Aviation Investigation Final Report

Location:	Osteen, Florida	**Accident Number:**	MIA02FA111
Date & Time:	June 14, 2002, 20:35 Local	**Registration:**	N9143B
Aircraft:	Piper PA-46-310P	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of N9143B had asked the controller if he could deviate about 12 miles west, because he thought he saw "a hole" in the weather. The radar ground track plot showed the pilot had observed a 3 to 5 mile gap between two thunderstorm clusters and attempted to fly through an area of light radar echoes between the two large areas of heavier echoes. N9143B departed level flight, and radar showed that a cluster of thunderstorms, level three to four were present in the vicinity of N9143B's ground track position. Radar data showed that N9143B started an uncontrolled descent from FL260 (about 27,500 feet msl). Witnesses reported hearing the engine make a winding noise, then observed the airplane come out of the clouds about 300 feet above the ground, in a nose low spiral, and the right wing was missing. The right wing was not found at the crash site, but was located 1.62 miles from the main wreckage. The pilot of N9143B had requested and received a weather briefing. He was advised that the weather data indicated that an area forecast for his route of flight predicted thunderstorm activity and cumulonimbus clouds with tops as high as FL450 (flight level 45,000 feet), and a weather system impacting the Florida Gulf Coast, consisted of "looming thunderstorms" in that area. The pilot had contacted the Enroute Flight Advisory Service (EFAS, commonly known as "Flight Watch") for enroute weather advisories, and advised of "cells" east of St. Augustine, advised of convective SIGMET 05E in effect for southern Florida, and was advised that a routing toward the Tampa/St. Petersburg area and then southward, would avoid an area of thunderstorms.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inadequate weather evaluation and his failure to maintain control of the airplane after entering an area of thunderstorms resulting in an in-flight separation of the right wing and right horizontal stabilizer and impact with the ground during an uncontrolled descent.

Findings

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

Findings
1. WEATHER CONDITION - THUNDERSTORM
2. (C) WEATHER EVALUATION - INADEQUATE - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings
3. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #3: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. WING - OVERLOAD
5. WING - SEPARATION
6. HORIZONTAL STABILIZER - OVERLOAD
7. HORIZONTAL STABILIZER - SEPARATION

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
8. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On June 14, 2002, about 2035 eastern daylight time, a Piper PA-46-310P, N9143B, operated and registered to an individual, had an in-flight separation of the right wing, and the left horizontal stabilizer, and impacted the ground about 8.5 miles northeast of Osteen, Florida. Instrument meteorological conditions prevailed at the time, and an instrument flight rules (IFR) flight plan was filed for the 14 CFR Part 91 personal flight. The airplane was destroyed. The private-rated pilot and two passengers were fatally injured. The flight had originated from Raleigh, North Carolina, that same day, about 1828, and was en route to Marco Island, Florida.

At 1652, the pilot of N9143B contacted Macon, Georgia, Automated Flight Service Station (MCN AFSS) and requested a briefing for a flight from Salisbury, North Carolina (RUQ) to Raleigh-Durham, North Carolina (RDU), then for a flight from RDU to Marco Island, Florida (MKY). The MCN AFSS Preflight Specialist (PF01) entered a flight plan for N9143B from RUQ to RDU and requested weather information from the computer. Weather data indicated that an area forecast for southern North Carolina, South Carolina, Georgia, northern Florida and coastal waters predicted thunderstorm activity and cumulonimbus clouds with tops as high as FL450 (flight level 45,000 feet). The Preflight Specialist (PF01) provided a synopsis of a weather system impacting the Florida Gulf Coast, stating there were "looming thunderstorms" in that area. The pilot of N9143B filed another flight plan from RDU to MKY via Myrtle Beach, South Carolina, and Orlando, Florida (ORL). The pilot stated, "oh...out over the water" when describing the route. He filed for a proposed departure time of 1800, requested an altitude of FL260, true airspeed of 250 knots, estimated time en route of 2 hours 45 minutes, with 4 hours of fuel on board. According to the FAA there were no weather avoidance re-route programs in effect that evening for N9143B's route of flight.

