



Aviation Investigation Final Report

Location:	Kenai, Alaska	Accident Number:	ANC09LA022
Date & Time:	February 20, 2009, 15:15 Local	Registration:	N5342G
Aircraft:	DEHAVILLAND DHC-2 / U-6A	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The certificated flight instructor was familiarizing the second pilot with ski operations in a ski-equipped airplane during an instructional flight. The flight instructor reported that he took the flight controls from the second pilot to demonstrate a touch-and-go landing on a frozen, snow-covered lake. After landing to the east, the instructor said that he kept the tail of the airplane up and the airspeed just below flying speed in order to make ski tracks on the lake to check the snow conditions. About midway along the lake the instructor added full engine power and the airplane became airborne but failed to climb sufficiently to avoid colliding with an area of rising, tree-covered terrain at the departure end of the lake. The airplane sustained substantial damage to the wings, fuselage, and empennage. Postaccident examination revealed no preaccident mechanical anomalies. The instructor noted that after the accident he noticed occasional strong gusts of wind from the west.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The flight instructor's decision to attempt a touch-and-go landing toward rising terrain and with a tailwind, resulting in an in-flight collision with terrain during takeoff.

Findings

Personnel issues	Decision making/judgment - Instructor/check pilot
Aircraft	(general) - Capability exceeded
Environmental issues	Sloped/uneven terrain - Decision related to condition
Environmental issues	Tailwind - Decision related to condition

Factual Information

History of Flight

Takeoff

Collision during takeoff/land (Defining event)

On February 20, 2009, about 1515 Alaska standard time, a wheel/ski-equipped de Havilland DHC-2/U-6A (Beaver) airplane, N5342G, sustained substantial damage during takeoff from a remote frozen lake, about 10 miles northeast of Kenai, Alaska. The airplane was being operated as a visual flight rules (VFR) local area proficiency/instructional flight under Title 14, CFR Part 91, when the accident occurred. The airplane was operated by the Civil Air Patrol Inc. (CAP), Anchorage, Alaska. The three people aboard, the first pilot, a certificated flight instructor in the right seat, the second pilot in the left seat, and a pilot-rated passenger, were not injured. Visual meteorological conditions prevailed, and CAP flight following procedures were in effect. The flight originated at the Kenai Municipal Airport, Kenai, about 1415.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), on February 20, the flight instructor reported that the purpose of the flight was to familiarize the second pilot with ski operations of a de Havilland DHC-2 airplane. He said that after the second pilot completed a series of touch-and-go landings to the west on the frozen snow-covered lake, he took the flight controls to demonstrate the next touch-and-go landing to the east.

The flight instructor reported that after landing to the east, he kept the tail of the airplane up and the airspeed just below flying speed in order to make ski tracks on the lake to check the snow conditions. He said that as the airplane passed the midpoint of the lake, he applied full engine power for takeoff and the airplane became airborne, but it failed to climb sufficiently to avoid colliding with an area of rising, tree-covered terrain at the departure end of the lake. The airplane sustained substantial damage to the wings, fuselage, and empennage.

In the pilot's written statement to the NTSB, he characterized wind conditions as calm while on an easterly approach, but he reported an occasional strong gust of wind out of the west following the accident.

The closest weather reporting facility is the Kenai Municipal Airport, 10 miles southwest of the accident site. At 1453, an automated weather observation system was reporting, in part: Wind, 190 degrees (true) at 3 knots, visibility, 10 statute miles; clear; temperature, 30 degrees F; dew point, 21 degrees F; altimeter, 30.51 inHg.

On March 2, 2009, following recovery of the airplane's wreckage to Anchorage, a wreckage examination was done under the direction of the NTSB IIC. Also present were three members of the CAP's safety assessment team, and two aviation safety inspectors from the Federal

Aviation Administration's Anchorage Flight Standards District Office. No preaccident mechanical anomalies were discovered during the wreckage exam.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	63, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 18, 2009
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 20, 2008
Flight Time:	14300 hours (Total, all aircraft), 9000 hours (Total, this make and model), 13900 hours (Pilot In Command, all aircraft), 15 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Private	Age:	56, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	November 14, 2008
Occupational Pilot:	No	Last Flight Review or Equivalent:	March 13, 2008
Flight Time:	799 hours (Total, all aircraft), 30 hours (Total, this make and model), 620 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DEHAVILLAND	Registration:	N5342G
Model/Series:	DHC-2 / U-6A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	854
Landing Gear Type:	Tailwheel; Ski/wheel	Seats:	4
Date/Type of Last Inspection:	October 16, 2008 Annual	Certified Max Gross Wt.:	5100 lbs
Time Since Last Inspection:	8 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	9483 Hrs at time of accident	Engine Manufacturer:	Pratt & Whitney
ELT:	C126 installed, not activated	Engine Model/Series:	R-985
Registered Owner:	CIVIL AIR PATROL INC	Rated Power:	450 Horsepower
Operator:	Civil Air Patrol - Alaska Wing	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	ENA,99 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	14:53 Local	Direction from Accident Site:	225°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.51 inches Hg	Temperature/Dew Point:	-1°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Kenai, AK (ENA)	Type of Flight Plan Filed:	Company VFR
Destination:	Kenai, AK (ENA)	Type of Clearance:	None
Departure Time:	14:45 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	60.566665,-151.233337(est)

Administrative Information

Investigator In Charge (IIC):	Johnson, Clinton
Additional Participating Persons:	Tony A Fisher; Federal Aviation Administration; Anchorage, AK
Original Publish Date:	March 23, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=73387

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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](#).