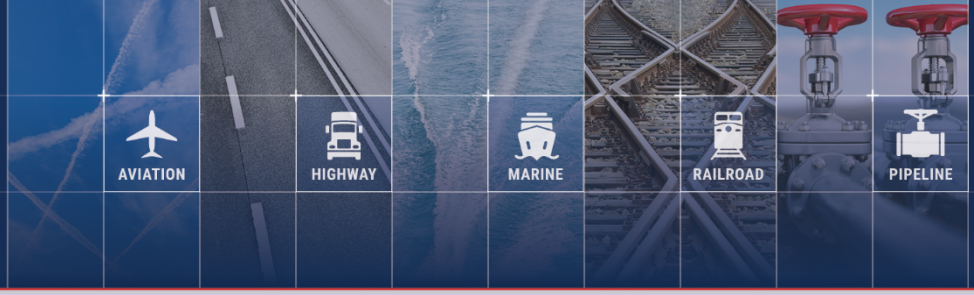


# Aviation Investigation Final Report

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| **Location:** | Davant, Louisiana | **Accident Number:** | CEN10LA427 |
| **Date & Time:** | July 24, 2010, 10:35 Local | **Registration:** | N7812K |
| **Aircraft:** | Cessna 180 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | Abnormal runway contact | **Injuries:** | 1 Fatal, 1 None |
| **Flight Conducted Under:** | Part 91: General aviation - Instructional | | |

## Analysis

The flight instructor was preparing another pilot for an add-on rating in a seaplane. The pilot receiving instruction was flying the airplane and making a water landing to a bayou. The instructor had his hands in front of the control yoke to prevent the nose from going forward when the seaplane touched down. The seaplane touched down on the water slightly nose forward and flat and decelerated rapidly. Neither the instructor nor the pilot used a gentle back pressure on the elevator control to compensate for the tendency for the nose to drop, and they did not close the throttle in order to maintain the touchdown attitude until the seaplane came off the step (settled into a plowing attitude in the water). The instructor stated that he could not remember if the control yoke hit his hands but that he applied aft pressure on the control yoke as the seaplane flipped over slowly and became inverted and partially submerged. Postaccident examination of the seaplane revealed no preimpact mechanical failures that would have precluded normal operations.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper application of the flight controls and throttle during landing, which resulted in a nose over and subsequent inverted immersion in the water. Contributing to the accident was the flight instructor's delayed remedial action and inadequate supervision of the pilot receiving instruction.

## Findings

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| **Aircraft** | Landing flare - Incorrect use/operation |
| **Aircraft** | Powerplant parameters - Incorrect use/operation |
| **Personnel issues** | Aircraft control - Pilot |
| **Personnel issues** | Monitoring other person - Instructor/check pilot |
| **Personnel issues** | Delayed action - Instructor/check pilot |

# Factual Information

## History of Flight

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| **Landing-flare/touchdown** | Abnormal runway contact (Defining event) |
| **Landing-flare/touchdown** | Loss of control on ground |
| **Landing-flare/touchdown** | Nose over/nose down |
| **Post-impact** | Cabin safety event |

HISTORY OF FLIGHT

On July 24, 2010, about 1035 central daylight time, a Cessna 180J single engine airplane, N7812K, was substantially damaged during a water landing in the vicinity of Davant, Louisiana. The pilot receiving instruction was fatally injured and the certified flight instructor (CFI) was not injured. The airplane was registered to and operated by Southern Aviation, LLC, under the provisions of 14 Code of Federal Regulations Part 91 as an instructional flight. Day visual meteorological conditions prevailed and no flight plan was filed. The local flight originated about 1020 from Southern Seaplane Airport (65LA), Belle Chase, Louisiana.

A review of the flight track from New Orleans Approach Control radar data revealed the airplane departed 65LA and flew south bound at an altitude that varied between 1,000 feet to 1,600 feet mean sea level (msl), until 10:30:33. The airplane started a descent down to 1,400 feet msl and initiated a left turn down at 10:33:32. The last radar return was at 10:34: 44 when the airplane was at 300 feet msl, west of the accident location and northeast of Davant, Louisiana.