The specialist at Macon AFSS Preflight 01 (P01) said that when he spoke to the pilot of N9143B he focused on weather conditions in Florida because "that's where the activity was." While looking at the radar display, he saw that the major influence was in the south Gulf Coast area of Florida. He said that convective SIGMET (Significant Meteorological Advisory) products are not automatically displayed, and he did not remember any convective SIGMETs for the route. He focused on thunderstorm activity and issued the forecast for Fort Myers. He said his requirement was to "give the pilot weather pertinent to the route of flight." He said pilot reports (PIREPs) would normally be displayed, but he did not remember any.

N9143B departed RDU about 1828. At 1850, the pilot made initial contact with Jacksonville Air Route Traffic Control Center (ARTCC-ZJX). The pilot requested a clearance direct to ORL. The ZJX controller offered a clearance direct to MKY, which the pilot accepted. The ZJX controller amended the flight plan data on N9143B to reflect the direct routing. Subsequent ZJX

controllers accomplished routine handoffs and frequency changes.

At 2002, the pilot requested permission to leave the ZJX sector 58 (J58), radio frequency to check enroute weather. The J58 controller approved the request. About 2004, J58 broadcast SIGMET 04E.

At the same time, the pilot contacted Gainesville, Florida (GNV), AFSS, En route Flight Advisory Service (EFAS, commonly known as "Flight Watch") for enroute weather advisories. The EFAS specialist (FW) advised the pilot of "cells east of St. Augustine, they continue to move east at around two zero knots" and advised of convective SIGMET 05E in effect for southern Florida. FW advised that a routing "towards the Tampa-St. Pete area and then southwards" would avoid an area of thunderstorms. During this exchange, the airplane was about 60 miles east-northeast of Jacksonville, about 100 miles north of the accident site. The Gainesville AFSS Flight Watch specialist advised the pilot of "cells" in the area described by SIGMET 04E, and read the full text of SIGMET 05E to the pilot. The Gainesville specialist did not read SIGMET 04E verbatim, but did advise the pilot of the pertinent information.

At 2006, the pilot reported back on frequency to the J58 controller. The controller approved any deviations off course that the pilot wished to make. The pilot replied that he did not need to deviate.

At 2021, J58 transferred control of N9143B to Miami ARTCC (ZMA) sector 02 (R02).

At 2021:31, the pilot of N9143B reported to R02 level at FL260, R02 acknowledged.

At 2027:36, the pilot requested to deviate west of course to avoid weather. The pilot said he wanted to fly through "a little hole." At this time N9143B was just east of Daytona Beach, Florida. R02 asked the pilot how far he needed to go, the pilot replied "about ten or twelve miles." R02 asked the pilot if he could fly a heading of 170 degrees. The pilot responded that he could not and that he was "blocked in on the east side." R02 acknowledged, and approved the deviation, and instructed the pilot to proceed direct to MKY when able. Radar indicated that the pilot turned about 20 degrees to the right at this time.

At 2028:17, R02 informed ZJX that N9143B was deviating west of course, and completed a handoff of N9143B to R65.

At 2029:44, R02 instructed the pilot to contact R65. The pilot acknowledged and stated "Ok…(unintelligible) and a little hole here." Radar indicated that at this time, N9143B was in the vicinity of returns consistent with ARTCC long-range radar weather depiction of both light and heavy intensity. The R65 controller stated that he observed the weather area and was aware of other pilots deviating away from it on the west side.

At 2029:49, the ground track plot showed the pilot had observed a 3-5 mile gap between two thunderstorm clusters and attempted to fly through an area of light radar echoes between the

two large areas of heavier echoes.

At 2029:53, the pilot of N9143B made an unintelligible transmission to R65.

At 2033:36, N9143B departed level flight and radar showed that a cluster of thunderstorms had moved east-northeast, and level three to four thunderstorms were present in the vicinity of N9143B's ground track position. N9143B's uncontrolled descent from FL260 (about 27,500 feet msl) began about 335 degrees at 53 nautical miles from the Melbourne, Florida (KMLB), radar antenna. The last transponder return displayed at ZMA was at 2034:33.

At 2035:26, R65 transmitted "N9143B reset transponder, radar contact lost." There was no reply. The controller attempted to contact the pilot numerous times, with no response. At 2039, search and rescue actions were initiated.

Witnesses reported hearing the engine make a winding noise, then observed the airplane come out of the clouds about 300 feet above the ground, in a nose low spiral, and the right wing was missing. The right wing was not found at the crash site, but was located the morning of June 17, 2002, by a sheriff's helicopter.

