NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, D.C. 20594

January 25, 2008

Group Chairman's Factual Report - Airworthiness

A. ACCIDENT

Location:	Sanford, Florida
Date:	July 10, 2007
Time:	0835 Eastern Daylight Time (EDT)
Airplane:	Cessna 310R, N501N
NTSB Number:	NYC07MA162

B. GROUP

Chairman:	Michael Huhn Air Safety Investigator National Transportation Safety Board
Member:	Cheryl King Aviation Safety Inspector Federal Aviation Administration
Member:	Jan Smith Air Safety Inspector Cessna Airplane Company
Member:	Andrew Swick Air Safety Inspector Teledyne Continental Motors, Inc.

C. SUMMARY

On July 10, 2007, about 0835 eastern daylight time[1], a Cessna 310R, N501N, was destroyed during a collision with trees and residential homes while performing an emergency diversion to the Sanford Orlando International Airport (SFB), Sanford, Florida. The certificated airline transport pilot and the commercial pilot were fatally injured. Three persons on the ground were fatally injured, and four were seriously injured. A post crash fire consumed the airplane and 2 single-family homes. Visual meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed for the personal flight that was conducted under 14 CFR Part 91. The airplane departed Daytona Beach International Airport (DAB), Daytona Beach, Florida about 0822 and was destined for Lakeland Linder Airport (LAL), Lakeland, Florida.

Diversion Details
Shortly after reaching a cruising altitude of 6,000 feet, the flight crew declared an emergency to air traffic control (ATC). The crew advised that there was "smoke in the cockpit," and announced their intention to land at SFB. ATC cleared the airplane to fly directly to SFB and descend to 2,000 feet. Radar data indicated that the accident airplane turned toward SFB and commenced its descent. ATC then cleared the accident crewmembers “to land any runway." The last radio transmission from the airplane occurred about 0833. It was terminated in mid-sentence and appeared to include the phrase “shutoff all radios, elec.” The last radar return from the accident airplane was about 0835, approximately 1/2-mile east of the accident site.

D. DETAILS OF INVESTIGATION[2]

1.0 AIRPLANE INFORMATION

1.1 General Description

The accident airplane, a Cessna 310R (s/n 310R0866) was manufactured in 1977. The Cessna 310 (Fig 1) was a non-pressurized, low wing, light twin, piston-engine airplane of all metal, semi-monocoque construction. It had retractable landing gear, and cable-actuated flight controls. It was certified for single pilot operation, but was equipped with dual cockpit flight controls. The powerplants were six-cylinder, fuel injected, non-turbocharged Continental IO-520 engines. Each was equipped with a three-bladed, constant-speed full-feathering propeller. The electrical system was 28 volts direct current, powered by two alternators and one battery. All electrical systems on the airplane were protected by push-to-reset type circuit breakers. The main circuit breaker panel was mounted on the left lower cockpit sidewall near the pilot’s left leg. Metal fuel and oil lines approximately 1/8 inch in diameter connected to engine instruments in the cockpit. Fuel was contained in four tanks; two wingtip tanks (51 gallons each) served as the main tanks,

[1] All times in this report are eastern daylight time, and based on a 24-hour clock
[2] This report details the pre- and post- accident condition and configuration of the airplane, including wreckage description. Refer to the ‘Maintenance Organization and Processes’ Group Chairman’s factual report for information on maintenance-related organizational structure, personnel, policies and procedures.

and two wing bladder tanks (31.5 gallons each) served as the auxiliary tanks. The accident airplane was configured with seating for a total of six persons, including the pilot(s).

