



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Fairfield, Utah	<b>Accident Number:</b>	WPR23LA324
<b>Date &amp; Time:</b>	August 23, 2023, 07:05 Local	<b>Registration:</b>	N989PA
<b>Aircraft:</b>	Diamond DA20	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

The flight instructor reported that while conducting a simulated engine failure, the student terminated the maneuver, with the fuel mixture leaned, by advancing the throttle. The engine did not respond with full power, and the flight instructor then “advanced” the mixture. The engine subsequently lost total power. The flight instructor attempted but could not restart the engine. The flight instructor then selected an off-airport landing site, and during the landing roll, the airplane impacted a dirt “berm” which resulted in substantial damage to the fuselage.

Postaccident examination of the airplane by the flight instructor revealed the mixture was not in the full rich position and the fuel pump switch was not in the on position, which was contrary to the checklist for engine failure after takeoff procedures.

According to the owner, who conducted a postaccident engine test run, the engine exhibited no mechanical malfunctions or anomalies that would have precluded normal operations.

## Probable Cause and Findings

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

The flight pilots improper fuel management, which resulted a total loss of engine power, and impact with terrain during an off-airport landing. Contributing to the accident was the flight instructor’s failure to follow the airplane checklist.

## Findings

Personnel issues	Incorrect action selection - Instructor/check pilot
Personnel issues	Lack of action - Instructor/check pilot

## Factual Information

### History of Flight

<b>Enroute-descent</b>	Loss of engine power (total) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing

### Flight instructor Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	44,Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	June 14, 2023
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	June 22, 2023
<b>Flight Time:</b>	1347 hours (Total, all aircraft), 279 hours (Total, this make and model), 1306 hours (Pilot In Command, all aircraft), 61 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

### Student pilot Information

<b>Certificate:</b>	Student	<b>Age:</b>	34,Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	May 10, 2023
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	44 hours (Total, all aircraft), 44 hours (Total, this make and model), 17 hours (Pilot In Command, all aircraft), 34 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Diamond	<b>Registration:</b>	N989PA
<b>Model/Series:</b>	DA20	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2002	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	C0189
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	August 18, 2023 100 hour	<b>Certified Max Gross Wt.:</b>	1764 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	9948.5 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	C126 installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-240-B3B
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	125 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KPVU, 4497 ft msl	<b>Distance from Accident Site:</b>	19 Nautical Miles
<b>Observation Time:</b>	08:56 Local	<b>Direction from Accident Site:</b>	110°
<b>Lowest Cloud Condition:</b>	Few / 10000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>		<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.23 inches Hg	<b>Temperature/Dew Point:</b>	20°C / 14°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Spanish Fork, UT (SPK)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Spanish Fork, UT (SPK)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	06:30 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	40.114046,-112.06212(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Salazar, Fabian
<b>Additional Participating Persons:</b>	Andy Crockett; Federal Aviation Administration; Salt Lake City, UT
<b>Original Publish Date:</b>	July 11, 2024
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=192945">https://data.ntsb.gov/Docket?ProjectID=192945</a>

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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](#).