

# **AIRCRAFT ACCIDENT REPORT**

## **FINAL REPORT Human Factor (Pilot Induced) Error**

**CESSNA 210  
N9690X  
Marsh Harbour, Abaco Bahamas  
May 27<sup>th</sup>, 2004**

**Report A0411710**





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May 27<sup>th</sup>, 2004**

**Flight Standards Inspectorate  
Bahamas Department of Civil Aviation**



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Mrs. Glennys Hanna-Martin  
Minister of Transportation

Mr. Cyril Saunders  
Director of Civil Aviation

Captain Patrick Rolle  
Manager of Flight Standards Inspectorate

The attached report summarizes an investigation made into the circumstances of an accident involving Cessna 210 aircraft N9690X on 27 May, 2004 at Marsh Harbour, Abaco Bahamas.

This report is submitted pursuant to Part XII, Regulation 80, and Schedule 19 of the Bahamas Aviation Safety Regulation (BASR 2001) and in accordance with Annex 13 to the Convention on International Civil Aviation (ICAO).

Philip C. Romer  
Aviation Safety Inspector  
Investigator in Charge  
Flight Standards Inspectorate  
Department of Civil Aviation (Bahamas)

March 31, 2005

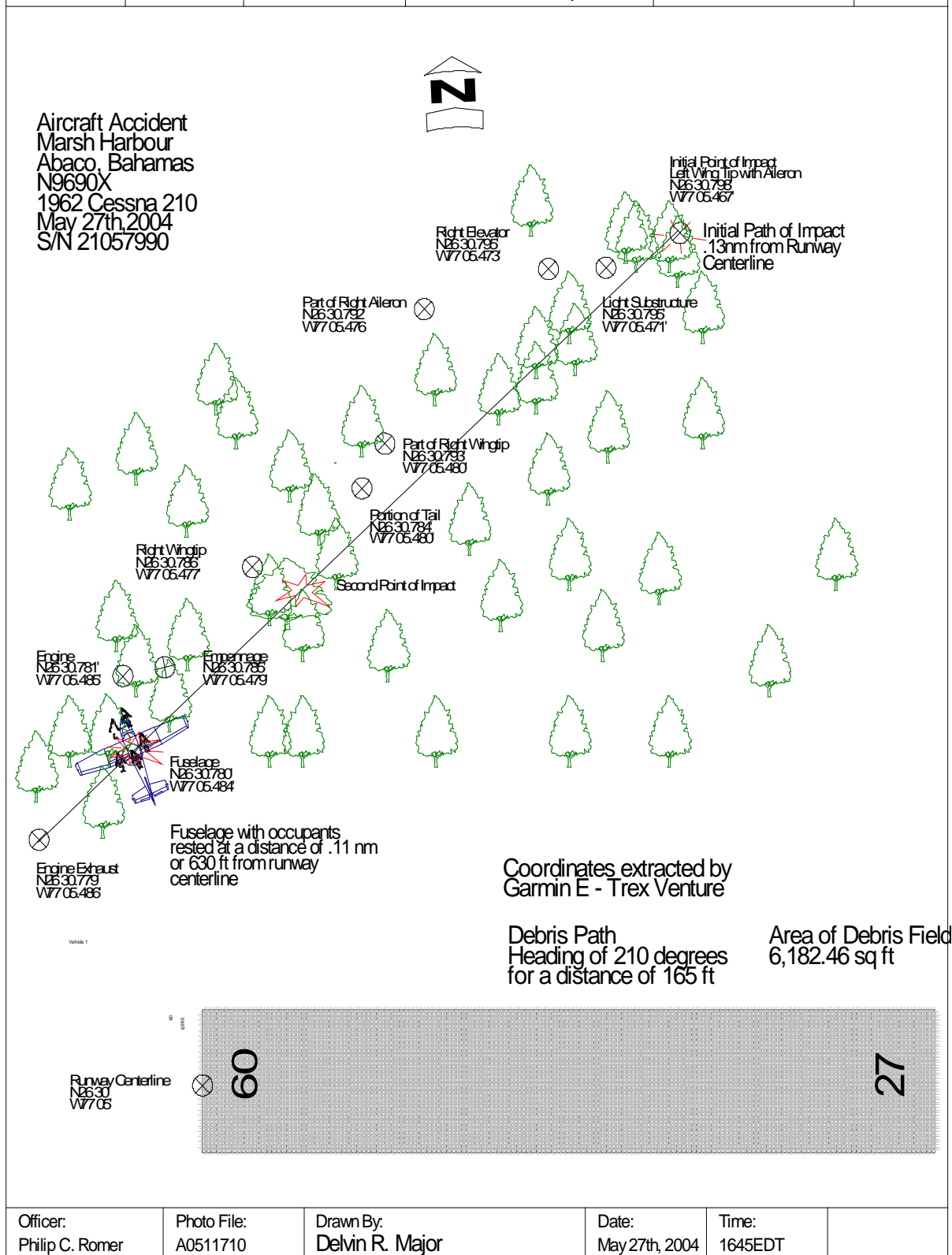
**APPROVED FOR RELEASE AS A PUBLIC DOCUMENT**

*In accordance with Annex 13 to the Convention on International Civil Aviation (ICAO), and Schedule 19 of the Bahamas Aviation Safety Regulations (BASR April 17, 2001) it is not the purpose of aircraft accident investigation to apportion blame or liability. The sole objective of the investigation and the Final Report is the prevention of accidents and incidents.*





Case Name: Accident	Case No.: A0411710	Description: Off Aircraft	Address1: Marsh Harbour Airport	Address2: Marsh Harbour Bahamas	County: Bahamas
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Officer: Philip C. Romer	Photo File: A0511710	Drawn By: Delvin R. Major	Date: May 27th, 2004	Time: 1645EDT	
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**Section A****Abbreviations and Terminology used in this report.**

