



RAM Aircraft, Limited Partnership • Waco Regional Airport

Engine Previous Total: 976.5
 Hour Meter: 164.5
 Since Major Overhaul: 00.0
 Propeller Total: 00.0
 Date: 09/01/04

TCM GTSIO-520-L Left S/N 808306

Above referenced engine overhauled to new parts limits per FAR 43.2 (a) (1) (2) to conform w/TCM SM X-30045A. All gears cleaned, polished when required, inspected, magnafluxed, and no cracks found. Finish and dimensional limits within RAM Gear Inspection Specification No. 1818, Rev E dated 5/18/98. Installed above referenced engine in left position of Cessna S/N 421C0096. Installed new camshaft p/n 653056 s/n Z031A410. Installed new VAR crankshaft P/N 653020 S/N N03FA096. AD 99-19-01 N/A per crankshaft date of manufacture I/AW TCM CSB99-6A. Engine assembled with new TCM heavy style crankcase P/N 654119-12A1, S/N R03HA406 modified to RAM P/N 1509-4 per STC SE8338SW. Installed new TCM nicked cylinders. Cylinder hold nuts replaced and torqued per Overhaul Manual Supplement. Installed Floscan transducer per STC SE5726SW. Installed new McCauley propeller model 3FF32C501/90UMB-0 S/N 022268. Engine accessories exchanged for overhauled or new units except as noted. Installed new prop governor S/N 040007. Re-used customer's hydraulic pump and tach generator. Installed overhauled turbocharger P/N 465930-9003, S/N HER00279. AD 76-02-07 N/A per installation of ALV9510 alternator. Installed overhauled wet vacuum pump P/N 3P207JA, S/N PED8003. Installed new RAM/FAA/PMA fuel nozzles P/N 2563-19A. Re-installed customer's Champion RHB32S spark plugs. Re-installed customer's engine pre-heaters. SB94-8A on magneto timing procedure C/W per timing to data plate TC degree requirements with TDC locator and protractor with pointer. Engine modified to GTSIO-520-L per Continental Service Bulletin M-75-6. Installed RAM/FAA/PMA rocker arms P/N 1654-1 and -2. Cadmium plating of engine hardware and associated lines and fittings per QQ-P-416C Class 2, Type II. AD 2000-01-16 C/W, see airframe log for details. Installed new Aeroquip integral firesleeved fuel, oil and hydraulic hoses meeting TSO-C53A Type D and TSO-C75 Type III. Installed overhauled oil cooler P/N 646685, S/N C04-39394-4/60900 Exhaust slip joints modified per STC SA4592SW. C/W AD 79-05-09 per installation of new current design oil pressure plunger assy. Starter adapter shaftgear and crankshaft gear inspection C/W per TCM Service Bulletin CSB94-4D per installation of Service Kit EQ6642 with bushing P/N 654472. Category 1 thru 3 TCM Service Bulletin Compliance Listing in RAM Manual. Relocated turbo oil supply line per RAM Dwg. No. 1224, per latest Rev. per STC SE8338SW. Engine serviced with Phillips multi-grade 20W50 Type M mineral oil. See RAM Recommended Oil Grace Maintenance Tip MT-1 for recommended oils. Above referenced engine eligible for 1600 hr. TBO per TCM SIL98-9 Rev. A. CSB664 (Bendix Magnetos) N/A per capacitor with red insulator installed. CSB665A (Bendix Magnetos) C/W by inspection per paragraph A. AD 82-13-01 (Bendix Magnetos) is N/A per TCM factory rebuilt magnetos installed. All aluminum alloy engine parts were coated per RAM Specifications No. 1142. Propeller balanced per Service Manual with spinner and bulkhead installed. Installed spring loaded induction clamps p/n 1170-1 per STC SE3767SW. Installed RAM/FAA/PMA rocker box cover gaskets p/n 1366-1. Engine ground run on test stand per RAM specifications for 3 hours. Engine pump pressure, idle, mixture, fuel flow, max RPM manifold pressure, and oil pressure adjusted per TCM SID97-3B. Engine ground run power test good. All engine systems checked for leaks. Engine approved for return to service for work performed. Pertinent details on file under project no. 1567

