



# National Transportation Safety Board Aviation Accident Final Report

---

<b>Location:</b>	Manteo, NC	<b>Accident Number:</b>	MIA03FA034
<b>Date &amp; Time:</b>	12/25/2002, 0100 EST	<b>Registration:</b>	N1122Y
<b>Aircraft:</b>	Cessna 208B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal

**Flight Conducted Under:** Part 91: General Aviation - Positioning

---

## Analysis

At 0029, the pilot contacted Norfolk Approach and stated he was ready for takeoff on runway 01 at Elizabeth City. The controller instructed the pilot to fly runway heading and climb to 3,000 feet. At 0032, the controller advised the pilot that the flight was radar contact and for the pilot to fly heading 160 degrees. At 0034, the Norfolk Approach controller instructed the pilot to contact the FAA Washington Air Route Traffic Control Center. At 0034, the pilot of N1122Y contacted the controller at Washington Center, stating he was coming up on 3,000 feet. The controller acknowledged, and the pilot requested the non-directional beacon (NDB) approach to runway 5 at Dare County Airport, Manteo. At 0036, the controller instructed the pilot to fly heading 145 degrees for Manteo and fly direct to the NDB when he receives the signal. The pilot acknowledged and the controller also asked the pilot if he had the current weather for Manteo. The pilot responded that he did have the current weather. At 0043, the controller cleared the pilot for the NDB runway 5 approach at Manteo and to maintain 2,000 feet until the flight crossed the beacon outbound. The pilot acknowledged. At 0046, the controller informed the pilot that radar contact with the flight was lost and for the pilot to report a cancellation or a downtime on his radio frequency. The pilot acknowledged. At 0057:21, the controller called the pilot and the pilot responded by reporting the flight was procedure turn inbound. No further transmissions were received from the pilot. When the pilot did not report that he was on the ground, and further radio contact could not be established, controllers initiated search and rescue efforts. The wreckage of the airplane was located in the waters of Croatan Sound, about 1.5 miles west of the Dare County Regional Airport about 1000. The pilot was not located in the airplane. The body of the pilot was located in the waters of Croatan Sound on February 11, 2003. Post crash examination of the airplane, flight controls, and engine showed no evidence of precrash failure or malfunction. The propeller separated from the airplane and was not located after the accident. Damage to the mounting bolts for the propeller was consistent with the propeller separating due to impact with the water. Postmortem examination of the pilot showed no findings which could be considered causal to the accident.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued descent below the minimum descent altitude, for undetermined reasons, while performing a NDB approach, resulting in the airplane crashing into water 1.5 miles from the airport. A factor in the accident was a cloud ceiling below the minimum descent altitude and low visibility.

## Findings

---

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: APPROACH - FAF/OUTER MARKER TO THRESHOLD (IFR)

### Findings

1. WEATHER CONDITION - LOW CEILING
2. WEATHER CONDITION - DRIZZLE/MIST
3. (C) MINIMUM DESCENT ALTITUDE - NOT MAINTAINED - PILOT IN COMMAND

## Factual Information

### HISTORY OF THE FLIGHT

On December 25, 2002, about 0100 eastern standard time, a Cessna 208B, N1122Y, registered to Avion Capital Corporation, and operated by Telford Aviation, Inc., as a 14 CFR Part 91 positioning flight, crashed into Croatan Sound, near Manteo, North Carolina. Instrument meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed. The airplane received substantial damage and the airline transport-rated pilot was fatally injured. The flight last departed Elizabeth City, North Carolina, the same day, about 0030.

