



National Transportation Safety Board Aviation Accident Final Report

Location:	NONDALTON, AK	Accident Number:	ANC95FA078A
Date & Time:	06/20/1995, 1645 AKD	Registration:	N1348
Aircraft:	de Havilland DHC-2	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	4 Fatal
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

THE CERTIFICATED AIRLINE TRANSPORT PILOT OF N1348 AND 3 PASSENGERS WERE NORTHWEST BOUND AT 200 FEET OVER A REMOTE RIVER. THE BUSINESS FLIGHT WAS EN ROUTE TO A FISHING LODGE AFTER PICKING UP LODGE CLIENTS FROM A REMOTE LAKE. THE CERTIFICATED COMMERCIAL PILOT AND SOLE OCCUPANT OF N7832H WAS SOUTHBOUND AT 200 FEET OVER THE SAME AREA OF THE RIVER. WITNESSES OBSERVED THE TWO AIRPLANES COLLIDE AND DESCEND INTO THE RIVER. THE WITNESSES DID NOT OBSERVE EITHER AIRPLANE TAKE EVASIVE ACTION. THE WEATHER CONDITIONS WERE REPORTED AS SCATTERED CLOUDS AT 3,500 FEET AND A VISIBILITY OF 25 MILES.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF BOTH PILOTS TO MAINTAIN ADEQUATE VISUAL LOOKOUT.

Findings

Occurrence #1: MIDAIR COLLISION

Phase of Operation: CRUISE

Findings

1. (C) VISUAL LOOKOUT - INADEQUATE - PILOT IN COMMAND
2. (C) VISUAL LOOKOUT - INADEQUATE - PILOT OF OTHER AIRCRAFT

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. TERRAIN CONDITION - WATER

Factual Information

History of the Flight

On June 20, 1995, about 1645 Alaska daylight time, a float equipped De Havilland DHC-2, N1348, collided with a float equipped Piper PA12, N7832H, over the Tazimina River, about 3 miles southeast of Nondalton, Alaska. N1348 was being operated as a visual flight rules (VFR) local area business flight to transport fishing lodge clients from Kukaklek Lake to a lodge at Port Alsworth, Alaska, under Title 14 CFR Part 91. N7832H was being operated as a personal VFR flight from Anchorage, Alaska, to Iliamna, Alaska. Both airplanes were destroyed. The certificated airline transport pilot of N1348 and three passengers sustained fatal injuries. The certificated commercial pilot, the sole occupant of N7832H, also sustained fatal injuries. Visual meteorological conditions prevailed. A VFR flight plan was filed by the pilot of N7832H.

Witnesses reported that they were fishing on the Tazimina river located in the Lake Clark National Preserve, a remote area of Alaska that is accessible only by floatplane or boat. N7832H was observed heading in a southerly direction in level flight, about 200 feet above the river. N1348 was observed heading in a northwesterly direction at the same altitude. Witnesses indicated that prior to the collision, neither aircraft appeared to take any evasive maneuvers.

The accident occurred during the hours of daylight at latitude 59 degrees, 55.70 minutes north and longitude 154 degrees, 48.88 minutes west.

Meteorological Information

The closest official weather observation station is Iliamna, Alaska, which is located 11 nautical miles south of the accident site. At 1650, a surface observation was reporting in part:

Sky condition and ceiling, 3,500 feet scattered, 13,000 feet thin scattered; visibility, 25 miles; temperature, 57 degrees F; dew point, 42 degrees F; wind, 190 degrees at 8 knots; altimeter, 30.09 inHg.

Wreckage and Impact Information

Safety Board investigators examined both airplanes at the accident site on June 21, 1995. The main wreckage of N1348 was located in a river channel of the Tazimina River at latitude 59 degrees, 55.76 minutes N and longitude 154 degrees, 49.02 minutes W in about 4 feet of water. The river current was moving about 6 to 7 knots. The right wing of the airplane separated from its aft attach point and the entire wing was pivoted forward 90 degrees at the forward attach point. It displayed upward and aft crushing at the inboard end of the leading edge and similar aft and upward crushing at the leading edge wingtip. The lift strut remained attached to the wing. The flap and aileron assemblies remain attached to the wing.

