




Continental Motors

ENGINE EXAMINATION REPORT

ENGINE MODEL	IO-520-E
ENGINE SERIAL NUMBER	215896
AIRCRAFT MAKE & MODEL	Aero Commander 500A
AIRCRAFT SERIAL NUMBER	500A-914-22
AIRCRAFT REGISTRATION	N14AV
FILE NUMBER	14-308

NAME	SIGNATURE	DATE
Phillip Grice		04/15/2015

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EXAMINATION		ACCIDENT DATA	
DATE	04/15/2015	NTSB ACCIDENT #	CEN15FA056
FACILITY	Continental Motors Inc.	NTSB INVESTIGATOR	Jason Aguilera
ADDRESS	2039 S Broad St Mobile, AL 36615	FAA INVESTIGATOR	Brian Fricker
		ACCIDENT DATE	11/23/2014
		ACCIDENT LOCATION	McDade, Texas

ENGINE INFORMATION

ENGINE POSITION	Left
TOTAL TIME	Unknown
TIME SOH	336.1 (time at the last logbook entry)
TYPE & TIME SLI	Last annual performed on 10/01/2014. Unable to determine time since the inspection.
BUILD DATE	10/02/1997
IN SERVICE DATE	11/01/1997

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The last annual inspection was performed on October 1st 2014 at a hobbs time of 4600.7. On September 10th, 2013 the engine was disassembled and overhauled due to "excessive metal found in the oil screen"; it was reported in the logbook that the #2 main bearing was damaged.

Report Summary:

Search Code(s):

15-12-68

There were no anomalies noted that would have prevented normal operation or production of rated horsepower noted during the examination.

Disposition of engine following exam:

The engine was returned to Air Salvage of Dallas per the NTSB IIC request.

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NAME	Phillip Grice	NAME	Kurt Gibson
ADDRESS	Mobile, AL	ADDRESS	Mobile, AL
ORGANIZATION	Continental Motors	ORGANIZATION	Continental Motors
PHONE	██████████	PHONE	██████████
NAME	Jason Aguilera	NAME	Johnnie Little
ADDRESS	NTSB Central Region	ADDRESS	Mobile, AL
ORGANIZATION	NTSB	ORGANIZATION	Continental Motors
PHONE	██████████	PHONE	N/A
NAME	Greg Eastburn	NAME	
ADDRESS	Mobile, AL	ADDRESS	
ORGANIZATION	Continental Motors	ORGANIZATION	
PHONE	N/A	PHONE	

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The engine sustained a significant amount of damage consistent with impact damage. The engine was disassembled and the internal components were inspected. The cylinders, valves, rocker arms, and pistons displayed normal operating and combustion signatures. All of the connecting rods were intact and displayed normal operating signatures. The crankshaft, main bearing, and connecting rod bearings displayed normal operating and lubrication signatures. The oil pump, oil pressure relief valve, and oil filter displayed normal operating signatures. It was noted that the oil cooler adapter to the oil cooler joining surface contained material that was consistent with silicon sealant. The induction and the exhaust system displayed impact damage signatures and normal operating signatures.

The fuel system components displayed varying amounts of impact damage signatures. The fuel pump, throttle and fuel metering assembly, and the fuel manifold valve were disassembled and visually inspected; the internal components displayed normal operating signatures and there were no anomalies noted. All of the fuel nozzles were inspected for blockages; there were no blockages noted. There were no anomalies noted with the fuel system.

The ignition system sustained damage consistent with impact damage. Both of the magnetos were removed and placed on a test bench. Both of the magnetos were capable of producing a spark on all six posts at all tested RPM settings. The ignition harness displayed impact damage signatures, the #5 bottom and the #4 top ignition leads were partially severed. The ignition harness was capable of conducting a spark between the magneto and to the partially severed portions of the #5 bottom and the #4 top. The remaining ignition leads were capable of conducting a spark between the magneto and the ends of the ignition harness. All of the spark plugs displayed normal operating signatures and several of the spark plug electrodes were in a normal worn out condition when compared to Champion Aviation Service Manual AV6-R. There were no anomalies noted with the ignition system.

There were no anomalies noted that would have prevented normal operation or production of rated horsepower.

