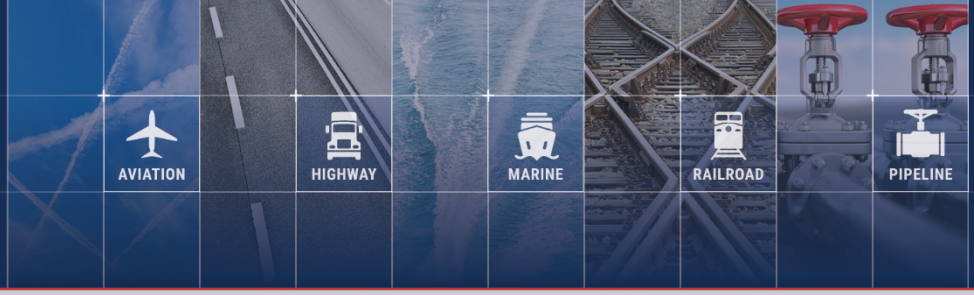

Aviation Investigation Final Report

Location:	Sterling, Alaska	**Accident Number:**	ANC21LA047
Date & Time:	June 28, 2021, 15:30 Local	**Registration:**	N98109
Aircraft:	Piper J3C-65	**Aircraft Damage:**	Substantial
Defining Event:	Unknown or undetermined	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, while en route, the engine lost partial power, and he was unable to restore full power. During the subsequent off-airport landing, the airplane nosed over and came to rest inverted, resulting in substantial damage to the empennage and right wing.

A postaccident examination revealed no mechanical failures or malfunctions that would have precluded normal operation. According to the carburetor icing-probability chart located in the Federal Aviation Administration Special Airworthiness Information Bulletin CE-09-35, the accident flight would likely have been operating in conditions conducive to “serious icing in cruise power”; however, the pilot reported that he applied carburetor heat following the loss of power. The reason for the loss of power could not be determined based on the available information.

Probable Cause and Findings

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

A partial loss of engine power for reasons that could not be determined based on the available information.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Unknown	Unknown or undetermined (Defining event)

On June 28, 2021, about 1530 Alaska daylight time, a Piper J3C-65 airplane, N98109, was substantially damaged when it was involved in an accident near Sterling, Alaska. The pilot and one passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot, he fueled the airplane to capacity 2 days before the accident but had not flown the airplane since. On the day of the accident, he drained "minimal" water from the right-wing fuel tank during his preflight inspection. He added 1 quart of oil to the engine, for a total of 7 quarts. He noted that all the before takeoff checks were normal.

While en route, the airplane reached an altitude of about 2,900 ft mean sea level as the pilot planned to cross an ocean channel. The pilot reported that the engine began to "cough, sputter and make popping noises with a loss of power." He began troubleshooting, including turning the carburetor heat control to ON, and looking for landing sites. He stated that during the descent, the engine would make intermittent power but only for brief periods of time.

The pilot notified air traffic control of the emergency and maneuvered the airplane for landing to an area of tundra. During the landing the airplane nosed over and came to rest inverted. The airplane sustained substantial damage to the empennage and right wing. The airframe and engine were examined, and no mechanical failures or malfunctions were observed.

The nearest weather observation station, located about 25 miles away, reported a temperature of 59°F and dew point of 46.4°F about the time of the accident. According to the carburetor icing probability chart located in the Federal Aviation Administration Special Airworthiness Information Bulletin CE-09-35, the accident flight would likely have been operating in conditions conducive to "serious icing in cruise power."

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor; Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	March 25, 2021
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 21, 2021
Flight Time:	(Estimated) 13990 hours (Total, all aircraft), 30 hours (Total, this make and model), 11100 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1.4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N98109
Model/Series:	J3C-65	**Aircraft Category:**	Airplane
Year of Manufacture:	1946	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18268
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	April 25, 2021 Annual	**Certified Max Gross Wt.:**	1320 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3231 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	O-290-D2
Registered Owner:	On file	**Rated Power:**	135 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:	PASX,113 ft msl	**Distance from Accident Site:**	25 Nautical Miles
Observation Time:	15:56 Local	**Direction from Accident Site:**	235°
Lowest Cloud Condition:	Scattered / 6500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	270°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.09 inches Hg	**Temperature/Dew Point:**	15°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Homer, AK (HOM)	**Type of Flight Plan Filed:**	VFR
Destination:	Anchorage, AK (LHD)	**Type of Clearance:**	None
Departure Time:	14:30 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	60.716937,-150.33359(est)

Administrative Information

Investigator In Charge (IIC):	Swenson, Eric
Additional Participating Persons:	Frederick Adams; FAA; Juneau, AK
Original Publish Date:	November 4, 2022
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=103376