Aviation Investigation Final Report

Location:	Pahokee, Florida	**Accident Number:**	ERA13FA432
Date & Time:	September 27, 2013,	**Registration:**	N220BL
Aircraft:	LOWERRE BRUCE T S 12-E	**Aircraft Damage:**	Substantial
Defining Event:	Nose over/nose down	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

After takeoff, the flight proceeded to a lake, where during an unknown phase of flight, the amphibious airplane came to rest inverted and partially submerged with a portion of the right wing separated. There were no witnesses to the accident, and the airplane was found the following day. The aft section of the hull was above the water, and both main landing gear were submerged and not visible. The pilot was found still strapped into his seat, and his body was recovered. The outer portion of the airplane's right wing, which was found floating near the wreckage, was also recovered. An attempt to recover the airplane from the lake was made about one month after the accident; however, it could not be located. Examination of the separated section of the right wing revealed no evidence of preimpact failure or malfunction. Although a diver who helped recover the pilot's body reported that the airplane's landing gear was damaged, because the airplane was not recovered, no determination could be made as to the position of the landing gear at water contact.

Probable Cause and Findings

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

Undetermined because the wreckage was not recovered.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Unknown	Nose over/nose down (Defining event)

On September 27, 2013, at an undetermined time, an experimental amateur-built amphibious Lowerre S-12-E, N220BL, registered to and operated by a private individual, came to rest inverted in Lake Okeechobee near Pahokee, Florida, during an unknown phase of flight. Visual meteorological conditions prevailed at the time and no flight plan was filed for the 14 Code of Federal Regulations (CFR) Part 91 personal flight from Boca Raton Airport (BCT), Boca Raton, Florida. The airplane sustained substantial damage, and the commercial pilot, the sole occupant, was fatally injured. The flight originated from BCT about 1442.

The pilot's sister informed law enforcement that her brother left Margate that day at 1330, for BCT, where the airplane was based, and they intended on meeting later that day at 1700 hours at a restaurant in Fort Lauderdale, Florida.

The flight was cleared for takeoff from runway 05 at 1442:40 by controllers at the BCT Control Tower, for a northwest bound departure. At 1443:36, an uncorrelated radar target was noted about midpoint of the runway at 1,100 feet mean sea level (msl). The uncorrelated radar targets depicted the airplane continuing to the departure end of the runway, followed by a turn to a northwesterly heading. At 1446:20, the local controller instructed the pilot frequency change was approved, and provided the VHF frequency for West Palm Beach Approach Control. At that time, an uncorrelated radar target was located 2.63 nautical miles and 314 degrees from the departure end of runway 05. The pilot did not establish contact with West Palm Beach Approach Control, and there were no other communications with any other Federal Aviation Administration air traffic control facilities. The uncorrelated radar targets indicate the aircraft continued in a northwesterly direction, with the last uncorrelated radar target noted at 1514:09. The aircraft at that time was flying over Lake Okeechobee at 800 feet, in a west-northwesterly direction, and was located approximately 3.2 nautical miles and 341 degrees from the center of Pahokee Airport, Pahokee, Florida. There were no known witnesses to the accident.

The pilot's sister further reported to law enforcement calling her brother later that day at 1745 hours, but the call immediately went to voicemail.

On September 28, 2013, an individual walking near the edge of Lake Okeechobee observed what appeared to be the bottom of an overturned boat, and contacted law enforcement. Law enforcement responded to the site and confirmed it was the accident airplane. The pilot's body was recovered from the cockpit, and the outer portion of the right wing measuring about 76 inches in length was found floating on the water away from the crash site; the wing was retained for further examination. There were no known witnesses to the accident.

Divers who responded to the wreckage and who recovered the pilot's body reported he was still strapped in his seat, and the landing gear appeared to be damaged. The wreckage was located about 1.7 nautical

miles and 126 degrees from the last uncorrelated radar target.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	69
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	April 8, 2013
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	January 22, 2012
Flight Time:	1882.5 hours (Total, all aircraft), 29.6 hours (Total, this make and model), 1812.4 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft), 1.3 hours (Last 30 days, all aircraft)		

The pilot, age 69, held a commercial pilot certificate with airplane single engine land and sea, and instrument airplane ratings. He obtained his private pilot certificate with airplane single engine land rating on August 20, 1977, and added a single engine sea rating to his private pilot certificate on November 25, 1978. On November 26, 1980, he obtained a commercial pilot certificate with airplane single engine land, and instrument airplane ratings, but retained the airplane single engine sea rating at the private level. On July 15, 1984, he added the single engine sea rating to his commercial pilot certificate.

He held a flight instructor certificate with airplane single engine rating issued January 22, 2012, and also held a repairman certificate issued January 12, 2012. He held a third class medical certificate issued on April 8, 2013, with a limitation to wear corrective lenses for near and distant vision.

A review of the pilot's 2nd pilot logbook that contained entries from March 29, 1986, to the last entry dated August 31, 2013, revealed his carry-forward single engine sea flight time was 20.6 hours, and his carry-forward flight time was 674.0 hours. Including the carry-forward flight time, he logged a total time of 1,882.5 hours, of which approximately 1,812 hours were as pilot-in-command.