The CFI was seated in the right seat and the pilot receiving instruction was seated in the left seat. The CFI stated that neither he nor the pilot were using the shoulder harnesses because they restricted their full range of motion. The pilot receiving instruction was flying the airplane and was making a straight in water landing to a bayou that the CFI estimated was about 150-feet wide. The CFI stated, "I had my hands in front of the control yoke as a common practice to prevent the nose from going forward. The approach seemed normal. Upon touchdown the nose appeared to be slightly nose forward or flat. It was not far enough forward to deem the landing unsafe. As we landed, the aircraft seemed to decelerate rapidly. I cannot recall if the yoke hit my hands, but at this time I applied corrective pressure to pull back the yoke. As I pulled back on the yoke the aircraft had begun to flip over slowly."

According to the CFI, during the landing neither he nor the pilot used a gentle back pressure on the elevator control to compensate for any tendency for the nose to drop, or to close the throttle when the airplane was on the water to maintain the touchdown attitude until the airplane began to come off the step.

After the airplane came to rest inverted and partially submerged, the CFI exited the airplane through the right cabin door. The pilot did not exit the airplane. The CFI was unsuccessful in retrieving the pilot and waved down two fishermen in a boat. After several attempts the non-responsive pilot was pulled from the airplane after he had been in the water for an estimated 5 to 10 minutes. The fisherman who pulled the pilot out of the cockpit said the pilot's seatbelt was already unfastened.

## PERSONNEL INFORMATION

The 39-year-old pilot receiving instruction for an-add on rating in seaplanes, held an ATP certificate with a rating for rotorcraft-helicopter including privileges for helicopter-instrument. In addition, he held commercial pilot privileges with ratings for airplane single and multiengine land and instrument airplane. The pilot's ATP certificate was reissued on April 28, 2008, after the original certificate was reported as lost or stolen. The pilot held a CFI certificate with ratings for airplane single and multiengine airplane, helicopter, instrument airplane and instrument helicopter, which was issued on February 25, 2010. He also held an airframe and powerplant mechanic certificate issued on April 28, 2008. The pilot held a first-class medical certificate issued on February 2, 2009, without limitations.

According to his employer's company records, the pilot had 3,800 total flight hours with more than 3,400 hours in helicopters. The pilot's only previous experience in seaplanes was 2.9 hours of instruction in a "Super Cub", and the 15 minutes of instruction in the accident airplane on the morning of the accident. The pilot's personal logbook showed he had flown 17.7 hours in the past 7 days, 38.2 hours in the past 14 days, and 62.9 days hours in the past 30 days. The logbook indicated the pilot did not fly from July 16 through July 19, 2010. A review of the pilot's logbook revealed his employer's flight and duty time limits were not exceeded. The pilot's most recent flight review was conducted on January 13, 2010.

The 56-year-old CFI, held an ATP certificate with ratings for airplane single-engine land, single-engine sea, multiengine land, and instrument airplane issued on February 27, 2010. In addition, he held a CFI certificate with ratings for airplane single-engine and instrument airplane. He also held a first-class medical certificate with the restriction, "Holder shall possess glasses for near and intermediate vision." The CFI's most recent flight review was completed on May 11, 2010.

The CFI indicated on the NTSB Pilot/Operator Aircraft Accident/Incident Report that he had 18,663 total flight hours, of which 3,000 plus hours were in the same make and model as the accident airplane. In addition, he had 16,368 hours as pilot-in-command, of which 2,700 plus hours were in the same make and model as the accident airplane. He had flown 2,124 hours as a CFI, of which 1,000 plus hours were in the same make and model as the accident airplane. In the past 90 days, he had flown 168 hours, of which 3 hours were in the same make and model as the accident airplane. In the last 30 days, he had flown 75 hours, of which 2 hours were in the same make and model as the accident airplane. In the last 24 hours before the accident, he had flown 30 minutes, which were in the same make and model as the accident airplane.

AIRCRAFT INFORMATION:

The Cessna 180J single-engine airplane, serial number 18052746, was a high wing, semimonocoque design airplane, with a fixed float landing gear, and was configured for a maximum of four occupants. The airplane was manufactured and delivered from Cessna Aircraft Company on August 11, 1976. The airplane was equipped with Edo model 628-2960 floats. The airplane was powered by an air-cooled, horizontally opposed, carbureted, Teledyne Continental Motors O-470-S engine, rated at 230 horsepower, driving a McCauley controllable pitch propeller.

An aircraft maintenance logbook entry stated the original logbooks were lost during Hurricane Katrina in 2005. The registered owner stated the airplane was purchased three months before the accident. A review of the airplane logbooks revealed the last annual inspection was completed on February 2, 2010 at a tachometer time of 154 hours and a total airframe time of 2,690.4 hours. The total airframe hours at the time of the accident were 2,758 hours.