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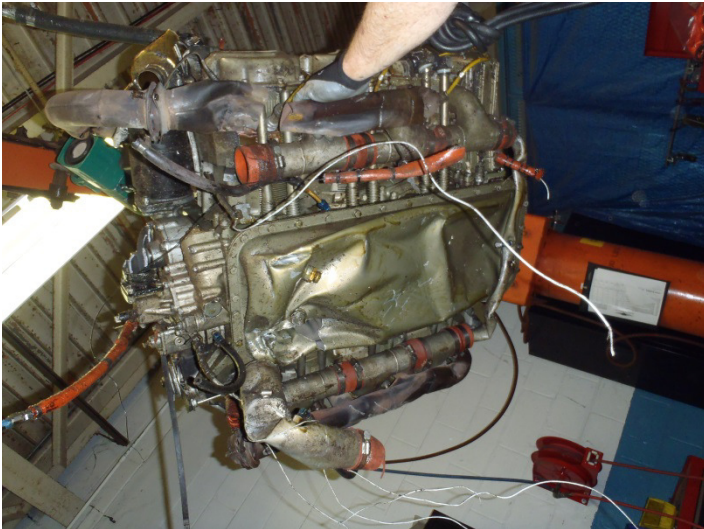
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EXTERNAL INSPECTION OF ENGINE



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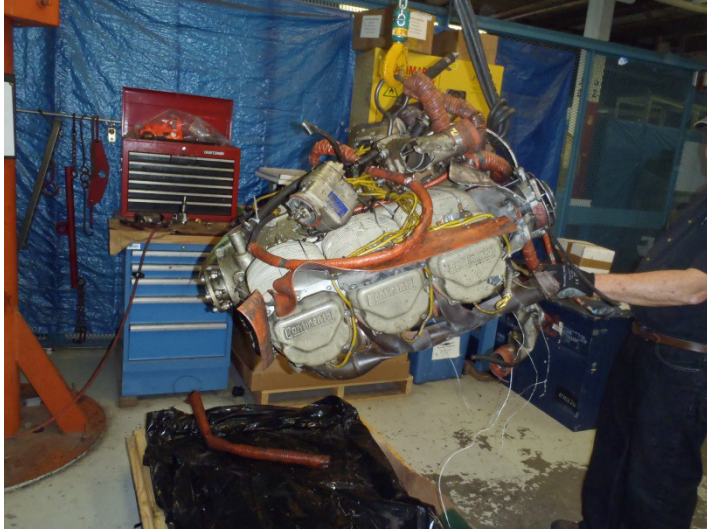
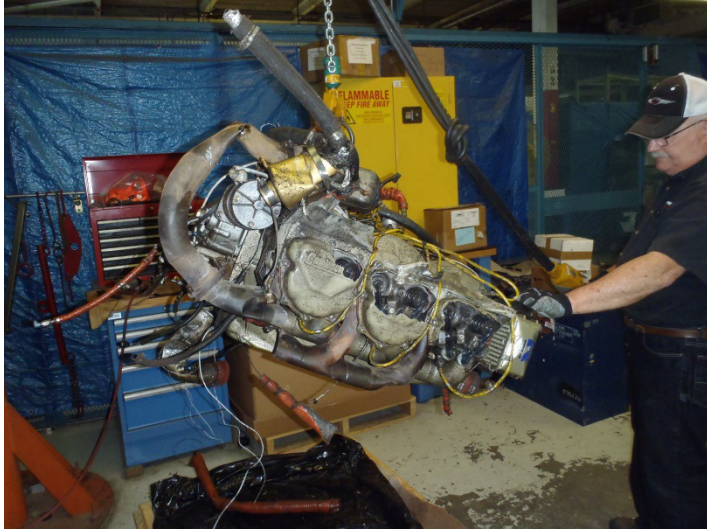
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INTERNAL INSPECTION OF ENGINE



