

## ENGINE MAINTENANCE RECORDS

Aircraft Registration
Engine Position
Engine Serial No.

Lieft 292470-R



# ENGINE MAINTENANCE RECORDS

Log No. \_\_\_\_1

Aircraft Registration No.
Engine Manufacturer
Model GTSIO-520-N
Serial No. 292470-R
Date installed on aircraft
Time Between Overhauls (TBO)Hours
If used on multi-engine aircraft:
□ Right  □ Left



Page No.

DATE TOTAL TOTAL TACH OR RECORDING NETER SERVICE OVERHAUL TIME

DESCRIPTION OF WORK PERFORMED—
SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK

Date	Total	Total	Tach or
	Time	Time	Recording
	In	Since	Meter
	Service	Overhaul	Time
01/19/09	1600.0	00.0	



### TCM GTSIO-520-N Left Engine S/N 292470-R

Above referenced engine overhauled to new parts limits per FAR 43.2(a)(1)(2) to conform w/TCM SM X-30045A. Applicable AD's and Service Bulletins c/w at this time. All gears cleaned, polished when required, inspected, magnafluxed, and no cracks found. Finish and dimensional limits within RAM Gear Inspection Specification No. 1818, Rev. J dated 2/19/08. Above referenced engine modified per STC SE8338SW-D. Installed new TCM camshaft p/n 653056, s/n Z08GA222. Installed overhauled VAR crankshaft p/n 653020, s/n N07CA172. Ultrasonic inspection c/w per MSB96-10 and due at next overhaul or when removed. TCM GTSIO-520 series engine crankshaft counterweights, p/n 652833-OH are repaired in accordance with FAA approved procedures per RAM Drawing 2618, Rev. B, dated 10/21/05. Instructions for Continued Airworthiness: Remove p/n 652833-OH counterweights at next engine overhaul and replace with new per TCM SB00-3A or later FAA approved revision, except if repaired by RAM Aircraft, Limited Partnership per latest FAA approved revision of RAM Drawing 2618. Contact RAM Aircraft, L.P. at Karl May Drive, Waco, TX 76708 or (254)752-8381 for replacement parts or service difficulties. AD 99-19-01 n/a per crankshaft date of manufacture I/A/W TCM MSB99-6A. Engine assembled with overhauled TCM heavy style crankcase p/n 654119-11, s/n J7A-7312-ORB. Installed new nickel ECI cylinders. Cylinder hold-down nuts replaced and torqued per Overhaul Manual Supplement. Installed new RAM/FAA/PMA fuel nozzles p/n 2563-19A. TCM Service Bulletin SB06-1A n/a per installation of RAM fuel nozzles. Installed new RAM/FAA/PMA oil cooler p/n 2601-1, s/n 1751489. AD 86-13-04 R3 and AD 93-10-02 (MSB93-12) n/a per cylinder installed. Engine accessories exchanged for overhauled or new units exception of tach generator, vacuum pump, prop governor and hydraulic pump which were not installed per this work order. MSB94-8C on magneto timing procedure c/w per timing to data plate TC degree requirements with TDC locator and protractor with pointer. Engine modified to GTISO-520-N per Continental Service Bulletin M-75-6, Rev. 1. Installed rocker arms p/n 1654-1 and -2. C/W AD 79-05-09 per installation of new current design oil pressure plunger assy. Starter adapter shaftgear and crankshaft gear inspection, AD 2007-05-15 c/w per TCM Service Bulletin MSB94-4G 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, Rev H, dated 11/18/03 per STC SE8338SW-D. AD 87-04-05 c/w at overhaul. Above referenced engine eligible for 1600 hr. TBO per TCM SIL98-9 Rev. A. CSB02-8 n/a per capacitor with red insulator installed. C/W TCM CSB 04-5A per capacitor replacement c/w at overhaul. AD 82-13-01 is n/a per Kelly Aerospace overhaul magnetos installed. Aluminum alloy engine parts were coated per RAM Specification No. 1142. Installed RAM/FAA/PMA spring loaded induction clamps p/n 1170-1. Installed RAM/FAA/PMA rocker box cover gaskets p/n 1366-1. Engine ground run on test stand per RAM specifications for four (4) hours. Engine run-in with Phillips 20W-50 Type M mineral oil. See RAM Recommended Oil Grade Maintenance Tip MT-1 for recommended oils. Engine approved for return to service for the work performed. Engine preserved per Service Bulletin SIL99-1 temp. storage up to ninety (90) days. Pertinent details on file under Project No. 4560.