RAM Aircraft, Limited Partnership, P.O. Box 5219, Waco, Texas 76708 CRS VA1R551K

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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
TOTALS brought forward from previous page				

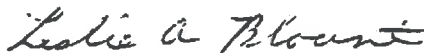
Powerplant Logbook Insert LEFT

N31C

7-08-05 HOBBS TIME: 317.1 TOTAL TIME: 1129.1 SMOH:152.6

C/W AD 2000-01-16 BY VISUAL INSPECTION REMOVING AND INSPECTION TAIL PIPE AND PRESSURE CHECKING EXHAUST IAW PAR. B,C & E. CLEANED AND GAPPED PLUGS CHECKED MAG TIMEING AND CLEANED FUEL NOZZLES. COMPRESSION CHECK GOOD #1 74/80 #2 72/80 #3 72/80 #4 72/80 #5 74/80 #6 75/80. GROUND RUN LEAK CHECK GOOD. I CERTIFY THAT THIS ENGINE WAS INSPECTED I/A/W AN ANNUAL 100HR INSPECTION AND FOUND TO BE IN AIRWORTHY CONDITION.

LESLIE A BLOUNT
A&P 363502653



Powerplant Logbook Insert LEFT

N31C

8-29-05 HOBBS TIME: 341.2

CHANGED OIL AND FILTER NO CONTAMINATION NOTED IN FILTER. SERVICED ENGINE WITH PHILLIPS X COUNTRY 20W50. GROUND RUN LEAK CHECK GOOD. C/W AD 2000-01-16 (B) BY VISUAL INSPECTION OF EXHAUST.

LESLIE A BLOUNT
A&P 363502653



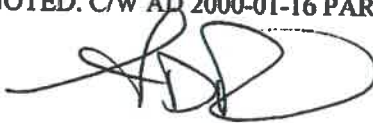
Left Powerplant Logbook Insert

N31C 01-11-06

HOBBS TIME 387.5

L/ENGINE OIL CHANGE. DRAINED OIL-SERVICED WITH PHILLIPS XC 20W-50. INSPECTED OIL FILTER-NO CONTAMINATION NOTED. RAN ENGINE FOR LEAK CHECK-NONE NOTED. C/W AD 2000-01-16 PARA. 'B'. NO DEFECTS NOTED.

STEVEN D. ROBINSON
A&P 546377518



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Left Powerplant Logbook Insert

N31C 3-30-06 HOBBS TIME 437.4
 L/ENGINE OIL CHANGE. DRAINED OIL & SERVICED WITH PHILLIPS X/C
 20W-50. INSPECTED OIL FILTER FOR CONTAMINATION-NONE NOTED.
 GROUND RAN ENGINE FOR LEAK CHECK-NONE NOTED. C/W AD 200-
 01-16 PARA. A-NO DEFECTS NOTED.
 STEVEN D. ROBINSON
 A&P 546377518


**Powerplant Logbook Insert
LEFT**

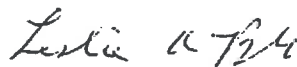
N31C
 7-06-06 HOBBS TIME: 482.1 TOTAL TIME: 1293.6 SMOH:317.6
 C/W AD 2005-20-04 STARTER DRIVE ADAPTOR BACKLASH
 MEASURES .03 ON ALL FOUR POSITIONS. C/W AD 2000-01-16 BY VISUAL
 INSPECTION REMOVING AND INSPECTION TAIL PIPE AND PRESSURE
 CHECKING EXHAUST IAW PAR. B,C & E. CLEANED AND GAPPED PLUGS
 CHECKED MAG TIMEING AND CLEANED FUEL NOZZLES. CHANGED
 OIL AND FILTER NO CONTAMINATION NOTED IN FILTER. CLEANED
 OIL PRESSURE RELIEF VALVE. COMPRESSION CHECK GOOD #1 74/80 #2
 73/80 #3 74/80 #4 73/80 #5 74/80 #6 75/80. GROUND RUN LEAK CHECK
 GOOD. . I CERTIFY THAT THIS ENGINE WAS INSPECTED I/A/W AN
 ANNUAL 100HR INSPECTION AND FOUND TO BE IN AIRWORTHY
 CONDITION.

