



Examination Summary

NTSB ACCIDENT NUMBER: ANC19FA035

AIRCRAFT REGISTRATION/AIRCRAFT TYPE: N68083, de Havilland DHC-2

ACCIDENT LOCATION: Seldovia, AK

HISTORY OF FLIGHT

On July 19, 2019, about 1010 Alaska daylight time, a float-equipped, de Havilland DHC-2 (Beaver) airplane, N68083, sustained substantial damage following a loss of control and impact with ocean waters about 10 miles west of Seldovia, Alaska. The airplane was registered to Rust Properties LLC and operated by Rust's Flying Service as a visual flight rules on-demand commercial flight under the provisions of Title 14 *Code of Federal Regulations* Part 135. The airline transport pilot and three passengers sustained minor injuries, one passenger was uninjured, one passenger sustained serious injuries, and one passenger was fatally injured. Visual meteorological conditions prevailed and company flight following procedures were in effect. The flight departed Tutka Bay about 1005 destined for Lake Hood Seaplane Base (PALH), Anchorage, Alaska.

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Figure 1- Accident airplane after removal from the ocean waters.

AIRCRAFT INFORMATION

- 1958 de Havilland DHC-2 MK. 1
- S/N 1254
- Engine R-985-14B
- Airframe total time in service @ last inspection 16,917.7
- Total time engine @ last inspection 29,448.0
- Total time engine since overhaul 1,331.2

METEOROLOGICAL INFORMATION

The closest official weather observation station to the accident site was Seldovia Airport (PASO), Seldovia, AK, located about 10 miles west of the accident site. At 0953, a METAR was reporting, in part, wind 020° at 7 knots; visibility, 6 statute miles in haze; clouds and sky condition, clear; temperature, 64°F; dew point, 54°F; and an altimeter setting of 29.95 inches of mercury.

Homer Airport (PAHO), Homer, AK, located about 12 miles north of the accident site. At 0953, a METAR was reporting, in part, wind light and variable; visibility, 7 statute miles in

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smoke and haze; clouds and sky condition, clear; temperature, 63°F; dew point, 54°F; and an altimeter setting of 29.96 inches of mercury.

Wreckage Exam - July 20, 2019 Homer, Alaska

NOTE – The pilot reported no preaccident mechanical malfunctions or anomalies with the engine or the primary flight controls that would have precluded normal operation.

Cockpit

- Tach – 917.6
- Hobbs – 2765.5
- Fuel – Center Tank
- Ignition (Magnetos) – Both
- Starter - Off
- Master – On
- Fuel Boost – Off
- Engine Inst – Off
- Turn Coord – Off
- Radio Master – Off
- Strobe Lights – Off
- Landing Lights – Off
- Pitot Heat – On
- Nav Lights – On
- Map Light – On
- Cabin Light – Off
- Inst Lights – Off
- Panel Dimming – Off
- Artex ELT – Arm
- Emergency Carb Air – In
- Flap Indicator – Takeoff Position



Figure 2 - Cockpit of accident airplane.



Figure 3 - Throttle quadrant and wing flap indicator of accident airplane.

Fuselage

- The fuselage was largely intact but sustained damage over the right fuselage door, consistent with the right wing root and wing flap impacting the fuselage during the accident sequence.
- The cockpit seats remained attached and secure.
- Seat belts and shoulder harnesses were available in the cockpit.
- Lap belts were available in the passenger cabin.



Figure 4 - Left side view of accident airplane's fuselage.

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Figure 5 - Right side view of accident airplane's fuselage.



Figure 6 - Right side fuselage damage consistent with the flap and wing root impacting the fuselage during the accident sequence.

Empennage

- The left and right horizontal stabilizer, elevators, vertical stabilizer and rudder, along with both left and right elevator and rudder trim tabs remained attached to their respective attach points and were relatively undamaged.
- Control continuity was established from the elevator to the control yoke.
- Control continuity was established from the rudder to the rudder pedals.



Figure 7 - Empennage of accident airplane.

Right Wing

- The right wing, right aileron, and right lift strut separated from the airframe and were not recovered.
- Aileron control cable continuity was confirmed from the control yoke to the fuselage bell crank push pull tube.
- The right flap separated from the right wing but remained attached to the fuselage.



Figure 8 - Accident airplane's right flap.

Left Wing

- The left wing remained attached to its respective attach points.
- The left wing sustained leading edge impact damage and tearing of the wing's skin about mid-span.
- The left aileron remained attached to its respective attach points and was relatively undamaged.
- The left flap remained attached to its respective attach points and was relatively undamaged.
- The left lift strut remained attached at its attach points but buckled about midspan.
- Aileron control cable continuity was established from the left aileron to the control yoke.



Figure 9 - Accident airplane's left wing, flap, and aileron.

Float Struts

- The left forward float strut remained attached to its attach points.
- The left middle float strut remained attached at its fuselage attach point but separated at its float attach point.
- The left rear float strut separated at its fuselage attach point and partially separated at its float attach point.
- The right forward, middle and rear float struts remained attached to their respective attach points.



Figure 10 - Accident airplane's left side float struts.



Figure 11 - Accident airplane's left side float struts.

Streamlined Tie Rods

- The forward left lower tie rod attachment fitting separated, and the streamlined tie rod (Crossing Wire) exhibited S shaped buckling signatures near its upper attachment point as shown in the photograph below (see figure 12).
- The rear right upper tie rod attachment fitting separated, and the streamlined tie rod (Crossing Wire) exhibited S shaped buckling signatures near its lower attachment point as shown in the photograph below (see figure 13).



Figure 12 - Accident airplane's damaged forward streamlined tie rod.



Figure 13 - Accident airplane's damaged rear streamlined tie rod.

Propeller:

- Hartzell
- 3-Blade
- Model HC-B3R30-4B

Wreckage Exam – August 2, 2019, Alaska Claims Services, Wasilla, AK

Engine

- Was submerged in ocean waters during accident sequence.
- Remained attached to firewall and engine mount.
- Engine control continuity was established from the engine to the cockpit.
- No apparent damage to engine mount.
- Engine turned freely and valve train continuity was established.

Compression Test – Cold after engine had been submerged in saltwater.

- Cylinder 1 – 76/80
- Cylinder 2 – 0/80

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- Cylinder 3 – 0/80
- Cylinder 4 – 0/80
- Cylinder 5 – 23/80
- Cylinder 6 – 1/80
- Cylinder 7 – 0/80
- Cylinder 8 – 4/80
- Cylinder 9 – 0/80

Intercom

- The intercom was tested by applying power to the airplane; however, the test did not yield conclusive results.

Forward Fuselage

- No apparent damage to forward fuselage left or right side – “bird cage”

Floats

- No significant damage to underside of left or right float.

Float Deck Fittings

- The float deck fittings appeared to be the aluminum, part number 56-15145, not the corrosion resistant steel, part number 56-15145-2, see Aerocet Service Letter SL05-56-15145, dated 10/08/2012.

Seats – Seating information obtained from interviews.

Front of Aircraft

Pilot Seat Copilot Seat

Seat #1 Seat #2 – (deceased) Seat #3

Seat #4 Seat #5