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

SUB-TOTALS this page

TOTALS—Carry forward to next page

Page No. TOTAL TOTAL TACH OR RECORDING METER TIME DATE DESCRIPTION OF WORK PERFORMED-SINCE SERVICE SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK OVERHALI Clear Star Aviation LLC Good 4765 Frank Luke Dr., Addison, Texas 75001 972-267-2376 FAA CRS 5CSR009B N876DS Cessna 421C S/N 421C1213 Hobbs 973.1 TT 3756.5 3808, 1 TTAF Engine: TCM GTSIO 520-N S/N 292470-R 03-02-2009 TSMOH 0.0. Work Order: 112026 LH ENGINE: TCM GTSIO-520-N S/N 292470-R This engine was installed on airframe N876DS, S/N 421C1213, with new mounts, P/N J9613-54, after overhaul by RAM Aircraft, CRS VA1R551K. All accessories were installed after inspection and/or overhaul as described in this log entry. The engine fluid lines were flushed as needed. The tailpipe support bracket, P/N 5155186-1, was replaced. The engine manifold tube from the baffle to the intercooler, P/N 5100106-124, was replaced. The engine primer line from the baffle to the primer valve, P/N 643708 was replaced. The engine primer line from the primer valve to the intercooler, P/N 5100113-12, was replaced. Airworthiness Directives were complied with as described in the attached Airworthiness Directive Summary. This Engine was inspected in accordance with a 100 hour inspection; FAR Part 43 Appendix D in scope and detail to items applicable to this aircraft, the TCM 100 hour checklist and the Cessna 421C Series Maintenance Manual, P/N D2515-22-13 (AF) and revisions, Chapter 2. The engine was serviced with 13 quarts of Phillips 15W-50 oil and a CH48109-1 filter. The spark plugs are new this date. The magneto to engine timing was checked in accordance with TCM MSB94-8A. The engine controls were inspected in accordance with TCM SB95-2. See the aircraft log this date for prop governor and tach drive overhauls. This engine was ground run to verify performance criteria and inspected for any fluid leaks. All Airworthiness Directives were complied with in accordance with the Ram Aircraft logbook record. The Engine AD's, were recorded and added to the permanent Engine records. Russell Martin FAA CRS 5CSR000 N876DS Cessna 421C S/N 421C1213 Hobbs 997.8 TT 3781.2 Engine: TCM GTSIO 520-N S/N 292470-R 03-23-2009 TSMOH 24.7 Work Order: owner/operator LH ENGINE: TCM GTSIO-520-N S/N 292470-R The following maintenance was inspected after being performed by the owner/operator. The oil and filter was changed and serviced with 12 quarts of Phillips 15W-50 oil and a CH48108-1 filter. This engine was ground run to verify performance criteria and inspected for any fluid leaks Russell Martin A&P 2798096 IA N876DS Cessna 421C S/N 421C1213 Hobbs 1027.4 TT 3810.8 Engine: TCM GTSIO 520-N S/N 292470-R 04-08-2009 TSMOH 54.3 Work Order: owner/operator LH ENGINE: TCM GTSIO-520-N S/N 292470-R The following maintenance was inspected after being performed by the owner/operator. The oil and filter was changed and serviced with 12 quarts of Phillips 15W-50 oil and a CH48109-1 filter. This engine was ground run to verify performance criteria and inspected for any fluid leaks. Russell Martin ( A&P 2798096 IA

