



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	East Hampton, NY	<b>Accident Number:</b>	NYC06FA015
<b>Date &amp; Time:</b>	10/23/2005, 1345 EDT	<b>Registration:</b>	N7345U
<b>Aircraft:</b>	Cessna 411	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

The pilot purchased the multiengine airplane about 18 months prior to the accident, and was conducting his first flight in the airplane, as he flew it from Georgia to Massachusetts. While en route, the airplane experienced a failure of the left engine. The airplane began maneuvering near an airport, as its groundspeed decreased from 173 miles per hour (mph) to 90 mph, 13 mph below the minimum single engine control speed. A witness reported that the airplane appeared to be attempting to land, when it banked to the left, and descended to the ground. The airplane impacted on a road, about 3 miles east-southeast of the airport. A 3-inch, by 2.5-inch hole was observed on the top of the left engine crankcase, and streaks of oil were present on the left gear door, left flap, and the left side of the fuselage. The number two connecting rod was fractured and heat distressed. The number 2 piston assembly was seized in the cylinder barrel. The airplane had been operated about 30 hours, during the 6 years prior to the accident, and it had not been flown since its most recent annual inspection, which was performed about 16 months prior to the accident. In addition, both engines were being operated beyond the manufacturer's recommended time between overhaul limits. The pilot did not possess a multiengine airplane rating. He attended an airplane type specific training course about 20 months prior to the accident. At that time, he reported 452 hours of total flight experience, with 0 hours of multiengine flight experience.

## 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 airspeed, while maneuvering with the left engine inoperative. Contributing to the accident were the failure of the left engine, and the pilot's lack of multiengine certification.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF  
Phase of Operation: CRUISE

### Findings

1. (F) 1 ENGINE - FAILURE  
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Occurrence #2: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: MANEUVERING

### Findings

2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND  
3. (F) LACK OF CERTIFICATION - PILOT IN COMMAND  
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

### Findings

4. TERRAIN CONDITION - GROUND

## Factual Information

### HISTORY OF FLIGHT

On October 23, 2005, about 1345 eastern daylight time, a Cessna 411, N7345U, was destroyed when it impacted the ground while maneuvering, after a loss of engine power near East Hampton, New York. The certificated private pilot was fatally injured. Visual meteorological conditions prevailed and no flight plan had been filed for the flight that departed the Jackson County Airport (19A), Jefferson, Georgia, about 0944, destined for Nantucket, Massachusetts. The personal flight was conducted under 14 CFR Part 91.

The pilot's father reported that the pilot had purchased the airplane about 18 months prior to the accident. The accident flight was the pilot's first flight in the airplane, and he intended to fly to Nantucket, Massachusetts.

A witness near the accident site reported that he observed the airplane and thought that the pilot may have been attempting to land at the East Hampton Airport (HTO), East Hampton, New York. The airplane's engine noise "did not sound right," and he observed a trail of white smoke emanating from the left engine. The airplane banked to the left, and descended to the ground. Another witness reported that the airplane's wings were "vertical," when he observed the airplane strike a tree, before it struck the ground.

Another witness, who was an airline pilot, stated the airplane circled over his house at what sounded like a high power setting. It then disappeared and then reappeared, turning from the base leg to final approach for runway 28, at HTO. When the airplane rolled out of the turn, he heard a loud "prop over boost sound...consistent with the sound of [the] throttle and propeller levers being advanced very rapidly." The airplane disappeared below the tree line, and he heard the sounds of police sirens about 6 to 7 minutes later.

The accident occurred during the hours of daylight approximately 40 degrees, 57.58 minutes north latitude, and 72 degrees, 10.30 minutes west longitude.

### PERSONNEL INFORMATION

The pilot held a private pilot certificate with an airplane single engine land rating. A check of the Federal Aviation Administration (FAA) airman certificate database revealed that the pilot did not possess a multiengine airplane rating.

The pilot's logbook was not recovered. The pilot attended and completed a Cessna 411 initial training course during February 2004. The course consisted of approximately 10 hours of simulator flight training, and 20 hours of class room instruction. At the time of the training, the pilot reported 452 hours of total flight experience, with 0 hours in multiengine airplanes.

The pilot's most recent application for an FAA second class medical certificate, was issued on January 6, 2004.

### AIRCRAFT INFORMATION

According to a bill of sale, the pilot purchased the airplane on April 18, 2004. The previous owner reported that he believed the airplane had remained parked at the Jackson County Airport, since it was purchased, until the day of the accident. He also estimated that the airplane had been operated for about 30 hours, during the 6 years prior to the accident.