ADDS	Aviation Digital Data Service - Report furnished by Meteorological Department
BASR	Bahamas Aviation Safety Regulations (April 17, 2001)
BDCA	Bahamas Department of Civil Aviation
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CAD	Civil Aviation Department
CFR	Code of Federal Regulations
CG	Center of Gravity
DCA	Director of Civil Aviation
EDT	Eastern Daylight Time (+5 hours to convert to UTC or Zulu time)
FAA	Federal Aviation Administration
FSI	Flight Standards Inspectorate
GPS	Global Positioning Satellite
ICAO	International Civil Aviation Organization
IFO	International Field Office (FAA)
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Condition
MEL	Minimum Equipment List
METAR	Meteorological Aerodrome Report
NM or nm	Nautical Miles
NTSB	National Transportation Safety Board
USA	United States of America
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
Zulu or UTC	Universal Coordinated Time also termed Zulu time or Z



FLIGHT STANDARDS INSPECTORATE  
CIVIL AVIATION DEPARTMENT  
(Bahamas)

AIRCRAFT ACCIDENT REPORT  
Human Factor Error

REPORT No. 0411710

1962 CESSNA 210B  
N9690X  
May 27, 2004

**B. BASIC INFORMATION**

**Operator:** Private Individual

**Manufacturer:** Cessna Aircraft Company

**Place of Accident:** Marsh Harbour, Abaco .11nm (630 feet) left of threshold of Runway 09

**Investigating Authority:** Flight Standards Inspectorate

**Investigator in Charge:** Philip C. Romer – Aviation Safety Inspector

**Notification:** State of Manufacturer / Design  
Federal Aviation Administration (FAA)  
National Transportation Safety Board (NTSB)  
International Civil Aviation Organization (ICAO) Mexico Office

**Party to Investigation:** Tom Roper - FAA  
Tim Monville – NTSB  
Albert Butler – Teledyne Continental Motors  
Charles Maynard - Air Safety Investigator  
Emile Lohman – Cessna Aircraft Company

**Releasing Authority:** Director - Bahamas Civil Aviation Department

**Date of Report:** March 31, 2005



## **C. SYNOPSIS:**

The occurrence of this accident was notified to the Flight Standards Inspectorate by the Nassau Control Tower. On May 27, 2004 about 1545 eastern daylight time, a Cessna C210B aircraft, N9690X registered to Mr. Jon Simpson, a private individual, crashed short of the runway at Marsh Harbour Abaco, Bahamas. The accident occurred in dense pine field, over rugged terrain, approximately 633 feet north of the threshold of Runway 09.

The State of Manufacture of the airframe and engines (United States) was advised of the accident on that day and invited to participate in the investigation. The NTSB and the FAA were notified and made party to the investigation.

Visual Meteorological Conditions prevailed at the time. N9690X operated as a private flight. The flight originated from Herlong Airport, Jacksonville Florida to Marsh Harbour International Airport, Marsh Harbour, Abaco Bahamas. The aircraft was destroyed. There were five occupants onboard. Both front seat occupants and the rear middle seat occupant received fatal injuries. The remaining two rear seat occupants sustained serious injuries. The pilot held a private pilot rating with instrument privileges and was certificated by the Federal Aviation Administration, (FAA).

## **1.0 FACTUAL INFORMATION:**

### **1.1 History of the Flight**

On May 27<sup>th</sup> 2004 at approximately 1545 EST <sup>1</sup> (1945Z) a privately owned Cessna C210 aircraft registration number N9690X crashed in pine forest, 633 feet north of the threshold of runway 09 at Marsh Harbour International Airport, Marsh Harbour, Abaco Bahamas.

Radio communication was established with Jacksonville Approach originally and subsequently Miami Approach Control. The aircraft departed, climbed to 4,500 feet, flew southbound along the coast of Florida towards Fort Pierce. The pilot then elected to climb to 9,500 feet near Fort Pierce and headed over the water toward the Bahamas direct to Marsh Harbour. The aircraft while flying over Treasure Cay at 4,500 feet the engine sputtered, the pilot elected to switch from the left fuel tank to the right fuel tank and continued toward Marsh Harbour. The flight arrived over Marsh Harbour Airport at 4,500 feet and in an attempt to lose altitude, the pilot executed a series of maneuvers, spirals, steep turns and slips. The aircraft made contact with trees and crashed .13 nm (630 feet) north of the threshold of Runway 09. There was no post flight fire. The accident occurred between 1500 EST to 1600 EST.

The flight originated from Herlong Airport, Jacksonville Florida to Marsh Harbour International Airport, Marsh Harbour, Abaco Bahamas. The aircraft was destroyed. There were five occupants onboard. Both front seat occupants and the middle rear seat occupant received fatal injuries. The pilot held a private pilot rating with instrument privileges. He was certificated by the Federal Aviation Administration, (FAA). Visual Meteorological Conditions prevailed at the time and was not a factor in the accident.

**1.2 Injuries to persons** Three (3) fatal and two (2) serious injuries.

**1.3 Damage to aircraft** The aircraft was destroyed by the impact forces.

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<sup>1</sup> Unless otherwise noted, all times in this report are Eastern Daylight Time (EDT) based on a 24 hour clock.



**1.4 Other Damage** No other damages were reported.

### **1.5 Personnel information**

The 45-year old pilot held an FAA private pilot single engine land certificate with instrument privileges. His third class medical certificate dated 07/23/2002, had no restrictions. He had flown a total of 50.72 and 7.72 hours in the preceding 90 days and 7 days respectively, prior to the accident. He received an instrument rating on November 16 2002. Pilot logbook entries documents his previous experience on this particular route. From May 26 until the accident, pilot flew 7.72 hours<sup>2</sup>. As pilot did not calculate his flight hours on each page of his logbook, his total hours of flight experience was undetermined.

### **1.6 Aircraft information**

The Cessna C210 B was a high wing, single engine, propeller-driven, four place, piston airplane. It was carbureted, normally aspirated, air-cooled with a fixed tricycle landing gear configuration. The accident airplane, serial number 21058990 was manufactured in 1962. It bore United States aircraft registration number N9690X. The aircraft was registered to Mr. Jon M. Simpson and Jordan J. Simpson.

The aircraft had a recent Certificate of Registration issued on 20 June 2002. It had a valid Certificate of Airworthiness. Up to the time of the accident, the aircraft had flown a total of 2,852.71 hours since manufacture. Last overhaul or inspection interval was unknown. The aircraft maintenance was under the provisions of 14 CFR Part 91.

