National Transportation Safety Board
Aviation Accident Factual Report

Location:	Leesburg, FL	**Accident Number:**	ERA19LA217
Date & Time:	06/28/2019, 1030 EDT	**Registration:**	N1802Y
Aircraft:	Beech 77	**Aircraft Damage:**	Substantial
Defining Event:	Fuel related	**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General Aviation - Instructional		

On June 28, 2019, about 1030 eastern daylight time, a Beechcraft 77, N1802Y, was substantially damage when it impacted terrain after a partial loss of engine power during takeoff at the Leesburg International Airport (LEE), Leesburg, Florida. The flight instructor and the commercial pilot sustained minor injuries. The airplane was registered to Silver Flyers LLC and operated by Village Flyers Inc under the provisions of Title 14 *Code of Federal Regulations* Part 91 instructional flight. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight that originated at LEE at 1000.

The flight instructor stated he was giving the commercial pilot a check-out in the airplane. He said that they both performed a preflight inspection of the airplane and the fuel level was just below the tabs on both wing fuel tanks (about 20 gallons). The flight instructor said they completed about 30 minutes of air work before returning to the airport to practice takeoffs and landings. The first landing was normal, and the commercial pilot added power to takeoff. When the airplane reached an altitude of 400 ft above the ground, the engine started to lose power and the airplane began to descend. The flight instructor took control of the airplane and attempted to turn back and land on a taxiway, but they airplane was unable to reach the taxiway and he landed in trees and a swamp adjacent to the airport.

The commercial pilot said that during the touch and go, he added power to takeoff and initiated a climb at 68 knots but felt "that we were not climbing acceptably." He verified the throttle was full forward, the mixture was rich, and the fuel boost pump was on. The tachometer, which should have indicated at 2,400 rpm, was at 2,000 rpm. The flight instructor took control of the airplane and landed in trees. The airplane then descended into a shallow swamp, which resulted in substantial damage to the empennage and both wings.

Examination of the engine revealed that when the bottom spark plugs were removed, water and mud poured out of each cylinder. The interior of each cylinder was examined with a lighted borescope and no mechanical anomalies were noted. However, there were signs of corrosion and mud. The engine was rotated via the propeller flange and valve train continuity was established on each cylinder. Compression was established on the No. 2 and No. 4 cylinders, but not on the remaining cylinders. The No. 1 and No. 3 cylinders were removed and were

covered in mud and exhibited corrosion. Both magnetos were removed and rotated with a drill. Spark was produced to each ignition lead. The oil screen was removed and was absent of debris.

The carburetor icing probability chart included in Federal Aviation Administration (FAA) Special Airworthiness Information Bulletin (SAIB) No. CE-09-35, Carburetor Icing Prevention, indicated that the airplane was operating in an area that was associated with a serious risk of carburetor ice accumulation at glide and cruise power settings. The flight instructor stated that they did not use carburetor heat on landing because "the carburetor heat on that plane caused the engine to run very rough when applied."

According to a representative of the operator, the engine would sporadically "run rougher than normal" when carburetor heat was applied. He said that he flew the airplane the day before the accident and he had no issues with the carburetor heat and was unsure as to why the engine would run rough on some days but not others. A mechanic had looked at the carburetor prior to the accident and found nothing wrong, but they had already planned to have the carburetor examined more closely at the next scheduled oil change.

According to the airplane's Pilot Operating Handbook (POH), the before landing checklist stated, "Carburetor Heat - FULL HOT or FULL COLD, AS REQUIRED."

The flight instructor held a commercial pilot certificate with ratings for airplane single-engine sea, single-engine land, multiengine land, and instrument airplane. He was also a certified flight instructor with a rating for airplane single engine. The flight instructor's last FAA Basic Med medical certificate was issued on July 17, 2017. He reported a total of 1,985 hours, of which, 11 hours were in the same make/model as the accident airplane.

The commercial pilot held a commercial pilot certificate with ratings for airplane single-engine land, and instrument airplane. His last FAA Basic Med medical certificate was issued on May 4, 2017. The commercial pilot reported a total of 627 hours, of which, 2 hours were in the make/model as the accident airplane.

Weather reported LEE at 1023 was wind from 100° at 7 knots, visibility 10 miles, sky clear, temperature 84° F, dew point 73° F, and an altimeter setting of 30.14 inches of mercury.

Pilot Information

Certificate:	Flight Instructor; Commercial	**Age:**	68, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Single-engine	**Toxicology Performed:**	No
Medical Certification:	BasicMed With Waivers/Limitations	**Last FAA Medical Exam:**	07/17/2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	02/17/2018
Flight Time:	1985 hours (Total, all aircraft), 11 hours (Total, this make and model), 1932 hours (Pilot In Command, all aircraft), 18 hours (Last 90 days, all aircraft), 7.6 hours (Last 30 days, all aircraft), 0.8 hours (Last 24 hours, all aircraft)		

Pilot-Rated Passenger Information

Certificate:	Commercial	**Age:**	66, Male
Airplane Rating(s):	Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	BasicMed With Waivers/Limitations	**Last FAA Medical Exam:**	05/04/2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	07/21/2017
Flight Time:	627 hours (Total, all aircraft), 2 hours (Total, this make and model), 623 hours (Pilot In Command, all aircraft), 3.4 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 0.8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N1802Y
Model/Series:	77	**Aircraft Category:**	Airplane
Year of Manufacture:	1983	**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	WA-268
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	10/17/2018, Annual	**Certified Max Gross Wt.:**	1675 lbs
Time Since Last Inspection:	46 Hours	**Engines:**	1 Reciprocating
Airframe Total Time:	2090 Hours at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-235-L2C
Registered Owner:	On file	**Rated Power:**	115 hp
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	LEE, 76 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	1023 EDT	**Direction from Accident Site:**	310°
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.14 inches Hg	**Temperature/Dew Point:**	29°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Leesburg, FL (LEE)	**Type of Flight Plan Filed:**	None
Destination:	Leesburg, FL (LEE)	**Type of Clearance:**	VFR
Departure Time:	1000 EDT	**Type of Airspace:**	Class D

Airport Information

Airport:	Leesburg International (LEE)	**Runway Surface Type:**	Water
Airport Elevation:	76 ft	**Runway Surface Condition:**	Standing Water; Vegetation; Wet
Runway Used:	N/A	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	28.000000, -81.000000 (est)

Administrative Information

Investigator In Charge (IIC):	Leah D Read
Additional Participating Persons:	Dwight Greenlund; FAA/FSDO; Orlando, FL
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=99800