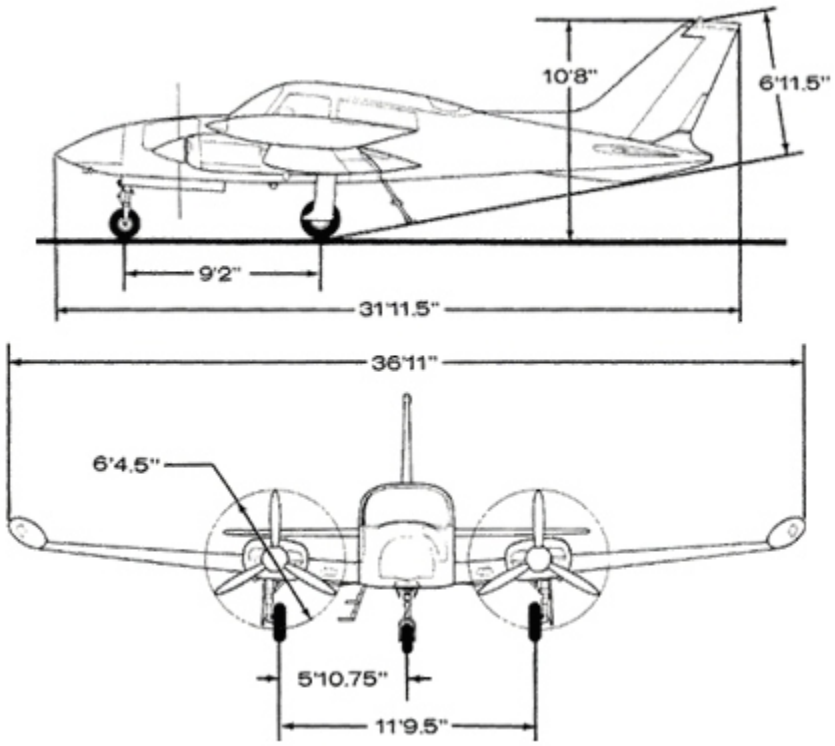

Figure 1 – Cessna 310 Side and Front Views

The certification basis for the airplane was Civil Airworthiness Regulation 3 ('CAR 3'), and Federal Aviation Regulation (FAR) Part 23, as amended in part through revision 23. The Cessna 310R (Normal Category) was approved on August 15, 1974 The C-310 is no longer in production; the last manufacturing year was 1981. A total of 5,242 C-310 airplanes were built. As of January 2008, there were 3,104 C-310 airplanes on the US registry, and 86 on the Canadian registry.

1.2 Cabin Exits and Ventilation Provisions

The Cessna 310 was equipped with a single cabin entry door on the right side of the airplane. An emergency exit window on the pilot's side could be readily operated from the left pilot's seat. Operating the emergency exit window fully detached it from the airplane. This window also contained an integrally mounted 'foul weather window', which was a small window that could be opened without any airspeed restrictions. The cabin door could be opened in flight, but the Pilots Operating Handbook (POH) did not contain any information regarding airspeeds with this door open. Normal cabin ventilation was accomplished via four individually-controllable

fresh air outlets known as 'wemacs.' These four wemacs were fed from a common outside air intake in the nose of the airplane.

1.3 Fire Extinguishing Equipment and Requirements

According to Cessna, an optional built-in fire extinguishing system for the engines was available for the 1977 model 310. Cessna did not offer any built-in cabin fire extinguishing system for the 1977 model 310. The accident airplane was not equipped with the built-in engine system.

Neither the airplane certification basis nor the current operating regulations (14CFR Part 91) required the airplane to be equipped with any type of fire extinguishing device or system. The current version[3] of paragraph 23.851, which did not apply to the accident airplane, reads as follows:

23.851 Fire extinguishers

(a) There must be at least one hand fire extinguisher for use in the pilot compartment that is located within easy access of the pilot while seated.

(b) There must be at least one hand fire extinguisher located conveniently in the passenger compartment—

(1) Of each airplane accommodating more than 6 passengers; and

(2) Of each commuter category airplane.

(c) For hand fire extinguishers, the following apply:

(1) The type and quantity of each extinguishing agent used must be appropriate to the kinds of fire likely to occur where that agent is to be used.

(2) Each extinguisher for use in a personnel compartment must be designed to minimize the hazard of toxic gas concentrations.

According to several NASCAR Aviation Department personnel, the airplane did carry a handheld fire extinguisher. This extinguisher was mounted on the cockpit floor just forward of the co-pilot's seat. The company could not provide any specific information regarding this item's the make, model or extinguishing agent. The airplane was not equipped with any smoke hoods for the pilots or passengers.

2.0 AIRPLANE UTILIZATION and HISTORY[4]

2.1 NASCAR Utilization

NASCAR purchased the accident airplane in March 1995, and domiciled it at the DAB facility. The accident airplane was the only piston powered airplane operated by NASCAR, and unlike the rest of the fleet, it was not typically used for executive transport. The airplane was used primarily to transport parts, goods and documents for NASCAR. During the months preceding

[3] Current as of January 2008, but last revised in 1993

[4] All information in this section was derived from Cessna, FAA and NASCAR records,

the accident, there was only one company pilot[5] who was assigned to operate the airplane for those trips. In addition to the business flights, the airplane was also used occasionally by the accident pilot[6] for personal flights. It was the operator's policy that whenever the commercial pilot flew the airplane, he was to be accompanied by the individual who was also on board the airplane at the time of the accident, and who was also another NASCAR pilot. This individual[7] was different from the company pilot who normally operated the accident airplane for the business trips.

