Aviation Investigation Final Report

Location:	Homosassa Spgs., Florida	**Accident Number:**	ERA09FA074
Date & Time:	November 30, 2008, 18:18 Local	**Registration:**	N945T
Aircraft:	Beech 35-B33	**Aircraft Damage:**	Destroyed
Defining Event:	Windshear or thunderstorm	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The day of the accident the pilot contacted the St. Petersburg Flight Service Station at 0852, 1308, and 1701 local time. Each time, he requested an abbreviated weather briefing and was told of embedded thunderstorms and convective activity along the route of flight. He was also told that there was a tornado watch in effect for central and southern Florida. After amending the instrument-flight-rules flight plan takeoff time three times, the flight was cleared to take off from runway 36 at 1730. After takeoff the flight was handed off to Jacksonville Center (ZJX) and the controller provided information on the moderate and heavy precipitation along the pilot's route of flight for the next 100 miles. The pilot requested deviation of "any holes" left or right of the flight path. The controller informed him that the moderate to heavy precipitation was to the left and right of them for 200 miles. About 10 minutes after the initial contact with the controller, the pilot asked "How much further does it look for us?...Getting bumped around pretty bad here." The ZJX controller advised that they were in moderate precipitation for the next 30 miles and briefed them on what to expect for the next several miles; the pilot acknowledged the transmission. After about 5 minutes, the controller informed the pilot that they were in a patch with no precipitation and again briefed him on what to expect for the remainder of the flight; the pilot never acknowledged the transmission and no further transmissions were received. About 30 seconds later, with the flight over the Gulf of Mexico and on a southeast heading at approximately 5,000 feet msl, radar contact was lost. Prior to the loss of contact radar returns show that the airplane began a right descending turn. At that time, satellite weather imagery depicted a line of clouds along a front and over the last radar hit consisting of nimbostratus to embedded cumulonimbus clouds with level 3 to 4 intensity echoes. The airplane was most likely not equipped with any airborne weather detection and avoidance systems. The main wreckage was never located; however, some personal items and a small amount of debris from the airplane were found floating on the surface of the water near the last recorded radar return.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued flight into known adverse weather conditions.

Findings

Personnel issues	Decision making/judgment - Pilot
Environmental issues	Thunderstorm - Decision related to condition
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Enroute-cruise	Windshear or thunderstorm (Defining event)
Enroute-cruise	Loss of control in flight

HISTORY OF FLIGHT

On November 30, 2008, about 1818 eastern standard time, a Beech 35-B33, N945T, registered to the Eagle Squadron Inc. and operated by an individual, was lost from radar over the Gulf of Mexico, near Homosassa Springs, Florida, during an instrument flight rules (IFR) flight from the Tallahassee Regional Airport (TLH), Tallahassee, Florida, to Vandenberg Airport (VDF), Tampa, Florida. Instrument meteorological conditions prevailed at the time and an IFR flight plan was filed for the Title 14 Code of Federal Regulations Part 91 personal flight.

A person who identified himself as the pilot of N945T contacted the St. Petersburg Flight Service Station at 0852, 1308, and 1701 on the day of the accident. Each time, he requested an abbreviated weather briefing and was told of embedded thunderstorms and convective activity along the route of flight. He was also told that there was a tornado watch in effect for central and southern Florida. The IFR flight plan takeoff time was amended three times before the actual takeoff. The final time the pilot called the flight service station he was told "…you really want to wait a little while longer until [the weather] starts to clear up just a little bit more."

At 1723, a person onboard N945T contacted the TLH ground controller requested and received an IFR clearance to VDF, along with taxi instructions to runway 36. At 1730, N945T was cleared to takeoff from runway 36. At 1731, N945T was instructed to contact the Tallahassee Departure controller and remained in contact until 1744. At 1745, N945T was handed off to Jacksonville Center (ZJX). N945T contacted ZJX and advised they were at 5,000 above mean seal level (msl.) ZJX stated "radar contact" and provided information on the moderate and heavy precipitation along the pilot's route of flight for the next 100 miles.

N945T requested deviation of "any holes" left or right of the flight path. The ZJX controller informed that the moderate to heavy precipitation was to the left and right of them for 200 miles. About 10 minutes from the initial contact with ZJX, N945T asked "How much further does it look for us?" "Getting bumped around pretty bad here." ZJX controller advised that they were in moderate precipitation for the next 30 miles, and briefed them on what to expect for the next several miles; N945T acknowledged the transmission. About 5 minutes from the last communication, ZJX controller informed N945T it showed them in a patch with no precipitation and again briefed on what to expect for the remainder of the flight; N945T never acknowledged the transmission, no further transmissions were received from N945T. About 30 seconds later, radar contact was lost.

Recorded radar data obtained from the FAA Tampa Approach Control, showed that at 1816:48, the flight was at 5,000 feet on a south-southeasterly heading. At 1816:52 the aircraft descended to 4,900 feet. The flight continued at 4,900 feet on the southeasterly heading until 1817:20. At 1817:25, the flight was on a southerly heading and had descended to 4,600 feet. At 1817:29, the flight was at 4,300 feet on a southwesterly heading. At 1817:34, the flight was at 3,800 feet on a northwesterly heading. No further radar information was recorded for the flight.

Information obtained from family members and local authorities revealed that the pilot and passenger were returning to their home base, VDF, from Tallahassee. The United States Coast Guard located debris matching the accident airplanes colors, and personal effects from the persons onboard, several miles off shore from Homosassa Bay, Florida, near the last recorded radar return, on the morning of December 1, 2008. The bodies of the pilot and passenger were also recovered.