According to the airplane's logbooks, it's most recent annual inspection was performed on June

7, 2004. At the time of the accident, the airplane had been operated for 2.5 hours since the inspection, and had approximately 2,808 total hours, which included 53 total hours since August 1994. In addition, the airplane had accumulated approximately 8 hours of flight time between an annual inspection that was performed on April 25, 2003, and the time of the accident.

The airplane was equipped with two Teledyne Continental Motors GTSIO-520C engines. According to the engine logbooks, both engines underwent a major overhaul on March 5, 1975, about 920 hours prior to the accident. The left engine was disassembled and repaired on May 21, 1996, after a propeller strike.

The engines were each equipped with a Hartzell HC-A3VF-2D propeller assembly. Both the left and right propellers were overhauled on April 25, 2003.

Teledyne Continental Motors service information letter SIL98-A, stated that the recommended time between overhaul (TBO) for the GTSIO-520C engine, was 1200 hours of operation or at least every 12 years.

#### METEOROLOGICAL INFORMATION

A weather observation taken at HTO, at 1358, reported: winds from 310 degrees at 10 knots; visibility 10 statute miles; ceiling 1,500 feet overcast; temperature 10 degrees Celsius (C), dew point 5 degrees C; altimeter 29.73 inches of mercury.

#### WRECKAGE INFORMATION

The airplane impacted on a road, about 3 miles east-southeast of the East Hampton Airport. The airplane came to rest inverted, on a heading about 300 degrees. All major portions of the airplane were accounted for at the accident site. The airplane was moved to the East Hampton Village Public Works facility for further examination.

The roof of the fuselage was crushed downward into the cabin. Postcrash fire damage was noted in the vicinity of each respective engine nacelle, and the portions of the left and right wings outboard of their respective nacelles were separated. Sooting was observed on the fuselage and empennage. In addition, the fuselage structure aft of the cabin was compromised, and remained attached via control cables. The top 3 feet of the rudder and vertical stabilizer assembly was crushed downward. Flight control continuity was confirmed from the rudder and elevator to the cockpit. Aileron control continuity was confirmed from the cockpit, through the left and right bellcranks, to their respective outboard wing areas. The landing gear was found in the extended position, and examination of the flap actuator sprocket control corresponded with a 30-degree flap extension setting.

Both engines were separated from their mounts and remained attached via cables and hoses. A 3-inch, by 2.5-inch hole was observed on the top on the left engine crankcase. The hole was above the number 1 cylinder, and exposed a crankshaft counterweight. In addition, streaks of oil were observed on the left gear door, left flap, and the left side of the fuselage. Both propellers remained attached at their respective crankshaft flanges. Both propellers were impact damaged, and one of the three propeller blades had separated from each engine. Both propellers were retained for further examination. Both engines were removed and examined at Teledyne Mattituck Services Inc., Mattituck, New York.

Disassembly of the left engine revealed that the number 2 connecting rod was fractured at the "yoke." Portions of the number 2 connecting rod cap were located in the oil sump. The

number 2 piston assembly was seized in the cylinder barrel. The number 2 and 3 connecting rods were black and discolored, consistent with thermal distress. The number 2 and 3 connecting rod journals were also heat distressed. The number 2 connecting rod main bearing was smeared, and portions of the bearing were located in the oil sump. The number 3 connecting rod bearing was spun, but remained intact. The number 1, 4, 5, and 6 connecting rod assemblies exhibited normal operational signatures. All spark plug electrodes were intact and covered with black soot. Both magnetos were separated; however, they produced a spark from all towers when placed on a test bench.

The right engine was rotated by hand. Valve movement was observed at all cylinders, and crankshaft continuity was observed through the accessory section. Thumb compression was attained on all cylinders except the number 5 cylinder, which was impact damaged. The right magneto was impact damaged near the mounting flange. The left magneto remained secured to the engine. Both magnetos produced a spark from all towers when rotated on a test bench. The top spark plugs were removed. Their electrodes were intact, except for the number 1 and 5 spark plugs, which were impact damaged.

The airplane's fuel tanks were compromised. A witness who arrived at the accident site about 30 seconds after the accident, reported that he noticed a fuel odor. All four fuel tank caps were accounted for. The fuel servos on both engines were separated and impact damaged. Disassembly of both engine fuel manifold valves revealed that the screens were intact, absent of debris, and their respective fuel valves moved freely. A "few drops" of liquid consistent with aviation gasoline was found in each fuel manifold.