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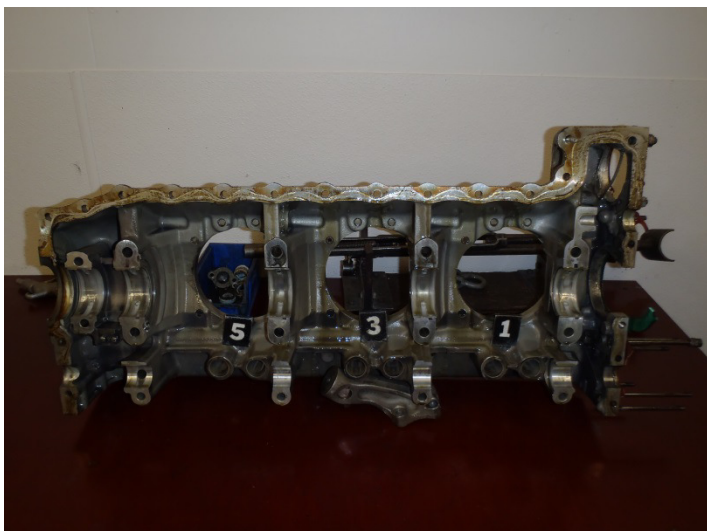
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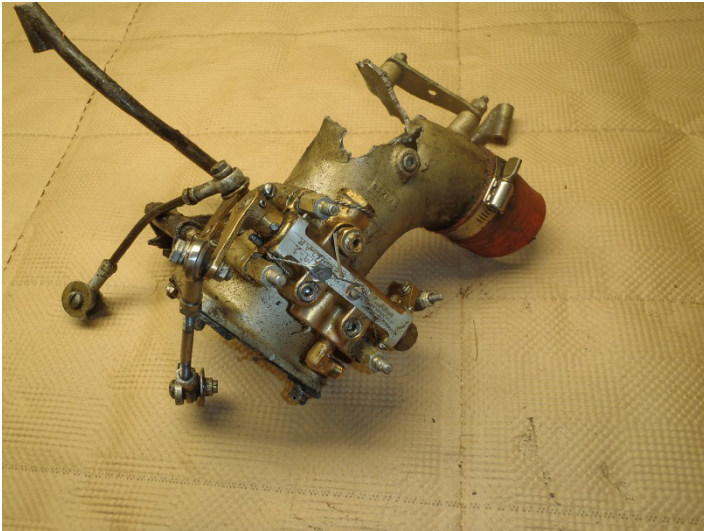
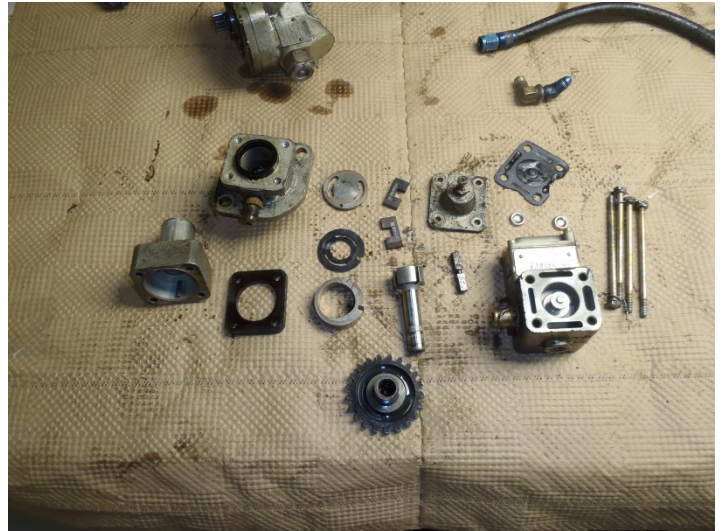