The accident aircraft was configured with a pilot's seat, a front passenger seat and a rear bench seat configured for 2 persons. The airplane had 2 main entry doors one on the left and one on the right. Both doors were also emergency exits. Entry to the rear seat was gained by pulling forward either of the two front seats. Access to the baggage area was gained through a baggage door on the left side of the aircraft, aft of the main entry door.

The aircraft engine was manufactured by Teledyne Continental Engines and assigned serial number 109344-R. It was installed on the nose of the aircraft.

### **1.7 Meteorological information**

**Aviation Digital Data Services (ADDS) METAR** for the period 1700 UTC  
2100UTC 27 May, 2004  
Mostly sunny and warm conditions.

**Bahamas Area Forecast** valid for 12 hours from 1800 Z for May 27, 2004  
Wind 110 at 06 knots Scattered Clouds at 2,500 feet.

### **1.8 Aid to Navigation**

No navigational facilities were available in the area where the aircraft operated.

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<sup>2</sup>(information extracted from hobbs meter and deducted from last log entry of flight time).



## 1.9 Communications

Communications were established with Jacksonville Radar Control and later with the Miami Center Control. No further communication was established with any other center prior to the accident.

## 1.10 AIRCRAFT LOAD

<sup>3</sup> Max Take off weight	3,000 pounds
<sup>3</sup> Empty Weight	2,039 pounds
<sup>3</sup> Useful Load (including fuel)	961 pounds
All baggage including survival gear	151 pounds (weighed)
<sup>4</sup> All male occupants of aircraft approx.	600 pounds (200 # Standard)
Female occupants approx.	340 pounds (170 # standard)
Fuel (40.7 gallons)	244 gallons(based on 6#/gals)
<b>Total</b>	<b>3,374 pounds at take off</b>

## 1.11 Cockpit Voice Recorder

The aircraft was not equipped with a flight data recorder or a cockpit voice recorder. Neither recorder was required under the provisions of 14 CFR Part 91.

## 1.12 Wreckage and Impact information

*All positions reported below represent position aircraft was found, one day later when investigators arrived. Emergency personnel to extract occupants disturbed aircraft fuselage.*

The airplane was destroyed because of an in-flight collision with trees and terrain in an uninhabited, dense wooded area. Initial impact occurred .11 miles north of the threshold of runway 09 at Marsh Harbour International Airport. Investigators to determine the coordinates and elevation of the accident site used a Garmin E Trex Venture handheld global positioning system (GPS) receiver. Initial examination of the wreckage occurred at the crash site on May 28, 2004. All major components of the aircraft were located.

The cockpit and cabin sustained intrusion damage. The engine, right wing tip, part of right aileron, right elevator, and engine exhaust were detached from the fuselage at various intervals from the initial impact to its final resting place.

The impact and debris path was approximately 165 feet long, covered an area of 6,182.46 square feet, and was oriented on a 210-degree magnetic heading. A line from the initial impact to the final resting place of the fuselage was drawn. Measurements were taken in respect of this line. All distances and coordinates are either left or right of this line.

<sup>3</sup> information gathered from latest copy of weight and balance conducted on the aircraft on October 22 2003 by Rapid Air Inc.

<sup>4</sup> weights based on survivors admission of weight and was an estimate. Assuming aircraft burn all available fuel up to the time of the accident, it was still over the weight limitations for the aircraft of 3,000 pounds. 3,374 pounds minus 244 pounds equals 3,130 pounds. In a 60 degree bank, the aircraft wings had to support a load factor of 2 or 2 times 3,130 pounds. So in a 60 degree bank the aircraft wings had to support 6,260 pounds. See appendix.



The aircraft left wing made initial contact with trees, while in a left spiral in an attempt to lose altitude. Multiple tree strikes occurred beginning about 165 feet from initial impact up to making contact with the ground. Tree heights in the area were estimated at 40 feet. The initial tree strike occurred at coordinates N26 30.798 latitude and, W77 05.467 longitude and .13 nautical miles from threshold centerline of runway 09. The left wingtip with left aileron attached was found at this location.

Tree strike heights decreased from the initial point toward the location of the main wreckage over a distance of 165 feet prior to ground impact. The angle formed by the tree strikes relative to the terrain was approximately 45 degrees. A light assembly substructure and part of the aircraft was found 34 feet from the initial point of impact and 8 feet to the right of the centerline field of debris at position N26 30.795' latitude and W 77 05.471' longitude.

### **RIGHT WING**

The right wing separated from the aircraft near the fuselage and wing attachment point. A subsequent impact was made with a pine tree at GPS position N26 30.786' W77 05.477. No aircraft components were found at this location. Part of the right wingtip was located at GPS position N26 30.790' latitude and W77 05.480 longitude, 80 feet from the initial point of impact and 37 feet right of the centerline field of debris.

The right wing was located 133 feet from the initial impact, 12 feet right of the centerline field of debris, and was found inverted. The flap and aileron were found attached. The aileron hinges had failed at several of the wing attachment points. The wing strut remained attached to the fuselage. Part of the remaining wing tip was bent upward, relative to the root, at a point about mid-span. At this mid-span location, the leading edge was crushed and the upper skin was torn. An additional impact mark was located near the root, with a crease running aft along the upper skin. Based on the reading off the fuel totalizer less than 5 gallons of fuel remained in the tanks over Treasure Cay, some 26 miles from Marsh Harbour Abaco. Some fuel however was found in the right wing tank its amount undetermined.

### **LEFT WING**

The aircraft came to rest on its right side with the left wing draped over top of the fuselage. It was inverted. Part of the flap was attached. The wing was bent downward along the entire span, relative to the root. The tip and part of the aileron was missing. The wing strut was secured to the wing fitting and part of the flap remained attached. It exhibited some deformation but otherwise appeared intact. There was no fuel found in the left tank.

### **FUSELAGE AND EMPENNAGE**

The fuselage and empennage, from the cabin aft, was resting on its right side, relative to a normal, vertical attitude, at position N26 30.780, W77 05.484 on a heading of 210 degree, approximately 145 feet from the point of impact, and .11 nautical miles or 630 feet from the threshold centerline of runway 09. There was substantial intrusion in the area of the rudder pedals and cockpit area. The dash board with instrument panel was displaced into the seating area. All seats were intact.

