



Aviation Investigation Final Report

Location:	TAKOTNA, Alaska	Accident Number:	ANC95LA017
Date & Time:	December 12, 1994, 11:30 Local	Registration:	N4552F
Aircraft:	CESSNA 185	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Serious, 1 Minor, 1 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

THE PILOT WAS DEPARTING A REMOTE AIRPORT AS A CONTINUING PORTION OF AN ON-DEMAND CHARTER FLIGHT WITH TWO PASSENGERS. THE 1,717 FEET LONG RUNWAY WAS COVERED WITH 4 TO 5 INCHES OF SNOW AND THE PERIMETER OF THE RUNWAY HAD SNOW BANKS ALONG THE EDGES AND ENDS. THE PILOT BEGAN THE TAKEOFF ROLL AND LIFTED OFF ABOUT HALFWAY DOWN THE RUNWAY. FLAT LIGHTING CONDITIONS MADE IT DIFFICULT TO DISTINGUISH THE RUNWAY BOUNDARIES FROM THE SURROUNDING TERRAIN. THE AIRPLANE SETTLED TO THE RUNWAY NEAR THE DEPARTURE END AND STRUCK A 2 FOOT HIGH SNOW BERM AT THE END OF THE RUNWAY. THE AIRPLANE THEN DESCENDED TOWARD LOWER TERRAIN OFF THE DEPARTURE END OF THE RUNWAY AND COLLIDED WITH SEVERAL TREES. A POST CRASH FIRE CONSUMED THE AIRPLANE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S INADEQUATE PREFLIGHT PLANNING FOR THE DEPARTURE. A SNOW COVERED RUNWAY, FLAT LIGHTING CONDITIONS, AND A SNOWBANK WERE FACTORS IN THE ACCIDENT.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) AIRPORT FACILITIES,RUNWAY/LANDING AREA CONDITION - SNOW COVERED
2. (F) LIGHT CONDITION - OTHER
3. (F) TERRAIN CONDITION - SNOWBANK
4. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. OBJECT - TREE(S)

Factual Information

On December 12, 1994, about 1130 Alaska standard time, a wheel/ski equipped Cessna model 185 airplane, N4552F, operated by Woods Air Service, Inc. collided with terrain during takeoff from runway 24 at Takotna, Alaska. The commercial certificated pilot received minor injuries, one passenger received serious injuries, and the remaining passenger was not injured. The airplane was destroyed by the impact with the terrain and a postcrash fire. The 14 CFR Part 135 on-demand flight was en route to Nikolai, Alaska when the accident occurred. VFR conditions reportedly prevailed in the area at the time of the mishap and a round robin flight plan from McGrath, Alaska was on file with the Kenai Automated Flight Service Station (AFSS) with intermediate stops at Takotna, Nikolai and Telida, Alaska.

On the afternoon of December 13, 1994, the NTSB investigator-in-charge conducted a telephone interview with the pilot of N4552F. The pilot said that he departed McGrath at approximately 0942 and performed a wheel landing on runway 060 at Takotna about 15 minutes later and parked the airplane on the designated ramp area. He said that with the large amount of snow the area had received this year, he was mindful of the snow berms along the sides and the ends of the runways at the airports in the area but did not consciously pay any attention to the snow berm as he flew over the approach end of runway 060. The four to five inches of fresh unpacked snow on the ground prevented him from turning the airplane under power in the ramp area. He shut the airplane down and physically lifted the tail of the airplane and turned it toward the runway. He boarded two passengers and there was also about 170 pounds of cargo on board the plane, which included the survival gear. He lined the airplane up between the left and right side cones at the end of runway 24. Due to the flat light condition, it was difficult to distinguish the runway boundaries with the surrounding terrain. He began the wheel takeoff from the ramp area, which he said meant that there was about 300 feet of runway that he did not use. The takeoff was performed with two notches of flap, and the wind was calm. He experienced no problems with the airplane during the takeoff. He felt the airplane became airborne from one half to two thirds down the runway and that the plane was in a climbing attitude when it collided with what he believed to be a snow berm just beyond the end of the runway. The plane pitched forward and descended into trees about 1,000 feet beyond the end of the runway. Shortly after the aircraft came to a stop in a nose down tail high attitude against the ground, the top of the plane caught fire. Based upon his post accident observation of the snow berm at the end of runway 24, he estimated the height of the berm to be from three to four feet.

Witnesses at the airport reported that at the time of the accident, the conspicuity between the runway and the surrounding terrain was poor due to the flat light condition and that the runway had four to six inches of new unpacked snow. Airport maintenance personnel reported that the runway was last plowed on December 11, 1994, and that the snow berms on either end of the runway on the day of the accident were about two feet high.

Pilot Information

Certificate:	Commercial	Age:	50, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	March 4, 1994
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	5200 hours (Total, all aircraft), 1000 hours (Total, this make and model), 60 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N4552F
Model/Series:	185 185	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1851052
Landing Gear Type:	Ski/wheel	Seats:	4
Date/Type of Last Inspection:	December 5, 1994 100 hour	Certified Max Gross Wt.:	3350 lbs
Time Since Last Inspection:	5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	6431 Hrs	Engine Manufacturer:	CONTINENTAL
ELT:	Installed	Engine Model/Series:	IO-520-D
Registered Owner:	WOODS AIR SERVICE INC.	Rated Power:	300 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	EOXA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	MCG ,337 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	10:50 Local	Direction from Accident Site:	40°
Lowest Cloud Condition:	Scattered / 1500 ft AGL	Visibility	6 miles
Lowest Ceiling:	Broken / 4700 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	-12°C / -14°C
Precipitation and Obscuration:	Light - None - Snow		
Departure Point:		Type of Flight Plan Filed:	VFR
Destination:	MCGRATH , AK (MCG)	Type of Clearance:	None
Departure Time:	11:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	TAKOTNA TCT	Runway Surface Type:	Gravel
Airport Elevation:	825 ft msl	Runway Surface Condition:	Snow
Runway Used:	24	IFR Approach:	None
Runway Length/Width:	1717 ft / 65 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Borson, Timothy
Additional Participating Persons:	MAURICE HENDRICKSON; ANCHORAGE , AK
Original Publish Date:	June 29, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=2615

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).