A person identifying himself as the pilot of Telford Flight 1279 called the FAA Raleigh Automated Flight Service Station, on December 24, 2002, at 1507, requesting an outlook pilot weather briefing for a 1900 flight from Manteo, North Carolina to Raleigh, North Carolina. The pilot departed Manteo at about 1855, along with another pilot, in N1122Y, operating as Telford Flight 1279. They made a stop in Edenton, North Carolina, to pick up packages, and then continued to Raleigh, arriving about 2036. The other pilot stated that he and the pilot of N1122Y had the airplane refueled at Raleigh, with 20 gallons of fuel added to the left tank and 30 gallons added to the right tank. The other pilot flew back to Manteo with another pilot in another airplane. The accident pilot departed Raleigh by himself in N1122Y at about 2300, to Elizabeth City, North Carolina, as Telford Flight 1280. The flight arrived at Elizabeth City at about 0010, on December 25, 2002, and packages were unload. The aircraft operator stated the pilot was then scheduled to reposition the airplane from Elizabeth City to Manteo.

At 0020, a pilot identifying himself as the pilot of N1122Y contacted the FAA Norfolk Approach, stating he was on the ground at Elizabeth City and requesting a cruise clearance to Manteo. The pilot was offered an instrument flight rules clearance to Manteo and at 0022, was issued the clearance to Manteo. At 0029, the pilot contacted Norfolk Approach and stated he was ready for takeoff on runway 01 at Elizabeth City. The controller instructed the pilot to fly runway heading and climb to 3,000 feet. At 0032, the controller advised the pilot that the flight was radar contact and for the pilot to fly heading 160 degrees. At 0034, the Norfolk Approach controller instructed the pilot to contact the FAA Washington Air Route Traffic Control Center.

At 0034, the pilot of N1122Y contacted the controller at Washington Center, stating he was coming up on 3,000 feet. The controller acknowledged, and the pilot requested the non-directional beacon (NDB) approach to runway 5 at Dare County Airport, Manteo. At 0036, the controller instructed the pilot to fly heading 145 degrees for Manteo and fly direct to the NDB when he receives the signal. The pilot acknowledged and the controller also asked the pilot if he had the current weather for Manteo. The pilot responded that he did have the current weather. At 0043, the controller cleared the pilot for the NDB runway 5 approach at Manteo and to maintain 2,000 feet until the flight crossed the beacon outbound. The pilot acknowledged. At 0046, the controller informed the pilot that radar contact with the flight was lost and for the pilot to report a cancellation or a downtime on his radio frequency. The pilot acknowledged. At 0057:21, the controller called the pilot and the pilot responded by reporting the flight was procedure turn inbound. No further transmissions were received from the pilot. When the pilot did not report that he was on the ground, and further radio contact could not be established, controllers initiated search and rescue efforts. The wreckage of the airplane was located in the waters of Croatan Sound, about 1.5 miles west of the Dare County Regional Airport about 1000.

The pilot was not located in the airplane. The body of the pilot was located in the waters of Croatan Sound on February 11, 2003.

#### PERSONNEL INFORMATION

The pilot held a FAA airline transport pilot certificate with airplane multiengine land and commercial privileges airplane single engine land ratings, last issued on November 21, 1989. The pilot held a FAA flight instructor certificate with airplane single engine, multiengine, and instrument airplane ratings, issued on February 26, 2001. The pilot held a FAA second-class medical certificate issued on April 22, 2002, with limitations that corrective lenses be worn while exercising the privileges of the certificate. According to the airplane operator, at the time of the accident the pilot had accumulated about 19,091 total flight hours, with about 500 hours in the Cessna 208. The pilot had about 15,500 total hours in single engine airplanes and about 3,500 hours in multiengine airplanes. The pilot had about 1,900 hours actual instrument time and 700 hours of night time. The pilot had flown about 43 flight hours in the last 90 days, 9 flight hours in the last 30 days, and 5 flight hours in the last 24 hours. The pilot had been off duty from December 10, 2002 until the evening of December 23, 2002.

The pilot was hired by Telford Aviation, Inc. on April 4, 2000. He was qualified as pilot-in-command on the Cessna 208 in accordance with FAR Part 135 on April 5, 2000. The pilot received recurrent training in the Cessna 208 on October 2, 2002.

#### AIRPLANE INFORMATION

The airplane was a Cessna Aircraft Company model 208B, serial number 208B0392, manufactured in April 1994. At the time of the accident the airplane had accumulated about 5,229 total flight hours. The airplane was equipped with a Pratt and Whitney Canada, PT6A-114A turbo-propeller engine, which produces 675 shaft horsepower. The airplane was equipped with a McCauley model 3GFR34C703 propeller, which contained 3 blades.