A Garmin 296 global position system (GPS) receiver was recovered from the airplane and forwarded to the National Transportation Safety Board's Vehicle Recorders Division, Washington, D.C., for further examination.

#### MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot, on October 25, 2005, by the Suffolk County Medical Examiners Office, Suffolk County, New York. In addition, toxicological testing conducted by the Suffolk County Medical Examiners Office was negative for drugs and alcohol for the pilot.

#### TESTS AND RESEARCH

Both propellers were examined on November 8, 2005, at Hartzell Propeller Inc., Piqua, Ohio, under the supervision of an FAA inspector. According to the inspection report, blade damage to the left propeller did not show clear evidence of rotation at impact. If rotating, the blade damage was consistent with low to no power. The propeller did not have indications of being feathered. The right propeller did exhibit evidence of rotation and was not feathered at the time of the impact. The blade damage suggested impact at low rotational energy.

The examination did not reveal any preimpact mechanical failures of the respective propeller assemblies.

#### ADDITIONAL INFORMATION

##### GPS

The handheld Garmin 296 GPS receiver was successfully downloaded and the track log recorded the latitude, longitude, date, time, and groundspeed for the accident flight. The data revealed that the airplane departed 19A, at 0944, in a northwesterly direction, and proceeded

uneventfully to the Fire Island area of Long Island, New York. The airplane remained in this area for approximately 23 minutes, before resuming a course just off the shoreline, toward East Hampton, New York, at a ground speed of 200 miles per hour (mph). At 1339, the airplane was at a groundspeed of 173 mph, when it turned toward the shore and began maneuvering inland, approximately two miles east of HTO. The airplane's groundspeed was decreasing during this time period. About 1342:37, the airplane was at a groundspeed of 114 mph, when it made a left turn to the west, toward HTO. Shortly thereafter, the airplane was flying on a west-southwesterly heading, at a ground speed of approximately 90 mph, when the last GPS position was recorded, at 1343:08.

### Single Engine Performance

According to the Cessna 411 Aircraft Owner's Manual Emergency Procedures, Section III, the procedure for an approach with an inoperative engine was:

- "(1) Approach at 120 MPH with excessive altitude
- (2) Landing gear - EXTENDED when within gliding distance of the field.
- (3) Wing Flaps - DOWN when landing is assured.
- (4) Decrease speed below 110 MPH only if landing is assured
- (5) Minimum Single-Engine Control Speed - 103 MPH"

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	50, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	01/01/2004
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	452 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N7345U
Model/Series:	411	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	4110045
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	06/01/2004, Annual	Certified Max Gross Wt.:	6500 lbs
Time Since Last Inspection:	3 Hours	Engines:	2 Reciprocating
Airframe Total Time:	2808 Hours at time of accident	Engine Manufacturer:	Teledyne Continental
ELT:	Installed	Engine Model/Series:	GTSIO-520C
Registered Owner:	William F. Holdgate	Rated Power:	340 hp
Operator:	William F. Holdgate	Operating Certificate(s) Held:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	HTO, 56 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	1358 EDT	Direction from Accident Site:	270°
Lowest Cloud Condition:		Visibility	10 Miles
Lowest Ceiling:	Overcast / 1500 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.73 inches Hg	Temperature/Dew Point:	10°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Jefferson, GA (19A)	Type of Flight Plan Filed:	None
Destination:	Nantucket, MA (ACK)	Type of Clearance:	None
Departure Time:	0944 EDT	Type of Airspace:	

## Airport Information

Airport:	East Hampton (HTO)	Runway Surface Type:	Asphalt
Airport Elevation:	56 ft	Runway Surface Condition:	Dry
Runway Used:	28	IFR Approach:	None
Runway Length/Width:	4255 ft / 100 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	On-Ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal	<b>Latitude, Longitude:</b>	40.955833, -72.194444

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Luke Schiada	<b>Report Date:</b>	01/31/2008
<b>Additional Participating Persons:</b>	Eva Mauro; FAA/FSDO; Farmingdale, NY Steve Miller; Cessna Aircraft Company; Wichita, KS Eric Thomas; Teledyne Continental Motors; Mobile, AL		
<b>Publish Date:</b>			
<b>Investigation Docket:</b>	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> .		

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