



Continental Motors

ENGINE RUN REPORT

ENGINE MODEL	IO-520-BB
ENGINE SERIAL NUMBER	836904-R
AIRCRAFT MAKE & MODEL	Beechcraft V35B
AIRCRAFT SERIAL NUMBER	D-10266
AIRCRAFT REGISTRATION	N252G
FILE NUMBER	15-067

NAME	SIGNATURE	DATE
Phillip Grice		2-15-2017

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PAGE 2 of 9**GENERAL INFORMATION**

EXAMINATION		ACCIDENT DATA	
DATE	01-06-2016	NTSB ACCIDENT #	CEN15FA316
FACILITY	Mobile Alabama	NTSB INVESTIGATOR	Courtney Liedler
ADDRESS	2039 Broad Street Mobile, Alabama 36615	FAA INVESTIGATOR	Rakesh (Rocky) Patel
		ACCIDENT DATE	7-26-2015
		ACCIDENT LOCATION	Colbert, OK

ENGINE INFORMATION

ENGINE POSITION	Single
TOTAL TIME	562.9 at last 100-hour inspection dated 1-14-2015
TIME SOH	N/A – Factory Rebuilt Engine
TYPE & TIME SLI	45 hours since last 100-hour inspection
BUILD DATE	9-28-2008
IN SERVICE DATE	11-1-2008

Significant logbook information: Last engine log entry and 100 hour inspection:

Abilene Aero Inc. 2850 Airport Blvd. Abilene TX 79601WO# 13447
Engine S/N 836904 Meter: 3841.4 Total Time: 562.9
Airworthiness Directives Through 2014-26

Registration# N252G
TSMOH: 562.9

Date: 1/14/15

I Certify this engine has been inspected IAW FAR 43 appendix D 100 hour inspection and found to be in an Airworthy condition. ♦Compression check #1 72/80 #2 68/80 #3 68/80 #4 70 /80 #5 70 /80 #6 70/80. ♦Drained oil, removed filter, inspected filter media, installed a new P/N CH48108-1 filter, serviced engine with 12 quarts Aeroshell 100W oil. Washed engine ground run ops and leak check ok. ♦Installed new Champion RHB32E spark plugs. ♦Tested spark plug leads ok. ♦Checked magneto timing ok. ♦Removed, inspected, cleaned and reinstalled T/B screen. ♦Installed a new P/N BA-7112 brackett air filter element. ♦Removed, cleaned, inspected, installed, and torqued, fuel nozzles. ♦Installed a magneto rebuilt by CRS# PQ1269CE P/N BL-349350-5, S/N F14LA119R, in right position.

Approved for return to service
George Wilkins

Report Summary:**Search Code(s):**

15-12-68

No conditions were observed during the engine test, that would have prevented the production of rated horsepower.

Disposition of engine following exam: The engine was released by the NTSB IIC and returned to Air Salvage of Dallas 1-11-2016 per shipper request # AD00852

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INSPECTION WITNESSES			
NAME	Phillip Grice	NAME	Greg Eastburn
ADDRESS	Mobile Alabama	ADDRESS	Mobile Alabama
ORGANIZATION	Continental Motors	ORGANIZATION	Continental Motors
PHONE		PHONE	
NAME	Lisa Jersild	NAME	Mike Council
ADDRESS	Mobile Alabama	ADDRESS	Mobile, Alabama
ORGANIZATION	Continental Motors	ORGANIZATION	Continental Motors
PHONE		PHONE	
NAME	Brad Bigelow	NAME	Kurt Gibson
ADDRESS	Central Region	ADDRESS	Mobile, Alabama
ORGANIZATION	NTSB (AS20)	ORGANIZATION	Continental Motors - ASI
PHONE			

EXTERNAL INSPECTION OF ENGINE



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ENGINE PREPARATION PRIOR TO RUN

There were a number of airframe related items removed in preparation for operation on the CMI test bed.

Items removed:

- 1) Various engine cooling baffles
- 2) Instrument air pump
- 3) Propeller governor

The following substitute or repaired parts were required for engine operation:

- 1) Right and left forward engine mounts were replaced.
- 2) The engine driven fuel pump housing was cracked. The crack was sealed with an epoxy adhesive.
- 3) The forward induction balance tube was replaced.

The cylinders were borescoped and the following was observed:

Intake and exhaust valves were intact and exhibited normal combustion deposits.

The magneto-to-engine timing was checked and with the following results:

Magneto-to-Engine Timing (Specified):	Left Magneto:	Right Magneto:
22° BTDC	24° BTDC	22° BTDC

A cylinder leakage test was performed prior to the test run in accordance with the latest revision of CMI Service Bulletin SB03-3 with the engine at room temperature with the following results (master orifice reading – 43 PSI):

Cylinder #1 -59/80 PSI (exhaust valve/rings)	Cylinder #2 -59/80 PSI (exhaust valve)
Cylinder #3 -72/80 PSI (rings)	Cylinder #4 -15/80 PSI (exhaust valve)
Cylinder #5 -61/80 PSI (exhaust valve/rings)	Cylinder #6 -5/80 PSI (exhaust valve)
(*) – Leakage Source	

The engine was not disassembled prior to the engine run. The crankshaft end-play measured 0.009" and the run-out was 0.004".

The engine was then prepared for operation by installing the appropriate thermocouples, pressure lines and test pads for monitoring purposes. The engine was then moved to CMI test cell number 43 and mounted for operation. The engine was fitted with a test club propeller for the IO520BB engine model.

