



# Aviation Investigation Final Report

<b>Location:</b>	St. Petersburg, Florida	<b>Accident Number:</b>	ERA21LA104
<b>Date &amp; Time:</b>	January 17, 2021, 09:30 Local	<b>Registration:</b>	N82746
<b>Aircraft:</b>	Piper PA28	<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

According to the flight instructor, after departing the airport and climbing out over the ocean, she and the pilot-rated student were discussing climbing higher when the engine lost total power. The instructor attempted to restart the engine by turning on the fuel pump, carburetor heat, and switching the fuel selector, without success. She searched for a place to land and performed a forced landing to a beach. During the landing roll, the right wing struck a pole in the sand, resulting in substantial damage. An examination of the engine revealed that the B-nut was loose on the engine driven fuel pump between the electric fuel pump. When the electric fuel pump was turned on, fuel leaked out of the line where the B-nut was loose. A mechanic tightened the line, and fuel flowed without issue. There were no other anomalies with the engine during the examination that would have precluded normal operation. Given this information, it is likely that a loss of fuel pressure/flow to the engine occurred as a result of the loose B-nut, which resulted in the total loss of engine power.

## 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 as a result of the loose fuel line B-nut connected to the engine driven fuel pump.

## Findings

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**Aircraft**

Fuel distribution - Malfunction

## Factual Information

### History of Flight

<b>Maneuvering</b>	Loss of engine power (total) (Defining event)
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### Flight instructor Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	28,Female
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	December 26, 2019
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	December 3, 2019
<b>Flight Time:</b>	984 hours (Total, all aircraft), 267 hours (Total, this make and model), 794 hours (Pilot In Command, all aircraft), 52 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

### Student pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	49,Male
<b>Airplane Rating(s):</b>	Single-engine sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 3 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	October 22, 2019
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	November 22, 2019
<b>Flight Time:</b>	498 hours (Total, all aircraft), 42 hours (Total, this make and model), 450 hours (Pilot In Command, all aircraft), 3 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N82746
<b>Model/Series:</b>	PA28 181	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1980	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	28-8190054
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	November 25, 2020 100 hour	<b>Certified Max Gross Wt.:</b>	2550 lbs
<b>Time Since Last Inspection:</b>	92 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	15189 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	C91 installed, not activated	<b>Engine Model/Series:</b>	O-360-A4M
<b>Registered Owner:</b>	ST PETE AVIATION SERVICES LLC	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>	ST PETE AVIATION SERVICES LLC	<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>	SPG	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	14:53 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	6000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Overcast / 6000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	6 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	70°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.08 inches Hg	<b>Temperature/Dew Point:</b>	14°C / 10°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	St. Petersburg, FL (SPG)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	St. Petersburg, FL (SPG)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	08:30 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>	27.766788,-82.770986

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Kemner, Heidi
<b>Additional Participating Persons:</b>	Randy Ryhal; FAA FSDO; Tampa, FL
<b>Original Publish Date:</b>	August 20, 2021
<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.nts.gov/Docket?ProjectID=102528">https://data.nts.gov/Docket?ProjectID=102528</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).