



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Kodiak, Alaska	<b>Accident Number:</b>	ANC16LA062
<b>Date &amp; Time:</b>	September 9, 2016, 11:30 Local	<b>Registration:</b>	N91AK
<b>Aircraft:</b>	DEHAVILLAND DHC-2	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	3 Serious
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Scheduled		

## Analysis

The airline transport pilot was conducting a scheduled commuter flight between remote villages in a float-equipped airplane. After making an intermediate stop to drop off a company maintenance technician at a remote lake, the pilot back-taxied the airplane to the east in preparation for a westerly departure. He estimated the wind at 15 knots with increasing gusts to 25 knots from the west. Ground witnesses and passengers on board the airplane reported that the pilot initiated a takeoff to the west, toward an area of rising, tree-covered terrain. After becoming airborne, the airplane entered a left turn to avoid the terrain. The left turn steepened, and the airplane then entered a steep nose-down descent into the terrain. The pilot reported that he did not recall any preaccident mechanical problems with the airplane. Due to his injuries, he was unable to recall the events of the accident.

Postaccident examination revealed no mechanical malfunctions or anomalies of the airplane. Given the witness accounts of the accident, it is likely that the pilot exceeded the airplane's critical angle of attack during the initial climb toward and subsequent turn away from rising terrain, which resulted in an aerodynamic stall and loss of control at an altitude too low for recovery.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain adequate airspeed during the initial climb and turn after takeoff, which resulted in an exceedance of the airplane's critical angle of attack and an aerodynamic stall.

## Findings

<b>Personnel issues</b>	Aircraft control - Pilot
<b>Aircraft</b>	Airspeed - Not attained/maintained
<b>Aircraft</b>	Angle of attack - Not attained/maintained
<b>Environmental issues</b>	Mountainous/hilly terrain - Contributed to outcome

# Factual Information

## History of Flight

Initial climb	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On September 9, 2016, about 1130 Alaska daylight time, a float-equipped, de Havilland DHC-2 (Beaver) airplane, N91AK, sustained substantial damage during a collision with water, following a loss of control shortly after takeoff from Uganik Lake, about 35 miles west-southwest of Kodiak, Alaska. The airplane was registered to Redemption, Inc., and operated as Flight 43 by Island Air, as a visual flight rules (VFR) scheduled commuter flight under the provisions of *14 Code of Federal Regulations (CFR) Part 135*. Of the three occupants onboard, the airline transport pilot and two passengers all sustained serious injuries. Visual meteorological conditions prevailed, and company flight following procedures were in effect. Flight 43 originated in Kodiak about 1100, with a preplanned, intermediate stop at Uganik Lake, before continuing to the flights scheduled stops in Amook Bay and Zachar Bay, Alaska.

According to the operator's director of maintenance the purpose for the intermediate stop at Uganik Lake was to drop off a maintenance technician. He added that another company owned a Cessna 185 that had landed at Uganik Lake earlier in the day and damaged a float, and the maintenance technician was called in to inspect the float prior to the airplane returning to Kodiak. He said that after landing, the accident pilot met the crew of the Cessna 185 on the western shore of Uganik Lake, where he dropped off the maintenance technician, and then he departed for Amook Bay.

Witnesses reported seeing the accident airplane back-taxi to the east before it eventually turned around to start the takeoff run to the west, and towards an area of rising, tree-covered terrain. The witnesses consistently reported that after the airplane became airborne, it began a left turn to avoid the rising terrain ahead. As the airplane flew closer to the rising terrain, the left turn steepened, and the airplane began a steep nose down descent. The airplane subsequently struck the shallow waters on the western end of Uganik Lake, and it came to rest partially submerged. The airplane sustained substantial damage to the wings and fuselage.

The witnesses to the accident reported gusty wind conditions, from the west, estimated to be between 15 to 25 knots.

Due to injuries sustained in the accident, the pilot did not recall the accident sequence; however, he did remember back-taxiing the airplane to the east for a westerly departure. He also recalled variable wind conditions, estimated to be 15 knots, with increasing gusts to 25 knots from the west. The pilot stated that to the best of his knowledge there were no preimpact mechanical anomalies with the airplane.

One of the two passengers reported that he was seated in the right front seat, and his wife was seated just behind the pilot on the left side of the airplane. He added that water conditions consisted of 8 to 12

inches of chop on the surface of the water as the pilot started his westerly takeoff run. He said that just after takeoff, the airplane climbed slower than what he was accustomed to from previous flights. He added that as the airplane continued to climb, he could see an area of rising terrain ahead of them. As the airplane approached the area of rising terrain, he said that the pilot turned the airplane very steeply to the left, and then the airplane nosed down abruptly and then began a nosed down, uncontrolled descent into the shallow water below.

## ADDITIONAL INFORMATION

At the time of the accident, the pilot was using a Garmin GPSMAP 496 portable global positioning system (GPS) receiver, capable of storing route-of-flight data. The GPS data logs for September 9, 2016 supported the pilots, passengers, and witness accounts of the accident.

A flight track map overlay, and tabular data corresponding to the accident flight are available in the public docket for this accident.

### Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	31, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	May 6, 2016
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	April 4, 2016
<b>Flight Time:</b>	3262 hours (Total, all aircraft), 364 hours (Total, this make and model), 243 hours (Last 90 days, all aircraft), 82 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	DEHAVILLAND	<b>Registration:</b>	N91AK
<b>Model/Series:</b>	DHC-2	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1954	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	737
<b>Landing Gear Type:</b>	N/A; Float	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>	August 24, 2016 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	26114 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Pratt & Whittney
<b>ELT:</b>	C126 installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	R985
<b>Registered Owner:</b>		<b>Rated Power:</b>	450 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	15 knots / 25 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	270°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Kodiak, AK	<b>Type of Flight Plan Filed:</b>	Company VFR
<b>Destination:</b>	AMOOK BAY, AK (AK81)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	2 Serious	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 Serious	<b>Latitude, Longitude:</b>	57.660556,-153.318893

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Johnson, Clinton		
<b>Additional Participating Persons:</b>	Thomas Tilson ; Federal Aviation Administration; Juneau, AK		
<b>Original Publish Date:</b>	December 3, 2020	<b>Investigation Class:</b>	3
<b>Note:</b>	The NTSB did not travel to the scene of this accident.		
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=93982">https://data.nts.gov/Docket?ProjectID=93982</a>		

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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](#).