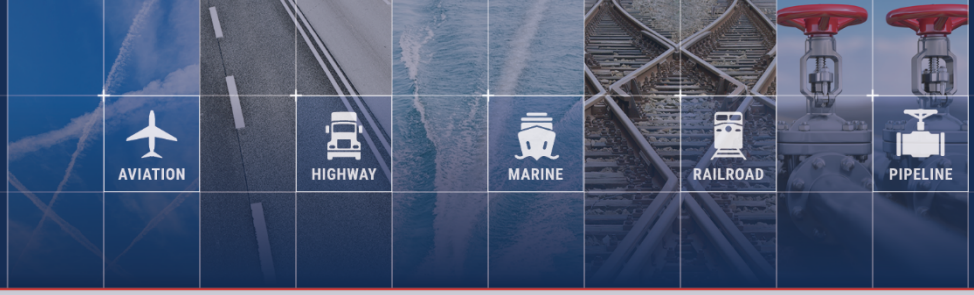

Aviation Investigation Final Report

Location:	Farmerville, Louisiana	**Accident Number:**	CEN17FA281
Date & Time:	July 23, 2017, 17:15 Local	**Registration:**	N8661S
Aircraft:	Cessna 150F	**Aircraft Damage:**	Substantial
Defining Event:	Low altitude operation/event	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While on a personal flight, the airline transport pilot made several low passes over a lake in front of a friend's house. The friend and two other witnesses reported that, on its last pass, the airplane was flying at a low altitude when it pitched down slightly, impacted the surface of the lake, nosed over, and sank. The friend reported hearing the engine "sputter" followed by an increase in power before the impact, and one of the other witnesses reported that the engine was running throughout the low pass.

A postaccident examination of the wreckage did not find any preimpact anomalies that would have precluded normal operation of the airplane. Although the temperature and dew point were conducive to serious icing at glide power, the witness observations and forward bending of the propeller blades were consistent with the engine operating at cruise or climb power at impact.

A portable GPS unit found in the wreckage did not contain any data about the accident flight. However, the GPS unit did record data consistent with previous flights where an airplane flew near the accident location. Additionally, one witness stated that the pilot was friends with a neighbor and had conducted numerous low passes over the lake during the previous 4 years.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain clearance from the lake during a low-level maneuver.

Findings

Personnel issues	Incorrect action performance - Pilot
Aircraft	Altitude - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Environmental issues	Water - Contributed to outcome

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event)
Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT)

On July 23, 2017, about 1715 central daylight time, a Cessna 150F airplane, N8661S, impacted the waters of Lake D'Arbonne while maneuvering near Farmerville, Louisiana. The airline transport pilot was fatally injured. The airplane sustained substantial damage. The airplane was registered to and operated by the pilot as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Day visual meteorological conditions prevailed in the area about the time of the accident, and the flight was not operated on a flight plan. The local flight originated from the Union Parish Airport, near Farmerville, Louisiana, at an unknown time.

A witness who had a house on the lake and knew the pilot reported that the pilot initially flew over the lake in a Piper airplane. According to the witness, the pilot called the witness from the Piper and said that he was returning to the airport to try to get the engine of his Cessna 150 (the accident airplane) to start. The pilot told the witness that he had the Cessna 150's battery on charge at the time. The witness reported that the pilot subsequently made a few passes in the Cessna 150 around the lake in front of the house. The witness reported hearing the engine "sputter" on the final pass and seeing the airplane "wobble from side to side" while it was flying at a low altitude over the lake. The witness said, "It looked like he was attempting to land on water but knew that he was too fast. He gave the engine some throttle and looked like he attempted to climb, but the left tire hit the water and [it] caused the plane to flip into the water."

Another witness at the lake saw the airplane make a low pass over the lake from south to north. He reported that the airplane flew "lower and lower," and the airplane's nose wheel impacted the lake while the airplane was in a slightly nose-down attitude. The witness then saw a wing tip impact the water, and the airplane subsequently nosed over. He reported that he heard the engine running throughout the low pass.