The aft fuselage, beginning immediately forward of the horizontal stabilizers, was bent and creased. The right horizontal stabilizer exhibited impact damage and its tip was torn off at the leading edge beginning about mid-span. The upper half of the vertical stabilizer as well as the rudder sustained structural damage.



The empennage except for the leading edge of the right horizontal stabilizer and elevator was intact and was located at position N26 30.785' latitude and W77 05.479 longitude. It was found 140 feet from the initial point of impact and 20 feet right of the centerline field of debris. A portion of the tail was located at position N26 30.784' latitude and W77 05.480 longitude, 105 feet from the initial point of impact and 10 feet right of the centerline field of debris. The right elevator was found at position N26 30.793' latitude and W77 05.473' longitude, 38 feet from the initial point of impact and 20 feet right of the centerline field of debris.

### **NOSE, ENGINE AND PROPELLER**

The aircraft nose section, which comprised the engine, cowling and instrument panel, was rotated approximately 80 degrees to the right, relative to the fuselage.

The propeller and spinner remained attached to the engine. The engine was dislocated from the engine mount. The engine was located at position N26 30.781' W77 05.485, 145 feet from the initial point of impact and 27 feet right of the centerline field of debris. The spinner and engine received substantial damage due to the impact with trees and rocky terrain.

The first blade of the propeller was bent aft about 30 degrees, 12 inches outboard of the hub and a bend forward 9 inches inboard of the tip. The blade had "S" bending with chord wise and lengthwise scratches. The aft side of the blade had small scratches. The trailing edge at the tip had a small bend forward. No gouges in the leading edge were observed. The second blade was bent aft about 10 degrees 9 inches outboard of the hub and bent aft 5 degrees 5 inches inboard of the tip. The tip of the blade was twisted. The face of the blade had scratches chordwise, lengthwise and at an angle. The aft side was not damaged. The spinner did not exhibit any torsional twisting.<sup>5</sup>

A portion of the exhaust was located 165 feet from the initial point of impact and on the centerline field of debris at coordinates N26 30.779' latitude and W77 05.486 longitude. The aircraft's magnetic compass was stuck on a heading of 210 degree.

#### **1.13 Medical and Pathological Information**

A toxicological analysis was done on samples of blood, urine and stomach contents of the pilot. No ethanol or other drugs were present in his system.

#### **1.14 Fire - There was no post crash fire.**

#### **1.15 Survival Aspects**

The accident was not survivable due to the magnitude of the deceleration forces. The rear seat passenger was not wearing a seatbelt and fatality may have been prevented had she worn a seat belt. Three of the occupants succumbed to blunt force traumatic injuries.

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<sup>5</sup> Information extracted from Engine Analysis field report by Mr. Al Butler of Teledyne Continental Motors



## 1.16 Tests and research

The engine was shipped to the Telendyne Continental Company in Mobile Alabama for evaluation. An engine teardown was conducted on July 12, 2004. In attendance were

Mr. Walter Evans -	Flight Standards Inspectorate – Bahamas Civil Aviation
Mr. Albert Butler -	Teledyne Air Safety Investigator.
Mr. Terry Horton -	Teledyne Product Field Performance Manager
Mr. William Welch -	Cessna Aircraft Co. Supervisor, Product Safety Manager
Mr. Charles Maynard -	Sample Int'l Aviation Inc. Air Safety Investigator

There was no evidence of catastrophic engine failure prior to the accident. Manufacturers test report attached.. See section 5 Appendix..

## 1.17 Other Information

### 1.17.1 Survivor Statement –

Based on findings at the crash site in Abaco, a follow up interview was scheduled with Mr. Brian Kronemeyer (survivor). Inspector Delvin R. Major Aviation Safety Inspector, with the Flight Standards Inspectorate, conducted interview with Mr. Kronemeyer on Sunday May 30, 2004 at Doctors Hospital. Also present during the interview were Mr. Dale Kronemeyer (survivor's father) and the mother of Shannon Kronemeyer (survivor's wife (deceased)).

**Note: Mr. Brian Kronemeyer (survivor) is also a pilot, with instrument rating. Mr. Kronemeyer previously owned the accident aircraft, prior to its sale to Mr. Jon Simpson (deceased pilot). His account of the events leading up to the accident, lends a great deal of credibility and was instrumental in arriving at the cause of the accident.**

A tape recorder was used to record the interview. A few sentences or words were unintelligible and sometimes inaudible because the nurse was checking vitals and periodically his monitoring sensor would beep. Conversations or words that were muffled or cannot be understood are annotated with the word (muffled).

\*\*\*\*\*

**Delvin:** Today is Sunday 30<sup>th</sup> May. Delvin Major, Flight Standards Inspectorate, Aviation Safety Inspector, interviewing Mr. Brian Kronemeyer. And present is Mr. Kronemeyer and his dad Mr. Dale Kronemeyer. And I have gotten Mr. Kronemeyer's permission to record our conversation and on behalf of the Flight Standards Inspectorate we do extend our deepest sympathy on the lost of your wife. Okay, if you can, go ahead and just tell me what happened. I have been to the scene and based on what I have seen and there are some questions that I have.

**Brian:** .....Sure and I would love to tell, if you guys are drawing a conclusion from the scene, as Inspectors as to what I ascertain happened from.....



**Delvin:** We can only speculate and we try not to do that, we want to get all the facts and that is why we came back for a second interview with you.

**Brian:** Bottom line John came in.....ahh .....too high,

**Delvin:** John, you mean the pilot?.....

**Brian:** Yeah. I think he was too high and he had to go around to make the airstrip,

**Delvin:** Where did you leave from?.....

**Brian:** From Jacksonville

**Delvin:** Jacksonville

**Brian:** But I think he had to do a go around because he missed the strip ahhh because he was staying high intentionally

**Delvin:** Why was he doing this?

**Brian:** Because he was low on fuel

**Delvin:** So he was low on fuel?

**Brian:** Yes, very low on fuel, and I think the logic there was, if I stay real high, I can, you know, I can make the field, I will do a rapid descent, once I have the field made and we didn't make the field. So he did a couple of S Turns and a little bit of a slip and then decided he couldn't make it so he would do a bank, to the left and circle to land...

