



Aviation Investigation Final Report

Location:	Pagosa Springs, Colorado	Accident Number:	CEN18LA381
Date & Time:	September 19, 2018, 10:00 Local	Registration:	N8003W
Aircraft:	Piper PA28	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The airline transport pilot rated flight instructor was introducing engine failure emergency procedures to the student pilot. Emergency procedures were reviewed inflight. The flight instructor then reduced the engine power to idle to simulate a loss of engine power. The student pilot conducted the emergency procedures on the left side of the cockpit that included switching the fuel tank selector position from right to left. The engine sputtered when the flight instructor subsequently added power to go around about 600 ft above the ground. The engine sputtered. Emergency procedures were reviewed again and the fuel pressure indication was zero. The flight instructor subsequently performed a forced landing where the airplane impacted fencing and ditches and came to rest in a field. Following the accident, the flight instructor noticed the fuel selector valve was about 1.5 to 2 inches between the left detent and off positions.

No preimpact mechanical malfunctions or failures with the airframe and engine that would have precluded normal operation were reported by the flight instructor and the engine was operational during a subsequent examination of the accident airplane at the accident site.

It is likely the student pilot, while conducting the emergency procedure, mismanaged the positioning of the fuel selector valve. While the student pilot was conducting the emergency procedure, the flight instructor did not adequately supervise the student pilot to ensure the fuel selector valve was properly set to the correct position.

Probable Cause and Findings

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

The student pilot's mismanagement of the fuel selector valve during the simulated forced landing demonstration and the flight instructor's inadequate supervision to ensure the fuel selector was properly set, which resulted in a loss of engine power and subsequent forced landing on unsuitable terrain.

Findings

Aircraft	Fuel - Fluid management
Personnel issues	Use of equip/system - Student/instructed pilot
Personnel issues	Monitoring other person - Instructor/check pilot
Environmental issues	Fence/fence post - Contributed to outcome
Environmental issues	Rough terrain - Contributed to outcome

Factual Information

History of Flight

Maneuvering	Fuel starvation (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)

On September 19, 2018, about 1000 mountain daylight time, a Piper PA28 180 airplane, N8003W, impacted fencing and terrain during a forced landing near Pagosa Springs, Colorado, following an inflight loss of engine power. The airline transport pilot rated flight instructor and the student pilot were uninjured. The airplane sustained substantial damage during the impact with fencing. The airplane was registered to and operated by San Juan Flyers Inc. as a Title 14 *Code of Federal Regulations* Part 91 instructional flight. Day visual meteorological conditions prevailed in the area about the time of the accident, and the flight was not operated on a flight plan. The local flight originated from the Stevens Field Airport, near Pagosa Springs, Colorado, about 0900.

According to the flight instructor's accident report, the flight instructor was introducing engine failure emergency procedures to the student pilot. Emergency procedures were reviewed inflight, the instructor located a landing spot, and pulled the throttle to idle to simulate a loss of engine power. The student pilot conducted the emergency procedures on the left side of the cockpit that included switching the fuel tank selector position from right to left, verifying the primer was in and locked, turning on the fuel pump, checking magneto operation, and turning the carburetor heat on. The flight instructor subsequently added power to go around about 600 ft above the ground. The engine sputtered. Emergency procedures were reviewed again and the flight instructor noticed that the fuel pressure indication was zero. The flight instructor did not check the fuel selector nor could the selector be seen due to its location. The flight instructor subsequently performed a forced landing during which the airplane impacted fencing and ditches before coming to rest in a field. Following the accident, the flight instructor observed the fuel selector valve was about 1.5 to 2 inches between the left detent and off positions.

Subsequent to the accident, a Federal Aviation Administration inspector examined the accident airplane at the accident site. The airplane's engine was started, and the engine was operational.

The flight instructor reported no preimpact mechanical malfunctions or failures with the airframe and engine that would have precluded normal operation and had a safety recommendation to double check the fuel selector valve position during the forced landing demonstration.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	57,Female
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	November 21, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	10000 hours (Total, all aircraft), 500 hours (Total, this make and model), 9800 hours (Pilot In Command, all aircraft), 54 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	None	Age:	62,Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	March 26, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	3.4 hours (Total, all aircraft), 3.4 hours (Total, this make and model), 3.4 hours (Last 90 days, all aircraft), 3.4 hours (Last 30 days, all aircraft), 0.6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N8003W
Model/Series:	PA28 180	Aircraft Category:	Airplane
Year of Manufacture:	1964	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-2063
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	May 18, 2018 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5125 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91 installed, not activated	Engine Model/Series:	O-360-A4A
Registered Owner:		Rated Power:	180 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KPSO, 7661 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	10:55 Local	Direction from Accident Site:	309°
Lowest Cloud Condition:	Scattered / 10000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.21 inches Hg	Temperature/Dew Point:	21°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pagosa Springs, CO (PSO)	Type of Flight Plan Filed:	None
Destination:	Pagosa Springs, CO (PSO)	Type of Clearance:	None
Departure Time:	09:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Stevens Field PSO	Runway Surface Type:	
Airport Elevation:	7663 ft msl	Runway Surface Condition:	Rough
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	37.230278,-106.967224(est)

Administrative Information

Investigator In Charge (IIC):	Malinowski, Edward
Additional Participating Persons:	Bret Proud; Federal Aviation Administration; Denver, CO
Original Publish Date:	November 6, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98322

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