

N8359D / Beech Bonanza J35

Continental Engine Serial Number: \_\_\_\_\_

Date of Inspection: 2 Sept 2020

NOTE: Examined cockpit at the recovery scene and note that the Main and Aux fuel pumps were in the left position and main fuel select valve was on the right tank.

#### Visual Documentation

Over general condition of the engine was intact and undamaged except for the left hand exhaust cabin heat exchanger was partially crush and the cowling around the engine air inlet filter assembly.

Engine mounts were in good condition. Engine mount bolts/nuts had proper torque.

All engine accessories were intact and mounted.

All engine mounted oil and fuel lines were secured.

All engine controls continuity could not be verified due to the engine separated from firewall due recovery procedures. Aircraft was inverted when removed from the river.

The engine had oil but quantity could not be verified due to water introduced into the system.

#### Remove Items Prior to Rotating Crankshaft

All spark plugs electrodes were in good shape and no apparent mechanical damage noted.

Engine driven fuel pump did not have sheared shaft. A lot of corrosion was found due to being in water. Could not rotate shaft no more a quarter of a turn. Did not want to shear the shaft. Drive Splines on both the engine and fuel pump showed no signs of excessive wear.

Vacuum pump rotated and no excessive wear on both the engine and vacuum pump drive splines.

No P lead on left magneto was found.

#### Internal Continuity

Bore scope was utilized but was difficult to identify anomalies.

All cylinders were connected and moved when prop rotated.

All rocker arms moved appropriately.

All cylinders had compression and suction using the "Thumb" method.

Magnetos timing was not verified or able. Magnetos were removed and both produced spark on all leads.

#### Induction / Exhaust System

Air intake tubes were intact and connected with minimal damage.

Left side of exhaust was partially crushed from impact with water. Unable to inspect baffles.

Exhaust muffler was open and free of any foreign objects.

No turbo charger installed.

#### Accessories

Both magnetos were removed, rotated, and both produced spark on all leads.

Engine driven magneto gears (Engine) rotated appropriately. No signs of damage teeth on both the engine driven gears or magneto gears.

Ignition harnesses were in good shape. No signs of damage. No corrosion noted on plug side of harnesses (springs).

All plugs had oil/water contamination. Difficult to identify gap. No mechanical damage. Electrodes had minimal wear.

#### Carburetor Equipped Engines

This engine was fuel injected.

#### Fuel Injected Engines

All fuel lines were attached to fuel pump, throttle body fuel control, fuel flow divider and to fuel injectors.

Fuel inlet screen, on throttle body, was clean and free of debris.

Throttle arm went from stop to stop.

Mixture arm went from stop to stop.

As stated above, engine driven fuel pump shaft was not sheared and splines on both the engine and pump showed no excessive wear.

Number 1 and 6 had clogged fuel nozzles. Number 6 was excessively "packed" with debris.

Disassembled fuel flow divider. Diaphragm and spring were in good shape. No signs of corrosion or mechanical wear.

#### Miscellaneous Accessories / Systems

Propellor governor was not removed. Controls were attached and movable. Propellor was in full pitch.

Engine oil filter removed. Poured oil onto white rag and did not see excessive metal. Did not have oil filter cutter.