**Delvin:** So he was circling to land

**Brian:** Circling to land

**Delvin:** To the left at the time?

**Brian:** Correct, and the last thing I yelled as we were coming around the corner is "what are you doing, what are you doing, pull up, pull up, add power, add power," before it went in to the trees. so I don't know whether when he had gone in to the bank turn, he had already added power and it starved the.... the engine for fuel, because he was too steep in the turn and couldn't get fuel to the pickup or whether he was so panicked that he was frozen at that point in the turn, don't know which but I do know, that he was really low on fuel, because the engine sputtered.....over Treasure Cay, then he switched to the last fuel in the last tank there's two tanks, left and right so I know the engine sputtered from fuel deprivation over Treasure Cay and he switched tanks at that point.



**Delvin:** So after he switched tanks over Treasure Cay did you have any problems with the engines sputtering after that point

Brian: I can't remember

**Delvin:** You said he was spiraling, was that to the left or right

Brian: Left, it was almost like he was doing a couple of s-turns and when he finally made the left banking turn around he had probably started that turn from 100 yards south of the center line of the runway, very steep, left turn, to circle to land

**Delvin:** So at the time when you made contact with the trees, was he still in the turn or was he level?....

Brian: Still in the turn,

**Delvin:** Still in the turn to the left?...

Brian: Yeah, trying to finish the turn, banking it

**Delvin:** At that time..... was there power at the time?....

Brian: No

**Delvin:** So the engine had shut off?

Brian: No it was either at idle, like it was wind milling, what I'm dying to know is did you find the throttle all the way in.....ok, because I said "what are you doing, what are you doing, add power, pull up, pull up, add power," and he probably by starting that banked turn, starved the engine for fuel .....and by starting that turn there was nothing there for him

**Delvin** So when he added power, the engine did it stop?.....

Brian I don't know that, cause by then I'm panicking, I mean I'm in the back and grabbing for Shannon (wife, deceased) and yelling,.....I didn't have headsets on, ...I was just going "what are you doing pull up, pull up, add power and that was it, we were still banking, flown right in to the trees....

**Delvin** You hit the trees at a bank?.....

Brian We hit the trees I would guess at about 20 to 30 degrees nose down, in a 60 degree bank turn

**Delvin** A sixty degrees banked turn?



Brian A sixty degrees left banked turn, nose down with about a 30 degrees, we would all have a shot at it, if he had gotten it level and hit the trees in a controlled descent, but he didn't.

**Delvin Do you remember what happened after that?**

Brian Yeah I blacked right out.

**Delvin You blacked out?**

Brian Everything went silent it was one of those....you feel the first two trees...and everything went black I think a fair amount of time had passed before I.....

**Delvin Did you have any idea about what time it happened, the accident**

Brian About 3:15

**Delvin So you pretty much blacked out?**

Brian I don't think it was, the only reason I knew how long is....umm...the amount of blood and dust that was laying on John's body, that it actually allow the blood on his face and everything, it already clotted. It was dusty and dirty and dirt clotted blood on his face, it wasn't like.... I immediately came to stop while I was climbing out,.....some time had obviously passed, the bugs were already there.

**Delvin So how did you make it to the runway?**

Brian (showing me his hands and legs which were obviously bruised and cut) I crawled on my hands and knees.

**Delvin You crawled on your hands and knees? Okay**

Brian At least when I came to, I was listening and I heard Patricia moaning, that's the other survivor, so I came to her looked around, kinda dazed and I realized that we had been in an accident, I still couldn't believe that it had happened.

**Delvin So no one got ejected?**

Brian No one was ejected, well, from what I can remember, when I walked around the aircraft, John was already...it was ...however they found him, that was what I saw, from what I remember. John was hanging over the firewall, face down, so no body actually went out of the airplane.

**Delvin Where was your wife at this time?**

Brian Curled up in a ball behind John



**Delvin**            **Was she wearing her seatbelt?**

Brian            I don't, .... I don't know,... I don't think so...she was.....she was in a ball, kinda face down, her back was in the seat right behind and Ron (other deceased, front seat passenger) was forward of that seat and buried up underneath the passenger seat, underneath the floor board, I never even saw Ron, even after I looked forward, I never saw him because Shannon was up against his seat, and that seat back was up against the airplane dash and Ron was probably underneath there.

**Delvin**            **I assume you took Patricia out of the aircraft?**

Brian    ...so I scouched back, you know, like this (indicating with motion the position he used) and got out of the airplane and Patricia is lying in front of me, and she really was....I cant say screaming, because she was just kinda moaning, she had big gashes and pieces and her leg wasn't where they were supposed to be.  
....So I just said to her, "I'm gonna try and help you get out of here." So I reached behind her armpits and said pull with me and that's when she said like ahhhhhh, you know, so I pulled her back and I got her back out and I didn't even know we were climbing out of...we were obviously in the airplane, but if we were getting out of what was like ...the back two windows were missing and I think that we was like climbing out of an open....an open exit, it was like the roof was gone, so I put her down on that little basket.  
...so when I said I'm gonna pull you outta here, but it was all the rubble around here, so I said work with me, so I reached up and grabbed that one duffel bag, unpacked, it helped her lay back and I got out and around to the front of the aircraft looking to see if John is okay, if Ron is okay, if Shannon is okay and the all were obviously gone.  
...so I went back around and I said to Patricia, "I wish I had a really good leg to reach the runway. All those plane flying up there, I don't think there's anyone around here, we basically did a downwind spiral, we weren't making any noise, crashed into the woods, I don't think no one else heard us. I looked around for a radio to use, and the engine was detached from the airplane so I didn't think there was much left to make a mayday call from the radio which I wanted a couple of times on these long treks. So I wondered if it would have been prudent to spend a little more effort at that but we (garbled) Patricia said. I'm gonna go for help, "are you strong enough to hold on here?" I said if you're comfortable, I'm gonna. I said you've got to stay here, hold on so (garbled) I thought I'd be able to do the walking thing with a stick, but that wasn't working at all, cause my left ankle was just, not even attached, so I kept crawling. There was no wind, people landing and taking off both directions and ahhh,  
...I made it to the runway, but I got to get out to this runway, so ...(garbled)...got out to the white painted part of the tarmac and laid on my back. It was considerably cooler than the black part, but it was hot as blazers out there and then I laid there, one plane came in on final runway 9. I thought I heard a truck coming from the other way, and I think it was like an ATR taking off to the west going the other way, because I heard it coming then all of a sudden....(garbled)... so that ATR took off or



a SAAB 340, but most of them took off heading the other way, couldn't see anything. I didn't have the energy to sit up anymore...

