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EXPERT REPORT of Edward Libassi

ENGINE AND AIRCRAFT INSPECTION

Beechcraft V35

N: 5616S S/N: D-8158

Continental Motors

IO-520-BA S/N: 120934-6-B

The statements in this Report are true and correct to the best of my personal knowledge, information and belief, and the opinions I have expressed are made with a reasonable degree of professional certainty based on my personal inspections of a Beech V35, Serial No. D-8158. With more than 50 years' experience maintaining and repairing aircraft, as well as other General Aviation and Commercial Air Transport Aircraft, Owner and Chief Inspector of A&P Aircraft Maintenance Inc, and A&P Aviation Consulting Inc, holder of FAA Certifications I earned as an Airframe and Powerplant (A&P) Mechanic, Inspection Authorization (IA), and a DAR-T.

A. BACKGROUND

On March 17, 2023 at 1414 Eastern Daylight Time, a Beech V35, N: 5616S departed Brookhaven Airport (HWV), Shirley, New York.

About 20 minutes into the flight, at a cruise altitude of 3,500 ft MSL, the pilot/owner, Mr. Vanel Clyde, noticed the manifold pressure dropping. He pushed all engine controls full forward. He states the engine did not respond. Looking for a place to make an off field landing, Mr. Clyde decided to land on a beach.

The aircraft landed hard on a Shoreham beach, Long Island, New York.

The nose gear collapsed; the left-wing spar was substantially damaged. The pilot/owner and pilot rated passenger were not injured.

The ocean tide was low, the aircraft veered left, and came to rest in water. Due to the failure of recovery personnel to remove the aircraft to higher grounds, when the tide came in, the aircraft was completely submerged under water with only the (2) rudder elevators visible. When the tide was low, a recovery team removed the aircraft.

The recovery consisted of ripping the (2) wings off. Further airframe damage ensued. The aircraft was transported to an open lot facility, where the airframe and engine were covered with tarps.



B. ENGINE

The engine was a Continental Motors IO-520-BA, S/N: 120934-6-B.

No information, or log books were made available about the engine, history, or hours.

C. INSPECTION

Tuesday April 18, 2023, I was contacted by NTSB Safety Investigator, Mr. Daniel Boggs. He asked if I would perform an inspection on the engine, similar to a 100 hr./annual protocol. I accepted the request, and on Wednesday April 19, 2023 @ 8am, I arrived at the storage facility, with one of my employees. Having removed the tarps, covering the engine and forward fuselage, I began my inspection. In attendance were FAA Inspectors Lawrence Lopez and Inspector Donald Smith. In addition, mechanic John DiLavori, provided entrance to the storage facility, and was also the one who conducted the last annual inspection on the aircraft.

The oil dipstick was pulled, and the oil sump was found full with 12 quarts of oil

The top spark plugs were removed. The #1 top plug was oil fouled. The # 2, 3, and 5 were all found with contaminant from being under water.

A cold compression check was accomplished. The facility provided air, and a certified calibrated compression tester. The readings were as follows:

#1) 80/78 #3) 80/30 #5) 80/53

#2) 80/50 #4) 80/70 #6) 80/72

NOTE: Cylinder #3 with the least compression.

Next the fuel spider top housing was removed. The housing and filter were found clean, and a positive ID that fuel was present. Using a product called Gasoila Paste, I confirmed there was no water present in the spider housing.

The engine driven fuel pump was removed, Part #646212-2, S/N: G138807BR.

Fuel was observed in the fuel line to the pump. A small sample was taken and placed in a glass jar. The fuel pump was removed, and the shaft was found intact. The shaft was not sheared.

The pump turned by hand.

*See Video – engine propeller was rotated and the fuel pump drive gear rotated.

Next, both magnetos were removed. The impulse drive was rotated by hand, and no spark could be felt. The gear access plug was removed from the right magneto, and debris and water flowed out. A cordless drill was attached to the right magneto, and still no spark was found.

The remaining (6) spark plugs were removed. All spark plugs were full of debris, and water. All cylinders now with no spark plugs installed, had water running out of the plug holes.

The intake manifold was inspected for security and completeness. Intake manifold was found unremarkable.

All (6) cylinders were borescoped. Could not see the cylinder walls, or intake or exhaust valve face, due to salt water contamination and debris.

The (6) fuel injectors were removed, and visually inspected with an LED light for blockage. None found. All (6) injectors were clean.

The oil filter was removed and brought back to the maintenance hangar with Inspector Lopez present. The filter was cut open and inspected. No metal contamination was found. The filter was retained by A&P Aircraft Maintenance.

Access to the cockpit cabin was obtained. The area around the fuel selector valve was cleared of beach sand and rocks. The fuel selector handle was found pointing toward the left fuel tank. But was NOT found in the detent position of the left tank.

*See Video – fuel selector movement. The fuel selector was then moved with Inspector Lopez in attendance, and all (3) positive detent positions were obtained, and felt when the selector handle was moved. The positive detent OFF, LEFT, and RIGHT were confirmed.

With the #3 cylinder bearing the lowest compression, I removed the rocker box cover. While rotating the propeller by hand, I observed the intake and exhaust valves and components moving.

At this time, the inspection ended. All items removed, disassembled, and taken apart, were reinstalled, with at least a low degree of tightening.

D. CONCLUSION

Based on my information, knowledge, and belief, the opinions I express are made with a reasonable degree of professional certainty, that this engine did not reveal any anomalies, that would have precluded normal operation.

Photographs and video with identification are being made as part of this report.

Sincerely,

Edward Libassi
President, A&P Aircraft Maintenance, Inc.
President, A&P Aviation Consulting, Inc.