Aviation Investigation Final Report

Location:	Land O Lakes, Florida	**Accident Number:**	ERA20LA179
Date & Time:	May 12, 2020, 11:26 Local	**Registration:**	N711JA
Aircraft:	Beech F33	**Aircraft Damage:**	Destroyed
Defining Event:	Fuel contamination	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Twice before the accident takeoff, the pilot performed an engine run-up successfully; however, when he advanced the engine to full power, the engine ran rough, and the pilot elected not to attempt the takeoffs. During a third attempt, the engine ran rough again, but the pilot continued the takeoff. The airplane travelled more than half the distance of the 3,541-ft-long runway before it lifted off, barely cleared trees at the end of the runway, and made a left turn. A witness radioed the pilot and advised that he had a rough running engine; the pilot acknowledged the rough running engine and stated that he was returning to the airport. He subsequently stated that he was going down.

The airplane came to rest upright in the back yard of a vacant residence about 1/2 mile from the departure end of the runway. A postcrash fire consumed most of the cockpit, cabin, and right wing. The left wing had separated during the impact and was also located in the back yard of the residence. Subsequent examination of the wreckage revealed corrosion and loose material associated with corrosion inside the fuel manifold. The fuel lines leading to the fuel manifold had partially melted during the postcrash fire, preventing any water from entering the fuel manifold after the accident. The corrosion and material likely resulted in a partial power loss at high power settings (increased fuel demand).

Toxicological testing revealed the pilot had been taking two disqualifying and potentially impairing medications used to treat depression. Due to limited information on the status of the pilot's depression or symptoms from his use of these medications, whether his medical condition or use of medications contributed to the accident could not be determined from the available information.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The partial loss of engine power due to a contaminated fuel system and the pilot's improper decision to attempt a takeoff with a known deficiency in engine power.

Findings

Personnel issues	Decision making/judgment - Pilot
Aircraft	Fuel distribution - Fatigue/wear/corrosion

Factual Information

History of Flight

Takeoff	Fuel contamination (Defining event)
Initial climb	Aerodynamic stall/spin
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On May 12, 2020, about 1126 eastern daylight time, a Beech F33A, N711JA, was destroyed when it was involved in an accident near Land O Lakes, Florida. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane was based at Clearwater Air Park (CLW), Clearwater, Florida. Earlier during the day of the accident, the pilot flew the airplane uneventfully from CLW to Tampa North Aero Park (X39), Tampa, Florida, and was returning to CLW at the time of the accident. Runway 32 at X39 was 3,541 feet long, 50 feet wide, and consisted of asphalt.

According to witnesses at X39, the pilot performed an engine run-up near the beginning of runway 32 and the engine sounded normal. The pilot then taxied onto the runway for departure, but, as soon as the engine reached full power, it began to sound abnormal, rough, and/or lean. The pilot then reduced engine power and taxied to runway 14, performed another engine run-up and the engine sounded normal. However, the engine again began to run rough when it reached full power for takeoff. The pilot reduced the engine power and taxied to the beginning of runway 32. He performed a third engine run-up and the engine sounded normal. As the engine reached full power, it began to run rough again, but the pilot continued the takeoff roll. The airplane travelled more than half the distance of the runway before it lifted off, “barely” cleared trees at the end of the runway, and made a left turn. One of the witnesses radioed the pilot and advised that he had a rough running engine, the pilot replied “ya, returning,” followed by “going down.”

Pilot Information

Certificate:	Commercial	**Age:**	61,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 1, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	July 3, 2019
Flight Time:	1342 hours (Total, all aircraft), 11 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N711JA
Model/Series:	F33 A	**Aircraft Category:**	Airplane
Year of Manufacture:	1973	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	CE-478
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	March 2, 2020 Annual	**Certified Max Gross Wt.:**	3400 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3818 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-BA
Registered Owner:	Logical Choice Aviation N711JA Inc	**Rated Power:**	285 Horsepower
Operator:	Logical Choice Aviation N711JA Inc	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ZPH,89 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	11:35 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.19 inches Hg	**Temperature/Dew Point:**	27°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Land O Lakes, FL (X39)	**Type of Flight Plan Filed:**	None
Destination:	Clearwater, FL (CLW)	**Type of Clearance:**	None
Departure Time:	11:26 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Tampa North Aero Park X39	**Runway Surface Type:**	Asphalt
Airport Elevation:	68 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	32	**IFR Approach:**	None
Runway Length/Width:	3541 ft / 50 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	28.223611,-82.386947

Examination of the accident site by a Federal Aviation Administration inspector revealed that the airplane came to rest upright in the backyard of a vacant residence about 1/2 mile west of the departure end of runway 32. All major components of the airplane were accounted for and a postcrash fire consumed most of the cockpit, cabin, and right wing. The left wing had

separated during the impact and was also located in the back yard of the residence, north of the main wreckage.

The engine was subsequently examined at a recovery facility. When the propeller flange was rotated by hand, crankshaft, camshaft, and valve train continuity were confirmed to the rear accessory section of the engine. Thumb compression was attained on all cylinders and a borescope examination of the cylinders did not reveal any anomalies. The top spark plug electrodes did not exhibit any anomalies and the fuel nozzles were free of obstructions. Disassembly of the fuel manifold revealed corrosion and loose material associated with corrosion inside the manifold. The fuel lines leading to the fuel manifold had partially melted during the postcrash fire, preventing any water from entering the fuel manifold after the accident. The rear accessory section exhibited the most thermal damage.

Medical and Pathological Information

An autopsy was performed on the pilot by the State of Florida, District Six Medical Examiner's office, Largo, Florida. The cause of death was thermal injuries.

Toxicology testing was performed on the pilot by the laboratory at FAA Forensic Sciences. The results identified trazodone at 317 ng/ml and gabapentin at 525 ng/ml. Review of personal medical records reflected long standing depression and the use of trazodone and gabapentin for many years. The FAA's Guide for Aviation Medical Examiners indicated that the use of psychotropic and anticonvulsant drugs was disqualifying for aeromedical certification purposes. The pilot's most recent medical examination was completed on March 1, 2019, and he was issued a second-class medical certificate. During that and previous examinations, the pilot reported only orthopedic issues and denied the regular use of any medication.

Additional Information

A copy of video recorded from a doorbell camera at a residence near the accident site was forwarded to the National Transportation Safety Board Vehicle Recorders Laboratory, Washington, DC. A sound spectrum study of the video revealed that during the 10 seconds prior to impact, two identified areas were consistent with a drop, followed by a surge, in propeller rpm.

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Mark Keefer; FAA/FSDO; Tampa, FL Kurt Gibson; Continental Motors; Mobile, AL Casey Love; Textron Aviation; Wichita, KS
Original Publish Date:	March 16, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=101265