ERA12FA271 Wreckage Examination Report

Date: 4/24/2012
Time: 0930 – 1530 EDT
Location: Air & Sea Recovery Facility, Ft. Pierce, Fl.
NTSB representative: Jose Obregon, ASI
Parties: Comp Air: Ron Lueck & Bob Fedorko
Walter Engines: John Cook & Vasyl Levchenko

Examination Information and Details

A. Accident

Place : Everglades City, Fl.
Date : 4/6/12
Vehicle : N548SF, Comp Air 8
NTSB Case # : ERA12FA271
Investigator : Jill Demko

B. Components Examined

The following components were submitted for examination:

1) The remnants of the recovered airframe, propeller, and engine from N548SF.

C. General Examination Observation

Exterior Observations:
The airframe was about 97 % consumed by postcrash fire. The following components were discernable among the wreckage debris: Landing gear, propeller, engine, remnants of the right wing forward section.

Propeller # 340662020:
The propeller assembly separated from engine flange attachment points.
The nose cone observed impact damage.
2 of the 3 blades observed in the feather positions at base hub area.
All 3 blades with movement at hub base; slight rotation.
Prop hub and counter weights intact.
1 blade: 90 degrees bent just above base hub, leading edge damage, outboard tip with twist, chord scoring.
#2 blade: Bowed to 90 degrees from base to tip, outboard tip twisting bend, leading edge damage, longitudinal and cord scoring along the length of the blade.
#3 blade: Leading edge impact damage, damaged tips with scoring and twisted
A section of the fractured engine drive flange removed attached to the propeller hub attachment section.

Propeller Summary
All three blades with damage consistent with power applied at time of impact.

Engine # 872034 D

The engine data plate was not located; area was with fire and thermal damage.
Forward section of engine was bent, consistent with propeller assembly damage.
The gear casing section was damage by thermal exposing internal gear, which separated.
Fuel control unit observed with impact and thermal damage.
Starter/Generator separated with impact and thermal damage.
Mid section with heat, and few impact damage.
Inlet section with thermal damage.
Inlet blades intact.
Borescope of internal blades observed with no impact damage.
Sections of blades observed with rotational bending.
Internal pressure valve observed in the close position consistent with engine operating above 94 % at time of impact.
For more reference see engine's manufacturer field notes.

Engine Summary

The impact and signature damage observed with the engine where consistent with the engine producing power at time of impact.

Airframe

Left seat, pilot's, seat track and locking assembly observed in the 2/3 position consistent with normal flight position for a person the size of the accident pilot.
A section of the pitch trim assembly was observed with thermal damage and was unreliable for position indication.
The recovered flight control mechanisms were observed with proper bolts and nuts and safety in place.
All recovered flight control mechanisms were observed with impact, overload, or thermal damage.
A fuel filter (water separator) was recovered with a hand written date of 3/21/12 on it.
Remnants of the engine/ prop cockpit control quadrant was observed with thermal damage and respective linkages attached to the lever assembly.
The right wing fuel tank shutoff valve was observed with heat and impact damage, and was in the open position.
Recovered instrument and nav/com components were observed with thermal and impact damage.
Remnants of an external video camera system was observed.
No video recording equipment or remnants of those components were observed.
An external data storage device was observed with heat damage and was retained by NTSB for further examination.
For more reference see airframe's manufacturer field notes.

Airframe Summary

Due to the thermal damage incurred by the composite airframe, the wreckage debris examination only provided the following information:

1) The pilot's seat was in a position for normal operation.
2) The airplane was equipped with an external video camera
3) Flight control continuity was established.

This report was prepared by: Jose L. Obregon, NTSB, ASI, Miami Fl.
Date: 4/25/2012

OfficeMax

Aircraft N54PSF 4/24/2012

A/c involved in accident consumed by Fire.

Found ~~all~~ Elevator control components to be Attached and Functioning. Aileron cable ends Attached Properly, Rudder Pedal cables attached. Found Rudder Post and hinge assembly ~~a~~ Free.

Located Elevator trim motor was burned beyond ability to check for position.

Seat Track on Pilot Side was Locked in a position consistent with a take off position.

Both main wing attach points and brackets were in place, Fiber Glass burned away. No Failure.

[redacted]

Ronald Lucie

President COMPAir Inc

4/24/12

Turbine # 8720341D
Prop # 340662020 V508D

Outside inspection:

- Prop flange Broken and Bent
- Front ~~and Rear~~ Gear casings parshally melted and Broken
- Rear Gear casing completly melted
- found Gears from Rear gear casings appered to be Damaged after acident.
- Front casings and exhaust system Bent and twisted to the right side from flight position
- ALL 3 engine mounts Broken and melted
- Blue ring Broken into 3 pieces
- all fuel, oil and air lines Bent and Damaged
- Center casing Bent and Damaged
- Air Intake is parshally melted
- Fuel controll unit melted and Damaged
- Starter Gen Damaged
- 1 ignitar Box Broken open

Internal Inspection:

Baroscope:

- compressor turbine unable to turn
- Comp turbine Blades ~~are~~ intact
- 1st stage comp Blades intact
- Power turbine Blades twisted in working position from impact

Quentin Cokinogenis
Turbine Power Tech

Prop:

- All 3 Blades Bent
- Part of turbine prop flange attached to Hub
- All 3 Blades twisted in prop Hub 3 Different locations
- Broken Prop Bolts stuck in Hub
- Spinner crushed.

Quentin Cokinogenis
Turbine Power Tech