Aviation Investigation Final Report

Location:	Kaktovik, Alaska	**Accident Number:**	ANC18LA066
Date & Time:	August 21, 2018, 18:30 Local	**Registration:**	N8041R
Aircraft:	Cessna A185F	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was maneuvering to land at a riverside gravel beach when the engine experienced a loss of power at low altitude. The pilot stated that the engine surged and he was not sure if it was a partial loss of power. He attempted to restore power by advancing the throttle, mixture and propeller controls; however, power was not restored. The pilot continued straight ahead and turned on the auxiliary fuel boost pump, and engine power was restored as the airplane impacted brush-covered terrain, resulting in substantial damage.

The wreckage recovery crew observed almost no fuel in one tank and very little in the other. The pilot stated that fuel leaked out of the low wing fuel vent after the accident and he provided photographic evidence. The precise quantity of usable fuel at the time of the accident could not be determined. Given full fuel tanks at the time of departure and an average fuel flow of 13 gallons per hour, the fuel remaining about the time of the accident should have been about 17 gallons distributed between the two wing tanks, of which 6 gallons was considered unusable. A review of GPS data revealed that the engine experienced the power loss after the pilot performed a steep turn to survey the landing site.

Postaccident examination of the airplane revealed no mechanical malfunctions or failures that would have precluded normal operation. Fuel was present in the fuel system components leading to the engine and the engine operated normally during a test run.

It is likely that, during the steep turn with the airplane's low fuel state, a wing fuel tank pickup was unported, which resulted in an interruption of fuel supply to the engine and a loss of engine power. Due to the airplane's low altitude, the pilot was unable to restore power before impact with terrain.

Probable Cause and Findings

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

A loss of engine power due to fuel starvation during a steep turn with a low fuel state.

Findings

Aircraft	Fuel - Fluid level

Factual Information

History of Flight

Maneuvering-low-alt flying	Fuel starvation
Approach-VFR pattern downwind	Loss of engine power (partial) (Defining event)

On August 21, 2018, about 1830 Alaska daylight time, a Cessna 185 airplane, N8041R, sustained substantial damage when it was involved in an accident near Kaktovik, Alaska. The airline transport pilot was uninjured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot stated that he was on a multi-leg trip to find a hunting camp along the remote Kangakut River. Before the flight, he filled the fuel tanks to capacity (84 gallons total /78 gallons usable.) Before the third leg of the trip, he checked the fuel tank levels with a dipstick, which indicated about 15 gallons in each tank. At the end of the third leg of the trip, while approaching a river gravel bar, the engine lost power and the pilot was forced to make a landing straight ahead. He advanced the throttle to full and confirmed that the mixture and propeller controls were in the full forward position. The propeller was windmilling. As he approached the landing surface, he activated the auxiliary fuel pump and engine power was restored; however, the airplane was too low to recover, and it impacted the brush-covered terrain. The main landing gear sheared off and the airplane slid off the riverbank, resulting in substantial damage to the fuselage, left elevator and right lift strut.

The airplane was recovered and examined. The engine was intact and attached to the airframe. There was no damage to the engine, lines or accessories observed. The propeller rotated smoothly when turned by hand. Fuel was present in the fuel filter bowl and line to the engine. The wings were removed during the recovery; the recovery crew noted very little fuel in one tank and none in the other. The pilot stated that he observed a fuel leak from the left wing fuel vent at the accident scene and provided photographic evidence. After replacing the damaged propeller and supplying fuel to the engine, a test run of the engine revealed no anomalies.

The pilot provided GPS data from the flight, which indicated that the airplane flew for a total of 4.5 hours before the accident. The Cessna 185 pilot operating handbook indicated a fuel consumption rate between 11.1 gallons and 14.2 gallons per hour for cruise conditions at 2,500 ft mean sea level, between 2,200 and 2,400 rpm and 22 and 24 inches manifold pressure.

The GPS data indicated that the loss of power occurred after the pilot completed two tight turns over the intended landing area. The last turn was to the left at a rate of 6.4° per second, over twice that of a standard-rate turn.

Pilot Information

Certificate:	Airline transport; Flight engineer	**Age:**	36,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	November 1, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	January 23, 2018
Flight Time:	3450 hours (Total, all aircraft), 278 hours (Total, this make and model), 1074 hours (Pilot In Command, all aircraft), 82 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N8041R
Model/Series:	A185F F	**Aircraft Category:**	Airplane
Year of Manufacture:	1973	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18502098
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	July 10, 2018 Annual	**Certified Max Gross Wt.:**	12499 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	5920.13 Hrs at time of accident	**Engine Manufacturer:**	CONT MOTOR
ELT:	C126 installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-520-D
Registered Owner:		**Rated Power:**	300 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PARC,2092 ft msl	**Distance from Accident Site:**	109 Nautical Miles
Observation Time:	18:56 Local	**Direction from Accident Site:**	232°
Lowest Cloud Condition:	Scattered / 2400 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 5000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	40°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.8 inches Hg	**Temperature/Dew Point:**	9°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Kaktovik, AK	**Type of Flight Plan Filed:**	None
Destination:	Kaktovik, AK	**Type of Clearance:**	None
Departure Time:	17:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	69.263885,-141.72332(est)

Administrative Information

Investigator In Charge (IIC):	Price, Noreen		
Additional Participating Persons:	Dustin Hopkins; FAA; Fairbanks, AK		
Original Publish Date:	May 27, 2021	**Investigation Class:**	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98127		