LESLIE A BLOUNT
 A&P 363502653


**Powerplant Logbook Insert
LEFT**

N31C
 11-16-06 HOBBS TIME: 530.4
 INSTALLED OVERHAULED ALTERNATOR SER. NO. 9L00
 CHANGED OIL AND FILTER NO CONTAMINATION NOTED IN
 SERVICED ENGINE WITH PHILLIPS X COUNTRY 20W50. GRC
 LEAK CHECK GOOD. C/W AD 2000-01-16 BY VISUAL INSPEC
 EXHAUST.

LESLIE A BLOUNT
 A&P 363502653



business authority different then the airworthiness au
 thents/assemblies from the airworthiness authority

aintenance records must contain an installation ce

ASE CERTIFICATE
BINESS APPROVAL TAG

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10. Quantity:

11. Serial/Batch Num

1

9L000442

DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
				TOTALS brought forward from previous page

Powerplant Logbook Insert

N31C

LEFT

11-27-06 HOBBS TIME: 542.0

INSTALLED OVERHAULED ALTERNATOR SER. NO.1H000048.
GROUND RUN LEAK CHECK GOOD.

LESLIE A BLOUNT
A&P 363502653

Leslie A Blount

Left Engine Logbook

01-24-2007

ACTT: 4815.3

LETT: 1358.9

RETT: 1482.1

N31C

Hobbs: 547.4

LETSO: 382.9

RETSO: 382.9

TCM GTSIO-520-L

LPTT: 382.9

RPTT: 382.9

s/n: 808306

LPTSO: new

RPTSO: new

Complied with AD2005-20-04 (Starter Drive Adapter, last revised 9/20/2005) part 2 back-lash by measurement inspection – measurements within limits .04, .03, .04, .03, next due 4915.3 ACTT, and part 3 gear inspection by visual inspection – no defects noted, next due 5215.3 ACTT. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.

Wyat Hatz A&P2706256

Wyat Hatz

Left Engine Logbook

03-09-2007

ACTT: 4844.6

LETT: 1388.2

RETT: 1511.4

N31C

Hobbs: 576.7

LETSO: 412.2

RETSO: 412.2

TCM GTSIO-520-L

LPTT: 412.2

RPTT: 412.2

s/n: 808306

LPTSO: new

RPTSO: new

Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection – no defects noted, next due 4894.6 ACTT. Removed and replaced oil and filter, cut inspection noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.

