



National Transportation Safety Board Aviation Accident Final Report

Location:	TWIN HILLS, AK	Accident Number:	ANC97FA155
Date & Time:	09/26/1997, 1306 AKD	Registration:	N9984M
Aircraft:	Cessna 207A	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The flight departed with 180 pounds of cargo after deplaning a passenger. Three company pilots overheard the accident pilot report that he was 13 minutes from his destination. The overdue aircraft was located by company airplanes about 700 feet MSL, on the east (downwind) side of an 890 feet msl pass. The airplane impacted on a 330 degree heading and perpendicular to the axis of the canyon/pass (oriented east-west), in a flat attitude, with no ground scars leading to the wreckage. No anomalies were found with the airplane, and all blades on the propeller exhibited torsional twisting and leading edge gouging. A westerly wind of seven to nine knots existed and numerous pilots reported the mountain passes were not obscured by clouds. Photographs from the pilot's camera depicted views of the accident canyon, with the pass and accident site above the altitude from which the photographs were taken. These photographs contained the date of the accident. Numerous depressant and stimulant, over-the-counter cold and asthma medications were found in the pilot's flight bag. Toxicological tests detected several over-the-counter medications used for cold and asthma symptoms with illness effect of distraction or sensory disturbance. As a result of the condition for which the drugs were ingested may have also played a role in the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Improper in-flight planning/decision by the pilot, and his failure to maintain sufficient altitude over mountainous terrain. Factors related to the accident were downdraft conditions, mountainous/hilly terrain, and the use of over-the-counter medications.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings

1. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
2. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
3. (F) WEATHER CONDITION - DOWNDRAFT
4. (C) ALTITUDE - INADEQUATE - PILOT IN COMMAND
5. (F) IMPAIRMENT(DRUGS) - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On September 26, 1997, about 1306 Alaska daylight time, a Cessna 207A airplane, N9984M, was destroyed when it impacted mountainous terrain fifteen miles east of Twin Hills, Alaska, at position 59-00.5 degrees north latitude, 159-51.0 degrees west longitude. The airline transport pilot sustained fatal injuries. The airplane was operated by Yute Air Alaska, Inc., of Anchorage, Alaska. The flight was conducted under 14 CFR Part 135, with 180 pounds of cargo manifested for Togiak, Alaska. The flight departed Manakotak, Alaska, at 1250, after dropping off one passenger. Visual meteorological conditions were described by other pilots as prevailing at the time of the accident, with 1,800 to 2,000 foot ceilings. The tops of the mountain peaks were described as obscured, with 25 miles visibility and open passes below the ceiling. A company flight plan was filed.

At 1313, three company pilots overheard the accident pilot report that he was 13 minutes out from Togiak. At 1345, these pilots began to look for the airplane. At 1400 the company reported the airplane overdue to the FAA Dillingham Flight Service Station. About 1530, company airplanes located the wreckage about 700 feet MSL, on the east side of an 890 feet msl pass.

DAMAGE TO AIRCRAFT

All major components of the airplane remained attached. The primary damage consisted of vertical crushing of the lower fuselage, and downward deformation of both wings and the empennage. The upper fuselage was deformed about 4 inches forward of the lower fuselage. The floor beams where the pilot seat attaches were deformed upward at almost a 90 degree angle.

PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with a single engine land rating. He held a commercial pilot certificate with an airplane-multiengine land rating, and a flight instructor certificate with an airplane single engine rating.

The pilot held a first class medical certificate with no restrictions.

He began his employment with the operator in September, 1996. He was assigned as a pilot-in-command on Cessna 172, Cessna 206, and Cessna 207 airplanes. He was assigned as a company check airman in the Cessna 207. He completed his last recurrent ground training on September 18, 1997. He was based in King Salmon, Alaska, at the time of the accident. He had been assigned to fly routes out of Dillingham for the first time on the day of the accident.

The pilot had been president of a 14 CFR Part 135 cargo company operating Cessna 208 airplanes in Houston, Texas, prior to coming to work for this operator.

At the time of the accident, the pilot had accumulated approximately 7,470 hours of total flight time, of which 1,000 were in the Cessna 207. In the previous 90 and 30 days, he had flown 329 and 100 hours respectively. He had flown 3.0 hours on the day of the accident.

METEOROLOGICAL INFORMATION

Weather observations at Togiak surrounding the time of the accident indicated visual meteorological conditions prevailed, with scattered clouds at 1,800 feet, and broken clouds at 4,300 feet. The pass between the canyon where the airplane was located, and Togiak, is 890

feet msl.

The prevailing winds were a westerly flow between seven and nine knots. The wreckage location was on the downwind, and downslope, side of the pass.

NTSB interviews with other pilots who were flying in the area indicated the winds were from the west, and that only the tops of the higher peaks were obscured in clouds. The pilots interviewed said all the passes were open.

The last two photographs in the pilot's camera show the tops of the ridges near the accident site unobstructed by clouds. Company pilots identified the location depicted in these photographs as being the area of the accident. These photographs contained a date code imprint of September 26, 1997. He had not flown the accident route prior to the accident flight.