PERSONNEL INFORMATION

The pilot, held a FAA private pilot certificate, issued on July 23, 1986, with airplane single engine land, airplane instrument. The pilot held an FAA class 3 medical certificate issued on April 23, 2002, with the limitations the "Holder shall wear corrective lenses."

The pilot's personal flight logbook number one revealed that he had received his instrument rating September 8, 1992. The last dated entry in the logbook was April 10, 1996. FAA records, and information obtained from an application, dated March 9, 2001, from the ATM Flight School, at Vero Beach, Florida, where the pilot had completed a 16-hour "Piper Malibu PA-46T," ground and flight recurrent course on May 24, 2002, revealed the pilot had accumulated a total of 2,800 total flight hours, all of which were single engine flight hours, and 380 hours in this make and model aircraft.

The certified flight instructor (CFI) who last gave the pilot training, and had given the pilot his initial training in the Malibu PA-46-310 in 1996, stated that the pilot was upgrading from a Mooney to the Malibu at the time. This represented his first use of a pressurized aircraft. The CFI noticed during this training and subsequent refresher courses on this aircraft, and the Malibu converted JetProp, that the pilot "pushed himself dangerously close when making weather decisions in this class of airplane." He seem to "lack a healthy respect" for the destructive forces of thunderstorms, and seemed to take "delight" in how close he could come in pushing the envelope. The CFI said he had cautioned him as late as "2 weeks" prior to the accident that his decision making in this respect was deficient and he needed to exercise "greater care" when flying his JetProp in and around "adverse weather systems."

AIRCRAFT INFORMATION

The airplane was a Piper Aircraft Inc.; model PA46-310P, serial number 46-08134, manufactured in 1988. At the time of the accident the airplane had accumulated 2,813.9 total flight hours. The airplane and engine had received an annual inspection on March 21, 2002, 38.2 hours before the accident. The airplane was equipped with one Pratt and Whitney Canada PT6A-34, turbo-prop engine, serial number RB0047, rated at 750 horsepower at 2700 rpm. According to the engine logbook, the engine was put in service June 29, 1969, and placed on N9143B, August 2000. The engine had a total time of 900 hours since field overhaul. According to the maintenance records the last static pressure/instrument check as required by FAR 43, was completed on December 14, 2001.

METEOROLOGICAL INFORMATION

The nearest weather station to the accident location was located at the Orlando-Sanford Airport (KSFB), Florida, field elevation 55 feet msl, located about 234 degrees at 12 nautical miles from the accident location. The reported weather at 2019 was; winds 180 degrees at 9 knots; visibility 7 miles; sky condition; scattered 2,000 feet broken 5,500 feet overcast 7,000 feet; temperature 24 degrees Celsius; dew point 23 degrees Celsius; altimeter setting 29.85 inches hg; remarks, unaugmented observation thunderstorm ended 2012 precipitation 0.14 inch thunderstorm not reported.

The NTSB Meteorological Factual Report revealed that a Surface Analysis chart prepared by the National Weather Service (NWS) and National Centers for Environmental Prediction (NCEP) for June 14, 2002, showed a pre-frontal trough extending northeast southwest across northern Florida ahead of a cold front located over southern Georgia-Alabama. The surface observation plots indicated a broad southwesterly flow over the state.

Upper air charts for about 18,000 feet, and for 30,000 feet prepared by NCEP for June 14, 2002, showed light southwesterly winds across Florida. Station plots and airplane observations in the vicinity of Florida indicated generally uniform temperatures. The temperature at FL260 was about minus 22 to 23 degrees Celsius. The interpolated wind direction at FL260 was approximately 260 degrees. The interpolated wind speeds at FL260 were about 42 knots at Jacksonville. The minimum temperature along the ground track was approximately -56 degrees Celsius.

The convective SIGMETs relevant to N9143B's route of flight during the periods beginning 1855, 1955, and 2055, in part, follow:

Convective SIGMET 95E, issued at 1855, on June 14, was valid until 2055, for Florida and coastal waters from OMN (Ormond Beach, Florida)- 160ENE PBI (Palm Beach, Florida)- VRB (Vero Beach, Florida)- 40WSW ORL (Orlando, Florida)- OMN; Area thunderstorms moving from 210 degrees at 10 knots. The tops of the clouds were above FL450.

