



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	KOTZEBUE, AK	<b>Accident Number:</b>	ANC00LA029
<b>Date &amp; Time:</b>	02/21/2000, 1123 AST	<b>Registration:</b>	N219CS
<b>Aircraft:</b>	Piper PA-31-T3	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Scheduled		

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## Analysis

The airplane collided with frozen pack ice, three miles from the airport, during a GPS instrument approach. Instrument conditions of 3/4 mile visibility in snow and fog were reported at the time of the accident. The pilot stated that he began a steep descent with the autopilot engaged. He indicated that as the airplane crossed the final approach course, the autopilot turned the airplane inbound toward the airport. He continued the steep descent, noted the airplane had overshot the course, and the autopilot was not correcting very well. He disengaged the autopilot and manually increased the correction heading to intercept the final approach course. During the descent he completed the landing checklist, extended the landing gear and flaps, and was tuning both the communications and navigation radios. The pilot said he looked up from tuning the radios to see the sea ice coming up too quickly to react, and impacted terrain. The pilot relayed there were no preaccident anomalies with the airplane, and that he 'did not stay ahead of the airplane.'

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot descended below the minimum descent altitude. Factors associated with this accident were the task overload of the pilot during the instrument approach, and not performing a level off.

## Findings

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Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

### Findings

1. (F) LEVEL OFF - NOT PERFORMED - PILOT IN COMMAND
2. (F) EXCESSIVE WORKLOAD (TASK OVERLOAD) - PILOT IN COMMAND
3. (C) MINIMUM DESCENT ALTITUDE - EXCEEDED - PILOT IN COMMAND

## Factual Information

On February 21, 2000, about 1123 Alaska standard time, a Piper PA-31-T3 airplane, N219CS, sustained substantial damage when it collided with frozen pack ice on the Chukchi Sea, three miles west of Kotzebue, Alaska, during an instrument approach to the Ralph Wein Memorial Airport, Kotzebue. The solo airline transport pilot received minor injuries. The flight was being conducted under 14 CFR Part 135 as scheduled commuter Flight 170, by Cape Smythe Air Service, Inc., of Barrow, Alaska. The flight originated in Barrow, with intermediate stops at Wainwright, and Point Lay, Alaska. Instrument meteorological conditions of 3/4 mile visibility in snow and fog were reported at Kotzebue at 1116. The pilot filed an IFR flight plan while airborne, and received an IFR clearance to Kotzebue, from a point 35 miles northwest of Kotzebue.

The flight was cleared for the GPS Runway 8 approach, and at 1117, the pilot reported to the Kotzebue FAA Flight Service Station that the airplane was on a 10 mile final. The airplane did not arrive at the airport, and an ELT signal was received about 1124. A ground search located the airplane at 1215. Postaccident inspection by the FAA revealed the airplane remained upright, all three landing gear assemblies separated from the airplane, and substantial damage had occurred to both wings and the tail assembly.

The pilot stated in his NTSB Pilot/Operator report that once he was cleared for the approach, he began a steep descent with the autopilot engaged. He indicated that as the airplane crossed the final approach course about 10 miles from the airport at 3,000 feet msl, the autopilot turned the airplane inbound toward the airport. He said he continued the steep descent attempting to cross the final approach fix at 1,600 feet. He noted the airplane had overshot the course to the south, and the autopilot was not correcting very well. He disengaged the autopilot and manually increased the correction heading to intercept the final approach course. He said that during the descent he completed the landing checklist, extended the landing gear and flaps, and tuned the communications radio to the Automated Weather Observation System (AWOS) frequency to update the weather, which reported 3/4 miles visibility in snow. He then tuned the second navigation radio to the ILS frequency, thinking he should fly the ILS. The pilot said he looked up from tuning the radios to see the sea ice coming up too quickly to react, and the airplane impacted terrain.

A review of the Air Traffic Control radar plot of the airplane's ground track depicted the airplane overshooting the final approach course from north to south, and then overshooting to the north prior to impacting the sea ice.

During a telephone interview with the NTSB investigator-in-charge on March 2, the pilot stated the last altitude he remembered seeing was 800 feet msl. He related there were no preaccident anomalies with the airplane, and that this airplane's radar altimeter was not configured to generate an aural warning when the airplane descended below the selected minimum descent altitude, which he had set to 300 feet agl. The pilot commented that he "did not stay ahead of the airplane."

## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	48, 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>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	09/02/1999
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>		
<b>Flight Time:</b>	13500 hours (Total, all aircraft), 4900 hours (Total, this make and model), 13000 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N219CS
<b>Model/Series:</b>	PA-31-T3 PA-31-T3	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	31T8275005
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	10
<b>Date/Type of Last Inspection:</b>	01/07/2000, AAIP	<b>Certified Max Gross Wt.:</b>	9000 lbs
<b>Time Since Last Inspection:</b>	141 Hours	<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>	11098 Hours	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	PT6-A-11
<b>Registered Owner:</b>	CAPE SMYTHE AIR SERVICE, INC.	<b>Rated Power:</b>	500 hp
<b>Operator:</b>	CAPE SMYTHE AIR SERVICE, INC.	<b>Operating Certificate(s) Held:</b>	Commuter Air Carrier (135); On-demand Air Taxi (135)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	CSAA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	OTZ, 11 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	1116 AST	Direction from Accident Site:	80°
Lowest Cloud Condition:	Partial Obscuration / 1400 ft agl	Visibility	1 Miles
Lowest Ceiling:	Obscured / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	-18° C / -18° C
Precipitation and Obscuration:			
Departure Point:	POINT LAY, AK (PIZ)	Type of Flight Plan Filed:	IFR
Destination:	(OTZ)	Type of Clearance:	IFR
Departure Time:	1026 AST	Type of Airspace:	Class E

## Airport Information

Airport:	RALPH WEIN MEMORIAL (OTZ)	Runway Surface Type:	
Airport Elevation:	11 ft	Runway Surface Condition:	
Runway Used:	26	IFR Approach:	RNAV
Runway Length/Width:	5900 ft / 150 ft	VFR Approach/Landing:	

## Wreckage and Impact Information

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

## Administrative Information

Investigator In Charge (IIC):	MATTHEW L THOMAS	Report Date:	05/09/2001
Additional Participating Persons:	CHRISTOPHE FARNELL(FAA FSDO); FAIRBANKS, 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:pubinquiry@ntsb.gov">pubinquiry@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](#).