178 hours (Last 90 days, all aircraft), 47 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	Short Brothers	<b>Registration:</b>	N30GA
<b>Model/Series:</b>	SC-7 SC-7	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	SH-1839
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	08/19/1995, AAIP	<b>Certified Max Gross Wt.:</b>	12500 lbs
<b>Time Since Last Inspection:</b>	21 Hours	<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>	15798 Hours	<b>Engine Manufacturer:</b>	GARRETT
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TPE331-2-201A
<b>Registered Owner:</b>	AIR CARGO CARRIERS, INC.	<b>Rated Power:</b>	715 hp
<b>Operator:</b>	NORTH STAR AIR CARGO INC.	<b>Air Carrier Operating Certificate:</b>	On-demand Air Taxi (135)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	Z42, 1052 ft msl	Observation Time:	1137 ADT
Distance from Accident Site:	13 Nautical Miles	Direction from Accident Site:	35°
Lowest Cloud Condition:	Partial Obscuration / 0 ft agl	Temperature/Dew Point:	9° C / 8° C
Lowest Ceiling:	Overcast / 1800 ft agl	Visibility	12 Miles
Wind Speed/Gusts, Direction:	7 knots, 270°	Visibility (RVR):	0 ft
Altimeter Setting:	29 inches Hg	Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	FAREWELL, AK (FWL)	Type of Flight Plan Filed:	None
Destination:	ANCHORAGE, AK (MRI)	Type of Clearance:	None
Departure Time:	1150 ADT	Type of Airspace:	Class G

## 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):	SCOTT R ERICKSON	Adopted Date:	03/06/1996
Additional Participating Persons:	WILBUR KEITH; 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.

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