Convective SIGMET 96E issued at 1855, on June 14, and was valid until 2055, for Florida and coastal waters20ESE SRQ -60SSE FMY (Fort Myers, Florida)- 100W EYW-70SE SRQ (Sarasota/Bradenton, Florida)- 20ESE SRQ; Area thunderstorms moving from 230 degrees at 20 knots. The tops of the clouds were above FL450.

Convective SIGMET 01E, issued at 1955, on June 14, and was valid until 2155, for North Carolina, South Carolina, Georgia, and coastal waters from 60NNE ILM (Wilmington, North Carolina)- 30SSE FLO (Florence, South Carolina)- 110ESE CHS (Charleston, South Carolina)- 40NNE CRG (Jacksonville, Florida)- 30NNW FLO-60NNE ILM; Area thunderstorms moving from 250 degrees at 25 knots. The tops of the clouds were above FL450.

Convective SIGMET 04E issued at 1955, on June 14, and was valid until 2155, for Florida, and coastal waters from 20E OMN- 90E OMN- 20NW VRB- 30W ORL- 20E OMN; Area thunderstorms moving from 250 degrees at 25 knots. The tops of the clouds were above FL450.

Convective SIGMET 05E, issued at 1955, on June 14, and was valid until 2155, for Florida, and coastal waters from 50ENE FMY- 20SW EYW (Key West, Florida)- 90WNW EYW-FMY- 50ENE FMY; Area thunderstorms moving from 230 degrees at 25 knots. The tops of the clouds were above FL450.

Convective SIGMET 06E, issued at 2055, on June 14, and was valid until 2155, for Florida, and coastal waters from OMN- 100NE VRB- 50NE VRB- 40ENE PIE (St Petersburg-Clearwater, Florida)- OMN; Area thunderstorms moving from 270 degrees at 10 knots. The tops of the clouds were above FL440.

Sunset and twilight information for June 14 were calculated using a Safety Board astronomical software package. The data indicated that official sunset was at 2023 and civil twilight ended at 2050. Further, the data showed that at 26,000 feet sunset was at 2037 and civil twilight lasted until 2104. The magnetic bearing to the sun at the accident location was approximately 303 degrees.

WRECKAGE AND IMPACT INFORMATION

The aircraft crashed on a sod farm that was bordered by trees at the point of impact. The left wing tip had impacted the trees; the nose of the aircraft was found just inside the tree line. The main wreckage had impacted on the sodded area with no indication of forward airspeed. The fuselage was resting on a heading of 150 degrees.

The crash site was 11.6 nautical miles from the Sanford airport. The bearing from the crash site to the airport was 239 degrees. The elevation at the crash site was about 100 feet. The accident occurred during the hours of darkness, and the main wreckage was located at N28 degrees, 53.979 minutes, W081 degrees, 03.986 minutes. The three points of wreckage were not found on a straight line. The wreckage path ran from northeast to southwest. The first

piece of wreckage found was the right wing panel. It was located at N28 degrees, 55.44 minutes, W081 degrees, 02.62 minutes. The second piece of wreckage was the radar pod, it was located at N28 degrees, 55.13 minutes, W081 degrees, 03.07 minutes. The bearing and distance from the wing panel to the radar pod was 231 degrees at .58 miles. The bearing and distance from the radar pod to the main wreckage was 214 degrees at 1.62 miles.

The left wing was found attached to the airframe and located at the crash site. The main spar was observed to be broken at a point inside the cabin. The top spar cap was broken at a point 4 1/2 to 5 inches from the break to the left side cabin skin. The bottom spar cap was broken 7-1/2 to 11 inches from the break to the left side cabin skin.

A chordwise crease was observed in the wing skin at a point just outboard of the main landing gear. This split was 52 inches from the wing root and ran from the leading edge to the wing spar. The crease then ran outboard along the spar for 33 inches until the rib outboard of the wing splice. The left wing tip was observed to have tip damage consistent with impact damage.

The left wing flap was still attached, and found in the retracted position. The left aileron was found partially detached. The aileron assembly was intact and functional. The flap bellcrank assembly was intact. The left landing gear was found down and locked with very little damage noted to the gear assembly.