COMMUNICATIONS

The last communication with the pilot occurred at 1313, when three company pilots heard him announce on the company marine-VHF radio that he was 13 minutes out from Togiak. No other communications were received.

WRECKAGE AND IMPACT INFORMATION

The Alaska State Trooper who was first on scene stated that the throttle control was jammed in the idle position, the propeller control was full forward, and the mixture control appeared partially leaned.

The pilot was found restrained with a diagonal shoulder harness and lap belt.

The NTSB investigator-in-charge, an FAA airworthiness inspector, and the company Director of Operations, inspected the airplane at the accident site on September 27, 1997.

The airplane came to rest on the east side of a ridge, about 190 feet below a pass. The airplane was oriented on a 330 degree magnetic heading, perpendicular to the axis of the east-west canyon. The airplane was in a 10 degree right wing down attitude with respect to the horizon. There was no ground scar on the 30 degree slope leading to the wreckage.

The trailing edge flaps were in the up, or retracted, position. The elevator trim was set to the "Takeoff" position.

The three propeller blades exhibited chordwise scratches, torsional twisting, and leading edge gouges.

The fuel tanks remained intact. A blue fluid that smelled like gasoline was present in the wing tanks. The fuel selector valve was in the "LEFT" position.

The Emergency Locator Transmitter (ELT) was found mounted as indicated by the directional arrow placarded on the ELT housing. The "ON-OFF-AUTO" switch was in the "AUTO" position. No emergency signal was received by any airplanes. The NTSB investigator placed the switch to "ON" and a signal was immediately received on a radio tuned to 121.5 MHz.

No evidence of preaccident anomalies was found with the airplane.

Inspection of the engine by an FAA airworthiness inspector in Dillingham on October 2, 1997, revealed no indications of preaccident anomalies.

MEDICAL AND PATHOLOGICAL INFORMATION

A postmortem examination of the pilot was conducted under the authority of the Alaska State Medical Examiner, 5700 E. Tudor Road, Anchorage, Alaska, on September 29, 1997.

A toxicological examination was conducted by the FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma, on February 6, 1998. This examination revealed the presence of the following drugs: Dextrorphan, Dextromethorphan, Doxylamine, Pseudoephedrine, Ephedrine, and Phenylpropanolamine. These depressant and stimulant drugs were consistent with several types of over-the-counter cold and asthma medicines which were located in the pilot's flight bag.

The Physician's Desk Reference, 44th Edition, 1990, indicates the following properties of these drugs:

Dextromethorphan is used as a cough suppressant. High doses are required to have performance effects.

Doxylamine is a sedating over-the-counter antihistamine. One of the three most sedating antihistamines.

Pseudoephedrine is shown to have stimulant effects.

Ephedrine is shown to have stimulant effects.

Phenylpropanolamine is shown to have stimulant effects.

TESTS AND RESEARCH

The ELT was tested on October 30, 1997, at an ELT repair station located in Oswego, Oregon. The testing was supervised by an FAA Avionics Inspector. The ELT and the automatic "G" switch were functional and operated normally. The "G" switch is oriented such that a deceleration applied along the longitudinal axis of the airplane is required to activate the unit. A deceleration applied in the vertical axis direction will not activate the ELT.

ADDITIONAL DATA / INFORMATION

The pilot's camera was recovered from the cockpit by the NTSB investigator-in-charge, and the film developed. The last nine photographs on the film were identified by company personnel as being along the route of the accident flight. The date code imprinted on these photographs indicated the day of the accident. One of the last photographs depicts low level flight along a river on this final route of flight. The last two photographs from the film depict a view looking up the canyon where the wreckage was located. The pass at the head of this canyon appears to be above the altitude from which the photograph was taken.

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	39, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	04/21/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	7470 hours (Total, all aircraft), 1000 hours (Total, this make and model), 6900 hours (Pilot In Command, all aircraft), 329 hours (Last 90 days, all aircraft), 100 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9984M
Model/Series:	207A 207A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	207-00774
Landing Gear Type:	Tricycle	Seats:	8
Date/Type of Last Inspection:	08/28/1997, 100 Hour	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:	84 Hours	Engines:	1 Reciprocating
Airframe Total Time:	14089 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520-F48B
Registered Owner:	ERNIE'S AIRCRAFT SERVICES	Rated Power:	300 hp
Operator:	YUTE AIR ALASKA, INC	Operating Certificate(s) Held:	Commuter Air Carrier (135); On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	YAAA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PAT, 10 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	1315 ADT	Direction from Accident Site:	270°
Lowest Cloud Condition:	Scattered / 1800 ft agl	Visibility	4 Miles
Lowest Ceiling:	Broken / 4300 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	8°C / 3°C
Precipitation and Obscuration:			
Departure Point:	MANAKOTAK, AK (17Z)	Type of Flight Plan Filed:	Company VFR
Destination:	TOGIAK, AK (TOG)	Type of Clearance:	None
Departure Time:	1250 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):	MATTHEW L THOMAS	Report Date:	06/21/2000
Additional Participating Persons:	JAMES C HEIRSTON; ANCHORAGE, AK SCOTT SCHWEIZER; 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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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](#).