

ENGINE RUN REPORT INSPECTOR STATEMENT

Engine Model: Continental IO-520-BB (16)

Engine Serial Number: 274643-R

Aircraft Make: Beechcraft

Aircraft Model: BE-36-A36

Aircraft Serial Number: E-2110

Registration Number: N61WB

Date of Examination: March 16-17, 2016

Requesting FAA Office: NTSB—Leah Read

FAA IIC—Robert Reynolds, Charlotte NC FSDO

Accident/Incident Number: ERA 16 FA 108

Investigation Party:

Jack E. Clark----Birmingham, Al. FSDO SO-09

Phillip Grice & Mike Council ---Continental Motors, Mobile, Al.

Description of Engine:

520 cubic inch displacement, six cylinder air cooled, horizontally opposed, fuel injected engine, developing 285 horsepower at 2700 RPM.

Initial Inspection:

Aircraft engine was located in the Analytical Department at Continental Motors, Mobile, Alabama. The engine was removed from a shipping container and placed on an engine stand. This engine was received with the magnetos, harness, spark plugs, fuel system, starter, propeller governor, vacuum pump, vacuum regulator/filter, alternator and engine baffle installed on engine; left and right exhaust headers were lying loose in shipping container.

Visual inspection of the engine revealed both left engine mounts were broken, cracks in crankshaft flange on aft radius, puncture hole in #4 intake tube.

10 quarts of oil was measured in the engine. Oil was not drained.

Engine Disassembly:

No disassembly required for the crankcase and power section.

- #4 intake and both left side engine mounts were replaced to expedite the mounting of the engine to the test stand and test run.

- Oil filter was removed and cut open; no contaminations were noted. New oil filter installed.
- Magneto to engine timing was checked: Right Magneto 27 degrees BTDC, Left Magneto 23 degrees BTDC; no adjustments were made. (manufactures specified magneto timing 22 degrees)
- Crankshaft flange: End Play .012; Deflection .026; Runout .011
- Cold Compression: #1 41/80e, #2 25/80e, #3 22/80e, #4 31/80e, #5 63/80, #6 72/80.

Accessory Testing:

No accessory testing was performed during this inspection.

Left Magneto:	p/n S6RN-1225, BL-349350-5	s/n F06RA032R
Right magneto:	p/n S6RN-1225, BL-349350-5	s/n F05LA224R
Starter:	p/n PM2407 (Lamar)	s/n 85842107
Throttle Body:	p/n 631415-A7	s/n A06BA289R
Fuel Pump:	p/n not recorded	s/n B06CA024R
Fuel Manifold:	p/n 631427-2A20	s/n C06CA026R
Prop Governor:	p/n D210680 (Woodward)	s/n 1810904Y
Alternator:	p/n 646843	s/n B2183096
Vacuum Pump:	p/n 442CW (Airbourne)	s/n 146097
Spark Plugs:	p/n RHM-32-E	
Oil Filter:	p/n CH48108	
GAMI Injectors:	#1 & #2: GA173, #3 & #4: GM156, #5 & #6: GF147	

Added Information/Other:

Final Compression #1 63/80, #2 60/80, #3 60/80, #4 62/80, #5 69/80, #6 55/80.

Causal Factor/ Observations:

This engine test run was performed throughout specified manufactures power ranges with no abnormalities noted. Duration of engine power setting was modified from 5 minute runs to 3 minutes runs due to cracks in crankshaft flange.

Jack E. Clark
Aviation Safety Inspector, FSDO SO-09
March 21, 2016

Enclosures: Photographs one CD.
CMI Engine Run Sheet.