The outer portion of the right wing had separated in-flight and was located the following day (June 15, 2002), about 1.5 miles east of the main crash site. The break in the right wing had occurred outboard of the wing splice area. The airplane was resting on the right side, and the inboard right wing structure that remained with the airplane after the separation had sustained impact damage. The portion of the right spar cap that was recovered at the main crash site at the point of separation showed a bending of the upper spar cap up and rearward. The right wing main spar was also broken at the wing root just outboard of the cabin skin. The top of the spar cap was broken 2 ½ inches from the break to the outside of the right cabin skin, and the bottom spar cap was broken 4 ½ to 5 inches from the break to the outside of the right cabin skin. The right aileron was attached to the panel that had separated in-flight. The aileron sector assembly was intact and functional. The right-hand flap bellcrank assembly was intact. The right landing gear was detached, and found destroyed.

The left horizontal stabilizer sustained an in-flight separation and was never found. The left elevator sustained an in-flight separation, only the elevator tip with the attached elevator weight was found. The exact location of where the elevator tip was found was not plotted, but it was found southwest of the main wreckage. The break on the elevator spar at the left side elevator spar attach points showed a downward and aft bending at the break. The right horizontal and elevator were intact but showed heavy impact damage. The right elevator was partially detached from the right stabilizer. The vertical stabilizer and rudder were intact but also sustained heavy impact damage.

The vertical stabilizer and rudder were intact, but had sustained impact damage.

The fuselage was damaged in the crash with the right front of the fuselage sustaining the most damage. The fuselage partially separated at the aft pressure bulkhead, but all empennage control cables were found attached. The forward cockpit sustained impact damage; with most of the instruments being destroyed.

The four bladed propeller was found still attached the engine crankshaft flange, and located with the main wreckage. All 4 blades were loss in the hub, but had remained attached to the hub. None of the blades displayed chordwise marks or damage at the tips. One blade showed no bending, and the other 3 blades were bent rearward about 5 degrees, at a location about 10 inches from the blade butts.

TEST AND RESEARCH

The engine was examined on July 30, 2002, at the facilities of Pratt & Whitney Engine Services, Atlanta, Georgia, under the supervision of Mr. Ralph Wilson, from the NTSB Southern Regional Office, Atlanta, Georgia.

According to the teardown report, the engine displayed impact deformation to the external housings. Circumferential rubbing and scoring were displayed by the compressor first stage shroud, the compressor turbine shroud, the power turbine guide vane, and the power turbine shroud, due to their making contact with their adjacent rotors under impact loads and external housing deformation. The compressor first stage, the compressor turbine, and the power turbine displayed circumferential rubbing and fractures of the blade airfoils due to contact with their adjacent static components under impact loads and external housing deformation.

The engine examination revealed that the engine displayed contact signatures to its' internal components characteristic of the engine developing power at the time of impact. The engine displayed no indications of any pre-impact anomalies or distress that would have precluded operation prior to impact. There were no discrepancies found with the engine or engine components that were examined.

The following parts were sent to the NTSB Materials Laboratory for examination:

Two pieces of the right wing front spar lower cap with mating fractures, outboard piece 2 feet 3 inches long, inboard piece 4-feet long. A piece of the right wing front spar upper cap, 16-inches long, and a right wing piece, 36 inches long spanwise, with a fracture on the inboard end. A piece of the right wing rear spar. A piece of the left horizontal stabilizer spar, 3-inches long.

According to the NTSB Materials Laboratory Factual Report, the fracture in the right wing piece appeared to be a fracture from excessive upward aerodynamic loads. Initial failure was in compression buckling along the upper surface of the wing. The front spar cap pieces occurred

after significant deformation and were secondary. The fracture in the left horizontal stabilizer spar was from upward bending, with initial failure in compression at the upper surface. This fracture could also have been from aerodynamic loading. It could not be determined, based on information available during the laboratory examination, if the initial failure of the airplane structure was in the right wing or left horizontal stabilizer.