Maintenance records showed the airplane was last inspected on December 16, 2002, when it received a Phase 9 inspection in accordance with the Telford Aviation, Inc., Approved Aircraft Inspection Program (AAIP). At the time of the accident, the airplane had accumulated about 20 flight hours since this inspection, the engine had accumulated 5,029 total flight hours since new, and the propeller had accumulated 1,912 flight hours since major overhaul. The airplanes static system, altimeters, and transponder were last tested on December 12, 2001.

#### METEOROLOGICAL INFORMATION

The Dare County Regional Airport, Manteo, NC, 0100 surface weather observation was wind from 350 at 5 knots, visibility 3 statute miles in mist, ceiling overcast at 300 feet agl, temperature 12 degrees C, dew point temperature 12 degrees C, altimeter setting 29.54 inHg. Instrument meteorological conditions prevailed at the time of the accident.

A review of weather information was performed by a meteorologists with the NTSB, Operational Factors Division, Washington, DC. The review concluded that during the flight from Elizabeth City to Manteo, the flight did not encounter icing conditions. Another pilot who flew from Raleigh to New Bern and then to Manteo about the time of the accident stated they did not encounter icing conditions.

#### WRECKAGE AND IMPACT INFORMATION

The airplane was located in about 15 feet of water in Croatan Sound, about 1.5 miles west of the

Dare County Regional Airport and about .25 miles north of the approach course to runway 5. All components of the airplane were located on or around the airplane wreckage, except for the propeller and portions of the belly cargo pod. The airplane was recovered from the water on December 28, 2002.

Examination of the airplane after recovery from the water showed that the aircraft structure was intact. The outboard right wing, belly cargo pod, nose landing gear, right main landing gear wheel, and engine mount had sustained damage from water impact and recovery operations. The undersides of the right and left wing had upward crushing of the skin. The propeller had separated from the engine propeller shaft when the retaining bolts pulled out of the propeller hub. The retaining bolts and material from the propeller hub remained in the propeller shaft.

Examination of the flight control systems showed that there was continuity within the aileron, rudder, elevator, and elevator trim, systems. The aileron trim system cable was separated at the chain to the trim tab on the right aileron do to impact forces. The aileron trim system was found in the 10-degree tab up position at the right aileron. The elevator trim system was found in the 5-degree tab up position. The wing flaps were found in the 20-degree extended position. The autopilot actuators for pitch and roll control were found disengaged.

The engine controls in the cockpit were found in the full forward position for engine power, propeller, and condition lever. The emergency power lever was found in the stowed position. The engine controls at the engine were found in the same position as the cockpit controls. The separation points in the engine mount system was consistent with overstress do to impact forces. The alternator belt was in place. The vacuum ejector system for gyro operation operated normally when air pressure was supplied to the system. The vacuum driven captain's attitude gyro and the electric driven left and right turn coordinator did not have any impact damage to the units and there was no scarring damage on the rotors. The pitot and static systems were unobstructed.

Examination of the cockpit showed that the pilot's door was unlocked and open. This was the position reported by recovery personnel when the airplane was first located in the water. The pilot's seatbelt and shoulder harness were found unbuckled. The emergency locator transmitter was found in the auto position. The battery expiration date was December 2004. The circuit boards were corroded do to water submersion and the battery had zero voltage do to water submersion. The hobbsmeter read 5229.1 hours. The pilot's altimeter was reading minus 20 feet and the setting was 29.55 inches HG, when examined on December 30, 2003. Examination of the light bulbs in the annunciator panel showed that none of the light bulbs had stretched filaments. The landing and taxi light bulbs did not have stretched filaments.

Disassembly examination of the left and right altimeters showed no evidence of failure or malfunction of the altimeters.

Disassembly inspection of the engine and engine accessories showed no evidence of failure or malfunction. The engine displayed contact signatures to it's internal components characteristic of the engine producing power at the time of impact.