SUB-TOTALS this page

TOTALS-Carry forward to next page

		SINCE OVERHAUL	METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
				TOTALS brought forward from previous page
-18-09		82.5	10551	OIL AND FILTER CHANGE PHILLIPS X-C ZOWS
-17-09		113.0	1086.1	OIL AND FILTER CHANGE PHILLIPS X-C ZOWS UBIO 9-1 FILTER DON FONTANA DA OWNE OIL AND FILTER CHANGE PHILLIPS X-C 20-55 48169-1 FILTER DON FONTANA DE OWNE
Installed date of proper weight being and S work	of 02/03/200 eller. Initial b at change t at 0.11 ips o pinner com	ck Vibrex 2000 09. Performed balance reading o Spinner bulk at 9:56. Removibination was for orbove and is	balancing gear balance check g was at 0.23 ip: head, added 1 ed balancing e	Hobbs: 1125.6 Date: 08/03/2009  Is serial number 2327 calibration on #2 Engine McCouley Is at clock angle 11:18. Made Agm at 6:00 with final reading quipment. This Engine, Propeller, a cliworthy condition as to the ce-END-  3960.6  Tamon = 196.7
SEE	BI	NDE	es f	DR MAINT. FROM 2009 . 2014
				For TSmoth Minns 10.0 >
February	17 <sup>th</sup> , 201	5 N421SM	Continental	GTSIO-520-N S/N: 292470-R Hobbs: 100.07 Tach: 239.47
				. Inspected oil filter for contamination. No abnormalities
				Took oil sample for analysis. Added 12 quarts of Aeroshell
				. Installed new CHT sensor P/N: 081-000047 in #6 cylinder.
Operatio	onal chec	k performe	d. No abnor	malities noted. All work was performed in accordance
— to all cur	rent appl	icable servi	ce manuals.	I certify this repair airworthy and return to service.
_		286.27		George Oesterreicher I/A 3046974
+	52.5+	90.37	242.	<del>7</del>
1	96.2	+90.07	= 286.2	7 @ 1660s: 100.07
	10.0			
				CHR TOTALS this page
L				SUB-TOTALS this page  TQTALS—Carry forward to next page

N421SM GENERAL AVIATION GTSIO 520-N 340 WITHERSPOON WAY Page N S/N: 292470-R EL CAJON CA 92020 Hobbs: 108.0 TSMOH: 304.2 LEFT ENGINE LOG 03-20-2015 DA Performed an Operation 1" inspection IAW Cessna 421C Progressive care Inspection guide. Cleaned engine and cowling. Removed and serviced all spark plugs. Checked the magneto timing. Removed and cleaned the fuel metering unit screen installed with a new gasket. Removed and cleaned the fuel nozzles. Installed with new upper deck seals and o-rings. Performed a compression check. #1. 78 #2. 75 #3. 74 #4. 74 #5. 76 #6. 73 Rigged the throttle and mixture control levers for proper spring back at both ends of travel. Adjusted the idle speed to 750 and idle mixture to 30 RPM rise. Replaced the #3 fuel line from the flow divider to the nozzle. P/N 641485. AD 07-05-15 Starter Adapter Assembly and Crankshaft gear is due. C/W MSB 94-4G Part 2 A. 1 through 18 Inspection / backlash measurement of dampener. All were .06 inches. Next due 100 hours 208.0 Hobbs. Part 3 is due every 400 hours TIS due 204.0 Hobbs Engine was test ran and leak checked before test flight I certify this ENGINE was inspected IAW an Operational 1 inspection per Cessna 421C progressive care inspection guide and was in airworthy condition. I/A 564294175 Michael Koontz **GENERAL AVIATION** N421SM 340 WITHERSPOON WAY GTSIO 520-N EL CAJON CA 92020 Hobbs: 124.6 S/N: 292470-R 04-06-2015 LEFT ENGINE LOG TSMOH: 320.8 Changed the oil and filter with 12 quarts of Aeroshell 100 Plus oil and one CH48109-1 oil Filter. Took and sent an oil sample in for analysis. Test ran and leak checked engine. Michael Koontz I/A 564294175 N421SM GENERAL AVIATION GTSIO 520-N 340 WITHERSPOON WAY S/N: 292470-R EL CAJON CA 92020 Hobbs: 149.0 LEFT ENGINE LOG TSMOH: 345.1 05-02-2015 Changed the oil and filter with 12 quarts of Aeroshell 100 Plus oil and one CH48109-1 oil Filter. Took and sent an oil sample in for analysis. Test ran and leak checked engine I/A 564294175 Michael Koontz GENERAL AVIATION N421SM 340 WITHERSPOON WAY GTSIO 520-N EL CAJON CA 92020 Hobbs: 159.3 S/N: 292470-R 05-11-2015 LEFT ENGINE LOG TSMOH: 355.4 Performed an Operation #2 Inspection IAW Cessna Progressive Care Maintenance Program. Replaced the #5 EGT probe with a new part. Removed and sent out the fuel pump and throttle body for bench test and repair. Sent to Western Skyways where the fuel pump was repaired. Installed the same units on engine and test ran and adjusted the idle speed and mixture and the high end fuel flow. I certify this aircraft was inspected IAW Cessna 421C Operation #2 Progressive Care Inspection Program and is in Airworthy condition. Michael Koontz I/A 3799094