The NTSB Recorded Radar and Performance Study revealed that N9143B was cruising at 26,000 feet Mean Sea Level, heading 200 to 210 degrees (magnetic) towards heavy thunderstorm when the pilot requested to deviate west around the bad weather. About 2 minutes later the pilot reported seeing a hole and attempted to fly through it. About 3 minutes later, the radar data indicated N9143B descended rapidly in a left hand turn to a maximum decent rate of 20,700 feet per minute to a final altitude of 2,700 feet. According to the ballistic trajectory estimates the radar pod and wing panel separated at around 26,000 feet just prior to the airplane's rapid descent.

The ground speed was constant throughout the flight averaging about 230 knots (kts) before plummeting, and 210 kts to about 20 kts at the end of the dive.

The NTSB Air Traffic Control Factual Report, revealed that the preflight briefing issued by the Macon AFSS specialist did not thoroughly address hazardous weather along N9143B's route of flight. FAA Order 7110.10P, "Flight Services", states: 3-1-7. TYPE OF BRIEFING TO BE CONDUCTED; Provide the pilot with the type of briefing requested; i.e., standard, abbreviated, or outlook. When it is not clear initially which type briefing is desired, provide the first one or two items requested, and then ascertain if the pilot would like a standard briefing. The pilot of N9143B did not specify which type of briefing he desired, however, the Macon AFSS specialist did not clarify the pilot's request. The specialist included only items that he believed were relevant to the pilot's destination airport. At the time of the briefing, SIGMET 76E was valid and impacted the pilot's filed route of flight. During the briefing, SIGMET 84E, which was an update to 76E, was issued. The briefer did not select these weather products and/or advise the pilot. However, as the flight progressed the pilot became aware of the weather conditions through other means.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies were performed on the pilot, and the 2 passengers, by Dr. Steven C. Cogswell, at the Office of the Chief Medical Examiner, Daytona Beach, Florida, on June 19, 2002. According to the autopsy reports the cause of death, on all 3 occupants was "...Multiple fractures and injuries due to blunt force...." No significant pre-existing disease was noted on the autopsy.

Toxicological tests were conducted at the Federal Aviation Administration, Research Laboratory, Oklahoma City, Oklahoma, and revealed, "No ethanol or drugs were detected " Tests for carbon monoxide were not performed on the pilot.

Toxicological tests were conducted, at the Office of the Chief Medical Examiner, Daytona Beach, Florida, all 3 occupants showed levels of carbon monoxide in their muscle tissue.

ADDITIONAL INFORMATION

The airplane was released to Mr. Kevin Rosa, Aero Command Inc., on behalf of owner because no owner's representatives were located for wreckage release, on June 19, 2002. The NTSB Materials Laboratory released the two pieces of the right wing front spar lower cap, the outboard piece 2 feet 3 inches long, inboard piece 4 feet long, a piece of the right wing front spar upper cap, 16-inches long, a right wing piece, 36-inches long spanwise, with a fracture on the inboard end, a piece of the right wing rear spar, and a piece of the left horizontal stabilizer spar, 3-inches long to Mr. Kevin Rosa, Aero Command Inc., on behalf of owner, on March 19, 2003.

Pilot Information

Certificate:	Private	**Age:**	60,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 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 23, 2002
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	2800 hours (Total, all aircraft), 380 hours (Total, this make and model), 2300 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N9143B
Model/Series:	PA-46-310P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	4608134
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	March 21, 2002 Annual	**Certified Max Gross Wt.:**	4118 lbs
Time Since Last Inspection:	38.2 Hrs	**Engines:**	1 Turbo prop
Airframe Total Time:	2813.9 Hrs at time of accident	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-34
Registered Owner:	Calvin M. Miller	**Rated Power:**	750 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	KSFB,55 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	20:19 Local	**Direction from Accident Site:**	234°
Lowest Cloud Condition:	Scattered / 2000 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	Overcast / 7000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	24°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Raleigh, FL (KRDU)	**Type of Flight Plan Filed:**	IFR
Destination:	Marco Island, FL (MKY)	**Type of Clearance:**	IFR
Departure Time:	18:28 Local	**Type of Airspace:**	Class C

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	2 Fatal	**Aircraft Fire:**	Both in-flight and on-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal	**Latitude, Longitude:**	28.883333,-81.050003

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan J.
Additional Participating Persons:	Rich Shepard; FAA; Orlando, FL George Hollingsworth; Piper; Reston, VA John O Franklin; P&W Canada; Langueuil, Canada
Original Publish Date:	June 30, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=54939