



Aviation Investigation Final Report

Location:	Deming, New Mexico	Accident Number:	WPR19LA101
Date & Time:	March 23, 2019, 11:30 Local	Registration:	N254PM
Aircraft:	DENNIS I ZUMBALT SKY BOLT	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Before takeoff, the pilot fueled the airplane's main header fuel tank with 25 gallons of automotive fuel. Shortly after takeoff, about 400 ft above ground level, the engine lost total power. The pilot performed a forced landing to a dirt field, during which the airplane landed hard and impacted a sand dune, resulting in substantial damage.

Examination of the fuel system revealed that the fuel selector was selected to the AUX/wing fuel tank position. The pilot stated that he never fueled the AUX/wing tank, and that he only filled and operated off the main header tank. The pilot reported, and examination confirmed, that there were no mechanical malfunctions with the airplane that would have precluded normal operation. The accident is consistent with a total loss of engine power due to fuel starvation as a result of the pilot's failure to correctly position the fuel selector prior to departure.

Probable Cause and Findings

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

The pilot's failure to properly position the fuel selector before takeoff, which resulted in a total loss of engine power due to fuel starvation.

Findings

Personnel issues	Forgotten action/omission - Pilot
Aircraft	Fuel - Fluid management
Personnel issues	Use of equip/system - Pilot
Environmental issues	Rough terrain - Contributed to outcome

Factual Information

History of Flight

Initial climb	Fuel starvation (Defining event)
Emergency descent	Off-field or emergency landing

On March 23, 2019, about 1130 mountain daylight time, an experimental, amateur-built Sky Bolt airplane, N254PM, was substantially damaged when it was involved in an accident near Deming, New Mexico. The pilot was seriously injured. The airplane was being operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he was departing on a local flight when the engine lost total power near the end of the runway at an altitude of about 400 ft above ground level. The pilot turned left and lowered the nose to maintain airspeed. Unable to make it back to the runway, the pilot made a sharp right turn and the airplane touched down in an open dirt area and traveled about 50 ft before it collided with a sand dune, then came to a complete stop upright. As a result of the landing sequence, the airplane sustained structural damage to the upper wing spar, the right lower wing panel, and the forward section of the fuselage. The pilot reported that he took off with 25 gallons of automotive fuel onboard, which he added to the main header tank before takeoff. The pilot further reported no mechanical issues with the airplane or engine before departure.

The fuel selector was found in the AUX/wing tank position following the accident. Examination of the airframe and engine revealed no evidence of any preimpact mechanical malfunctions or anomalies that would have precluded normal operation.

During a follow-up telephone interview, the pilot stated that he never fueled the AUX/wing tank, and that he only filled and operated off the main header tank.

Pilot Information

Certificate:	Commercial	Age:	65,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	January 13, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 24, 2018
Flight Time:	1600 hours (Total, all aircraft), 50 hours (Total, this make and model), 1423 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DENNIS I ZUMBALT	Registration:	N254PM
Model/Series:	SKY BOLT	Aircraft Category:	Airplane
Year of Manufacture:	2003	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1ZB
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	O-540
Registered Owner:		Rated Power:	
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KDMN,4314 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	11:53 Local	Direction from Accident Site:	45°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.13 inches Hg	Temperature/Dew Point:	16°C / -5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Deming, NM (na)	Type of Flight Plan Filed:	None
Destination:	Deming, NM (na)	Type of Clearance:	None
Departure Time:	11:30 Local	Type of Airspace:	Class E

Airport Information

Airport:	Private airstrip	Runway Surface Type:	Dirt
Airport Elevation:		Runway Surface Condition:	Unknown
Runway Used:	28	IFR Approach:	None
Runway Length/Width:	4200 ft / 75 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	32.260242,-107.749702(est)

Administrative Information

Investigator In Charge (IIC):	Little, Thomas		
Additional Participating Persons:	Steve Poiani; Federal Aviation Administration; Albuquerque, NM Mark Platt; Lycoming Engines; Williamsport, PA		
Original Publish Date:	January 20, 2022	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=99179		

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