Wyat Hatz A&P2706256

Wyat Hatz

1. Approving National Aviation Authority/Country:
FAA/UNITED STATES

2. AUTHORIZED
FAA FORM 8130-2

3. Organization Name and Address:

Cessna Aircraft Corp
Cessna Parts Distributor
5800 E Pawnee, Wichita,

4. Item:

5. Description:

6. Part Number:

1 SENSOR

9910094-3

13. Remarks:

AIRWORTHINESS APPROVAL - PARTS

Powerplant Logbook Insert

LEFT

HOBBS TIME: 614.3

INSTALLED NEW ALTERNATOR SENSOR, NOISE FILTER AND
TERMINAL END ON FIELD WIRE. GROUND RUN OPS CHECK

16. Authorized Signature:

James A. Schild

17. Approval



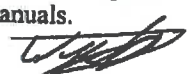
1001

17. Name (Typed or Printed):

JAMES A. SCHILD, ODAF

LESLIE A BLOUNT
A&P 363502653

Leslie A Blount

DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
TOTALS brought forward from previous page				
Left Engine Logbook				
06-15-2007		ACTT: 4892.2	LETT: 1435.8	RETT: 1559.0
N31C		Hobbs: 624.3	LETSO: 459.8	RETSO: 459.8
TCM GTSIO-520-L			LPTT: 459.8	RPTT: 459.8
s/n: 808306			LPTSO: new	RPTSO: new
Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection – no defects noted, next due 4942.2 ACTT. Removed and replaced oil and filter, cut filter open – on metal noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips 20w-50 oil. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.				
Wyat Hatz A&P2706256 				
Powerplant Logbook Insert				
LEFT				
N31C				
7-06-07 HOBBS TIME: 629.8 TOTAL TIME: 1441.3 SMOH:465.3				
C/W AD 2005-20-04 STARTER DRIVE ADAPTOR BACKLASH				
MEASURES .03 ON ALL FOUR POSITIONS. C/W AD 2000-01-16 BY VISUAL				
INSPECTION REMOVING AND INSPECTION TAIL PIPE AND PRESSURE				
CHECKING EXHAUST IAW PAR. B,C & E. CLEANED AND Gaped PLUGS				
CHECKED MAG TIMEING AND CLEANED FUEL NOZZLES. INSTALLED				
NEW PROP BRUSHES. INSTALLED NEW UREA UPERDECK REFERENCE				
LINE. CHANGED OIL AND FILTER NO CONTAMINATION NOTED IN				
FILTER. CLEANED OIL PRESSURE RELIEF VALVE. COMPRESSION				
CHECK GOOD #1 75/80 #2 74/80 #3 74/80 #4 74/80 #5 75/80 #6 75/80.				
GROUND RUN LEAK CHECK GOOD. I CERTIFY THAT THIS ENGINE WAS				
INSPECTED I/A/W AN ANNUAL 100HR INSPECTION AND FOUND TO BE				
IN AIRWORTHY CONDITION.				
LESLIE A BLOUNT				
A&P 363502653 				
Left Engine Logbook				
10-29-2007		ACTT: 4942.0	LETT: 1485.6	RETT: 1608.8
N31C		Hobbs: 674.1	LETSO: 509.6	RETSO: 509.6
TCM GTSIO-520-L			LPTT: 509.6	RPTT: 509.6
s/n: 808306			LPTSO: new	RPTSO: new
Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection – no other defects noted, next due 4992.0 ACTT. Removed and replaced oil and filter, cut filter open – on metal noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips 20w-50 oil. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.				
Wyat Hatz A&P2706256 				

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Left Engine Logbook

02-11-2008

ACTT: 4990.7

LETT: 1534.3

RETT: 1657.5

N31C

Hobbs: 722.8

LETSO: 558.3

RETSO: 558.3

TCM GTSIO-520-L

LPTT: 558.3

RPTT: 558.3

s/n: 808306

LPTSO: new

RPTSO: new

Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection – no defects noted, next due 5040.7 ACTT. Complied with AD2007-05-15 (Starter Drive, last revised 2/26/2007) part 2 back-lash by measurement inspection – measurements within limits .05, .04, .04, .03, next due 5090.7 ACTT. Removed and replaced oil and filter, cut filter open – on metal noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips 20w-50 oil. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.

Wyat Hatz A&P2706256 **Powerplant Logbook Insert****LEFT**

N31C

4-25-08 HOBBS TIME: 754.3 TOTAL TIME: 1565.8 SMOH: 589.8

REMOVED AND REPLACED RIGHT MAG WITH OVERHAULED P/N 10-349260-7 S/NI033114. GROUND RUN LEAK CHECK GOOD. OK FOR RETURN TO SERVICE.

LESLIE A BLOUNT

A&P 363502653 **Left Engine Logbook**

05-28-2008

ACTT: 5041.4

LETT: 1585.0

RETT: 1708.2

N31C

Hobbs: 773.5

LETSO: 609.0

RETSO: 609.0

TCM GTSIO-520-L

LPTT: 609.0

RPTT: 609.0

s/n: 808306

LPTSO: new

RPTSO: new

Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection – no defects noted, next due 5091.4 ACTT. Removed and replaced oil and filter, cut filter open – on metal noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips 20w-50 oil. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.