METEOROLOGICAL INFORMATION

The 1055 surface weather observation at New Orleans Naval Air Station Joint Reserve Base (KNBG), New Orleans, Louisiana, located 15 miles northwest miles of the accident site showed the wind was from 040 degrees at 8 knots, visibility 10 miles, few clouds at 3,000 feet, temperature 29 degrees Celsius, dew point temperature 22 degrees Celsius, and altimeter setting of 30.07 inches of Mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane was located inverted and partially submerged in a 150-foot wide bayou channel northeast of Davant, Louisiana. The airplane was briefly examined at the scene before being placed on a barge and transported to 65LA for a postaccident examination.

Examination of the propeller system and propeller blades revealed the propeller remained attached to the propeller crankshaft flange. The propeller blades and propeller spinner were not damaged. The lower left engine cowling was damaged. The left windshield support bar was bent aft.

The instrument panel remained in place. The throttle was observed to be out 3/4 inch, the propeller control was out 1/2 inch, and the mixture setting was full rich. The water rudders were up and the flaps were extended to 20 degrees. The fuel selector valve was in the both position. Continuity of the flight controls was confirmed aft to all flight control surfaces. A global positioning system (GPS) receiver was removed and sent to the NTSB Vehicle Recorders Laboratory for download. The data download showed that no track recording information was available.

The airplane was equipped with bagged inflatable life vests, which were still in their sealed

bags and were not in use at the time of the accident. The left cabin door remained attached and the door was in the closed position. The door handle was in the unlocked position. Both forward cabin seats were on their respective seat tracks and locked in position. When tested, the seats moved on their tracks without binding.

The installed left and right forward seatbelts and shoulder harness were approved after-market equipment manufactured by Aircraft Belts, Inc. The seatbelts were part number GKA 432654-EG-810, manufacturing date 04/09, with a rated strength of 3000 pounds. The installed shoulder harnesses were a fixed (non-inertial reel) type, part number GKA 432654-EG-810, manufacturing date 04/09, with a rated strength of 2500 pounds.

During a postaccident exam of the left seatbelt, when latched it would not unlatch. The seatbelt was forwarded to the NTSB Materials Laboratory for further analysis. Examination of deformation of the left seatbelt assembly indicated that excessive force was applied after the buckle was latched and tension on the belt prevented the rotation of the locking mechanism.

The rear bench seat remained attached to the cabin floor. The original landing gear struts had been removed from the airplane and were replaced with fixed float landing gear. The Edo 628-2960 floats remained attached to the fuselage and were not damaged.

The right wing remained attached at the wing root. The leading edge of the right wing was bent down and aft about 77 inches outboard of the wing root. The remaining section of the wing, extending outboard to the wing tip sustained damaged and the upper wing skin was wrinkled. The right wing fuel cap was intact with a tight seal. The right wing fuel tank was not ruptured and fuel was present in the right wing fuel tank. The right aileron was damaged and remained attached at all attachment points. The right flap remained attached at all attachment points and was extended. The right wing strut remained attached at the wing and the fuselage attachment point.

The empennage, vertical fin, rudder, left and right horizontal stabilizers, and elevators were not damaged.

The left wing remained attached at the wing root. The leading edge of the left wing was bent aft about 18 inches inboard of the wing tip. The upper wing skin surface was displaced downward on the upper wing surface of the left wing, about 77 inches outboard of the wing root and extended outboard to the wing tip. The left wing fuel cap was intact with a tight seal. The left wing fuel tank was not ruptured and fuel was present in the fuel tank. The left aileron was damaged and remained attached at all attachment points. The left flap remained attached at all attachment points and was extended. The left wing strut remained attached at the wing and the fuselage attachment point.

Examination of the engine assembly revealed the engine assembly and all accessories remained attached to the engine mounts and the firewall was not damaged. The bottom sparkplugs were removed and the electrodes were normal when compared to the Champion

Aviation Check-A Plug Chart. The carburetor filter was free of debris.

No preaccident mechanical malfunctions or failures of the airplane or the engine were found that would have precluded normal operation.

MEDICAL AND PATHOLOGICAL INFORMATION

The Jefferson Parrish Forensic Pathologist, Harvey, Louisiana, conducted the autopsy on the pilot receiving instruction on July 26, 2010. The cause of death was asphyxia due to drowning associated with small airplane crash.

