Aviation Investigation Final Report

Location:	Captiva Island, Florida	**Accident Number:**	MIA03FA068
Date & Time:	February 28, 2003, 15:40 Local	**Registration:**	N41VK
Aircraft:	Beech 36	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane, with an instrument rated private pilot at the controls, departed on a 19-nautical-mile flight from an island to the mainland across the ocean waters of a sound. A witness, who was an instrument rated private pilot, observed the airplane depart. The witness stated that the airplane "was in IMC [instrument meteorological conditions] about 100 feet MSL as he departed over the Gulf of Mexico." The witness further stated that "there was heavy fog everywhere." He listened to the sound of the airplane's engine "for a minute or two after departure to be sure there were no unusual sounds." A fisherman on the water in the area of the accident site, did not hear or see the accident, but did report that about the time of the accident, fog rolled in over the sound, reducing visibility to 0 feet for about 15 minutes. The visibility then increased to 50 feet. Radar tracked the flight for 1 minute and 39 seconds. The first radar hit showed the airplane about 1 nautical mile southeast of the departure airport at 400 feet msl. For the next 1 minute and 15 seconds, the airplane maintained an east-northeast heading, initially climbing to 700 feet and then descending to 500 feet. The airplane then began to turn left. The airplane had turned approximately 100 degrees and was passing through a northerly heading when the last radar hit was recorded. The last recorded radar hit showed the airplane at 500 feet about 4 nautical miles northeast of the departure airport. The on course heading from the departure airport to the destination was approximately due east. There were no radio communications from the airplane to any air traffic control facility. The pilot had intended to pick up some passengers at the destination airport, and when he did not arrive, concerned family members notified authorities. Search and rescue efforts were started, but were called off due to fog and darkness. The next morning, the airplane wreckage was located about 2 miles southeast of the departure airport in 5 feet of water. Examination of the wreckage revealed evidence indicating the airplane impacted the water in a left wing low and nose low attitude. No evidence of any pre-impact mechanical discrepancies with the airframe or engine was found that would have prevented normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's VFR flight into instrument meteorological conditions and his ensuing failure to maintain altitude/clearance resulting in an in-flight collision with the ocean. A factor was the fog.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: MANEUVERING

Findings
1. (F) WEATHER CONDITION - FOG
2. (C) VFR FLIGHT INTO IMC - PERFORMED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING

Findings
3. TERRAIN CONDITION - WATER
4. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On February 28, 2003, about 1540 eastern standard time, a Beech 36, N41VK, registered to and operated by a private individual, impacted with the ocean waters of Pine Island Sound, shortly after takeoff from North Captiva Air Inc Airport, Captiva Island, Florida. The personal flight was conducted under 14 CFR Part 91. The airplane was destroyed. The private pilot, the sole occupant, was fatally injured. The flight departed Captiva Island about 1530 and was en route to Page Field Airport, Fort Myers, Florida. According to witnesses, instrument meteorological conditions prevailed. No flight plan was filed.

Page Field Airport is located approximately 19 nautical miles on an easterly heading from Captiva Island. About the first 5 nautical miles of the route are over the open waters of Pine Island Sound.

A witness, who was an instrument rated private pilot, observed the airplane depart. The witness stated that the airplane "was in IMC [instrument meteorological conditions] about 100 feet MSL as he departed over the Gulf of Mexico." The witness further stated that "there was heavy fog everywhere." He listened to the sound of the airplane's engine "for a minute or two after departure to be sure there were no unusual sounds."

Target radar data from the FAA's Fort Myers TRACON was recorded for the flight from 1535:30 to 1537:09. The first radar hit showed the airplane about 1 nautical mile southeast of the departure airport at 400 feet msl. Between 1535:30 and 1536:45, the airplane maintained an east-northeast heading, initially climbing to 700 feet and then descending to 500 feet. The airplane then began to turn left. The airplane had turned approximately 100 degrees and was passing through a northerly heading when the last radar hit was recorded at 1537:09. The last recorded radar hit showed the airplane at 500 feet about 4 nautical miles northeast of the departure airport.

There were no radio communications from the airplane to any air traffic control facility. The pilot had intended to pick up some passengers at Page Field, and when he did not arrive, concerned family members notified authorities. Search and rescue efforts were started, but were called off due to fog and darkness. The next morning, the wreckage was found by a search aircraft at latitude 26:35.29 N and longitude 82:11.26 W, about 2 statute miles on a heading of 117 degrees from the departure airport, in 5 feet of water. The wreckage was recovered from Pine Island Sound on March 1, 2003.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with airplane single engine land and instrument ratings. His most recent application for a third class medical certificate was made on February 20, 2003, and the application was pending FAA action at the time of the accident. Review of the pilot's logbook by the NTSB investigator-in-charge revealed that the pilot had a total flight time of about 1,240 hours. He had logged 95 hours of instrument flight time of which 40 hours were in actual instrument meteorological conditions.