The entire left wing of the airplane separated from the fuselage at the inboard attach points and was also separated into two segments about midspan. The inboard half of the wing displayed semi-circular aft crushing and folding of the leading edge about 3 feet, beginning about 2 1/2 feet outboard from the fuselage attach points and curving aft about 5 feet outboard from the forward attach point. The forward face of the wing spar was crushed rearward at the top edge of the spar. The outboard end of the separated wing structure was curved forward of the inboard end of the leading edge. A small section of white metal tubing and a small piece of plexiglass was found embedded in the leading edge of the wing at the lift strut attach point.

The inboard section of the wing flap assembly remained attached to the wing.

The outboard half of the left wing separated about 4 feet inboard of the pitot tube, at a point that was about 2 feet outboard of the landing light housing that was retained in the inboard section. The separated edges of the wing structure displayed forward bending. The outboard end of the wingtip displayed downward and inward folding crushing. The wing position light bulb filament was broken from its support posts but was tightly coiled. The underside of the wing displayed slight white and blue paint smudges from the leading edge to the trailing edge from the pitot tube in an outboard direction about 4 feet. The paint pattern was slightly curved in an inboard direction about midway through the pattern. The left aileron assembly separated from the wing and exhibited buckling about midspan.

The right float assembly separated from its attach points and was downstream from the fuselage about 30 feet. The forward portion of the float was bent to the right about 30 degrees about 6 feet aft of the front of the float. The left float assembly was fragmented and torn open about midway along the longitudinal axis of the float. The tail assembly of the airplane did not display any obvious heavy impact damage.

The engine was crushed in an aft and downward direction about 45 degrees. Evidence of tree bark was found embedded in the engine cylinder cooling fins of the number 8 and number 2 cylinders. The propeller assembly remained connected to the engine crankshaft. One propeller blade was separated about 3 feet outboard from the hub. The second blade exhibited leading edge gouging, torsional twisting, "S" bending and trailing edge gouging about 6 inches inboard from the tip. The third blade was bent aft about 90 degrees, about 8 inches outboard from the hub and exhibited leading edge gouging and torsional twisting.

Due to the condition and point of rest of both airplanes, Safety Board investigators were unable to operate the flight controls of either airplane by their respective control mechanisms.

The fuselage of N7832H was located at latitude 59 degrees, 55.61 minutes N and longitude 154 degrees, 49.00 minutes W. The airplane came to rest inverted in a slough area of the river in about 3 feet of water. The right wing of the airplane remained attached to the airframe and was folded back about 180 degrees onto the top surface of the wing about midspan, just inboard of the wing lift strut attach point. An aft and upward semicircular crush mark was evident on the underside of the leading edge of the wing, just outboard from the forward attach point. The aileron and flap assemblies remained attached to the wing and were also folded along with the wing. The wing position light bulb filament was intact and tightly coiled.

The left wing of the airplane separated from the fuselage at the forward wing attach point. It exhibited tearing of the wing structure oriented on about a 45 degree angle from the inboard leading edge to the trailing edge in an outboard direction, about 3 1/2 feet outboard from the rear wing attach point. The inboard end of the separated forward spar, including the spar caps, exhibited aft bending and buckling. The inboard 3 1/2 feet of the rear spar remained attached to the fuselage carrythrough along with the inboard section of wing flap mechanism. The remaining outboard section of the aft spar that remained with the separated wing, was buckled in an aft direction and exhibited blue paint smudges on the aft surface of the spar.

The aileron remained attached to the separated wing at the inboard end and was buckled about mid-span in an inboard direction. The wing lift strut was separated about midspan. The underside of the leading edge of the wing, about 3 feet outboard from the inboard end exhibited a vertical tear oriented on a 45 degree angle from the leading edge to the trailing edge

in an outboard direction. The landing light bulbs and the wing position light bulb filaments were all intact and tightly coiled.