In the six years prior to the accident, airplane utilization averaged approximately 130 hours per year, and at the time of the accident, its total time in service was approximately 4,770 hours.

2.2 Airplane Modifications

The airplane was previously registered as N500N, N310FD, and N3543G. Post-delivery modifications included, but were not limited to, an autopilot replacement, transponder replacement, GPS installation, vortex generator installation, Stormscope installation, area navigation system installation, Loran C installation, and a personal business radio installation. Major airframe repairs included a repair to the right elevator in August 1978. In May 1988, a King KWX-56 color weather radar system was installed. The radar system consisted of two primary components; a KA-126 antenna mounted in the nose of the airplane, and a KI-244 display mounted in the instrument panel. The 5 ampere circuit breaker for the weather radar was located on the bottom row of the panel outboard of the pilots left leg. Table 1 provides a chronological list of selected modifications to the accident airplane.

[5] This pilot is subsequently referred to as 'the company pilot' in this report
[6] The accident pilot is subsequently referred to as 'the commercial pilot' in this report
[7] This Air Transport rated pilot is subsequently referred to as 'the ATP' in this report

DATE	MODIFICATIONS / REMARKS
Oct 1981	Cabin combustion heater (Southwind-Warner Model Number 8259JR2, SN 148) removed to perform maintenance to comply with airworthiness directive (AD) 81-09-09[8]. The heater unit was modified and reinstalled. The heater was subsequently serviced every 250 hours in accordance with the AD.
May 1988	King KWX-56 color radar system (PN 006-0191-00) was installed.
July 1993	LORAN navigation system that was installed in 1988 was removed, and a GPS system was installed in its place
Mar 1995	NASCAR purchases subject airplane
April 1995	New transponder and S-Tec autopilot installed. The autopilot installation was the last major upgrade to the airplane instruments and avionics.
May 1999	Overhauled propeller assemblies installed on both engines. The airframe total time (TT) was 3732.7 hours.
June 1999	A remanufactured TCM IO-520-M2B engine installed as the left engine in June 1999. Airframe TT was 3732.7 hours.
Jan 2000	WX-10 Stormscope display and processor were repaired, and a new Stormscope antenna (PN 78-8060-4) was installed by NASCAR.
July 2000	A remanufactured TCM IO-520-MB1B engine installed as the right engine Airframe TT was 3866.5 hours.
June 2004	Both propeller assemblies overhauled and reinstalled
Aug 2005	King KA-126 radar antenna (PN 071-1220-02, SN 50398) was repaired by an outside vendor, and reinstalled by NASCAR. The airframe TT was 4634.6 hours. This was the last maintenance action recorded for the weather radar system
Oct 2006	ELT battery was replaced, and the repetitive portion of cabin heater AD 81-09-09 was accomplished.
May 2007	Last pitot-static system check
June 25 2007	Cowl flap cable for the left engine was replaced, and new de-icing boots were installed on the horizontal stabilizer. Airplane TT was recorded as 4672.1 hours. This was the final entry in the airplane maintenance records.
July 10 2007	Airplane destroyed in subject accident

Table 1 - Selected Accident Airplane Modifications

2.3 Annual Inspections

Since this airplane was not operated for compensation or hire, it was subject to an annual inspection program, but not to a 100-hour inspection program. The October 2004 annual inspection reported an airframe TT of 4562.3 hours. The October 2005 annual inspection reported an airframe TT of 4657.4 hours. The October 2006 annual reported an airframe TT of 4717.7 hours.

[8] AD 81-09-09 requires repetitive inspection, cleaning and maintenance of the combustion heater to minimize the potential for on-board fires.

2. 4 Weather Radar Discrepancy Write-up

According to a post-accident interview by the Safety Board, on July 9, the day prior to the accident, the company pilot experienced display difficulties with the weather radar system, and then noticed a burning smell in the airplane. He shut down the radar, pulled the applicable circuit breaker, continued the flight for approximately one more hour, and landed uneventfully at DAB. Prior to deplaning, the pilot wrote up the event in accordance with existing NASCAR procedures[9]. He provided the director of maintenance (DoM) with a copy of the write-up, and also informed the DoM verbally of the radar problem.