...I was at the edge of the runway, in the middle of the runway, someone would have seen me. I heard someone doing an approach from the south turning final to 9, so I kinda half stood up and waved my yellow shirt, after they had landed and were on the roll, I heard a squak in the rolling out it wasn't very long after that, a couple of minutes, then a pickup came.

**Delvin:**        **So did you know if the pilot, if he filed a flight plan? Were you instrument or on a VFR flight?**

Brian:        I'm sure we had a VFR flight plan, the reason I'm sure is any other time when we ever flown over there was on a VFR flight plan.

**Delvin:**        **Do you know if he was talking to Miami center at any point from the time you left Jacksonville?**

Brian:        He had to have, because we left Jacksonville with the intention of going to Fort Pierce to pick up fuel and we flew over Fort Pierce at 3500 feet and he had climbed out to 9000feet flying over to Nassau, I don't know whether he actually pick up an instrument flight plan or not but we were up 9 maybe 9500 feet, but we were flying up high. I heard him say something on the radio then he turned the heading bug and off we went. So usually we would cancel flight following when we're about 20 miles out high enough out to pick up Nassau radio instead of cruise descent.

**Delvin:**        **Did you know if he did it this time.. cancel with Nassau Radio?**

Brian        I don't know, I didn't have my headset on. I was surprised to see us leaving Florida without getting fuel but I didn't know what our GPS ground speed was.

**Delvin:**        **So you noticed you were low on fuel from Fort Pierce area?**

Brian:        You know the whole issue was...when we...the night before, he was upset with me for demanding that we land before going into a major weather stationary front, that was going right across of Kentucky and Tennessee, no holes in it and weather briefers...do a pretty good job... but they are not 100% on , and he had said, "well I don't really see any lightening or anything yet, we can pick our way through" and I said "we are not going thru there, my wife's sleeping in the back seat, I have a kid at home, there is no where we have to be," "theres embedded thunder showers and they haven't pointed out any gaps or any windows, we're not going." He was kinda pissed offand said fine ..(garble)...go to Hazard County, its 5 miles away and a 5,000 foot strip, VFR, lets land there and we'll get a weather briefing. Which we did, and left 3 hours later for Jacksonville, the rest of the way, for the trip and when we got there Ron and Patricia pick us up and we're all hanging out or whatever and we ended up landing like 11:15.

**Delvin:**        **So Ron and Patricia picked you....joined you in Jacksonville?**



Brian: They picked us up from the airport and we went to their house that night and stayed overnight with them.

**Delvin: So you started your trip initially from.....**

Brian: Grand Rapids Michigan

**Delvin: Grand Rapids, Okay**

Brian: So, he was up set because I had changed the plans and basically trumped his decision, by begging not to continue on. And the next morning when we got to the airplane and he says, "go ahead, get it topped off, I'll call flight service" so I topped it off. So his fuel totalizer showed like 40.7 gals it holds 80.

**Delvin: The aircraft holds 80 gallons?**

Brian: Yeah, I said you don't need 80 gallons, I said I didn't get a weather briefing and I don't know what the winds are. We obviously had a strong northwest wind and it was sunny and severe clear, and I says ....we're gonna be having...it's a hot 95 degree day, it's about noon. It was already a bumpy, bumpy ride ...(garbled)... there was already plenty of thermals developing and it was noon. So, I said we need 10 gallons this will give you IFR reserves to land...no issue, well I feel a lot better to put 15 a side. I said well go ahead, get the weather brief, tell me what you think and I said, I think you will find 10 gallon will be enough. And so he came back and said "alright, we'll just top it off" and I said ' we are not topping the plane off, period." And I said you wanna talk the real deal, you've got me 200 pounds, you got Ron, 200 pounds we've got you 200 pounds, its 95degrees I said, you got 50 pounds of bags, high density altitude, you don't need more than 50 gallons for the trip. He goes if you feel that strong about it , we'll just fly to Fort Pierce and get fuel there, kinda like daring me to say yes, cause the whole idea was, we wanna get there. We got a party, we got to get to and everything and I said smartest thing you said all day, we'll go to Fort Pierce and get fuel.

...so he obviously knew I was pretty serious about it cause I was willing to even make another fuel stop, before I take on extra fuel, so off we went.

...I unplugged my headset, got in the back, didn't ever listen ...(garbled).... I go, cause he's the pilot. Its his airplane and his decision and after today, he'll be flying by himself, she goes (Shannon) I agree 100%. Patricia could tell we were pissed, because he always taking a chance, always taking a chance.

...so we....we flew down to Fort Pierce, banked away and never picked up fuel. So I looked at Shannon, I go, "guess we're not getting fuel" she goes "idiot" or something derogatory. Cause she knew I didn't wanna talk about it. So off we go.

...and it took forever before we reached Green Sail Cay and get on over the banks and going, going, going, going and I'm watching.... I can't see the GPS cause its on the yoke, but the totalizer is right there center top mounted, we had already hit 70 out of the 80 on the totalizer. By the time we hit Green Sail Cay and I was like this is gonna be way too close. So, we still at altitude over Treasure Cay abeam the end of the west runway like 300 degree or something .



... so we flying, this way we're abeam the east end of the runway at Treasure Cay, pretty high. I don't know how high we were, but we hadn't made much of a descent as yet. And the engine starts sputtering and he immediately jumps on, move the thing and it comes back to life. I knew he was already tipped on his last switches, both of the tanks were down and I think, he was hoping the one he was switching to, was gonna be the last one. Well he ended up switching again, cause one of them was pegged at E, and if you wanna be flying low on fuel, you never wanna run both of them down...down...down together. You know when you're doing your final you're gonna need the fullest one.