TOTALS-Carry forward to next page

	3/20	4/6	5-2	6-3	7-1
Hobbs	108.0	124.6	149.0	176.0	192.
LH Eng	304.2	320.8	345.1	372	388.
RH Eng	1193.3	1209.9	1234.3	1261.2	1277.
AFTT	4112.3	4128.9	4153.3	4180.2	4196.
Drder #: HII-15-1334 : 192.5,  AFTT:_39 <del>3</del>	GTSIO-520-N, S/N: 292 Jnknown f the LH Engine Record	Is. Pertinent details of	f the work performed	are on file at this ag	gency. The
ng inspections, repa ained SOAP sample placed with Aeroshe this aircraft / comp	e and sent to lab for and ill 100W. Ops and Leak open that been repaire in airworky condition.  Rod Carrier	alysis. Removed and check Ok. d and/or inspected in	Replaced OII Filter of accordance with ap	with New PN CH481	

- Replaced the #6 CHT probe with a new probe.
- Set the oil pressure down 3/4 of a turn.
- I certify this ENGINE was inspected IAW an "Operation 3" inspection per Cessna 421C progressive care inspection guide and was in airworthy condition.

I/A 3799094 Michael Koontz

GENERAL AVIATION 340 WITHERSPOON WAY EL CAJON CA 92020 09-11-2015

Hobbs: 222.1 LEFT ENGINE LOG N421SM GTSIO 520-N S/N: 292470-R TSMOH: 418.2

- Changed the oil and filter with 12 quarts of Aeroshell W100S oil and CH 48109-1 filter. Took an oil analysis.
- Engine was test ran and leak checked.

Michael Koontz

TOTALS—Carry forward to next page

NorthStar Aircraft Maintenance 5600 N Hwy 95, Bldg H100 Lake Havasu City, AZ 86404 Ph:(928) 764-1999

Date: 10/02/2015; Aircraft: N421SM; Type: 421C; S/N: 421C1213; Hobbs: 228.5; Total Time: 4233.0 Shop Order #: HII-15-1387 This is a permanent part of the LH Engine Records. Pertinent details of the work performed are on file at this agency. The following inspections, repairs or component part repairs or component part replacements were accomplished. 1. Remove Fuel Control P/N 643315-10 S/N J179725AR from LH engine and sent to Western Skyways CRS# WS9R575J. Unit was repaired under WO W051924. Reinstalled fuel control unit and adjusted engine fuel flow and RPM IAW Contintental GTSIO-520-N maintenance manual. Ops and leak check good. I certify this aircraft / component has been repaired and/or inspected in accordance with applicable Federal Aviation Regulations and found to be in airworthy dition with respect to the work performed. AP2962072 Rod Carrier GENERAL AVIATION N421SM 340 WITHERSPOON WAY **GTSIO 520-N** EL CAJON CA 92020 Hobbs: 225.6 S/N: 292470-R 09-24-2015 LEFT ENGINE LOG TSMOH: 421.7 Replaced the left engine driven fuel pump with an overhauled unit. Adjusted the idle speed and the idle mixture. Set the high end fuel flow. Michael Koontz I/A 3799094 GENERAL AVIATION 340 WITHERSPOON WAY N421SM EL CAJON CA 92020 **GTSIO 520-N** Hobbs: 250.7 10-17-2015 S/N: 292470-R LEFT ENGINE LOG TSMOH: 446.80 Changed the oil and filter. Serviced the engine with 12 quarts of oil and one CH48109 filter. Took an oil sample. Replaced the # ylinder EGT probe with a new probe. Engine was test ran and leak checked. Michael Koontz I/A 3799094 GENERAL AVIATION N421SM 340 WITHERSPOON WAY **GTSIO 520-N** EL CAJON CA 92020 Hobbs: 257.5 S/N: 292470-R 11-19-2015 LEFT ENGINE LOG TSMOH: 453.6 Performed Operation #4 IAW Cessna 421C Progressive Care Inspection Program C/W AD 00-01-16 EXHAUST RELYIBILITY INSPECTION Paragraph (b). I certify this engine was inspected IAW Cessna 421C Progressive Care Inspection Program Operation #4 Inspection And was in airworthy condition. Michael Koontz I/A 3799094

