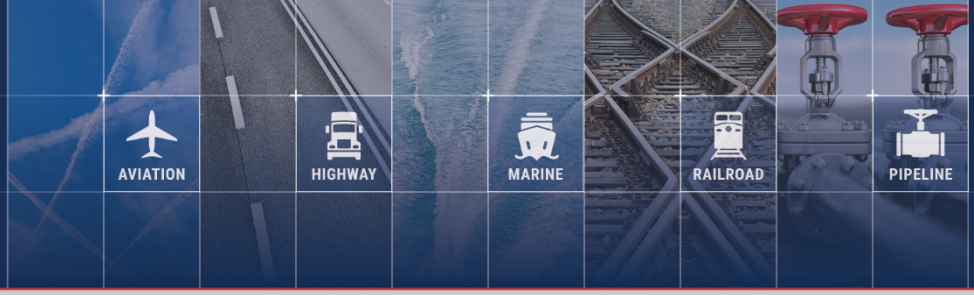

Aviation Investigation Final Report

Location:	Hope, Alaska	**Accident Number:**	ANC19LA027
Date & Time:	June 11, 2019, 22:30 Local	**Registration:**	N10CJ
Aircraft:	Helio H391	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was conducting a local flight when the engine started to surge and run rough. He attempted to troubleshoot the problem, but was not able to restore engine power and located a precautionary landing site at an abandoned airstrip. During the landing roll, the airplane drifted right, and the right wing impacted vegetation, which resulted in a ground loop and substantial damage to the airplane.

A postaccident examination of the engine, airframe, and propeller revealed no anomalies that would have precluded normal operation, and the reason for the partial loss of engine power could not be determined.

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 directional control during a precautionary landing, which resulted in a ground loop. Contributing to the accident was a partial loss of engine power for reasons that could not be determined.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Directional control - Not attained/maintained
Aircraft	Powerplant parameters - Unknown/Not determined
Environmental issues	Runway/landing area condition - Contributed to outcome

Factual Information

History of Flight

Enroute-cruise	Loss of engine power (partial) (Defining event)
Landing-landing roll	Loss of control on ground
Landing-landing roll	Collision with terr/obj (non-CFIT)

On June 11, 2019, about 2230 Alaska daylight time, a Helio H-391B airplane, N10CJ, sustained substantial damage when it was involved in an accident near Hope, Alaska. The private pilot and pilot-rated passenger were uninjured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot stated that, while flying over a natural gas pipeline, the engine started to surge and run rough, and the engine manifold pressure decreased. He cycled the throttle lever, increased the mixture lever to full rich, and turned on the electric fuel boost pump, but full power was not restored. The pilot-rated passenger pulled the carburetor heat lever out (carburetor heat on) with no effect on engine performance. The pilot was able to maintain altitude, but engine power was limited, so he searched for a precautionary landing site. He located an abandoned airstrip along the pipeline road and performed an approach to the north. The pilot reported that during the approach, he reduced power too late, which resulted in an overshoot of the best landing area, and that the airplane drifted right during the landing. During the landing roll, the right wingtip impacted vegetation, and the airplane ground looped and impacted trees, resulting in substantial damage to the left aileron and both sides of the stabilator.

The pilot stated that the engine surged slightly during the takeoff before the accident, but not enough to concern him. About two months before the accident, the airplane experienced a surge and partial loss of power during takeoff. A mechanic inspected the engine and conducted compression tests with no anomalies noted.

After the accident, the engine was intact and attached to the airframe with all fuel, oil, ignition and air lines secure. A fuel sample drained from the gascolator contained no contamination and was consistent with aviation fuel. The fuel filter was clear of debris. Continuity of the engine and the flight control system was established. The propeller blades were secure in the hub with no oil leaks observed. The engine started and accelerated smoothly and the propeller control cycled three times with corresponding change in manifold pressure, rpm, and oil pressure. The rpm was advanced to a maximum of 3,400 rpm for 5 seconds with no surges noted.

The propeller governor (Hartzell B-3) was removed and bench-tested at a Hartzell facility with no anomalies noted.

There was no evidence of any preexisting engine, propeller, or airframe discrepancies that would have precluded normal operation.

Pilot Information

Certificate:	Private	**Age:**	65,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	BasicMed With waivers/limitations	**Last FAA Medical Exam:**	May 6, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1628 hours (Total, all aircraft), 225 hours (Total, this make and model), 1628 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Pilot-rated passenger Information

Certificate:	Private	**Age:**	54,Female
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):		**Second Pilot Present:**	Yes
Instructor Rating(s):		**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	December 14, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Helio	**Registration:**	N10CJ
Model/Series:	H391 B	**Aircraft Category:**	Airplane
Year of Manufacture:	1958	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	099
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	December 21, 2018 Annual	**Certified Max Gross Wt.:**	3000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4481 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	GO-435-C2B2-6
Registered Owner:	On file	**Rated Power:**	260 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:	PANC,132 ft msl	**Distance from Accident Site:**	21 Nautical Miles
Observation Time:	05:53 Local	**Direction from Accident Site:**	358°
Lowest Cloud Condition:	Few / 5500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 25000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	16 knots / 27 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	150°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.79 inches Hg	**Temperature/Dew Point:**	17°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Nikishka, AK (AK73)	**Type of Flight Plan Filed:**	None
Destination:	Nikishka, AK (AK73)	**Type of Clearance:**	None
Departure Time:	21:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	60.811943,-150.00666(est)

Administrative Information

Investigator In Charge (IIC):	Price, Noreen
Additional Participating Persons:	David Longan; Federal Aviation Administration; Juneau, AK
Original Publish Date:	July 15, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99700