...I'm almost certain he was flying on what was the fuller of the two and he flipped it and we continued on. And I went to Shannon and I was 'he's not gonna land, we're here at Treasure, all he need to do is a left base to final and at Treasure Cay, clear customs, pick up fuel, go to Marsh. She got kinda angry at it.

**Delvin:**       **At Treasure Cay approximately how much fuel...you noticed the fuel on the totalizer?**

Brian:       Ooh 75.3

**Delvin:**       **75.3 gone....out of 80?**

Brian:       Yeah,... that's assuming...that's assuming the line guy topped it all the way. You cant assume that. So, its not your number, you know what I mean? So ... that's Shannon's mom (Shannon's mom walks in the room at this time), so.. I said to Shannon, I said the smart part....what I can see him being smart about....which if you're gonna be that stupid, this is one last redeeming thing he had going for him that is, that he wasn't gonna get low and slow at the end and not make the runway, but he also wasn't smart enough to keep it together cause he only had one shot at this final, because.....technically..... I owned the airplane at one time, before I sold it to somebody else years ago and he (John) bought it from them.

**Delvin:**       **Are you a pilot as well?**

Brian:       I'm a pilot, yes, instrument rated, and I'd like to think reasonable conservative as I got older...but, .. I got in the back seat that day because Patricia's husband is 70 years old, with 2 bad hips 200 and something pounds and could hardly get himself into that airplane you know. I said severe clear, VFR flight, stopping for fuel down in Marsh...ahhh...Fort Pierce, before we go to Marsh, so no reason...we had already butted heads on our philosophy a couple times. You never wanna be in a plane with 2 pilots arguing over what's gonna happen next. So I unplugged my headset, sat down in the back seat like a passenger, minding my own business. The only thing that I did do, at the end was, when we were doing straight in for 9 Marsh and we're still at 5,000 feet and he pulls the power back or it was, I don't know whether it was wind milling... I never heard that sound, I've run that plane to the point that it sputtered. It's the first time I ever...cause... I don't know ...some planes will stop and some planes will stammer.....so we got the power back and all of a sudden, the gear



warning horn goes off. It is linked to the rpm so when it started singing usually they'll cycle the gear down, cause that's kinda the point where they'll come down...pull it back when you start down, sharp power reduction, pull back, down comes the gear...after the warning.... I always thought it was bad for him, but he never put the gear down. That gear warning is just singing away. So, finally I yelled up at him, I said "are you gonna put the gear down or what?" and he goes "we're going too fast." The gear extension speed is 160 it doesn't matter, you can put the gear down whenever you want and he didn't have any flaps in yet, and he started it to the left turn ...I don't think he knows how to slip.....

**Delvin:**        **Was the gear out at this time?**

Brian: ...the only reason I knew the gear is out was when I left the airplane and went for help. I wondered, it was so beyond rational, what he was trying to do.. that... I'm like what was he trying to do? And I remember looking back and I'm pretty sure I saw the gear down and locked cause the door was closed behind the gear. I think it was, but I'm not sure. So, I .... I told my dad, I said , you know, my friend is a flight instructor and he flies professionally for a construction company and he's a piston engine (garbled)..... but he says you fly different when you're a piston pilot than you do when you're a turbine pilot, cause you cant carry ice and a good weather briefing, you cant get over stuff ad I wonder why over the years he said...over the years.....its not one thing that gets you...its multiple things

...well the multiples were

1. he left with 40 gallons, out of pride, cause this is the day he was gonna be right, no matter what, why need the fifty....
2. Then because he had done that, it was gonna force us to stop. I didn't seem to care if we stopped or not, we're not gonna stop now, so the guy runs himself short of fuel.
3. Then he flies over Treasure Cay
4. and when the engine sputters he doesn't land at the first available airport
5. then he decided, he was gonna use different than regular approach procedures, so that he has altitude in the bank incase he does run out of fuel, and then when he's unable to compensate for it to shoot final approach and killed us.

...it was just a comedy of errors. He made 5 mistakes on that flight, but it happens so quick at the end. I knew he had the runway made and I knew we'd be going on in and landing and like I said to Shannon ' when we land, before we ever leave the airport, we are going to American Eagle and we are buying flights out of there on Monday and I don't care how much it costs" and she said "absolutely." We really had to do that.

**Delvin:**        ***So, do you know at any point...did the engine...had stop during that.....***

Brian:        I don't know cause I had my headsets on, we had a fair amount of wind noise and (garbled)...here's the runway, and here's us on final, we're over here and I see him do this (garbled)...you're way out of your ability here to do any more side slipping.

...The runway is coming thru the gaps in the trees and he did this, and he kept coming around, pulling the trees... I mean he transition from centerline...south... south of centerline



to north of the centerline of the runway and circled around... thinking about the angle that plane landed, we had to get around to 90 degrees and I think that nose went in to the trees at about 260 and we were angling at a 45 back to the southwest, it wasn't even close.

...And all I remember was how we were banking that thing and when I said power bank I mean 60 degree bank turn, standing that thing on its ear, coming around and what it was we were still coming down. We're not gonna make it, we are not gonna make these trees and there is no reason we shouldn't . give it some power, pitch nose up, that's what I was yelling, right in to the trees. Give it some power, nose up, so I think he probably had already starved the engine and it as probably just wind milling but I ....when I got out of the plane to get Patricia, looking for Shannon, and walking out of there coming up with a game plan. I looked back first I wanted to se if the gear ever did come down and what angle we were facing and holy crap that engine is so dislodged from this airplane. I wouldn't be able to even tell you whether it had power on or power off, cause I know from what way the prop curls, you can tell, from all I know that prop was just... I ... I don't know, did he have power on when he hit?

**Delvin:**        **We're not able to determine that as yet.**

Brian:        I mean it was just bunched, usually you got.....when a propeller is under load, when it hits the runway, it bends different than if its not under load when it hits something. And I don't think that airplane...the engine was not even attached.

**Delvin:**        **So is there anything else you remember basically or is that about it?**

Brian:        Yeah.. I mean..... well the EPR was going on, not the EPR but the ELT

**Delvin:**        **The ELT was going off?**

Brian:        Was it going off when you got there?

