Aviation Investigation Final Report

Location:	Perry, Florida	**Accident Number:**	ERA13LA179
Date & Time:	March 21, 2013, 08:40 Local	**Registration:**	N625SR
Aircraft:	Piper PA-23-250	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Executive/Corporate		

Analysis

According to the pilot, during cruise flight, the left fuel flow was "fluctuating." The pilot activated the electric fuel pump, and the fuel flow stabilized. After a few minutes, he deactivated the electric fuel pump, and the fuel flow remained "stable." The pilot began the descent from cruise altitude and selected the outboard fuel tanks on the fuel selector panel. During the descent, the right engine began to lose power, and it subsequently lost total power. After the pilot notified an air traffic controller of the engine failure and chose to continue to his original destination, the left engine lost total power. He then maneuvered the airplane toward a nearby airport; however, the airplane was unable to reach the airport, and it impacted trees and then came to rest upright.

The airplane had been fueled 2 days before the accident and had been flown for an undetermined amount of time since then. Local law enforcement reported smelling fuel at the crash site; however, the investigation could not determine whether the selected fuel tanks had fuel in them when the engines lost power. Although on-scene examination of the fuel system revealed that fuel was present throughout the system except at the right engine fuel flow divider, it could not be determined what role, if any, this played in the loss of power to both engines. The reason for the loss of power to both engines could not be determined.

Probable Cause and Findings

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

The total loss of engine power for reasons that could not be determined based on the available evidence.

Findings

Not determined	(general) - Unknown/Not determined
Environmental issues	(general) - Contributed to outcome

Factual Information

History of Flight

Enroute-descent	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing
Emergency descent	Collision with terr/obj (non-CFIT)

On March 21, 2013, about 0840 eastern daylight time, a Piper PA-23-250, N625SR, was substantially damaged during a forced landing into trees 4 miles southwest of Perry, Florida. The airline transport pilot received minor injuries and was the sole occupant. Visual meteorological conditions prevailed and an instrument flight rules flight plan was filed. The flight originated at the Orlando Executive Airport (ORL), Orlando, Florida, about 0735 with an intended destination of Tallahassee Regional Airport (TLH), Tallahassee, Florida. The executive/corporate flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the pilot, while in cruise flight the left fuel flow was "fluctuating," he activated the electric fuel pump, and the fuel flow stabilized. After a few minutes of a stabilized fuel flow, he deactivated the electric fuel pump, and the fuel flow remained "stable." He initiated a descent from a cruise altitude of 8,000 feet above mean sea level and switched to the "full" outboard fuel tanks. He then noted that his right engine began to lose power and subsequently experienced a total loss of power. He feathered the right propeller and selected the right mixture to idle cut off. The pilot informed Tallahassee Approach Control of the engine failure and elected to continue his flight as planned to TLH. As he was making this determination the left engine experienced a total loss of power. The pilot maneuvered the airplane toward Perry-Foley Airport (40J), Perry, Florida and declared an emergency. The airplane subsequently impacted 16-foot tall pine trees prior to coming to rest upright.

Local authorities reported that upon arrival there was a strong fuel "aroma" at the accident location.

A fuel receipt from a fixed base operator (FBO) revealed that two days prior to the accident the airplane was fueled with 94.1 gallons of fuel, according to the pilot the "aircraft fuel was full." A sampling of the fuel was conducted following the accident and no contamination was noted. The FBO further reported that about 1000 gallons of fuel had been pumped from the time the accident airplane was fueled until they were notified of the accident.

Photographs provided by a Federal Aviation Administration (FAA) inspector revealed substantial damage to both wings, fuselage, and empennage. The FAA inspector further reported that the left wing tip fuel tank was separated from the airplane, engine continuity was confirmed; however, cylinder compression checks were unable to be accomplished. Fuel lines were removed from the electric fuel boost pumps and both engine driven fuel pumps and fuel was present in all of the fuel lines examined. The fuel lines were removed from the engine flow dividers and the left engine flow divider contained fuel and the right engine flow divider was devoid of fuel. Continuity was verified from the left and right throttle control and mixture control to the fuel servos. Continuity was verified from the left and right fuel selectors to the fuel shut-off valves; however, the tank selected at impact was not noted. All

magneto switches were found in the "ON" position. The pilot reported to the FAA, that he had switched the fuel selector valve from the inboard fuel tanks to the outboard fuel tanks just prior to the engine failure. The pilot also reported that the fuel tanks were switched starting with the right engine and then the left engine.

The fuel system contained two independent units that allow each engine to have its own fuel supply. The fuel cells consist of two bladder type fuel tanks located in each wing designated as an "inboard" and "outboard" fuel tank and a wingtip fuel tank that was interconnected to the associated outboard fuel cell. The outboard fuel cell, including the wingtip tank had a capacity of about 55 gallons of fuel each, and the inboard fuel cells had a capacity of 35 gallons of fuel each; total fuel capacity was about 180 gallons for the airplane. The system was designed to take fuel from each fuel cell through a finger screen then to the fuel selector valve. After the selector valve, fuel was routed either directly to the engine driven fuel pump or through the electric fuel pump. The systems were connected only by a crossfeed valve that allowed fuel to be drawn from one set of fuel cells to the engine on the opposite side, after passing through the engine driven fuel pump. The fuel selector valves consisted of control handles located on the fuel control box between the two front seats.

According to a representative of the salvage company that recovered the airplane, the fuel tanks were breached and devoid of fuel; there was a strong fuel smell at the accident location. However, the airplane wreckage was sold and was not available to be examined by the NTSB, and thus no determination could be made as to why both engines lost power.

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor	**Age:**	62
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	April 5, 2012
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	December 13, 2012
Flight Time:	29125 hours (Total, all aircraft), 236 hours (Total, this make and model), 24657 hours (Pilot In Command, all aircraft), 111 hours (Last 90 days, all aircraft), 31 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N625SR
Model/Series:	PA-23-250	**Aircraft Category:**	Airplane
Year of Manufacture:	1976	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	27-7654067
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	December 20, 2012 Annual	**Certified Max Gross Wt.:**	5200 lbs
Time Since Last Inspection:	32 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	5219 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91A installed, activated, aided in locating accident	**Engine Model/Series:**	IO 540 C4B5
Registered Owner:	Consolidated Citrus	**Rated Power:**	250 Horsepower
Operator:	Consolidated Citrus	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	K40J,45 ft msl	**Distance from Accident Site:**	4 Nautical Miles
Observation Time:	08:35 Local	**Direction from Accident Site:**	76°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	350°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.98 inches Hg	**Temperature/Dew Point:**	9°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Orlando, FL (ORL)	**Type of Flight Plan Filed:**	IFR
Destination:	Tallahassee, FL (TLH)	**Type of Clearance:**	IFR
Departure Time:	07:35 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	PERRY-FOLEY 40J	**Runway Surface Type:**	
Airport Elevation:	44 ft msl	**Runway Surface Condition:**	Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	30.055,-83.651664(est)

Administrative Information

Investigator In Charge (IIC):	Duprie, Terry
Additional Participating Persons:	Michael Jones; FAA/FSDO; Tampa, FL
Original Publish Date:	April 27, 2015
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=86485