



Aviation Investigation Final Report

Location:	Anchorage, Alaska	Accident Number:	ANC19LA011
Date & Time:	January 22, 2019, 09:15 Local	Registration:	N7640D
Aircraft:	Piper PA-22-150	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (partial)	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that while in level cruise flight he noticed the smell of burning oil, which was immediately followed by a change in engine sound, followed by a partial loss of engine power. The engine continued to lose power and the pilot selected a snow-covered beach as a forced landing site. During touchdown, as the airplane's main landing gear wheels contacted an area of deep snow, it abruptly nosed over, sustaining substantial damage to the wings, fuselage, and empennage.

Examination of the engine revealed that there was no engine oil in the sump. An oil cooler B-nut, which was located on the right side of the oil cooler, was found loose, and there was a significant oil streaking on the right side of the fuselage. Review of maintenance records revealed that there had been no recent maintenance activity to the oil cooler or other engine components adjacent to the loose B-nut. Given the accident pilot's account of the accident, along with the discovery of the loose oil cooler B-nut, it is likely that the engine failed due to oil starvation after all engine oil was lost through the loose B-nut.

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 oil starvation as the result of a loose B-nut fitting on the engine oil cooler, resulting in a forced landing to a soft, snow-covered surface, and a subsequent nose over.

Findings

Aircraft	Oil - Fluid level
Environmental issues	Soft surface - Contributed to outcome
Aircraft	Cooler - Not serviced/maintained

Factual Information

History of Flight

Enroute-cruise	Loss of engine power (partial) (Defining event)
Emergency descent	Loss of engine power (partial)
Landing-flare/touchdown	Nose over/nose down

On January 22, 2019, about 0915 Alaska standard time, a Piper PA-22-150 airplane, N7640D, sustained substantial damage when it was involved in an accident near Anchorage, Alaska. The private pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that while in level cruise flight over the tidal waters of the Cook Inlet, he noticed the smell of burning oil, which was immediately followed by a change in engine sound. He turned the airplane 180° to return to the southern shoreline of the Cook Inlet, and as the airplane approached the shoreline, the engine began to run rough and lose power. As the airplane passed over the shoreline, the engine continued to lose power and the pilot selected a snow-covered beach as a forced landing site. During touchdown, as the airplane's main landing gear wheels contacted an area of deep snow, it abruptly nosed over, sustaining substantial damage to the wings, fuselage, and empennage.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed a loose oil cooler B-nut located on the right side of the oil cooler. The FAA inspector also reported that there was significant oil streaking on the right side of the fuselage extending from the engine cowling to the empennage. The engine dipstick revealed no engine oil in the sump. A review of the accident airplane's maintenance records revealed that there was no recent maintenance activity to the oil cooler or other engine components adjacent to the loose B-nut.

In a follow-up conversation with the FAA inspector, the pilot noted that during his preflight, just before the accident flight, there were no oil leaks found, and that he routinely checked around the oil cooler during every preflight.

Pilot Information

Certificate:	Private	Age:	60, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Unknown	Last FAA Medical Exam:	August 29, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	710 hours (Total, all aircraft), 710 hours (Total, this make and model), 685 hours (Pilot In Command, all aircraft), 23 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N7640D
Model/Series:	PA-22-150	Aircraft Category:	Airplane
Year of Manufacture:	1957	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-5349
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	September 14, 2018 Annual	Certified Max Gross Wt.:	2000 lbs
Time Since Last Inspection:	40 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2030 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	O-320 SERIES
Registered Owner:	J & H Sewing & Vacuum Inc	Rated Power:	150 Horsepower
Operator:	J & H Sewing & Vacuum Inc	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dawn
Observation Facility, Elevation:	PANC,1 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	08:00 Local	Direction from Accident Site:	183°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	Overcast / 10000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	15 knots / 20 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	35°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.92 inches Hg	Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Soldotna , AK (SXQ)	Type of Flight Plan Filed:	None
Destination:	Anchorage , AK (LHD)	Type of Clearance:	None
Departure Time:	08:10 Local	Type of Airspace:	

Airport Information

Airport:	Soldotna SXQ	Runway Surface Type:	Snow
Airport Elevation:	113 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	60.903331,-150.1636(est)

Administrative Information

Investigator In Charge (IIC):	Johnson, Clinton
Additional Participating Persons:	Mathew Dahl; FAA - Juneau Flight Standards District Office; Juneau, AK
Original Publish Date:	December 14, 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=98850

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).