**Delvin:**        **No...when we got there it was off.**

Brian:        It was going off, but when you really think of it, you got pilots with 2 radio, you got one on Nassau and you got one on Unicom, you blowing out of there, you not gonna hear that thing screaming, the only shot at that would have been a jetliner later on and they would have called and no one would have been around. My concern was if we didn't get to that runway to get somebody's attention that would have been it, cause we would have been stuck in there, no one would have came.

... I mean ... the guys pulled up in the pickup to pick me up and said "buddy, get off the runway, you gotta get off the runway, this is an active runway" and I go "yeah, it is but you see over there in the trees you gonna find an airplane" I said "get that lady, get over there right away" I says 'I'm fine on the runway here but I says I don't know how long she's been alone, you've gotta get there and see if you can get her, and so



they got on the radios and all hell broke loose, guys all over the place. So I know that the ELT wasn't probably gonna be a life saver on that one.

... I mean we went in steep and fast..

**Delvin:** I wish you the best, my sympathies again on the lost of your wife, you have my card, so if you need to reach me or if there are anymore questions or anything you remember later on.

**Brian:** What's gonna happen to the airplane?

**Delvin:** I think the insurance will be the ones to deal with that, but if you need more information give me a call.

The interview ended at 5:15pm. Approximately 5 minutes prior to the conclusion of the interview the mother of Shannon Kronemeyer,(deceased) and Mr. Brian Kronemeyer's wife) walked in the room. Condolences were extended and a business card left, in the event either party needed information or remembered anything further that may be helpful to the investigation.



## **2.0 ANALYSIS:**

### **2.1 General**

The pilot was properly certificated and qualified under Federal Aviation Regulations. Evidence exists that behavioral conditions were present that might have adversely affected his performance during the accident flight. Pilot fatigue was not a factor in this accident. No evidence indicated any preexisting medical conditions that may have been a factor in the accident.

Analysis of injuries and fatalities – There were 3 fatal injuries (pilot and front seat passenger and middle rear seat passenger). 2 rear seat passengers were seriously injured.

The accident aircraft was properly certified and equipped under the provisions of Code of Federal Regulations (14 CFR Part 91). No evidence indicated that the airplane was improperly maintained. The recovered engine, showed no evidence of any preexisting structural or system failures.

Weather was not a factor in this accident. Aircraft navigational instrumentation not a factor in the accident.

Aircraft Engines – engine teardown tests were conducted on the engine. There was no evidence that catastrophic failure resulted in aircraft accident.

Human factors – based on survivors report it was evident that pilot exhibited an antagonistic behavior in regards to the weather and uplift of fuel. Pilot and passenger had numerous altercations beginning the previous day. They argued about pilot going in to weather without the benefit of a thorough weather briefing. That argument resulted in an unscheduled 3-hour delay to wait for the weather to improve. After the delay, the aircraft continued to Jacksonville where the occupants stayed overnight. The next morning the pilot and passenger argued about the amount of fuel required to make the journey to Marsh Harbour. The passenger argued that to top off the aircraft with the weight of everyone involved and their baggage, would put the aircraft over its legal weight limitations. That argument resulted in the pilot not uplifting any further fuel and settled on stopping in Fort Pierce, Florida for fuel (another unscheduled stop, which he eventually did not do any more).

Over Treasure Cay Abaco, the aircraft engine sputtered and the pilot still refused to stop for fuel, choosing to switch to another fuel tank that was also low on fuel, and continued the trip. Arriving over the Marsh Harbour Airport too high and attempting to decrease altitude to align the aircraft for a landing pilot made a series of maneuvers that may have resulted in fuel starvation which caused the engine to stop. The throttle lever was pushed in, yet based on the damage to the propeller it was evident that the engine was not running nor the propeller turning when it made contact with the trees and the ground.

From Interview with survivor it was evident that pilot was in a hurry to make up time to get to the party that was planned in Marsh Harbour and therefore elected to fly through bad weather and risk a journey without the required amount of fuel.



### **3.0 CONCLUSIONS**

#### **3.1 FINDINGS:**

##### **AIRCRAFT**

- Aircraft was configured and insured for four (4) persons.
- Four seat belts were present and accounted for on the aircraft
- Five passengers were on board the aircraft.
- The aircraft had a valid Certificate of Airworthiness and Registration.
- The aircraft was airworthy when flight commenced.
- The aircraft was intact prior to initial impact.
- All control surfaces were accounted for, and all damage to the aircraft was attributable to the severe impact forces.
- There was no evidence of any defect or malfunction in the aircraft that could have contributed to the accident.
- There was no evidence of airframe failure or system malfunction prior to the accident.
- Impact blade damage was consistent with the engine not producing power or propeller not producing thrust at the time of contact with pine trees.
- The fuel sampled was of the proper grade.
- Fuel was present in the right wing, its quantity undetermined.
- The fuel selector handle and valve were selected to the right tank.
- The mass and center of gravity were not within prescribed limits.
- Aircraft course was plotted from Jacksonville KHEG down to Vero Beach then across to Marsh Harbour.\*

\*Course information obtained from hand held GPS unit Garmin GPSmap 196 serial number 65409150

#### **3.2 PROBABLE CAUSE**

Accident was pilot induced. Pilot's mismanagement of controls and lack of situational awareness and his failure to maintain adequate terrain clearance resulted in the accident.

##### **Contributing factors.**

1. The pilot's intentional flight without regards to minimum fuel requirements contributed to the accident.
2. Pilot's lack of situational awareness resulted in his arriving over the airport well above the required traffic pattern.
3. In an attempt to lose altitude to execute a landing, pilot made a series of errors including mismanaging controls by executing numerous S – Turns, slips and spiral maneuver without adequate terrain awareness.
4. Aircraft was overweight and in a 60 degree bank turn aircraft wings had to support twice its normal wings level weight.



## **APPENDICES / ATTACHMENT**

Aircraft Weight Graph

Engine Teardown Report (full report not attached, but available upon request)

Aircraft Weight and Balance Document

Aircraft Insurance

Field Analysis Report (not attached, but available upon request)

Toxicology Analysis (not attached, but available upon request)