Safety Board investigators requested that NASCAR provide all documentation associated with the July 9 radar problem. However, maintenance and other aviation department personnel were unable to provide any record of the write-up[10]. In addition, no records of any troubleshooting, corrective maintenance actions, or removal of this airplane from flight status could be located by maintenance or aviation department personnel. Interviews with several aviation department personnel confirmed that no radar system troubleshooting or corrective actions, including deactivating or placarding the radar unit, were accomplished on this airplane, and that the airplane was not removed from flight status.

A search of the FAA Service Difficulty Report (SDR) database back to 1975 revealed one report for the accident airplane; this report concerned an engine crankshaft problem. A search of FAA databases did not reveal any Airworthiness Directives concerning any King KWX-56 radar unit, or any of its associated components. A search of the NTSB accident database back to 1975 revealed a total of one on-ground and nine in-flight fire events involving Cessna 310 airplanes. The on-ground event was due to a chafed oxygen line. Six of the in-flight events were engine- or fuel-related, two were related to the engine electrical system, and one[11] was an autopilot fire.

3.0 MEL and EQUIPMENT LISTS

3.1 General

An MEL (Minimum Equipment List) is a document that is used to determine or ensure the continued airworthiness of an airplane in the event of inoperative instruments or equipment. For any inoperative instrument or equipment item included in an MEL, the MEL will designate one of two possible options. Either:

- The airplane is unairworthy and must be grounded, or
- The MEL-specified maintenance and/or operational procedures must be accomplished, and the airplane will then be considered airworthy.

Each MEL is specific to a particular individual airplane, and is derived from a master minimum equipment list (MMEL). The MMEL is airplane model specific, and is developed by the FAA

[9] This discrepancy write-up and applicable NASCAR procedures are discussed in detail in the 'Maintenance Organization and Processes' Group Chairman's Factual Report
[10] The original write-up was recovered at the accident site
[11] NTSB accident number MIA85LA240

and/or the manufacturer. An MEL requires an owner/operator developed 'procedures document,' This document defines the specific procedures that must be accomplished in order to render the airplane airworthy in the event of an inoperative instrument or equipment item. These procedures will either be maintenance procedures ('M'), or operations procedures ('O'). An authorized mechanic must accomplish 'M' procedures, and flight crew personnel must accomplish or comply with the 'O' procedures. Finally, a Letter of Authorization (LOA) from the FAA, approving the operator's procedures document, is required to enable the operator to utilize the MEL.

An MEL is equivalent to a supplemental type certificate. An MEL can never be less restrictive than an MMEL. It is required to be on board the airplane during flight, is only valid for that specific individual airplane, and cannot be utilized for any other airplane.

3.2 14CFR Part 91.213

14 CFR Part 91.213 specifies the requirements which must be met in order to operate an airplane with inoperative instruments or equipment. Since the accident airplane was non-turbine powered, the operator had a choice of either using an MEL, or complying with subparagraph (d) of the regulation. Subparagraph (d) requires that the inoperative instruments and equipment must not be:

- Required by the VFR (Visual Flight Rules) day type certification instruments and equipment prescribed in the applicable airworthiness regulations under which the aircraft was type certificated, or
- Required by the aircraft's equipment list, or
- Required on the 'Kinds of Operations' Equipment List for the kind of flight operation being conducted, or
- Required by 14 CFR Part 91.205 or any other FAR for the specific kind of flight operation being conducted, or
- Required to be operational by an airworthiness directive

If the above conditions are met, and the airplane is to be operated, the inoperative instruments and equipment must either be

- Removed from the airplane, the cockpit control placarded, and the maintenance recorded in accordance with 14 CFR Part 43.9 of this chapter, or
- Deactivated and placarded as inoperative.

In addition, 14 CFR Part 91.213 requires that an appropriately certificated and rated pilot or other person make the determination that "the inoperative instrument or equipment does not constitute a hazard" to the airplane.

3.3 NASCAR MEL Information

In accordance with 14CFR 91.213, NASCAR was required to develop and use an MEL for each of its airplanes except the accident airplane. Although an MMEL for the Cessna 310 was available, NASCAR did not develop the procedures document or pursue an LOA for implementing an MEL on the accident airplane. Therefore, with regard to operating with

inoperative instruments and /or equipment, the accident airplane was subject to 14CFR 91.213 subparagraph (d).

