

Inspector Statement

Name: Antonio Gonzalez-Santiago

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Phone: [REDACTED]

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Description: N461MM Accident Investigation, Jacksonville, Florida, October 17, 2014
NTSB # ERA-15-S-A-003

On October 17, 2014 I arrived at the Florida Air recovery facilities in Jacksonville, Florida with the Operations Inspector to follow up with an investigation he was conducting. The aircraft was N461MM, an experimental model WAIEX (SONEX) serial Number W0156 with an engine model Aeroconvert-Aerovee. The aircraft remains were located at the yard and we met with Mr. Michael O'Shea, the recovery specialist. An inspection of the aircraft airframe was performed showing complete destruction of the airframe. The fuselage was damaged from the impact with the ground. The wings were bent back towards the tail section. The wings and fuselage became one and little remains of the tail were visible. It showed the structure was bent back from where the center main spar was located. Could not verify control surfaces travel and or connectivity to control wheel due to the damage of the fuselage. The cockpit had disintegrated and no seats or instrument panel was visible. There was no engine compartment as it was seen lying in the ground. Engine mount was bent on several places. There was no firewall that showed where the cockpit and the engine compartment were supposed to be. An engine teardown was coordinated to determine any possible cause of engine failure.



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Aircraft remains were inspected and could not locate the ignition system components. Remain only the back engine adapter plate that houses the ignition system. The starter was found in several pieces and the starter attach mount was heavily damaged. A search was conducted and found the gas tank, (recovery team stated it was half full of gasoline,) the carburetor with fuel hose assembly attached and inline valve in the open position, intake tubes and intake engine adapters. These components looked as being in good working condition at time of impact. Found an FL-760 VHF Transceiver Comm radio heavily damage; an MGL Avionics Stratomaster face plate but no memory card and the separated body of the Stratomaster XTreme. Also found an RT-359A Transponder, also heavily damaged and still attached to a small piece of the instrument panel with 6 circuit breakers and the ignition switch.

Stratomaster XTreme



Back View of XTreme Instrument

Stratomaster XTreme (New)

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The propeller was separated from the engine. It showed indications of not being rotating at time of impact. One blade was attached to the main hub with no visible damage. The second blade was sheared at about 90% of the blade length from the tip. This blade showed indications of being separated at impact. The back of the hub was connected to the engine adapter. The engine prop mount adapter showed indication of shear from side impact and the connecting bolt was sheared inside the adapter.



A visual inspection of the engine indicated damage to the front of both valve covers flanges. These damages are consistent with impact damage. The exhaust tubes were bent back and had crushed the engine valve connecting rods tubes. The engine propeller mount adapter was separated and broken off at the engine crankshaft connection; damage was consistent with the indications of the rear of the propeller. Spark plugs ignition leads were cut by recovery team during salvage operation. A small piece of engine baffle was still attached to engine and oil tube was bent and damaged. Intake tubes were damaged but still connected to the engine.



Engine Valve Covers

Starter Adapter



Ignition System

Ignition system and starter mount

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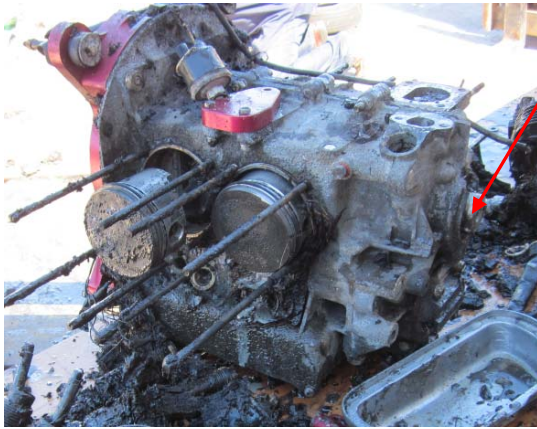
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Propeller Hub
Attachment



Right side engine (N461MM)



Left side engine (N461MM)



Valve rocker arms and springs (N461MM)



Valves (N461MM)



Cylinders (N461MM)

