



Aviation Investigation Final Report

Location:	Evanston, Wyoming	Accident Number:	GAA18CA330
Date & Time:	May 31, 2018, 17:45 Local	Registration:	N81973
Aircraft:	SORENSEN DANNY S BF9 2	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of the biplane reported that he believed he had departed with 38 gallons of fuel in the main fuel tank and 17 gallons in the auxiliary fuel tank. En route, the auxiliary fuel tank ran dry, so he switched to the main fuel tank, which he believed had 35 gallons of fuel remaining.

The pilot reported that, while descending to the destination airport, the engine experienced a loss of power. He added that he believed the throttle linkage had broken and that the carburetor was at idle. During the forced landing, he aligned the airplane with a highway and observed four semi-tractor trailers but thought they were ahead of his flightpath. The biplane struck one of the semi-tractor trailers, violently turned right, and then came to rest inverted on the right side of the highway.

The biplane sustained substantial damage to the left wings.

Postaccident examination revealed that the main fuel tank was empty, and the throttle linkage was intact. The pilot reported that his typical fueling process is to fuel the main fuel tank before fueling the auxiliary fuel tank. He added that he reviewed fuel receipts and found that, before the accident flight, he fueled the auxiliary fuel tank first and, while following his routine, believed that the main fuel tank had already been fueled. This resulted in a departure with 10 gallons of fuel less than planned.

The pilot reported that there were no preaccident mechanical failures or malfunctions with the biplane that would have precluded normal operation.

Probable Cause and Findings

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

The pilot's failure to fuel the biplane's main fuel tank before the flight and his inadequate preflight inspection, during which he did not verify the fuel quantity, which resulted in fuel exhaustion

Findings

Aircraft	Fuel - Fluid level
Personnel issues	Fuel planning - Pilot
Personnel issues	Preflight inspection - Pilot
Environmental issues	Ground vehicle - Contributed to outcome

Factual Information

History of Flight

Prior to flight	Aircraft servicing event
Enroute	Fuel exhaustion (Defining event)
Landing	Loss of engine power (total)
Landing	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)
Landing	Nose over/nose down

Pilot Information

Certificate:	Commercial	Age:	68,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	May 18, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 5, 2016
Flight Time:	(Estimated) 2016 hours (Total, all aircraft), 310 hours (Total, this make and model), 1980 hours (Pilot In Command, all aircraft), 33 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SORENSEN DANNY S	Registration:	N81973
Model/Series:	BF9 2 NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	2008	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	24601-001
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	March 23, 2018 Condition	Certified Max Gross Wt.:	2250 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	309.8 Hrs at time of accident	Engine Manufacturer:	Vendenyev
ELT:	C126 installed, not activated	Engine Model/Series:	M-14P
Registered Owner:		Rated Power:	360 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:	KEVW, 7163 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	23:53 Local	Direction from Accident Site:	309°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	19 knots / 25 knots	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.82 inches Hg	Temperature/Dew Point:	22°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LONGMONT, CO (LMO)	Type of Flight Plan Filed:	None
Destination:	EVANSTON, WY (EVW)	Type of Clearance:	None
Departure Time:	15:00 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	41.254165,-110.999725(est)

Administrative Information

Investigator In Charge (IIC):	Benhoff, Kathryn
Additional Participating Persons:	Destin Hinton; FAA; Salt Lake City, UT
Original Publish Date:	November 5, 2018
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97419

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