



Aviation Investigation Final Report

Location:	Mokuleia, Hawaii	Accident Number:	WPR18TA236
Date & Time:	August 20, 2018, 17:05 Local	Registration:	N98146
Aircraft:	Piper PA28	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	3 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that, before the flight, he requested that the airplane be refueled, and his subsequent preflight inspection revealed that the airplane had been fueled to the specified level. While conducting touch-and-go takeoffs and landings during the instructional flight, the engine lost power about 300 ft above ground level, and the instructor performed a forced landing to an open field adjacent to the runway. The airplane impacted a fence and came to rest upright.

Postaccident examination revealed that the right-wing fuel tank contained about 7 to 8 gallons of fuel, with a slow fuel leak, and the left-wing fuel tank was void of fuel and undamaged. The fuel selector was positioned to the left-wing tank. An engine test run revealed no anomalies. Interviews with the staff of the fixed base operator from which the instructor ordered fuel revealed that a fuel order was received for the accident airplane; however, the airplane was not refueled before the accident flight.

Probable Cause and Findings

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

A total loss of engine power due to fuel starvation as a result of the flight instructor's inadequate preflight inspection.

Findings

Aircraft	Fuel - Fluid management
Aircraft	Fuel - Fluid level
Personnel issues	Use of equip/system - Instructor/check pilot
Personnel issues	Preflight inspection - Instructor/check pilot

Factual Information

History of Flight

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

On August 20, 2018, about 1705 Hawaii standard time, a Piper PA-28-180, N98146, was substantially damaged when it was involved in an accident near Mokuleia, Hawaii. The flight instructor, student pilot, and passenger sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The flight instructor reported that, before the flight, he called the fixed base operator (FBO) and requested that the airplane be refueled "to the tabs." A preflight inspection revealed no anomalies, and the fuel was at the tab level as requested. They departed on the flight and conducted maneuvers at altitude before returning to the airport for touch-and-go takeoffs and landings. While taking off during the third touch-and-go, the engine lost power about 300 feet above ground level. The instructor took control of the airplane and initiated a forced landing to an open field south of the runway. During the landing, the airplane impacted a fence and came to rest upright.

The student pilot reported that the flight instructor did the exterior preflight inspection of the airplane, and only recalled him looking in the right-wing fuel tank to verify the fuel level.

Examination of the airplane by a Federal Aviation Administration inspector revealed that the right wing and fuselage sustained structural damage. The inspector reported that, during recovery of the wreckage, the left-wing fuel tank contained no fuel and was undamaged, and the right-wing fuel tank contained about 7 to 8 gallons of fuel, with a slow fuel leak. The fuel selector valve inside the airplane was set to the left-wing fuel tank, and all other engine controls were in the "off" position. The instructor reported to the inspector that, after the initial egress, he reentered the airplane and placed all controls in the off position and but did not touch the fuel selector. In order to facilitate an engine run, the starter was replaced, and one ignition lead was repaired. The engine ran uneventfully for an unspecified amount of time before it was shut down.

The manager of the FBO reported that they received a request for fuel on the day of the accident for the accident airplane; however, they did not refuel the airplane. The FBO employee that was conducting aircraft refueling the day of the accident reported that he never received a call from his dispatch to refuel the accident airplane.

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	72,Male
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; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	August 2, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 30, 2016
Flight Time:	8281.9 hours (Total, all aircraft), 2500 hours (Total, this make and model), 7500 hours (Pilot In Command, all aircraft), 162.5 hours (Last 90 days, all aircraft), 57.7 hours (Last 30 days, all aircraft), 2.5 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	17,Female
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 1 With waivers/limitations	Last FAA Medical Exam:	January 3, 2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	17 hours (Total, all aircraft), 17 hours (Total, this make and model), 12.1 hours (Last 90 days, all aircraft), 9.1 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N98146
Model/Series:	PA28 140	Aircraft Category:	Airplane
Year of Manufacture:	1969	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-26072
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	June 16, 2018 100 hour	Certified Max Gross Wt.:	
Time Since Last Inspection:	85 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-320 SERIES
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:	PHHI, 837 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	02:56 Local	Direction from Accident Site:	122°
Lowest Cloud Condition:	Scattered / 4000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	27°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Honolulu, HI (HLN)	Type of Flight Plan Filed:	None
Destination:	Honolulu, HI (HLN)	Type of Clearance:	None
Departure Time:	16:34 Local	Type of Airspace:	Class G

Airport Information

Airport:	DILLINGHAM AIRFIELD HDH	Runway Surface Type:	Asphalt
Airport Elevation:	14 ft msl	Runway Surface Condition:	Dry;Vegetation
Runway Used:	08	IFR Approach:	None
Runway Length/Width:	9007 ft / 75 ft	VFR Approach/Landing:	Forced landing;Touch and go

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Minor	Latitude, Longitude:	21.578056,-158.181671(est)

Administrative Information

Investigator In Charge (IIC):	Cawthra, Joshua	
Additional Participating Persons:	Spencer Leonard; Federal Aviation Administration; Honolulu, HI	
Original Publish Date:	June 24, 2021	Investigation Class: 3
Note:	The NTSB did not travel to the scene of this accident.	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98131	

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).