Aviation Investigation Final Report

Location:	Sarasota, Florida	**Accident Number:**	ATL05LA103
Date & Time:	June 18, 2005, 18:07 Local	**Registration:**	N7117
Aircraft:	Rutherford Seawind 3000	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The homebuilt experimental airplane was on it's second flight after assembly when it lost engine power, struck a two story building, and collided with the ground in a field. Post-accident examination of the airplane revealed that the fuselage, empennage, and both wings were separated. The fuselage, including the cockpit were fire damaged. The engine was rotated at the crankshaft flange and internal gear and valve train continuity was confirmed. All six cylinders produced compression. Examination of the throttle connection inside of the power plant compartment revealed the AN310 castle nut had no cotter pin installed. The nut was backed-off counterclockwise on the threaded shaft and no longer secured the lever arm to the throttle shaft. The last maintenance performed on the throttle linkage on the carburetor is unknown.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Maintenance personnel failure to secure throttle linkage on the carburetor which resulted in loss of engine power and a collision with a building.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: DESCENT

Findings

1. (C) THROTTLE/POWER LEVER,LINKAGE - NOT SECURED
2. (C) MAINTENANCE - INADEQUATE - OTHER MAINTENANCE PERSONNEL

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY LANDING

Findings
3. OBJECT - BUILDING(NONRESIDENTIAL)
4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On June 18, 2005, at 1807 eastern daylight time, a Rutherford homebuilt Seawind 3000, N7117, registered to and operated by the Airline Transport Pilot, collided into an unoccupied elementary school and burst into flames shortly after takeoff from the Sarasota/Bradenton International Airport, in Sarasota, Florida. The personal flight was operated under the provisions of Title 14 CFR Part 91, and visual flight rules. Visual meteorological conditions prevailed and no flight plan was filed. The pilot received fatal injuries and the airplane sustained substantial damage. The flight originated from the Sarasota/Bradenton International Airport, in Sarasota, Florida, on June 18, 2005 at 1757.

According to Air Traffic Controllers, the pilot requested a visual departure towards the Venice, Florida airport and departed the airport traffic area with a hand off to Tampa Approach Control. The pilot made initial contact with Tampa Approach Control and within two minutes the pilot requested a return to the Sarasota Airport. Tampa Approach Control instructed the pilot to turn north and issued a frequency change back to the Sarasota Airport Tower. The pilot checked in with the tower and requested a landing clearance back to Sarasota Airport. The controller issued a clearance to runway 27. About one minute later the pilot made a "mayday" call and declared that he was making a crash landing. There was no further communication.

Witnesses stated that the airplane was flying slowly with erratic lateral and pitch excursions. A witness near the accident site stated that he could not hear any engine sounds before the airplane first contacted the building. The airplane was recovered and moved to a hangar at the Sarasota Airport for further examination.

PERSONNEL INFORMATION

A review of records on file on file with the Airmen Certification Branch, Federal Aviation Administration, Oklahoma City, revealed that the pilot was issued a commercial pilot certificate with an airplane single engine land rating, reissued on August 11, 2000. The pilot also held a airline transport pilot certificate with a multi engine land rating and a flight instructor certificate with single and multi engine, and instrument privileges which expires on July 31, 2006. The records showed the pilot had a total of 4,750 total hours and two hours in this make and model. The pilots logbooks were recovered for examination but were damaged in the fire. The pilot held a second-class medical certificate, dated June, 2004.

AIRCRAFT INFORMATION

Review of aircraft records on file with the Federal Aviation Administration, Oklahoma City, revealed the amateur built experimental airplane was registered to a private owner on January 24, 2005. The airplane is a two seat, fixed wing homebuilt Seawind 3000. The airplane is powered by one reciprocating, fuel injected Lycoming IO-540 engine.

METEORLOGICAL INFORMATION

At 1814, the Sarasota/Bradenton International Airport weather reporting facility, six miles east of the accident site, reported winds out of 290 at 12 knots, visibility of 10 statue miles, clear skies, temperature 29 Celsius, dew-point 21 Celsius, and an altimeter setting of 29.85 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

Post-accident examination of the accident site revealed that the airplane struck a two story building and glanced across the roof before it collided with the ground in an adjacent field. The airplane contacted the ground and skidded approxitmaly 100 feet before coming to rest.

Post-accident examination of the airplane revealed that the fuselage, empennage, and both wings were separated. The fuselage, including the cockpit was fire damaged. The cockpit instruments were mostly digital displays and were also fire damaged. The positions of the cockpit controls for throttle, mixture, and propeller could not be determined. The composite three bladed propeller remained attached to the engine. All three propeller blades were shattered at mid span.

Post-accident examination of the engine revealed that the engine remained attached to the pylon and the cowling remained in place. The inboard section of the pylon was separated and burned. The engine top spark plugs were removed for examination and exhibited light gray color combustion deposits. The engine was rotated at the crankshaft flange and internal gear and valve train continuity was confirmed. All six cylinders produced compression. The number 2, 4, and 6 injector nozzles were checked and found clean.

Examination of the throttle connection inside of the power plant compartment revealed the AN310 castle nut had no cotter pin installed. The nut was backed-off counterclockwise on the threaded shaft and no longer secured the lever arm to the throttle shaft.

MEDICAL AND TOXICOLOGICAL INFORMATION

The Florida District Twelve Medical Examiner performed the pathological diagnoses of the pilot on June 19, 2005. The reported cause of death was due to thermal injuries. The Forensic Toxicology Research Section, Federal Aviation Administration, Oklahoma City, Oklahoma performed postmortem toxicology specimens from the pilot. The results were negative for cyanide and ethanol, but positive for carbon monoxide.

ADDITIONAL INFORMATION

The engine was previously overhauled by Zephyrhills Aircraft Engines Company on December 31, 2003. The service manager stated that the engines was overhauled in a non-standard configuration, suitable for experimental aircraft only.

The last maintenance performed on the throttle linkage at the carburetor is unknown.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	57,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 None	**Last FAA Medical Exam:**	July 1, 2004
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	July 1, 2004
Flight Time:	4750 hours (Total, all aircraft), 2 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Rutherford	**Registration:**	N7117
Model/Series:	Seawind 3000	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	71
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	December 1, 2003 Unknown	**Certified Max Gross Wt.:**	3400 lbs
Time Since Last Inspection:	2 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-540
Registered Owner:	Wilfred Rutherford Frost	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	SRQ,31 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	18:15 Local	**Direction from Accident Site:**	135°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	12 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	29°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sarasota, FL (SRQ)	**Type of Flight Plan Filed:**	None
Destination:	Sarasota, FL	**Type of Clearance:**	VFR
Departure Time:	17:57 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	27.399723,-82.55722

Administrative Information

Investigator In Charge (IIC):	Wilson, Ralph
Additional Participating Persons:	Paul Kahler; Tampa FSDO; Tampa, FL Edward Rogalski; Lycoming; Belleview, FL
Original Publish Date:	February 28, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=61775