Examination of the airframe fuel system showed the fuel caps were in place on the wing. Fuel was found in both fuel tanks and in all fuel lines. No obstructions were found in any fuel lines. The fuel selector valve operated normally and was found in the on position for both the left and right fuel tanks. The fuel boost pump was found in the normal position and the firewall shutoff

valve was in the open position.

#### MEDICAL AND PATHOLOGICAL INFORMATION

The pilot was located in the waters of Croatan Sound, near Manteo, North Carolina, on February 11, 2003. Postmortem examination of the pilot was performed by Paul R. Spence, M.D., Forensic Pathologist, Greenville, North Carolina. The cause of death was attributed to saltwater drowning. No findings, which could be considered causal to the accident, were reported.

Postmortem toxicology studies on specimens obtained from the pilot were performed by the Office of the Chief Medical Examiner, Chapel Hill, North Carolina, and by the FAA Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma. The tests were positive for up to 38 mg/dL ethanol in blood and 19 percent carbon monoxide in blood. These levels were attributed to postmortem production.

#### TEST AND RESEARCH

Examination of the propeller shaft and the propeller retaining bolts was performed by the NTSB Materials Laboratory, Washington, DC. The damage to the propeller retaining bolts was consistent with a sudden impact to the propeller.

A Garmin GPSMAP 195, GPS receiver was found in the airplane after the accident. The unit was shipped to Garmin International, Inc., for readout. It was found that water intrusion into the case of the unit had caused a short to the memory circuit and no data could be extracted from the unit.

A review of the FAA instrument approach procedure for the NDB approach to runway 5 at the Manteo/Dare County Regional Airport shows that the minimum descent altitude for the approach is 640 feet agl.

#### ADDITIONAL INFORMATION

The airplane wreckage was released to Telford M. Allen, III, of Telford Aviation, on January 9, 2003. Components retained by the NTSB for further testing were returned to Telford Aviation.

## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	62, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last Medical Exam:</b>	04/22/2002
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	10/03/2002
<b>Flight Time:</b>	19091 hours (Total, all aircraft), 500 hours (Total, this make and model), 43 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	Cessna	<b>Registration:</b>	N1122Y
<b>Model/Series:</b>	208B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	208B0392
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	12/16/2002, AAIP	<b>Certified Max Gross Wt.:</b>	9062 lbs
<b>Time Since Last Inspection:</b>	20 Hours	<b>Engines:</b>	1 Turbo Prop
<b>Airframe Total Time:</b>	5229 Hours	<b>Engine Manufacturer:</b>	Pratt & Whitney Canada
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	PT6A-114A
<b>Registered Owner:</b>	Avion Capital Corporation	<b>Rated Power:</b>	675 hp
<b>Operator:</b>	Telford Aviation, Inc.	<b>Air Carrier Operating Certificate:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	FTSL

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	MQI, 14 ft msl	Observation Time:	0100 EST
Distance from Accident Site:	2 Nautical Miles	Direction from Accident Site:	50°
Lowest Cloud Condition:		Temperature/Dew Point:	12° C / 12° C
Lowest Ceiling:	Overcast / 300 ft agl	Visibility	3 Miles
Wind Speed/Gusts, Direction:	5 knots, 350°	Visibility (RVR):	
Altimeter Setting:	29.55 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	Fog; No Precipitation		
Departure Point:	Elizabeth City, NC (ECG)	Type of Flight Plan Filed:	IFR
Destination:	Manteo, NC (MQI)	Type of Clearance:	IFR
Departure Time:	0035 EST	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	35.900556, -75.733333

## Administrative Information

Investigator In Charge (IIC):	Jeffrey L Kennedy	Adopted Date:	09/01/2004
Additional Participating Persons:	Richard Litka; FAA FSDO; Greensboro, NC Todd Sigler; Cessna Aircraft Company; Wichita, KS Thomas Berthe; Pratt and Whitney Canada; Montreal, Telford Allen; Telford Aviation, Inc.; Bangor, ME		
Publish Date:	04/25/2014		
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		



The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.