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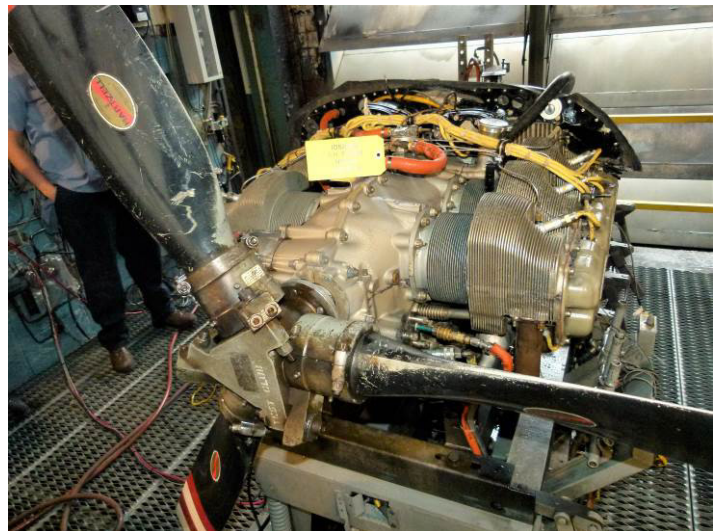
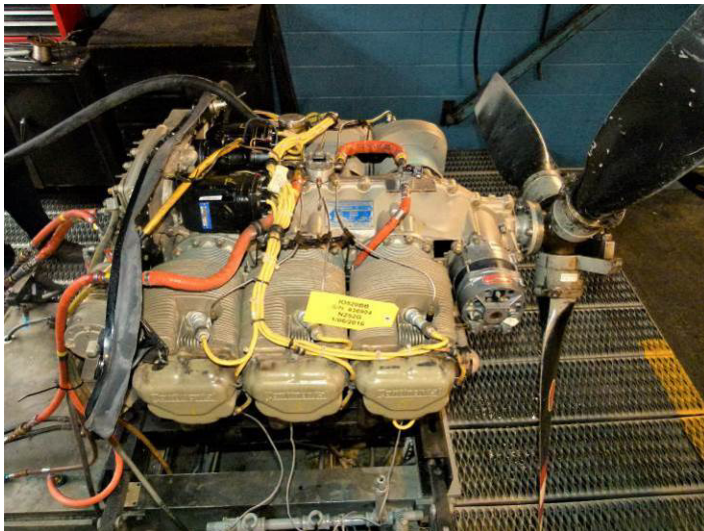
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DESCRIPTION OF RUN

The engine experienced a normal start on the first attempt without hesitation or stumbling in observed RPM. The engine RPM was advanced in steps for warm-up in preparation for full power operation. The engine throttle was advanced to 1200 RPM and held for five (5) minutes to stabilize. The engine throttle was advanced to 1600 RPM and held for five (5) minutes to stabilize. The engine throttle was advanced to 2450 RPM and held for five (5) minutes to stabilize. The engine throttle was advanced to full open position and held for five (5) minutes to stabilize. The engine throttle was rapidly advanced from idle to full throttle five times where it performed normally without any hesitation, stumbling or interruption in power.

Throughout the test phase, the engine accelerated normally without any hesitation, stumbling or interruption in power and demonstrated the ability to produce rated horsepower.



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A cylinder leakage test was performed after the test run in accordance with the latest revision of CMI Service Bulletin SB03-3 with the engine hot with the following results (master orifice reading – 42 PSI):

Cylinder #1 - 65/80 PSI (rings)

Cylinder #2 - 65/80 PSI (rings)

Cylinder #3 - 62/80 PSI (rings)

Cylinder #4 - 60/80 PSI (rings)

Cylinder #5 - 65/80 PSI (rings)

Cylinder #6 - 55/80 PSI (rings)

(*) – Leakage Source

ENGINE RUN PARAMETERS

Time		RPM	MP / " Hg	Oil		Fuel				Cell °F	Cylinder Head Temperature °F					
Reading	Minutes			PSI	°F	Lbs./Hr.	Nozzle PSI	Pump PSI	Fuel °F		# 1	# 2	# 3	# 4	# 5	# 6
1	5	1200	11.83	50	102	20.3	2.89	11.98	57	53	240	270	224	230	244	174
2	5	1600	17.06	52	130	34.6	6.82	15.32	59	53	278	309	256	277	269	190
3	5	2100	22.99	52	161	72.5	10.28	22.50	60	54	315	375	345	328	341	243
4	5	2450	26.34	56	161	102.5	13.99	26.08	61	54	361	420	395	368	380	277
5	5	F/T 2732	29.44	54	195	153.5	24.10	36.01	67	54	348	445	358	407	378	293
6	5	Idle 844	14.00	32	187	12.6	4.67	10.07	61	54	249	308	238	270	217	173
Ambient Air Temperature °F		Ambient Air Pressure		Transfer Collar Δ P		Maximum Rated Power Engine Operational Parameters										
57		29.94		IN	OUT	RPM		" Hg MP		Fuel Flow Lbs./Hr.		Metered PSI		Unmetered PSI		
				34	37	2700		N/A		136-146		14.9-17.2		28.0-31.0		

Notes: Operator – Johnny Little, 30524. Transfer collar pressure delta measured at full throttle power setting.

Engine Performance Test				
Test RPM	Left Magneto	Left Magneto	Right Magneto	Right Magneto
	RPM	RPM Drop	RPM	RPM Drop
2132	2108	24	2104	28