



Aviation Investigation Final Report

Location:	Carrollton, Georgia	Accident Number:	GAA17CA032
Date & Time:	October 20, 2016, 11:10 Local	Registration:	N601UK
Aircraft:	Smith Aerostar601	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the purpose of the flight was to reposition the airplane to another airport for refuel. During preflight, he reported that the airplane's two fuel gauges read "low," but the supplemental electronic fuel totalizer displayed 55 total gallons. He further reported that it is not feasible to visual check the fuel quantity, because the fueling ports are located near the wingtips and the fuel quantity cannot be measured with any "external measuring device." According to the pilot, his planned flight was 20 minutes and the fuel quantity, as indicated by the fuel totalizer, was sufficient.

The pilot reported that about 12 nautical miles from the destination airport, both engines began to "surge" and subsequently lost power. During the forced landing, the pilot deviated to land in grass between a highway, the airplane touched down hard, and the landing gear collapsed.

The fuselage and both wings sustained substantial damage.

The pilot reported no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

The pilot reported in the National Transportation Safety Board Pilot/ Operator Aircraft Accident Report that there was a "disparity" between the actual fuel quantity and the fuel quantity set in the electronic fuel totalizer. He further reported that a few days before the accident, he set the total fuel totalizer quantity to full after refueling, but in hindsight, he did not believe the fuel tanks were actually full because the wings may not have been level during the fueling.

The "Preflight" chapter within the operating manual for the fuel totalizer in part states: "Digiflo-L is a fuel flow measuring system and NOT a quantity-sensing device. A visual inspection and positive determination of the usable fuel in the fuel tanks is a necessity. Therefore, it is imperative that the determined available usable fuel be manually entered into the system."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to verify the usable fuel in the fuel tanks, which resulted in an inaccurate fuel totalizer setting during preflight, fuel exhaustion, and a total loss of engine power.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel indication system - Incorrect use/operation
Aircraft	Fuel - Inadequate inspection
Personnel issues	Aircraft control - Pilot
Aircraft	Descent rate - Not attained/maintained

Factual Information

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)
Landing-flare/touchdown	Hard landing
Landing-flare/touchdown	Landing gear collapse
Landing-flare/touchdown	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial; Private	Age:	35, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	None None	Last FAA Medical Exam:	July 5, 2011
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	January 24, 2016
Flight Time:	(Estimated) 1338 hours (Total, all aircraft), 36 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Smith	Registration:	N601UK
Model/Series:	Aerostar601 P	Aircraft Category:	Airplane
Year of Manufacture:	1974	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	61P-0183-012
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	April 3, 2016 100 hour	Certified Max Gross Wt.:	6000 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	2236.4 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	Installed	Engine Model/Series:	IO-540-S1A5
Registered Owner:	On file	Rated Power:	290 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:	KCTJ,1164 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	15:15 Local	Direction from Accident Site:	30°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.1 inches Hg	Temperature/Dew Point:	27°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	HAMPTON, GA (HMP)	Type of Flight Plan Filed:	None
Destination:	CARROLLTON, GA (CTJ)	Type of Clearance:	None
Departure Time:	11:00 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	33.565555,-85.053054(est)

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Bob Lohr; FAA; Atlanta, GA
Original Publish Date:	January 18, 2017
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=94250

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