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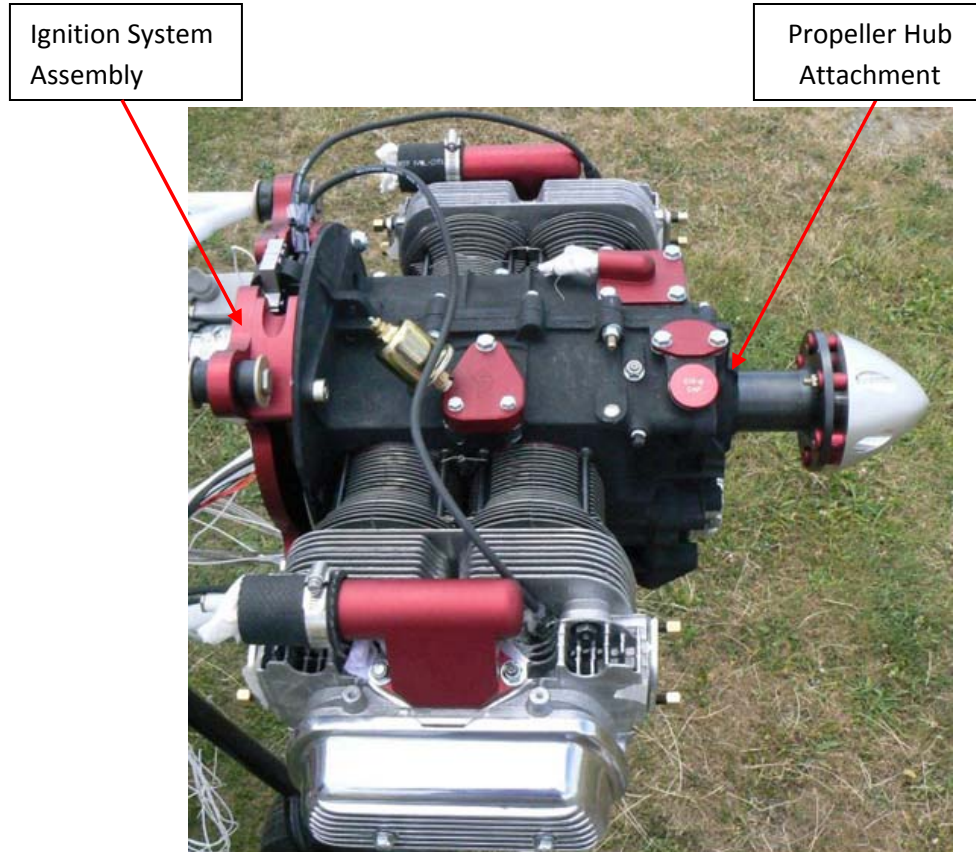
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Complete engine with ignition system located at rear of engine inside red mount area. (New)

Engine spark plugs were removed and showed gap was present and no indication of being fouled. The intake manifolds, access cover plates and valve covers were removed. Inside of engine was full of mud from the time spent immersed in the water. After cleaning up the mud from the valve areas, inspection revealed to be in good condition, clearance, condition and movement. The valve springs tension was good and not damaged and the valves were closing and opening with no hesitation. Removed valve assemblies and inspected cylinders with good results of not being damaged. Removed the cylinder jugs and cylinders showed to have good clearance with no excessive play between the rings and the jugs.

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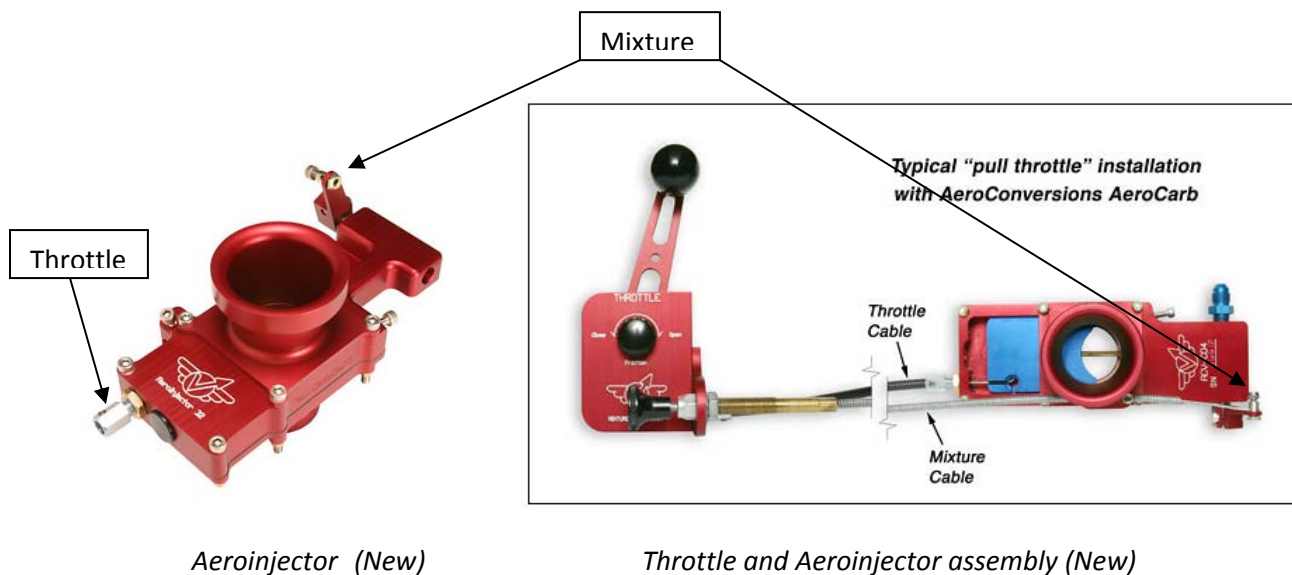
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Proceeded to inspect the inside of the engine core to verify connection between the cylinders rocker arms and the engine main crankshaft noting that they were in good condition with no play or damage to the bearings. Attempted but could not rotate the crankshaft to verify rotation movement due to the dirt and mud inside the engine even after water rinse and not having any mechanical mean to grab the crankshaft.



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Conclusions:

1. *Electrical ignition system components were not available to test if ignition was available to the engine.*
2. *Fuel system components were heavily damaged to test for fuel feed to engine.*
3. *Engine mechanical condition showed it was in good operating condition and should have been able to rotate and produce power.*

Reason engine was not rotating at time of impact cannot be determined at this time. [REDACTED]
[REDACTED]
[REDACTED]

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10/17/2014
Date