A third witness who lived at the lake reported that he heard and saw the airplane make several low passes over the lake. He said that on its last pass, the airplane was level about 5 to 10 ft above the surface. It made a slight pitch up and then back down; the left main gear and left wing contacted the water, and the airplane cartwheeled. This witness said that the pilot was friends with one of his neighbors and had conducted numerous low passes over the lake during the previous 4 years.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	73,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	June 29, 2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 20, 2017
Flight Time:	(Estimated) 16870 hours (Total, all aircraft)		

The 73-year-old pilot held a Federal Aviation Administration (FAA) airline transport pilot certificate with an airplane multi-engine land rating. He held commercial pilot privileges for single engine land airplanes. The pilot held an FAA first-class medical certificate that was issued on June 29, 2017, with a limitation: Must wear corrective lenses. On the application for that medical certificate, the pilot reported that he had accumulated 16,870 hours of total flight time and 60 hours in the previous 6 months. A review of his logbook revealed that he had accumulated 16801.1 hours of total flight time as of June 8, 2017. According to flight school records, on April 17, 2017, the pilot attended a Part 135 King Air 90 recurrent course in Wichita, Kansas. The pilot took a Part 135 check ride on April 20, 2017, which met the flight review requirements of FAA regulation 61.56(d).

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N8661S
Model/Series:	150F	**Aircraft Category:**	Airplane
Year of Manufacture:	1966	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	15061961
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	March 1, 2017 Annual	**Certified Max Gross Wt.:**	1600 lbs
Time Since Last Inspection:	5 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3741.7 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	C91 installed, not activated	**Engine Model/Series:**	O-200-A
Registered Owner:	On file	**Rated Power:**	100 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

N8661S was a 1966 model Cessna 150F airplane with serial number 15061961. It was a two-place, single-engine, high-wing airplane, with a fixed tricycle landing gear configuration. The airplane was powered by a 100-horsepower Continental Motors O-200-A engine, serial number 63022-6-A, which drove a fixed pitch McCauley propeller. A major repair and modification form, dated May 27, 1992, revealed that the airplane was modified with a 3-point, dual shoulder harness restraint system manufactured by Aero Fabricators, Inc. The pilot purchased the airplane on September 20, 2012. Maintenance records indicated that the most recent annual inspection was completed on March 1, 2017, at 3,741.7 hours total airframe time, 4,182.2 hours Hobbs time, and 721.6 hours tachometer time.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KRSN,311 ft msl	**Distance from Accident Site:**	16 Nautical Miles
Observation Time:	17:15 Local	**Direction from Accident Site:**	198°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.93 inches Hg	**Temperature/Dew Point:**	26°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	FARMERVILLE, LA (F87)	**Type of Flight Plan Filed:**	None
Destination:	FARMERVILLE, LA (F87)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

At 1715, the recorded weather at the Ruston Regional Airport, near Ruston, Louisiana, located about 16 nautical miles and 198° from the accident site, was: wind 170° at 7 kts; visibility 10 statute miles; sky condition clear; temperature 26° C; dew point 23° C; and altimeter 29.93 inches of mercury. Plotting the temperature and dew point on a carburetor icing chart showed that the weather was conducive to serious icing at glide power.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	32.765834,-92.49028(est)

The accident airplane was recovered from the lake using a nearby boat ramp. Blight was observed on grass in the ramp area where the airplane was recovered. Protruding stumps were present at multiple locations where the airplane was reported to have impacted. The airplane was subsequently relocated to a secured yard to be examined.

An examination of the wreckage revealed that the left wing forward spar was fractured near the aileron/flap junction. An outboard section of the left wing exhibited rearward compression damage and was bent upward. This section was observed resting on top of the inboard section of the left wing. An

outboard section of the left aileron was separated from the left wing and was not recovered with the wreckage. The remaining section of the inboard left aileron remained attached to the left wing. The left flap remained attached to the left wing and was in the fully retracted position. Both left and right plastic wing tips were not recovered.