PERSONNEL INFORMATION

The pilot, age 35, held a private pilot certificate with ratings for airplane single engine land, multiengine land, and instrument airplane. He was issued a first-class medical certificate on May 31, 2007, with no limitations. He reported 950 total hours of flight experience at that time. A review of the pilot's electronic flight logbook records revealed that as of October 29, 2009, he accumulated a total of 1,058 total flight hours. From November 30, 2007 until October 26, 2008, the pilot documented 18.7 hours of actual instrument time. A review of the pilot's FAA airmen records, show he was issued his instrument rating on September 27, 2001.

The passenger, age 28, held a private pilot certificate with a rating for airplane single engine land. He was issued a third-class medical certificate on October 23, 2006, with no limitations. He had documented 130 total hours at that time.

AIRCRAFT INFORMATION

The accident airplane, a Beechcraft 35-B33 Debonair, serial number CD-704, was manufactured in 1963 as a four-seat low wing airplane with retractable tricycle landing gear. The airplane was equipped and certified for IFR flight. The airplane was powered by a six-cylinder Continental IO-550 series engine, capable of producing 300 horsepower. Review of the airplane's log books reveal that the last annual inspection was performed on November 10, 2008 at a total airframe time of approximately 7,792 hours. In addition, no evidence was discovered during the course of the investigation that indicated the airplane may have been equipped with any airborne weather detection and avoidance systems.

METEOROLOGICAL INFORMATION

A Meteorological Study performed by the NTSB Operational Factors Division showed the National Weather Service (NWS) southeast sector Surface Analysis Chart for 1600 EST on

November 30, 2008 (2100Z) as depicting an occluded front extending from the main low over Indiana and Ohio with central pressure of 990-hectopascals (hPa) and 989-hPa respectively southward to the triple point located in northern Georgia, where the front split into a cold front extending south-southwest across Georgia and the Florida panhandle into the Gulf of Mexico. The cold front was directly along the flight path between Tallahassee and Tampa. The chart also depicted a squall line extending to the east of the accident site from the Atlantic Ocean off the Georgia coast south-southwest across central Florida and into the Gulf of Mexico.

The NWS Radar Summary Chart for 1819 EST (2319Z) depicted an extensive area of light rain ahead of the cold front with a narrow band of strong to intense echoes embedded within the area, and near the location the accident flight was lost from radar. Echo tops ranged from 18,000 to 30,000 feet within the area.

The GOES-12 infrared band 4 Satellite image at 1802 EST (2302Z) at 4X magnification with a standard MB temperature enhancement curve applied to highlight the higher and colder cloud tops associated with deep convection and cold cirriform clouds. The accident location is in an area of nimbostratus type clouds. The radiative cloud top temperature over the accident site was observed at 254.0 degrees Kelvin (K) or –19.16 degrees C, which according to the KTBW sounding indicated cloud tops in the range of 23,000 feet. Satellite weather imagery depicted a line of clouds along the front and over the last radar hit, consisting of nimbostratus to embedded cumulonimbus clouds with level 3 to 4 intensity echoes.

Sounding data indicated winds were from the west at 50 knots at 5,000 feet, with a temperature of 10 degrees Celsius. An Airmen's Meteorological Information advisory for occasional moderate turbulence below 12,000 feet was in effect for the area at the time of the accident.

WRECKAGE AND IMPACT

Section of the cabin seats, cabin floor, a right main landing gear assembly, and debris matching the accident airplane’s colors were recovered, along with personal affects belonging to the occupants. The remaining wreckage was not located.

MEDICAL AND PATHOLOGICAL

The pilot’s and passenger’s remains were recovered on December 8, 2008 and on December 18, 2008 respectively. The District Five Medical Examiner Office in Leesburg, Florida, conducted a postmortem examination of the pilot and passenger. The cause of death for the pilot and passenger was listed as multiple blunt force injuries.

The Wuesthoff Reference Laboratory, Melbourne, Florida conducted toxicological testing on specimens from the pilot and passenger. The tests were negative for alcohol and drugs.

Pilot Information

Certificate:	Private	**Age:**	35,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	May 31, 2007
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1057 hours (Total, all aircraft), 144 hours (Total, this make and model), 904 hours (Pilot In Command, all aircraft), 28 hours (Last 90 days, all aircraft)		

Information

Certificate:	Private	**Age:**	28,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	October 23, 2006
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	130 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N945T
Model/Series:	35-B33	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	CD-704
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 10, 2008 Annual	**Certified Max Gross Wt.:**	3000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	7992 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	Installed, not activated	**Engine Model/Series:**	IO-550 SERIES
Registered Owner:	On file	**Rated Power:**	300 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	KVDF,22 ft msl	**Distance from Accident Site:**	45 Nautical Miles
Observation Time:	18:20 Local	**Direction from Accident Site:**	311°
Lowest Cloud Condition:	Scattered / 600 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 800 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.7 inches Hg	**Temperature/Dew Point:**	18°C / 17°C
Precipitation and Obscuration:	N/A - None - Rain		
Departure Point:	Tallahassee, FL (TLH)	**Type of Flight Plan Filed:**	IFR
Destination:	Tampa, FL (VDF)	**Type of Clearance:**	IFR
Departure Time:	17:40 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	28.783332,-82.900001(est)

Administrative Information

Investigator In Charge (IIC):	Obregon, Jose
Additional Participating Persons:	Michael E Minner; FAA/FSDO; Tampa, FL
Original Publish Date:	March 23, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=69519