



MEMORANDUM

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Aviation Accident Investigator
Alaska Regional Office

Date: August 25, 2018
Subject: Cessna 185 FAA Examination
NTSB Accident Number: ANC18LA059, N185KB

On July 31, 2018, a Cessna 185 experienced an engine partial loss of power while maneuvering in a remote area of northwest Alaska. The airplane sustained substantial damage during the forced landing. Federal Aviation Administration Safety Inspector Peter Alexakis conducted an examination of the airplane after recovery. He was assisted by maintenance personnel in Nome, Alaska. This is a summary of his work and observations made on August 3 and 15.

The pilot's fuel source was the Bering Air Avgas fuel tank. The filter system was up to date and a fuel sample checked clear of contaminants.

The wreckage was recovered to the yard next to Bering Air. Both wing struts, left wing tip, rudder assembly, both landing gear, propeller, nose cone and left engine mount were significantly damaged. The right wing, flaps, ailerons and main fuselage received moderate damage. The windshield was cracked on left upper corner.

Power was applied and airframe hours, fuel quantity and usable fuel left in tanks was identified.

All flight controls moved when the cockpit controls were manipulated, although some movement was restricted due to impact damage. Flight control continuity was established.

The fuel caps were properly installed. Fuel was drained from all fuel sumps and reviewed for contamination. No indication of contamination or clogging was found. The lower fuel strainer had no contaminants present in the fuel or filter. Fuel was in the lines to the strainer. All available line connections were intact with no leaking or obstructions in the fuel system up to the fuel metering valve. Fuel was present from the metering valve to the injectors at each cylinder. With the electric fuel boost pump on, there was positive pressure flow through the airframe and engine fuel system.

The exhaust was crushed on the right lower side cowling and had to be removed with power tools. The exhaust was removed and inspected with no obstructions or leaks found in the exhaust system.

Magneto installation, spark plug wires to all cylinders and subsequent miscellaneous wiring was inspected with no anomalies noted. Ignition timing was verified at 20° TDC, which was appropriate for the engine. Removed all spark plugs and inspected each cylinder with a lighted borescope. The piston domes, cylinders, intake and exhaust valves all exhibited normal wear except for one exhaust valve that exhibited a green thumbnail discoloration indicative of valve burning, however the valve was intact. Spark was produced at each lead when the propeller was rotated by hand and thumb compressions were good.

No mechanical anomalies were noted that would preclude normal engine operation.