SUB-TOTALS this page

TOTALS-Carry forward to next page

Page No	GENERAL AVIATION 340 WITHERSPOON WA EL CAJON CA 92020 12-04-2015	Hobbs: 276.0 LEFT ENGINE LOG	N421SM GTSIO 520-N S/N: 292470-R TSMOH: 472.0	
	<ul><li>Changed the oil</li><li>Took an oil sam</li></ul>	and filter. Serviced the engine with 12 quarts of	oil and one CH48109 filter.	-
		ran and leak checked.		
	Michael Koontz_	WA 379	0094	
<b>—</b>		V	÷	
HOBB	5 290.7	CHANGED	OIL & FILTER	
Bmo	N 447.6	1CH48100	FILTOR MARS 100+	
			**	
			N421SM	
340	NERAL AVIATION O WITHERSPOON WAY CAJON CA 92020	Hobbs: <b>290.7</b>	GTSIO 520-N S/N: 292470-R	
	-03-2016	LEFT ENGINE LOG	TSMOH: <b>447.6</b>	
			on 100 and 400 hour inspections are due at this	
			oh (1), (2), (3), and Part (k) paragraph (1), (2). F, part #2 #3 #4. at this time. ash in four places on the damper. #106 #206	
	#306 #406. All with Part 3. Removal of the	in tolerance.  Starter adapter and visual inspection of the drive and inspecting the crankshaft drive gear. Okay a	gears. C/W By exchanging the adapter with an this time due again in 400 hours.	
	Part 4 Inspection and re And bushing is un-dama	placing the needle bearing with a bushing if instance. Inspection of bushing is due again in 400 h	alled. Needle bearing is not installed	
	Part 5. Installation of so Paragraph (h) of this AL Part (i) of this AD is due	rvice kit EQ6642FR C/W at this time and is due again at 547.6 Hobbs.		!
	$\nabla$			
Mic	chael Koontz	I/A 3799094		
<b>!</b>				
				Ž.
		SUB-TOTALS this page		
		TOTALS—Carry forward	to next page	

D-1-	Total	Total	Tach or
	Time	Time	Recording
Date	In	Since	Meter
	Service	Overhaul	Time
3-3-16	4356.6	447.6	2.096



RAM Aircraft, Limited Partnership • Waco Regional Airport

#### CONTINENTAL GTSIO-520-N Left Engine S/N 292470-R

On above referenced engine installed and leading the state of the property of
On above referenced engine installed new Hartzell ALV-9610 alternator, s/n H-P120132 and new gear assy. clutcl
s/n AEC646655, s/n 111193-04. See weight and balance change. Run-up and leak checked satisfactory. Pertiner
details are on file under Project No. 7979

3-3.6 posidaly Is RAM Aircraft, Limited Partnership, P.O. Box 5219, Waco, Texas 76708 CRS VA1R551K

Date	Total Time In Service	Total Time Since Overhaul	Recording Meter Time
3-21-2016	2058.3	458.3	301.4



RAM Aircraft, Limited Partnership • Waco Regional Airport

#### Continental GTSIO-520-N Left Engine S/N 292470-R

On above referenced engine removed starter adapter installed 3-3-2016 as part of Service Kit p/n EQ6642-FR. Removed crankshaft gear that was NOT replaced 3-3-2016. Installed new gear p/n 653580 I/A/W MSB94-4G instructions and reinstalled starter adapter, completing Service Kit p/n EQ6642-FR installation. Comply with Part 2 of MSB 94-4G per AD2007-05-15 by checking backlash of viscous damper and shaft gear. Backlash; #1 is .05", #2 is .05", #3 is .05" and #4 is .05". Inspection per Part 2 next due each 100 hours or annual inspection, whichever occurs first. Inspection per Part 3 of MSB94-4G due upon the accumulation of 400 hours time in service (hour meter reading 690.7) and each 400 hours time in service thereafter. Installed new RAM FAA/PMA fuel injection line p/n 2180-4 on No. 1 cylinder. Installed new RAM FAA/PMA clamp p/n2266C050-240-M on wastegate elbow to tailpipe. Installed new tailpipe support bracket p/n 5155186-1. Comply with AD2000-01-16 by visual inspection per Paragraph (b) and pressure test per Paragraph (e) with no discrepancies noted. Next inspection per Paragraph (b) due in 50 hours TIS or 30 calendar days, whichever occurs later. Next inspection per Paragraph (e) due each 12 calendar months. Adjusted takeoff RPM and manifold pressure, oil pressure and fuel pump pressure/ flow per Continental and Cessna specifications. Installed new No. 4 EGT probe. Ground run-up and leak checked satisfactory. Pertinent details on file under Project No. 8005.

