



CONTINENTAL

A E R O S P A C E T E C H N O L O G I E S

ENGINE RUN REPORT

ENGINE MODEL	TSIO550C11B
ENGINE SERIAL NUMBER	802964
AIRCRAFT MAKE & MODEL	Cessna LC41
AIRCRAFT SERIAL NUMBER	411030
AIRCRAFT REGISTRATION	N78JE
FILE NUMBER	18-343

NAME	SIGNATURE	DATE
Phillip Grice		02/28/2020

ENGINE RUN REPORT**FILE NUMBER:**

18-343

ENGINE S/N:

802964

PAGE 2 of 10**GENERAL INFORMATION**

EXAMINATION		ACCIDENT DATA	
DATE	05/28/2019	NTSB ACCIDENT #	ERA19LA081
FACILITY	Continental Aerospace Technologies	NTSB INVESTIGATOR	Ralph Hicks
ADDRESS	2039 Broad Street Mobile, Alabama 36615	FAA INVESTIGATOR	
		ACCIDENT DATE	12-30-2018
		ACCIDENT LOCATION	Apopka FL.

ENGINE INFORMATION

ENGINE POSITION	Single
TOTAL TIME	1301.0 From Pilots 6120
TIME SOH	1301.0
TYPE & TIME SLI	6 hours From Pilots 6120
BUILD DATE	03/02/2008
IN SERVICE DATE	Not Reported

Significant logbook information:

No logbooks were returned with this exhibit.

Report Summary:

Search Code(s):

15-12-68

The engine required a weld repair due to impact damaged. The engine started and ran well on the engine test cell.

Disposition of engine following exam:

The engine was returned to Florida Air Recovery 05/23/2019 on Shipper AD01158

ENGINE RUN REPORT**FILE NUMBER:**

18-343

ENGINE S/N:

802964

PAGE 3 of 10**INSPECTION WITNESSES**

NAME	Phillip Grice	NAME	Randy Bryant
ADDRESS	Mobile Alabama	ADDRESS	Mobile Alabama
ORGANIZATION	Continental Motors	ORGANIZATION	Continental Motors
PHONE	██████████	PHONE	██████████
NAME	Lisa Jersild	NAME	Ralph Hicks
ADDRESS	Mobile Alabama	ADDRESS	Atlanta GA.
ORGANIZATION	Continental Motors	ORGANIZATION	NTSB
PHONE	██████████	PHONE	██████████
NAME	Andrew Hall	NAME	
ADDRESS	Wichita KS.	ADDRESS	
ORGANIZATION	Textron Aviation	ORGANIZATION	
PHONE	██████████	PHONE	

EXTERNAL INSPECTION OF ENGINE

ENGINE RUN REPORT

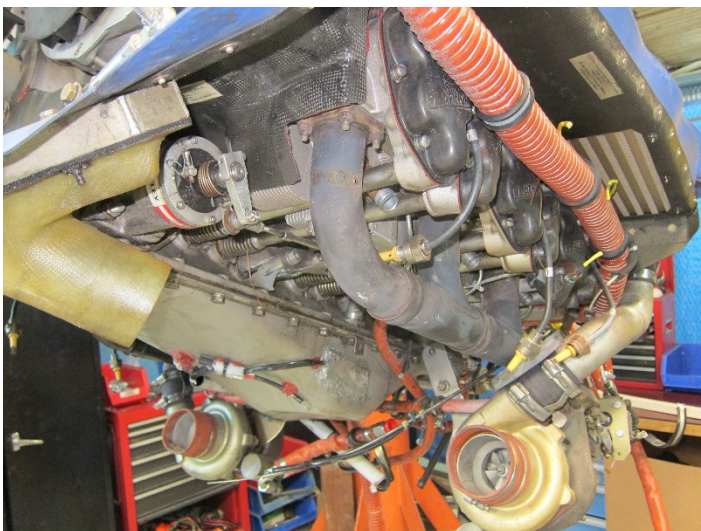
FILE NUMBER:

18-343

ENGINE S/N:

802964

PAGE 4 of 10



ENGINE RUN REPORT

FILE NUMBER:

18-343

ENGINE S/N:

802964

PAGE 5 of 10



ENGINE RUN REPORT

FILE NUMBER:

18-343

ENGINE S/N:

802964

PAGE 6 of 10

ENGINE PREPARATION PRIOR TO RUN

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

Items removed: Cooling baffles, Starter adapter, Starter motor, propeller governor, both alternators.

The following substitute or repaired parts were required for engine operation: Starter adapter, Starter Motor. Both 2,4,6 side mount legs, front mount leg on the 1,3,5 side of the engine. Turbo charger oil sump can.