Further review of his 2nd logbook revealed gaps in flying were noted between August 1993 and May 1999, and August 2000 and April 2005. Additionally, between March 29, 1986, and September 1, 2006, he did not log any single engine sea flight time, and between September 1, 2006, and November 11, 2009, he logged approximately 8 hours single engine sea time during the course of 5 separate flights. There was no single engine sea flight time logged between November 11, 2009, and his first water flight in the accident airplane on April 12, 2012. He logged a total of approximately 43 hours single engine sea, of which 29.6 were in the accident make and model airplane.

Aircraft and Owner/Operator Information

Aircraft Make:	LOWERRE BRUCE T	**Registration:**	N220BL
Model/Series:	S 12-E	**Aircraft Category:**	Airplane
Year of Manufacture:	2012	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	220
Landing Gear Type:	Amphibian	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	CONT MOTOR
ELT:		**Engine Model/Series:**	6-285-A
Registered Owner:	LOWERRE BRUCE T	**Rated Power:**	285 Horsepower
Operator:	LOWERRE BRUCE T	**Operating Certificate(s) Held:**	None

The amphibious airplane was manufactured by the pilot in 2012, as a Lowerre S-12-E, and was designated serial number 220. It was powered by a 285 horsepower Continental 6-285 engine, and equipped with a Hartzell constant speed HC-E3YR-7LF propeller.

Correlation of airplane total time with the pilot's logbook revealed that excluding the accident flight, the airplane had been operated for 29.6 hours since manufacture. No maintenance records were located.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PBI,20 ft msl	**Distance from Accident Site:**	33 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	104°
Lowest Cloud Condition:	Few / 2700 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	30°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	29.84 inches Hg	**Temperature/Dew Point:**	30°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Boca Raton, FL (BCT)	**Type of Flight Plan Filed:**	None
Destination:	Pahokee, FL	**Type of Clearance:**	None
Departure Time:	14:42 Local	**Type of Airspace:**	Unknown

A surface observation weather report taken at Palm Beach International Airport (PBI), on September 27, 2014, at 1453, indicates the visibility was 10 statute miles, few clouds existed at

2,700 feet, scattered clouds existed at 5,000 and 6,000 feet. The temperature and dew point were 30 and 21 degrees Celsius, respectively, and the altimeter setting was 29.84 inches of Mercury. The wreckage was located about 33 nautical miles and 284 degrees from PBI.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	Unknown
Ground Injuries:	N/A	**Aircraft Explosion:**	Unknown
Total Injuries:	1 Fatal	**Latitude, Longitude:**	26.068611,-80.686943

The airplane came to rest inverted in about 5.5 feet of water in Lake Okeechobee at 26 degrees 49.113 minutes North latitude and 080 degrees 41.209 minutes West longitude. While partially submerged, the rudder remained attached to the vertical stabilizer, the right sponson was attached, and the hull appeared to be undamaged. The aft section of the hull and lower empennage were visible, but neither main landing gear were visible. The wreckage was located about 300 yards to the nearest point of land near Marker 68. The airplane was heading 330 degrees, and there was no visible fuel or oil sheen on the water.

An approximate 76 inch section of the right wing was recovered. Inspection of the recovered section of the right wing revealed a section of aileron remained attached at the outer, middle, and inboard hinges, and the aileron push/pull tub which remained attached to the bellcrank near the control surface but exhibited evidence of bending overload about 20.5 inches from the attach point. Inspection of the spar revealed it was displaced aft and fractured consistent with bending overload. The recovered wing section was secured. A buoy was not placed on the wreckage.

On November 1, 2013, a search for the airplane at the spot it was located the day after the accident was performed by a company contracted by the insurance company; however, the wreckage was not located.

Medical and Pathological Information

A postmortem examination of the pilot was performed by the District 15 Medical Examiner's Office located in West Palm Beach, Florida. The cause of death was listed as "Drowning." The autopsy report also indicated that a 1 centimeter horizontal superficial laceration was noted on the bridge of the nose, and non-lethal subgaleal contusions were noted on both sides of the scalp. The skull was free of acute trauma.

Forensic toxicology was performed on specimens of the pilot by the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. A note indicated the samples were putrefied, but the results were negative for carbon monoxide. Testing for cyanide was not performed, and varying amounts of ethanol were detected in the blood, heart, and muscle specimens. No ethanol was detected in the submitted brain specimen, and unquantified amounts of N-Propanol were detected in the blood and heart specimens. Additionally, an unquantified amount of Rosuvastatin was detected in the submitted urine specimen, while no Rosuvastatin was detected in the submitted blood specimen.

Survival Aspects

Because the airplane was not recovered, no determination could be made as to why the pilot did not escape from the inverted airplane.

Additional Information

Fuel records obtained from the departure airport indicate the airplane was fueled last on August 31, 2013. On that date a total of 35.7 gallons of 100 low lead (100LL) fuel were added. A review of the pilot's logbook indicated the airplane was not flown after that date. Additionally, there was no record of issues from other airplanes fueled from the same fuel source.

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	Jaunita Corbin; FAA/FSDO; Miramar, FL
Original Publish Date:	December 10, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=88150