The right wing remained attached to the airframe. The right aileron and right flap remained attached to the wing. The right flap was in the fully retracted position. An outboard section of the right wing exhibited rearward compression damage near its wing tip. A section of the outboard right wing and leading edge skin was separated from the wing.

The empennage was separated from the fuselage aft of the rear window and remained attached to the fuselage by the flight control cables and stringers. The horizontal stabilizer and elevators remained attached and did not exhibit any damage. The vertical stabilizer and rudder remained attached and were intact. The rotating beacon was intact.

All the flight control cables were intact and control cable continuity was established for all flight control surfaces. The upper portions of the pilot's and passenger's 3-point, dual shoulder harness restraint systems were found intertwined. First responders reported to the FAA that the pilot was wearing the lap belt portion of the restraint system. The tachometer indicated 726.2 hours at the time of the postaccident examination. Pressurized air was applied to the fuel line at the firewall and the sound of the escaping air was heard at both fuel tank filler necks, consistent with the fuel selector valve being in the "ON" position.

The engine was found separated from its airframe. The carburetor was separated from the engine at its intake mounting flange. All other observed accessories remained attached to the engine. The propeller remained attached to the crankshaft propeller flange. Both propeller blades were bent forward. However, one blade was bent forward more than the other blade.

The top spark plugs were removed and an examination of the inside of the cylinders using a lighted borescope revealed normal piston, valve, and cylinder bore signatures. During the rotation of the propeller, all cylinders displayed good thumb compression and suction. The valves and rocker arms were noted to operate normally while the propeller was rotated. All spark plug electrodes displayed normal operating and wear signatures when compared with a Champion Aviation Service Manual AV6-R chart.

The right magneto remained attached to its installation point and was undamaged. During propeller rotation, its impulse coupling operated and it could be heard operating at the same time as the left magneto's impulse couplint. During impulse coupling operation, the right magneto produced a spark at all four towers. The left magneto remained attached to its installation point and was undamaged. During propeller rotation, its impulse coupling was noted to operate and could be heard operating at the same times as the right magneto's impulse coupling. However, during impulse coupling operation, the left magneto did not produce a spark at any of the towers. The left magneto was removed from its mounting point and water was drained from the magneto. The magneto drive was spun using a drill, and the magneto produced a spark at all four towers.

The vacuum pump produced a suction as the propeller was rotated by hand. Disassembly of the

carburetor revealed that the floats were intact and that the needle valve operated. No debris was found in the fuel screen and no preimpact anomalies were detected during the carburetor disassembly.

Medical and Pathological Information

The Union Parish Coroner's Office performed an autopsy on the pilot and collected toxicological samples. The autopsy listed the cause of death as blunt force head injuries with drowning. The autopsy indicated that hypertensive atherosclerotic cardiovascular disease was present.

The FAA's Bioaeronautical Sciences Research Laboratory performed toxicology tests of samples from the pilot, which were negative for carbon monoxide, ethanol, and tested drugs.

Tests and Research

A portable Garmin GPS 295 found in the wreckage was shipped to the National Transportation Safety Board Recorder Laboratory (NTSB). The GPS 295 is capable of storing waypoints, routes, and detailed tracklogs in non-volatile memory. Tracklog storage may be activated or de-activated at the user's discretion. The unit contains hardware and software that permits the download of recorded waypoint, route, and tracklog information.

An NTSB recorder specialist examined the GPS unit and determined that it did not contain any data in reference to the accident flight. However, the GPS unit did contain recorded data for previous flights where an airplane flew near the accident location. The Global Positioning System Device Specialist's Factual Report is included in the docket material associated with this investigation.

Administrative Information

Investigator In Charge (IIC):	Malinowski, Edward
Additional Participating Persons:	Allan Crabbe; Federal Aviation Administration; Jackson, MS Peter Basile; Textron Aviation; Wichita, KS Kurt Gibson; Continental Motors; Mobile, AL
Original Publish Date:	April 23, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=95646