4.0 WRECKAGE EXAMINATION

4.1 Debris Path and Wreckage Description

The airworthiness group began its on-scene work on July 10, 2007, and continued through July 12, 2007. All major components of the airplane, including the flight control surfaces, were accounted for at the site. The airframe, engine, and propeller serial numbers represented in the airplane logbooks matched the serial numbers found on the associated data plates that were found at the site.

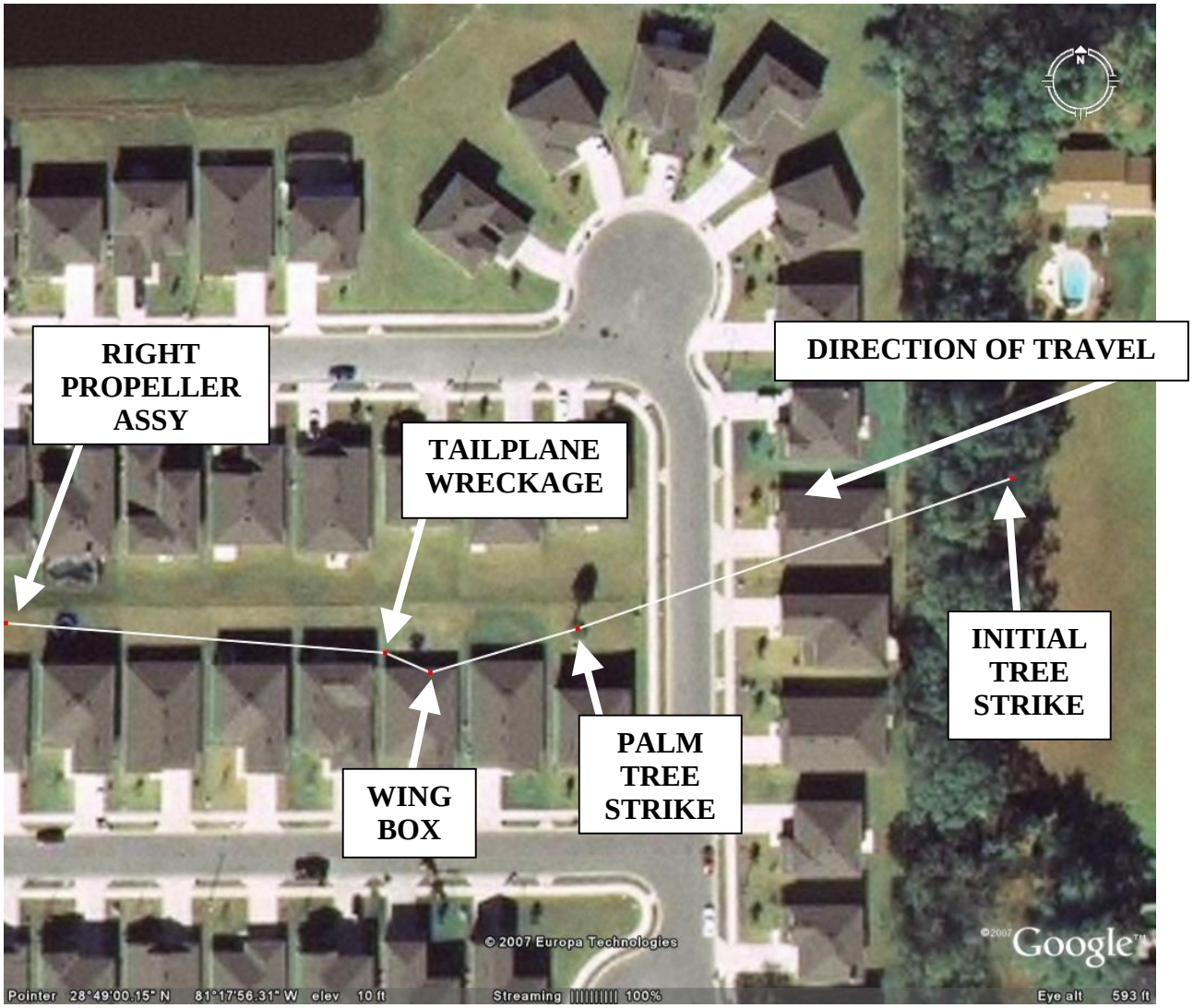

Figure 2 – Airplane Debris Path

The accident site was located approximately 4 nautical miles northwest of SFB. The primary debris path (Fig 2) was approximately 300 feet long, and oriented on a magnetic heading of 255 degrees. The airplane first struck a north-south tree line (Fig 3) at a height of approximately 65 feet above ground level (agl). Multiple tree limb cuts were observed. Debris from the initial tree strikes was scattered along the next 200 feet of the wreckage path. This debris included part of the left aileron, a propeller tip, the right aileron, an outboard section of the right wing, the top left and right engine cowlings, and the rotating beacon lens. The airplane's wings were fragmented, with multiple pieces found along