The cylinders were borescoped and the following was observed: slight corrosion was noted in each cylinder. Valves indicated normal operating signatures.

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

Magneto-to-Engine Timing (Specified):	Left Magneto:	Right Magneto:
24°BTDC	27°BTDC	28°BTDC

A cylinder leakage test was performed prior to the test run in accordance with the latest revision of Continental Motors M-0 Maintenance Manual with the engine at room temperature with the following results (master orifice reading – 43 PSI):

Cylinder #1 - 56/80 PSI (exhaust valve/rings) Cylinder #2 - 26/80 PSI (exhaust valve/rings)

Cylinder #3 - 71/80 PSI (exhaust valve/rings) Cylinder #4 - 69/80 PSI (exhaust valve/rings)

Cylinder #5 - 72/80 PSI (exhaust valve/rings) Cylinder #6 - 06/80 PSI (exhaust valve/rings)

(*) – Leakage Source

The engine was not disassembled prior to the engine run. The crankshaft endplay measured .010" and the run-out was .005".

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 TSIO550C engine model.

ENGINE RUN REPORT

FILE NUMBER:

18-343

ENGINE S/N:

802964

PAGE 7 of 10

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 2100 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.



ENGINE RUN REPORT

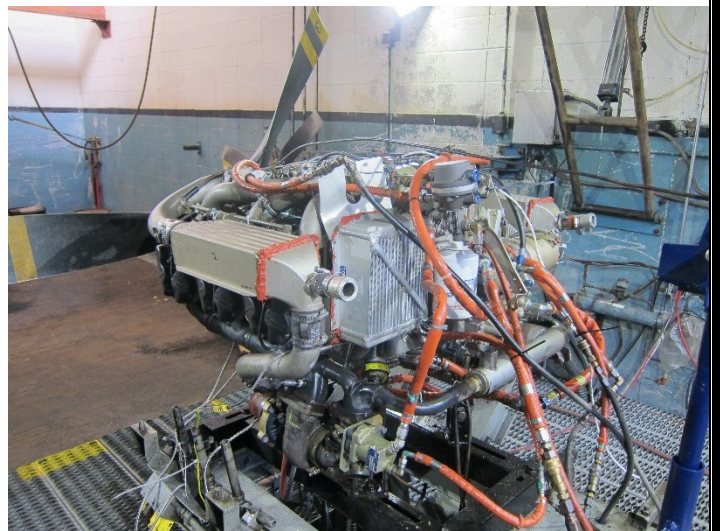
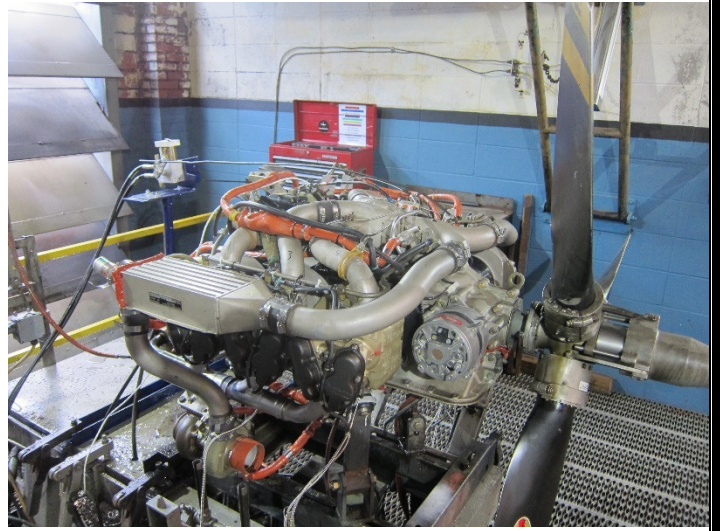
FILE NUMBER:

18-343

ENGINE S/N:

