Aviation Investigation Final Report

Location:	MONETA, Virginia	**Accident Number:**	NYC00LA132
Date & Time:	May 13, 2000, 10:13 Local	**Registration:**	N6841B
Aircraft:	Piper PA-22	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot entered the downwind, selected carburetor heat on, reduced engine rpm to 1,300, and left the flaps up. After completing the base and final portions of the traffic pattern, the pilot was unable to get the airplane on the ground, so he initiated a go-around. He advanced the throttle, but the engine did not respond. He retarded the throttle, and advanced it a second time; still there was no response. The airplane impacted trees at the far end of the runway. With the engine still attached to the airplane, an engine run was performed, and no anomalies were observed. The airplane did not have a required placard that should have read 'DO NOT OPEN THROTTLE RAPIDLY (IDLE TO FULL THROTTLE, 2 SECONDS MINIMUM)' to alert pilots to power interruptions and acceleration hang-ups do to abrupt throttle movements.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Loss of power for undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: GO-AROUND (VFR)

Findings
1. REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: GO-AROUND (VFR)

Factual Information

On May 13, 2000, at 1013, Eastern Daylight Time, a Piper PA-22, N6841B, was substantially damage after a loss of engine power while executing a go-around at Smith Mountain Lake Airport, Moneta, Virginia. The certificated private pilot received minor injuries, and the two passengers were not injured. Visual meteorological conditions prevailed for the personal flight that originated from Farmville Regional Airport, Farmville, Virginia, about 0920. No flight plan was filed, and the flight was conducted under 14 CFR Part 91.

According to the pilot, he added 10 gallons of fuel at Farmville, 5 to each tank. He departed and flew to Smith Mountain Lake area. He entered the downwind, selected carburetor heat on, reduced engine rpm to 1,300, and left the flaps up. The pilot turned base then final. While on final the airplane was on glide path until reaching the intended touchdown point. Unable to get the airplane on the ground, the pilot elected to execute a go-around. He advanced the throttle, but the engine did not respond. He retarded the throttle, and advanced it a second time; still there was no response from the engine. The pilot increased the pitch attitude of the airplane to clear some powerlines and trees at the far end of the runway. The airplane impacted two trees past the powerlines, and then impacted the ground. In a subsequent interview, the pilot stated the engine was operating on the left fuel tank when the loss of power occurred.

A witness saw the airplane fly down the last 1,000 feet of the runway, in a nose up attitude, while approximately 60 feet agl. The flaps were retracted, and the witness reported hearing the engine "stumble/sputter." The witness added that when the airplane passed his position, it appeared to be in an "accelerated stall." After the accident, the witness went to the accident site and found that the occupants had already exited the airplane. He smelled fuel and saw fuel dripping from the engine cowl. He looked inside the airplane, noted that the fuel selector was "ON" and selected it "OFF." The drip stopped.

On May 17, 2000, an engine run was preformed by a Federal Aviation Administration (FAA) Inspector. The battery was connected, and the electrical master was selected "ON." Both fuel quantity indicators showed "slightly" less than a 1/4 of a tank each. The starter was engaged and the engine started after approximately two revolutions of the propeller. Engine oil pressure increased to 70 PSI, and the engine idled, "smoothly" about 600 RPM.

The engine run lasted about 10 minutes. During this period, the throttle was advanced from idle to full throttle numerous times. Each time the engine achieved approximately 2,350 RPM. A check of the left and right magnetos was preformed at 700 RPM, 1,000 RPM, 1,500 RPM, and 1,800 RPM. During the checks, the engine ran "smooth" and the RPM dropped between 50 RPM and 75 RPM each time. Carburetor heat was applied and engine RPM dropped 75 RPM from 1,500 RPM, and 100 RPM from 1,800 RPM. With carburetor heat "ON" and then "OFF," the throttle was advanced "rapidly" from idle to full with no engine hesitation. During engine

shutdown, when the mixture control was selected "OFF," engine RPM increased 75 RPM before dropping to zero.

After completing the engine run, a visual inspection of the engine was preformed, and no fuel or oil leaks were identified. Six gallons of fuel was then drained from each tank. No contaminates were Identified. Fuel was also drained from the carburetor. No contaminates were identified. Both fuel cap vents were inspected and found functional.

According to the FAA Inspector, the airplane did not comply with FAA Airworthiness Directive 73-09-06, which stated: "To prevent power interruption and acceleration hang-up resulting from abrupt throttle movement, accomplish the following: Attach the following operating limitation placard to the instrument panel near the throttle in full view of the pilot. Use 1/8 inch min. size lettering."

"DO NOT OPEN THROTTLE RAPIDLY (IDLE TO FULL THROTTLE, 2 SECONDS MINIMUM)"

According to the FAA Inspector, next to the right fuel gauge was a placard that read, "NO TAKE-OFF ON RIGHT TANK WITH LESS THAN 1/3 TANK."

According to FAA Airworthiness Directive 67-24-02, "To forestall the possibility of engine fuel starvation during takeoff operations, install a placard on the right fuel quantity gauge.... The placard shall read:"

"RIGHT TANK LEVEL FLIGHT ONLY WITH LESS THAN 1/3 TANK."

Pilot Information

Certificate:	Private	**Age:**	60,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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	July 23, 1998
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	189 hours (Total, all aircraft), 101 hours (Total, this make and model), 106 hours (Pilot In Command, all aircraft), 26 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N6841B
Model/Series:	PA-22 PA-22	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	22-4140
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 1, 1999 Annual	**Certified Max Gross Wt.:**	2000 lbs
Time Since Last Inspection:	42 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2896 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-320
Registered Owner:	GARY GREEN	**Rated Power:**	150 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ROA ,1190 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	09:54 Local	**Direction from Accident Site:**	313°
Lowest Cloud Condition:	Scattered / 4500 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	270°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	26°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	FARMVILLE , VA (FVX)	**Type of Flight Plan Filed:**	None
Destination:	(W91)	**Type of Clearance:**	None
Departure Time:	09:40 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	SMITH MOUNTAIN LAKE W91	**Runway Surface Type:**	Grass/turf
Airport Elevation:	892 ft msl	**Runway Surface Condition:**	Dry;Vegetation
Runway Used:	36	**IFR Approach:**	None
Runway Length/Width:	3000 ft / 75 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor, 1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor, 1 None	**Latitude, Longitude:**	37.1609,-79.480072(est)

Administrative Information

Investigator In Charge (IIC):	Muzio, David
Additional Participating Persons:	JOHN KEYMONT; RICHMOND , VA
Original Publish Date:	December 4, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=49177