the wreckage path between the initial tree strike and the main wreckage. Numerous document pages from the airplane were also found in this region of the debris field. Approximately a half-dozen document pages from the airplane were found to the east (prior to) of the initial tree strike.

Figure 3 – Initial Tree Line and Debris

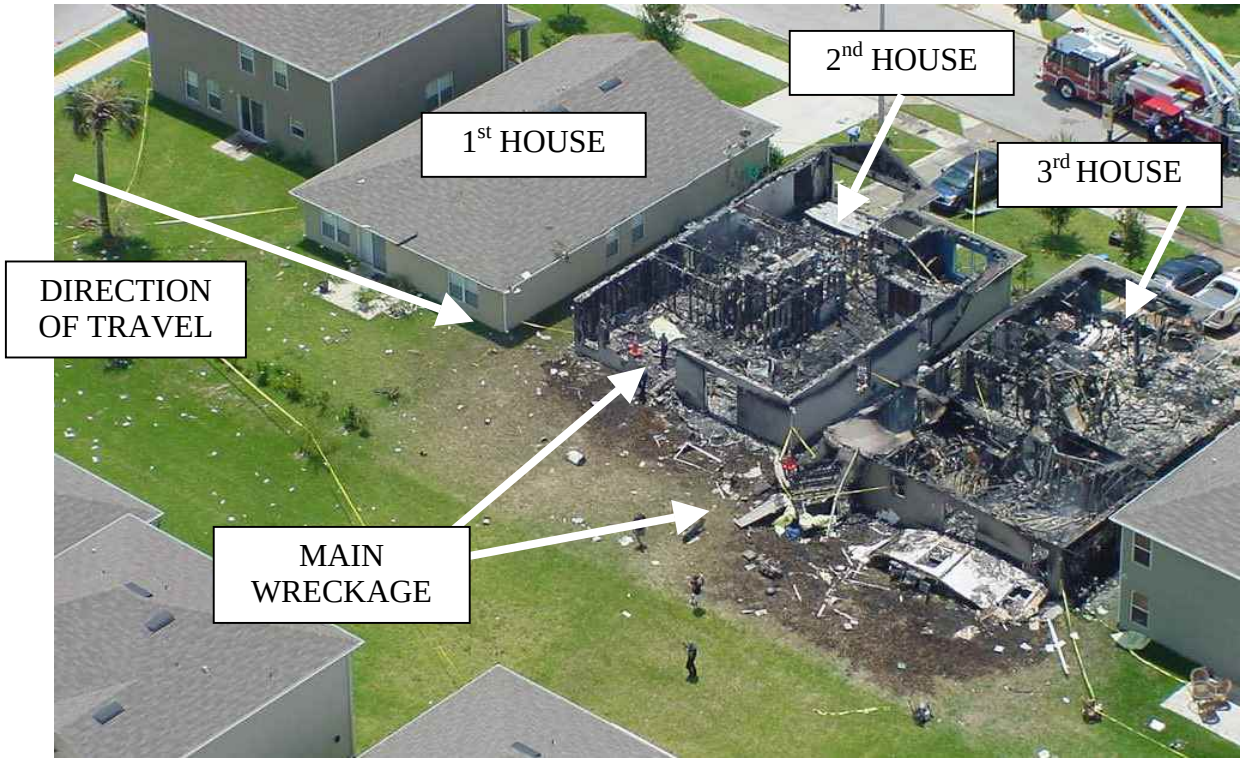

Figure 4 – Overview of Houses and Wreckage

Approximately 270 feet beyond the first tree strikes, the airplane struck a palm tree at a height of approximately 20 feet agl. Beginning approximately 90 feet beyond the palm tree, the airplane contacted the northeast corner of one single story house, resulting in only minor damage. The airplane then directly impacted the single story house next door to the first house, and debris consisting of airplane and house components impacted a third house. (Fig 4)

The single cabin door, located on the right side of the fuselage, was found unburned (Fig 5) approximately 100 feet north of the main wreckage. Examination of the interior surfaces of this door revealed no thermal damage, but numerous black deposits (Fig 6) of varying sizes were noted. The right propeller assembly was found approximately 400 feet beyond the main wreckage.