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

GENERAL AVIATION	
340 WITHERSPOON W	AY
EL CAJON CA 92020	
04-08-2016	

Michael Koontz

Hobbs: 317.7 LEFT ENGINE LOG

N421SM **GTSIO 520-N** S/N: 292470-R TSMOH: 474.6

- Combined Operation #1 and #2 together and completed each inspection IAW Cessna Progressive Care Maintenance
- Changed the oil and filter / using 12 quarts of Aeroshell 100 Plus oil and CH48109 filter. Replaced the crush washer.
- Engine was test ran and leak checked then performance ran.
- I certify this engine was inspected IAW Cessna Progressive Care Maintenance Program Operational Check #1, #2

SUB-TOTALS this page
TOTALS—Carry forward to next page

Page No	GENERAL AVIATION 340 WITHERSPOON WAY EL CAJON CA 92020 05-31-2016	Hobbs: 343.1 LEFT ENGINE LOG	N421SM GTS1O 520-N S/N: 292470-R TSMOH: 500.0	
DAT		a value of the oil on	A CHARLOO filter. Replaced the crush washer	<
	Took an oil sample	/ using 12 quarts of Aeroshell 100 Plus of an	d CH48109 filter. Replaced the crush washer.	
	Michael Koontz	1/A 3799094		
	1 1 1			
	GENERAL AVIATION		NAME OF THE PERSON OF THE PERS	
	<ul> <li>340 WITHERSPOON WAY</li> <li>EL CAJON CA 92020</li> </ul>		N421SM GTSIO 520-N	
	07-15-2016	Hobbs: 352.3 LEFT ENGINE LOG	S/N: 292470-R TSMOH: 509.2	
	Replaced the left engi	ne #5 CHT probe with a new part. Engine was		
	1	) , , ,	cost rail and probe functions normal.	
	Michael Koontz	I/A 3799094	· .	
		V		
	1 1 1			
-				
	GENERAL AVIATION 340 WITHERSPOON WAY		N421SM GTSIO 520-N	-
	EL CAJON CA 92020	Hobbs: 364.7	S/N: 292470-R	
	08-04-2016	LEFT ENGINE LOG	TSMOH: 521.6	
	Changed the oil and filter	r and took an oil sample. Used 12 quarts of Ae	roshell AS100WP oil and a	
	<ul> <li>CH48109-10il filter.</li> <li>Replaced the turbocharge</li> </ul>	er mount bracket and turbo gasket with new pa	arts from Ram Aircraft.	
	<ul> <li>Engine was test ran and I</li> </ul>	eak checked then performance ran.		
	10.0	()		
	Michael Koontz	WA 3799094	4	
		9		
	1 1 1			
	GENERAL AVIATION 340 WITHERSPOON WAY		N421SM	
	EL CAJON CA 92020	Hobbs: 383.1	GTSIO 520-N S/N: 292470-R	
	10-10-2016	LEFT ENGINE LOG	TSMOH: 540.0	
	Removed the left engine pr  American propellers for ber	opeller governor to repair the propeller sync. S	ent governor out to	
		overhaul and test flew aircraft to check the per		
	Propeller sync system. Prop P/N: DCFS290D9C7K6 S/1	letter sync and governors both porformed	nally. Propeller Governor	
	. ( )			
	Michael Koontz	I/A 3799094	-	
		O		
				1
		CUP TOTAL O		
		SUB-TOTALS this page		
	1 1 !	TOTALS—Carry forward to r	levt noon	

DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME		N OF WORK PERFORMED— TE NO. OF PERSON PERFORMING WOR	ĸ
				TOTALS brought forward from p	revious page	
					_	
	GENI 340 W	ERAL AVIATION	ON		N421SM	
	EL C	AJON CA 9202	O WAY	Hobbs; 393.4	GTSIO 520-N – S/N: 292470-R	
	11-09-	-2016		LEFT ENGINE LOG	TSMOH: 550.4	
		Changed th	e oil and filter v	with 12 quarts of Aeroshell W100 Plus oil a	and a CH-48109 filter.	
		TOOK all off	sample. test ran and lea		-	
	-		Λ		-	
	Micha	ol Vocata V				
	T WHEN	el Koontz	www.	1/A 37990	094	
	+			$\sim$		
	r					
	GENER	AL AVIATION			N421SM	1
	340 WIT	HERSPOON W			GTS1O 520-N	4
	01-15-20	ON CA 92020 17		Hobbs: 405.7 LEFT ENGINE LOG	S/N: 292470-R TSMOH: 562.6	
	_	Darformed On	anation #2 and	#4 IAW G 121G		1
	:	Performed a cy	linder differenti	#4 IAW Cessna 421C progressive care p al pressure test of cylinders. #1 74 #2 71 #	rogram. 3 75 #4 73 #5 73 #6 70	4
	:	Checked the m	agneto timing.			
	•	Drive Gear ins	talled and it is st	till kicking offline at high RPM. Replaced t	. The Right alternator in left position has a management that the left alternator with a warrantee unit from	Ram
		Installed with t works normally	he same new dri	ive gear. ALV 9610 S/N H-R010877. New	installed on Left engine. Test flew alternato	r _
	•	Serviced the sp	ark plugs. Clear	ned, gapped, tested, rotated, installed and p	roper torque applied.	
	•	AD 07-05-15 S	Starter Adapter	Assembly and Crankshaft gear is due. (	C/W MSB 94-4G Part 2 A. C/W MSB O5 #405. Due every 100 hours, due again	_
· 40		505.7 Hobbs ti	me and part 3 is	due every 400 hours and is due again at 69	90.7.	
7	•	I certify this Le	eft Engine was i lition.	inspected IAW Operational 3 and 4 Cessi	na progressive care Program and was in	
				()		4
	Mic	chael Koontz	mm	L/A 3799094		_
				7		
						-
		<b>_</b>				
-						
ENGINE S/N	DEL: GTSIQ-520-N (L): 292470-R			One Avionics		DATE: 2/24/201 A/C TSN
REG. NO: N	21SM ER: 20170220-1M	AVIONICA	2026 Palom	on No. 1HGR058B ar Airport Road		ENG TT (L' HOBBS: 41
			Carlsbad, C. Phone: 760-			
Left Engi	ne Entries					
Drained oil	and removed filt	er, cut open filter	and found no cor	ntaminants, installed new oil filter P/N CH481	09-1, new drain plug gasket P/N MS35769-11	and serviced
3.17	13 qts of ASW1					
		d leak check satis		A		
This aircraft	airframe, or appl r data and is appl	liance identified ab roved for return to	ove has been repa service.	aired ind/or inspected in accordance with currer	nt Regulations of the Federal Aviation Administrati	on and
			NED:	///	water	0047
DATE: 2/24	12017	Mike	Clingerman	1	Printed by EBis 3 (	er: 20170220-1
		Cert	ified Repair Station	No. 1HGR058B	Fillited by EBIS 3 (	ualcomedia.con
		1	ı	OUR TOTAL OUT		
				SUB-TOTALS this page		
				TOTALS—Carry forward to next	2326	

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
			то	OTALS brought forward from previous page
GINE MODEL: GTS GINE S/N (L): 29247 G NO N421SM RK ORDER: 20170	'0-R	Re 200 Ca	angar One Avionic pair Station No. 1HGR058E 26 Palomar Airport Road risbad, CA 92011 one: 760-929-2270	A/C T
t Engine Entr				
			$\overline{}$	d. Installed new filter P/N CH48109-1.
aircraft, airframe, ufacturer data and	or appliance iden is approved for n	tifled above has be eturn to service.	een repaired and/or inspi	pected in accordance with current Regulations of the Federal Aviation Administration and
TE: 4/7/2017		SIGNED:	W _	Work Order: 20170403-
		David Corish Certified Repa	ir Station No. 1HGR058B	Printed by EBis 3 (datcomedia.co
INE MODEL: GTSIG INE S/N (L). 29247( . NO: N421SM RK ORDER: 201707	20-1M ^*	Rep 202 Car	ngar One Avionics pair Statton No. 1HGR058B 6 Palomar Airport Road Isbad, CA 92011 pne: 760-929-2270	77010
noved all spark pl	ugs from LH eng	ine. Visually insp l engine cowling.	pected each plug includ Ground run / operation	ding gap. Gaps found excessive in 8 of 12 plugs. Gapped all plugs with excessive gaps, and check satisfactory.
aircraft, airframe, ufacturer data and	or appliance ident	tified above has be	een repaired and/or inspe	cted in accordance with current Regulations of the Federal Aviation Administration and
TE: 7/21/2017	is approved for re	SIGNED:	<b>k</b> /	Work Order: 20170720-1
2. 772 1120 17		David Corish	r Station No. 1HGR058B	Printed by EBis 3 (datcomedia.com