802964

PAGE 8 of 10



ENGINE RUN REPORT

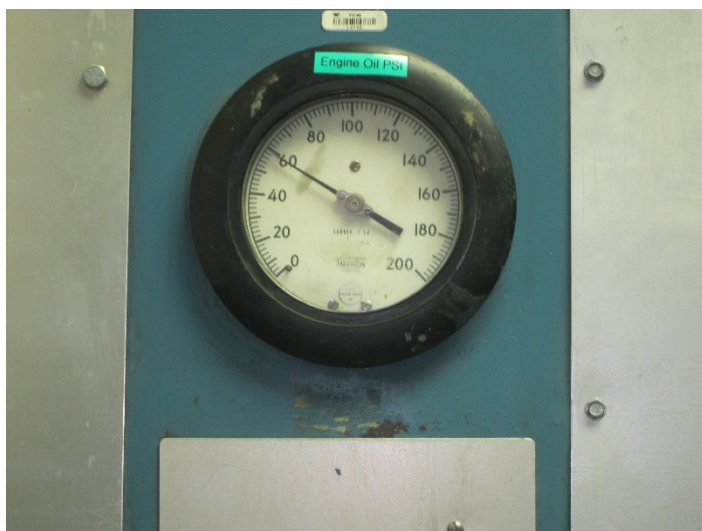
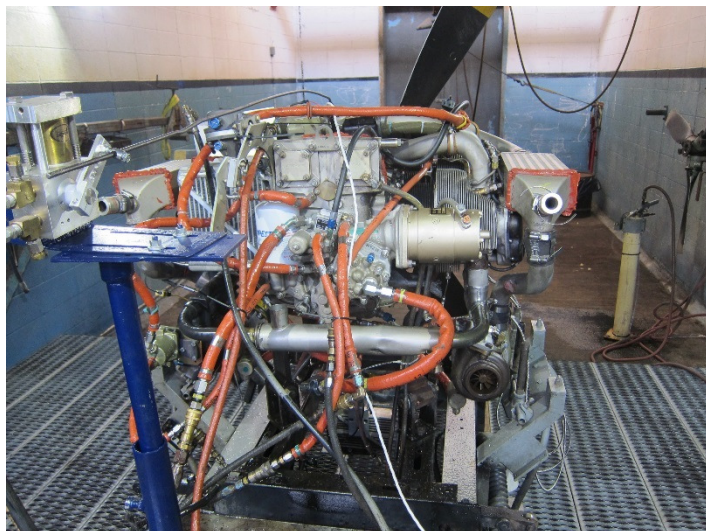
FILE NUMBER:

18-343

ENGINE S/N:

802964

PAGE 9 of 10



A cylinder leakage test was performed after the test run in accordance with the latest revision of Continental Motors M-0 Maintenance Manual with the engine hot with the following results (master orifice reading – 43 PSI):

Cylinder #1 - 65 /80 PSI (rings)

Cylinder #3 - 60/80 PSI (rings)

Cylinder #5 - 72/80 PSI (rings)

(*) – Leakage Source

Cylinder #2 - 42/80 PSI (rings/Valve)

Cylinder #4 - 71/80 PSI (rings)

Cylinder #6 - 66/80 PSI (rings)

Date	Engine Model	Engine Serial Number	Aircraft Registration	Page
05/28/2019	TSIO550C11B	802964	N78JE	10 of 10

Engine Operational Test Log

ENGINE RUN PARAMETERS

Record	RPM	MP/TDP “ Hg	Oil		Fuel				Cell ° F	Cylinder Heat Temp (CHT) / Exhaust Gas Temp (EGT) ° F					
			PSI	° F	Lbs./Hr.	Nozzle PSI	Pump PSI	Fuel ° F		# 1	# 2	# 3	# 4	# 5	# 6
1	1200	15.2/29.9	53	163	23.06	3.91	13.36	82	84	302	265	300	219	204	202
2	1600	18.7/29.9	56	190	42.31	4.77	15.38	82	84	355	287	343	241	257	221
3	2100	25.0/29.9	56	224	93.54	6.66	18.59	83	85	395	307	407	279	313	236
4	2450	30.1/30.1	58	236	153.7	10.09	20.82	84	86	411	320	420	292	328	247
5	F/T 2600	33.7/30.4	60	243	198.7	13.29	24.03	84	85	428	331	438	302	339	255
6	Idle 960	14.7/29.9	24	222	16.21	4.01	11.27	83	85	335	274	323	229	208	192

Ambient Air Temperature °F		Ambient Air Pressure		Transfer Collar Δ P		Maximum Rated Power Engine Operational Parameters				
84.96		29.93		IN	OUT	RPM	“ Hg. MP	Fuel Flow Lbs./Hr.	Metered PSI	Unmetered PSI
				20	27	2600	35.5	212-222	15.3-16.9	32.0-36.0

Notes: Operator – Lisa Jersild.

Transfer collar pressure delta measured at full throttle power setting.

All recoded data was taken at 5-minute intervals unless otherwise noted.

Engine Performance Test				
Test RPM	Left Magneto	Left Magneto	Right Magneto	Right Magneto
	RPM	RPM Drop	RPM	RPM Drop
2100	2132/2104	28	2120/2110	10