



National Transportation Safety Board Aviation Accident Data Summary

Location:	Garden Valley, ID	Accident Number:	WPR13LA304
Date & Time:	07/02/2013, 0800 MDT	Registration:	N39796
Aircraft:	DORMAN BAKENG	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

In the days just preceding the accident, the owner-pilot made several uneventful flights in the experimental amateur-built airplane, which was equipped with an aircraft engine and an automotive performance/racing oil cooler. On the morning of the accident, the owner's brother joined him at a remote turf airstrip in mountainous terrain to conduct a flight. The brother, who was also a pilot, took the aft cockpit seat, which was the primary pilot position in the airplane. The owner took the forward cockpit seat. The brother conducted the engine start, taxi-out, run-up, and takeoff, which were all normal. During the climbout, the owner realized that the airplane was not performing as it should, and, when he asked his brother about it, his brother reported that the engine was losing power. The owner took control of the airplane and began a turnback to the airport, and the engine lost total power shortly thereafter. An attempt to restart the engine was unsuccessful, and the airplane landed short of the runway.

Examination of the airport revealed an oil spray trail on the turf that began at the parking location and extended along the taxi route and through the takeoff path. Postaccident examination of the airplane revealed a significant oil streak on the exterior side of the airplane that emanated from the oil cooler. The engine was also devoid of oil. Detailed examination of the oil cooler revealed deformation of its containment frame and damage to some of the unit's oil tubes, which included separation of the cooling fins from the tubes and several holes in the tubes that permitted oil to escape the cooler. The damage signatures were not consistent with preaccident or postaccident impact or other structural deformation damage. The damage signatures were somewhat, but not completely, consistent with an internal overpressure of the oil cooler; however, the reasons for the internal overpressure could not be determined during postaccident examination.

Flight Events

Enroute-climb to cruise - Powerplant sys/comp malf/fail
Enroute-climb to cruise - Loss of engine power (total)
Enroute-climb to cruise - Off-field or emergency landing

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
A mechanical failure of the oil cooler, which resulted in a complete loss of oil and engine power.

Findings

Aircraft-Aircraft power plant-Eng oil sys (airframe furnish)-Cooler-Failure - C
Aircraft-Fluids/misc hardware-Fluids-Oil-Fluid level - C
Aircraft-Aircraft power plant-Engine (reciprocating)-Recip eng oil sys-Damaged/degraded - C

Pilot Information

Certificate:	Private	Age:	57
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	486 hours (Total, all aircraft), 69 hours (Total, this make and model), 486 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	Age:	0
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	133 hours (Total, all aircraft), 44 hours (Total, this make and model), 80 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	DORMAN	Registration:	N39796
Model/Series:	BAKENG Deuce	Engines:	1 Reciprocating
Operator:	On file	Engine Manufacturer:	Lycoming
Air Carrier Operating Certificate:	None	Engine Model/Series:	O-320-B2D
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Observation Facility, Elevation:		Weather Information Source:	Pilot
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	Calm
Temperature:	24° C	Visibility	20 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Garden Valley, ID (U88)	Destination:	Garden Valley, ID (U88)

Airport Information

Airport:	Garden Valley (U88)	Runway Surface Type:	
Runway Used:	N/A	Runway Surface Condition:	Rough; Vegetation
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Michael C Huhn	Adopted Date:	08/25/2015
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=87365		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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