Wyat Hatz A&P2706256 

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1. Submitting Federal Aviation Authority/county:		2. AUTHORIZED FAA FORM 8130-2	
FAA/UNITED STATES		Cessna Aircraft Co. Cessna Parts Distribution 5880 E. Pawnee, Wichita, Kansas	
3. Organization Name and Address:	4. Organization Name and Address:		
5. Item	7. Description	8. Part Number	
4	BRUSH & HO	BA0189	
12. Remarks:			
ATMOSPHERIC APPROVAL - PARTS			
14. Complete the items specified above and make modifications in parentheses if appropriate: <input checked="" type="checkbox"/> Approved design data and test in a condition to safely operation <input type="checkbox"/> Not approved and design data specified on form 13			
15. Authorized Signature:		16. Approved	
<i>Kenneth E. Wyszocki</i>		ODA-1	
17. Name (Typed or Printed):		18.	
KENNETH E. WYSOCKI SR.		J	
19. Remarks:			
It is important to understand that the existence of the document above where the user/master performs work in accordance with the national authority of the county specified in Block 1, it is essential that the user/master adhere to the national authority of the county specified in Block 1.			
Consentance in Blocks 14 and 19 do not constitute finalization or certification of the work with the national regulations by the user/master. Refer to FAA Form 8130-2 (Rev. 01)			
* Reader must cross check each			

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DAT

WORK

Left Engine Logbook

03-25-2009 ACTT: 5130.2 LETT: 1673.8 RETT: 1797.0
 N31C Hobbs: 862.3 LETSO: 697.8 RETSO: 697.8
 TCM GTSIO-520-L LPTT: 697.8 RPTT: 697.8
 s/n: 808306 LPTSO: new RPTSO: new

Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection - no defects noted, next due 5180.2 ACTT. Complied with AD2007-05-15 (Starter Drive, last revised 2/26/2007) part 2 back-lash by measurement inspection - measurements within limits .03, .04, .04, .05, next due 5230.0 ACTT. Removed and replaced oil and filter, cut filter open - on metal noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips 20w-50 oil. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.

Wyat Hatz A&P2706256 **LT Engine Log**

N31C 09/4/09 Hobbs 889.0 A/C TT: 5156.9 TSMOH: 724.5

Completed an Annual Inspection in accordance with Heartland Aviation annual inspection checklist. Changed oil and filter. Inspected old oil filter, no metal found, installed new CH48111-1 oil filter. Serviced with 12 qts of Phillips 20W50XC. Cleaned, gapped, tested, and reinstalled sparkplugs. Compression test results, #1 70/80 #2 71/80 #3 69/80 #4 67/80 #5 70/80 #6 69/80. Checked magneto timing. Cleaned and reinstalled fuel injectors. Complied with AD2007-05-15 Part 2 started adapter inspection measurements as follows .03, .04, .03, .04. Washed down engine, All AD'S and service bulletins complied with thru this date. AD's Checked thru this date. Run up and operational checks good. Leak checks good.

I certify that this Engine has been inspected in accordance with an Annual Inspection and is determined to be in Airworthy Condition. Work order # 12603

Heartland Aviation Inc.

3800 Starr Ave.

Eau Claire WI. 54703

Signed Certificate # DA3044442**Left Engine Logbook**

11-16-2009 ACTT: 5177.2 LETT: 1720.8 RETT: 1844.0
 N31C Hobbs: 909.3 LETSO: 744.8 RETSO: 744.8
 TCM GTSIO-520-L LPTT: 744.8 RPTT: 744.8
 s/n: 808306 LPTSO: new RPTSO: new

Complied with AD2000-01-16 (Exhaust System, last revised 1/10/2000) part b by visual inspection - no defects noted, next due 5227.2 ACTT. Removed and replaced oil and filter, cut filter open - on metal noted. Serviced engine with CH48111-1 oil filter and 12 quarts of Phillips 20w-50 oil. Ground ran, leak, and operational checks satisfactory. All Work performed in accordance with applicable manuals.

Wyat Hatz A&P2706256 

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ENGINE MAINTENANCE RECORDS

Log No. 1

Aircraft Registration No. N31C

Engine Manufacturer Continental

Model GT520-520-L

Serial No. 292090-R

Date installed on aircraft 5-23-2013

Time Between Overhauls (TBO) _____ Hours

If used on multi-engine aircraft:

☐ Right ☒ Left

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N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Inspected engine as required by FAR91.409 (a) (1) per inspection checklist meeting requirements of FAR 43.15 (2)(c) and FAR 43 App. D. Performed post inspection operational checks per FAR43.15 (c)
Installed this engine in left side of N31C Cessna 421C0096.
Installed with new motor mounts and attach bolts., RAM provided accessories. Time continued vacuum pump, tach generator and prop governor from previous engine.
Installed new spark plugs and serviced with Aeroshell 100 Mineral.
Pre-oiled engine/turbo as per RAM instructions.
Engine test run and set up operations as required.
CW AD84-26-02 Effective Date - 01/29/85 Paper induction air filters CW by replacement of (left side only) filter due again in (500 hr. at hobbs 1611.1)