The tail assembly consisting of the vertical stabilizer, rudder, and elevator, separated from the fuselage just forward of the tail lift handles. The vertical stabilizer and rudder were crushed in an aft direction and folded to the right at the bottom and trailing edge of the assembly.

The left side of the fuselage, just aft of the firewall, displayed semicircular aft and inward crushing. An 8 inch long diagonal tear, oriented at a 45 degree angle from the left outside edge of the fuselage in an inboard direction toward the right front portion of the airplane, was located cutting through the wooden baggage floor and adjacent vertical fuselage tubing.

The right float assembly remained attached to the fuselage. The aft end of the float exhibited about a 30 degree upward bend at the rear float attach point. The aft end of the left float assembly was separated at the aft attach point along a diagonal tear oriented at a 25 degree angle from the bottom of the float in an upward and aft direction. A ten foot long forward portion of the left float remained attached to the fuselage at the float attach points. It exhibited a similar 25 degree diagonal tear in the outboard side of the float below the forward float attach point, parallel to the rear separation point. The distance from the aft edge of the diagonal tear, to the forward edge of the point of separation of the float was 2 feet, 9 inches. Blue paint smudges were noted along the outside surface of the left float assembly.

The propeller assembly remained connected to the engine crankshaft. One propeller blade was bent aft about 90 degrees about midspan. The second blade displayed aft bending about 2 1/2 feet outboard from the hub and then was also bent 90 degrees in an aft direction. The tip of the propeller was separated. Both blades exhibited torsional twisting and extensive leading edge gouging.

Medical and Pathological Information

A postmortem examination of both pilots was conducted by the State of Alaska, Office of the State Medical Examiner, 5500 East Tudor Road, Anchorage, Alaska, on June 21, 1995. A toxicological examination conducted by the medical examiner noted that the pilot of N1348 had a carbon monoxide level of 0.9 percent saturation.

A toxicological examination of the pilot of N7832H revealed a carbon monoxide level of 2.3 percent saturation and an ethanol level of 57 mg/dl in the blood. The examiner noted that no ethanol was detected in the urine. He commented that: "The presence of ethanol in the blood in concentrations as seen here may be due to premortem digestion of beverage alcohol or, postmortem production of ethanol in the blood by microorganisms. The complete absence of ethanol in the urine suggests that postmortem production of ethanol by microorganisms in the blood is the most likely explanation."

The medical examiner elected to not submit samples for a microscopic examination on either pilot.

Additional Information

Wreckage Release

The Safety Board released the wreckage of N1348 on June 22, 1995, and the wreckage of N7832H on June 23, 1995, to the owner's representatives. No parts or components were retained by the NTSB.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	45, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land; Single-engine Sea	Seat Occupied:	Unknown
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	04/04/1995
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	18300 hours (Total, all aircraft), 4000 hours (Total, this make and model), 18300 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	de Havilland	Registration:	N1348
Model/Series:	DHC-2 DHC-2	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	1348
Landing Gear Type:	Float	Seats:	8
Date/Type of Last Inspection:	05/20/1995, Annual	Certified Max Gross Wt.:	5370 lbs
Time Since Last Inspection:	35 Hours	Engines:	1 Reciprocating
Airframe Total Time:	9499 Hours	Engine Manufacturer:	P&W
ELT:	Installed	Engine Model/Series:	R-985-14
Registered Owner:	ALASKA WILDERNESS LODGE INC.	Rated Power:	450 hp
Operator:	ALASKA WILDERNESS LODGE INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ILI, 207 ft msl	Distance from Accident Site:	11 Nautical Miles
Observation Time:	1650 ADT	Direction from Accident Site:	165°
Lowest Cloud Condition:	Scattered / 3500 ft agl	Visibility	25 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	14° C / 6° C
Precipitation and Obscuration:			
Departure Point:	KUKAKLEK LAKE, AK	Type of Flight Plan Filed:	None
Destination:	PORT ALSWORTH, AK	Type of Clearance:	None
Departure Time:	0000	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	3 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	SCOTT R ERICKSON	Report Date:	02/08/1996
Additional Participating Persons:	TOM ALDRIGE; 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 pubin@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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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](#).