Page No.	T
DATE	

TOTAL TIME IN

TOTAL

TACH OR RECORDING

#### DESCRIPTION OF WORK PERFORMED-

ENGINE MODEL: GTSIO-520-N ENGINE S/N (L): 292470-R REG NO: N421SM WORK ORDER: 20170724-1M



Hangar One Avionics

Repair Station No. 1HGR058B 2026 Palomar Airport Road Carlsbad, CA 92011 Phone: 760-929-2270 DATE: 12/12/2017
A/C TSN: 4500
2220.3 -ENG TT (L): 2342.9
HOBBS: 434.1

TSMOH: 620.3

#### Left Engine Entries

Completed Annual Inspection IAW FAR 43 Appendix "D" and the Cessna Inspection Time Limits Chart as a guide.

Left Engine: Complied with AD# 2007-05-15 (Backlash of viscous damper and shaft gear) by completing part 2 of TCM MSB94-4G. Compliance with this part of the AD due each 100 hours or annual inspection, whichever occurs first. No discrepancies noted.

CW TCM SB03-3; Borescope revealed normal indications for in-service cylinders. Performed a differential compression check as follows: 1) 78/80, 2) 76/80, 3) 75/80, 4) 76/80, 5) 75/80, 6) 78/80. NOTE: Continental Calibrated Orifice Tool = 48/80

Cleaned, gapped, and rotated spark plugs.

Removed all fuel injector nozzles. The nozzle in cylinder #2 fragmented upon removal. Cleaned remaining nozzles in ultrasonic cleaner, then reinstalled those nozzles and one new nozzle P/N 2563-19A, IAW TCM SB 06-1A and RAM Aircraft fuel injector nozzle installation recommendations, utilizing new 6 ea. compression seals P/N 633958-3, 6 ea. seals P/N 640612, 2 ea. compression seals P/N 633958-5, 6 ea. washers P/N X1473, 6 ea. washers P/N 628556, and 12 ea. o-rings P/N 630979-9.

Removed, cleaned, inspected fuel metering screen, then reinstalled utilizing new gasket P/N 649983.

Timed both magnetos to engine utilizing spark advance per engine data plate

Drained oil and removed filter, cut open filter - no discrepancies found. Installed new oil filter P/N CH48109-1, new drain plug gasket P/N MS35769-11, and serviced engine with 13 qts of Aeroshell ASW100 "Plus" oil.

Reset Idle to 750RPM. Idle mixture reset to 20 to 30 Rise at 600RPM and 10 Rise at 1300RPM per the Cessna 421C MM.

Removed lower half of collector assembly heat shield, repaired broken mounting bracket, then reinstalled heat shield.

Installed replacement left engine fuel tubes between fuel flow transducer and fuel distributor valve, and between aft baffle and primer solenoid valve.

Removed fragmenting clamp and secured left engine LH primer manifold drain with new adel clamp P/N MS21919-WDG13.

In accordance with TCM SID97-3G and the fuel system set-up procedures of the Cessna 421C Maintenance Manual, test equipment was installed into the fuel system and adjustments were made to RPM, MAP, low end un-metered fuel flow and high end metered Fuel Flow. High un-metered fuel pressure was noted as "within limits." Adjustments made were within the limits of the aforementioned service documentation, test equipment was removed and leak checks performed. Aircraft ready for check flight.

I certify that this ENGINE has been inspected in accordance with an Annual Inspection and was determined to be in airworthy condition --end-

Work Order: 20170724-1	[4]]]	SIGNED:	DATE: 12/12/2017
Printed by EBis 3 (datcomedia.com	Startor No. 1HGR058B	Mike Clingerman Certified Repair S	
	-	-+	<del></del>
	SUB-TOTALS this page		
to next page	TOTALS—Carry forward		