Aviation Investigation Final Report

Location:	Great Barrington, Massachusetts	**Accident Number:**	ERA22LA425
Date & Time:	September 18, 2022, 11:18 Local	**Registration:**	N6076D
Aircraft:	Piper PA-22-150	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot stated that he and a flight instructor departed on a local area instructional flight with about 28 gallons of fuel, enough for 3 or more hours of flying. With the fuel selector on the left fuel tank, they performed various training maneuvers and flew to a nearby airport where they switched to the right fuel tank. They performed three full-stop landings before returning to the practice area. After about 1 hour of flight time, they entered the traffic pattern on the downwind to base leg and switched the fuel selector back to the left fuel tank before beginning their final approach. On the final leg of the traffic pattern, they elected to perform a go-around and added full power; however, the engine lost all power without warning. Too low to troubleshoot, the instructor took the flight controls and performed a forced landing in a corn field, which resulted in substantial damage to the airplane. As fuel leaked down from the right tank, the student pilot and flight instructor evacuated. The student reported that, during the egress, he turned off the electrical master switch off and switched the fuel tank into the 12 o'clock position.

Postaccident examination of the engine did not reveal evidence of any preimpact mechanical malfunctions or failures that would preclude normal engine operation. The left fuel tank was compromised during impact, and about 4 gallons of fuel were drained out of the right wing tank by first responders. The student pilot's description that he manipulated the fuel selector to the 12 o'clock position after the accident and during his egress would be consistent with him attempting to turn off fuel flow in order to mitigate the chances of a posaccident fire. However, the position of the fuel selector handle after the accident was actually the right fuel tank position. Given that the loss of engine power occurred shortly after switching fuel tanks, it is likely that the student pilot inadvertently placed the fuel selector in the OFF position during the flight, thus eventually starving the engine for fuel during the attempted go-around after the

available fuel supply in the fuel system forward of the fuel selector had been exhausted. The flight instructor was likely unable to confirm the fuel selection because the selector handle was installed on the sidewall behind the student’s left leg.

Probable Cause and Findings

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

The student pilot's inadvertent movement of the fuel selector to the OFF position, which resulted in fuel starvation and a total loss of engine power.

Findings

Personnel issues	Use of equip/system - Student/instructed pilot
Aircraft	Fuel - Fluid management

Factual Information

History of Flight

Approach-VFR go-around	Fuel starvation (Defining event)
Approach-VFR go-around	Off-field or emergency landing

On September 18, 2022, about 1118 eastern standard time, a Piper PA-22-150, N6076D, was substantially damaged when it was involved in an accident near Great Barrington, Massachusetts. The student pilot and instructor were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91instructional flight.

The student pilot, who was also the owner of the airplane, purchased the airplane 10 months before the accident to start his flight training. About 1015 on the day of the accident, he and the flight instructor departed Walter J Koladza Airport (GBR) Great Barrington, Massachusetts, with about 28 gallons of fuel (3 hours + endurance) and began the flight on the left tank. They flew to Columbia County Airport (1B1) Hudson, New York, and switched to the right tank. They performed three takeoffs and landings to a full stop before conducting basic private pilot maneuvers in the practice area.

The student pilot reported the flight as uneventful and the total flight time when they returned to GBR was about 1 hour. The instructor reported that they checked the carburetor heat several times during the flight and switched fuel tanks back to the left tank as they entered the downwind to base leg of the airport traffic pattern. During final approach, which was high and a little fast, the student pilot attempted a go-around. Shortly after adding full throttle and initiating a climb, the engine lost power. There was “no surging, no sputtering, it just quit.” After pumping the throttle with no response, and being too low to troubleshoot, the instructor took the flight controls and performed a forced landing in a corn field.

The airplane settled into the corn and immediately “dug in” and spun to the left before coming to a stop on its left side. According to the student pilot, as fuel leaked down from the right tank, the student pilot and flight instructor evacuated. During the egress, the student reported that he turned the master switch to OFF and switched the fuel tankselector handle (which was installed on the sidewall behind his left leg) into the 12 o’clock position. According to the airframe manufacturer and photographs of the wreckage, that position was the right tank position, and was not the OFF position. First responders subsequently drained about 4 gallons of fuel from the right wing.

Examination of the airplane by a Federal Aviation Administration inspector revealed that the left wing was severed, and the fuselage was crushed in several locations. In addition, the left

fuel tank was breached. An examination of the engine did not reveal any mechanical malfunctions or irregularities that would preclude normal operation.

Student pilot Information

Certificate:	Student	**Age:**	57,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	None None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	11 hours (Total, all aircraft), 11 hours (Total, this make and model), 2 hours (Last 24 hours, all aircraft)		

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	57,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 31, 2021
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 15000 hours (Total, all aircraft), 70 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N6076D
Model/Series:	PA-22-150	**Aircraft Category:**	Airplane
Year of Manufacture:	1956	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	22-4730
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	February 10, 2022 Annual	**Certified Max Gross Wt.:**	2000 lbs
Time Since Last Inspection:	11 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3841 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	O-320
Registered Owner:	On file	**Rated Power:**	150 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:	PSF,1194 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	11:54 Local	**Direction from Accident Site:**	19°
Lowest Cloud Condition:	Few / 4700 ft AGL	**Visibility**	10 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	14 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	24°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hudson, NY (1B1)	**Type of Flight Plan Filed:**	None
Destination:	Great Barrington, MA	**Type of Clearance:**	None
Departure Time:	10:45 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	WALTER J KOLADZA GBR	**Runway Surface Type:**	Asphalt
Airport Elevation:	739 ft msl	**Runway Surface Condition:**	Rough;Soft;Vegetation
Runway Used:	11/29	**IFR Approach:**	None
Runway Length/Width:	2579 ft / 50 ft	**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:**	42.184214,-73.403241

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Alex S. Engelson; FAA/FSDO; Enfield, CT
Original Publish Date:	January 31, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=105961