DATE 5/23/2013 HOBBS 1308.5 Engine Total time 4649.8 Engine TSMOVH "0"
"I CERTIFY THAT THIS ENGINE HAS BEEN INSPECTED IN ACCORDANCE WITH AN ANNUAL INSPECTION AND WAS DETERMINED TO BE IN AIRWORTHY CONDITION."

Anthony R. Saxton AP32537461A *[Signature]*



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillip X-C 20W50) .
Installed warranty replacement left side alternator FAA/PMA ALV-9610 s/n H-N030017.
Replaced left side vacuum pump with OVH unit #3P207JA s/n PE83228 returned to service by Accessories Inc. CRSTM2R192L w.o. #69298R.

DATE 6/14/2013 HOBBS 1334.7 Engine Total time 4676.0 Engine TSMOVH 26.2

Anthony R. Saxton AP32537461A *[Signature]*



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillip X-C 20W50) Collected Blackstone oil samples.

DATE 8/6/2013 HOBBS 1361.33 Engine Total time 4702.63 Engine TSMOVH 52.83

Anthony R. Saxton AP32537461A *[Signature]*



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillip X-C 20W50) Collected Blackstone oil samples.

DATE 9/17/2013 HOBBS 1396.3 Engine Total time 4737.6 Engine TSMOVH 87.8

Anthony R. Saxton AP32537461A *[Signature]*

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N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter this date (Phillips X/C 20W50)

DATE 12/20/2013

HOBBS 1427.3

Engine Total time 4768.6

Engine TSMOVH 118.8

Anthony R. Saxton AP32537461A



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillips X-C 20W50)

Reinstalled turbocharger # 465930-9003 s/n UER0104P following inspection by RAM Aircraft (CRS# VA1R551K) w.o. # 7158.02 for compliance with Hartzell Engine Technologies Alert Service Bulletin No. 057. Bulletin CW and affected back plate not installed.

DATE 3/18/2014

HOBBS 1491.4

Engine Total time 4832.7

Engine TSMOVH 182.9

Anthony R. Saxton AP32537461A



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Inspected engine as required by FAR91.409 (a) (1) per inspection checklist meeting requirements of FAR 43.15 (c)(2) and FAR 43 App. D. Performed post inspection operational checks per FAR43.15 (c)

Compression #1 74/80 #2 76/80 #3 74/80 #4 72/80 #5 72/80 #6 74/80

Current Compression and bore-scope Meets Require. of TCM SB03-3 Diff. Pressure Test 3/28/03. (Master Orifice reading Minimum 46 PSI)

Changed oil and filter (Phillips X-C 20W50) Completed oil analysis. (Blackstone)

Replaced all spark plugs with new Tempest URHB32E plugs. Cleaned and resealed fuel injector nozzles.

CW AD2007-05-15 eff. 4/16/2007(Supersedes 2005-20-04) (GTSIO520 only) (TCM MSB94-4F) Starter adapter reoccurring inspection

(h) 100 hr/ or annual Starter drive backlash inspection per MSB94-4F part 2 (max .06"). (.05, .05, .05, .05)

Inspection due at next 100 hr. or annual. (Hobbs 1408.5 or May 2014)

CW AD84-26-02 Effective Date - 01/29/85 Paper induction air filters CW by replacement of (left side) filter due again in (500 hr. at hobbs 2045.1)

DATE 7/2/2014

HOBBS 1545.4

Engine Total time 4886.7

Engine TSMOVH 236.9

"I CERTIFY THAT THIS ENGINE HAS BEEN INSPECTED IN ACCORDANCE WITH AN ANNUAL INSPECTION AND WAS DETERMINED TO BE IN AIRWORTHY CONDITION."

Anthony R. Saxton AP32537461A



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillips X-C 20W50)

Replaced #2 EGT probe.

