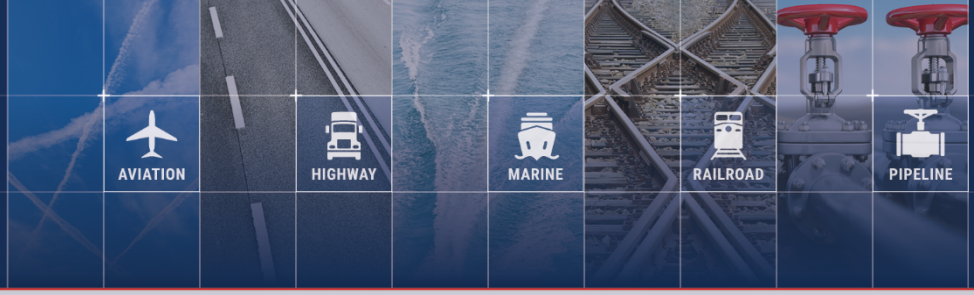

Aviation Investigation Final Report

Location:	Huntsville, Texas	**Accident Number:**	CEN11LA162
Date & Time:	January 28, 2011, 14:00 Local	**Registration:**	N8023P
Aircraft:	Piper PA24	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot requested that the airplane be “topped off” with fuel before the flight. The person who refueled the airplane filled two of the four tanks with 9 gallons of fuel total, and the pilot said he visually checked that all four tanks were full during his preflight inspection. The pilot reported that after flying about 1 hour, the “engine started surging due to a lack of fuel” and quit. He made several attempts to restart the engine “by switching from all of the rest of [his] full tanks” but was unable to restart the engine and performed a forced landing to a dirt road. During the landing, the left main gear collapsed and the left wing spar sustained substantial damage. A postaccident examination of the airplane revealed both main tanks were empty and the two auxiliary tanks were full. There was no evidence of any fuel leaks at the scene. The circumstances of the accident are consistent with the airplane auxiliary tanks only being fueled and the pilot departing with insufficient fuel in the main tanks, resulting in an engine failure due to fuel starvation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot’s inadequate preflight inspection to ensure the main tanks were full, which resulted in a total loss of engine power due to fuel starvation.

Findings

Personnel issues	Preflight inspection - Pilot
Aircraft	Fuel - Inadequate inspection
Aircraft	(general) - Failure

Factual Information

History of Flight

Maneuvering	Fuel starvation (Defining event)
Maneuvering	Loss of engine power (total)
Emergency descent	Collision with terr/obj (non-CFIT)
Landing-landing roll	Dragged wing/rotor/float/other

On January 28, 2011, about 1400 central standard time, a Piper model PA-24-250 airplane, N8023P, was substantially damaged after an off airport landing following a loss of engine power. The private pilot and one passenger were not injured. The personal flight was being conducted under the provisions of 14 Code of Federal Regulations Part 91 without a flight plan. The flight originated at Livingston Municipal Airport (00R), Livingston, Texas, and was en route to Huntsville Municipal Airport (UTS), Huntsville, Texas. Visual meteorological conditions prevailed at the time of the accident.

The pilot stated he had requested the airplane to be “topped off” by a local fixed base operator. Fueling records confirmed the airplane took nine gallons of fuel. The pilot also stated he visually confirmed all four fuel tanks were “topped off” during his preflight inspection. The pilot said he started the engine at 1302 and took off at 1309. He landed at 00R at 1339 and left the engines running on the ground for about 20 minutes, and departed. While flying from 00R to UTS at 1354 the “engine started surging due to a lack of fuel.” The pilot attempted to restart the engine, but the engine would not restart. He then performed a forced landing to a dirt road. During landing the left main gear collapsed and the left wing spar was damaged.

The airplane was equipped with four fuel tanks, a left and right main tank and left and right auxiliary tanks. According to the airplane owner’s handbook 60 gallons is the standard combined capacity of the main fuel tanks. If auxiliary fuel cells are installed the capacity is 90 gallons. The auxiliary fuel cells hold 15 gallons each and are located outboard of the main fuel tanks. The person who fueled the airplane said he refueled only two tanks and was not aware the airplane was equipped with four tanks. He thought he had fueled the inboard main tanks and did not notice the two auxiliary tanks.

A Federal Aviation Administration inspector examined the airplane and determined the left and right main fuel tanks were empty and the two auxiliary tanks were full. He did not detect any signs of fuel leaks at the scene.

Pilot Information

Certificate:	Private; Student	**Age:**	27,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	January 5, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 17, 2010
Flight Time:	100 hours (Total, all aircraft), 37 hours (Total, this make and model), 31 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N8023P
Model/Series:	PA24 250	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	24-3267
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	December 30, 2010 Annual	**Certified Max Gross Wt.:**	3200 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	5149 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	IO540
Registered Owner:	On file	**Rated Power:**	250 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:	KUTS,363 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	13:53 Local	**Direction from Accident Site:**	218°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.05 inches Hg	**Temperature/Dew Point:**	22°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Livingston Airp, TX (00R)	**Type of Flight Plan Filed:**	None
Destination:	Huntsville, TX (UTS)	**Type of Clearance:**	None
Departure Time:	13:39 Local	**Type of Airspace:**	

Airport Information

Airport:	Huntsville Municipal Airport UTS	**Runway Surface Type:**	
Airport Elevation:	363 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	30.902778,-95.437774(est)

Administrative Information

Investigator In Charge (IIC):	Baker, Daniel
Additional Participating Persons:	James C Storm; FAA Houston FSDO; Houston, TX
Original Publish Date:	July 18, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=78234