Aviation Investigation Final Report

Location:	LOGAN, West Virginia	**Accident Number:**	NYC00LA205
Date & Time:	July 22, 2000, 14:50 Local	**Registration:**	N12SF
Aircraft:	Lake LA-4-200	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed at 1130 for a cross-country flight with 40 gallons of fuel on board. He anticipated that the flight would take 3 hours, and he had 4 hours of fuel on board. During the flight, the pilot had to divert around his planned route for inclement weather. When he was about 1 mile from the airport, he entered the downwind leg of the traffic pattern and the engine lost power. The pilot determined he could not make it to the runway and landed on an adjacent road, at 1450. The pilot reported that the fuel gauge read empty while on the approach. Examination of the airplane revealed the fuel tank was completely dry. In addition, no fuel was found in the fuel lines or the fuel flow divider. When 4 gallons of fuel was added to the airplane, the engine started without hesitation and ran continuously.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Fuel exhaustion of the engine due to improper fuel consumption calculations performed by the pilot.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH - VFR PATTERN - DOWNWIND

Findings
1. (C) FLUID,FUEL - EXHAUSTION

2. (C) FUEL CONSUMPTION CALCULATIONS - IMPROPER - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY LANDING

Factual Information

On July 22, 2000, about 1450 Eastern Daylight Time, a Lake LA-4-200, N12SF, was substantially damaged during a forced landing near the Logan County Airport (6L4), Logan, West Virginia. The certificated private pilot and passenger were not injured. Visual meteorological conditions prevailed for the personal flight which originated at the Aiken Municipal Airport (AIK), Aiken, South Carolina. No flight plan was filed for the flight conducted under 14 CFR Part 91.

In a written statement, the pilot said:

"On 7/22/00 at 0745 departed Orlando Executive enroute to Aiken, South Carolina (AIK). Main tank was filled for total of 40 gallons 100LL. Estimated flight time was 3 hours. Never exceeded 3,000 feet MSL enroute, arrived at 1100. Filled main tank to full taking on 35 gallons. Total engine time was 3:15 hours."

"Departed AIK at approximately 1130 enroute to Logan, West Virginia (6L4). Enroute climb to 11,000 feet MSL over mountains with descent to 5,000 feet MSL approaching Logan (utilized normalizers above 5,000 feet MSL)."

"Approximately 1-2 miles from airport, started to enter downwind for Runway 24 when engine quit. Attempted to make airport straight in for Runway 6 but descended below airport altitude. Descended through mountains til landing on/adjacent to roadway. Landed gear up (intentionally), slid approximately 150 feet while doing left 360 degree spin when left wing impacted street sign. Total engine time was 3:20 hours. Normal fuel burn is 10 gal/hr. At altitude 8.5 gal/hr. Flight planned 3 hours with 4 hours fuel. Anticipated reserves 30-45 minutes."

In a telephone interview, the pilot reported that during the flight from AIK to 6L4, he contacted "Flight Watch" and was advised of some "bad weather" around Asheville, North Carolina. He diverted about 10 miles to the west of his route of flight to "get around the weather," and climbed to 11,000 feet. The pilot then activated the airplane's turbocharger, which "reduced the airplane's fuel burn rate to 8 gallons per hour." A descent was initiated to 5,000 feet, around the West Virginia border, and about 10 miles from 6L4, the pilot performed a left downwind entry to the traffic pattern for Runway 24. When he was 2 miles from the airport, he began a descent to the traffic pattern altitude, and then the "engine quit." The pilot made a "straight-in for Runway 06," and when he realized he would not make the runway, he landed the airplane in the "only flat spot around." The pilot reported that the fuel gauge read "empty" while on the approach, and the airplane had been operating for 3 hours and 24 minutes, at the time of the accident.

A Federal Aviation Administration (FAA) inspector reported that the airplane's fuel tank was

"completely dry" after the accident. In addition, no fuel was found in the fuel lines or the fuel flow divider. When the FAA inspector added 4 gallons of fuel to the airplane, the engine "started right up," and "ran as normal." No malfunctions were observed in the operation of the airplane's magnetos, propeller, or turbocharger. Additionally, no leaks were found in the fuel system.

According to a representative of the airplane manufacturer, the airplane could burn up to 11 gallons of fuel during start up, taxi, run-up, and initial climb.

According to a representative of the engine manufacturer, the engine installed in the accident airplane had a fuel consumption rate of 12.3 gal/hr at 75% power and 9.5 gal/hr at 65% power.

Pilot Information

Certificate:	Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**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:**	May 7, 1999
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	790 hours (Total, all aircraft), 688 hours (Total, this make and model), 684 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Lake	**Registration:**	N12SF
Model/Series:	LA-4-200 LA-4-200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	814
Landing Gear Type:	Amphibian	**Seats:**	4
Date/Type of Last Inspection:	December 2, 1999 Annual	**Certified Max Gross Wt.:**	2690 lbs
Time Since Last Inspection:	76 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1486 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360
Registered Owner:	RICK L TOLLER	**Rated Power:**	200 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:	BKW ,2504 ft msl	**Distance from Accident Site:**	38 Nautical Miles
Observation Time:	14:51 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Broken / 3600 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	360°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	23°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	AIKEN , SC (AIK)	**Type of Flight Plan Filed:**	None
Destination:	(6L4)	**Type of Clearance:**	None
Departure Time:	11:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	LOGAN COUNTY AIRPORT 6L4	**Runway Surface Type:**	Asphalt
Airport Elevation:	1667 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	6	**IFR Approach:**	None
Runway Length/Width:	3600 ft / 75 ft	**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:**	37.839103,-81.979179(est)

Administrative Information

Investigator In Charge (IIC):	Schiada, Luke
Additional Participating Persons:	KEN LEIGHTON; CHARLESTON , WV
Original Publish Date:	July 10, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=49792