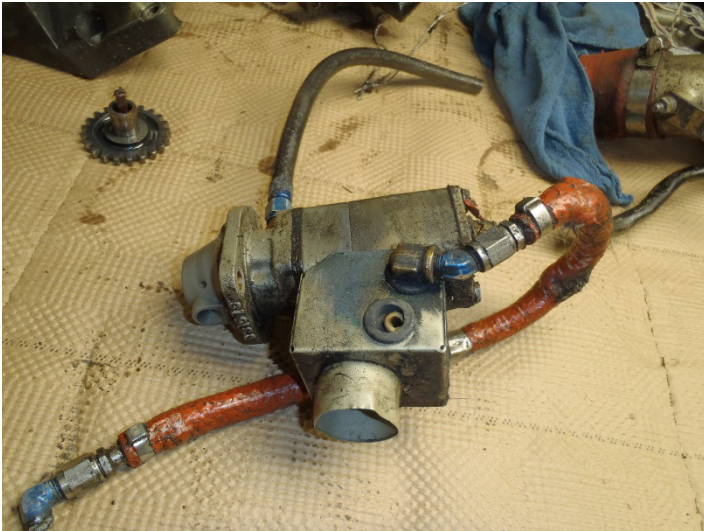
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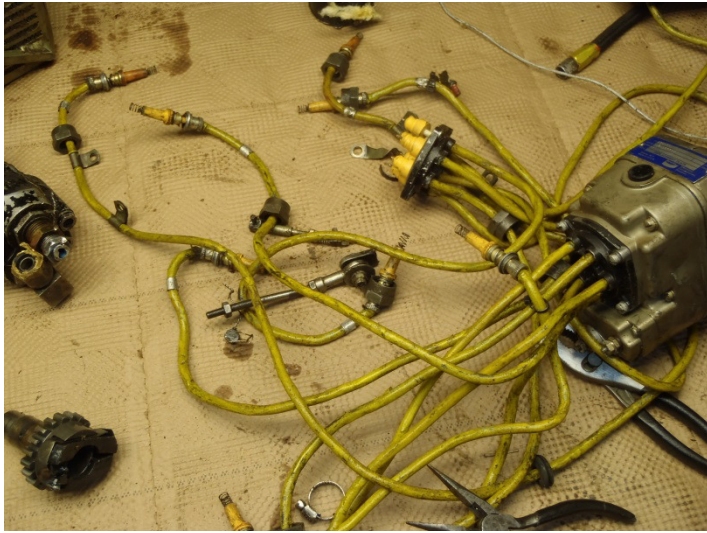
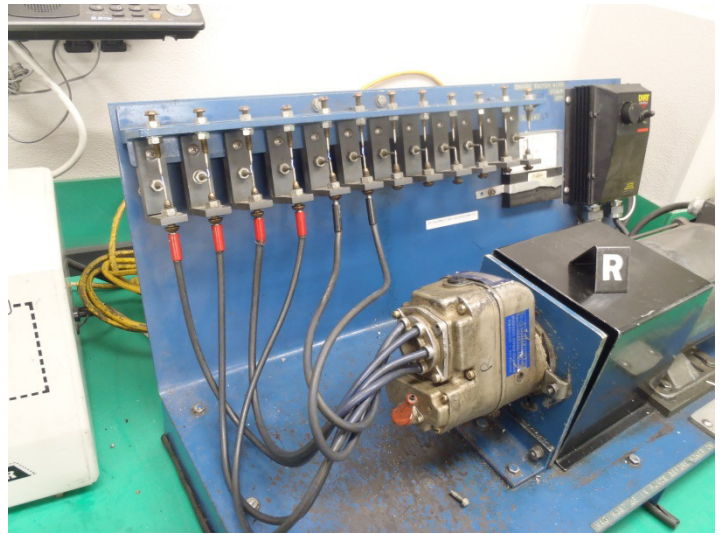
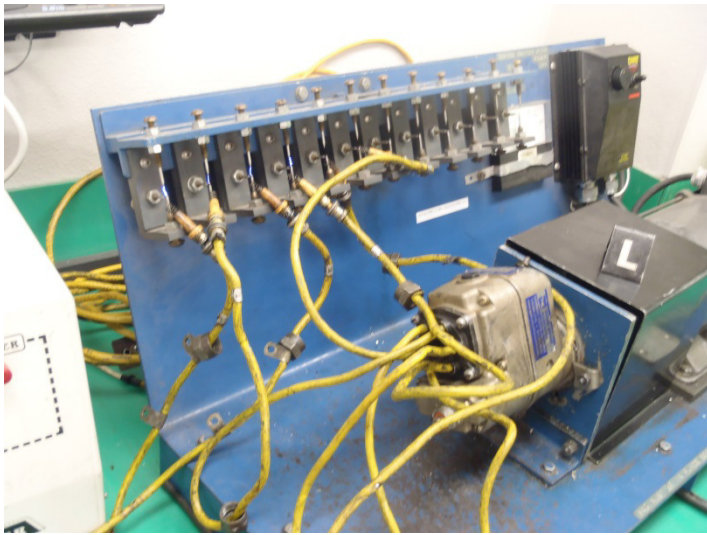
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