



Aviation Investigation Final Report

Location:	TYONEK, Alaska	Accident Number:	ANC98LA057
Date & Time:	May 27, 1998, 14:00 Local	Registration:	N5297U
Aircraft:	Cessna 206	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor, 5 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and five passengers departed eastbound from a rural airstrip for a cross-country flight across high mountainous terrain. He had flown along the planned route of flight numerous times in the past and obtained pilot reports of weather conditions in several mountain passes that traversed the mountain range along the planned route. The weather reports included wind speeds of 40 knots with turbulence. An area forecast included AIRMETS for mountain obscuration, turbulence in all mountain passes, and icing conditions. The pilot said he was aware of the potential for turbulence over the mountains and climbed the airplane to 13,500 feet. When the flight approached the lee side of the pilot's planned crossing point over the mountains, the airplane encountered severe downdrafts. The pilot applied full power, but the airplane continued to descend toward blowing snow along the mountain ridge. The pilot said he had no alternative but to land into a snow bank. The airplane collided with snow covered terrain at 10,500 feet msl. The airplane's belly mounted cargo pod, and the landing gear were torn off the fuselage.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued flight into adverse weather conditions, and his inadequate in-flight planning/decision. Factors in the accident were weather conditions consisting of a mountain wave, and downdrafts.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: CRUISE

Findings

1. (F) WEATHER CONDITION - MOUNTAIN WAVE
 2. (C) FLIGHT INTO ADVERSE WEATHER - CONTINUED - PILOT IN COMMAND
 3. (F) WEATHER CONDITION - DOWNDRAFT
 4. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT

Findings

5. TERRAIN CONDITION - MOUNTAINOUS/HILLY
6. TERRAIN CONDITION - SNOW COVERED

Factual Information

On May 27, 1998, about 1400 Alaska daylight time, a wheel equipped Cessna 206 airplane, N5297U, sustained substantial damage during a collision with mountainous terrain, about 40 miles west of Tyonek, Alaska. The airplane was being operated as a visual flight rules (VFR) cross-country personal flight under Title 14 CFR Part 91, when the accident occurred. The airplane was registered to William Merrill Jr., Anchorage, Alaska, and operated by the pilot. The certificated commercial pilot, and four passengers were not injured. One passenger received minor injuries. Visual meteorological conditions prevailed. No flight plan was filed by the pilot. The flight originated at the Lime Village Airport, Lime Village, Alaska, about 1200.

At 1224:17, the pilot contacted the Kenai, Alaska, Automated Flight Service Station (AFSS) via aircraft radio. The pilot requested pilot reports of weather conditions for Merrill Pass and Lake Clark Pass, and the weather conditions at Anchorage International Airport, and Merrill Field, Anchorage. The Kenai AFSS specialist provided weather information that included a report of continuous moderate to occasional severe turbulence in the west end of Lake Clark Pass. The specialist also advised of a pilot report in the area of Sparrevohn Long Range Radar Station (16 miles south of Lime Village). That report indicated a south wind at 40 knots with occasional light turbulence at 5,500 feet msl. The specialist also provided a report of winds along Turnagain Arm (7 miles south of Anchorage) that indicated wind from the east at 40 knots. At 1227:23, the pilot stated, "97U roger, ah you got a pretty stiff gradient between here and there, ah evidently where the winds are coming from, ah thanks ah lot, I'll try and give you a report on Merrill Pass".

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), on May 28, 1998, at 1000, the pilot reported he began flying earlier in the day with a planned destination of Anchorage. He departed Stony River, Alaska, and flew to Sleetmute, Alaska, and then to Lime Village. After departure from Lime Village, the pilot indicated he usually crossed the Tordrillo Mountains via a 9,000 foot high pass, located between Mt. Torbert, and Mt. Gerdine. The usual time en route for the trip to Anchorage is 2 hours. After flying for 2 hours, the flight had only progressed to the mountain pass, which is about 88 miles east of Lime Village. The pilot stated he anticipated strong winds and turbulence over the mountains, and climbed the airplane to between 13,000, and 13,500 feet msl.

As the flight approached the mountain pass, the airplane suddenly began to descend. The vertical speed indicator was indicating a 2,000 feet per minute rate of descent, but the pilot said the airplane dropped over 3,000 feet in less than 1 minute. The pilot reported he added full power, and raised the nose of the airplane. The airspeed indicator was between 80 to 90 knots. The airplane continued to descend into blowing snow on the lee side of a mountain ridge. The pilot said he had no alternative but to land into a snow bank. The airplane collided

with snow covered terrain at 10,500 feet msl, on the side of Mt. Torbert. The airplane's belly mounted cargo pod, and the landing gear were torn off the fuselage.

An area forecast for the southern half of Alaska, except southeast Alaska, issued on May 27, 1998, at 1145, was reporting in part: "Cook inlet and Susitna Valley, valid until 0000; AIRMET, mountain obscuration - mountains temporarily obscured in clouds and precipitation, no change. Clouds conditions, 3,000 feet scattered, 6,000 feet broken, layered above, tops at 25,000 feet. Temporarily, 3,000 feet broken, 6,000 feet overcast, visibility 5 statute miles in light rain. Along the Alaska range, temporarily 2,000 feet broken, 5,000 feet overcast, visibility 3 statute miles in light rain and mist. Through passes, surface winds from the east to southeast at 20 knots, gusts to 30 knots. Outlook valid from May 28, 1998, at 0000 to 1800, VFR. Passes, all passes turbulent. Lake Clark, Merrill, Rainy, and Portage Pass, marginal VFR ceilings in rain. Windy, VFR. Turbulence, AIRMET for turbulence. Temporary moderate turbulence below 8,000 feet, no change. Icing and Freezing level, AIRMET for icing. Temporary moderate rime icing in clouds, 5,000 feet to 10,000 feet. Freezing level, 5,000 feet.

At 1454, a military AWAC airplane monitored a "mayday" call from the accident airplane. Search and rescue personnel reached the accident site about 2230.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	57, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 16, 1997
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	14673 hours (Total, all aircraft), 3000 hours (Total, this make and model), 14500 hours (Pilot In Command, all aircraft), 145 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N5297U
Model/Series:	206 206	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	U2060297
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	100 hour	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	12 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Installed, activated, aided in locating accident	Engine Model/Series:	IO-520
Registered Owner:	WILLIAM MERRILL JR.	Rated Power:	300 Horsepower
Operator:	WARD H. SATTLER	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	ENA ,92 ft msl	Distance from Accident Site:	65 Nautical Miles
Observation Time:	13:55 Local	Direction from Accident Site:	130°
Lowest Cloud Condition:	Unknown	Visibility	40 miles
Lowest Ceiling:	Overcast / 7000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	12°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LIME VILLAGE , AK (23AK)	Type of Flight Plan Filed:	None
Destination:	ANCHORAGE , AK (MRI)	Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor, 4 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 5 None	Latitude, Longitude:	61.080833,-151.159729(est)

Administrative Information

Investigator In Charge (IIC):	Erickson, Scott
Additional Participating Persons:	ALLEN LEE; ANCHORAGE , AK
Original Publish Date:	November 17, 1999
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=3145

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).