DATE 12/18/2014

HOBBS 1624.9

Engine Total time 4966.2

Engine TSMOVH 316.4

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N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Found #6 fuel injector nozzle loose. Removed and inspected threads and gasket Cleaned reinstalled and leak checked.

DATE 1/15/2015

HOBBS 1629.8

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N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillip X-C 20W50)

Replaced #2 EGT probe.

AD2007-05-15 eff. 4/16/2007(Supersedes 2005-20-04) (GTSIO520 only) (TCM MSB94-4F) Starter adapter reoccurring inspection

(h) 100 hr/ or annual Starter drive backlash inspection per MSB94-4F part 2 (max .06")

.040/.040.040/.040

DATE 5/5/2015

HOBBS 1675.0

Engine Total time 5016.3

Engine TSMOVH 366.5

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Anthony R. Saxton



N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Inspected engine as required by FAR91.409 (a) (1) per inspection checklist meeting requirements of FAR 43.15 (c)(2) and FAR 43 App. D. Performed post inspection operational checks per FAR43.15 (c)

Compression #1 74/80 #2 74/80 #3 74/80 #4 70/80 #5 64/80 #6 78/80

Current Compression and bore-scope Meets Require. of TCM SB03-3 Diff. Pressure Test 3/28/03. (Master Orifice reading Minimum 46 PSI)

Changed oil and filter (Phillip X-C 20W50) Completed oil analysis. (Blackstone)

Cleaned and rotated spark plugs. Cleaned and reseal fuel injector nozzles.

Replaced left engine vacuum pump with OVH Pesco 3P207JA s/n PE18858 returned to service Accessories Inc. (CRS#TM2R192L) w.o.# 78395R.

CW AD2007-05-15 eff. 4/16/2007(Supersedes 2005-20-04) (GTSIO520 only) (TCM MSB94-4F) Starter adapter reoccurring inspection

(h) 100 hr/ or annual Starter drive backlash inspection per MSB94-4F part 2 (max .06"). (.04, .03, .03, .04)

Inspection due at next 100 hr. or annual. (Hobbs 1785.3 or Aug 2016)

(j) 400 hr. Removal inspection per MSB94-4 part 3 and found OK Reinstalled. (Due again in 400 hr. at Hobbs 2085.3)

CW AD84-26-02 Effective Date - 01/29/85 Paper induction air filters CW by replacement of (left side) filter due again in (500 hr. at hobbs 2185.3)

DATE 8/17/2015

HOBBS 1685.3

Engine Total time 5026.6

Engine TSMOVH 376.8

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N31C (Left Engine Logs)
TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillip X-C 20W50)

DATE 5/11/2016

HOBBS 1792.4

Engine Total time 5133.7

Engine TSMOVH 483.9

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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
				TOTALS brought forward from previous page

Date	Total Time In Service	Total Time Since Overhaul	Tach or Recording Meter Time
5/11/17	5227.3	577.5	1886.0



RAM Aircraft, Limited Partnership • Waco Regional Airport

CONTINENTAL GTSIO-520-L Left Engine S/N 292090-R

The above referenced engine was disassembled to facilitate a case change. The engine was cleaned, inspected and reassembled to service limits per CMI Standard Practice Maintenance Manual M-O and CMI Overhaul Manual X-30045. Reused crankshaft, prop shaft, reduction gear, quill shaft, camshaft and lifters. Installed new crankcase S/N R16HA222, prop shaft bearings, reduction gear bearings, main and rod bearings. C/W MSB96-10B ultrasonic inspection. AD 2007-05-15 c/w per MSB94-4H or latest revision, Part 3. Next 100 hour inspection due 1986.0. Next 400 hour inspection due 2286.0. Rods balanced to RAM specifications and new bolts and nuts installed in rods. Reinstalled cylinder assemblies. Installed overhauled oil pump S/N 802020 and new alternator S/N H-R022618. Installed accessories in their respective positions with existing time in service with the exception of the vacuum pump, tach generator, and hydraulic pump which not installed per this work order. Cleaned and flushed prop governor, oil cooler, lifters, and starter adapter. Serviced engine with Aeroshell 100 oil. Run in test cell for 1 hour. Engine is approved for return to service for work performed. Engine preserved per CMI M-O Standard Practice Maintenance Manual temp. storage up to 90 days. Pertinent details on file under Project No. 8383.