AIRCRAFT INFORMATION

Examination of the airplane's maintenance records revealed that the 1969 model Beech Bonanza 36 received its most recent annual inspection on March 27, 2002, at an airframe total time of 5,767 hours. As of that date, the engine, a Continental IO-520-BA, S/N 555992, had accumulated 993 hours since major overhaul. The most recent maintenance was an engine oil change completed on August 20, 2002, at which time the airframe had accumulated 5,814 hours and the engine had accumulated 1,040 hours since major overhaul.

METEOROLOGICAL INFORMATION

A fisherman on the water in the area of the accident site, did not hear or see the accident, but did report that about 1530, fog rolled in over Pine Island Sound, reducing visibility to 0 feet for about 15 minutes. The visibility then increased to 50 feet.

At 1553, the reported weather conditions at Page Field Airport, Fort Myers, Florida, located approximately 19 nautical miles east of the accident site, were wind from 230 at 9 knots, visibility 10 statute miles, few clouds at 2,000 feet agl, temperature 27 degrees C, dewpoint 23 degrees C, and altimeter 29.95 inches.

At 1553, the reported weather conditions at Southwest Florida International Airport, Fort Myers, Florida, located approximately 25 nautical miles east of the accident site, were wind from 240 at 10 knots, visibility 10 statute miles, few clouds at 2,500 feet agl, temperature 28 degrees C, dewpoint 21 degrees C, and altimeter 29.95 inches.

WRECKAGE AND IMPACT INFORMATION

The wreckage was examined on March 2, 2003, by the NTSB investigator-in-charge and representatives from Raytheon Aircraft Company and Teledyne Continental Motors. The salvage crew reported that the engine, firewall and instrument panel were found separated from the fuselage. All major components of the airplane were recovered from the accident site except the propeller and the elevator counterweights. Examination of the crankshaft fracture surface revealed evidence consistent with the propeller separating as a result of impact forces. The fuel selector was on the right fuel tank. The landing gear actuator was found in the extended position.

Both wings separated from the fuselage. The right wing remained intact, and the right tip tank

and approximately 8 feet of the outboard upper skin panel exhibited fire damage. The paint was bubbled, but the fire did not penetrate the skin panel. There was a gouge in the right wing leading edge approximately 5 feet from the wing root measuring 16 inches in depth. The right bladder fuel cell was breached in this area. The right flap was found in the retracted position, and the right aileron was attached. The left wing was found in several pieces. The left aileron bell crank and some of the upper skin panels were not located. The left tip tank separated from the wing, and the left main landing gear separated from the gear mounts. Flight control continuity was confirmed from the ailerons to the control yoke.

The empennage remained attached to the fuselage. The rudder and elevators remained attached. Flight control continuity was confirmed from the elevator and rudder to the floor panel under the left pilot seat.

The engine was intact with the fuel pump, right magneto, fuel metering unit and the majority of the intake and exhaust pipes separated. The valve covers and top spark plugs were removed, the crankshaft was rotated, and continuity was confirmed to all of the cylinders and to the rear of the engine. Compression was confirmed on all of the cylinders. The top spark plugs showed moderate to heavy wear when compared to the Champion Check A Plug card. The vacuum pump was in place, undamaged and full of water. The drive shaft was free to rotate. The vacuum pump was disassembled, and no internal damage was observed. The fuel pump was separated and intact; the drive shaft was missing. The unit was disassembled, and no internal damage was observed. The fuel manifold was disassembled and water was found in the interior; the diaphragm and spring were intact and undamaged, and a small amount of debris was noted on the screen. The oil filter was opened, and the element was clean and clear with no metal deposits. Heavy corrosion was observed on both magnetos; the cases were beginning to disintegrate. The left magneto was free to rotate, and the right magneto would not rotate. Both magnetos were disassembled, and they had heavy interior corrosion.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed by the Office of the District Medical Examiner, Fort Myers, Florida. Toxicological testing by the FAA's Toxicology and Accident Research Laboratory detected no carbon monoxide, cyanide or ethanol. The tests detected diphenhydramine in blood and urine.

ADDITIONAL INFORMATION

The wreckage was released to a representative of the owner on March 3, 2003.

Pilot Information

Certificate:	Private	**Age:**	58,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Unknown	**Last FAA Medical Exam:**	February 20, 2003
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	November 9, 2002
Flight Time:	1240 hours (Total, all aircraft), 14 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N41VK
Model/Series:	36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-146
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	March 27, 2002 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	5767 Hrs as of last inspection	**Engine Manufacturer:**	Teledyne Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-BA
Registered Owner:	Richard P. Holley	**Rated Power:**	285 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KRSW,30 ft msl	**Distance from Accident Site:**	25 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	110°
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Broken / 2300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	27°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Captiva Island, FL (FL90)	**Type of Flight Plan Filed:**	None
Destination:	Fort Myers, FL (FMY)	**Type of Clearance:**	None
Departure Time:	15:35 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	North Captiva Air Inc. FL90	**Runway Surface Type:**	
Airport Elevation:	6 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	26.591388,-82.190551

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	Linda Nevin; FAA, Tampa FSDO; Tampa, FL Timothy D Rainey; Raytheon Aircraft Company; Wichita, KS John T Kent; Teledyne Continental Motors; Mobile, AL
Original Publish Date:	July 7, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=56567