The Bioaeronautical Research Science Laboratory, FAA, Oklahoma City, Oklahoma performed a postmortem toxicology of specimens from the pilot. The report stated no carbon monoxide and no cyanide were detected in the blood. No ethanol was detected in the urine. Chlorpheniramine of an unspecified quantity was detected in the blood and urine.

ADDITIONAL INFORMATION:

Review of the FAA Seaplane, Skiplane, and Float/Ski Equipped Helicopter Operations Handbook states in Chapter 6, Seaplane Operations-Landings, "NORMAL LANDING…As the seaplane approaches the water's surface smoothly raise the nose to the appropriate pitch attitude for touchdown. As the floats contact the water, use gentle back pressure on the elevator control to compensate for any tendency of the nose to drop. When the seaplane is definitely on the water, close the throttle and maintain the touchdown attitude until the airplane begins to come off the step. Once it begins to settle into the plowing attitude, apply full up elevator to keep the nose as high as possible and minimize spray hitting the propeller."

## Flight instructor Information

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| **Certificate:** | Airline transport | **Age:** | 56,Male |
| **Airplane Rating(s):** | Single-engine land; Multi-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:** | Class 1 Without waivers/limitations | **Last FAA Medical Exam:** | April 16, 2010 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | May 11, 2010 |
| **Flight Time:** | (Estimated) 18663 hours (Total, all aircraft), 3000 hours (Total, this make and model), 16368 hours (Pilot In Command, all aircraft), 168 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

## Other flight crew Information

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|---|---|---|---|
| **Certificate:** | Commercial | **Age:** | 39,Male |
| **Airplane Rating(s):** | Single-engine land; Multi-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | Helicopter | **Restraint Used:** | |
| **Instrument Rating(s):** | Airplane; Helicopter | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 1 Without waivers/limitations | **Last FAA Medical Exam:** | February 16, 2009 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | January 13, 2010 |
| **Flight Time:** | (Estimated) 3800 hours (Total, all aircraft), 0 hours (Total, this make and model), 62 hours (Last 30 days, all aircraft) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Cessna | **Registration:** | N7812K |
| **Model/Series:** | 180 J | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 18052746 |
| **Landing Gear Type:** | N/A; Float | **Seats:** | 4 |
| **Date/Type of Last Inspection:** | February 2, 2010 Annual | **Certified Max Gross Wt.:** | 2950 lbs |
| **Time Since Last Inspection:** | 68 Hrs | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 2758 Hrs as of last inspection | **Engine Manufacturer:** | CONTINENTAL |
| **ELT:** | C91A installed | **Engine Model/Series:** | O470 |
| **Registered Owner:** | SOUTHERN AVIATION LLC | **Rated Power:** | 230 Horsepower |
| **Operator:** | SOUTHERN AVIATION LLC | **Operating Certificate(s) Held:** | On-demand air taxi (135) |
| **Operator Does Business As:** | Southern Seaplane Inc | **Operator Designator Code:** | SSCA |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | KNBG,2 ft msl | **Distance from Accident Site:** | 15 Nautical Miles |
| **Observation Time:** | 10:55 Local | **Direction from Accident Site:** | 317° |
| **Lowest Cloud Condition:** | Few / 3000 ft AGL | **Visibility** | 10 miles |
| **Lowest Ceiling:** | Broken / 8000 ft AGL | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 8 knots / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 40° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 30.06 inches Hg | **Temperature/Dew Point:** | 29°C / 22°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Belle Chase, LA (65LA) | **Type of Flight Plan Filed:** | None |
| **Destination:** | Belle Chase, LA (65LA) | **Type of Clearance:** | None |
| **Departure Time:** | 10:20 Local | **Type of Airspace:** | |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Fatal, 1 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 1 Fatal, 1 None | **Latitude, Longitude:** | 29.642778,-89.820274(est) |

## Administrative Information

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| **Investigator In Charge (IIC):** | Latson, Thomas |
| **Additional Participating Persons:** | Michael E Waldron; FAA Baton Rouge FSDO; Baton Rouge, LA<br>Steven Rauch; Department of the Interior; Boise, ID<br>Richard Kemp; Department of the Interior, National Park Service; Fairbanks, AK<br>Tom Moody; Cessna Airplane Company; Wichita, KS |
| **Original Publish Date:** | October 4, 2012 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=76735 |