RAM Aircraft, Limited Partnership, P. O. Box 5219, Waco, Texas 76708 CRS VA1R551K

**N31C (Aircraft Logs)**

Cessna 421C s/n 421C0096

Reinstalled left engine (GTSIO520L s/n 292090-R) following repair (for cracked case) and return to service by RAM Aircraft (CRS#VA1R5 #8383.

Reinstalled prop per McCauley Propeller Systems Manual MPC-26 section 61-xx-xx.

Performed post inspection operational checks per FAR43.15 (c).

(C/W AD2008-01-16 Effective Date Feb 15, 2000 (Supersedes AD75-23-08R5) Exhaust system inspection.

(C/W Para (b) exhaust visual inspection.) LEFT

(LEFT engine inspection due again in 50 hr. at Hobbs 1936.0

Eng T 5227.3 Eng TSMOVH 577.5

DATE 5/25/2017 HOBBS 1886.0

AIRCRAFT TOTAL TIME 6188.0

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**N31C (Left Engine Logs)**

TCM GTSIO 520L S/N 292090-R

Changed oil and filter (Phillip X-C 20W50)

DATE 8/23/2017

HOBBS 1911.9

Engine Total time 5253.2

Engine TSMOVH 603.4

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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
				TOTALS brought forward from previous page

**N31C (Left Engine Logs)****TCM GTSIO 520L S/N 292090-R**

Inspected engine per 100 hr. checklist meeting requirements of FAR 43 App. D. in conjunction with Annual Inspection on Cessna 421C, s/n 421C0096 this date. Performed post inspection operational checks per FAR 43.15 (c)

Compression #1 68/80 #2 69/80 #3 72/80 #4 68/80 #5 48/80 (rings, scope OK). #6 78/80

Current Compression and bore-scope Meets Require. of TCM SB03-3 Diff. Pressure Test 3/28/03. (Master Orifice reading Minimum 46 PSI)

Changed oil and filter (Phillip X-C 20W50) Completed oil analysis. (Blackstone)

Cleaned and rotated spark plugs. Cleaned and reseat fuel injector nozzles. Repaired broken fuel divider vent line. Replaced TIT probe with new M111-T

CW Mag 500 hr. inspection per TCM SB643B Maintenance Interval for all TCM & Bendix mags per Para 3 A.

(Disassembled inspected, cleaned, reset E gaps, Reassembled and retimed to engine (New parts as follows)

Left mag: points AB382585, : points AB382584

Right mag, points AB382585

CW Magneto timing per Continental M-O manual section 6-4.9.1 (superseded MSB94-8D) Magneto to Engine Timing (Continental)

CW AD2007-05-15 eff. 4/16/2007(Supersedes 2005-20-04) (GTSIO520 only) (TCM MSB94-4F) Starter adapter reoccurring inspection

(h) 100 hr/ or annual Starter drive backlash inspection per MSB94-4F part 2 (max .06"). (.03, .03, .02, .04)

Inspection due at next 100 hr. or annual. (Hobbs 1950.0 or Sept 2017)

DATE 10/4/2017 HOBBS 1914.6 Engine Total time 5290.0 Engine TSMOVH 640.5

**"I CERTIFY THAT THIS ENGINE HAS BEEN INSPECTED IN ACCORDANCE WITH A 100 Hr. INSPECTION AND
WAS DETERMINED TO BE IN AIRWORTHY CONDITION."**

Anthony R. Saxton AP32537461A *Anthony R. Saxton*

**N31C (Left Engine Logs)****TCM GTSIO 520L S/N 292090-R**

Changed oil and filter (Phillip X-C 20W50)

DATE 4/10/2018 HOBBS 1952.8 Engine Total time 5294.1 Engine TSMOVH 644.3

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**N31C (Left Engine Logs)****TCM GTSIO 520L S/N 292090-R**

Changed oil and filter (Phillip X-C 20W50)

DATE 6/12/2018 HOBBS 1997.3 Engine Total time 5338.6 Engine TSMOVH 688.8

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