Figure 5 – Separated Cabin Door

Figure 6 – Deposits on Cabin Door

The second house contained the majority of the wing structure, fuselage bottom, cabin floor, and the left engine and propeller. The left engine was found separated from the airframe. The left propeller assembly was found separated from the engine, and located beneath debris inside the house. One propeller blade was found separated from the assembly, and was located in close proximity to the hub. A wing tip fuel tank was located outside the house.

The instrument panel, avionics, seats, cabin roof, empennage and right engine were found between the second and third houses, several feet north of the main debris path. These two houses were significantly damaged by the resulting fire. The cabin and most of the fuselage was destroyed by impact and post crash fire. All seats had separated from the floor structure. The copilot's seat was only partially burned; all other seat cushions were consumed by fire. The seat belts from the two crew seats were found buckled, and the two crew seat shoulder harnesses were attached to their respective seat belts. All seat belts were partially burned, and the copilot's shoulder harness webbing was torn. The handheld fire extinguisher from the airplane could not be located in the wreckage.

Due to damage to the airplane, complete flight control cable continuity for the rudder, elevators and ailerons could not be established. Flight control cable continuity for the rudder and elevators was verified from the cable separation points (at approximately the mid-cabin area) to the control surfaces in the empennage. Aileron control cable continuity was verified from the left wing root outboard to the left aileron bellcrank. Numerous separations in the control cables in the right wing and forward fuselage exhibited signatures consistent with tensile overload.

The avionics equipment housed in the nose compartment was heavily fire damaged. Most of the flight instruments, cockpit avionics, controls, switches and circuit breakers were severely fire damaged, and yielded no usable information regarding their pre-accident configuration or condition. An hour meter was recovered; its dial indicated 2,166.8 hours. The Kollsman window in the altimeter indicated a setting of 30.15 inches of mercury. Selected electrical components from the cockpit were retained for additional examination at the Safety Board's Materials Laboratory in Washington, D.C. These are documented in the Materials Laboratory Factual Report No. 07-116.

The landing gear selector handle was found in the 'landing gear retracted' position. The landing gear and flaps were found in their respective retracted positions. The distance from the elevator trim tab actuator face to the actuator rod bolt center at the tab attach point was measured to be 1.6 inches, which is equivalent to a neutral (zero degrees, or faired) elevator trim tab position.

Most of the fuel system components were consumed by fire. Both fuel selector valves were found separated from the wreckage, and their selected positions were deemed to be unreliable. No fuel was found at the accident site, but one witness reported that there was fuel streaming down the stairs inside the third house shortly after impact.

4. 2 Left Engine Examination

The left engine was a Continental IO-520-M2B, serial number 811646-R. It was transported from the accident site to SFB, and inspected on July 12. The engine exhibited thermal and impact damage. The propeller governor was found separated from the engine; its mounting flange remained attached to the engine. The magnetos exhibited thermal and impact damage. The right magneto was found separated from the engine. The left magneto was removed from the engine, but neither magneto could be rotated by hand. The ignition leads exhibited thermal damage, and only small portions remained.

The vacuum pump was found attached to the engine, and its housing was damaged. The vacuum pump was removed from the engine and disassembled. The rotor and blades were found intact and undamaged, with water and debris in the pump cavity.

The fuel pump was found attached to the engine. Thermal damage to the housing included distortion and separation of several fittings. The fuel pump drive coupler was found intact, but the fuel pump could not be rotated by hand. Water and corrosion was found throughout the interior of the fuel pump.

The accessory gears appeared to be intact and undamaged, and were coated with a light residue of oil. The cylinder rocker covers and upper spark plugs were removed from the engine. The crankshaft was rotated by hand, and accessory gear continuity was confirmed. Cylinder compression and valve movement was detected, with the exception of the No. 5 cylinder. The intake valve and spring assembly for the No. 5 cylinder were damaged. The spark plugs exhibited wear conditions consistent with 'worn out-normal' on the Champion AV-27 card. The spark plugs exhibited dark deposits in the electrode areas.

The cylinder interiors were examined with a lighted borescope. The cylinder combustion chambers exhibited deposits consistent with normal operation, and no unusual deposits, wear or damage were noted.

The propeller assembly, gear driven alternator, propeller governor, fuel system components, and sections of the induction and exhaust assembly were found separated from the engine. The left propeller assembly was damaged, and one blade was separated from the hub. Approximately 8 inches of the outboard end of the separated blade was missing from this blade. The remaining two blades were found loose in the hub, and exhibited S-bending, aft bending and other impact damage.

4.3 Right Engine Examination

The right engine was a Continental IO-520-MB1B, serial number 277815-R. It was transported to SFB, and inspected on July 12, 2007. The engine exhibited impact and thermal damage.

The propeller assembly, the No. 5 cylinder exhaust elbow, left hand exhaust muffler and pipe, right side induction elbows and tubes, propeller governor link arms, and the No. 6 rocker cover were found separated from the engine. The vacuum pump rotor and a section of the housing were also found separated from the engine. The left side induction elbows and tubes were damaged,

and broken glass was found in the induction elbows. The crossover tube exhibited impact damage.

The fuel pump appeared intact and undamaged, except for the separation of several fittings. The fuel pump was removed from the engine and rotated freely by hand. The fuel pump drive coupler was found intact. The fuel pump was disassembled. The odor of fuel was detected in the pump interior, but no residual fuel was observed. The fuel manifold valve appeared intact and undamaged. The fuel manifold valve was disassembled, and the presence of fuel was noted in a fuel line.

The accessory gears appeared intact and undamaged, and were coated with a light residue of oil. The cylinder rocker covers and upper spark plugs were removed from the engine. The crankshaft was rotated by hand, and accessory gear continuity was established. During crankshaft rotation, valve train continuity was confirmed, and cylinder compression and magneto spark were obtained. The spark plugs exhibited wear conditions consistent with 'worn out-normal' on the Champion AV-27 card. The spark plug electrodes exhibited dark deposits.

The cylinder interiors were examined with a lighted borescope. Most cylinder combustion chambers exhibited deposits consistent with normal operation, with no unusual deposits, wear or damage. The head of the exhaust valve from the No. 2 cylinder exhibited irregular deposits and thermal discoloration.

All three blades of the right propeller assembly remained in the hub, and all were bent, scored cracked and nicked. One blade was firmly affixed, but the other two blades were found loose in the hub. One of these loose blades was missing approximately 6 inches of its outboard end.

5.0 DOCUMENTS RECOVERED ON SITE

Numerous documents and document fragments were strewn along the debris path at the accident site. Cursory inspection indicated that these were related to the airplane and/or NASCAR, and therefore these items were recovered for subsequent examination. These items included navigation charts, airplane operating documents, maintenance discrepancy forms, and miscellaneous other material. One recovered document contained highlighted excerpts from the manufacturer's propeller governor adjustment procedures.

A total of six of the white portions of the two-part maintenance discrepancy reporting forms[12] with pilot-recorded entries were recovered. These are summarized in Table 2, below.

[12] Refer to the 'Maintenance Organization and Processes' Factual Report for a full discussion of these forms.

WRITE-UP DATE (2007)	PILOT MAKING ENTRY[13]	DISCREPANCY SUBJECT	MAINTENANCE CLEARING ACTION ENTERED ON FORM?
3/14	Company	Right engine idle problem	Yes
5/31	ATP	Transponder mode C	Yes
6/28	ATP	Propeller deice amperage draw	Yes
6/28	ATP	HSI sensitivity	No
7/6	ATP	Right engine RPM excessive	No
7/9	Company	Weather radar	No

Table 2
Summary of Original Maintenance Discrepancy Form
Write-ups Recovered at Accident Site

The July 9 discrepancy write-up regarding the weather radar problem,[14] cited the "smell of electrical components burning". As noted in Section 2.0 of this report, the Safety Board found no evidence to indicate that this discrepancy was addressed by any NASCAR maintenance personnel prior to the accident flight.

[13] Pilots were required to include their initials on any discrepancy that they wrote up. Pilots' initials have been excluded here for reasons of privacy. Refer to Section 1.0 of this report for differentiation of the pilots.
[14] Refer to the 'Maintenance Organization and Processes' Factual Report for a full discussion of this discrepancy write-up.